Pathology Museum Specimen Catalogue

Te Tari Mātai Iho Tahumaero
Department of Pathology & Molecular Medicine

Wellington School of Medicine and Health Sciences, University of Otago - Wellington

To view the Pathology Museum Online: https://pathmuseum.otago.ac.nz/

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PREFACE

For the convenience of all Musuem users, an easy "letter/number" code identifying the body system and specimen required has been designed for this catalogue.

On display are twelve body systems. All forensic and accident-related specimens are displayed separately under "X".

Well over 300 specimens are kept in "stock". A list giving a brief description of the disorder shown is available.

Stock specimens can be borrowed on special request.

The total number of specimens in this Catalogue is 1004.

TO ALL MUSEUM USERS

1. Handle all specimen pots gently and do not shake. Take care to avoid damage.

2. Make sure that the specimens are replaced in the right position on the shelves so that other users can find specimens without difficulty.

3. There is a special bucket in the Museum for 'specimen casualties'. Please report these immediately to the Museum Preparator or to the Histology Laboratory.

4. No "tired feet" on specimen shelves, chairs or tables.

Ideas or suggestions concerning the Catalogue, or the Pathology Museum are always welcome.

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CARDIOVASCULAR SYSTEM

AORTA – Aortic dissection (dissecting aortic aneurysm) A.3

This specimen shows the anterior aspect of the heart and aortic arch (note that the pulmonary trunk arises *anterior* to the aortic root). The ascending portion of the aorta is relatively free of atheroma, in contrast to the arch. There is a tear in the intima just proximal to the brachiocephalic trunk (innominate artery), with dissection of the wall of the aorta by blood. Atheroma has weakened the aortic wall, facilitating dissection.

HEART - Perforation of aortic valve cusps (cause unknown) A.5

An enlarged heart, showing hypertrophy and dilatation of the left ventricle. There is perforation of the anterior portion of each of the two visible aortic valve cusps. The perforations have smooth edges suggesting that they have been present for some time. The aetiology is not apparent.

HEART - Ruptured myocardial infarction A.8

This is a large heart. On the anterior aspect just above the apex there is an irregular tear. Blood clot protrudes through the tear and there is haemorrhage in the adjacent epicardium. The infarct is not visible but lies in relation to the rupture.

HEART - Mitral stenosis and incompetence (probably rheumatic) A.9

This is a heart in which the wall of the left auricle has been opened to display the mitral valve. The endocardium of the left auricle is thickened, and there is clot adherent to the inter-auricular septum (right side of jar). There is also blood clot in the auricular appendix (left side of jar), although one cannot see whether the clot is ante mortem or post-mortem. The mitral valve is funnel-shaped. Although the valve orifice is narrowed, the valve is rigid and held open by both thickened chordae and its own distortion. Hence the valve is both is stenotic and incompetent. The history of this specimen is unknown, however the changes in the mitral valve are consistent with scarring secondary to past rheumatic carditis.

FOOT - Gangrene A.11

The lesion predominantly involves the great toe which is blackened and shows loss of subcutaneous tissue, with exposure of tendons on the under surface. The skin surrounding the area is bluish in colour and beginning to peel so that this too has lost its viability. (The skin on the dorsum of the foot in line with the fourth and fifth toes is peeling, but this is probably artefact occurring after the foot was removed and before it was adequately fixed).

AORTA – Thoracic aortic aneurysm due to syphilis A.13

VERTEBRAL COLUMN - Erosion

This specimen shows part of the vertebral column in the lower thoracic region, the anterior surface of which is eroded leaving a ridge of disc protruding in the base. Mounted alongside is a short length of aorta showing an aneurysm containing laminated clot.

HEART - A.15

Ventricular septal defect and coarctation of aorta

This specimen shows the anterior aspect of the heart and lungs (note that the pulmonary trunk arises anterior to the aortic root). The heart has been opened, but the ventricular septal defect is very difficult to see. The right ventricle (left side of jar) is hypertrophied, and the pulmonary trunk is enlarged. The aorta is markedly narrowed from the level of the left common carotid artery to just beyond the arch, and a large, short branch arises from the pulmonary trunk to meet the descending aorta. (The descending aorta has been reflected upwards and contains sutures).

HEART - Ventricular septal defect A.16

A heart opened to display the interventricular septum. Immediately beneath the aortic valve there is an oval defect marked by an arrow. The defect is lined by thick endocardium.

AORTA – Atheroma (mild) A.17

This is an aorta, showing flecks of atheroma, for the most part in relation to the orifices of the blood vessels.

AORTA – Atheroma (severe) A.18

This is a grossly atheromatous aorta, with ulceration of the atheromatous plaques. The white tissue surrounding the aorta is tumour.

AORTA – Atheroma (moderate) A.19

The aorta shows moderate atheroma from just below the origin of the coeliac axis. The pearly plaques are well seen.

AORTA – Atheroma (mild) A.20

The fatty streaks of the early atheromatous lesion are well seen in relation to the origins of the blood vessels.

AORTA – Atheroma (moderate) A.21

This aorta shows atheroma involving both the upper part of the abdominal aorta as well as the lower, although the lesions are more advanced in the lower part.

AORTA - Aneurysm of the arch of the aorta (probably atheromatous) A.23

This specimen shows the arch of the aorta, the trachea, and major bronchi. The arch is distorted by a 6cm aneurysm arising just beyond the origin of the left subclavian artery. The aneurysm contains laminated clot. The trachea is displaced laterally by the aneurysm but is not eroded. The oesophagus is also displaced and distorted. Further, it is ulcerated at the apex of the aneurysm with blood clot protruding through the ulcer into the lumen of the oesophagus. The aneurysm appears to be atheromatous, but it is in the position where traumatic aneurysms occur.

HEART - Old infarct with mural thrombus A.24

A heart, in which the left ventricle has been opened to display an extensive scar in the anterolateral wall. The wall is markedly thinned in the region of the infarct. The stasis inevitable in this area has allowed formation of laminated thrombus.

HEART - Aneurysm following myocardial infarction A.25

A heart opened to show the posterior and lateral wall of the left ventricle. At the apex of the specimen, you can see the posterior cusp of the mitral valve. The apical and lateral part of the left ventricular wall is extremely thin, and bulges laterally as an aneurysm. At the margins of the aneurysm, there is scarring in the myocardium. There are flecks of thrombus adherent to the wall of the aneurysmal sac.

FEMORAL VEIN – Thrombosis in a patient with malignancy A.26

The specimen shows two lengths of femoral vein, one opened to show thrombosis. The thrombus in the upper part of the opened vein is organising; that in the lower part appears of more recent origin. In the most superior part of the opened vein, a patch of thrombus is adherent to the lining of the vein. This venous thrombosis was associated with carcinoma of the rectum.

AORTA – Atheroma (severe) A.27

This is a segment of aorta, showing extensive atheroma with ulceration of one large plaque.

AORTA – Repaired AAA (abdominal aortic aneurysm) A.28

This specimen shows the abdominal aorta and common iliac vessels. An aneurysm has been excised and replaced by a Teflon graft. Note the greatly thickened peritoneum overlying the graft.

HEART - Hodgkin's disease A.30

This is an enlarged heart, cut to display a massive infiltrate in the muscle of the auricle and ventricle. The infiltrate is nodular in some areas and diffuse in others.

History: This man, who died in 1971, was first seen in 1968 when a diagnosis of Hodgkins disease was established. Thereafter he had a number of admissions to hospital. He was treated with steroids and chemotherapy. Towards the end he developed herpes affecting the right 5th nerve and some areas of the skin. At autopsy, the heart weighted 480 g.

HEART, SPLEEN & KIDNEY – Bacterial endocarditis A.31

This specimen is very old. The heart has been opened to display an extensive verrucous growth on the left auricular wall, with discrete nodules on the mitral valve cusps. The appearance of the mitral valve suggests stenosis (there is some shortening and thickening of the chordae and the valve cusps appear thickened). There is an infarct in the spleen and another one in the lower pole of the kidney. The renal infarct has a typical wedge shape characteristic of vascular occlusion, in this instance by emboli from the vegetations in the left heart.

AORTA – Atheroma (severe) A.32

This specimen shows the abdominal aorta and common iliac vessels, opened to show gross atheroma with ulceration of the plaques and extensive calcification. In addition, there are associated foci of haemorrhage within the aortic wall.

HEART - Pericarditis A.33

The specimen is a heart, showing a shaggy red exudate on the pericardial surface. Close examination in the areas where there is little apparent exudate reveals tiny white nodules distorting the pericardial surface. Microscopy showed that metastatic tumour is present in these nodules. The tumour infiltration has excited the fibrinous reaction producing the pericarditis.

AORTA - A.34

Treated aneurysm with fistulae into the small and large intestines

This specimen comprises an aorta, partly occluded at the upper end by laminated blood clot. The lower part of the aorta has been resected and replaced by a Teflon graft. Presumably, there was an aneurysm here. There are fistulae between the aorta and small and large intestines, most likely post-operative complications.

HEART - Tetralogy of Fallot A.35

Tetralogy of Fallot consists of the following:

1. Ventricular septal defect (VSD)
2. Overriding aorta
3. Pulmonary stenosis
4. Right ventricular hypertrophy

This specimen consists of the heart and great blood vessels together with part of the right lung. The ventricles have been opened and a blue rod passes through the ventricular septal defect. The pulmonary trunk is small.

HEART - Secondary carcinoma (metastatic from ovary) A.36

The heart has been opened to display the walls of the left ventricle in which there are three discrete nodules of tumour tissue. The tumour nodules each measure approximately 1cm in diameter. Examination of the pericardial surface at the sides of the specimen shows that this too is infiltrated by tumour, and more tumour nodules within myocardium are seen at the back of the specimen. A further point to note is the anomalous origin of the right coronary artery (it arises higher up in the ascending aorta than usual).

History: This woman died in 1975. In 1948, a "mucinous cystadenoma" of the left ovary was removed. In 1954 and 1955, metastatic deposits were found in the lungs (they were initially regarded as tuberculous lesions). For various reasons it was not until 1958 that the lung lesions were resected. Histology was the same as the lesion in the ovary. The patient seemed to manage very well but was ultimately admitted to hospital and died of pneumonia. There is no record of how wide-spread the metastases were, but the length of survival from 1948 to 1975 is worthy of note. The long clinical history suggests that the ovarian tumour might have been a borderline mucinous tumour.

ABDOMINAL AORTA - Aneurysm A.37

This specimen shows an aneurysm of the abdominal aorta, fusiform in shape and largely occluded by laminated thrombus.

AORTA – Aortic dissection (dissecting aortic aneurysm) A.38

This specimen shows heart and aortic arch. The aortic arch has been opened to display a rupture in the intima close to the origin of the innominate artery (brachiocephalic trunk). The wall of the aorta is dissected by blood.

HEART – Left ventricular aneurysm A.42

The heart has been opened to display a 6cm aneurysm arising in the lateral wall of the left ventricle. The heart is markedly enlarged (autopsy weight 1100g.). There is clot adherent to the wall of the aneurysm. (The discolouration of the facing left ventricular wall is probably artefact). At autopsy, the descending branch of the left coronary artery was completely occluded at a point 4cm from its origin and there were multiple pulmonary emboli.

HEART - A.44

Infiltration of pericardium by secondary tumour (from pancreas)

This is a heart showing an irregularly thickened epicardium (visceral pericardium). The thickening is most marked posteriorly from where a section has been taken for histology.

HEART - Myocardial infarct (old) A.45

The specimen is a heart, opened to display an old myocardial infarct on the anterior aspect of the left ventricular wall. There is marked thinning of the ventricular wall and organising thrombus is present on the endocardium.

HEART - Myocardial infarct (days) and aortic stenosis A.46

This is a heart cut to show an infarct in the posterior wall of the left ventricle towards the apex. The infarct shows central yellowing with peripheral haemorrhage, consistent with-it being days old. The specimen also shows a moderate degree of aortic stenosis.

AORTA – Abdominal aortic aneurysm (AAA) A.47

This specimen shows the abdominal aorta from just above the coeliac axis to just below the origin of the common iliac arteries. The lower part of the aorta is expanded to form an aneurysm which is completely filled by thrombus. The thrombus extends down into the common iliac arteries. The aorta shows a number of atheromatous plaques as well. It is believed that weakening of the aortic wall by atheroma contributes to aneurysm formation.

History: This man was admitted to hospital with paraplegia following a motor vehicle accident. The accident does not appear to have been severe. He had a past history of myocardial infarction. Examination showed femoral pulses on both sides, although both lower limbs were cold and blue, and no popliteal pulse could be felt. Death occurred the following day. At autopsy, the lesion displayed here was found. There was no spinal injury, but there was infarction of the cauda equina. This presumably accounted for the clinical picture, and was secondary to the presence of the aneurysm, rather than to the accident described. Death was ascribed to myocardial infarction as a recent infarct (some 24 hours old) was demonstrated.

AORTA – Aortic dissection (dissecting aortic aneurysm) A.48

The ascending aorta has been opened to show a dissection involving the first 3-4cm. The intimal tear is not apparent but was probably in the area opened. The dissection is confined within the level of the pericardial reflection, so it is likely there was a cardiac tamponade.

History: Not known, but it is likely that the patient died suddenly.

HEART – Hypertension A.49

This is a greatly enlarged heart (weight 740g) showing concentric hypertrophy of the left ventricle; the intraventricular septum is protruding into the right ventricular cavity. The heart valves appear normal.

History: This man suffered from chronic renal failure due to glomerulonephritis. This was initially treated by dialysis and subsequently by renal transplantation. A renal transplant was carried out on 9th July 1977. His immediate post-operative condition was satisfactory, but the kidney failed to function soon after and a diagnosis of post-transplant acute tubular necrosis was made. On the seventh post-operative day he became hypertensive on dialysis; he then became severely shocked and died. At autopsy the native kidneys were granular and contracted, together weighing 200g.

HEART - Myocardial bruising secondary to resuscitation attempts A.51

This is a small heart, opened to display subendocardial haemorrhage, most marked beneath the posterior cusp of the mitral valve.

History: This 22-year-old woman was found collapsed at home. She had a history of epilepsy, which was not being treated as the fits were infrequent. On the day of her death, she had undergone conservative dental treatment, for which she had been partly sedated with Valium. At 6.40pm on the day of her death she was well and seen sitting on a couch. A few minutes later she was found lying face down and was heard to make gurgling noises. She was cyanosed and appeared to be pulseless. Resuscitation was attempted, and was continued by the ambulance team, but she had cardiac and respiratory arrest on admission to hospital, and finally, she had a further convulsion followed by a respiratory arrest some twelve hours later.

HEART - A.53

Myocardial infarct (weeks) with mural thrombus

The left ventricle of the heart has been opened to display marked thinning of the wall, with healing infarction extending almost from apex to base. The age of the infarct has not been established, but one suspects that it is probably at least a month old. Externally, there is fibrinous pericarditis over the infarcted area.

History: This woman was admitted to hospital in June 1978 in cardiac failure. On 27th July, she fell out of bed and dislocated her shoulder; this was reduced on 31st July but she died within 12 hours of the procedure. The heart weighed 630 g. The pericardium was adherent to the anterior surface of the left ventricle. There was an infarct in the lower lobe of the right lung.

HEART & PERICARDIUM - Cardiac tamponade A.54

The heart and pericardium have been cut to show that the pericardial sac is distended by blood clot. The clot has been cut away to show flakes of blood on the epicardium. The source of the bleeding is not apparent but is presumed to be due to a ruptured myocardial infarct.

History: This man, a retired engineer, had 'bronchitis' for fourteen days which showed no response to Bactrim but some improvement with Vibramycin. He died suddenly.

AORTA & ILIAC VESSELS - Atheroma and thrombosis A.56

This specimen has been opened from behind. There is an ulcerated atheromatous plaque in the aorta at the upper end of the specimen. The right common iliac artery is largely occupied by antemortem thrombus, and the external iliac artery is completely blocked by organising thrombus. There is a little thrombus in the internal iliac artery, but the vessel does not appear to be completely blocked.

History: This woman was admitted to hospital with clinical occlusion of the left femoral artery. Thrombus was removed but she died shortly after the operation was completed. There was no gangrene and the only additional finding at autopsy was that the right main pulmonary artery contained old organising thrombus, reducing the lumen by some three-quarters.

HEART - Myocardial infarct (days) A.57

Two slices of heart muscle showing an extensive infarct in the intra-ventricular septum. There are areas of haemorrhage close to the endocardium of the left ventricle, with soft-looking grey-brown areas related to these. The endocardium appears thickened. Towards one end of the infarct there is scar tissue. The history of this patient is not known but the macroscopic appearance of the infarct suggests that it is 2-3 days old.

HEART - Concentric Fibrosis A.58

This specimen shows a portion of the left ventricle, opened, and mounted to display concentric scarring in the central part of the muscle. The scarring extends through all of the exposed muscle. The endocardium shows some pale areas, particularly beneath the aortic valve, and these may also represent scarring. The valves are normal.

History: This man, who was a sickness beneficiary and possibly a chronic alcoholic, was found collapsed, incoherent, but conscious. He died two days after admission to hospital. At autopsy, he showed bronchopneumonia, which was the cause of death. The heart weighed 320 g. The coronary arteries showed moderate atheroma, but no marked narrowing nor occlusion. The case notes of his last admission show no evidence of cardiac failure. The aetiology of the scarring is obscure.

AORTIC VALVE – Calcific A.59

This specimen shows the aortic valve together with part of the aorta and upper part of the interventricular septum. The valve has been opened out. Inspection shows calcification at each margin. The cusps are rigid. Atheromatous disease has narrowed the coronary ostia.

History: This 62-year-old woman was admitted to hospital for relief of right carotid artery stenosis. This was treated surgically but she died the following day. At autopsy the heart weighed 420g, the left ventricle was hypertrophied, and the coronary arteries showed severe atheroma. The aortic cusps were described as rigid with only parts of the free edges' mobile, and there was calcification of the valve ring extending up into the aorta. Death was scribed to acute coronary insufficiency on the basis of aortic stenosis and coronary artery disease.

HEART - Mitral stenosis with atrial thrombus A.60

The left side of the heart has been opened to reveal a thickened left ventricular wall. The degree of mitral stenosis and incompetence is difficult to measure but the mitral valve (particularly the antero-medial cusp) is thickened and contracted with some thickening of the chordae. Approximately half of the left auricle is occupied by organising thrombus.

History: This woman died at the age of 67. She was known to have mitral stenosis and incompetence. Four years before her death she suffered an embolic episode with transient right hemiplegia. There was a further hemiplegic episode two years and one year before death. A few days before death she lost consciousness and did not recover. At autopsy, the heart weighed 520g. The right kidney showed multiple infarcts. There were small infarcts in the right cerebral hemisphere and in both of the occipital lobes, and there was a large area of necrosis in the distribution of the left middle cerebral artery.

HEART & MEDIASTINAL CONTENTS - A.61
Mediastinal tumour (small cell carcinoma from lung)

This specimen shows the heart, pericardium, great vessels, trachea, and hilar area of each lung. The pericardium is thickened and roughened due to tumour infiltration. There is a mass of tumour around the arch of the aorta, extending up along-side the great vessels. This is continuous with a large mass of tumour infiltrating the lower mediastinum, visible both posteriorly and anteriorly. Mediastinal lymph nodes are infiltrated by tumour, as is the wall of the right main bronchus. Towards the base of the specimen, infiltration of the myocardium can be seen.

History: This woman was admitted to hospital approximately six weeks before her death with a history of persistent cough and breathlessness for 3-4 months. An undifferentiated small cell carcinoma was identified in the sputum. A brain scan suggested a metastatic deposit in the right frontal lobe. During her stay in hospital, she developed symptoms of superior vena cava obstruction, tracheal obstruction and inappropriate ADH secretion. At autopsy, tumour deposits were found in the liver, diaphragm, adrenals, pericardium, pancreas, pituitary, and brain. No definite primary site could be identified but the most likely origin of the tumour was lung.

LIVER – A.62

Nutmeg liver (chronic venous congestion secondary to heart failure)

A section of liver showing the classical appearances of chronic venous congestion. The liver shows irregular mottling comprising pale and dark areas in a pattern reminiscent of nutmeg.

History: This woman was apparently well until nine months before she died at the age of 66. At this time, she became short of breath and showed signs of heart failure. A diagnosis of amyloidosis was finally established by biopsy of lung and myocardium. At autopsy this diagnosis was confirmed.

HEART & AORTA – Aortic dissection (dissecting aortic aneurysm) A.63

This specimen consists of the upper part of the heart, opened to display the aortic valve, posterior wall of the ascending aorta, aortic arch and upper portion of the descending aorta. There is a dissection of the aorta occupied by clotted blood, extending from the aortic valve ring through the full length of the aorta. The dissection does not extend into the arteries arising from the arch. An incision has been made in the intima just above the aortic valve ring to show clot present at that point. The incision passes through a transverse tear, approximately 1.5cm long. The tear is present in the posterior wall of the aorta approximately 2cm above the aortic valve ring. The intima of the posterior aortic wall is bulging due to the presence of underlying clot. Much of the aorta is severely atheromatous, but there is a bland area in the arch. Atherosclerosis weakens artery walls, facilitating dissection.

History: This 75-year-old woman complained of pain in the stomach and loss of use of her legs a week before her death. On the day before death, she complained of pain in her chest, right side of the face and in her shoulder-blades. Physical examination and an ECG were apparently normal. The following day she was found dead in bed. The cause of death was cardiac tamponade from rupture of a dissecting aneurysm of the aorta into the pericardial sac. The dissection extended from the aortic valve ring to the diaphragm.

HEART - Transposition of great vessels A.64

This specimen shows the heart, aorta, and hilar portion of each lung. The ventricles have been opened to show the origin of the aorta from the right ventricle, and of the pulmonary artery from the left ventricle. There is no septal defect.

History: This child was born at term but showed apnoea and became cyanosed soon after delivery in spite of 100% oxygen administration. CXR shortly after delivery showed widespread shadowing and a right pneumothorax. The child died on the seventh day. At autopsy the ductus arteriosus was patent. Sections from lung showed hyaline membrane disease.

HEART & LUNG - Pulmonary embolism A.66

The specimen consists of the heart, opened to show the right ventricle and right pulmonary artery. The right pulmonary artery is blocked by a thrombus.

HEART & LUNG - Pulmonary embolism A.68

This specimen shows the heart and lungs, dissected to display almost complete occlusion of the pulmonary artery by antemortem thrombus. There are no infarctions visible in the lungs.

History: This man was admitted to hospital at the age of 50 with a compound fracture of the left tibia and fibula occurring when, as a pedestrian, he was hit by a motor-bike. Approximately three weeks after admission he developed right calf pain but without swelling of the leg. There is no record in the notes of any treatment for the pain. Some 14 days later while exercising, he suddenly became unconscious and was cardiac arrest. Resuscitation attempts were unsuccessful.

HEART & LUNGS - Situs inversus A.69

This specimen shows larynx, trachea, heart, and lungs. The lungs show three complete lobes on the left and two lobes on the right. The apex of the heart points to the right. The right ventricle and pulmonary artery can be seen facing the front of the jar. The left ventricle can be seen on the right of the specimen and the aorta arising from it passes to the right of the trachea. See also G.127.

History: This child was known to have dextrocardia. He was put to bed at about midnight, when he appeared normal, but was found dead in bed at 7.30am the following morning. He had had a minor respiratory complaint and had been taken to a doctor three days before death. The cause of death was ascribed to sudden infant death syndrome.

HEART & KIDNEY - A.71

Non-bacterial endocarditis (complicating squamous cell carcinoma of lung)

The heart has been opened to display the mitral valve. On the contact margin of the valve cusps a number of vegetations can be seen, the largest approximately 1 cm across. These are pale tan, with adherent small fragments of blood clot. The valve ring and valve cusps otherwise appear normal; the chordae are not thickened. The myocardium appears normal. The kidney has been opened to display multiple infarcts which all appear to be about the same age; they are greyish, and each shows a haemorrhagic rim. Just above the opened renal pelvis blood clot can be seen in a branch of the renal artery.

History: The patient was admitted at age of 61 with a two-week history of cough with clear sputum, a one-week history of cellulitis of the right leg, and recent history of rigors and dysuria. He smoked 20 cigarettes a day for many years. CXR showed consolidation of left mid-zone. He was febrile. Sputum cytology showed tumour cells consistent with squamous cell carcinoma. A month later he developed left-sided weakness. Bronchoscopy had not localised the tumour. Needle biopsy was performed two days before death. Haemoptysis developed following the biopsy and he deteriorated rapidly, dying the next day. Three separate blood cultures showed no growth. At autopsy, a 7 cm tumour was found in the periphery of the upper part of the left lower lobe. A single metastasis was found in the liver. In the absence of recoverable organisms and in

association with carcinoma of the lung, the endocarditis was assumed to be of non-bacterial origin and associated with malignant disease.

HEART – Atrial myxoma A.72

A heart opened to display the left auricle and left ventricle. Arising in the auricle there is a cylindrical pale tumour, which is projecting through the mitral valve ring. Suture material is apparent in the upper part of the atrial wall, indicating previous surgery, and the atrial endocardium is thickened. Tumour tissue can be seen in the myocardium of both the atrium and ventricle posteriorly.

History: This young man presented at the age of 19 with feverish episodes and pain in both knees, suggesting rheumatic fever. His subsequent course and investigations established the presence of a left atrial myxoma, by which time he was in severe circulatory failure with pulmonary hypertension and there was evidence of cerebral infarction. The myxoma was partially removed, and it subsequently recurred. He died two years after the diagnosis was established.

HEART - Bacterial Endocarditis A.73

The heart appears enlarged. The tricuspid and mitral valves appear normal. On the ventricular surface of the aortic valve cusps there are large, pale vegetations. The material resting in one cusp is blood clot.

History: This 19-year-old Maori boy was admitted three weeks before death with bacterial endocarditis. *Streptococcus Viridans* was isolated on blood culture. Severe aortic regurgitation developed, and he was considered for aortic valve replacement when he suffered a subarachnoid haemorrhage and died. No mycotic aneurysm was found in cerebral vessels at autopsy, although this is a likely cause for the subarachnoid haemorrhage. The normal underlying valves and fulminant course of illness in this case make the designation of acute bacterial endocarditis appropriate.

HEART - Mitral stenosis A.74

The heart has been cut to show the heart valves on the facing surface. Some calcification of the aortic cusps is apparent, but the mitral valve shows severe disease - the cusps are thickened, and the orifice is stenotic with a fish-mouth appearance. No vegetations can be seen. The left atrial wall is thickened. The clot seen in the atrial appendage is post-mortem in origin. On the reverse side of the specimen there is marked left ventricular hypertrophy. The changes in the mitral valve are likely secondary to previous rheumatic carditis.

History: This woman was admitted at the age of 92 with a three-week history of increasing dyspnoea. She had had a cerebrovascular accident 9 years previously, with residual hemiparesis. She was treated for left ventricular failure, but later developed bronchopneumonia from which she died.

SPLEEN - Infarcts, recent and old A.75

An enlarged spleen. At the apex of the specimen, there is a poorly-defined 5 cm recent haemorrhagic infarct. On the left-hand side of the specimen there is a smaller haemorrhagic infarct of similar age while, directly opposite, there is an old white infarct measuring 4 x 2 cm.

History: This man suffered myocardial infarction while in hospital following a hemicolectomy for a carcinoma of the appendix. He had had a previous myocardial infarct, and it is assumed that the infarcts, complicated by mural thrombus, were responsible for the embolic phenomena.

HEART, AORTA, TRACHEA - Tetralogy of Fallot A.77

Tetralogy of Fallot consists of the following:

1. Ventricular septal defect (VSD)
2. Overriding aorta
3. Pulmonary stenosis
4. Right ventricular hypertrophy

The specimen shows an infant heart opened to display a high ventricular septal defect, with over-riding of right ventricle by the origin of the aorta. The pulmonary valve cusps are missing, with replacement by nodules in the endocardium. In addition, as seen in relation to the trachea, the aorta is right-sided. There was also a large atrial septal defect (not displayed).

History: This child was in respiratory difficulty soon after birth. Radiologically there was evidence of congenital lobar emphysema of right lower lobe. This was treated surgically, but the child died shortly afterwards.

SPLEEN - Chronic venous congestion A.78

The specimen shows spleen. The size of the spleen is within the normal range. The cut surface is red, beefy, and firm, consistent with chronic venous congestion. Incidentally, there is an area of 'perisplenitis ' occurring as a white plaque on the surface of the spleen; this is a common incidental finding of unknown aetiology.

RIB - Coarctation of aorta A.79A

The specimen shows a rib. Viewed from below, a much deeper vascular channel than usual can be seen. The channel shows a number of pronounced pits.

History: A routine medical check revealed abnormal blood pressure and abnormal pulses in lower limbs. There were no symptoms. On examination, there was a slightly over-active cardiac impulse, a late systolic murmur at left sternal border, easily palpable pulsatile collateral vessels over the borders of both scapulae and poorly palpable femoral pulses. Investigations established the presence of a short coarctation just beyond the origin of the left subclavian artery. This was successfully resected.

AORTA - Coarctation A.79B

This specimen is the excised coarctation (see history A.79A); the aortic lumen is narrowed to a tiny irregular slit.

HEART - A.80

Transposition of great vessels, ventricular septal defect

The heart is enlarged for the age of the child. There is marked hypertrophy. The aorta arises from right ventricle; the pulmonary artery arises from the left ventricle. A large high ventricular septal defect is present.

History: This child showed cyanotic heart disease virtually from birth. In addition to the lesions seen here, he had a patent inter-auricular septum and a patent ductus arteriosus. Investigations showed pulmonary hypertension with pressures equal to those in the systemic system. The lesions were inoperable, but child survived to age of thirteen when he died from a cerebral abscess. There is no evidence of endocarditis in the specimen.

HEART - A.81

Repaired ventricular septal defect & atrial septal defect

This is an infant heart showing a graft closing a high ventricular septal defect and a sutured atrial septal defect. The origin of the aorta and pulmonary trunk are normal, but there is right ventricular hypertrophy. The ductus appears closed, but there is evidence that it was a late closure in that the pulmonary artery is ballooned out at the point of origin of the ductus. Viewed from above one can see the right subclavian and carotid arteries arising separately from the arch with, close-by, the left carotid artery arising. The left subclavian artery is arising some distance away.

HEART - Transposition of the great vessels, ventricular septal defect A.82

The aorta arises from a hypertrophied right ventricle and the pulmonary artery arises from the left ventricle. A high ventricular septal defect is present. The lungs have a striking patchy haemorrhagic appearance.

CAROTID BODY – Carotid body tumour A.83

A homogeneous tan-coloured nodule, 2 cm in maximum diameter, is resting between the internal and external carotid arteries. Metallic clips are seen at upper pole of the tumour.

NB: The carotid body lies behind the common carotid artery at the level of bifurcation. To help identify this specimen a foreign carotid artery has been used; it was not possible to mount the tumour in its likely anatomical position.

History: This woman noted a lump in her neck at about the same time as a lump in her breast. Angiography suggested the neck lump might be a carotid body tumour, and this was excised. Histology confirmed a carotid body paraganglioma (Chemodectoma). The breast lump was shown to be fibroadenoma.

HEART - Bacterial endocarditis A.85

This specimen consists of the aortic valve and surrounding tissue. The valve is tricuspid and shows an almost continuous line of vegetation along the three cusps. The vegetations are large and confined to the ventricular surface of the cusps. The coronary ostia are not involved. A degree of aortic stenosis was described at autopsy, and the heart was enlarged, weighing 580g with the presence of left ventricular hypertrophy.

History: This man was admitted with a six-month history of ill health, a three-month history of low back pain, two weeks of diarrhoea and two weeks of intermittent fast palpitations. There were signs of left ventricular failure. Alpha haemolytic streptococci were isolated from blood cultures. He was treated vigorously but ultimately died in cardiac failure. The underlying abnormal valve (aortic stenosis) and long course of illness in this case make the designation of subacute bacterial endocarditis appropriate.

ARCH OF AORTA – Aneurysm (probably traumatic) A.86

This specimen shows a saccular aneurysm arising from the arch of the aorta, immediately beyond the origin of the left subclavian artery. The aorta is not severely affected by atheroma; this fact and the position of the aneurysm raise suspicion that it may be traumatic in origin. (However, the tear in the intima that is associated with chest trauma usually occurs in the region of the attachment of the ligament remaining after obliteration of the ductus arteriosus, which is on the opposing side of the aorta). The aneurysm is occupied by blood clot.

HEART - A.87

Non-bacterial endocarditis (complicating carcinoma of the cystic duct)

On the cusps of both the aortic and mitral valves there are small fibrous nodules.

History: This patient had a carcinoma of the cystic duct with regional lymphatic metastases, as well as metastases in the liver, lung, and on the diaphragm. The endocarditis was an incidental finding. The vegetations are non-bacterial; they are related to the presence of malignant disease.

ABDOMINAL AORTA – Abdominal aortic aneurysm (AAA) A.91

LUMBAR VERTEBRAE - Erosion

The specimen consists of an abdominal aortic aneurysm occupied by organised clot. With this are the related lumbar vertebrae showing compression erosion.

History: This man, aged 75, climbed a step-ladder in his home and fell to the floor, dead. Death was due to rupture of an atheromatous aneurysm in the arch of the aorta with bleeding into the mediastinum and the right pleural cavity.

LEFT VENTRICLE - Resected ventricular aneurysm A.92

A hollow hemisphere, irregularly roughened on the convex surface where an occasional fleck of calcification can be seen in a fibrous tag, which was presumably adherent to the pericardium. The lesion has been incised and re-sutured, presumably to facilitate removal. On the concavity of the hemisphere there are several small areas of organising clot, and other areas where there are nodular excrescences of calcification.

History: This man had a long history of ischaemic heart disease which latterly had presented with recurrent and refractory ventricular tachycardia. On his final admission the tachycardia did not respond to treatment and, as an emergency, a coronary bypass was done, and the aneurysm was excised. He did not survive the operation. At autopsy the heart weighed 650g and showed marked left ventricular hypertrophy. There was also an abdominal aortic aneurysm measuring 15 x 10cm. Microscopy of the excised left ventricular aneurysm showed hyaline collagen, with areas of calcification and only an occasional fragment of residual cardiac muscle.

AORTA – Atheroma (mild) A.93

This specimen shows the aorta from just above the origin of the mesenteric vessels to just beyond the origin of the internal iliac arteries. The wall shows a number of fatty streaks with an occasional larger atheromatous plaque.

History: This was an incidental finding at autopsy in a man aged 48.

HEART - Aortic valve – Bacterial endocarditis A.94

The aortic valve was described as bicuspid at autopsy but there seems to be remnants of a third cusp present. The valve cusps have been largely destroyed by vegetations which were described as partly calcified. There is a small nodule of similar material in relation to one coronary ostium.

History: This child was transferred from Tonga at the age of 14 with bacterial endocarditis; there was a history of shortness of breath on exertion, weight loss, and mumps one week before admission. No organisms were recovered. At autopsy the mitral valve was also involved, and death was due to pneumonia. The severe destruction of the valve cusps by the vegetations and the fulminant course of the illness make the designation acute bacterial endocarditis appropriate.

HEART - Atrial and ventricular septal defects A.95

A rod has been passed through each of the defects. The heart shows marked ventricular hypertrophy.

History: Not known, but this came from the same patient in E7 with a tuberculoma in the brain.

HEART - Mitral stenosis A.97

The left auricle is dilated, and the endocardium is thickened. The mitral valve cusps are markedly thickened and rigid producing a crescentic fish mouth-like opening. The aortic valve shows some nodularity of the cusps but was probably functionally normal.

History: This elderly woman had rheumatic fever as a child. She was admitted to hospital with peripheral vascular disease and died in congestive heart failure with pneumonia. At autopsy, a recent myocardial infarct was found as well.

AORTIC ARCH - Aneurysm A.98

The aorta has been opened from the back to show a saccular aneurysm arising just beyond the origin of the great vessels. It contains organised blood clot. It is in contact with the left main bronchus and extends into the lung substance where it is not sharply defined. The aneurysm has ruptured into the oesophagus.

History: This man had a ten-day history of increasing fatigue, breathlessness, and back pain. He was anaemic and a CXR showed widening of the mediastinum. He had recently coughed up blood and was found on admission to have massive gastro-intestinal bleeding.

HEART - Ventricular septal defect A.100

The wall of the right ventricle is thickened. There is a ventricular septal defect present which appears to be about 1.5 x 1.0cm in size.

HEART – Left ventricular aneurysm A.101

The left ventricle shows aneurysmal dilatation of the anterior wall extending from the apex to a point just beyond the halfway mark. The ventricular wall in this area is largely formed by fibrous tissue. The endocardium shows fibrous thickening with a little adherent blood clot.

History: This man, aged 72, was found dead in bed. He had last been seen alive two days before when he was reportedly in good health. At autopsy he showed bronchopneumonia. His heart weighed 500 grams and there was complete atheromatous occlusion of the descending branch of the left coronary artery at a point 2.5 cm from the origin of the vessel.

HEART – Bacterial endocarditis, mitral valve A.102

The heart is normal in size and the aortic and tricuspid valve cusps appear normal. On the posterior cusp of the mitral valve there is a large haemorrhagic fungating nodule with perforation of the underlying cusp. The valve otherwise appears normal.

History: This woman presented at the age of 74 with a six-day history of severe pain of sudden onset. She developed renal failure and septicaemia and died some four days later. At autopsy a retroperitoneal abscess was found related to the anterolateral surface of the tenth thoracic vertebra. The cause of the abscess was not established but the acute ulcerative lesion in the mitral valve is very likely secondary to the abscess. The severe destruction of the underlying normal valve and fulminant course of the illness in this case makes the designation of acute bacterial endocarditis appropriate.

AORTA - Coarctation A.103

This specimen is an excised aortic coarctation - the lumen is only 2 mm in diameter. The distal portion is dilated (post-stenotic dilatation).

History: This man presented at the age of 19 with a chest infection. The presence of a coarctation was noted although he had no symptoms attributable to this. Arterial pulsation was apparent in the neck; the femoral pulses were barely palpable. There was a harsh aortic diastolic murmur present and radiologically there was notching of the ribs on each side of the chest. The lesion was successfully excised.

AORTA - Coarctation and patent ductus arteriosus A.104

HEART - A.105

Mitral incompetence

This specimen shows the aortic, tricuspid, and mitral valves. The mitral cusps are thickened and deformed, and the chordae are thickened and shortened.

History: This woman died at the age of 40 suddenly and unexpectedly. Autopsy revealed viral myocarditis. She had had rheumatic fever as a child and suffered constant colds, but no symptoms were referable to the lesion seen here.

AORTA & MYOCARDIUM - Syphilis A.107

This very old specimen of unknown provenance shows plaques in the wall of the aorta and fine linear wrinkling ('tree-bark' appearance). In the lower part of the posterior wall of the left ventricle there is a pale area, irregular in outline, some 3cm long. Microscopy of the aorta shows changes characteristic of syphilitic aortitis; the lesion in the myocardium is gummatous in nature.

HEART - Calcific aortic stenosis A.110

The aortic valve has three cusps each of which is heavily calcified, producing a marked stenosis.

History: This man who was an informal patient at Porirua Hospital for many years. He was intellectually impaired. He stumbled and fell while out walking and died shortly afterwards. The heart weighed 400 grams; the coronary arteries showed only an occasional plaque of atheroma. Microscopy of the heart showed areas of ischaemic scarring. Death was thought due to relative coronary insufficiency secondary to aortic stenosis.

HEART – Non-bacterial endocarditis (complicating carcinoma of the lung) A.111

There are nodular vegetations on the contact surfaces of both the mitral and aortic valves. The valves otherwise appear normal.

History: This man at the age of 58 was admitted to hospital with a history of being generally unwell. After admission he developed a right hemiplegia and showed evidence of multiple peripheral emboli in the short time before his death. Blood cultures were negative. At autopsy the valve vegetations were demonstrated. In addition, this man showed a carcinoma of the left upper lobe of the lung and there was cerebral, renal, splenic, and myocardial infarction.

AORTA – Thoracic aortic aneurysm A.112

There is a large aneurysm of the aorta arising just beyond the origin of the left subclavian artery. The aneurysm has pushed into the lung.

History: The patient was an 83-year-old woman who suddenly complained of pain in the back and died. At autopsy the left pleural cavity contained approximately 1.5 litres of blood.

HEART - Marfan's Syndrome A.113

The heart is markedly enlarged and shows a fibrinous pericarditis which in this case is secondary to open heart surgery. There is thickening and ballooning of the tricuspid valve. The same changes are present to a greater degree in the mitral valve and just above the mitral valve, there is some endocardial thickening consistent with a "jet" lesion. The aortic valve has been replaced by a prosthesis and a Dacron graft has been placed inside the aorta.

History: Marfan syndrome was diagnosed at the age of four years in this woman who died at age 33. Sometime before her death it became apparent that she had an annulo-ectasia of the aortic root with aortic regurgitation. She also had signs of mitral valve prolapse. Following replacement of the aortic valve and insertion of a graft in the aorta, she suffered a cardiac arrest, developed acute tubular necrosis, and died. At autopsy the heart weighed 1400 grams.

SPLEEN - Infarct A.114

The upper pole of the spleen shows a large infarct. At the edges of the infarct there is a thin layer of pale tissue representing fibrosis. There is a portion of diaphragm adherent to the outer surface of the spleen.

History: This was an incidental finding in an elderly woman who showed ischaemic myocardial scarring with ante-mortem thrombus overlying the scarred area. The thrombus was organised, and the infarct here has been present for considerable time.

HEART - Metastatic melanoma A.115

The heart shows multiple secondary deposits of melanoma in the pericardium and a deposit is also present in the endocardium of the right auricle.

History: At the age of 24 years a lesion described as a blue naevus was excised from the left calf. Two months later a larger pigmented area in the same region was excised and this was described as a malignant melanoma. Within a few months there were enlarged lymph nodes in the groin and evidence of generalised metastases. The patient developed a leucoerythroblastic anaemia and melanoma cells were seen in the peripheral blood. He died some 5 years after the original lesion was removed.

HEART - Fenestration, aortic valve A.116

The heart has been opened to display the aortic cusps; these show fenestration at several points. Classically the fenestrations appear adjacent to the commissures and are asymptomatic because they are usually above the level of apposition; incompetence will occur if there is associated dilatation of the valve ring or if the fenestration ruptures to the free edge of the valve.
Ref. American Journal of Medicine 1958; 24:549.

HEART - Myocardial infarct A.117

This specimen shows an enlarged heart, with left ventricular hypertrophy and an infarct in the apical portion of the left ventricle. (The colour of the infarct has been distorted by embalming before autopsy).

History: This man had a myocardial infarct 2 weeks before he died. There was organising blood clot in the descending branch of the left coronary artery at a point 3cm from its origin.

LOWER LEG - A.118

Ulceration of skin with underlying fracture of os calcis

Over the inner aspect of the heel there is a large ulcer with sharply defined fibrotic margins. The base of the ulcer in its lower portion is formed by granulation tissue in which there is some haemorrhage; in the upper portion of the ulcer the floor communicates with a fracture in the os calcis.

History: This woman presented at the age of 48 with a one-year history of an ulcer which would not heal. She had a long history of poorly controlled diabetes and she had had episodes of thrombophlebitis in that leg. The ulceration is assumed due to a combination of venous stasis and diabetic arteriopathy. The presence of a fracture was not accounted for in the history. The patient was grossly obese and had osteoarthritic changes in her hips and knees.

AORTA - Ruptured syphilitic aneurysm A.120

Viewed from behind one can see the mid portion of the oesophagus just below the level of the bifurcation of the trachea. There is a 2cm oesophageal ulcer in the base of which there is clotted blood. In front of the oesophageal ulcer there is a fusiform aneurysm of the descending aorta containing laminated clot and it is this which has ruptured into the oesophagus. In the arch of the aorta there is some atheroma together with a faint vertical "tree-bark" wrinkling which is characteristic of syphilitic aortitis.

History: This man was admitted to hospital in 1953 at the age of 76 with haematemesis and melaena. At autopsy, fusion of the posterior aortic cusps was demonstrated. The aneurysm described, in addition to involving the oesophagus, was also firmly adherent to the 6th thoracic vertebra. Microscopy of the aorta confirmed this was syphilitic aortitis.

HEART – Pericarditis (idiopathic) A.121

This specimen shows both ventricles cut just below the mid-point. The ventricular wall is of normal thickness and the muscle appears normal. The coronary arteries show no obvious atheroma. The pericardium is markedly thickened by a pale-yellow shaggy exudate. Histologically the exudate showed evidence of organisation; it had probably been present for several weeks. No organisms were identified in histologic sections and there was no growth from the swab taken from the pericardial surface.

History: This man had been vaguely unwell for some time and died unexpectedly at the age of 52. At autopsy there was approximately 800 ml of thin brown fluid in the pericardial sac. The heart was normal in size; the liver showed a gross fatty infiltration with early cirrhosis. The kidneys were normal.

HEART - Pulmonary stenosis A.122

The pulmonary valve cusps are thickened and fused to produce a cone shaped structure pointing into the pulmonary artery. The other valves are normal. The right ventricle is grossly thickened and measured 1.5cm in thickness at the base. The inter-atrial septum shows a very smooth edge suggesting that this is the lower part of an inter-atrial defect, an anomaly commonly associated with pulmonary stenosis.

History: This woman was known to have a "leaky valve". She died suddenly while climbing stairs and in fact death was due to thrombotic occlusion of the right coronary artery. At autopsy chronic venous congestion of the liver and spleen was noted.

HEART - Ruptured myocardial infarct A.123

On the lateral surface of the left ventricle there is a split in the muscle and there is blood clot in the split. The perforation can be seen on the pericardial surface. The infarcted area can no longer be clearly seen (this is an old specimen) but is of small extent probably measuring no more than 2.5 cm across. It clearly however involves the full thickness of the ventricular wall.

History: This man died suddenly with a cardiac tamponade some 4-5 days after a symptomless infarct.

HEART - Secondary malignant fibrous histiocytoma (MFH) A.124

The heart has been cut to display the right ventricle. The ventricle is almost filled by homogeneous tumour that is polypoid in outline within the ventricle. The tumour infiltrates the ventricular wall to almost its full thickness. The shape of the tumour has probably been determined by the flow of blood around it.

History: This man died at the age of 60. Seven years before his death he was an established diabetic with alcoholic cirrhosis. Shortly before his death he developed haematemesis and died apparently in liver failure. Some months before death two skin lesions had been removed, one from the scalp and the other from the neck. Each showed the histology of malignant fibrous histiocytoma. At autopsy his heart weighed 530 g. and this mass was demonstrated in the ventricle. In addition, there was a 10 cm mass of similar tissue in the porta hepatis extending into the liver. The histology of both the heart and liver lesion was that of a malignant fibrous histiocytoma.

HEART – Ulcerated atheromatous plaque A.125

There is an atheromatous plaque abutting the ostium of the left coronary artery. This has ulcerated and fibrin clot containing red cells (hence the colour) has collected on the roughened surface. There is a similar but much smaller lesion in relation to the right coronary artery, the ostium of which is placed a little higher in the aorta than usual. The aortic valve cusps show little damage.

History: This lesion was seen in a 72-year-old woman who died suddenly from coronary artery disease.

HEART - Rheumatic valvular disease A.127

The aortic cusps are markedly and irregularly thickened with calcified excrescences on both surfaces; there is partial fusion of the antero-lateral and antero-medial cusps, and the valve appears to be both stenotic and incompetent. The muscle of the left auricular wall is thickened as is the endocardium. The cusps of the mitral valve are irregularly thickened as are the chordae, and there is partial cusp fusion. The mitral valve is less severely affected than the aortic valve. Both ventricles are hypertrophied.

History: This young man died suddenly with a known history of rheumatic heart disease. At autopsy his heart weighed 850 grams and the liver showed marked changes of chronic venous congestion

HEART - Mitral stenosis A.128

This is a very old specimen. The aortic and tricuspid valves appear normal. The left auricular wall is hypertrophied, and the endocardium thickened. There is fusion of the mitral valve cusps resulting in a small crescentic opening. There is irregular calcification in both the cusps. On the posterior aspect thickening of the chordae can be discerned and there is both left and right ventricular hypertrophy.

AORTIC GRAFT - Stenosis A.129

The specimen is part of an aortic graft at the bifurcation. The right limb is stenosed and obstructed by organising thrombus. The stenosis was found to be caused by an external fibrous band occurring as a complication of the surgery; the thrombotic obstruction followed.

History: In 1974 this woman presented at the age of 36 with an 18-month history of bilateral intermittent claudication. There were no peripheral pulses in the lower limbs. The aorta between the origin of the inferior mesenteric artery and the bifurcation was narrowed by atheroma with superimposed organising thrombus. Her triglycerides were elevated as was the pre-beta lipoprotein. At operation the right common iliac artery was found to be totally occluded and the left common iliac artery showed severe atheroma. A 12mm Dacron graft bypass was taken from the aorta to the two femoral arteries. In 1984 she had a recurrence of symptoms and at operation an external stenosis produced by fibrous tissue across the origin of the right limb of the graft was demonstrated. The graft was removed and replaced by a second graft.

ABDOMINAL AORTA – Abdominal aortic aneurysm (AAA) A.130

The aorta from the inferior mesenteric artery to just beyond the bifurcation is seen. Beginning just below the level of the renal arteries, the aorta is swollen in a fusiform fashion. The posterior surface has been dissected with some difficulty from the anterior surface of the vertebral column. On the posterior surface the atherosclerotic media can be seen. The swelling has been sufficient to distort the angle at which the common iliac vessels arise.

HEART – Pericarditis (long-standing) A.131

The heart is small, possibly that of a child. The pericardium is markedly thickened, and the atrio-ventricular sulcus largely obliterated. While in a few areas there are fine strands of fibrin, in other parts the strands are thicker and in some areas the surface is quite smooth. The appearances point to a pericarditis of long standing. This is supported by the histological appearances which show organising granulation tissue with fibrin on the surface and a patchy chronic inflammatory infiltrate in the underlying fat.

MITRAL VALVE - Stenosis A.132

The posterior cusp, seen at the front of the specimen, is thickened and the edges rolled. The anterior cusp is large and only slightly thickened; the chordae however are markedly thickened and shortened. There is no obvious fusion at the edges of the orifice.

History: This woman, at the age of 30, presented in the seventh month of her first pregnancy with breathlessness on exertion which progressed to frank left ventricular failure. Following delivery in the eighth month there was immediate relief from heart failure symptoms. Two months after this she underwent mitral valvotomy. Twenty years later she had transient weakness in the right leg. Three years later she underwent cardiac catheterization which showed a moderately severe stenosis. At operation a large clot was found in the atrium. The valve was replaced with a prosthesis. There was no history of rheumatic fever.

HEART - Bacterial endocarditis A.133

The remnants of the tricuspid and pulmonary valves appear normal. On the ventricular surface of the aortic cusps there are large vegetations; there are fewer vegetations on the aortic surface. Vegetations extend onto the endocardium below the level of the valve and there is a vegetation partly blocking the origin of the left coronary artery. There are two small yellow areas on the cut surface of the left ventricle; these may be artefact, but small areas of infarction from the vegetation at the origin of the left coronary artery cannot be excluded. This is a very old specimen, and the history of the patient is not known.

AORTA & FEMORAL ARTERIES - Thrombosis A.134

This specimen consists of a segment of abdominal aorta including the orifices of the superior and inferior mesenteric arteries and the renal arteries, as well as a small portion of the common iliac arteries. Two separate segments of femoral artery (right and left) with the origin of the profunda femoris artery are also included. There is an extensive area of thrombosis within the aorta, extending for about 3 cm along the right common iliac artery. The thrombus is partially organised and is firmly adherent to the underlying vessel wall. Separate foci of thrombosis are seen within both femoral arteries. The aorta and both femoral arteries show focal atherosclerosis. In places the atherosclerotic plaques contain areas of calcification and haemorrhage.

History: This 54-year-old man presented with a 9-month history of progressive CHF complicated by recurrent pulmonary emboli. This was shown at post-mortem examination to be due to congestive (dilated) cardiomyopathy. Multiple episodes of arterial thrombosis were noted clinically as a complication of progressive cardiogenic shock immediately prior to death.

HEART A.135

This specimen consists of a longitudinally bisected left ventricle. The left atrium has been dissected to expose the mitral valve and the posterior cusp of the aortic valve. The left ventricle is thickened, measuring up to 2cm. There is patchy calcification of the aortic valve ring with thickening of the leaflets and fusion of the ventricular and left anterior cusps at the commissure. The anterior leaflet of the mitral valve also shows fibrosis and focal areas of calcification. The left circumflex coronary artery has been partially opened to reveal a focus of atherosclerosis. This has reduced the lumen of the artery to a pinpoint narrowing.

History: This elderly female was admitted to hospital in a collapsed state with a ruptured abdominal aortic aneurysm. Surgical repair of the aneurysm was undertaken, and the patient collapsed postoperatively. Death was due to acute coronary insufficiency.

HEART- Hypertension A.136

A partially bisected heart opened to display the right and left ventricles. There is gross thickening of the left ventricular wall with focal areas of scarring throughout. The valves appear normal.

History: The patient was an obese 50-year-old female with a two-year history of chest pain. She was found dead at home. At post-mortem the hear weighed 1010 grams. There was severe central venous congestion of the liver. Histologically, the changes in the heart were consistent with acute coronary insufficiency. Hypertensive changes were also noted in the kidneys on microscopic examination.

HEART - Multiple congenital anomalies A.137

This specimen comprises a heart opened anteriorly to display the chambers. Two significant abnormalities are present. Firstly, the right and left ventricular outflow tracts enter the same major vessel and secondly, there is a small ventricular septal defect. The VSD has arisen due to failure of the aorticopulmonary septum to fully develop, resulting in the persistence of a connection between the two ventricles as well as the aorta and pulmonary trunk.

History: This baby was born at approximately 34 weeks gestation by an assisted breech delivery. Apgar were 3 at 1 minute and 6 at 5 minutes. Clinical examination at delivery showed an imperforate anus and talipes equinovarus. Duodenal atresia was also discovered on x-ray examination. Intermittent positive pressure ventilation was undertaken, however the neonate remained hypoxic, hypercapnoeic and acidotic and died some 12 hours after delivery.

AORTA – Intra-aortic antemortem thrombus A.138

This specimen consists of a longitudinally dissected segment of aorta, including the upper portion of the common iliac vessels. The aorta contains an antemortem thrombus 0.5 cm in length; this is attached to the antero-lateral surface of the aorta and extends for a small distance into the right common iliac vessel. Prominent Zahn's lines are seen on the surface of the thrombus.

History: This five-day-old neonate was delivered by caesarean section at 38 weeks gestation for failure to progress at second stage of labour. At delivery the liquor was meconium-stained, and the baby appeared flat with low Apgar's. He later developed fits and became increasingly hypotonic with decerebrate posture. His condition deteriorated and he died following a bout of bradycardia. Post-mortem examination showed death due to intrauterine anoxia.

HEART - A.139

Mitral valve prolapse (floppy valve syndrome)

This specimen consists of a heart opened anteriorly to exhibit the whole of the left ventricle and a portion of the right atrium and right ventricle. The left ventricle is moderately thickened, this is particularly marked in the interventricular septum where there is widespread scarring. The mitral valve has been opened and the valve leaflets are markedly enlarged and have a myxomatous appearance. Chordae tendineae are thickened and several of these appear ruptured.

History: This 56-year-old female was admitted to hospital in an unconscious state following resuscitation for a cardiac arrest. She remained unconscious and required ventilation. Four days after admission she was declared brain dead. post-mortem examination revealed mitral valve prolapse. This is also known as floppy valve syndrome or Barlow's syndrome and is characteristically found in middle-aged females. It is usually of little clinical significance. In this patient there was also a myocardial infarct involving the interventricular septum with scarring of the septum being suggestive of previous episodes of ischaemia.

RIGHT COMMON CAROTID ARTERY - Dissecting aneurysm A.141

This specimen is a segment of aortic arch containing the brachiocephalic trunk, left common carotid artery and left subclavian artery; the right subclavian artery has been dissected off the trunk. There is a moderate degree of atherosclerosis of the aorta with focal areas of plaque formation complicated by ulceration, dystrophic calcification and haemorrhage. The origin of the brachiocephalic trunk also contains several calcified atherosclerotic plaques. Patchy calcified plaque is seen throughout almost the full length of the right common carotid artery. The right common carotid artery is distended by a dissecting aneurysm. The false lumen of this is evident on the superior surface of the specimen and contains organised blood clot. There is a transverse incision through the maximum diameter of the aneurysm, this is artefactual and has resulted from examination of the aneurysm at post-mortem.

History: The patient died as a result of the blood loss from bleeding in an ovarian cyst, this bleeding being contributed to by anticoagulant therapy which the patient was on because of prosthetic mitral valve replacement. The common carotid artery aneurysm was an incidental finding at post-mortem.

THORACIC AORTA - Ruptured thoracic aortic aneurysm A.142

This specimen consists of part of the aortic arch and the majority of the descending thoracic aorta. The aorta is markedly atherosclerotic with widespread plaque formation. The majority of the plaques are complicated with extensive areas of ulceration, dystrophic calcification and haemorrhage. A large saccular aneurysm is in the central part of the thoracic aorta; this measures 5cm in maximum extent and contains a small amount of clotted blood. The aneurysm has ruptured. There is a linear tear extending along the outer border for about 4 cm.

History: This 69-year-old woman complained of chest pains approximately 90 minutes prior to sudden collapse. Resuscitation was attempted, however this proved unsuccessful. Post-mortem examination showed a ruptured thoracic aortic aneurysm with a copious amount of clotted blood in the right chest cavity.

INCOMPETENT PROSTHETIC AORTIC VALVE A.144

This specimen is a Carpentier-Edwards prosthetic aortic valve. There are multiple tears in the valve leaflets immediately adjacent to the free edges. At operation these appeared to be due to impaction of the cusps during systole on the fairly long cut ends of the placement sutures. There was no evidence of an infective process.

History: The patient had undergone aortic and mitral valve replacement three years earlier for aortic and mitral regurgitation secondary to rheumatic fever. Evidence of incompetence of the prosthetic valve was found on routine follow-up examination.

PROSTHETIC AORTIC VALVE A.145

This specimen is an Ionescu-Shiley prosthetic aortic valve. There is extensive dystrophic calcification throughout the valve leaflets; in areas the calcification has bridged the leaflets preventing adequate valve function.

History: This 26-year-old female underwent replacement of both the mitral and aortic valves five years previously for valvular incompetence resulting from an episode of rheumatic carditis when aged nine years. Routine follow-up showed stenosis and regurgitation in the aortic valve graft, which was replaced.

MITRAL VALVE –Bacterial endocarditis A.146

The specimen is a mitral valve. The aperture has a characteristic "fish mouth" appearance. The valve leaflets are fused. Vegetations are present underlying the antero-lateral commissure, extending onto the chordae tendineae.

History: The patient was admitted with a history of diarrhoea and headaches. Blood cultures were positive for *Streptococcus Viridans* and antibiotic therapy was commenced. Fever persisted for some time and echocardiography revealed involvement of the mitral valve. She underwent mitral valve replacement and made an uneventful recovery.

AORTA - Aneurysm of aortic arch A.147

The specimen consists of the base of the heart with attached aortic arch and pulmonary vessels. A portion of lung is also attached. Situated in the aortic arch, immediately distal to the origin of the left subclavian artery, there is a saccular aneurysm abutting on adjacent lung tissue. The aneurysm has a large linear tear over the antero-superior surface and contains a large, organized thrombus. The portion of lung shows widespread parenchymal and subpleural anthracosis. The hilar lymph nodes are also anthracitic.

HEART - Myocardial infarcts (recent and old) A.148

The specimen is a heart sectioned at the level of the aortic valve. The left ventricle has been opened. There is an extensive area of recent infarction situated in the lateral wall of the left ventricle extending down to the cardiac apex. A further area of infarction is seen to involve the whole of the anterior wall of the left ventricle, this appears to predate the infarction in the lateral wall of the left ventricle, as here extensive scarring is seen - this has resulted in aneurysmal dilatation of the wall. There is a focus of organizing fibrinous pericarditis over the anterior wall extending down to the apex. Foci of calcification are seen in the leaflets of the aortic valve.
History: This 56-year-old male had a long history of diabetes mellitus and angina pectoris. He died suddenly while at home.

HEART - Cardiac myxoma A.149

This specimen comprises a tumour consisting of multiple fronds of friable gelatinous material with a central connective tissue stalk. This is a cardiac myxoma. These tumours usually arise from the atria, however in this instance the tumour took its origin from the endocardial surface of the left ventricle.

HEART - A.150

Myocardial infarct (weeks) with secondary pericarditis

The heart is sectioned to display both the left and right ventricular cavities. There is an extensive area of myocardial infarction involving the posterolateral wall of the left ventricle, extending up to involve the left atrium and auricular appendage. Sectioning of the ventricle in this area shows that the infarction is transmural. There is also a mild fibrinous pericarditis extending from the anterior wall of the left ventricle to the posterior wall of the right ventricle.

History: The patient was an elderly diabetic and the myocardial infarction had occurred three weeks prior to death.

HEART - Left ventricular hypertrophy secondary to hypertension A.151

The specimen is a heart which has been opened to display the right and left ventricles. There is marked left ventricular hypertrophy with the left ventricular wall measuring up to 2.7 cm in thickness. The right ventricle is also hypertrophied and measures up to 0.8 cm in thickness. The features are those of concentric hypertrophy of the left ventricle and are consistent with hypertensive heart disease.

AORTA - Traumatic perforation A.156

The specimen consists of a portion of aorta taken 5cm above the diaphragm. The aorta is completely transected and there is an adjacent fusiform sac overlying the site of transection. The deceased was an 11-year-old who received severe crush injuries when a petrol tank toppled onto his abdomen.

D

LYMPHATIC SYSTEM

LUNG - Malignant lymphoma D.1

The specimen consists of the trachea and portion of each lung from a child. There are slightly enlarged lymph nodes around the trachea and a mass of enlarged lymph nodes running together in the carina. The mass of nodes has obviously produced obstruction to the bronchi and small collections of what might be pus but may be mucus can be seen in the lung parenchyma.

LUNG - Hodgkin's Disease D.2

The specimen shows the greater part of each lung infiltrated by tumour almost confluent on the left. There are enlarged tumour-containing lymph nodes at the hilum. There is nothing in the specimen to differentiate the infiltration of Hodgkin's disease from any other malignancy; confluent infiltration as seen in the left lung is rare in malignant disease.

SPLEEN - Hydatid disease D.3

The specimen, taken from a spleen of normal size, shows a well demarcated hydatid cyst 2 cm. in diameter.

RECTUM - Malignant lymphoma D.4

The specimen shows sigmoid colon, rectum and anus. In the central area there are thick folds of mucosa produced by the infiltration of the malignant lymphoma in the submucosa. In the lower rectum there is an exaggeration of the normal pattern suggesting that there is infiltration in this area too. An occasional mucosal fold shows ulceration.

SPLEEN - Hodgkin's Disease D.5

The specimen shows an enlarged spleen cut to display a diffuse infiltration by white tumour tissue; this tissue has a suet like appearance suggestive of Hodgkin's disease. The capsule of the spleen has been raised at several points by blood clot suggesting that this was a splenectomy specimen.

LYMPH NODE - Secondary melanoma D.6

The specimen is a greatly enlarged lymph node, the cut surface of which shows patchily pigmented tumour nodules.

SPLEEN - Myelofibrosis D.8

The specimen is approximately half of a massively enlarged spleen; in this instance the enlargement, preserving the outline of the organ, follows replacement bone marrow by fibrous tissue with compensatory hemopoiesis in the spleen.

SMALL INTESTINE - Hodgkin's disease D.9

This is a loop of small intestine, and its attached mesentery. At the apex of the specimen, the intestinal mucosa is widely infiltrated by tumour, presenting as a fungating nodular mass showing ulceration. The mesentery contains a number of large lymph nodes. In the largest of these, there appear to be some areas of necrosis.

SMALL INTESTINE D.10 - Acute myelomonocytic leukaemia

There are two short lengths of small intestine displayed; the mucosal pattern is distorted by an irregular infiltrate, which has produced thickening; in some areas there are nodules with an umbilicated centre. There are areas of haemorrhage and ulceration. The serosal surface appears normal.

History: This young man was admitted to hospital on 9th October 1974, with a six-week history of abdominal pain; more recently, his abdomen had been distended, and he showed peripheral oedema. On examination, he showed a right facial nerve palsy, and a left testicular enlargement; the testes were removed and showed a leukemic infiltrate. Further examination established the diagnosis of acute myelomonocytic leukaemia. He died on the 22 November 1974.

SPLEEN - Chronic myeloid leukaemia D.11

This is a portion of a very considerably enlarged spleen, brick-red in colour, and showing on the reverse surface, at the apex of the specimen, a small infarct.

History: This man presented with a myeloproliferative disorder in 1974, and the diagnosis was established as chronic myeloid leukaemia. His condition deteriorated, and he became leucopenic, anaemic and thrombocytopenic and, for this reason, the spleen was removed. On removal, it was found to weigh 4454 g. and to be diffusely infiltrated by neoplastic cells of a granulocytic series. He died from this disease a few weeks later.

SPLEEN - Secondary Carcinoma D.13

A section of spleen enlarged and distorted by three nodular masses of white, rather chalky-looking tumour. There is an occasional area of haemorrhage present. The tumour extends to the surface of the spleen, where a number of nodules of tumour can be seen, apparently outside the capsule.

History: This man was admitted initially at the age of 72, with a mass on the right side of his neck showing a small cell undifferentiated carcinoma in a lymph node. Six months later, he was readmitted with severe pain and was found to have bilateral masses in his neck, a palpable spleen and a retroperitoneal mass. He died shortly after admission. Autopsy showed an adenocarcinoma of the lower-third of the oesophagus, with widespread metastases including the present specimen.

SPLEEN - Malignant lymphoma D.14

This is an enlarged spleen bisected to show, on the cut surface, multiple white nodules up to 0.2 cm in diameter, together with larger, partly haemorrhagic nodules, up to 2 cm in diameter. The serosal surface shows a patchy infiltrate by similar material.

History: This woman, four years before her death, was found to be anaemic (7 g./100 ml); it was thought that this might be due to underlying chronic infection or malignancy, but no cause was found. She was investigated again 3 months before her death and was finally admitted for investigation, but no cause for the anaemia was found. At autopsy, the spleen was infiltrated and weighed 240 g., there were enlarged lymph nodes in the supraclavicular fossa on each side, in the mediastinum and in front of the aorta. Histologically, the appearances were of a polymorphic large-cell lymphoma, which was demonstrated in lymph nodes, spleen, liver, and bone marrow.

PARA-AORTIC LYMPH NODES D.16 - Lymphoblastic lymphoma

Aorta and both kidneys, showing gross enlargement of the para-aortic lymph nodes; lymph nodes remain discrete.

History: This woman was investigated in hospital over some months for the cause of an anaemia. At autopsy, liver was infiltrated by tumour; spleen was enlarged, weighing 240g., and also infiltrated. Enlarged lymph nodes in supraclavicular fossae, mediastinum, and abdomen. Histology: Lymphoblastic lymphoma.

LUNG - "Malignant histiocytosis" D.17

The pleural surface of the lung shows an extensive exudate with a number of slightly raised pale areas. The cut surface shows a central, rather poorly-defined tumour mass with small nodules of tumour scattered throughout the lung. The histology of the lesion was that of "malignant histiocytosis"; the exact position of this disorder in the spectrum of lympho-reticular disease is not clear.

History: At the age of 10, this child presented with a short history of fever, abdominal and chest pain, lethargy, shortness of breath, loss of appetite, nausea, and vomiting. Examination showed numerous enlarged lymph nodes and an enlarged liver and spleen. Radiologically there was evidence of infiltration in the lungs. The child died fifteen days after admission.

THYMUS AND LUNG - Thymic germinoma D.18

The specimen shows part of the upper lobe of the left lung invaded by a mass of tumour occupying the position of the thymus. The tumour measures some 15 x 8 cm; the cut surface shows light tan-coloured tumour tissue in which there are areas of necrosis and of cyst formation. The outer surface is lobulated. The histology of the lesion is that of a germinoma (histologically closely resembling the appearances of testicular seminoma). The tumour was established as invading the adjacent lung and pericardium and tumour tissue was present in one bronchopulmonary lymph node.

History: This man presented at the age of 22 with some discomfort in the left chest and had recently been under investigation and treatment for nasal allergy symptoms. Radiographically there was an opacity in the anterior mediastinum; two years before an X-ray was reported as within normal limits. The lesion was resected, and he remains well.

ENLARGED LYMPH NODES - Follicular lymphoma D.19

There are a number of considerably enlarged discrete lymph nodes with a homogenous cut surface.

History: This man presented at the age of 52 with two basal cell carcinomas in the skin of his chest. Enlarged lymph nodes were noted in the right axilla. No other lesions were present. The histology of the lymph nodes is that of a follicular lymphoma. Chemotherapy and radiotherapy were given.

SPLEEN - Metastatic melanoma D.21

The specimen is a grossly enlarged spleen expanded by nodular tumour in which there are areas of haemorrhage. At the upper pole there is an organising
subcapsular haematoma.

History: A melanoma of the skin was removed from this man at the age of 64; six years later he presented with abdominal pain and a mass in the right hypochondrium. At laparotomy an enlarged spleen showing a subcapsular haematoma was found and removed. The spleen weighed 1108 grams; the histology was that of metastatic melanoma.

SPLEEN - Hydatid disease D.23

THYMUS - Thymoma D.24

The specimen is a nodular mass in which there are a number of minute cysts and an extensive area of haemorrhage. The outer surface is nodular.

History: This woman presented at the age of 41 with a three-month history of periodic recurring pain across the shoulders and upper limbs with weakness. Some two months before presentation she noticed slurring of the speech which improved after rest. Over the few days prior to presentation, she had some difficulty in swallowing and difficulty in sitting up easily. The Tensilon test was positive and on the basis of this and the other findings a diagnosis of myasthenia gravis was made. Subsequently the thymic mass was resected.

THYMUS - Thymoma D.25

A lobulated tumour some 12 x 7 cm. The cut surface shows yellowish tumour tissue in which there are areas of haemorrhage and of cyst formation. The histology is that of a thymoma; the comment has been made that a metastatic squamous cell carcinoma could not be excluded.

History: This man presented at the age of 59 with weight loss, tiredness and a normocytic anaemia which required transfusion on two occasions. He had been a heavy smoker for many years. An X-ray showed an anterior mediastinal mass which was removed. Investigation did not disclose any obvious reason for the anaemia, but it may be associated with this lesion.

SUBMANDIBULAR SALIVERY GLAND D.26 - Non-Hodgkin's lymphoma

At one pole of the lesion there is part of a salivary gland which however is separated from the tumour. The tumour itself is a yellowish colour and is homogeneous apart from an irregular area of haemorrhage. The tumour appears to be confined by a thin capsule.

History: This man presented with a rapidly growing lesion in the left submandibular gland area. He had a long history of congestive heart failure and diabetes. The histology of the lesion is that of a malignant lymphoma, diffuse, and mixed (New International Formulation).

THYMUS - Myasthenia Gravis D.27

The specimen is a markedly enlarged thymus (the patient was aged 21 years at the time of removal). It shows a characteristic two lobes with blunting of the lower poles. Sections showed a uniform hyperplasia.

History: This man presented with a short history of diplopia and drooping of the left lower eyelid. Investigation established the diagnosis of myasthenia; the gland was removed, and apart from recurrent sternal infection the patient is alive and well five years later.

SPLEEN - Hereditary spherocytosis D.28

The specimen is a very large spleen; the normal outline is preserved; there is some artefactual tearing of the capsule on the anterior surface. The cut surface at the upper pole shows a rim of darker tissue; this is an artefact of fixation.

History: The patient was 15 years old when the spleen was removed. At birth she was found to be anaemic, and the diagnosis of hereditary spherocytosis was made; a top-up transfusion was given at five weeks. Her haemoglobin had fallen from 16 to 6 grams. At the age of four her haemoglobin was 12 grams; the spleen was firm and palpable some 3 cm below the left costal margin. At the age of 15 an elective cholecystectomy and splenectomy were performed; the gallbladder was thickened and contained numerous pigment stones. The spleen weighed 1074 grams. The child's father had suffered spherocytosis and had his spleen removed at the age of 11 years.

THYMUS - Mixed epithelial and lymphocytic fibroma D.30

The specimen consists presumably of one lobe of the thymus; it has been replaced by tumour. The tumour has a thick capsule; the cut surface shows a nodular pattern with nodules delineated by rather pale collagenous tissue. In some areas the tumour is apparently solid, in others there are cysts which in some cases are small enough to give a lacey pattern to the tumour. There are areas of haemorrhage apparent as well. It is not known whether this lesion was associated with myasthenia gravis or not. The histology is that of a mixed tumour, but it is predominantly epithelial in type.

THYMUS GLAND - Myasthenia Gravis D.31

This rather nondescript specimen is a thymus gland dissected from a patient with myasthenia gravis.

SPLEEN – Angiosarcoma D.32

Specimen consists of a portion of the spleen sectioned transversely. The splenic capsule is slightly thickened and multiple areas of pale tumour are seen throughout the splenic substance. These consist of irregular pale-yellow masses which are most prominent in the vicinity of the splenic capsule. Microscopic examination showed this tumour to be an angiosarcoma which had replaced the majority of splenic pulp.

SPLEEN - Hyperplasia D.33

The specimen consists of a whole spleen. The capsule appears normal however the spleen is profoundly hypoplastic and weighed 15gm in the fixed state. Splenic hyperplasia was discovered during the post-mortem examination of a middle-aged woman who died of pneumococcal septicaemia.

E

CENTRAL NERVOUS SYSTEM

BRAIN - Acoustic neuroma E.1

In the right cerebellopontine angle there is a nodular, well defined, tumour arising from the eighth nerve although this is not demonstrated in the specimen. The pons and cerebellum are compressed and distorted by the tumour.

SPINAL CORD - Infant-Arnold: Chiari malformation E.2

In this condition there is displacement of the medulla and vermis of the cerebellum below the level of the foramen into the spinal canal with over-riding of the spinal cord. The malformation is associated with a small posterior fossa and flattening of the base of the skull. The common association of myelomeningocele with the Arnold-Chiari malformation is shown in this specimen.

BRAIN - Infarction corpus callosum E.3

There are three slices of brain, from the frontal, parietal and posterior areas showing softening and destruction of tissue in the corpus callosum. On clinical and histological grounds these changes were regarded as toxic secondary to alcohol (methylated spirits).

BRAIN - Disseminated sclerosis E.5

The specimen shows the anterior horns of the ventricles and, in the second slice, the posterior horns. Related to the left anterior horn there is a wedge-shaped greyish plaque, and other smaller plaques can be seen related to the upper angle of the left horn. Posteriorly, there is scarring in relation to the ventricles with, on the left-hand side, one scar in the characteristic position at the lateral angle with the apex of the scar pointing towards the cortex.

BRAIN - Cerebral tumour E.6

In this specimen the tumour shows no evidence of haemorrhage. Some of the pale areas, however, to be seen within the lesion are likely to be necrotic. Again, the tumour is difficult to delineate from the normal brain tissue at the lower margin; what appears to be an infarct at the outer angle of the lateral ventricle in relation to the tumour may in fact be part of the tumour.

LUNG & BRAIN – Tuberculosis E.7

Here we have cerebellum and brain stem cut to display a circumscribed yellowish nodule in the pons distorting the adjacent tissues and apparently blocking the fourth ventricle, which cannot be seen. The lung shows miliary tuberculosis.

BRAIN - Meningioma E.10

On the under-surface of the left frontal lobe there is a circumscribed hemispherical tumour which, as far as can be seen, is completely distinct from the brain tissue. This is a meningioma compressing and distorting but not invading brain tissue.

NERVE - Primary tumour E.15

The specimen is identifiable as originating in the nerve by the appearance of the cut ends of the specimen. The nerve trunk is distorted by a nodular tumour which, however, is probably continuous throughout the greater part of the length of the specimen. The cut surface of the nodule shows haemorrhage and necrosis and this, in fact, is a malignant schwannoma.

DURA - Subdural hematoma E.18

The specimen shows flakes of blood clot attached to the dura on each side. That the clot has been present for some time is indicated by the staining of the dura in relation to the clot. In its present form this lesion is not likely to have produced symptoms.

BRAIN - Cerebellar haemorrhage E.19

The specimen of the cerebral hemispheres and pons has been cut parallel to the base of the brain. There is obvious haemorrhage in the posterior part of the left cerebellar hemisphere with petechiae at the periphery; further petechiae apparent in the brain stem. The blood vessels at the base of the brain show no atheroma. In this instance, there are petechiae and a massive haemorrhage which relate to this woman's Pancytopenia; the cause of the Pancytopenia does not appear to have been elucidated.

SPINAL CORD - Tumour E.20

The spinal cord is grossly expanded by a tumour which is ovoid in outline and at one pole shows areas of haemorrhage and necrosis. Histologically this was reported as an astrocytoma. The size of the vertebral bodies indicates that this tumour is in the cervical cord.

SPINAL CORD - Ependymoma E.21

The specimen is an ovoid, smooth-surfaced nodule, brownish in colour, showing no identifying features. The history is of interest: when weight-lifting, the patient experienced a sudden pain in the lower back; this improved with rest and he played rugby, the pain returned, radiating to the back of each leg and later to the calves and ankles; a myelogram showed a complete block with a rounded lower margin at the level of the second lumbar vertebra. At laminectomy this tumour was found, distorting the cauda equina.

SPINAL CORD - Epidermoid cyst E.22

The specimen shows a wedge of skin at the top of the jar with, below it, a series of nodules of yellowish tissue connected by pale tissue. The specimen came from the lumbar areas of a patient aged 20 years; she had had a pigmented, hairy area surrounding a small sinus over first sacral vertebra since birth; as a child she suffered from intermittent backache which, prior to surgery, became severe and radiated down to the left leg. The lower end of the specimen was found attached to the filum terminale.

BRAIN - Meningitis E.23

The specimen shows marked thickening of the meninges over the vertex; the thickening is, of course, produced by an inflammatory exudate in the meninges; the vascular pattern is accentuated, as part of the inflammatory response.

BRAIN - Secondary tumour? Melanoma E.24

A slice of brain to display on one surface three secondary deposits in the cortex, the sub-cortical areas and in the caudate nucleus. From the colour of the smallest of these lesions this seems likely to be a melanoma.

BRAIN - Secondary Tumour (lung) E.25

The specimen is a slice of brain, taken through the parietal area and showing, on the left-hand side, a discrete, well-demarcated tumour deposit, with central cavitation.

History: This man presented in December 1974 with incoordination of the right hand and weakness of the right cheek. His finger-nails were markedly clubbed, and he later developed dysphagia as well as dysarthria. A chest X-ray showed no tumour. He had severe chronic respiratory disease. He died in June 1975 and, at autopsy, was shown to have a poorly-differentiated adenocarcinoma of the lung, with cerebral metastases.

BRAIN - Cerebral infarction E.26

The specimen shows the left cerebral hemisphere, swollen and encroaching on the territory of the right hemisphere. Centrally there is haemorrhagic infarction, largely apparent in the grey matter while, at the periphery, the cortex is pinkish in colour and not as obviously infarcted as the central convolutions. The base of the brain has been dissected to expose the left middle cerebral artery, which contains thrombus.

BRAIN - Aneurysm of the basilar artery E.29

This shows the under-surface of the brain, with the basal portions of the temporal lobes cut away. The basilar artery is tortuous and enlarged in a nodular fashion; the left vertebral artery can be seen on the right-hand side of the specimen, but the right vertebral artery cannot be seen. There is extensive atheroma of the middle cerebral arteries. Inspection of the whole specimen shows neither haemorrhage nor infarction. No history is available.

BRAIN - Brain Stem Haemorrhage E.31

The specimen shows part of the pons and cerebellum showing an area of haemorrhage in the pons a little distance from the fourth ventricle. There is some subarachnoid bleeding in the cerebellum.

BRAIN - Sagittal sinus thrombosis and cerebral infarction E.32

There are two coronal sections of brain showing massive right-sided infarction and lesser infarction on the left. The pia is haemorrhagic, and, in the top specimen, thrombosis of a vein and its tributaries can be seen. The sagittal vein itself is not shown in the specimen. The corpus callosum is disrupted but this is probably artefact.

DURA - Secondary Carcinoma (colon) E.34

The specimen consists of the central portion of the dura from the vertex showing extensive haemorrhagic tumour infiltration, most marked on either side of the mid-line. The central sinus shows post-mortem blood clot.

BRAIN - Astrocytoma E.35

The specimen is a brain sliced horizontally through the level of the basal ganglia and showing a large, partly necrotic tumour on the left, occupying the area of the thalamus, and distorting the ventricular system. The tumour extends down into the mid-brain and here there are areas of haemorrhage, as shown on the reverse of the specimen.

BRAIN - Glioma and haemorrhage E.37

The specimen shows the right parietal area expanded by blood clot and tumour, which is apparent in the lower left-hand corner in relation to the clot. The ventricular system is distorted and there appears to be some flattening of the convolutions on the right side. There is some blood in the subarachnoid space.

BRAIN - Pontine tumour E.39

The specimen shows a brain cut to expose the pons which is expanded by a tumour nodule some 2.5 cm in diameter showing some areas of necrosis. This is probably an astrocytoma. There is no ventricular dilatation.

BRAIN - Infarction E.43

A section of brain through the anterior parietal region showing on the right side of the brain a wedge-shaped infarct with areas of degeneration.

BRAIN - Pneumococcal meningitis E.47

The right cerebral hemisphere showing very marked injection of the vessels, and a rather thin, yellowish exudate, most marked in this specimen over the tip of the frontal and temporal lobes.

History: This child, born prematurely, was apparently well, but suddenly died at home. Pneumococci were isolated from the exudate.

BRAIN E.48
- Ruptured aneurysm and subarachnoid haemorrhage

This shows the brain stem and cerebellum. On the right vertebral artery there is a ruptured aneurysm marked by the arrow, with surrounding subarachnoid haemorrhage. The right cerebellar tonsil is prominent, but it has not been cut, so one is not sure whether there is bruising indicative of coning or not. A bilateral carotid arteriogram did not demonstrate the aneurysm and death occurred before the vertebral system could be investigated.

BRAIN E.50

- Meningitis & subarachnoid haemorrhage

There is blood clot in the subarachnoid space, particularly on the under-surface of the left cerebral hemisphere, although it is also apparent on the right. The meninges, particularly over the vertex, show some slight thickening and yellowish discolouration.

History: This man was admitted, at the age of 58, with a past history of diabetes, gout and chronic renal failure. On the present admission, he had been unwell for some weeks with a chronic discharging left ear, more recently fever, malaise and, ultimately, coma. No organisms were isolated, but he was successfully treated with Methicillin and Gentamycin. Subsequently, he had a mastoidectomy carried out and, three days following this, he developed a left-sided ataxia. He later became unconscious, and a subdural haematoma was found in the posterior fossa. Post-operatively, he did not improve and died some 28 hours after the procedure. The conclusion was that his meningoventriculitis led to secondary haemorrhage. No aneurysm was found.

BRAIN - Arteriovenous Malformation E.51

Brain cut to show, on the right-hand side looking forwards, a thin-walled vascular malformation which has destroyed much of the caudate nucleus. A feeder vessel can be seen at the base of the lesion close to the mid-line.

DURA - Meningioma E.52

A lobulated tumour arising from the dura and measuring 7 x 10 x 6 cm. Metallic clips may be seen at the edge of the dura, and posteriorly can be seen the area where tissue has been removed for microscopy.

History: This man presented at the age of 60 with a history of one year's diminishing interest in events, and a two-month history of increasing weakness and fatigue; there was a history of one-months dysphasia, difficulty in writing and minimal right hemiparesis. Investigation showed a large left frontal mass, with a blood supply from the middle meningeal artery compressing the left frontal lobe and shifting the mid-line across by about one inch. Microscopic examination of the removed lesion showed that this was a meningioma.

BRAIN - Multiple Aneurysm E.54

This shows part of the base of the brain cut to display an aneurysm, approximately 2 x 1 cm, on the right middle cerebral artery. In relation to the larger aneurysms there is an area of softening, close by and remnants of subarachnoid haemorrhage. On the reverse side, the specimen shows right-sided swelling.

History: This man presented at the age of 43 with a subarachnoid haemorrhage; initially his condition was precarious, but he improved over the next 12 hours; bilateral carotid angiography showed bilateral cerebral aneurysms and the right, which was the largest, was thought to be the site of the bleed. Seven days later the aneurysm was clipped; for the first 12 hours his condition was excellent, but over the next 12 hours his condition deteriorated, with the clinical picture of pan-cerebral spasm.

BRAIN - Astrocytoma of the brain stem E.55

Brain, cut to display marked expansion of the brain stem by tumour; the tumour is white in colour, and shows a number of areas of haemorrhage. The ventricular system does not appear to have been obstructed, although it well might have been.

BRAIN - Subarachnoid haemorrhage E.56

This shows the base of the brain with an extensive subarachnoid haemorrhage, most marked along the pons. No aneurysm can be seen.

History: This woman, at the age of 62, was found lying on her bathroom floor; she had no known medical history; there was no evidence of injury.

MENINGES - Meningioma E.57

A nodular tumour some 5 cm in diameter cut to display a pale, whorled surface; the cut surface also shows a thin narrow strip of the dura at the upper pole. There is a small area of haemorrhage on the surface of the dura.

History: This woman presented at the age of 55 with a history of two-to-three years of persistent headache over the right side of the head, with occasional episodes of vomiting. On one occasion, she lost consciousness and fell into her soup at a dinner party. Recently she had become withdrawn, depressed, and unable to cope with her housework and, shortly before admission, she became drowsy and began to drag her right leg. On examination, she was found to have severe neck stiffness, bilateral ptosis, and right-sided hemiplegia; the lesion was demonstrated by brain scan and removed with good effect.

BRAIN - Astrocytoma and cerebral infarction E.58

This shows, first of all, a coronal section through the anterior parietal area; the right side is expanded by a partly-haemorrhagic tumour mass, which has obliterated the ventricle; the convolutions on each side are markedly flattened. Beneath this specimen is part of the right occipital cortex, showing an extensive infarct.

History: This man presented with left-sided fits, followed by severe headache; these dated back several months. He finally lapsed into coma after a major fit, and examination in April 1978 showed a marked rise in intracranial pressure. Emergency surgery was carried out, and the ventricular system drained. He was transferred for neurosurgery; partial removal of the tumour was achieved, but he died without improvement in his condition some two days after he had become unconscious. The histology of the lesion was that of an astrocytoma Grade II. We are not able to determine at what stage of his final illness the occipital infarction occurred.

CERVICAL SYMPATHETIC CHAIN E.59

- Ganglioneuroma

A somewhat lobulated mass measuring approximately 6 x 4 cm.; it narrows to an apex at one end; the cut surface has a rather whorled appearance.

History: This child presented at the age of 8 years with a lump in the left side of the neck. At exploration, it was found to be arising from the left cervical sympathetic chain, pushing the carotid sheath anteriorly, and jutting into the pharynx medially. Post-operatively, she developed a left Horner's syndrome. The histology of the lesion is that of a ganglioneuroma.

BRAIN - Cerebral haemorrhage E.60

A brain cut to show a massive left-sided cerebral haemorrhage. The convolutions, particularly on the left, are flattened; the ventricular system is distorted, and there is a large area of haemorrhage in the left caudate nucleus extending into the ventricular system.

History: This woman was admitted to hospital at the age of 57, following collapse while pushing a stalled car; she had a right hemiplegia and was aphasic. She died some six hours after admission. At autopsy, the heart weighed 630 g., and the kidneys showed, on microscopy, hypertensive arteriolar changes.

BRAIN - Meningioma E.62

This shows the under-surface of the brain; just to the left of the chiasma there is a nodular, pale tumour approximately 2.5 x 2 cm., which has had a segment taken from it for histology. Attached to the under-surface of the tumour is a sliver of dura. The tumour appears to be compressing the chiasma. The cerebellar tonsils are marked by the outline of the foramen, but there is no obvious bruising. Allowing for the direction of the cut on the superior surface of the specimen, it seems possible that the left side of the brain is a little swollen.

History: This 39-year-old woman had an attack of unconsciousness during a dinner party four months before her death. It was noted that she had weakness of the right side of the face, and aphasia, she improved slowly, but speech impairment persisted. Four months later she was seen with a one-week history of weakness of the right arm, the right side of the face, and aphasia.

BRAIN & SPINAL CORD E.64

- Hydrocephalus and Meningomyelocele

Much of the cerebral hemisphere on each side has been removed showing grossly dilated ventricular system with very marked filling of the cortex. The cerebellum appears normal in size; at the lower end of the cord the spinal column and overlying skin have been removed intact to show a Meningomyelocele some 5cm in diameter.

History: This child was born in Palmerston North Hospital and transferred to Wellington Hospital because of a large Meningomyelocele. Clinical examination showed the lesion extended from T11 to L4 with no skin covering. The head circumference at birth was 33.4cm. It was decided that surgical intervention was not warranted; the child's head increased until, at death, the circumference was 40cm. At autopsy, no other abnormality was found.

BRAIN - Old infarction E.65

Coronal section taken in the anterior parietal area, showing on the right a cavity some 4cm. in maximum diameter lined by a pigmented membrane. The cavity occupies much of the right caudate area posteriorly. The right lateral ventricle is distorted, and there is blood clot in the third ventricle.

History: This woman, at the age of 63, was admitted to hospital unconscious, with a few hours' history of discomfort, nausea and dizziness. She had a previous history of cardiovascular accidents. She is also described as having had severe hearing loss, beginning in childhood following an attack of diphtheria. Death was due to spontaneous intracerebellar haemorrhage, which ruptured into the fourth ventricle.

BRAIN - Infarction: Carotid artery thrombosis E.67

A coronal section of brain through the anterior parietal area, showing marked swelling of the white matter and, to a lesser extent, of the grey matter on the left with compression of the left lateral ventricle. Mounted with the specimen is the left carotid artery, showing occlusion by thrombus of the internal carotid artery from its origin. There is an atheromatous plaque extending downwards from the level of the bifurcation in the common carotic, and an atheromatous plaque can be seen in outline in the upper-third of the portion of the internal carotid artery present.

History: This man, at the age of 67, was admitted to hospital with urinary retention, and underwent a transurethral resection of the prostate. In the postoperative period he had difficulty breathing, attributed to asthma and emphysema, and approximately fourteen days after the operation his condition deteriorated rapidly, and he was shown to have a flaccid paralysis on the right side. At autopsy, the internal carotid artery on the left was thrombosed from its origin to the base of the skull.

BRAIN - Infarction E.68

A coronal section of brain taken through the anterior parietal area and mounted facing forwards. On the left side, there is an extensive haemorrhagic mottling, primarily of the grey matter but extending in some areas into the white matter.

History: This man was admitted three weeks before his death, with an extensive myocardial infarction and left ventricular failure. He suffered from thromboangiitis obliterans and had had a sympathectomy some 17 years before. Two weeks before his death, he developed a right hemiparesis. At autopsy, thrombotic occlusion of the left internal carotid artery was demonstrated. Sections of this vessel showed atheroma with calcification, but no convincing evidence of thromboangiitis obliterans. Sections of the heart showed multiple infarcts of varying age. Sections of the coronary arteries showed changes consistent with thromboangiitis obliterans.

BRAIN - Multiple infarcts E.71

A brain cut to display infarcts of varying ages; anteriorly on the right there is an old cystic infarct; in the mid area on the left there is a more recent area of infarction and collapse, while posteriorly on the left there is a slightly older area of infarction. The internal carotid arteries show little atheroma, but there is quite marked atheroma apparent in the anterior cerebral vessels.

History: This woman was admitted to hospital with atrial fibrillation, left ventricular failure and right-sided bronchopneumonia. She stayed in hospital until her death some three months later. She had been hypertensive for some years; she had had a cerebrovascular accident six years before leaving her hemiplegic; for three years before her admission, she had suffered from senile dementia.

BRAIN - Cerebral and pontine haemorrhage E.72

Brain, cut to show, on the reverse side, a massive left-sided cerebral haemorrhage destroying the outer part of the caudate nucleus on the left, and extending into the ventricular system; the left side of the brain is swollen. On the front of the specimen, a massive pontine haemorrhage can be seen. The part of the basilar artery present shows no atheroma, but atheromatous plaques are visible in the middle cerebral arteries.

History: Approximately one week before his death, he experienced sudden severe headache and lost consciousness. He was known to be hypertensive. A lumbar puncture showed blood in the cerebrospinal fluid and clinically he showed a right hemiparesis with aphasia; his blood pressure was recorded as 180/100. Investigation showed that he had an intracerebral clot, lateral to the perforating vessels in the left hemisphere. It was thought that he might be managed conservatively until about fourteen days after the bleed, when removal of the clot would be easier; shortly after this decision had been made he lost consciousness and his left pupil became larger than the right; the left cerebral haemorrhage was explored and much of the clot removed, but his condition continued to deteriorate and he died some 18 hours later from the massive pontine haemorrhage apparent in the specimen.

SPINAL CORD - Neurofibromatosis E.73

This consists of the lower part of the spinal cord and the cauda equina. There are numerous nodular expansions of the nerve fibres, ranging in size from a few mm. to just over 1 cm.

History: The patient suffered from congenital neurofibromatosis. His mother had died of this disease, some seven years before he died at the age of 22, following removal of a second acoustic neuroma. He had also had bilateral acoustic neuromas, together with peripheral lesions. He developed a complete block at the level of 8th thoracic vertebra due to a neurofibroma, and he became paraplegic. Following exploration of a left-sided cerebellopontine tumour, his cerebellum became infarcted, and death occurred. At autopsy, a number of subcutaneous nodules were seen, but no other abnormality than that in the central nervous system was noted.

BRAIN - Juvenile astrocytoma E.76

The specimen is an infant's brain and shows a lobular tumour at the base of the brain, impinging on the ventricular system with ventricular dilatation.

History: The child apparently made normal progress at birth until it was noted that the head was increasing in size with abnormal eye movements. Investigation showed a cystic mass in the right cerebral hemisphere but at operation tumour was found at the medial edge of the cyst. The child died at the age of 5 months. At autopsy, there was a marked frontal bossing and widely opened fontanelles. Histologically the tumour was described as a juvenile astrocytoma of pilocytic type.

BRAIN - Meningioma E.77

The specimen is a coronal section through the mid-area of the brain together with portion of the skull. There is a circumscribed tumour present extending into the bone and downwards into the right cerebral hemisphere.

History: The patient was admitted with a left hemiparesis of two weeks' duration. A brain scan showed a tumour extending into the vault of the skull; this was regarded as inoperable. The histology is that of a meningioma.

DURA, BRAIN - Meningioma E.78

The specimen shows in the right posterior fossa, a circumscribed tumour some 4.0 cm. across arising from the dura overlying the petrous temporal bone. The pituitary fossa is seen in the upper left-hand corner of the specimen.

History: The only details available are that this woman, at the age of 50, was admitted for surgical treatment of this lesion but death occurred before this could be completed.

BRAIN - Metastatic melanoma E.79

The cortex and the white matter showed numerous black spots, up to 3.0 mm. in diameter.

History: At the age of 58, this man had a left upper lobectomy for a lesion seen on X-ray. This was shown to be a metastatic melanoma; a melanoma had been removed from his back three years before. Postoperatively, he was noted to have two rapidly-growing nodules in the scalp and one on his back. At autopsy, metastatic melanoma was demonstrated in liver, adrenal gland, kidney, heart, and brain.

BRAIN - Abscess E.81

On the under surface of the medial part of the left frontal lobe there is an opened abscess cavity; this communicates with the left lateral ventricle and extends down in front of the brain stem in midline. The right frontal lobe is distorted medially and there is evidence in pigmentation of old haemorrhage, and on the right, there is apparent adhesion between the meninges and the dura.

History: This child suffered facial and head injuries in a motor vehicle accident five years before her death; in the intervening period she had a number of admissions with meningitis, culminating in a chronic brain abscess.

BRAIN E.82
- Aneurysms of the anterior communicating artery

On the under surface of the brain a bi-lobed aneurysm approximately 2.0 x 0.8 cm can be seen in the position of the anterior communicating artery.

History: This was an incidental finding in a woman who died from pulmonary embolism following surgery.

BRAIN E.83

- Occlusion of left internal carotid artery and left cerebral infarction

The under surface of the brain shows the left internal carotid artery occluded by thrombus close to the origin of the left middle cerebral artery. The left cerebral hemisphere is swollen in comparison to the right.

History: This man was admitted at the age of 55 with myocardial infarction. Some three weeks later he developed a left-sided cerebral infarct and died. At autopsy the myocardial infarction was confirmed but no source of thrombus was found.

BRAIN - Aneurysm, frontal artery E.85

The specimen is a portion of the frontal lobe showing the anterior cerebral artery. The aneurysm, which is approximately 0.3 cm in diameter, can be seen adjacent to an area of staining antero-superiorly at a point where the artery takes a right-angle turn to run upwards above the ventricle.

BRAIN - Aneurysm of the basilar artery E.86

There is a 1.0 cm aneurysm arising from the left side of the basilar artery.

History: This was an incidental finding in an elderly woman who died from myocardial infarction.

VERTEBRAL COLUMN - Spina bifida E.89

The specimen shows the lower part of the vertebral column in which there has been failure of complete closure of the vertebral arches. There was presumably an associated meningocele, but this has been largely removed.

BRAIN - Cerebral infarction E.90

There is a recent infarct in the right internal capsule. Examination of the whole brain showed foci of thrombus in the right middle cerebral artery, a fresh infarction on the inferior surface of the right frontal lobe and areas of old softening in the right lateral occipital region and the right temporal pole.

History: This man, at the age of 57, was found collapsed on the floor of his home three days before his death. He had a long history of alcoholism. His heart weighed 760 grams and showed gross coronary artery disease with an old infarct.

INFANTILE BRAIN - Arhinencephaly E.92

The specimen shows the anterior portions of the frontal lobes of a neonate; the lobes are fused; the corpus callosum is absent and the olfactory tracts are absent.

History: This child was born at term, weighing 2500 grams, and showing multiple abnormalities including a cleft lip and palate, an absent nasal septum, microcephaly and microphthalmia, and eventration of the left dome of the diaphragm with the spleen and the left lobe of the liver lying in the left pleural space.

BRAIN - Colloid cyst E.95

The specimen shows a thin-walled cyst some 2.0 cm in diameter occupying the third ventricle. The convolutions of the hemispheres are flattened.

History: This man, at the age of 39, was admitted to hospital with severe headaches; he is said to have suffered migraine for more than twenty years. With the onset of headache, he had had two fits; on admission he was in coma with moderately dilated and fixed pupils; a lumbar puncture was carried out; the pressure was 43 cm of water. He subsequently had a respiratory arrest associated with a hypertensive episode. At autopsy, coning was demonstrated; the cyst described was found to be of ependymal origin. It is suggested that intermittent foraminal obstruction may have been responsible for the intermittent headaches he had suffered.

BRAIN - Leukodystrophy E.96

This specimen shows two pieces of cerebellum; the grey matter appears intact, but the white matter is clearly abnormal, being pale in colour, and apparently collapsed. The subcortical U fibres appear intact.

History: This child, who died at the age of two years, had suffered a progressive neurological degenerative condition characterised by a gross ataxia and a lack of balance to such an extent that she became upset when not adequately supported; she also showed a spastic quadriplegia affecting her left side more than her right and her arms more than her legs. Histologically the lesion was classified as sudanophilic Leukodystrophy; another child in the family appears to be affected in a similar manner.

BRAIN - Coning E.97

The brain is mounted to display the cerebellar tonsils which have been compressed alongside the medulla and show a ring of compression corresponding to the foramen magnum. There is no bruising apparent.

History: This child had severe diffuse supravalvar aortic stenosis, associated with mild pulmonary stenosis affecting the right and left branches of the pulmonary artery together with mitral incompetence. Surgical repair was carried out, but the child suffered a cardiac arrest towards the end of the procedure. At autopsy cerebral oedema was demonstrated.

BRAIN - Tuberculous meningitis E.100

There is some thickening of the meninges in general, with marked thickening of the meninges in the interpeduncular fossa in particular. Histologically the appearances were those of tuberculous meningitis.

BRAIN - Craniopharyngioma E.101

The specimen shows a circumscribed tumour mass some 4 cm across in the mid area of the brain in relation to the third ventricle. The white dotted areas are islands of calcification. The histology of the lesion is that of a craniopharyngioma. These are uncommon tumours, believed to originate in the craniopharyngeal canal which is considered to be a vestige of the hypophyseal recess. These tumours enlarge slowly; most patients are in the second or third decade of life when symptoms first appear. The manifestations are those of pituitary dysfunction.

BRAIN - Fat embolism E.102

There are numerous petechial haemorrhages to be seen in the brain stem and to a lesser degree in the cerebral hemispheres.

History: This elderly woman, with a history of raised blood pressure and of Parkinson's disease, fell and broke the neck of her right femur three days before she died. At autopsy, fat emboli were demonstrated in lung and in brain.

BRAIN - Atheroma E.103

The specimen shows gross atheroma of the vessels at the base of the brain; the basilar artery in particular is tortuous and distorted.

BRAIN - Malformation of vessels E.104

Basilar artery with aneurysm and rupture.

BRAIN - Ependymoma, fourth ventricle E.106

The fourth ventricle is enlarged by a tumour some 4 x 3 cm. The cerebellum and brain stem are distorted and there is extensive haemorrhage posteriorly and in the subarachnoid space at the base. The third ventricle is grossly dilated and there is a moderate degree of dilatation of the lateral ventricles. The convolutions of the cerebellum are flattened.

History: This 2-year-old child had become listless and stopped talking except in monosyllables over the previous three months. Her muscles were hypotonic and floppy. She became more and more drowsy and developed an intermittent sixth nerve palsy with progressively more feeble respiration. Examination and subsequent surgery determined the presence of an ependymoma in the fourth ventricle. The child died postoperatively.

NERVE TRUNK - Neurilemmoma E.108

The specimen is a nodular pale piece of tissue, roughly ovoid in outline and showing on the back surface a pedicle which may represent the nerve trunk from which this arose.

History: This woman presented at the age of 58 with a twelve-month history of a swelling in the sole of the foot. She had had a plantar neuroma removed from the sole of the right foot many years before. Examination showed a huge swelling involving the sole of the foot and extending medially around the plantar border. Pressure over the lesion produced pain in the second and third toes. At operation the lesion was found to fill the underside of the sole of the foot, tracking back to the medial malleolus.

BRAIN - Pneumococcal meningitis E.109

The brain is that of an infant; it shows very prominent congested superficial vessels with a thick exudate covering much of the cortex.

History: This child presented at the age of three months with a one-week history of irritability and crying. A lumbar puncture grew S. pneumoniae; there was no response to therapy and the child died three days after admission. The child suffered Down's syndrome and at autopsy congenital atrial septal defect was demonstrated. Histological examination of tissues showed evidence of a terminal disseminated intravascular coagulation.

BRAIN - Abscess right temporal lobe E.110

There is a cavity some 3.0 cm across, lined by yellow exudate, lying in the right temporal lobe. In the deeper part of the cortex above this, there is an irregularly softened area which is rather poorly defined. This may be another abscess early in the stage of its evolution. The gyri are flattened, and the lateral ventricle compressed, indicating increase in intracranial pressure.

History: This woman, who was diabetic and hypertensive, developed a squamous cell carcinoma in the right auditory canal. This was treated but recurred. She developed a middle ear infection, intracranial infection, and bronchopneumonia. At autopsy, tumour was found in the right middle fossa but not into the brain; sections of the abscess wall showed no tumour infiltration. The abscess, then, is to be regarded as a complication of infection occurring in the middle ear.

BRAIN - Infarction (clipped aneurysm) E.111

There is a metal clip to be seen on the medial surface of the brain; it is presumed that this has been applied to short-circuit an aneurysm. The brain shows extensive recent infarction in the territory of the middle cerebral artery and of the anterior cerebral artery.

THE BASILAR ARTERY - Aneurysm E.112

The specimen consists of the left half of the brain. The third ventricle is distorted as is the adjacent brain tissue by an aneurysm some 4 cm across occupied by laminated clot. The optic chiasma can be seen distorted beneath it. The aneurysm would appear to be arising from the basilar artery.

History: This man presented at the age of 42 with an aneurysm of the basilar artery which could not be clipped because of the atheromatous condition of the vessel. Accordingly, both vertebral arteries were ligated but the aneurysm continued to expand until five years later an attempt was made to deal with it under hypothermia and with circulatory arrest. His initial postoperative progress was good but he subsequently died some months later.

BLOOD VESSELS AT THE BASE OF THE BRAIN E.114

CEREBRELLUM AND BRAIN STEM E.115
- Arteriovenous malformation and haemorrhage

In the left cerebellopontine angle tortuous vessels of varying size can be seen; these are closely applied to the left cerebellar hemisphere and extended across to the inferior border of the pons; before dissection they were also applied to the lateral surface of the medulla. Bleeding from the lesion had occurred through the inferior cerebellar peduncle and blood clot can be seen in the fourth ventricle. There was a dural attachment apparent to the lateral border of the tentorium.

History: This man presented at the of 46 with a subarachnoid haemorrhage; an arteriovenous malformation was identified and treated by radiotherapy. In 1978 a left external carotid artery ligation was performed. He presented finally at the age of 50 with a headache of acute onset, left-sided weakness, vomiting, restlessness, and gradual loss of consciousness to coma. Death occurred some 24 hours after the onset of symptoms.

BRAIN - Thrombosis of basilar and vertebral artery E.116

The right vertebral artery is small in calibre and does not appear to show any atheroma. The left vertebral artery and basilar artery are tortuous and contain ante-mortem thrombus.

History: This man died at the age of 72, some four and a half hours after he became unconscious. He had a past history of hypertension and of a small stroke three years before.

SKULL/DURA - Meningioma E.117

The lesion is seen as an ovoid nodule on a short stalk projecting from the base of the skull.

History: This was an incidental finding in an 83-year-old woman who died of coronary artery disease.

BRAIN - Colloid cyst of the third ventricle E.118

This is a very old specimen and there are no details of the history available. There is obvious dilatation of the lateral ventricles and there is a 2.5 cm cyst containing inspissated material lying in the third ventricle.

SCHWANN CELL - Malignant schwannoma E.120

The specimen is a large nodular tumour with a short length of large bowel adherent to part of the surface. The cut surface shows a grey-white nodular appearance with extensive areas of necrosis.

History: This woman presented at the age of seventy years with anorexia, weight loss, diarrhoea, and haematuria. A mass was palpable in the abdomen; at operation this tumour was found in the retroperitoneal tissues; there were multiple satellite lesions present in the abdomen. The histology of the lesion is that of a malignant Schwannoma; she died some twelve months later with disseminated intra-abdominal disease and large bowel obstruction.

BRAIN E.122

- Right-sided haemorrhage in the region of the internal capsule

The specimen shows a haemorrhagic area in the region of the right internal capsule with some swelling of the right side of the brain and distortion of the ventricle.

History: This man was admitted at the age of 68 with a 6-8-week history of increasing memory loss and increasing unsteadiness. He was hypertensive (180/110) and showed evidence of moderate renal impairment. His blood pressure rose further, and he developed decreased tone in the left leg; a CT scan showed the present lesion. He deteriorated further, developing bronchopneumonia from which he died.

BRAIN - Pneumococcal meningitis E.125

The surface of the brain is covered with a purulent exudate.

History: This woman was admitted at the age of 69 after having been found unconscious and incontinent in her home. Examination showed no central nervous system localizing signs; an ECG showed changes compatible with a recent anterior and old healed myocardial infarction. Prior to death she developed acute renal failure and suffered grand mal seizures. At autopsy there was no obvious consolidation of the lung, but microscopy showed a small area of bronchopneumonia. Pneumococci were recovered from the meninges.

BRAIN - Disseminated sclerosis E.128

The brain has been somewhat distorted during fixation. The cut surface shows a number of soft grey areas in the white matter scattered irregularly throughout. In the lower section one such area can be seen close to the lateral ventricle.

History: This woman was admitted at the age of 50 with a 6-week history of aphasia and inability to move the left arm; she had had difficulty in moving her right arm for 2 years. Autopsy showed extensive lesions in the mid-brain, pons and in the cord, as well as in the cerebral hemispheres.

NERVE - Malignant schwannoma E.130

This massive tumour has a lobulated outer surface; it appears to be infiltrating muscle and the cut surface shows numerous areas of haemorrhage and necrosis.

History: This woman presented at the age of 23 with left foot drop; examination showed neurofibromatosis with a large mass in the left thigh. The tumour was found to arise from the lateral popliteal nerve and was removed; it extended from the intertrochanteric line to the apex of the popliteal fossa. It weighed 2785 grams. Removal was followed by chemotherapy but within a few months there was a local recurrence which was irradiated. Some months later the development of focal fits led to the demonstration of lung and brain metastases.

NERVE - Neurofibroma E.133

The cut surface shows a somewhat whorled appearance; there are areas of necrosis present. The tumour is circumscribed and there is a structure at the apex which might be taken to be a nerve.

CEREBELLUM - Meningitis E.134

The specimen shows a patchy thick exudate over the outer part of each hemisphere.

History: This patient presented with a parafalcine meningioma which was removed; in the postoperative period he died from bronchopneumonia and the meningitis observed here was apparently confined to the cerebellar hemispheres.

ARTERIES AT THE BASE OF THE BRAIN E.138 - Clipped aneurysm

An aneurysm approximately 1.0 cm in maximum dimension is arising from the left middle cerebral artery and has been clipped.

BRAIN - Thrombotic thrombocytopenic purpura E.139

The brain shows, largely in grey matter, a number of minute haemorrhagic spots which can be differentiated with some difficulty, from small blood vessels. The brain appears to be swollen, showing compression of the ventricular system.

History: This man presented with thrombotic thrombocytopenic purpura and at autopsy showed vascular occlusion in all organs examined with focal infarcts in the brain, heart and liver; this particular specimen does not include an area of infarction.

NERVE - Malignant neurilemoma E.141

Shown here is a portion of a circumscribed tumour, apparently encapsulated, and composed of pale tissue arranged in some areas in a whirled pattern and in others simply as solid tumour.

The original lesion measured 14.0 x 10.0 x 4.0 cm and showed only a few mitotic figures. Three months later the lesion recurred and was much less well differentiated; death occurred from widespread metastases a few months later. The patient was 21 years old.

NERVE - Neurofibroma E.145

The specimen is a circumscribed nodule of homogeneous appearance and light-tan in colour, showing at the lower pole the stump of a nerve trunk. This lesion presented in the upper part of the right thorax presumably arising from an intercostal nerve.

BRAIN - Huntington's disease E.147

The upper of the two slices of brain is abnormal; the lower specimen is a slice of normal brain taken at approximately the same level. Comparison shows that the lateral ventricles in the upper specimen are dilated, and the caudate nucleus thinned; it does not bulge into the side of the ventricle as it does below. The third ventricle appears to be much the same size in the two specimens. The corpus striatum is somewhat shrunken in comparison as seen on the posterior surface of the specimen. There is possibly some reduction in the amount of white matter apparent in the upper specimen.

History: This man developed Huntington's chorea in 1971. There was a probable family history. For several years he coped well with only slow deterioration and little mental deterioration. In April 1981 he was admitted with increasing difficulty in swallowing and talking and he subsequently suffered intermittent chest and urinary tract infections. He finally developed an aspiration pneumonia and died in 1982 at the age of 69.

BRAIN - Huntington's disease E.148

The upper brain slice is abnormal; the lower normal. These have been taken at approximately the same level in the brain. The gyri are relatively small and the sulci prominent. The lateral ventricles are dilated, the basal ganglia shrunken, and the head of the caudate nucleus is flattened over the floor of the lateral side of the anterior horns.

History: This woman died at the age of 53; she was diagnosed as Huntington's disease some 8 years before. The family history showed that her father, an uncle and her sister had the same disease. A year before her death she was admitted with psychosis and following this she deteriorated with increasing difficulties in swallowing.

SKULL - Invaded by oligodendroglioma E.149

The specimen shows a portion of the vault of the skull infiltrated and thinned by tumour. The tumour is vaguely nodular in outline and vary-coloured and shows areas of necrosis.

History: This woman presented at the age of 49 with a two-year history of twitching in the left hand and arm with epileptic attacks. She had a one-year history of intermittent double-vision and a right parietal craniotomy led to what was thought to be the complete removal of an oligodendroglioma. Three years later there was clinical evidence of recurrence and seven years later this lesion was removed but she died postoperatively.

DURA - Meningioma E.150

The specimen consists of a circle of dura from which is arising a bossellated tumour which appears circumscribed on its outer surface but appears to be infiltrating and extending through the dura.

History: This patient presented at the age of 49 with a hard, painless lump on the forehead near the midline and straddling the hairline; this lump had been slowly increasing in size. Examined showed a firm symmetrically rounded lump in the forehead some 8 cm in diameter, raised 2 cm above the general contour of the scalp. The superficial temporal arteries were very large. A skull x-ray showed erosion and proliferation of bone. At operation both bone and dura were infiltrated by the lesion.

PERIPHERAL NERVE - Malformation E.151

This is part of the specimen; the original showed a nerve trunk some 2 cm long expanded in a multinodular fashion 2 cm in diameter at one end. The nerve trunk is shown here but only part of the expanded end is included; the rest having been examined microscopically. Sections of the expansion showed fibrous tissue, fat, and nerve fibres; nerve fibres were entwined and embedded in fibrous tissue in an appearance not unlike a "stump neuroma". It was thought that this may represent a hamartoma of the nerve trunk.

History: This was excised from the palmar surface of the distal phalanx of the thumb on a child of 11 years.

RIGHT CEREBRAL HEMISPHERE E.152

- Old infarction

The brain in the territory of the branch of the middle cerebral artery shows an extensive depression with disappearance of the gyri and of the underlying white matter leaving a cavity covered by arachnoid. At the margins the arachnoid is patchily thickened.

BRAIN - Infarction E.153

The specimen consists of a segment of brain sliced in the coronal plane. The section has been taken somewhat anterior to the Circle of Willis. There is pronounced swelling of the right hemisphere with a central area of softening that involves the wall of the lateral ventricle, internal capsule, basal ganglia and white matter of the parietal lobe. The area of infarction is in the distribution of the right middle cerebral artery.

History: The patient was admitted for coronary artery vein grafting and had a history of hypertension. Postoperatively he was noted to be paralysed on the right side. His level of consciousness deteriorated, and a CT scan showed a recent right sided cerebral infarct. Death was due to brain stem compression, secondary to cerebral oedema.

BRAIN - Meningoencephalitis and cerebral oedema E.154

Specimen consists of a slice of brain sectioned in the coronal plane. The most striking feature is the pronounced cerebral oedema which has almost totally obliterated the lateral ventricle. The meninges appear slightly cloudy and there is a mild degree of vascular congestion.

History: The patient was admitted with a short history of headache and confusion. Lumbar puncture was performed, and this suggested meningitis. A subsequent EEG was consistent with encephalitis. Histologic examination of the meninges showed a variable infiltrate of lymphocytes and macrophages. The infiltrate was most pronounced over the temporal lobe. There were also perivascular collections of lymphocytes within the white and grey matter. The findings were those of a meningoencephalitis which was probably of a viral aetiology.

HAEMORRHAGIC INFARCTION - Cerebral Cortex E. 155

The specimen consists of a brain slice sectioned in the coronal plane. There is an extensive area of haemorrhagic infarction involving the right parietal region and the cingulate gyrus. The adjacent white matter and basal ganglia are swollen and there is compression of the adjacent lateral ventricle. The septum pellucidum and corpus callosum are displaced to the left of the midline.

History: This 66-year-old man was admitted in a comatose state. On examination upgoing plantars were noted on the left side. He had a past history of diabetes mellitus and hypertension. He died within 72-hour having not regained consciousness.

BRAIN - Lamina Necrosis E.156

The specimen consists of three slices of brain sectioned within the coronal plane. The gyri are flattened, and the meninges have a cloudy appearance. There are extensive areas of softening with atrophy of the grey matter throughout the parietal, temporal and occipital lobes. Areas of softening are also seen in the left cingulate gyrus and in the right basal ganglia. Sections taken from the brain showed loss of neurons within the grey matter and associated reactive gliosis. The features are those of lamina necrosis of the cerebral cortex.

History: This 13-year-old male was first admitted at the age of ten following a grand mal fit which resulted in hemiparesis. A CT scan at that time revealed a right occipital infarct. Further grand mal fits were noted two years later and anti-epileptic treatment instituted. At that time, he was found to have Wolff-Parkinson-White syndrome on ECG. Three days prior to death and three years from initial diagnosis, he was again admitted with vomiting and fitting. His clinical state deteriorated, he became unconscious and died. It is presumed that the anoxic cerebral damage was a consequence of syncope related to the Wolff-Parkinson-White syndrome.

BRAIN - Astrocytoma E.157

The specimen is a brain sectioned in the horizontal plane. There is diffuse swelling of the brain with flattening of the gyri. The left temporal lobe is enlarged by a haemorrhagic tumour mass. This contains focal areas of necrosis and cystic degeneration. The anterior part of the tumour lies in the frontal operculum, while medially there is infiltration of the insula and claustrum. The adjacent brain shows marked oedema with distortion of the ventricular system and pronounced midline shift to the right. Examination of the inferior surface of the brain shows cerebellar grooving consistent with raised intracranial pressure. Histologic examination of the tumour showed an astrocytoma grade IV.

BRAIN - Microcephaly E.158

The specimen is a whole brain. The cerebellum and occipital lobes appear unremarkable. There is hypoplasia of the temporal lobes and the inferior portions of the frontal lobes. There is aplasia of the parietal lobes and the superior part of the frontal lobes. The ventricular system is dilated and there is direct communication between the lateral ventricles and the subarachnoid space.

History: The patient was a 7-year-old female who was delivered following a normal pregnancy. There was no chromosomal abnormality. The patient had a spastic quadriplegia, with severe mental retardation and grand mal epilepsy.

BRAIN E.159

- Ruptured cerebral aneurysm & subarachnoid haemorrhage

The specimen is a brain sectioned in the horizontal plane. Examination of the Circle of Willis shows a small aneurysm of the right middle cerebral artery, situated immediately proximal to its bifurcation. There is a subarachnoid haemorrhage arising from the aneurysm, this extends into the right sylvian fissure and over the right temporal lobe. Foci of haemorrhage are also seen on the lateral aspect of both lobes of the cerebellum. The brain is oedematous in the vicinity of the subarachnoid haemorrhage and there is pronounced midline shift to the left. Herniation of the cerebellar tonsils provides evidence of raised intracranial pressure.

History: This 56-year-old woman was admitted to hospital, after a sudden collapse. Subarachnoid haemorrhage was diagnosed. She regained consciousness but deteriorated following a further subarachnoid haemorrhage some two weeks later. Death was due to bronchopneumonia.

BRAIN E.160

- Subarachnoid & interventricular haemorrhage

The specimen is an adult brain sectioned in the midsagittal and horizontal planes. There is a blood-filled aneurysm situated at the bifurcation of the basilar artery. The third ventricle is dilated and the lateral ventricles and fourth ventricle contain copious amounts of blood. There is haemorrhage into the subarachnoid space over the lobe of the cerebellum and the inferior surface of the pons. The features are those of subarachnoid and interventricular haemorrhage arising from a ruptured aneurysm situated at the bifurcation of the basilar artery.

FOETAL BRAIN E.161

Delivery was undertaken by caesarean section at 26 weeks gestation because of severe hypertension- oedema-proteinuria syndrome. The neonate developed respiratory distress syndrome soon after delivery which was complicated by the formation of a left sided pneumothorax. Death was due to progressive hypotension and renal failure. Upon microscopic examination the brain appears normal the given gestational age.

BRAIN - Metastatic Tumour E.162

The specimen consists of two slices of brain. In the lower section a focus of metastatic tumour is seen in the left superior parietal gyrus. There is expansion of the white matter in the left parietal lobe with obliteration of the gyral pattern both laterally and superiorly. Microscopic examination of the tumour showed it to be metastatic poorly differentiated adenocarcinoma that had evoked profound gliosis and oedema in the adjacent white matter. The primary site of the tumour was not discovered at postmortem. The upper slice shows a congenital abnormality of the septum pellucidum known as bulbi septae pellucidi this appears to develop from splitting of the septum pellucidum during organogenesis.

BRAIN - Ventricular Dilatation E.163

The specimen consists of slices from the cerebrum and cerebellum. In the upper specimen there is pronounced dilatation of both lateral ventricles with thinning and fenestration of the septum pellucidum. In the lower slice there is pronounced dilatation of the fourth ventricle.

History: This 60-year-old man was diagnosed with small cell carcinoma of the lung and treated with chemotherapy and radiotherapy. He represented 10 months later with bilateral papilloedema and bilateral lower limb weakness. On admission a C.T. scan showed communicating hydrocephalus. Microscopic examination of the brain showed numerous deposits of small cell carcinoma within the medulla, cerebellum, and hippocampus.

BRAIN - Multiple Lacunar Infarcts E.164

Specimen consists of two slices of brain taken from the frontal and temporal lobes multiple of the lacuna infarction are seen within the white matter.

History: This 89-year-old female was found unconscious at home and was admitted with an extensive area recent infarction at the right cerebral hemisphere. She died without regaining consciousness.

SUBCUTANEOUS TISSUE - Cervical teratoma (Neck) E.166

The specimen is an irregular lobulated tumour mass which contains a central cystic area lined by membranous tissue. Sections taken from the mass showed multiple tissue elements. Some of these elements appeared undifferentiated, however immature bone, neural tissue and fibrovascular tissue was identified. The features are those of a cervical teratoma.

BRAIN - Haemorrhagic infarction E.167

This specimen consists of two slices of cerebral hemisphere taken rather posteriorly. There is an extensive area of organising infarction within the right lobe which consists of multiple blood-filled spaces surround by areas of softening and cystic degeneration. The adjacent brain tissue is oedematous and there is partial obliteration of the lateral ventricle.

F

MUSCULOSKELETAL SYSTEM

FEMUR - Osteogenic sarcoma F.2

Towards the lower end of the femur, one of the common sites of this tumour, the bone is expanded by what appears to be greyish granular material, with areas of haemorrhage. The periosteum is elevated by tumour. Smaller tumour nodules of similar appearance are also present in the shaft, raising the possibility of intramedullary or multiple primary sites.

FEMUR - Osteogenic sarcoma F.3

The specimen shows the lower end of the femur, cut transversely through the condyles. There is tumour tissue apparent in the lower part of the shaft and condyle, with tumour tissue elevating the periosteum.

FEMUR - Periosteal osteogenic sarcoma F.4

The specimen is the lower end of a femur almost completely surrounded by a nodular tumour some 10.0 cm in maximum diameter. The growth is predominantly extra periosteal but there is some invasion of bone apparent towards the lower end. On the posterior surface there is evidence of invasion of muscle.

History: This woman presented at the age of 36 with a two-year history of ache in the left knee at the end of the day. A lump was present; arteriograms showed a vascular pattern consistent with malignancy. Biopsies were taken and it was concluded that the tumour was a periosteal osteoma. Because of the uncertain nature of the tumour which some authorities regarded as malignant, and because of the abnormal vascular pattern an amputation was carried out. The patient is alive 28 years later. Further histological examination of the lesion shows areas which are undoubtedly a low-grade osteogenic sarcoma. (Weston, Reid, and Saunders 1958, Journal of Bone & Joint Surgery 40B, 722).

FEMUR - Osteogenic sarcoma F.5

This shows the lower end of the femur, with an epiphyseal plate apparent. The lower-third of the femoral shaft does not appear to contain tumour, although there is tumour near the mid-area; the cortex is eroded and the periosteum expanded by tumour which, on one side, is haemorrhagic and partly necrotic, while on the other there is white tumour tissue. A 'sun-ray' appearance in the white tumour area can be imagined.

BONE - Giant Cell Tumour F.6

The general configuration suggests that this is the lower end of the femur, which is expanded and replaced by a grey-coloured tumour, in the central parts of which there seems to be some necrosis. At the periphery, at the base, a thin strip of cartilage can be seen.

History: None. This was an old Wellington Hospital specimen, mounted with the label of 'benign giant cell tumour of bone'.

MUSCLE - Forearm - Sarcoma F.7

The reverse of the specimen shows the ulna and associated muscles in the forearm. The muscles on the posterior surface of the ulna are expanded by circumscribed nodules, some 5 x 3 cm. in size, exposed at the cut surface; the haemorrhagic area on the outer side of the tumour probably represents a biopsy area. The tumour is flesh-coloured and appears to be arising in muscle.

FEMUR - Osteogenic carcinoma F.8

This shows the lower end of the femur in a young person (note the epiphyseal line): the periosteum over the lower-third is expanded and involved by tumour; the cortex of the bone anteriorly towards the epiphysis is eroded and tumour tissue expands the shaft.

FIBROUS TISSUE - Ganglion F.9

This is an apparently cystic mass, some 9 cm. in length and 3.5 cm. in diameter, arising in fibrous tissue. Clinically, this arose in the region of the tibiofibular joint, and extended downwards within the peroneus longus, compressing the peroneal nerve.

BONE - Sarcoma F.10

The specimen, amputated in the lower thigh, shows the lower end of the femur, the patella, and the upper end of the tibia. The tibia is expanded, and its structure replaced by tumour, which is extending through the cortex posteriorly into the muscle mass. As far as can be seen, the joint is not involved.

History: This patient died 11 months after amputation; the cause of death was intestinal obstruction secondary to an ileo-ileal intussusception at the apex of which was a pedunculated sub-mucosal secondary sarcomatous deposit. There were other secondary deposits in the lungs, liver, kidney, and lymph nodes in the neck. Histologically, the tumour is described as a spindle-celled sarcoma, some areas of which show the structure of an apparently benign giant cell tumour.

SHOULDER JOINT - Amyloidosis F.11

This shows extensive nodular deposits of amyloid in the head of the humerus and in the joint space and in the joint capsule.

FEMUR - Osteogenic sarcoma F.12

This specimen shows the lower end of the femur, including one femoral condyle. There is a large cavity, which has presumably been occupied by necrotic tumour; the tumour extends through the cortical bone at one side, while on the other side, although the cortical bone is intact at this point, tumour tissue has penetrated the cortex to expand the periosteum.

FIBULA - Osteogenic sarcoma F.13

The specimen shows the upper end of the fibula and part of the shaft; the bone has obviously been replaced towards the upper end of greyish tumour tissue expanding the outline. One can see a radial pattern to the tumour, which is one of characteristics of bone growth in osteogenic sarcoma.

CLAVICLE - Aneurysmal bone cyst F.14

The specimen is a clavicle from a child, and shows the upper end expanded by a part-fibrous and part-cystic structure, in which there are areas of haemorrhage. The periosteum still appears to be intact, although much of the cortex has been destroyed. As often happens, the histology of lesions such as this can be equivocal. This lesion showed features suggesting a benign giant cell tumour of bone, but with features also suggesting an aneurysmal bone cyst.

History: This patient has been lost to follow-up.

CLAVICLE - Healing fracture F.15

The specimen consists of the medial two-thirds of the clavicle and shows over-riding bone with a nodular protrusion, some 4 x 2 cm., representing callus.

BONE (HEAD OF FIBULA) - Osteochondroma F.16

The lesion here is the 5 cm hemispherical nodule projecting from the lateral aspect of the head of the fibula; the lesion is coarsely nodular and covered by cartilage, which appears to be continuous with the periosteum.

LIPOSARCOMA F.17

The specimen is a mass of nodular fat, externally unremarkable as a lipoma, but the cut surface shows a discrete nodule of white tissue raising suspicion that this is malignant; the malignancy was confirmed histologically and, in fact, the specimen was a recurrent liposarcoma.

FEMUR - Osteogenic sarcoma F.18

This consists of the lower end of the femur, the knee joint, the upper two-thirds of the calf. The femoral head is expanded and distorted by tumour tissue, which is partly haemorrhagic, and which shows cavitation. There are no secondary deposits apparent in the adjacent bone.

History: This girl was admitted at the age of 10 in 1972 with a two-month history of right knee pain; investigation and ultimate biopsy showed an osteogenic sarcoma. The lesion was treated by irradiation and review three months later showed secondary deposits in the chest. Subsequently, however, her condition suddenly improved, and the metastases spontaneously regressed. In 1976 she showed increasing pain in the limb, and an X-ray showed tumour in the lower end of the femur; an amputation was therefore done.

RIGHT HAND F.19

- Squamous Cell Carcinoma and Malignant Melanoma

A hand and wrist, showing on the hypothenar eminence an oval ulcer 4 x 2 cm. A small section has been taken from the edge of the ulcer for diagnostic purposes. On the back of the wrist, there is an ulcer some 6 cm. in diameter, extending deeply and eroding tendons. A biopsy for diagnostic purposes has been taken from one edge. The surrounding skin is pale and appears thin while, distally, the tissues are swollen; the incised wounds on the back of the hand have been made after the amputation, for a reason which is not quite clear.

History: This man was first seen in July 1975 with an ulcer on the back of his right hand; he had noticed a graze there some two years before, which did not heal. The ulcer had gone on enlarging until his admission. The lesion was treated with radiotherapy and bleomycin. In November, further radiation was given to this lesion and to a metastatic deposit in the skin of the right upper arm. The primary lesion had healed, but subsequently broke down, and he was finally admitted for amputation. Microscopically, the lesion on the back of the hand was seen to be a squamous cell carcinoma, but the ulcer on the hypothenar eminence was, in fact, a malignant melanoma. Death occurred some six months after amputation; there were widespread metastases present.

SPINAL COLUMN - Exostosis F.20

This shows the vertebral column in the mid-thoracic area; towards the centre of the specimen there is an exostosis, pyramidal in outline, measuring approximately 1.5 cm. across the base, and covered by dura.

History: This woman presented some two years before death with a history of paresthesia in the right foot on walking; these had gradually spread up her leg and developed into a gripping, stabbing, burning pain passing up to the right buttock. The pain was constant below the knee, but intermittent above it. The inner three toes had been mainly involved. This had begun quite suddenly one night. For some time, the pain had been worse on coughing or sneezing but, a few weeks before admission, it had become worse on deep breathing. At about this time she was found to have dullness to pinprick from the right tenth thoracic segment down, and the possibility of disseminated sclerosis was considered. On examination on the last admission, she was found to have a raised CSF protein. Shortly after admission, she died suddenly and, at autopsy, she was found to have brain-stem haemorrhages and subarachnoid haemorrhage, for which no cause was found.

FEMORAL HEAD - Osteoarthritis F.21

The femoral head, showing eburnation and erosion of the head of the femur.

History: This woman was admitted to hospital at the age of 80, following a fall, in which she sustained a direct injury to the right hip, producing a sub-capital fracture of the right femur. The head was removed and replaced by a prosthesis.

FEMORAL HEAD - Avascular necrosis F.22

A somewhat flattened femoral head showing, on the superior surface, an irregularly pitted area of exposed bone; the cartilage in this area has separated from the bone with fragments of bone attached to the under surface. The detached cartilage shows some irregular splitting. There appears to be a little osteoarthritic lipping.

History: This femoral head was removed prior to arthroplasty; the avascular necrosis is thought to have been steroid induced.

NOTOCHORDAL REMNANTS - Chordoma F.24

Two slices through a circumscribed lesion, showing a nodular pattern of white gelatinous areas, in many of which there is recent haemorrhage.

History: At the age of 81, this man presented with a swelling in the left buttock. The lesion was removed from the presacral area; there is no record of any sacral destruction. The tumour weighed 800g and was 15 cm. in maximum diameter. Ten months later a tumour nodule was seen at the 10cm. level in the rectum, and described as an adenocarcinoma, although there seems doubt as to this. Six months later there was recurrent tumour apparent in the anal canal, and this man finally died from metastatic tumour at the age of 85.

VERTEBRAL COLUMN - Pott's disease F.26

Dorsal vertebrae, showing destruction of bone and discs with healing, fusion, and acute angulation. One can well see the reason for hunch-back. (From Guy's Hospital Museum, courtesy of Dr. Brander).

PRE-PATELLAR BURSA F.27

A bursa opened to show its thick wall and roughly granular internal surface.

History: This man presented at the age of 40 with recurrent swelling of the left knee following a fall onto the knee six weeks before. Examination showed a fluctuant swelling in front of the left patella. This was excised and found to contain some loose bodies.

BONE - Tertiary syphilis F.28

A macerated tibia, cut to display massive thickening of the anterior surface by compact bone, the result of periostitis, characteristic of tertiary syphilis (and also of Yaws). (Donated by Guy's Hospital Museum, London).

SKULL, CLAVICLE - Neuroblastoma F.30

This shows two portions of skull and one clavicle cut longitudinally. The skull shows haemorrhagic tumour, both on the outer aspect and on the inner aspect. The tumour is roughly nodular and tumour tissue is present between the tables. In the clavicle, the tumour is less well defined, but is extending through much of the length of the bone.

History: This young man presented at the age of 21 with a large pelvic tumour; this was retroperitoneal and obliterated the pelvic cavity displacing the left ureter and sigmoid colon. The tumour did not appear to be encapsulated, and numerous abnormal nerves were related to it. Removal was incomplete. The history was that of a partially differentiated ganglioneuroma. He continued to have pelvic pain; he developed intermittent haematuria and ultimately an aplastic anaemia and hyperglycaemia (? secondary to steroids). He required many transfusions, which he ultimately declined. At autopsy, five years after diagnosis, he showed a haemorrhagic tumour mass in the pelvis with obstruction of the left ureter; secondary deposits in liver, ribs, vertebral bodies, clavicles and skull and lung.

SYNOVIAL MEMBRANE - Chondromatosis F.31

A plaque of fatty synovial tissue, showing a number of coarsely-nodular papillary areas, up to 2 cm. in diameter; these are white in colour and, although it cannot be seen from the specimen, are cartilaginous in consistency.

History: About one year before admission, in February 1978, this woman's right knee became very swollen and painful; there was no clear history of trauma. The knee became swollen again shortly before admission and could not be straightened. At operation, the lesion was largely confined to the suprapatellar pouch, and to a small, isolated nodule lying in front of the anterior horn of the medial meniscus.

FEMORAL HEAD - Avascular necrosis F.32

A flattened femoral head, showing marked osteoarthritic lipping; the superior surface shows crazed and cracked cartilage; which is depressed below the level of the surface.

History: In April 1975 this woman, at the age of 67, tripped over a miniature Dachshund and fractured the neck of the left femur. This was fixed with a sliding nail; she was well until one year later, when pain in the hip developed. In 1977 the pin was removed, but the pain became worse and in 1978 the radiological appearances of segmental collapse were apparent, and the femoral head was removed.

LUMBAR VERTEBRAE - Myeloma F.33

These are from lumbar vertebrae, and show pink, fleshy deposits in the bone. Two vertebrae collapsed and appear to be composed almost entirely of tumour tissue. The discs are intact.

History: This man presented with compression fractures of his lumbar vertebrae which, on investigation, were shown to be due to myelomatosis. He was readmitted three months later because of chest pain and was found, among other things, to have hypercalcaemia. He died some ten days after admission and, at autopsy, the parathyroid glands were noted to be enlarged. Extensive metastatic calcification was noted in the kidneys, heart, stomach, and lungs, and myelamatous deposits were found in bone.

BONE - Cartilage-capped exostosis F.34

A plaque of bone, from which arises a hemispherical white nodule, approximately 1 cm. in maximum diameter. The stalk of the lesion is somewhat thinner than the head.

History: This young man presented at the age of 18 with a painful lump on the left leg; there had been pain for several weeks. Examination and X-ray showed the presence of an exostosis, which was removed. The histology of the lesion was that of a cartilage-capped exostosis.

VERTEBRAL COLUMN - Secondary carcinoma F.35

The specimen is a slice of vertebral column, running vertically and showing the lower thoracic and the lumber vertebrae. This shows almost complete destruction of the second lumbar vertebra, which is collapsed; the lower thoracic and the first lumbar vertebrae are extensively involved by tumour, as is the third lumbar vertebra.

History: Six months before admission, this woman had fallen on stairs, and had noted subsequently increasing stiffness and difficulty in walking. On admission, an X-ray showed the vertebral damage and, at autopsy, a carcinoma of the kidney was demonstrated; this had metastasised to bones and the liver.

PATELLA - Osteoarthritis F.36

This has been mounted to display the articular surface of the patella; there is some fibrillation of the cartilage apparent, and there is osteoarthritic lipping to be seen.

History: This man had a left tibial osteotomy for osteoarthritis one year before patella was removed. He had had pain in the knee following this and was unable to bear weight at all on the left knee.

PATELLA - Haemophilia F.38

A small patella from a child, showing gross distortion of the articular surface, with brown discolouration of the central area.

History: This child was diagnosed as suffering from haemophilia, Type A, as an infant and, to the age of 13 when the patella was removed, had had 31 admissions to hospital with various haemorrhagic episodes. His knees had been involved on a number of occasions with resulting distorting and disorganisation, which also involved the patella. In the course of reconstructive surgery, the patella was removed.

FEMUR - Sub-periosteal haematoma F.39

The specimen shows the two halves of a femur of a child. The shaft of the femur appears intact, but the greater part of the link is surrounded by an encapsulated, calcified, old haematoma.

History: This child was found dead; the child showed recent bruising of the face, a fracture of the skull in the left parietal area with 17 ml. of partly clotted blood in the left subdural space; the child showed fractures of the 5th, 6th, 7th ribs on the left close to the sternum, and a bronchopneumonia. Radiological examination of the body showed the changes described above in both femurs. The Radiologist commented that there were changes in the ribs suggestive of scurvy; the histological appearances of the costochondral junctions were in keeping with this, and it is believed that the sub-periosteal haematomas described above were secondary to scurvy. No unequivocal history of violence was demonstrated.

BONE - Dermoid cyst F.41

This shows part of the vault of the skull, expanded by essentially necrotic, but outwardly smooth, cystic lesion.

History: This man presented at the age of 30 with an 18-month history of a large swelling in the left occipital region. X-rays showed a large erosive lesion, with flat sclerosis around it. This was removed and was found to extend into the mastoid process on the left.

FEMORAL HEAD - Segmented collapse F.42

A flattened and distorted femoral head, showing concavity in the lower part, which has been the site of the major segmental collapse. There is osteophytic lipping apparent.

THORACIC VERTEBRAE - Metastatic melanoma F.43

This is a segment of the thoracic vertebrae showing collapse of two vertebrae with obvious destruction of bone. There is a sclerotic area apparent at the periphery of the lower lesion; the intervertebral discs are intact. No tumour tissue as such is obvious but the destruction is consistent with tumour infiltration.

History: This woman presented some 5 months before death with a four-week history of pain in the lumbar spine and left iliac crest. An enlarged lymph node was found in the left axilla; the histology of this was that of metastatic melanoma. No primary site was found. Two months before her death she fell, breaking the right humerus, a pathological fracture was demonstrated, and this was treated by internal fixation (see specimen F.44). At autopsy, secondary deposits were demonstrated in lung, liver, omentum, adrenals, and brain.

HUMERUS - Metastatic melanoma F.44

The specimen is the right humerus, expanded in its lower-third by a tumour mass some 8 x 4 cm. The fracture line cannot be seen, but the fixing nail is apparent just above the lower end of the humerus posteriorly.

History: See specimen F.43 (above).

FEMORAL HEAD - Osteoarthritis F.47

The specimen is a grossly enlarged femoral head, flattened and distorted with extensive erosion of the articular cartilage, and gross osteophytic lipping.

SKULL - Paget's disease F.49

The specimen is part of the vault of the skull, which is grossly thickened, measuring up to 5 cm in depth. The distinction between the inner and outer tables is not clear and, in some areas, there is a haemorrhagic appearance consistent with an increased vascularity of the bone.

History: The specimen comes from the skull of a 75-year-old woman who was found lying face downwards, dead, in the bathroom. At autopsy, much of the skull was involved by Paget's disease, as was the left tibia, and death was ascribed to heart failure secondary to the greatly increased vascularity of the skull and tibia.

RIB - Ewing's sarcoma F.51

The specimen shows a tumour, nodular in outline and with a haemorrhagic cut surface. The tumour is arising in a rib.

History: This lesion came from a 12-year-old boy who was admitted with a short history of right-sided pleuritic pain, which was mild, constant, and exacerbated by deep breathing and coughing. Examination showed a blood-stained pleural effusion on the right and the tumour was resected. He was treated with chemotherapy, and two years later he is well.

MANDIBLE - Fibrous dysplasia F.52

The body of the mandible is irregularly thickened: the cut surface shows the cortex apparently intact but expanded by firm, yellowish tissue; the irregularity on the upper surface of the body represents tooth sockets.

History: This child, an Indian from Fiji, presented at the age of 11 with swelling in the jaw; three local excisions were undertaken and finally the mandible was removed.

MANDIBLE - Osteogenic sarcoma F.53

The body of the mandible in the region of the angle is expanded and replaced by tumour showing the characteristic "sunburst" pattern. The lesion has been excised together with a little buccal mucosa.

History: This lesion presented in a woman of 74; it was widely excised, but the patient died approximately one year later with local recurrence of the lesion.

TISSUE - Lipoma, showing degenerative changes F.54

The specimen consists of fatty tissue with a discrete nodular outline, partly covered by skin, and showing several areas of obvious calcification.

INTERVERTEBRAL DISC - Prolapsed F.56

The third lumbar vertebra is distorted and compressed by invagination of the intervertebral disc between the second and third vertebrae. This disc immediately below protrudes posteriorly.

History: This man died in congestive heart failure secondary to chronic obstructive respiratory disease; twenty years before, his spine had been injured in a motor vehicle accident, but the level of the injury is not known.

FEMUR - Osteogenic sarcoma F.57

The specimen, from the lower end of the femur, shows in this plane that the outline is preserved; the central area looks dense and hard while at the periphery there is seen the "ray" formation which is radiologically characteristic of this lesion.

SKULL - Paget's disease F.58

This is a portion of the vault of a skull showing the marked thickening associated with partial obliteration of the diploe that is characteristic of Paget's disease in this situation.

LATERAL MENISCUS - Central tear F.59

The specimen shows a central tear in the cartilage.

History: This man presented at the age of 21 with a story that over the previous six months his knee had ached if he walked too far; the leg could not be fully extended, and it felt unstable.

LATERAL MENISCUS - Incomplete tear F.60

This shows two splits in the posterior part of the cartilage.

SYNOVIUM - Villonodular synovitis F.62

The specimen shows fine fronds of pigmented tissue, sometimes discrete and sometimes matted together forming small nodules of brown tissue. These arise from a pale membrane.

History: This young woman presented at the age of 19 with a six-month history of swelling and instability in her left knee which had apparently been a sequel to a minor strain. On examination she had quite considerable effusion and synovial thickening in both knees and subsequently the lesion seen here. The left knee which clinically was similarly affected, was later explored but this showed only an effusion and the presence of a large medial synovial plica. This was excised and both knees are now essentially trouble-free. The histology of the lesion is that of villonodular synovitis; the pigmentation is due to the deposition of hemosiderin. The aetiology of the condition is obscure, but it is regarded as non-neoplastic.

LEG - Synovial sarcoma F.63

The specimen is an apparently encapsulated nodular lesion; the cut surface shows white tumour in which there are areas of haemorrhage.

History: This lesion is from a man of 20 who presented with a swelling on the medial side of the left leg in relationship to the medial belly of gastrocnemius. At operation the tumour was in the position of a ganglion of the semimembranosus bursa. Histologically the lesion was a biphasic synovial sarcoma. Nine months later there were no signs of local recurrence and there was no evidence of metastatic disease.

MANDIBLE - Fibro sarcoma F.64

The specimen shows the larynx and base of the tongue viewed from the back, together with a portion of the left lower jaw which is largely surrounded by a large tumour; the tumour obviously involving muscle but its origin from the bone cannot be seen in this specimen.

History: This woman presented at the age of 96 with this tumour mass which she thought had been present for only a few months. At autopsy (death was due to bronchopneumonia) metastatic deposits were seen in heart, lung, adrenal and thyroid. At the age of 81 she had had a simple mastectomy for a carcinoma of the breast. Histologically the two tumours are unrelated.

FEMUR - Pathological fracture and tumour F.65

The specimen shows a bisected upper portion of femur; there is an irregular fracture line running through the neck and trochanter. There is tumour tissue surrounding the upper part of the femoral shaft and the trochanter and extending into the fracture area. Sections of the tumour tissue show that this is likely to be a metastasis from a small cell carcinoma of the lungs.

HUMERUS - Probable Ewing's tumour F.66

In the mid area of the shaft of the humerus in a young person there is a nodular tumour extending through the periosteum into the adjacent muscle. There are areas of pigment in the tumour which are not satisfactorily explained. This is a very old specimen, and the colour may be misleading. The histology of the lesion is that of a small-celled tumour consistent with the diagnosis of Ewing's sarcoma.

ILEUM - Chondroma F.67

Arising from the blade of the ileum and presenting on each side of it there is a roughly spherical mass; the cut surface shows fine trabeculae separating nodules of cartilage-like material. The lesion appears circumscribed and has at one point on the lateral surface some adherent muscle but without evidence of invasion. The histology of the lesion is that of a benign chondroma.

KNEE - Loose bodies F.69

The specimen shows multiple loose bodies ranging in diameter from less than 1 cm to 5 cm.

History: This woman, at the age of 55, presented with a 2-3-year history of recurrent locking and swelling of the left knee. Examination showed massive swelling of the knee joint and no suprapatellar pouch. The knee range was from 5-12 and there was little pain.

FINGER - Gouty tophus F.70

The specimen is a pale nodular piece of material, chalky white in some areas and approximately 2.5 cm in maximum diameter.

History: This man presented at the age of 74 with a large swelling over the dorsum of the middle phalanx of the left middle finger. X-rays suggested the possibility of gout and the lesion was removed.

SKULL - Calvarial haemangioma F.72

The specimen shows the skull, which can be seen posteriorly; the bone is expanded by a partly cystic brown mass in which there are bony trabeculae.

History: This man presented at the age of 34 with a 4 to 5-week history of blurred right-sided vision, right retro-orbital pain and right frontal headache. He had known that there was a lump on the top of his skull for some years, which had been attributed to a rugby injury. Examination showed gross papilloedema but no localising signs. The radiological appearances suggested that this was a meningioma; at operation it was found to have two feeder vessels from the middle meningeal artery and the histology of the lesion is that of a haemangioma.

KNEE - Chondroma F.73

An ovoid nodule some 8.0 cm in maximum dimension; the surface is bosselated and largely covered by cartilage. Microscopy showed this to be a benign chondroma.

History: This man presented at the age of 42 with a 5-year history of a lump on the anterolateral aspect of the left knee. Knee flexion was limited to 15. An X-ray showed scattered calcification in the mass; at operation the mass overlying the head of the tibia and extending deep to the patella ligament was removed.

RIGHT MEDIAL MENISCUS - Torn F.74

Towards the anterior end of the meniscus there is a longitudinal tear; the inner portion of the torn cartilage has protruded into the joint and the margins have been smoothed and rounded by movement within the joint.

History: This man presented at the age of 30 with pain in the antero-medial aspect of the right knee; the first episode had occurred when crouching to paint the floor a year before; he had had two further episodes at squash.

FIBULA - Aneurysmal bone cyst F.75

The specimen is the upper end of the fibula showing a fusiform swelling some 7 cm in length. The cut surface shows a multilocular cyst containing blood.

History: This boy presented at the age of 14 with a week's history of swelling on the outer side of the leg just below the knee. Some months before he had twisted his leg with an external rotation force during a soccer game. On examination a hard mass was found in the upper fibula which was slightly tender and was warmer than the surroundings. An X-ray showed an aneurysmal bone cyst.

FOOT - Synovial sarcoma F.76

The specimen shows a light tan-coloured nodular tumour apparently infiltrating muscle in the sole of the foot. The histology of the lesion is that of a monophasic synovial sarcoma.

PATELLA - Chondromalacia F.78

The upper part of the articular surface shows fissuring and irregular thickening of the cartilage.

History: This woman presented with a long history of recurrent instability of the knee following an episode of dislocation of the patella. Originally the patella ligament was reconstructed but the symptoms did not improve and finally the patella was removed.

RIB, HYALINE PORTIONS OF LUNGS & MEDIASTINUM - Rhabdomyosarcoma F.80

The specimen shows a rib expanded by tumour; there is tumour tissue in the superior vena cava and in the mediastinal lymph nodes.

History: This man presented at the age of 19 with paraplegia; exploration of his thoracic spine produced tumour tissue pressing on the dura. The histology of the lesion was that of a rhabdomyosarcoma. The origin of the tumour was not precisely defined but at autopsy following his sudden death, the sixth rib on the right was found to be expanded and replaced by tumour. Tumour tissue was present in the azygous veins and the left pulmonary artery was also blocked by tumour. Recurrent tumour was found on the posterior aspect of the dura over some 10 cm in the upper thoracic region.

ABDOMINAL WALL - Liposarcoma F.81

The specimen is a very large tumour; the outer surface is nodular in outline and apparently largely contained within a thin membrane. The cut surface shows one area of recognisable fat, but the rest appears rather myxomatous.

History: This woman first presented at the age of 38 in 1953 with a mass in the left lower quadrant of the abdomen which was shown to be arising from the anterior abdominal wall behind the peritoneum. The histology was that of a simple lipoma. The tumour recurred in 1957; microscopy showed a low-grade Lipo Myxosarcoma. There were further recurrences in 1966, 1969, 1976, 1977, 1978 and 1981. On the last occasion the left colon was removed with the tumour but although adherent to the lesion, was not infiltrated. In April 1983 the tumour recurred and extended from the upper pole of the left kidney into the true pelvis. It was removed. In September 1983 exploration of her abdomen showed three liposarcomatous masses in the abdomen, the largest being some 6 inches in diameter.

LUNG - Metastatic osteogenic sarcoma F.82

This is a portion of the right lower lobe of the lung showing two discrete rounded nodules, one apical and the other basal. The microscopy of the lesion is that of metastatic osteogenic sarcoma.

History: At the age of 14 this boy presented with an osteogenic sarcoma of the right femur. The leg was amputated, and he received chemotherapy. A year later he developed a cough, and an X-ray showed the lesions shown here. There was no evidence of further spread and the lobe was removed, but six months later he was found to have bony metastases.

WRIST - Ganglion F.83

This is a cylindrical ganglion some 4.0 cm and 1.0 cm in diameter.

History: This man presented in October 1978 with a ganglion on the back of his left wrist. This was removed. In November 1980 a recurrent ganglion together with a second ganglion distal to this in the region of the extensor expansion was aspirated. In July 1982 one of these ganglions recurred and was excised. In June 1983 this specimen was excised as a recurrent ganglion.

FINGER - Gout F.84

Collection of chalky material can be seen in the head of the proximal phalanx and in the middle phalanx where there is quite marked destruction of bone. There has been similar material in the soft tissues adjacent to the shaft of the proximal phalanx.

SYNOVIAL SARCOMA F.85

The specimen shows a circumscribed tumour lying partly in muscle and partly in fat and of a reddish tinge. A healing wound in the skin presumably marks the site of biopsy. The site of this lesion is not known but it is thought to have been near the midline in the lower back. The histology of the lesion is that of a synovial sarcoma.

LOWER END OF FEMUR - Chondrosarcoma F.86

The specimen includes the lower end of the femur together with the upper end of the tibia. In the lateral condyle of the femur there is a rather poorly-defined greyish-white area perhaps better seen from the back. The tumour extends to the articular cartilage but does not appear to be beyond it and there does not appear to be any extension beyond the periosteum.

History: This woman presented in her sixties with a history of a swollen painful left knee for some 18 months. This was treated initially as an osteoarthritis, but further investigation showed the presence of this tumour.

FIRST TOE - Suppurative arthritis and cellulitis F.88

The specimen consists of the terminal phalanx and approximately half the proximal phalanx of the first toe. Over the ball of the toe there is large callosity some 2.5 cm in length. The underlying tissues are grossly oedematous; the interphalangeal joint appears intact, but the outline of the terminal phalanx is indistinct.

History: Four years before, this woman who was overweight, suffered a fractured pelvis and fractured femur in a car accident. Gait subsequently was awkward, and she developed a number of callosities on her feet. Infection developed under one of these on her great toe leading to cellulitis, to involve the joint and demineralisation of the bone. The response to antibiotics was poor and the toe was amputated.

TIBIA - Osteogenic sarcoma F.89

The upper end of the tibia is occupied and expanded by tumour showing a rather whorled appearance; although the tumour appears circumscribed, it is in fact extending through the periosteum on the front of the tibia and through the articular cartilage into the joint space superiorly. There is an irregular cavity present in the centre which represents the end result of necrosis. Histologically the lesion is poorly differentiated.

METATARSAL HEAD - Chronic osteomyelitis F.90

The specimen is a metatarsal head showing, on one side, an irregular cavity involving both bone and cartilage with some irregular lipping at the margin. A small bony sequestrum can be seen in the centre of the cavity.

History: This 20-year-old woman presented with episodes of pain and swelling about the second metatarsal head of the right foot. Some 6 months before, she had suffered a laceration of the sole of the right foot. An X-ray (which accompanies the specimen) showed rarefaction of the metatarsal head; Penicillin resistant Staphylococcus aureus was recovered. The lesion settled initially but some months later recurred and the metatarsal head was excised.

BONE (Tibia) - Osteoid osteoma F.91

This is a block of bone removed from the medial surface of the upper end of the left tibia. The original specimen measured approximately 6.0 x 2.5 x 2.0 cm. The cut surface shows a greyish area, roughly ovoid in outline, and measuring approximately 1.0 x 0.6 cm. Viewed against the light this shows as a slightly denser area; radiologically it shows as a central bony area with a surrounding translucency. Histologically this shows as a central bony area with a peripheral rim of granulation tissue corresponding to the appearances of an osteoid osteoma.

History: This lesion was removed when the patient was 13 years old; she had a 10-year history of a lesion in this area which at various times was curetted and or treated with antibiotics.

HEAD OF FEMUR - Osteoarthritis F.92

The head is flattened and elongated; there is gross osteophytic lipping surrounding the whole head; cartilage is fissured and shows a nodular appearance; over the anterior part of the articular surface there is thinning of the cartilage with irregular nodules of cartilage which may be regenerating cartilage or may be fibrous tissue. The flattening of the head suggests that there may be a component of ischaemic necrosis allowing collapse.

History: This 46-year-old man was overweight; he had a history of a painful hip for 5 years. There was pain limitation of movement on internal rotation and associated wasting of the right buttocks and quadriceps.

FEMORAL HEAD - Osteoarthritis F.93

The head has retained its normal shape, but the cartilage is irregularly and unevenly thinned almost, in some places, exposing the subchondral bone giving a brownish colour. At the periphery there is osteophytic lipping where there are irregular bony outgrowths covered with cartilage. The cut surface shows a thick walled multilocular cyst; the cysts are lined by fibrous tissue and are said to communicate with the joint surface. They may be present before other manifestations of osteoarthritis; their genesis is not known.

LATERAL MENISCUS - Tear F.94

The specimen is cartilage some 10 cm long on the outer edge, and 5 cm in the inner edge. The outer side is thickened up to 1 cm and is nodular in appearance; a 1 cm tear can be seen extending from the inner edge into the substance of the structure.

History: Two years before, this man suffered a rugby injury and developed an ache on the lateral side of the joint particularly on full extension, on first waking in the morning. A year later, a further rugby injury led to pain and reduction in movement, and the cartilage was removed.

LOWER LEG - Ischaemic contracture F.95

This is part of the lower part of an amputated leg; anteriorly and posteriorly the muscular tissue is degenerate and largely calcified. The bones and joints themselves appear intact.

History: Thirty-eight years before, this man had suffered bilateral fractures of the femur in a motor vehicle accident. As a complication he developed an ischaemic contracture with gangrene of the left foot which led later to a lumbar sympathectomy. In the affected leg he had recurrent chronic osteomyelitis which in the year before amputation led to an abscess in the left calf; at this time the muscles of the calf were atrophied and extensively calcified; there was no movement of the ankle or toes but there was pulse demonstrable in the dorsalis pedis. The persistence of a discharging sinus in the upper calf and the general condition of the leg led to amputation.

FEMORAL HEAD - Collapse F.96

The head is almost completely and symmetrically collapsed; the surface is concave, and the cartilage here patchily eroded. There is no significant lipping.

History: This woman presented at the age of 79 with a painful hip of 3 months duration; there was no clear history of a fall but an X-ray showed that the head was collapsed and that there was a fracture of the neck of the femur which was probably some 3 months old.

PATELLA - Haemophilia F.97

The central area of the articular surface shows irregular pitting with iron staining of the floor. The depth of the erosions suggests that they extend to expose bone. At the periphery there are irregular areas where the cartilage has been lost and around the articular surface there is hemosiderin impregnated synovium.

History: This young man had a Factor VIII of 2%. Over some 9 years he had had several episodes of bleeding into the left knee joint with pain and limitation of movement and ultimately, at the age of 21, the patella was removed.

SUBCUTANEOUS TISSUE - Leiomyosarcoma F.98

The subcutaneous tissue is expanded and replaced by a lobulated tumour for the most part homogeneous but showing areas of necrosis. At one point near the upper pole there is an area of aponeurosis, and the tumour is extending through this as it is also infiltrating the dermis producing distortion of the skin surface.

History: This woman presented at the age of 72 with a 9-10-year history of a lump over the left olecranon which was regarded as gout. There was a similar lump on the antero-lateral aspect of the left shin which measured 10 x 8 cm. This was partially excised and proved to be a leiomyosarcoma. She had a previous history of rheumatoid arthritis. She refused amputation but ultimately the lesion began to bleed, and the bleeding could not be controlled. The amputated limb showed a rheumatoid nodule on the heel. This leiomyosarcoma was centred in the subcutaneous plane and invading and ulcerating skin and extending into the anterior part of the tibia.

PATELLA - Chondromalacia F.99

The central area of the cartilage in an area some 2 x 1 cm shows extensive fibrillation and degeneration of the cartilage.

TIBIA - Osteochondroma F.100

The specimen shows cartilage capped exostosis. The yellow colour of the bone is artefact. This lump was removed from the right tibia of a 15-year-old boy.

PUBIC BONE - Chondrosarcoma F.101

The symphysis pubis is to the right of the specimen and it together with the rami are greatly expanded by a largely homogeneous pale mass; towards the periphery particularly there are translucent areas in keeping with cartilage.

RIB - Fibrous dysplasia of bone F.102

The specimen consists of a bisected mass firmly adherent to the 6th, 7th and 8th ribs. The mass consists of a variegated tumour which has numerous large multiloculated cysts in the central portion. Several other areas of cyst formation are seen throughout the tumour, these are associated with haemorrhage. The lesion appears to be continuous with the medullary cavity of the ribs. Histologic examination of the specimen showed a dense mass of fibrous tissue containing numerous immature bony trabeculae. The microscopic features are diagnostic of fibrous dysplasia of bone.

History: The patient, a 62-year-old male, presented as an arranged admission for the removal of a mucocele of the frontal sinus. During the routine preoperative work-up a mass was noted on chest x-ray. Review of x-rays showed the mass had been present 25 years earlier but had been slowly growing over this period. Surgical excision of the mass was undertaken, and the patient made an uneventful recovery.

ABDOMINAL WALL F.103

- Calcified edge to incisional hernia

Specimen consists of an elongated segment of the scar tissue which has been sectioned longitudinally. Cutting of the specimen revealed dystrophic calcification.

History: The patient, a 64-year-old female, underwent laparotomy in 1983 for investigation of a possible CA colon. Following this surgical procedure, she developed an incisional hernia, which became progressively hard. The calcified scar tissue was removed, and the hernia successfully reduced.

GIANT CELL TUMOUR OF TENDON SHEATH F.104

Specimen is an aggregate of brown papillary tissue which on cut section has a lobulated appearance. Histologically this was found to be a benign tumour composed of histiocytes and numerous giant cells. The brown colouration is due to the deposition of hemosiderin pigment.

History: This 27-year-old male presented with a four-year history of left ankle pain. On examination swelling was noted immediately adjacent to the left lateral malleolus. The tumour was surgically removed and has not recurred.

TIBIA WITH ADJACENT FIBULA F.105

- Osteogenic Sarcoma

The specimen is a hemisected proximal half of tibia with attached fibula. Situated on the upper lateral portion of the tibia there is invasive tumour, this appears to originate in the metaphysis and extends towards the diaphysis. The tumour is pale with extensive areas of necrosis and haemorrhage. There is also an extra-osseous portion of the tumour extending through the periosteum. Histological examination of the tumour showed it to be an osteogenic sarcoma consisting predominantly of osteoblast-like cells.

History: The patient was a 20-year-old male who presented with a three-month history of pain in the left knee. This was most pronounced at night. On examination it was noted that the lateral portion of the tibia was enlarged and tender. There was a full range of movement, however pain was noted on flexion of the knee joint. The patient underwent an above knee amputation but developed pulmonary metastases within six months of diagnosis.

FEMUR - Chondrosarcoma F.106

The specimen is the distal femur. There is a pale semi-lucent tumour mass situated in the lateral condyle of the femur. This extends to the articular cartilage and infiltrates the metaphyseal medullary space. In areas the tumour shows widespread cystic degeneration with associated haemorrhage. The tumour occurred in a 61-year-old female and on histologic examination was shown to be a grade II chondrosarcoma.

GANGLION CYST F.107

The specimen is a lobulated cystic structure with some attached fat measuring 2.5 cm in maximum diameter. It has the typical features of a ganglion cyst.

History: The cyst was removed from the right ankle of a 28-year old female who had noted a fluctuant swelling for several months.

FEMUR - Paget's disease F.108a

The specimen is a femur sectioned in the coronal plane. There is extensive.
thickening of the cross section of the cortex with marked trabeculation. The whole of the femoral shaft is involved in this process, although this is more marked in the proximal part where thickening is also present in the greater trochanter, femoral head, and femoral neck. The cortical surface of the bone has a lobulated appearance which extends over the proximal two-thirds of the femoral shaft.

SOFT TISSUE-LIPOSARCOMA F.109

Specimen consists entirely of tumour tissue. The tumour is lobulated measuring up to 9.5 cm in length. Scattered areas of necrosis are seen within the centre of the lobules.

History: The patient, a 45-year-old male, presented with an intramuscular tumour of the right thigh. This was shown histologically to be a myxoid liposarcoma.

FEMORAL HEAD - Osteoarthritis F.110

The specimen is a block removed from the right femoral head. There is widespread erosion of the cartilaginous surface with clefts extending into the subchondral bone. Small cysts are also seen in this area. The subchondral bone also shows increased focal density (eburnation).

History: This 74-year-old female underwent right femoral head replacement for osteoarthritis.

RIGHT ILIAC WING - Osteochondroma F.111

The specimen is a lobulated tumour mass which upon sectioning contains areas of cystic degeneration. The tumour is composed of pale hyaline material which is traversed by fibrous bands. This is a low-grade chondrosarcoma that has arisen in an osteochondroma in a 26-year female.

SOFT TISSUE - Calcified Hydatid Cyst F.112

The specimen consists of a nodule of tissue. The cut surface shows lamination of hyaline acellular material. Histologically this has a calcified hydatid cyst which was removed from the pelvic soft tissue of a 72-year-old female.

G

GASTROINTESTINAL SYSTEM

LIVER - Hydatid disease G.1

The specimen shows a wedge of liver in which there is a hydatid cyst; fragments of irregularly-folded ectocyst can be seen in brown amorphous tissue, which probably represents old haemorrhage and infection.

LIVER - Macronodular Cirrhosis G.2

The specimen is the greater part of the liver (total weight at autopsy - 770 g.). The liver is obviously greatly shrunken, and shows multiple large nodules, up to 2 cm. in diameter. The tissue is grossly bile-stained. The histology appearances were those of post-necrotic scarring.

LIVER - Secondary carcinoma - primary in lung G.4

The specimen is a portion of liver, almost completely replaced by secondary carcinoma from a primary tumour in the lung.

LIVER - Amyloidosis G.6

The specimen is a portion of liver, unremarkable except for occasional pale nodular areas and a fine fibrillary network of similar tissue through the specimen.

History: This specimen came from a patient with primary amyloidosis, a diagnosis established histologically and, to the naked eye, is no more than an infiltration.

GALLBLADDER G.7
- Mucocoele, secondary to obstruction by stones

The specimen shows a portion of liver and the gall-bladder. The gall-bladder is greatly enlarged and is pale in colour, reflecting its pale mucoid contents. The wall is thickened from chronic inflammation and the cystic duct, which has been opened, shows the obstructing gallstones.

OESOPHAGUS - Stricture G.10

The specimen shows the full length of the oesophagus, and the upper part of the stomach. The lower-third of the oesophagus is acutely and severely narrowed; there is some thickening of the wall, consistent perhaps with tumour, but no obvious mucosal damage such as tumour would produce. The specimen, from its size, is from an infant, so this is an oesophageal stricture. It is not congenital in origin, as the lower part of the oesophagus is of normal calibre; this is most likely to be due to ingested corrosive. The lower part of the specimen shows the upper part of the stomach, with gastrostomy opening. The oesophageal stricture has, thus, been bypassed.

SALIVARY GLAND - Pleomorphic salivary adenoma G.11

The specimen is a salivary gland, enlarged by a circumscribed nodule, some 4 x 3 cm.; this has been bisected, and the gland opened out to show both halves of the tumour. The cut surface of the tumour shows a somewhat variegated appearance with occasional areas of apparent cartilage. The tumour is well-demarcated. These tumours, however, are not enucleated these days as, with this technique, the recurrence rate is high.

SALIVARY GLAND - Calculi G.13

The specimen is a salivary gland; the gland has been cut to show the duct obstructed by calculi. There may be some scarring in the gland, but it is not apparent to the naked eye.

ROUNDWORMS - Ascaris lumbricoides G.15

The specimen shows three adult worms; these are usually grey in colour but have been discoloured during preservation. The adults' range in length from 15 - 30cm, and from 0.3 to 0.5cm in diameter. The eggs are deposited in the soil, where they undergo a period of incubation. The infection is acquired by ingestion of the fully embryonated ova. The larvae are hatched in small intestine, and penetrate the wall, reaching the lungs by way of venules, or lymphatics. They pass into the alveoli from the alveolar capillaries and migrate up to the main bronchial tree and down the oesophagus with swallowed saliva. In the small intestine, they grow into adults of male or female sex. The most frequent complications are caused by the adult parasite producing intestinal obstructions.

TOMACH AND DUODENUM - Duodenal Ulcer G.19

The specimen consists of the greater part of the stomach and of the first part of the duodenum; these have been opened to display a massive chronic ulcer in the first part of the duodenum, immediately beyond the pylorus. The specimen has been mounted with the pancreas and coeliac axis. The ulcer has sharp margins, and a deep crater, which looks fibrous and shows in the base, debris.

STOMACH AND DUODENUM G.20 - Chronic peptic ulceration

The specimen shows the distal end of the stomach, the pylorus and the first part of the duodenum. Immediately beyond the pylorus there is a deep ulcer crater with, close by, a second smaller ulcer. The remnants of blood clot can be seen in the base of the ulcer, indicating that the lesion has bled.

SMALL INTESTINE - Mechanical strangulation G.21

The specimen is a loop of gangrenous small intestine, obstructed by the handle of Spencer Well's (surgeon general) artery forceps.

COLON - Ulcerative colitis G.23

The specimen is a length of colon, opened to show extensive polypoidal changes in the mucosa. The polyps are single in some areas, multiple and many-branched in others; it is possible to visualise their origin from surviving mucosa as the ulcerative colitis became quiescent. The bowel wall shows little thickening. There is some thickening of the serosa, although this is not marked. With this degree of mucosal proliferation, the chances of malignant change are enhanced.

COLON - Tuberculosis G.25

This is a short length of large intestine, showing extensive transverse ulceration with, however, no clear indication of serosal involvement. The ulcers are shallow and, in general, oval in outline; the base of each is granular and shaggy.

History: A man, whose wife suffered pulmonary tuberculosis, had a history of weight loss for 5 months, with intermittent colicky abdominal pain. He had a melaena on one occasion. The bowels were loose, but regular. Examination showed much wasting, pallor, asthenia and abdominal tenderness. An X-ray of the lung showed a shadow at the right apex, and the sputum contained tubercle bacilli. The patient's condition deteriorated, and he died within 4 months of admission.

COLON - Pneumatosis cystoids (gas cysts) G.27

The specimen is part of the colon, opened to show 'bullae' distorting the mucosa. These cysts are submucosal in location, as can be seen in the cut end of the specimen; the reddened areas visible on the surface of the domes indicate ulceration.

SMALL INTESTINE - Familial Telangiectasia G.28

The specimen shows a loop of small intestine, and a short length of large intestine, which has been opened. In the loop, one can see through the serosa, numerous spots, up to 0.4 cm. in diameter. The mucosal appearance of one of these lesions is seen in the opened segment of bowel. Each of these lesions is a vascular malformation, or haemangioma.

TERMINAL ILEUM & ASCENDING COLON G.34 - Intussusception

This shows caecum and ascending colon, opened to display loops of small intestine; at the apex of the specimen, the small intestine can be seen entering the caecum through the ileocecal valve; the intestine within the colon is gangrenous, and the mucosa surface ulcerated. This specimen, from its size, is from an adult, and shows no obvious cause for the condition.

COLON AND RECTUM G.36

- Multiple polyposis and carcinoma

The specimen consists of the whole colon and rectum, showing an appendix at one end, and the anus at the other. The whole colon shows multiple polyps of fairly uniform size, with several larger lesions; there is a carcinoma in the ascending colon, in the transverse colon and in the rectum. The carcinoma in the transverse colon is the largest and shows central ulceration.

STOMACH - Multiple polyps G.37

The specimen is a stomach, which has been opened to display multiple polyps in the mucosa; these appear to be confined to an area some 7-8 cm. in diameter. The nature of these lesions can only be established by histology, and, in fact, they were benign adenomata.

TONGUE - Carcinoma G.39

The specimen is approximately one-half of the tongue showing, on the lateral margin, a fungating carcinoma, approximately 4 x 3 cm; a block of tissue has been taken from the centre for histological examination. The mucosal surface of the tongue appears normal.

COLON - Polyp G.43

This shows caecum and ascending colon (identified by the ileocecal valve lying in the lower left-hand corner of the specimen). There is a large polyp, with multiple nodules on its surface, arising from the mucosa. The histological appearance was those of haematoma, and the patient showed multiple gastric polyps; clinically, there is evidence of a protein-losing enteropathy.

SMALL INTESTINE G.44

- Showing lymphatic permeation by tumour and lymph node metastases

Each specimen is a loop of small intestine showing, on the serosal surface, several minute yellow nodules lying in the lymphatics, which are distended by this material. The lymph nodes in the mesentery are also enlarged and infiltrated by tumour. The primary tumour in this instance was thought to be in the lung.

COLON - Melanosis G.46

The specimen shows a length of colon, heavily pigmented; the mucosal folds have been lost, but this is a post-mortem specimen where such changes may occur. The whole mucosa is lightly pigmented, with several areas of darker pigmentation. This is a condition which sometimes occurs with prolonged use of purgatives, associated with stasis of the intestinal contents. The pigment is melanin-like and is found histologically within mono-nuclear cells.

COLON - Carcinoma G.47

The specimen shows colon and rectum and includes the anus. Near the colorectal junction, there is a large carcinoma extending through the muscle wall into the mesenteric fat and extending round approximately half the lumen.

ANUS & RECTUM - Malignant melanoma G.48

This consists of the anus and rectum; the greater part of the circumference of the lower rectum and anus is occupied by a nodular, ulcerated, fungating tumour, black in colour. Literally there is a small pile. The posterior surface shows tumour, extending to the serous coat. The likely point of origin of this lesion is in the anal margin.

DIAPHRAGM - Secondary carcinoma (Rectum) G.51

This specimen illustrates peritoneal dissemination of tumour, and shows, on the peritoneal surface of the diaphragm, irregular plaque-like tumour deposits.

LIVER & SPLEEN G.52
- Micronodular cirrhosis with raised portal pressure

The specimen shows a portion of liver and spleen; the spleen is obviously enlarged but shows no other naked eye features. The liver shows a finely nodular cirrhosis.

PYRIFORM FOSSA - Carcinoma G.55

There is an ulcerated area, approximately 2 x 1 cm, in the left pyriform fossa, extending onto and involving the left side of the epiglottis.

History: This woman had several episodes of coughing up blood. She had noticed a slight swelling on the left side of the neck for some 2 to 3 years and had difficulty in swallowing for 18 months. Examination showed this lesion - which, on biopsy, was found to be a well-differentiated squamous cell carcinoma. The tumour area was irradiated over a period of 2-3 weeks, with reduction in the size of the lesion. However, she suddenly vomited a large amount of blood, collapsed, and died. Further examination showed involved lymph nodes in the region.

STOMACH - Carcinoma ('leather bottle') G.58

The wall of the stomach is diffusely thickened from just below the cardia to close to the pylorus. The mucosal folds are flattened, and the cut surface shows that much of the thickening is apparently in the sub-mucosa, although, at one point, on the lesser curvature, the serosa is involved.

History: In October 1974, this woman noted the onset of severe constant epigastric pain following a meal. Antacids gave no relief; endoscopy in April showed only inflammatory changes; an X-ray in June 1975 showed a carcinoma in the stomach. During this latter time, the patient noted loss of weight and difficulty in swallowing solid food, together with early satiety. Histologically, this is a diffuse infiltrating carcinoma; sections of lymph nodes examined showed no tumour infiltration. In February 1976, she presented with fluctuating dysphasia and regurgitation of food; there was no evidence at this time of recurrent tumour.

OESOPHAGUS - Varices G.59

This consists of the greater part of the oesophagus and includes the cardiac portion of the stomach. In the middle and lower-third of the specimen distended, tortuous veins can be seen. The normal venous drainage of the oesophagus includes a submucosal venous plexus running longitudinally, and a serosal plexus; both of these drains partly into the portal, partly into the systemic venous system forming, with the haemorrhoidal and periumbilical veins, an important link between the two systems. In portal hypertension, these venous plexuses dilate to form 'oesophageal varices', consisting of enormously dilated venous channels, which lie immediately beneath the mucosa and are prone to rupture. For a further discussion of this subject, see Allison 1959, Ann.Roy.Coll.Surgeons, 25:298.

GALLBLADDER - Mucocoele G.60

The gallbladder is thickened and has been opened to display a stone impacted in the neck; the lining is pale and shows in its upper area yellowish flecks. The pallor of the organ is in keeping with clear mucus contents.

STOMACH - Leiomyoma G.61

This is a portion of stomach, displaying an ovoid, firm swelling, some 8 x 5 cm; the mucosa has been partly stripped from the surface of the tumour, which is greyish/white in colour; it has a smooth outline, and the mucosa would appear to be freely moveable over it.

INTESTINE - Crohn's disease G.66

This consists of terminal ileum, caecum, ascending colon, and appendix. The distal portion of the terminal ileum shows marked thickening of the wall, which begins abruptly and ends apparently equally abruptly in the region of the ileocecal valve. The thickening of the wall is annular and is obviously narrowing the lumen. Linear ulcers are not obvious in this specimen. A loop of ileum, uninvolved, is adherent to the mesentery.

History: This man presented with a vesicocolic fistula, with a previous history of abdominal pain for some two years. He had had diarrhoea and one episode of bright rectal bleeding. The histology of the lesions is that of Crohn's disease.

TWO APPENDICES - Acute inflammation G.67

M.125 - The distal third of the appendix is swollen and covered by a fibrinous exudate; the serosa is injected, and the lumen shows a faecolith.
M.140 - The distal half of this appendix is swollen and covered by a fibrinous exudate; the exposed mucosa is haemorrhagic in the distal third, but there is no faecolith present.

COLON - Carcinoma and polyps G.71

The specimen is a length of large intestine opened to show a sessile polypoid tumour at the upper end. The tumour has a coarsely nodular surface. There is not likely to be any obstruction with a lesion such as this, and the tumour does not appear to be ulcerated. A segment of the tumour has been taken for histology established that this is an invasive carcinoma arising in a tubulovillous adenoma, although the large size of the lesion and the fact that it is sessile make this likely based on macroscopic appearances. Beneath the tumour, there is a pedunculated adenomatous polyp. One would need to examine sections of this to be sure it does not harbour invasion, but this seems unlikely based on macroscopic appearances because the lesion is small and has a stalk. In the centre of the specimen is a small mucosal nodule (3mm), likely a hyperplastic polyp. Note that adenomatous polyps show dysplasia histologically and are considered to be pre-cancerous lesions. Hyperplastic polyps do not show dysplasia and it is generally believed that they do not progress to carcinoma.

COLON - Carcinoma and polyps G.73

The colon has been opened to show, in the lower part of the specimen, a 5cm carcinoma extending around the whole circumference of the bowel. The lesion is ulcerated, and one imagines that it would have produced a degree of obstruction. Above the tumour there are a number of polyps; some of these are pedunculated, others sessile. The polyps may be adenomatous (pre-cancerous) but, in the absence of histological examination, one could not be sure of this (histology would have to reveal dysplasia). The redness of the polyps is in keeping with their vascularity.

SIGMOID COLON - Carcinoma and intussusception G.74

This is a length of colon, showing intussusception; at the apex of the intussusception, there is a fungating tumour, some 5 cm. in diameter; on the reverse side of the specimen, a 2 cm. papilloma can be seen arising from the colonic mucosa. There are diverticula apparent in the normal bowel shown below.

SMALL INTESTINE G.77 - Obstruction secondary to adhesions

A loop of small intestine showing, over the greater part of the specimen, dilatation and a marked discolouration of incipient gangrene. There is acute kinking at each end of the distended loop. There is a patchy serosal thickening of the normal intestine present.

MESENTERY - Calcified nodule G.80

This is a a portion of mesentery of the small intestine showing a calcified nodule which is likely to be an old tuberculous lesion.

History: This was an incidental finding in a patient with multiple myeloma who died from bronchopneumonia.

SMALL INTESTINE G.82

- Abscess of Meckel's diverticulum

This is a length of small intestine, reddened, and showing a patchy inflammatory exudate centred around a nodular area some 5 cm. across. The diverticulum has been opened to display a hard nodule of inspissated material.

History: This man presented with pain, radiating transversely at the umbilical region.

LIVER - Haemochromatosis and hepatoma G.84

This is a section through the liver, showing the central area of both right and left lobes; the architecture is distorted, and the cut surface shows numerous nodules, up to 0.5 cm. in diameter; the colour of the tissue is much browner than usual; in the upper part of the specimen there is a rather poorly-defined, partly necrotic tumour.

History: This man was admitted to hospital some 14 days before his death, for investigation of a three-month history of weakness, a three-week history of lumbar pain and a one-month history of ankle oedema. On examination, the liver was found to be enlarged; bilirubin 20 mMol/litre, alkaline phosphatase 200 U/litre, aspartate amino transferase 93 U/litre and alanine amino transferase 47 U/litre. A liver scan showed a space-occupying lesion in the upper right lobe. At autopsy, the appearances shown here were found; microscopy of the liver showed a cirrhosis, with a heavy iron deposition, and a hepatoma.

FATTY LIVER G.85

A markedly enlarged liver, pale in colour, fatty in appearance and, on the upper margin, one can see the rolled edge of swelling. This man at autopsy was found to have a fatty liver (weighing 5000 g.) and haemorrhagic pancreatitis with extensive fat necrosis.

GALLBLADDER - With stones G.87

A thick-walled, pale gallbladder, packed with gall stones.

History: This was an incidental finding in a woman who died of coronary artery disease.

RECTUM - Carcinoma G.88

Consists of the rectum and anus showing 3-4 cm. above the anal margin, a fungating tumour, some 10 cm. across and 7 cm. in length. The tumour occupies almost all the bowel wall at this point. The surface appears to be intact, although there are probably small areas of ulceration that cannot be seen.

History: This woman was admitted to hospital on 4th July 1977, with a short history of rectal bleeding. She had had watery fluid bowel motions for several days, and rather loose bowel movements over the previous two years. On examination, she was found to have a large prolapsing rectal mass, and this was reduced. Shortly after this, the bowel was resected, and metastases were noted in the liver at this time. Histologically, this was a very well-differentiated tumour.

INTESTINE - Leiomyoma G.89

The specimen consists of a segment of small intestine, opened and somewhat distorted, to display a polypoid tumour, some 4 x 3 cm., covered by mucosa, which shows patchy areas of haemorrhage at the apex.

History: This man presented with vomiting, abdominal pain and constipation for six days. No blood was demonstrated in the bowel motions. At operation, an intussusception in the mid-ileal area was found, some 10 cm. in length, with the tumour shown here at the apex. The histology of the lesion is of a simple leiomyoma.

STOMACH - Infantile pyloric stenosis G.91

An infantile stomach, together with the lower end of the oesophagus, opened to show marked thickening of the muscle in the pyloric region, with consequent stenosis.
This is a specimen donated by Guy's Hospital, London, through the courtesy of Dr Brander.

COMMON BILE-DUCT - Obstruction G.92

This shows a thickened and somewhat distended gallbladder; the common bile duct and cystic duct have been opened; the common duct is dilated and obstructed at its distal end by a gallstone.

History: This man was admitted at the age of 81 with right-sided abdominal pain and shortness of breath. His temperature was raised, and he was tender in the right hypochondrium. Investigations showed a white count of 13,300 differential count 91% neutrophils, and sedimentation rate 35 mm/hr. Total bilirubin 114 uMol/litre, alk.phos. 220 U/litre, gamma glutamyl transferase 490 U/litre, aspartate amino transferase 132 U/litre and alanine amino transferase 7 U/litre. Hepatitis-associated antigen negative. Blood culture grew E. Coli.

STOMACH AND JEJUNUM - Anastomotic ulcer G.93

The specimen consists of a portion of the stomach, anastomosed to a short length of small intestine; just below the gastro-jejunal anastomosis there are two punched-out ulcers, the largest being approximately 1 cm. in diameter.

History: Five-and-a-half years before this lesion was removed, the patient showed symptoms of a duodenal ulcer. This healed on conservative treatment. Two-and-a-half years ago the patient was admitted to hospital with a bleeding gastric ulcer, and partial gastrectomy was carried out. The patient was well until eight weeks before the present admission, when he came into hospital with gastrointestinal bleeding, and a revision gastrectomy was carried out.

SMALL INTESTINE - Acute diverticulitis G.94

The specimen is a short length of jejunum, cut to display an abscess in the mesenteric fat. The abscess is based on a diverticulum, which is not clearly apparent in the specimen, but which, presumably, opens into the mucosa at the base of the abscess on the left-hand side of the specimen.

History: This patient was admitted with dull, epigastric pain, worse on movement; the pain radiated to the left side of the back and around the costal margin. On examination, the abdomen was rigid, with general tenderness, and bowel sounds were absent. At laparotomy, a 2 cm. jejunal diverticulum was found 20 cm. from the duodenojejunal flexure on the mesenteric border. A Meckel's diverticulum was also discovered.

TONGUE - Carcinoma G.95

This consists of the right half of the mandible, and the right half of the tongue; on the under-margin of the tongue there is an ulcer, some 5 x 3 cm., with a raised, red, necrotic-looking base.

History: This man presented at the age of 60 with pain in the right ear and, on examination, he was found to have the lesion found here. This was biopsied, and the diagnosis of squamous cell carcinoma confirmed. He had a long history of alcoholism and heavy smoking. A block dissection was done and involved lymph nodes were found.

ASCENDING COLON - Pseudomembranous colitis G.97

This shows terminal ileum, caecum, appendix, and ascending colon. There is some oedema of the lining of the ascending colon, the surface of which is largely covered by a tan-coloured nodular membrane which, at several points, can be seen peeling from the underlying surface. The changes are present in the ileum, to a lesser degree.

History: This woman had an abdominoperineal resection for carcinoma of the rectum on 29th April 1971; she remained well for the first 2 days after the operation, and then vomited a large amount of blood-material; she was shocked and deterioration was rapid, to death on 3rd May 1971. At autopsy, almost the whole of the small and large intestines was involved; the mesenteric vessels appeared normal.

COLON - Carcinoma G.98

A short length of large bowel showing a carcinoma 2 cm in length and surrounding much of the lumen. There is dilatation of the proximal portion of intestine indicating a degree of obstruction. The carcinoma infiltrates the muscularis propria reaching a point extremely close to serosal surface. The histology of the lesion was that of moderately differentiated adenocarcinoma. One involved lymph node was found in the mesentery.

COLON - Ulcerative colitis G.99

This specimen consists of caecum, ascending and transverse colon. There is a small area of apparently normal mucosa at the distal end. Elsewhere the mucosa is thrown into a cobblestone pattern and shows numerous polypoid projections particularly in the ascending colon.

History: This woman was admitted to hospital first in 1975 at the age of 38 following a twelve-month history of frequent bloody bowel motions as well as vomiting and weight loss. In the intervening time, she suffered exacerbations of disease and was finally admitted for resection. Histology of the lesion was that of active chronic ulcerative colitis.

ACUTE APPENDICITIS G.100

The appendix is diffusely swollen, and the serosa reddened; there is a patchy exudate apparent; the cut surface of the appendix shows a faecolith and a thickened, inflamed mucosa.

History: This man, at the age of 20, was admitted to hospital with abdominal pain; this had begun some four days previously with sudden onset of acute pain in the right iliac fossa, but no accompanying nausea or vomiting. The pain was intermittent. Three days before admission his appetite had declined; two days before admission the pain was still present, radiating around to the back on the right side. At this stage he developed diarrhoea. Examination showed a mass in the right iliac fossa; the total white count was 19.6 thousand, 86% neutrophils.

LIVER - Cirrhosis and haemochromatosis G.101

A portion of liver cut to display both the capsular area and the cut surface. The cut surface shows many nodules separated by paler tissue; the nodules are fairly even in size, although an occasional larger nodule can be seen; this is probably apparent on the capsular surface than on the cut surface. The liver has a tan colour, characteristic of haemochromatosis; on the face of the cut surface a disc of tissue can be seen embedded in the liver; this is artefact; an attempt was made to stain a portion of the liver for iron, and to reinsert that in the specimen, but the iron-stain has diffused out.

History: This man had Blalock operation for Tetralogy of Fallot in 1954, with final correction of the lesion in 1971. In 1973 he was found to have a chronic hepatitis, which was not biopsied because of a prolonged prothrombin time. Serum iron and transferrin levels were at that time normal. The transaminases were slightly elevated. His skin became increasingly pigmented and early in 1977 he developed gross heart failure; he died towards the end of the year. At autopsy his liver was found to weigh 1350 g. and to show a fine cirrhosis, together with iron overload. He was found to have oesophageal varices and an enlarged heart at 620 g. The coronary arteries showed no atheroma, but the cusps of the pulmonary valve were thickened. Iron was demonstrated in the spleen, kidney, adrenal, pituitary, pancreas, thyroid and myocardium. There is no known family history of haemochromatosis.

SMALL INTESTINE - Carcinoid tumour G.102

A length of small intestine with its attached mesentery. The cut surface at each end of the intestine shows an oval, yellowish nodule in the sub-mucosa; in each instance the nodule is approximately 1 cm. in length. In the mesentery, there is an enlarged lymph node some 3 cm. across, again, showing a nodular, yellowish tumour.

History: This woman was admitted at the age of 46 for the management of sub-acute small bowel obstruction. She had had colicky abdominal pain of more than 12 hours' duration; two weeks prior to this she had been in hospital with a sub-acute obstruction which had settled on conservative treatment. At operation these lesions were resected.

DUODENUM - Penetrating ulcer G.106

This shows the greater part of the stomach, and first and second parts of the duodenum; on the anterior wall of the first part of the duodenum, there is a punched-out perforating ulcer, approximately 1.5 cm. in diameter. There is some injection of the vessels round the ulcer, but there does not appear to be any exudate apparent.

History: This man was admitted to hospital at the age of 50, having been found unconscious at the bottom of a flight of stairs. He was a known alcoholic and hypertensive. He remained unconscious until he died 16 days after admission. At autopsy, he was found to have a fracture of the posterior part of the right parietal bone, with contrecoup injury to the left frontal area of the brain, together with brain-stem damage. The duodenal ulcer shown here was an incidental finding and was found sealed by great omentum.

SMALL INTESTINE - Metastatic melanoma G.107

A length of small intestine showing a black nodule some 3.5 cm. in diameter and a flat black oval plaque approximately 1 cm. across. On the reverse of the specimen the bowel can be seen drawn up into the main tumour mass. The mucosal pattern distal to the tumour is normal; the pattern proximal to the main tumour is flattened and the bowel obviously dilated.

Histology: This man was admitted to hospital at the age of 55 with intestinal obstruction of two days' duration. At operation an intussusception of a loop of small intestine was found. The lesion was demonstrated to be a malignant melanoma. Six months prior to this he had had two skin lesions removed, one from his right thigh which showed a malignant melanoma in regression, and the second from the axilla which showed a metastatic melanoma.

SMALL INTENSTINE - Meckel's diverticulum G.108

This is a short length of small intestine, showing a diverticulum some 3 x 1.5 cm. There is no inflammation apparent.

History: This was an incidental finding at autopsy in a man who died from head injuries.

COLON - Multiple polyps G.109

A length of large intestine showing six pedunculated polyps; these range in size from less than 1cm to approximately 2.5cm, and the length of the stalk is in proportion. The intervening mucosa appears normal.

History: This man presented with anaemia and was found to have a carcinoma of the colon on radiological examination. The colon was removed and sent for pathologic assessment. The tumour extended through the full thickness of the colonic wall. Elsewhere there were scattered polyps including tiny (4mm) sessile dome-shaped nodules (likely hyperplastic polyps) as well as larger pedunculated (likely adenomatous) polyps, the largest measuring 3.5cm. The patient was also found to have a carcinoma of the kidney, and thrombosis of the left adrenal vein producing areas of haemorrhage and necrosis in the adrenal cortex.

STOMACH - Carcinoma G.110

This shows the greater part of the stomach, opened anteriorly to show a large fungating polypoid tumour arising from the region of the lesser curvature; the posterior surface shows evidence of cirrhosal infiltration.

History: This man, at the age of 69, presented with a six-month history of weight loss, with lethargy and weakness. He was a diabetic of some 30 years standing. He was found to be anaemic (Hb.9.8 g.); a barium meal showed a large fungating tumour in the stomach, and biopsy showed this to be malignant. A total gastrectomy was carried out. He was readmitted 3 months later, complaining of difficulty in swallowing and, on examination, a mass was felt in the abdomen. He died a month later. At autopsy, tumour deposits were found in the left chest wall, and in the liver. He also showed bronchopneumonia and an empyema.

OESOPHAGUS - Reflux oesophagitis G.113

This consists of the lower half of the oesophagus, showing extensive ulceration, leaving only islands of intact squamous epithelium. At the cardia, there are several irregular tears, but it is not possible to be sure whether these are artefact, or whether they were present in life.

History: This man was a sickness beneficiary and was found collapsed in the street; he was dead on arrival in hospital. His death was ascribed to acute left ventricular failure, secondary to hypertensive heart disease; at the time of death, he had a blood alcohol level of 270 mg./100 ml.

OMENTUM - Fat Necrosis G.114

This shows a short length of transverse colon, from which hangs a portion of the omentum; there are numerous areas of fat necrosis seen as slightly raised white plaques of irregular outline and varying size between less than 1 mm. and approx. 1 cm. The change is apparent on both surfaces.

History: This man was admitted, at the age of 58, approximately a fortnight before his death with a ten-day history of central chest pain, back pain and nausea. A preliminary diagnosis of pancreatitis was made (serum amylase 920 Units/Litre); on the day after admission he went into heart failure, followed by cardiac arrest; he was resuscitated but developed renal failure, and the day before he died had a massive melaena. He had a past history of asthma, hypertension, high intake of alcohol and heavy smoking. At autopsy - fat necrosis and pancreatitis. No ulceration was seen in the stomach or duodenum; the oesophagus was markedly congested in the area where the nasogastric tube would lie, and it was thought this might have been the source of the melaena.

PANCREAS - Acute haemorrhagic pancreatitis G.115

This shows the head and the body of the pancreas, cut somewhat obliquely; there is a rim of duodenal mucosa covering part of the head and body. There are a number of yellowish areas of necrosis, up to 1.5 cm. in diameter and, particularly towards the end of the specimen, there are many areas of haemorrhage. The chalky areas which can be distinguished towards the surface of the pancreas represent fat necrosis.

History: This man was admitted to hospital following sudden onset of acute abdominal pain. He was known to have a heavy alcohol intake and had been treated for alcoholism. Prior to his admission, he had been drinking heavily. Serum amylase on admission was 8200 international units/litre; a laparotomy was carried out because it was thought that there was gas lying free in the abdomen. He died four days after admission and, at autopsy, this lesion was demonstrated; there was no fat necrosis apparent, and his liver showed severe fatty change.

COLON - Carcinoma G.116

A short length of large bowel, showing an annular constricting carcinoma 2cm long. The tumour appears to have penetrated the full thickness of the bowel wall.

History: This woman was admitted with acute bowel obstruction. She had been investigated by laparoscopy and D & C for abdominal pain and irregular periods six months before. At operation, she was found to have this lesion, as well as bilateral ovarian carcinomas which were regarded as separate primary lesions although the possibility that they were secondary to the colonic tumour could not be excluded. Approximately one year later she was in hospital with a respiratory infection and pleural effusions. Some eight months later she presented with partial bowel obstruction. One year later she presented with pulmonary embolism and recurrence of ovarian carcinoma; at laparotomy there were numerous secondary deposits in the abdomen.

STOMACH - Gastric Ulcer G.117

This is a stomach, opened to show an ulcer across the lesser curvature, and measuring some 4 x 3 cm. Towards the centre of the ulcer, there is an open vessel presenting to the lumen. The mucosal folds are somewhat distorted and discoloured as a post-mortem artefact.

History: This man, a long-stay patient in Porirua Hospital, was admitted to hospital following haematemesis. An ulcer was demonstrated radiologically but, before any active treatment could be undertaken, he had a further massive haematemesis and died.

LIVER - Polycystic G.118

A portion of liver, cut to show several thin-walled cysts; the largest is some 7 cm. in diameter, while the smallest is several mm. in diameter. The wall of the largest cyst is trabeculated; there is no apparent reaction around the cyst wall.

History: This was an incidental finding in a woman who died of pulmonary embolism; she suffered from Parkinson's disease and was immobile. The pulmonary embolus arose in the left femoral vein. At autopsy, the liver weighed 1150 g., and showed many superficial thin-walled cysts containing clear fluid. Several thin-walled cysts were also found on the surface of each kidney. Sections of the cysts in liver and kidney show that these were lined by colloidal epithelium. The cysts are of congenital origin.

LIVER - Secondary carcinoma G.120

A portion of liver 10 cm in maximum diameter in which there is a secondary tumour deposit. The tumour deposit is circumscribed and yellowish; the outer surface of the tumour is depressed irregularly below the surface of the liver.

History: This man presented at the age of 43 with carcinoma of the colon, with secondary deposits in the liver. Three months after the primary lesion had been removed, a solitary metastasis in the liver was excised. Three months later he was alive and well.

TRICHOBEZOAR G.122A

TRICHOBEZOAR G.122B

A cone-shaped ball of hair measuring some 6 x 4 cm.
A ball of hair, roughly in the shape of stomach, and measuring some 12 x 6 cm.

History: This young woman presented at the age of 18 with obstruction of the small intestine; she had colicky, intermittent abdominal pain followed by vomiting; these changes had been present for two days. At operation, the smaller of these two specimens was found impacted in the upper jejunum about 12 in. distal to the duodenojejunal flexure; the gastric bezoar was found by palpation and also removed. This girl was also found to suffer from an iron-deficiency anaemia, probably secondary to bleeding from the presence of these hair-balls.

SIGMOID COLON - Volvulus G.124

A greatly distended and enlarged sigmoid loop showing some reddish discolouration; there is a small area of haemorrhage at the root of the mesentery, but this may well be artefact.

History: This woman was admitted to hospital at the age of 58, with a history of colicky abdominal pain for three days and abdominal distension for one day. She had had similar symptoms on previous occasions, but these had quickly disappeared. Radiologically the dilated bowel was demonstrated, and the diagnosis of volvulus made, and the sigmoid resected. At operation, it was noted that there was some thickening of the mesocolon suggesting perhaps that the bowel had twisted in the past.

SMALL INTESTINE - Obstruction by adhesions G.125

This shows a loop of small intestine, obstructed by a band of fibrous tissue and fat, with some dilatation of the bowel proximal to the adhesion, but with greater distension and marked congestion of the serosa in the obstructed loop. The proximal part of the bowel appears normal. The band has been supported and outlined by a small strip of material.

LIVER - Cirrhosis and hepatoma G.126

A coarsely nodular, cirrhotic liver with, arising from the inferior surface, a large, partly encapsulated mass of tumour showing a number of areas of necrosis, both recent and old.

History: At the age of 60, this man was admitted to hospital with gastrointestinal bleeding. The diagnosis of cirrhosis of the liver was established by biopsy. A few weeks after discharge he noted a lump in his abdomen and, on admission, the diagnosis of hepatoma was made at laparotomy, where a large abdominal mass attached to the inferior surface of the right lobe of the liver posteriorly projected to the anterior abdominal wall, and posteriorly had moved retro-peritoneally pushing the duodenum forward and to the left. The histology of the lesion was of a hepato-cellular carcinoma. He died several weeks later.

STOMACH, SPLEEN, LIVER - Situs inversus G.127

This shows the liver, stomach, and spleen of a child; the gallbladder lies to the right; the cardia of the stomach lies to the left, and the spleen is on the left.

History: This child was known to have a dextrocardia; he was put to bed about midnight when he appeared normal but was found dead in bed at 7.30 am. the following morning. He had a minor respiratory complaint and had been taken to a doctor three days before his death. See also A69. The cause of death was ascribed to the 'sudden death in infancy' syndrome.

GALLBLADDER – Empyema G.129

A markedly enlarged and thickened gallbladder, showing a roughened lining with what appears to be an exudate in the fundal area. There are no stones with the specimen but, in the lower part, there are indentations in the wall, consistent with the presence of stones.

History: This woman presented at the age of 74 with abdominal pain and nausea, and a mass in the right upper abdomen. Some two-and-a-half years later, she developed an obstructive jaundice, and a stone was removed from the common duct. Some two months later small bowel adhesions were freed.

GALLBLADDER - Carcinoma G.130

This consists of a block of tumour-infiltrated liver, and of the gallbladder opened to show the greater part of the fundus expanded by tumour tissue. The mucosal surface in the part of the specimen present appears to be smooth.

History: This woman was admitted to Porirua Hospital with senile dementia; in the year following her admission she developed abdominal pain and died. At autopsy this lesion was demonstrated with secondary deposits in the liver, extension into the duodenum and into the hepatic ducts with consequent obstruction and development of a liver abscess.

GALLBLADDER & STONE - Cholesterolosis G.133

Opened, slightly thickened gallbladder showing cholesterolosis and single cholesterol stone.

History: Woman with 3-year history of intermittent upper abdominal pain, with more frequent pain in right side of back. Pain made worse by fatty food.

SMALL INTESTINE G.134 - Ulceration Meckel's diverticulum

A short length of small intestine, from which arises a diverticulum some 3.5 cm. long; the lumen is continuous throughout the length of diverticulum; in the upper part there is a small patch of necrosis and associated haemorrhage, with some apparent scarring of the muscular coat.

History: This child was admitted to hospital in April 1978 with a history of recurrent rectal bleeding and diarrhoea. A year later he again showed rectal bleeding, with some colicky, centrally abdominal pain and, at laparotomy, this lesion and a normal appendix were removed. Microscopically, the diverticulum was seen to be lined by gastric mucosa in its lower part, and by small intestinal epithelium in its upper part where the ulceration occurred.

PANCREAS - Acute haemorrhagic pancreatitis G.135

Pancreas showing a portion of the duodenum. The pancreas is considerably enlarged by extensive haemorrhage and shows marked fat necrosis as is apparent in the adjacent fat.

History: This man was admitted with epigastric pain and shock, and in renal failure. Serum amylase 7600 units. He died some seven days after admission. At autopsy, a litre of blood-stained fluid was found in the peritoneal cavity, with 200 ml. of similar fluid in each chest cavity. There was extensive fat necrosis of the omentum and mesentery, the anterior abdominal wall, the diaphragm, and the lateral thoracic wall. There were gallstones present. Microscopy of the liver showed a pericholangitis.

EXOMPHALOS G.136

Umbilical hernia occupied by forward portion of Reidel's lobe of liver. Vessels forming umbilical can be seen on cut surface at bottom of specimen.

History: Child born 40-42 weeks' calculated gestation, weighing 2080 g.; child showed a Meningomyelocele and hydrocephalus, absent left radius, rocker-bottom feet, ventricular septal defect, and a patent ductus arteriosus. For an account of development of this type of lesion see Morson and Dawson - Gastrointestinal Pathology 1974.

STOMACH - Hour-glass deformity G.137

A large stomach (possibly from post-mortem dilatation) which has been filled with gelatin to preserve outline. In centre there is a circumferential restriction producing the characteristic hour-glass appearance. There appears to be some serosal thickening in region of constriction. (The aetiology of this lesion is not apparent but is likely to be due to chronic peptic ulceration).

GALLBLADDER - Mucocoele G.139

Thick-walled, very pale, large gallbladder, cystic duct opened to show a cholesterol stone.

History: Incidental finding at autopsy in a man who died of coronary artery disease.

PERITONEUM - Hydatid cyst G.140

The specimen shows a hydatid cyst in which there is the typical laminated membrane. The cyst is attached to the posterior wall of the bladder; part of the bladder and prostate can be seen at the base of the specimen.

History: This was an incidental finding at autopsy of a man in his 30's who died from head injuries sustained in a brawl. He had a history of hydatid disease and in addition to this lesion showed a hydatid cyst 12 cm. in diameter in his liver.

LIVER - "Focal nodular hyperplasia" G.141

This is part of a nodular lesion removed from the liver of a 26-year-old woman who had been taking oral contraceptives for some years. The whole lesion measured 8.0 x 7.0 x 3.5 cm. and weighed 185 grams. See O'Sullivan & Wilding, B.M.J. 1974,3:7.

GALLBLADDER - Carcinoma G.142

This is a gallbladder, grossly thickened in the central area of the body by tumour and showing the common association of gallstones with tumour.

History: This patient had had an 18-year history of symptoms of chronic cholecystitis; pain became more constant, and, on examination, a hard lump was felt in the gallbladder region. The gallbladder was excised, and the patient survived two years postoperatively.

LIVER, GALLBLADDER, CYSTIC AND HEPATIC DUCTS & DUODENUM G.143

There are very numerous faceted stones throughout the extra hepatic biliary tree.

History: This was an incidental finding at autopsy in a woman who died from a lymphoblastic lymphoma. There were apparently no symptoms due to the gallbladder disease.

SMALL INTESTINE - Crohn's Disease G.146

This shows a length of small intestine with a somewhat thickened wall. The mucosa shows the characteristic cobble-stone pattern of Crohn's disease.

STOMACH - Carcinoma G.147

The specimen consists of the greater part of the stomach and shows in its distal portion an extensive carcinoma widely infiltrating the wall and extending through the muscle coat to the serosa; on the serosal surface there is extensive tumour. The tumour extends into the first part of the duodenum.

History: This woman was admitted to hospital at the age of 60, with a diagnosis of carcinoma of the stomach; the background is not clear but apparently includes anaemia. She refused surgery but was readmitted to hospital shortly after discharge and on this occasion accepted surgery. At operation the pancreas appeared to be superficially invaded but there were no liver or gross peritoneal deposits apparent. Death occurred some three months later. The histology of the lesion was that of a poorly differentiated adenocarcinoma.

RECTUM - Villous adenoma G.149

The specimen shows a short length of rectum. A 5cm sessile tumour is present on the mucosa. The tumour has a fine papillary surface. There was no microscopic evidence of invasion of the bowel wall.

History: This man, aged 72, gave a history of altered bowel habits for three to four months. Rectal examination revealed the tumour. The histology of the lesion is that of a villus adenoma; the appearances are described as "delicate villus processes covered tall mucous-secreting columnar epithelium". To be classed as an adenoma adenomatous polyp, the epithelium would have to have shown dysplasia (either low grade or high-grade dysplasia).

LIVER - Hepatoblastoma G.152

The specimen shows the left lobe of the liver, grossly enlarged by a lobulated tumour; the whole specimen weighed 1054 g. and measured 20 x 13 x 10 cm. The cut surface shows a rim of surviving liver tissue which is not cirrhotic; the tumour is pale and marked by areas of haemorrhage and cyst formation. The histology of the lesion was that of hepatoblastoma and the liver showed no evidence of cirrhosis.

History: The patient was aged 26 at the time the lesion was removed and of Asiatic origin. It is presumed that the tumour presented as a palpable mass; no further details are known.

SMALL INTESTINE, CAECUM & APPENDIX G.155 - Volvulus Neonatorum

The specimen shows infarcted coils of small intestine together with caecum and appendix. The infarcted bowel was removed from the child at the age of seven days; the history and outcome are not known.

STOMACH, DUODENUM - Carcinoma G.156

The specimen shows the distal portion of the stomach and the proximal part of the duodenum; there is a sessile, coarsely-nodular tumour some 4.0 cm. across arising in the second part of the duodenum in relation to the ampulla. The common bile duct is thickened and dilated.

History: The patient had intermittent jaundice for several months; the tumour was seen on endoscopy. The tumour is a papillary adenocarcinoma; there were microscopic foci of metastatic tumour in the adjacent fatty tissue.

OESOPHAGUS - Acanthosis G.157

The oesophagus shows multiple white plaques up to 0.4 cm. diameter; these are plaques of thickened squamous epithelium, appearing, presumably, in response to chronic irritation.

SMALL INTESTINE - Lipoma G.158

The specimen shows a yellow nodule 2.5 cm. across, arising beneath the serosa close to the mesenteric border of a loop of small intestine.

History: An incidental finding at autopsy.

OESOPHAGUS - Carcinoma G.160

The specimen shows a carcinoma some 10cm long and almost completely surrounding the lumen in the upper part of the oesophagus. The tumour is extending into the surrounding tissues. Mounted with the specimen is the tube inserted to allow food into the stomach.

OESOPHAGUS - Oesophageal web G.161

This consists of the epiglottis, trachea, thyroid gland, pharynx, and oesophagus. Immediately below the level of the thyroid cartilage in the oesophagus there is a transverse thin band with a maximum depth of 0.5 cm. The band does not appear to completely surround the oesophagus; a fine rod has been inserted to show the gap.

History: This woman was first seen with an anaemia four years before her death; no cause was found. The present admission, in March 1979, followed a blackout. Hb.88g/l; investigations disclosed no cause, and she died not long after admission. At autopsy a lymphoblastic lymphoma was found, and the present specimen is an incidental finding.

OESOPHAGUS - Stricture G.162

The specimen is a length of oesophagus, showing an irregular lumen in which there are areas of leukoplakia. There is irregular thickening of the wall, with apparent muscular hypertrophy.

History: This area of the oesophagus was resected at the age of 24; the patient presented at the age of 2 with a three-month history of vomiting at all meals associated with a hypochromic anaemia. At the age of 3 there was still difficulty swallowing and an X-ray showed an oesophageal stricture with a congenital hiatus hernia. Some 5.00 to 6.00 cm. below the level of the pharynx there was a stricture 2.5 cm. long and there was evidence of anomalous acid secretion. Over the intervening years the lesion was dilated and finally resected. The patient remains well.

ILEOCAECAL INTUSSUSCEPTION G.164

The specimen shows the terminal ilium projecting through ileocecal valve into the caecum. The surrounding tissues are oedematous and there is an irregular ulceration on the presenting surface of the ileum.

History: Not known; the size of the specimen suggest that this came from a child.

APPENDIX - Mucocoele G.165

The specimen shows part of the caecum and a grossly enlarged appendix. The appendix contains clear mucus. This was an incidental finding at autopsy.

SMALL INTESTINE G.168

- Intussusception, secondary carcinoma

An ileo-ileal intussusception led by a tumour some 3 cm. in diameter, brownish in colour, and showing several nodular excrescences. The leading point appears to be ulcerated.

History: This man, at the age of 70, was found to have a carcinoma of the left lower lobe of the lung, which was treated by radiotherapy. The following year he was admitted to hospital with nausea, anorexia, and vomiting; the following day he developed abdominal pain and vomited faecal matter. He died three days after admission. At autopsy, the presence of a carcinoma of the lung was confirmed, there were secondary deposits in the liver, and this lesion was demonstrated in the ileum. Histologically, the present lesion is a secondary deposit from the carcinoma of the lung.

SMALL INTESTINE - Tuberculosis G.170

This specimen shows three ulcerated areas involving most of the circumference of the bowel. The ulcers are oval in shape, run transversely, have a granular floor and raised edges. There are a number of minute white dots visible, particularly in the lower part of the specimen. There appears to be a minor degree of serosal involvement.

History: Not known, but one would have expected the patient to have pulmonary tuberculosis. Histologically, no acid-fast bacilli were demonstrated in the lesions.

COLON - Crohn's disease G.171

The specimen consists of the greater part of the colon; the wall is markedly thickened, and the mucosa shows a characteristic "cobblestone" pattern.

History: This young woman presented in her mid-twenties with diarrhoea which had been present for eighteen months. A diagnosis of Crohn's disease was made; medical treatment failed and total proctocolectomy was carried out. She made an excellent recovery and remains well and symptom-free.

DUODENUM - Carcinoma G.172

In the second part of the duodenum there is a carcinoma some 5.0 cm. broad completely surrounding the lumen and showing extensive ulceration. Proximal to the lesion there is irregular thickening of the mucosa without ulceration. The common bile duct is thickened and dilated and is obviously obstructed by tumour.

History: This man presented at the age of 74 with crescendo angina. Investigation showed an iron-deficiency anaemia; he was transfused, and the angina disappeared. Further investigation showed blood in the faeces; endoscopy established the presence of this tumour. In the meantime, he became jaundiced (with an obstructive pattern). The distal portion of the stomach and the greater part of the duodenum was removed, together with the pancreas which showed tumour infiltration in the head. The histology of the lesion is that of an adenocarcinoma of the duodenum.

SMALL INTESTINE - Meckel's diverticulum G.173

A diverticulum some 7.0 x 3.5 cm. showing a secondary locule. At the apex of the specimen there is a cuff of intestinal mucosa. The diverticulum is lined by a mucous membrane. Examination immediately after the lesion was removed showed faecaliths and partly digested food in the distal part of the specimen. Microscopic examination showed that the diverticulum was lined by a small intestinal mucosa in which there was focal ulceration.

History: This patient presented at the age of 36 with abdominal pain. Neither the appendix, which was also removed, nor the diverticulum showed any acute inflammatory changes.

LIVER - Cirrhosis G.175

The specimen is a tan-coloured fibrotic liver showing nodules which vary in size from 1 to 10 cm.

History: This man died at the age of 77 from liver failure complicated by bronchopneumonia. He had a long history of high alcohol intake and a number of admissions both to Public Hospital and to Porirua Hospital because of this.

LIVER (Infant) - Macronodular cirrhosis G.176

The liver is bile-stained and shows numerous nodules measuring up to 2 cm. across.

History: This child died at the age of 15 months; a previous liver biopsy had shown a cirrhosis. At autopsy 1.5 l of bile-stained ascitic fluid was present in the abdomen; the liver weighed 415 grams (at this age the liver usually weighs between 300 and 350 grams). The biliary system was patent. The histology of the lesion is that of a macronodular cirrhosis with broad collagenous bands separating the nodules; there was giant cell transformation in some of the cells and there was marked intra-canalicular bile plugging. Neither in this specimen nor in the biopsy was there any evidence of any inborn error of metabolism; no a-1 anti-trypsin deficiency was detected and there was no evidence of hepatitis B or Cytomegalovirus infection. The appearance was those of a macronodular cirrhosis of post-necrotic scarring type for which there was no definite aetiology.

CAECUM & COLON - Chronic ulcerative colitis G.177

The specimen consists of caecum and colon and includes the appendix. The mucosa is roughened and has a granular appearance and is slightly haemorrhagic except for a segment where there is a markedly haemorrhagic appearance. The bowel wall shows a little thickening. Histologically the appearances were those of a chronic active ulcerative colitis; in the haemorrhagic area it seemed these changes were more marked than in other parts of the intestine.

History: This woman presented with severe diarrhoea unresponsive to therapy; a diagnosis of ulcerative colitis had been made some ten years before. At a subsequent admission the rectal stump was removed because of continuing inflammation and the formation of a fistula.

SMALL INTESTINE - Multiple diverticular G.178

This was an incidental finding in an old man who died of Bronchopneumonia.

STOMACH - Acute haemorrhagic gastritis G.180

The specimen is a stomach, opened along the greater curvature, showing a haemorrhagic appearance with thickening of the folds and the presence of a greyish exudate.

History: This woman had a 4-year history of chronic renal failure secondary to glomerulonephritis. She had a cadaveric renal transplant; she developed septicaemia secondary to a urinary tract infection and latterly developed increasing shortness of breath with a Pseudomonas pulmonary infection. Shortly after this she had a large coffee-ground vomit and produced melena stools. It is assumed that the lesion shown here is uremic in origin.

STOMACH - Neurilemmoma G.181

Arising from the fundus on the greater curvature there is a spherical mass; the surface shows numerous tags of fibrous tissue as if it had been adherent to nearby structures. The histology of the lesion is that of neurilemmoma. This was an incidental finding in a woman who drowned in a bath.

ANAL CANAL – Squamous cell carcinoma G.182

This shows perianal skin, anus, and lower rectum. At the anal margin there is a carcinoma 3cm length and occupying approximately half of the circumference. The infiltrates the underlying muscle. The histology of the lesion is that of squamous cell carcinoma, with some basaloid differentiation.

History: This man presented at the age of 75 with a 2-year history of pain on defecation. There had been intermittent rectal bleeding and for a short time before admission, continuous leakage of faecal material.

PANCREAS - Secondary melanoma G.183

The cut surface of the pancreas shows a number of black spots ranging from less than 1 mm to 5 mm in size.

History: This man died at the age of 46, four years after his left eye had been enucleated because of a malignant melanoma. At autopsy metastatic deposits were found in pericardium, pleura, peritoneum, liver, pancreas, kidney, thyroid, and in the right olfactory nerve.

PANCREAS & SPLEEN - Chronic inflammation G.184

The specimen shows the tail of the pancreas and the spleen bound together by scar tissue and with an area of old haemorrhage at the upper pole of the spleen and of more recent haemorrhage in the tail of the pancreas. The pancreas itself shows scarring on the surface and in its substance.

History: This woman presented at the age of 41 with a left pleural effusion. This was aspirated and later a left subphrenic abscess was drained. Because of persistent left-sided discomfort a partial pancreatectomy and splenectomy were carried out; the aetiology of the abscess has not been established but it may have been on the basis of haemorrhage.

LIVER - Cirrhosis and hepatocellular carcinoma G.185

The liver is not enlarged; it shows a coarsely nodular cirrhosis with multiple tumour nodules measuring up to some 10.0 cm. across.

History: This woman presented at the age of 65 with dysproteinaemia. A liver biopsy showed chronic active hepatitis with an early cirrhosis. Seven years later she was admitted with haematemesis from bleeding oesophageal varices. Four years later she was found unconscious, at home, and died shortly afterwards.

LIVER - Secondary leiomyosarcoma G.186

The specimen is part of an enlarged liver (total weight of the organ 3100 grams), showing a large tumour in the right lobe. The tumour shows a large area of necrosis and haemorrhage but the bulk of it shows a whorled structure; on the reverse of the specimen a separate small nodule of tumour can be seen.

History: At the age of 51, this woman had a leiomyosarcoma excised from the sigmoid colon. Five years later she presented with a three-day history of abdominal pain and on examination an abdominal mass was noted. Death occurred during this admission from massive pulmonary embolism. The histology of the lesion seen here is that of a leiomyosarcoma.

COLON - Acute colitis (Shigella flexneri) G.189

The specimen shows the greater part of the colon; the wall is thickened; there are patchy haemorrhagic areas throughout with pinpoint ulceration in many areas and occasionally a larger ulcer. In some areas a yellowish exudate can be seen.

History: Some two days before his death this child, aged two years, presented with diarrhoea and vomiting; siblings ages six and eight years respectively were also affected. The child deteriorated quickly and died in Casualty. Autopsy showed a bronchopneumonia and an entero-colitis from which Shigella flexneri was isolated.

LIVER & HEART G.190
- Hepatoblastoma with a secondary deposit on the mitral valve

The specimen shows portion of liver, which is not cirrhotic, but does contain a fairly sharply demarcated nodular tumour mass in which there are areas of haemorrhage. The heart shows fungating tumour on one cusp of the mitral valve.

History: This woman presented at the age of 18 years with a four-month history of thrombophlebitis migrans. At autopsy the tumour was demonstrated to be a hepatoblastoma with secondary deposits on the mitral valve; microscopy of other organs showed widespread lymphatic permeation.

STOMACH - Pyloric stenosis G.191

The muscular wall of the stomach is thickened in general, and the mucosa thickened and hyperaemic. In the pyloric area there is very marked hypertrophy of the circular muscle. On the reverse side of the specimen in the pyloric area there is a healing surgical incision.

History: This child presented at the age of two months with a one-week history of intermittent vomiting, occasionally projectile. There had been two previous admissions to hospital with diarrhoea and vomiting. A pyloromyotomy was performed but the child died several days later with acute hepatitis which might perhaps be a complication of total parenteral nutrition.

COLON & RECTUM G.193

- Ulcerative colitis with dysplasia and carcinoma

The specimen consists of the large intestine from caecum to anus. The greater part of the colon shows fissuring, ulceration, and polyposis. The bowel wall is markedly thickened. The distal 15.0 and 20.0 cm shows an extensive ulcerating carcinoma. Histologically the appearances were those of ulcerative colitis with polyposis and marked dysplasia. The carcinoma is a mucus-producing adenocarcinoma infiltrating lymphatics. 101 lymph nodes were found with the specimen; none showed tumour infiltration.

History: This man presented at the age of 72 with a 27-year history of ulcerative colitis which had been more or less well controlled. He had three to four bowel motions a day with some mucus but over the previous six months had had an increasing frequency of bowel motions together with more recently, the passage of fresh blood.

SMALL INTESTINE G.194

- Strangulated with umbilical hernia

The central specimen is a loop of small intestine which is swollen and haemorrhagic because of strangulation; the point of strangulation is well-defined. On either side is the opened excised umbilical hernia in which the bowel was trapped.

History: This man presented at the age of 67 with a myocardial infarct involving mainly his right ventricle; he subsequently developed tricuspid incompetence.

AMPULLA OF VATER - Carcinoma G.198

The specimen is a portion of duodenum in the region of the ampulla. There is a tumour in the region of the ampulla of Vater and extending into the pancreatic duct. The tumour is circumscribed in outline and the surface appears ulcerated.

History: This man presented with obstructive jaundice and anaemia with a previous history of duodenal ulceration.

COLON - Crohn's disease G.200

This is a length of large bowel showing a small area of normal mucosa at the lower end. Elsewhere the mucosa is replaced by multiple nodules which vary in size and shape; the smallest is approximately 0.2 cm in diameter and the largest conglomerate 3.0 x 2.0 cm. In some areas there is a typical cobblestone pattern.

History: This woman presented at the age of 25 with a peri-anal abscess and a 2-month history of diarrhoea and the passage of blood. A biopsy of the rectum suggested but did not prove that this was probably Crohn's disease. She was treated medically until February 1983 when she was admitted acutely with an exacerbation of her colitis. At this stage there were three motions a day with fresh blood. The large bowel was removed in March l983.

LIVER - Polycystic G.201

The specimen is a portion of liver markedly enlarged and showing multiple thin-walled cysts up to 2.0 cm diameter.

History: This was an incidental finding in a man who died of cerebral infarction which presumably was a complication of collapse during anaesthesia following a sensitivity reaction. At autopsy the liver weighed 4050 grams. The kidneys were not affected.

LIVER, DUODENUM - cholecystoduodenal fistula G.203

This shows the under-surface of the liver to which the duodenum is adherent. The opened common bile duct can be seen and above this there is an arrow marking a fistula between the gall bladder and the duodenum.

History: This patient presented at the age of 87 with acute colicky abdominal pain and vomiting. At operation a volvulus of the small intestine was found together with obstruction of the small intestine by a gall bladder. At autopsy several days later, the fistula was demonstrated between a fibrotic gall bladder (not well seen in the specimen) and the duodenum. The orifice in the duodenum was approximately 1.5 cm in diameter.

STOMACH - Leiomyosarcoma G.204

The specimen is part of the stomach and shows essentially a raised nodular area with a smooth surface overhanging a large ulcer. The posterior surface of the specimen shows a nodular white lesion with areas of haemorrhage which is well-circumscribed and appears to be within the outer muscular coat.

History: This man presented at the age of 67 with a history of recent blood loss from the alimentary tract. He had had a gastric ulcer demonstrated some 10 years previously. The present lesion was found at operation; the histology of the lesion is that of a leiomyosarcoma. No metastases were demonstrated at operation.

LIVER & GALLBLADDER - Stones, carcinoma G.205

The specimen shows liver and gallbladder within which is a single large stone. There is an extensive carcinoma of the gallbladder extending into the liver.

History: This man presented at the age of 76 with deep vein thrombosis and pulmonary embolism. It was noted that his liver was enlarged and that he had enlarged inguinal lymph nodes which on biopsy were shown to contain metastatic tumour; the appearances of the tumour were consistent with an origin from gallbladder. Death occurred from massive pulmonary embolism.

LARGE INTESTINE - Malignant lymphoma G.206

The specimen consists of a short length of large intestine showing a polypoidal mass some 6.0 cm in diameter protruding into the lumen and continuous with a large mass of tumour which extends through the bowel wall. An enlarged tumour containing lymph nodes can be seen on the posterior surface.

History: This woman presented at the age of 65 with a lump in her abdomen which she had felt herself. She had had 2 months episodic diarrhoea before this. The resected tissue comes from the transverse colon; enlarged lymph nodes were found in the mesocolon. Histologically the lesion is a poorly-differentiated lymphocytic lymphoma.

GALL BLADDER G.212
- Cholelithiasis and hour-glass deformity

The gall bladder has been opened to show a constriction which markedly reduces the internal diameter of the organ. Alongside are some of the numerous small cholesterol stones found in the gall bladder.

History: This man presented at the age of 18 with symptoms suggestive of cholelithiasis; the gall bladder showed an hour-glass deformity and contained stones. Stones were also present in the common duct.

LIVER - Micronodular cirrhosis G.219

The liver is small and shows multiple nodules up to some 3 mm across.

History: This was an incidental finding in an elderly woman who died of bronchopneumonia. There was a rather vague history of heavy drinking.

LIVER AND GALL BLADDER G.222

- Carcinoma of the gall bladder

The gall bladder is the site of a carcinoma which is involving much of the length of the organ; tumour can be seen projecting into the lumen at one point. The tumour has invaded the surrounding liver and is the source of multiple metastatic deposits within the liver. There is evidence of bile duct obstruction in the bile lakes which can be seen on the cut surface.

History: This lesion was found at autopsy in a 75-year-old woman who had been investigated for possible malignant disease but who died before the investigations were completed. Gall stones were present although they are not with the specimen. There were also metastases in the hilar lymph nodes and in the right lower lobe of the lung.

LIVER - Carcinoma of the gall bladder with stones G.224

The cut surface of the liver shows a circumscribed tumour in which there is an irregular cavity lined by mucosa and containing a number of gall stones.

History: This man presented at the age of 86 with a short history of loss of appetite and epigastric pain. His liver was palpable, and he admitted to a mild generalized itching. Bilirubin 58, alkaline phosphatase 630 (20-90), ALT 239 (5-51), AST 100 (5-41). The histology of the lesion is that of a poorly-differentiated adenocarcinoma. No metastases were demonstrated.

PIRIFORM FOSSA - Carcinoma G.225

The specimen consists of the epiglottis, thyroid, and cricoid cartilages; the hyoid bone has been removed. Arising in the left piriform fossa there is an ulcerating nodular tumour some 3.5 x 2.0 cm. The tumour covers much of the piriform fossa and extends upwards to overlie the laryngeal inlet.

History: This man presented at the age of 53; the lesion, which is a squamous cell carcinoma, was resected; tumour-containing lymph nodes were found in the neck and two years later there was evidence of secondary tumour in lung.

PANCREAS - Calculi G. 226

The specimen consists of the greater part of the pancreas which is scarred and shows an occasional cystic space together particularly in the body with numerous calculi. The pyloric portion of the stomach and first part of the duodenum overlies the organ.

History: This man died at the age of 52, having been in general ill health for some years; there was no known history of steatorrhea or of diabetes; this is presumably the end result of chronic pancreatitis; there was no evidence at autopsy of hyperparathyroidism.

APPENDIX G.227

The provenance of the specimen is not known, but it shows a catheter which has wandered to pass the tip of one fallopian tube and to become incorporated into the appendix and the omental fat.

LIVER - Cirrhosis secondary to biliary atresia G.229

This is a portion of an infant's liver; the outer surface shows nodules up to 1 cm in diameter. The cut surface shows numerous, for the most part small, nodules separated by white fibrous tissue. In the central part of the specimen there are structures which appear to contain bile.

History: This child presented at the age of 6 weeks with jaundice. A diagnosis of biliary atresia was established; an attempt to relieve this surgically failed and the child died in liver failure.

RECTUM - Villous papilloma G.230

The specimen shows finely papillary fronds themselves aggregated into broad papillae; the cut surface of one with its thin fibrous core can be seen to one side of the specimen. At the lower margins at the back can be seen normal intestinal mucosa. The lesion appears to have been excised with the full thickness of the bowel wall.

LIVER - Haemangiomata G.234

The cut surface of this rather fatty liver shows two circumscribed black lesions which are sharply demarcated from the surrounding tissue. Both encroach on the surface and there is a third lesion 0.3 cm across which is visible on the under-surface of the specimen. These are composed of closely packed blood vessels and are simple haemangiomata. These are not uncommon in the liver and are usually without significance.

OESOPHAGEAL POUCH G.235

Just below the midpoint of the specimen there is a 2 cm pouch; the lips of the orifice are smooth, and the epithelium of the oesophagus is continuous with that in the pouch. There is no ulceration. This was an incidental finding at autopsy in a man of 70; it was situated at the level of the bifurcation of the trachea. The pouch was lightly adherent to mediastinal structures. This represents a forme fruste of a congenital tracheo-bronchial fistula.

STOMACH - Trichobezoar G.236

This specimen of matted hair forms a cast of the stomach.

History: This came from a 21-year-old man whose hair was long and who liked to chew the ends of his hair while watching television. He presented with an abdominal mass which had been present for some months.

SMALL INTESTINE - Ulceration G.237

This is a short length of small intestine showing a shallow ulcer with fairly sharply defined edges and with an irregular outline which runs predominantly transversely. The small intestine is deformed in a hour-glass fashion at this point. There is some scarring apparent in the submucosa, but the serosa appears intact.

History: This woman presented at the age of 51 with subacute intestinal obstruction; the patient had been treated with hydrochlorothiazide and potassium chloride. It is assumed that the irritant effects of a potassium chloride tablet were responsible for the lesion.

APPENDIX – Mucocoele G.238

This is an unusually long appendix; the distal end is dilated and on one aspect can be seen to be thinned and the contents clear. There is some slight irregular thickening of the serosa over the distal portion. This was an incidental finding in a 62-year-old man who died from coronary artery disease.

TONSILS - Enlarged G.241

The tonsils are uniformly and symmetrically enlarged; they have been dissected cleanly from the tonsillar fossae. The tonsillar surface shows exaggeration of the crypts normally present and produced by infolding of the squamous epithelium which is expanded from below by lymphoid masses. These are probably 2-3 times the size of "normal".

SMALL INTESTINE - Secondary melanoma G.242

The specimen is an apparently circumscribed nodular mass of whitish tissue in which there are large areas of necrosis; the tumour impinges on the mucosa of the small intestine over an area some 5 cm across; there is a dark linear area near the apex which may represent incipient ulceration. The remnants of omental fat can be seen at the periphery of the tumour. While some areas of the tumour are darkish in colour, there is no unequivocal evidence of melanin pigment to the naked eye.

History: This man presented at the age of 56 with a melanoma on the skin of the left calf; 2 years later a recurrence was excised. Three years later he developed a left focal epilepsy, and a solitary metastasis was removed from the right parietal lobe. Two years later he presented with lower abdominal pain, weight loss, and a mass in the right lower quadrant; some 24 cm of large intestine with its accompanying tumour were removed together with a single secondary from the omentum. Later in the same year he presented with further abdominal pain and with radiological evidence of secondary deposits in kidney and liver.

SMALL INTESTINE - Malignant melanoma G.243

The upper specimen from the small intestine shows little abnormality other than the presence of a thin exudate on the serosa. The lower specimen shows, from the front, a diffuse infiltration of pale tissue occupying much of the thickness of the bowel wall above, but probably only the outer muscle and serosa below. The mucosa appears intact. Posteriorly the bowel is dilated producing a cyst in the wall of which tumour can be seen; to one side there is an ulcerated area in which there are flecks of dark material. No perforation can be seen, but there is exudate on the serosa of bowel indicating peritonitis.

History: This man presented at the age of 49 with a melanoma on the back of the right shoulder; a right-sided block dissection of the neck was made, to be followed by the removal of involved lymph nodes on the left side of the neck 2 years later. Three years after the original lesion cerebral secondaries were demonstrated; a year later he presented with severe abdominal pain; laparotomy showed peritonitis with perforation of a cystic area on the ante-mesenteric border of the proximal jejunum. Microscopy showed the presence of metastatic melanoma in the intestine.

APPENDIX - Embedded intrauterine device G.244

The specimen shows an appendix which is probably approximately 10 cm long, with an intrauterine device embedded in the wall. The string of the device is adherent to the serosal surface of the appendix.

History: Some 12 months before the appendix was removed, the patient had an intrauterine device inserted; within 24 hours she had abdominal pain and an X-ray showed that the device was outside the uterus. She had no further trouble; it was decided to remove the device and at laparotomy it was found embedded in the appendix. The colour of the specimen is doubtless due to the fact that it contains copper.

SALIVARY GLAND - Pleomorphic adenoma G.246

The salivary gland tissue is compressed and distorted by a circumscribed sharply defined pale nodule in which some small white areas can be seen.

History: This man presented at the age of 54 with a slowly enlarging lesion in a submandibular gland. The histology of the lesion is that of a simple adenoma in which there are areas of cartilage-like material.

GALLBLADDER - Chronic cholecystitis & stones G.247

The gallbladder is markedly and irregularly thickened; the mucosa shows extensive ulceration and there is calculus material in the wall at several points. The outer surface of the gallbladder shows adhesion by omental fat and one area where the liver is firmly adherent to the bladder. Mounted with the specimen are the stones which were present.

History: This woman presented at the age of 71 with indigestion; she complained of a dull persistent ache at the lower end of the sternum radiating around both sides. There was tenderness in the right upper quadrant of the abdomen and a nodular mass was palpable.

APPENDIX - Carcinoid tumour G.250

This is the distal half of an appendix. The tip is occupied by a discrete yellow-coloured tumour which does not extend through to serosa.

History: This patient presented with acute abdominal pain at the age of 18. An appendectomy was performed, and the appendix showed evidence of inflammation (not shown in the specimen) as well as tumour. A carcinoid tumour in the appendix is nearly always benign. It is formed from the neuroendocrine (or argentaffin) cells in the mucosa. The term argentaffin refers to the ability of the cells to reduce silver salts when appropriately stained. The yellow colour in the lesion is due to lipid.

LIVER G.251

- Cirrhosis & secondary tumour (malignant histiocytoma)

This specimen shows the liver in the region of the porta hepatis; the liver shows a micronodular cirrhosis with the addition of multiple nodules of tumour some of which are partly necrotic. A portion of the gallbladder can be seen in the lower part of the specimen; the gallbladder wall is partly infiltrated by tumour. See also heart - A.124.

SALIVARY GLAND - Calculus G.252

The gland is of normal size; the septae are possibly thickened but there is no obvious thickening of the capsule. The main duct is completely blocked by a calculus which can be seen protruding from the duct.

COLON - Hirschsprung's disease G.253

This segment of colon shows an upper dilated portion and a lower narrow portion. The dilated portion shows a thicker wall due to muscular hypertrophy. The upper part of the narrow segment is thin, and the mucosa is flattened; this represents a ganglionic portion of the bowel and is some 2 cm in length. The lower portion of the specimen appears essentially normal. This is presumably a surgically resected specimen where the narrow segment has been removed and the normal segments anastomosed. The history of the specimen is not known but it dates back to 1953.

STOMACH - Leiomyoma G.254

Gastric mucosa can be seen on the surface; arising in the muscular layer there is a circumscribed nodular tumour apparently encapsulated and having a homogenous yellowish appearance. The cracks seen are artefact. It is worth noting that there is no apparent ulceration of the gastric mucosa.

PANCREAS - Cyst adenoma G.255

Some 4 cm from the tail of the pancreas on the left there is a pale circumscribed multi-cystic nodule within the substance of the gland. The lesion is approximately 0.6 cm in diameter. This was part of a 1 cm lesion which was an incidental finding at autopsy seen in a middle--aged woman.

OESOPHAGUS - Submucosal leiomyoma G.256

Specimen consists of a segment of oesophageal wall measuring 11 cm in length. This has been opened posteriorly to reveal a submucosal nodular tumour mass. On sectioning this has a whorled cut silk appearance.

History: This 70-year-old male was admitted with a dissecting aneurysm of the thoracic aorta. At post-mortem examination this submucosal leiomyoma was found within the oesophagus, it had apparently been asymptomatic.

STOMACH – Menetrier's disease G.257

This is a partial gastrectomy specimen comprising the distal body and gastric antrum. The mucosal surface of the antrum appears mildly atrophic. The mucosal surface over the greater of the body of the stomach shows numerous papillary projections extending above the normal rugose pattern. These projections appear to consist of infoldings of mucosa, which in areas are necrotic and haemorrhagic. Examination of the cut edge of the specimen showed the gastric thickening to be the result of proliferation within the mucosa. The muscularis externa appears normal. Histologic examination of the specimen showed hyperplasia of the glands with cystic dilatation of the lower portion. The adjacent lamina propria contained strands of fibrous tissue and smooth muscle. The features are those of Menetrier's disease or giant hypertrophy of the stomach.

History: This 21-year-old male was admitted in 1985 with non-A, non-B hepatitis. He was shown to have Menetrier's disease which was complicated by massive haemorrhage. This led to subtotal gastrectomy with a Billroth II reconstruction. On the basis of ischaemia, he developed acute renal tubular necrosis and required dialysis. His renal function gradually improved, and dialysis was discontinued. He has since remained well.

PANCREAS - Solid and papillary neoplasm G.258

The specimen consists of a large tumour mass. This appears to be encapsulated and contains a large area of cystic degeneration. The tumour is composed of multiple pale tissue nodules with intervening areas of haemorrhage and fat.

History: This 23-year-old female was seen with a six-month history of vague upper abdominal discomfort. On examination a mass was noted in the epigastrium, and this appeared cystic on ultrasound. She underwent laparotomy and a large tumour was found to involve the body and tail of the pancreas. There was no evidence of metastases, and the tumour was removed. Histologically this was shown to be a solid and papillary epithelial neoplasm (papillary low-grade carcinoma). This is a rare tumour most commonly found in young adult females. Histologically the tumour appears extremely cellular and has a distinctive papillary pattern with several layers of tumour cells overlying the thick fibrovascular core. The tumour has an excellent prognosis following adequate surgical excision.

PANCREAS - Chronic Pancreatitis G.259

Specimen is a subtotal pancreatectomy and spleen. The spleen is of normal size. The 3 linear incisions through the splenic capsule are to facilitate fixation. The pancreas has been sectioned longitudinally and has a nodular consistency with multiple areas of necrosis. There is associated haemorrhage into the pancreatic substance and there is also marked dilatation of the pancreatic ducts.

History: The patient had multiple recurrences of acute pancreatitis and underwent laparotomy for investigation of an abdominal mass. At frozen section no malignancy was found, however subtotal pancreatectomy was undertaken on the basis of recurrent pancreatitis. The patient re-presented 9 months later with a large central abdominal mass which had infiltrated the liver. This was shown to be an adenocarcinoma, the pancreas being the most likely primary site. It was therefore assumed that the tumour had arisen in the residual pancreas. The patient died of metastatic disease 12 months after pancreatectomy.

SMALL BOWEL – Burkitt's lymphoma G.260

The specimen is a length of small bowel. Eleven individual tumour foci are seen on the mucosal surface. These consist of irregular or ovoid areas of ulceration with extensive central necrosis and haemorrhage. The large central ovoid mass protrudes through to the serosal surface of the bowel.

History: The patient, a 22-year-old female, was admitted following discovery of an abdominal mass. At laparotomy the liver, small bowel and both ovaries were found to be involved by tumour. Histologically this was shown to be Burkitt's lymphoma. The tumour followed a rapidly progressive course despite chemotherapy and radiotherapy and the patient died within a few months of diagnosis.

COLON - Localized polyposis G.261

The specimen is a segment of transverse colon. In the central region there is an area of mucosal thickening 10 cm in length. This consists of a confluence of numerous mucosal polyps. Histological sections taken through the polypoid area show an inflammatory polyposis with associated crypt abscess formation. Lymphoid aggregates are present within the mucosa and submucosa.

History: The patient, a 77-year-old female, has a previous history of ischaemic colitis and it was considered that this localized area of confluent polyposis has resulted from mucosal inflammation and regeneration.

STOMACH - Chronic peptic ulcer G.262

The specimen consists of gastric body which has been opened along the greater curvature. Situated in the central portion of the specimen there is a large peptic ulcer. This has a punched-out appearance with slightly elevated margins. The ulcer is almost transmural, and a large vessel is seen at its base. The ulcer bed contains focal areas of necrotic debris and recent haemorrhage.

History: The patient, a 66-year-old woman, was found dead. There was evidence of gastrointestinal haemorrhage with partially digested blood being found near the body. At post-mortem examination this large benign peptic ulcer was found in the stomach. The stomach was full of blood and blood clot continued through the small and large bowel.

LIVER - Hodgkin's Disease G.263

The specimen consists of a slice of liver sectioned in the horizontal plane. The lobular architecture of the liver is accentuated macroscopically by the presence of multiple tumour nodules. These appear to have a predominantly perivascular distribution and are also well seen in the immediate subcapsular region. Histologically this diffuse infiltrate was found to be Hodgkin's disease.

History: This 70-year-old man presented with a short history of night sweats and weight loss. An enlarged cervical lymph node was noted clinically. This was biopsied and showed lymphocyte depleted Hodgkin's disease. This was staged at IVB. The patient was started on cytotoxic therapy, however progressive deterioration in his mental and physical state occurred and he died of bronchopneumonia two weeks after admission.

SIGMOID COLON - Pneumatosis Coli G.264

The specimen is an open portion of sigmoid colon measuring 36 cm in length. The wall of the large bowel is expanded by numerous cystic structures, these are situated predominantly in the submucosa as seen at the cut edge of the specimen. The cysts are of variable size being empty and measuring up to 1 cm in maximum extent.

History: The patient presented with a long history of diarrhoea and abdominal pain. Extensive Pneumatosis coli was diagnosed on sigmoidoscopic examination.

LIVER - Cavernous haemangioma G.265

The specimen consists of the left lobe of liver sectioned in the horizontal plane. Situated at the periphery of the lobe is a large semi spherical tumour mass measuring approximately 16 cm in maximum extent. The tumour is encapsulated and on sectioning consists of multiple cystic spaces with extensive intervening areas of haemorrhage. Microscopic examination of this tumour showed it to be a cavernous haemangioma.

History: This 35-year-old male presented to his general practitioner complaining of a gastric swelling. Ultrasonic investigation showed this to be a mass arising in the liver and occupying the majority of the left lobe. Hemihepatectomy was undertaken and the patient remains well four years after diagnosis.

GASTRO-OESOPHAGEAL JUNCTION G.266 - Adenocarcinoma

The specimen consists of lower end of oesophagus and a portion of the gastric cardia. There is a plaque-like tumour present at the gastro-oesophageal junction, this measures 2.3 cm in length and comprises approximately 80% of the mucosal surface of the junction. Histologically the tumour was found to be an adenocarcinoma of the intestinal type with transmural invasion of the stomach and lateral extension into the oesophageal mucosa.

ADENOCARCINOMA COLON G.267

The specimen is a convoluted portion of large bowel containing a fungating tumour mass on the upper portion. Immediately adjacent to this there is a portion of omentum with adherent skeletal muscle soft tissue and overlying skin. The tumour mass is adherent to the soft tissue and there is a large abscess cavity in the immediate vicinity of the subcutis. There is a loop of small bowel entrapped between the soft tissue and adherent tumour mass, microscopically this was also shown to be infiltrated by tumour.

History: This 58-year-old man presented with a short history of localised abdominal pain and weight loss. At operation a huge cavity was found deep to the external oblique muscle, and this was drained. Further investigations revealed the presence of a carcinoma in the proximal ascending colon. The patient underwent laparotomy, and the carcinoma was found to be firmly adherent to the overlying anterior abdominal wall. The intervening tissue was purulent and there was a distal abscess extending into the subcutaneous fibro-fatty tissue. The tumour abscess cavity and overlying skin were resected en masse. He made an uneventful recovery but presented with cerebral metastases twelve months after the initial operation.

LEIOMYOSARCOMA ARISING IN MECKELS DIVERTICULUM G. 268

The specimen is an ovoid tumour mass containing widespread areas of necrosis and haemorrhage. Viable tumour has a markedly lobulated appearance and appears to be encapsulated. Immediately adjacent to the tumour there is a portion of small bowel, this is connected to the tumour by a small connective tissue bridge. Sections taken from the tumour show it to be comprised of malignant smooth muscle cells.

History: This 59-year-old man presented following a period of unconsciousness. At examination he was found to be shocked, and a provisional diagnosis of ruptured aortic aneurysm was made. However, at laparotomy a large tumour was found in the vicinity of a Meckel's diverticulum. There was an associated massive hemoperitoneum. The patient re-presented three years later with anorexia, nausea and abdominal pain and was found at laparotomy to have a recurrence of his leiomyosarcoma.

LIVER - Alcoholic cirrhosis G.269

The specimen is a liver. The liver is reduced in size and there is pronounced micronodular cirrhosis. The liver has been partially bisected and the cut surface shows multiple small regenerative nodules with intervening connective tissue bands. In the central part of the specimen there is marked cystic degeneration.

History: The patient was a 61-year-old female who was admitted with fractured neck of femur. She had Korsakoff's syndrome and a long history of excessive alcohol intake. Death was due to postoperative liver failure and septicaemia.

STOMACH - Carcinoid Tumour G.270

Specimen consists of an open stomach. Multiple small nodules are seen on the mucosal surface, the largest being up to 2 cm in diameter. The nodules appear to be confined to the gastric mucosa and extend over a large portion of the body of the stomach. Histologic examination of these nodules showed them to be composed of carcinoid tumour involving the mucosa and submucosa of the stomach.

History: This elderly woman was admitted to hospital following a fractured neck of femur and died of pneumonia some days later. Gastric carcinoid was an incidental finding at postmortem.

GALLBLADDER - Mucocoele G.271

The specimen is a gallbladder. The gallbladder and the cystic duct are obstructed by a faceted mixed gallstone. The features are those of a mucocoele secondary to cholelithiasis. This was an incidental finding at post-mortem.

SIGMOID COLON - Adenocarcinoma G.272

The specimen is an open portion of sigmoid colon. Situated at the distal end is a localized carcinoma. The tumour has been bisected and has a rolled margin. The tumour appears to infiltrate the muscularis externa and on microscopic examination penetrated through the serosa. Two small metaplastic polyps are seen on the mucosal surface proximal to the tumour.

LIVER - Cirrhosis and hepatocellular carcinoma G.273

The specimen is a slice of liver tissue. The right lobe shows a predominantly micronodular cirrhosis, although occasional large hepatic nodules are seen. The left lobe of the liver has been almost totally replaced by a large nodular tumour mass, this shows microcystic degeneration with foci of necrosis and haemorrhage. The tumour has the histological appearances of a hepatocellular carcinoma.

History: The patient, a 52-year-old woman, was admitted with vague abdominal symptoms and died suddenly. The cirrhosis and hepatocellular carcinoma were discovered at post-mortem. There were no known predisposing factors.

BOWEL - Adenocarcinoma G.274

The specimen is a portion of large bowel. There is a large tumour infiltrating through the full thickness of the bowel wall into the pericolic fat. The tumour is exophytic with rolled margins and there is central ulceration. Extensive areas of necrosis are seen throughout the tumour. Several nodes contain metastatic tumour deposits. Also included is a portion of omentum; this contains multiple nodules of tumour the largest of which measures 1.8cm in diameter. Histologic examination of the tumour revealed moderately differentiated adenocarcinoma, ACPS Stage D.

LIVER METASTATIC TUMOUR G276a G.276

LIVER METASTATIC TUMOUR G276b

The specimen is a slice of liver. This contains numerous spherical metastases. A surgical resection margin is present at the left-hand side of the specimen.

History: This 37-year-old male underwent hemihepatectomy for metastatic insulinoma. Post operatively he developed uncontrollable haemorrhage at the site of the hemihepatectomy.

LIVER - Organising Haematoma G.277

The specimen is a slice of the right lobe of the liver. Situated in the central portion are two areas of organising haematoma. These are walled off by a thick capsule and scattered abscesses are seen at the periphery of the lobe. The features are those of organising haematoma with associated infection and are the result of septicaemia in a 48-year-old man.

CAROTID GLAND - Pleomorphic Adenoma G.278

The specimen consists of a portion of salivary gland which on one surface contains a lobulated tumour mass. Cut surface of the tumour shows solid pale and tan areas separated by fibrous tissue trabeculae. Occasional small cysts are seen within the central portion of the tumour. Histologic sections taken from the tumour show pleomorphic adenoma with areas of cartilage formation and ossification. Ossification is an unusual feature within clear morphic adenoma.

RECTUM - Villous adenoma G.279

The specimen is a portion of large bowel which contains an extensive sessile villous adenoma. The tumour involves the circumference of the rectum and extends for 9cm. Surprisingly given the large size and sessile outline of the lesion, histology revealed a villous adenoma with no evidence of invasive carcinoma.

Small Intestine - Leiomyoma G.280

The specimen is an opened portion of small bowel. There is a bilobed tumour nodule situated within the wall of the bowel. The tumour is predominantly submucosal in location and projects into the lumen of the bowel. The tumour mass appears to be in continuity with the muscularis externa and has a significant subserosal component. Histology showed the tumour to consist of smooth muscle fibres and collagenous fibrous tissue. There was no evidence of malignancy. The features were those of leiomyoma of the small bowel.

J

RENAL SYSTEM

KIDNEY - Hydatid Disease J.1

The kidney shows a hydatid cyst at the lower pole; the cyst contains fragmented ectocyst and the surrounding perio cyst is clearly seen.

KIDNEY - Papillary necrosis J.2

This a kidney, reduced in size possibly by chronic pyonephritis; the acute changes of papillary necrosis can be seen; the tips of the papilli are demarcated by a zone of necrotic tissue, yellowish in colour, while the tips of the papilli are black due to haemorrhagic necrosis. This particular patient had a long history of rheumatoid arthritis with a five-year history of intermittent renal failure. She had taken large quantities of A.P.C. (codeine) over the years.

KIDNEYS J.5

- Atheromatous narrowing of the orifices of the renal arteries

The kidneys are considerably reduced in size to show a marked granularity of the cortex. The renal arteries are thin-walled but there is marked atheromatous narrowing of the orifices.

History: This man died at the age of 30 presenting with hypertension and uraemia. Microscopy of the kidneys showed a gross arterial narrowing with fibrinoid necrosis of some glomeruli; there were a number of crystals with a foreign body reaction apparent in the collecting tubules.

KIDNEY - Carcinoma of the renal pelvis J.7

In the region of the pelviureteric junction there is a spherical tumour some 3 x 2.5 cm. with a finely nodular surface. There is minimal dilatation of the renal pelvis so that obstruction was obviously not complete.

KIDNEY - Polycystic disease, infantile type J.9

There is a gross enlargement of the kidneys with preservation of the normal renal form with a recognisable renal pelvis. The outer surface shows multiple minute cysts while the cut surface shows radially oriented fusiform or cylindrical cysts. This form of polycystic disease invariably leads to death in the first few weeks or months of life. It appears to be genetically distinct from the adult form of polycystic kidney.

KIDNEY – Tuberculosis J.10

The kidney shows gross hydronephrosis presumably due to obstruction of the ureter by tuberculosis. The dilated calyces contain flecks of caseous material and one small almost solid area of caseous material can be seen in the upper part of the specimen. There is obviously little surviving renal tissue.

BLADDER - Diverticulum J.13

The specimen shows a bladder with a slightly thickened wall and a massive diverticulum communicating with the bladder through an opening approximately 1 cm in diameter.

The prostate is moderately enlarged but the bladder itself shows little evidence of thickening of the wall. One wonders therefore if this diverticulum is not of congenital origin rather than being secondary to obstruction.

KIDNEY AND URETER - Renal calculi J.14

This shows a kidney with dilated pelvis and calyces together with the ureter; just past the pelvi-ureteric junction there is a small amount of calculous debris together with some blood clot, while the lower end of the ureter is distended by a stone which does not, however, fill the dilatation. The outer surface of the kidney shows persistent lobulation but no obvious scarring; the markings at the upper pole are probably artefact.

KIDNEYS, URETERS, BLADDER J.15

- Carcinoma of the Bladder with Hydroureter and Hydronephrosis

This shows a bladder opened to show an extensive, partly necrotic carcinoma, which has produced obstruction to both ureters with consequent hydronephrosis. The ureters, tubes and ovaries are included with the specimen.

KIDNEY, URETERS, BLADDER & URETHRA J.16

Congenital hydronephrosis

The specimen shows the urethra opened out with no obvious obstruction; the obstruction in these instances is usually at the corona or the membranous urethra. In any event, in this case the bladder is thin-walled and dilated with gross dilatation of ureters and renal pelves; the renal parenchyma appears to be reduced to a shell.

KIDNEY - Renal Calculus J.18

The kidney has been opened to display dilated calyces and pelvis obstructed by a stone, ovoid in shape, and approximately 3 cm. in length. The shape and appearance of the stone suggests that this is largely composed of calcium oxalate with a finely papillary surface. Two very much smaller stones can be seen to the left of the main stone. They have shifted from the pelvis during mounting. There is a reduction in thickness of the cortex and the outer surface shows numerous minute cysts, presumably of congenital origin.

KIDNEY - Double Ureter J.19

The specimen shows a kidney in which there are two pelves and a double ureter fusing to one at the lower end. This is a common renal anomaly without functional significance.

KIDNEYS - Polycystic, adult type, occurring in an infant J.20

This is a polycystic kidney from an infant in which the cysts are spherical, rather than elongated and conical as in J.9. This child was stillborn with multiple congenital anomalies associated with trisomy D.

KIDNEY - Hydatid Disease J.21

This shows, centrally, part of the kidney in which there are three hydatid cysts, each containing crumpled ectocysts. Surrounding the kidney are two distinct thick-walled cavities, hydatid lesions, extensively modified by secondary infection.

KIDNEY & URETER - Hydronephrosis J.22

The specimen is a kidney showing a granular cortex with a persistent foetal lobulation. The pelvis is greatly dilated, as is the ureter. In this instance, apparently, the obstruction was due to a very large middle lobe of the prostate.

KIDNEY - Tuberculosis J.23

The lower pole of the kidney is hydronephrotic and one distended calyx contains caseous material. The hydronephrosis, in this instance, is secondary to ureteric obstruction, which is tuberculous in nature, which led to ureteric transplant; this failed and ultimately the kidney was removed.

KIDNEY – Autosomal dominant polycystic kidney disease J.24

This specimen represents one-half of a kidney grossly enlarged by multiple cysts up to 3 cm. in diameter. The general form of the kidney is retained, while the external surface is distorted by a multitude of thin-walled cysts. The majority of the cysts contain clear fluid, although some contain blood. Approximately 1/3 of patients with this condition have cysts in the liver and there is also a clinically significant association with aneurysm of the cerebral arteries.

BLADDER & PROSTATE J.26

- Benign prostatic hyperplasia

The specimen shows the marked thickening of the bladder with trabeculation of the lining, secondary to a large middle lobe in the prostate which is producing partial obstruction of the bladder neck.

KIDNEY & URETER J.27

- Carcinoma of renal pelvis and ureter

Kidney and ureter, opened to display finely papillary lesion in the pelvis and upper ureter, with discrete pelvic deposits. There is marked dilatation of the calyces, many of which contain blood clot, and some seem to contain haemorrhagic tumour.

History: This man had developed severe left-sided pain, radiating round the abdomen and suggestive of renal colic. A retrograde pyelogram showed several filling defects in the left ureter, as well as a ragged appearance to the pelvis of the kidney, suggesting a pelvic tumour. The histology of the lesion is that of a well-differentiated papillary transitional cell carcinoma. Seedlings of tumour were found in the ureter, right down to the lower end. Eighteen months later he presented with urinary retention and investigation showed a bladder neck tumour; no pathological report of this lesion could be found.

PROSTATE - Carcinoma J.28

This shows prostate and a portion of bladder. The prostate is greatly, but almost symmetrically, enlarged, and shows a prominent middle lobe; posteriorly, one can see tumour tissue extending into the paravesical areas. The cut surface of the prostate is vaguely nodular but shows none of the characteristic nodules of benign hyperplasia.

History: This man was admitted to hospital approximately a fortnight before death, with an established diagnosis of carcinoma of the prostate, and showing increased urinary difficulty. Investigation showed bony deposits; the histology of the tumour was that of a well-differentiated adenocarcinoma of the prostate. The regional lymph nodes were involved, as was the vertebral column.

KIDNEY - Scarring and retention cysts J.29

Kidney mounted to show the outer surface in which there are a number of shallow scars and multiple cysts, up to 0.3 cm. in diameter. The reverse side shows cortex of relatively normal thickness, but there is perhaps some increase in the peripelvic fat.

History: This was an incidental finding in a woman who had had Werthein's hysterectomy for a carcinoma of the cervix; she ultimately developed intestinal obstruction due to postoperative adhesions and died with acute tubular necrosis of the kidneys and bronchopneumonia. The histology of the kidneys demonstrated acute tubular necrosis, not apparent of course to the naked eye, and also showed non-specific cortical scarring.

BLADDER - Rhabdomyosarcoma J.32

This shows one-half of the bladder and proximal urethra. The terminal portion of one ureter is also seen. Anteriorly, the bladder wall shows a tumour mass, pale in colour, with an occasional area of haemorrhage on the surface, and with rolled edges. The tumour extends onto the posterior wall and into the urethra. The bladder wall is markedly trabeculated.

History: This child was admitted for the investigation of a recurrent urinary tract infection. Previous cystoscopy had shown some abnormal tissue; this was biopsied and reported as benign. An intravenous pyelogram showed an extensive filling defect in the bladder, and biopsy of this showed an embryonal rhabdomyosarcoma. A total cystectomy was carried out, and the child has, to date, survived five years.

KIDNEY - Carcinoma J.33

This shows a portion of a kidney greatly extended and replaced by tumour, in which there are areas of necrosis. The tumour extends into the renal vein which is distended to some 2.5 to 3 cms. in diameter. The tumour has burst through the renal parenchyma at the apex of the specimen, but elsewhere appears contained within a thin rim of kidney tissue.

History: This girl, at the age of 16, was admitted to hospital in February 1976 with a story that, four months before admission, she had had an episode of fever, haematuria, and right abdominal pain. Latterly she had noted weight loss and abdominal swelling. Examination showed a huge right-sided abdominal mass, and there was evidence of pulmonary embolism. Because of her age, this was regarded as a Wilm's tumour, and she had pre-operative radiotherapy and chemotherapy. Postoperatively she had further therapy, but she died in April 1977, approximately 1 year after the tumour had been removed. Histologically the tumour was a clear-celled adenocarcinoma, remarkable for its size.

KIDNEY - Hydronephrosis and tuberculosis J.34

A greatly enlarged kidney, together with a segment of ureter which is markedly thickened. The outer surface shows that the kidney is multi-lobed, while the cut surface shows multiloculated cysts, with a very thin rim of cortical tissue at the periphery. At the lower pole, there is a locule containing caseous material. The calyces are greatly dilated and show pale, fibrous bands. The gross appearances are those of tuberculosis and hydronephrosis.

History: This man was admitted to hospital for nephrectomy for renal tuberculosis. He presented at the age of 31 with dysuria and haematuria, and investigation showed a non-functioning right kidney, and acid-fast bacilli were isolated from urinary cultures. He was treated with anti-tuberculous drugs, but presented again with dysuria and haematuria, and this led to nephrectomy. The histology of the lesion is that of tuberculosis, and tuberculous lesions were found in the ureteric wall as well.

KIDNEY - Injury and infarction J.35

This consists of half of each kidney; the one on the right-hand side shows numerous areas of infarction; the reddish ones are more recent than the yellowish ones. The left specimen, as the jar faces you, shows half-a-kidney, in which, again, there are areas of infarction particularly at the upper pole, while towards the lower pole there is a haemorrhagic area, which has probably arisen at the site of a renal biopsy. There are areas of haemorrhage in the pelvis.

History: This man presented with melena, a left pleural effusion, and decreasing renal function over a period of 2 months. A renal biopsy showed the condition of poly-arteritis nodosa.

KIDNEY - Chronic pyelonephritis & renal calculi J.36

This is a contracted kidney, showing calculi in the calyces and a marked reduction, although even, in the thickness of the cortex. the outer surface showed some fine, irregular scarring.
History: This man had a long history of renal colic and, at the time of death, was in renal failure.

KIDNEY - Multi-locular cyst J.37

The kidney is expanded and replaced by a multi-locular cyst with locules up to 3 cm. in diameter.

History: This child was admitted because of a mass in the right flank; his elder sister had had a kidney removed for multi-cystic disease some two years before. Examination showed a firm mass palpable in the right flank; intravenous pyelography showed the left kidney was normal, but that there was gross distortion and displacement of the cavities on the right.

KIDNEY - Carcinoma J.40

A kidney cut to display a circumscribed nodular tumour, some 4 cm. across, showing the typical variegated appearance of a carcinoma.

History: This was an incidental finding in a man who died during the course of an operation for varicose veins under epidural anaesthesia. At autopsy he showed an enlarged heart and severe coronary artery disease.

PROSTATE - Benign hyperplasia J.41

The prostate has been cut to show marked enlargement of the lateral lobes; the middle lobe is not involved in disorder. The bladder shows no good evidence of increased intra-luminal pressure.

History: This is an incidental finding at autopsy in a man who died from a ruptured myocardial infarct.

CONTRACTED KIDNEY J.42

This consists of approximately half of each kidney, mounted to show on the face a very marked reduction in cortical thickness, with increase in the extra pelvic fat. The pyramids, although apparently intact, are small. The external surface shows gross nodular scarring.

History: This man was admitted to hospital in January 1977 with renal failure and was subsequently shown to have multiple myeloma. The history of renal failure goes back to 1968. At autopsy, the right kidney weighed 50g., and the left 65g. Microscopically, these showed only nephrosclerosis. Clinically, he had had epileptic fits and, at autopsy, a vascular hamartoma was found in the left temporal lobe of the brain.

KIDNEY - Carcinoma J.43

A kidney expanded and replaced by tumour tissue, apparently arising in the central area of the kidney, and extending through the cortex to present externally. At the hilum, one can see the tumour protruding into the renal veins.

History: This man presented at the age of 72 with symptoms of prostatic obstruction. An intravenous pyelogram showed a space-occupying lesion in the left kidney, which was subsequently removed. Later investigation showed evidence of above secondary. This histology was that of a typical carcinoma of the kidney.

KIDNEY - Carcinoma J.44

The upper pole of the kidney expanded by a circumscribed tumour some 10 x 8 cm; the cut surface has the classical variegated appearance of a renal carcinoma.

KIDNEY - Pyelonephritis and pyonephrosis J.45

A kidney cut to show several cystic spaces, some of which contain pus; in the upper space, where the origin of the calyces can be seen, there is pus and blood clot. The outer surface of the kidney shows foetal lobulation and an occasional scar.

History: This woman had a stone removed from this kidney in April 1977 and, following this, the kidney failed to function. She had had dysuria since the stone was removed, and some pain in the back and in the left iliac fossa. The kidney was therefore removed.

KIDNEY - Tuberculosis J.46

The kidney and ureter are opened to display multiple cavities, based on the calyceal system, lined by ragged material. At the edge of an occasional cavity, particularly the smaller ones, a collection of caseous material can be seen. The ureter is slightly thickened, as perhaps can be seen at the pelviureteric junction. On the reverse of the specimen a number of small caseous nodules can be seen.

History: This man was admitted to hospital in June 1977 with abdominal pain of 2 days' duration. Investigation showed a persistent sterile pyuria and a non-functioning left kidney. Direct examination of bladder washings showed acid-fast bacilli. This man's mother suffered from tuberculosis, and ten years before he had had an effusion in his right knee which was unexplained. He also showed some suspicious lesions of his lumbar spine.

KIDNEY - Tuberculosis J.47

The kidney shows extensive foetal lobulation, apparent on the outer surface, while the cut surface shows almost complete destruction and replacement by caseous foci; the central part of these foci contains greenish pus. There is very little renal parenchyma apparent.

History: This man had bilateral renal tuberculosis diagnosed in 1971 and was treated with anti-tuberculous therapy. Clearly, he failed to respond, and ultimately went into renal failure. In 1976, this kidney was removed; at some later stage the second kidney was removed, and he has been treated subsequently by dialysis. In March 1978, he was still on home dialysis and working.

KIDNEY - Adenoma J.48

A kidney bisected to show a rounded, brownish-coloured tumour mass occupying the medulla; the overlying cortex is thinned. The tumour mass is some 3 cm. in diameter and appears to be encapsulated. There is an area of haemorrhage in the pelvis; the ureter is normal. The capsular surface shows an occasional small scar.

History: This man was admitted to hospital at the age of 73 with haematuria, among other lesions and conditions. Investigations established the presence of a renal abnormality, which led to nephrectomy and disclosure of the lesion shown above. The histology of the lesion is that of an atypical renal adenoma.

KIDNEY - Contracted and Renal Vein Thrombosis J.49

A kidney, somewhat reduced in size, and showing a number of small, depressed scars on the surface leaving a coarsely-granular appearance. The cortex is markedly reduced in thickness, but the cortico-medullary junction is well defined. There is excess fat in the peripelvic area, and the renal vein has been opened to show an antemortem thrombus. The thrombus extends into the smaller branches of the vein and can be seen at the upper and lower poles of the kidney.

History: At the age 43, this woman underwent a bypass operation for obesity, and lost some 11 stone in weight. At the age of 45, she was given phenylbutazone for arthritis of the ankle, but this was discontinued when a rash appeared. She was later found to be in renal failure, and this was initially regarded as an arthritis secondary to phenylbutazone, but this was not established. She developed oxaluria and a renal biopsy showed an interstitial nephritis. This renal damage has been described after bypass operations, presumably the result of a generalised metabolic upset. The renal vein thrombosis is presumably a terminal and incidental event; there were areas of infarction described in the lung; she also had a follicular carcinoma of the thyroid, with metastases in the lung.

KIDNEY - Wilms' tumour J.50

Specimen is a kidney. Situated in the upper pole there is a semi-spherical tumour mass 7 cm in diameter. This is pale and has a solid consistency. Focal areas of tumour necrosis are seen towards the upper pole. Two small simple cortical cysts are present in the middle portion of the kidney. Histologically the tumour was found to be a Wilms' tumour with predominance of the epithelial component.

KIDNEY - Chronic abscess J.52

This is half a kidney, displaying a cystic area 6 cm. across at the upper pole. The cavity shows a single trabecula running through from top to bottom and containing purulent material. There is no sharp line of demarcation between the abscess and the adjacent kidney; the area of haemorrhage is, presumably related to surgery.

History: This woman was known to have a stone in her left kidney (established by intravenous pyelogram) for some 4 years. She was admitted for partial nephrectomy. When the abscess was discovered, the whole kidney was removed. There is no mention in the notes of the presence of a renal stone. Histologically, there was no evidence of tuberculosis. The appearances were those of a chronic abscess and areas of pyelonephritis were seen in the adjacent renal parenchyma.

KIDNEY - Pyonephrosis and Calculus J.53

This kidney shows gross dilatation of the calyceal system, with evidence of pus in some of the dilated calyces. There is a very large staghorn calculus present.

History: This woman suffered left-sided backache for the previous 10 years, with 2 to 3 episodes a month. After a fall in 1976, a back X-ray showed a calculus in the left kidney. At about that time, she had attacks of urinary infection. She had a normal calcium and oxalate intake, and her metabolic screen was normal. Analysis of the stone showed that this was a triple phosphate stone.

KIDNEY - Carcinoma of the renal pelvis J.54

This shows the greater part of a kidney, and a portion of ureter; the kidney has been cut to display a tumour occupying approximately half the organ and arising, as can be seen in the lower part of the specimen, in the renal pelvis. The tumour extends to the surface of the kidney at the upper pole.

History: This man presented at the age of 65 with Henoch-Schonlein purpura, with spots on the thighs and haematuria with clots. He had had transient arthritis involving knees and ankles. Following discharge from hospital, the urine remained discoloured, and, on readmission, he admitted to loss of weight and poor appetite. He had had nocturia and dysuria. A renal biopsy showed a squamous cell carcinoma, and a IVP, showed a space-occupying lesion in the left kidney. Microscopy showed a moderately well-differentiated squamous cell carcinoma.

KIDNEYS - Polycystic J.55

This consists of half of each kidney; each shows multiple cysts measuring up to 1.5 cm. in diameter. On the cut surface, renal papillae can be seen in some areas, but the junction between the cortex and medulla is blurred.

History: This woman had a long history of hypertension and died of myocardial and cerebral infarction. Histology of the kidneys showed hypertensive vascular changes, in addition to the very numerous cysts. There were moderate numbers of normal nephrons present.

BLADDER - Carcinoma J.56

This shows a bladder and the upper part of the prostate, opened to display two tumours in the posterior wall. The tumours are sessile, coarsely papillary; the largest is in the region of the ureteric orifice.

History: This was an incidental finding in a 67-year-old man who died of coronary artery disease.

KIDNEY & ADRENAL - Secondary Carcinoma J.57

An adrenal, identified by its relationship with the kidneys, grossly enlarged and largely replaced by partly-necrotic tumour.

History: This man was admitted to hospital on 8th October 1977 after he had collapsed. Four months prior to that he had developed a left-sided hemiparesis. A chest X-ray showed an atalectatic area in the right lower lobe; brain scan showed a possible tumour in the right parietal region. He died in February 1978, and, at autopsy, a carcinoma of the main left lower lobe bronchus was found, with secondary deposits in brain, liver, adrenal and bone; the tumour was a small cell carcinoma.

KIDNEY - Rejection J.58

A kidney showing numerous irregular cracks on the outer surface, with a haematoma in the capsular region towards one pole; the cortico-medullary division is blurred over much of the specimen, and at the lower pole there is a small infarct.

History: This young man presented with a nephrotic syndrome secondary to focal glomerulosclerosis. After 3 years, he developed renal failure, and an AV fistula was created in his left arm for home dialysis. He was selected for transplant, but the transplanted kidney, seen here, was rejected after approximately 3 weeks. The cracks in the cortex appeared during fixation after the rejected kidney had been removed.

BLADDER - Carcinoma J.59

This consists of bladder and prostate cut to display, in the fundus, a fungating carcinoma some 4 cm. in diameter. The muscular wall of the bladder shows thickening, and the prostate is moderately enlarged by a nodular hyperplasia. The appearances of the bladder wall suggest that tumour is infiltrating widely through it.

History: This man presented at the age of 71 years with a history of malaise, anorexia, and weight loss for six months, with nocturnal incompetence, frequency, poor stream and haematuria over the previous 2-3 years. Investigation established the presence of a tumour, and a total cystectomy was carried out. The histology of the lesion is that of an undifferentiated transitional cell carcinoma. The tumour was shown to be infiltrating through the muscular wall to the serosa.

URETER - Diffuse transitional cell carcinoma J.60

The greater part of the ureter showing a finely papillary tumour extending over much of the lining. The lower part of the ureter has not been opened but is, presumably, clear of tumour.

KIDNEY - Cortical adenoma J.61

It can be seen from the specimen that this is confined to the cortex.

History: This man was admitted to hospital with a massive cerebral haemorrhage resulting in a right hemiplegia. Diabetes and hypertension had been diagnosed 2 years before death. The specimen shown here was an incidental finding at autopsy.

KIDNEY - Adenoma (oncocytoma) J.62

One pole of the kidney is expanded by a spherical tumour, some 10 cm. in diameter, which appears to be encapsulated. The external surface is smooth for the greater part, although there are some obviously nodular areas at the upper pole. The cut surface shows a central fibrous area surrounded by a nodular, tan-coloured, tumour in which there are several small areas of haemorrhage.

History: This woman was admitted to hospital at the age of 36 for investigation of the liver enlargement; this had been noted on routine examination several months before. An arteriogram showed a large well-circumscribed vascular tumour, some 12 cm. in diameter, arising from the lower pole of the right kidney. This was removed, and the histology was that of an adenoma arising from the epithelium of the proximal tubes of the kidney (Oncocytoma). At the present time, there have been some 28 of these reported in the world literature, and all these have been benign. For further information see 'Cancer', 38, 906, 1976.

KIDNEY - Multicystic J.63

This consists of 1 kidney, showing multiple cortical cysts up to 5 cm. in diameter. The cut surface is not shown, but the cut surface of the other kidney from this patient showed little remaining renal tissue.

History: This man had a long history of hypertension and multiple health problems. At autopsy, both kidneys showed multiple cysts, and there was a cyst 8 cm. in diameter in the pancreas. The histology of the lesion suggested that many of the cysts were derived from tubules, while others appeared to be derived from Bowman's space.

KIDNEY - Nephroblastoma (Wilms' tumour) J.66

Tumour with renal outline; on posterior surface a short length of ureter is seen. Kidney is replaced in lower pole by solid tumour, and in upper half by cystic tumour in which there are areas of haemorrhage.

History: Child, aged 6 months, presented with large left abdominal mass. Investigation confirmed large solid mass in position of left kidney. She was subsequently treated by chemotherapy, and at age of 18 months was well.

BLADDER - Stones J.68

Considerably enlarged bladder showing marked trabeculation of posterior surface; a large diverticulum is seen on right-hand side of specimen. On under-surface a part of a considerably enlarged prostate can be seen. Calculi is present in bladder; the display of these is under Pathologists' licence as, in fact, the stones were found in diverticulum.

History: Elderly man found dead at home; he had been treated for an acute bronchitis. At autopsy found to have right-sided empyema and left-sided pleural effusion, bronchopneumonia and carcinoma of colon. Prostate noted to be enlarged; bladder showed features demonstrated here. Microscopy - metastatic tumour in lung from squamous cell carcinoma; it was assumed this had arisen from one of several probably malignant lesions on his skin.

KIDNEY - Carcinoma J.69

Lower pole of kidney, expanded by a pale tumour some 12 cm. in maximum diameter; areas of necrosis apparent, but it does not have the usual yellow colour of a classical carcinoma. Posteriorly, the tumour appears to extend through the cortex.

History: A 60-year-old man admitted following pain in left hip. X-rays showed both destruction of ileum and metastatic nodules in lung. A mass was felt in region of left kidney; this subsequently removed, providing the present specimen. Microscopy - poorly differentiated adenocarcinoma. He was subsequently found to have a metastasis in 7th cervical vertebra; laminectomy performed to decompress cord; following this his arms were largely deprived of power, but this improved. Three years later he shows some wasting in intrinsic muscles of right hand and has numbness in Tl dermatome; otherwise apparently well.

KIDNEY & BLADDER- Hydronephrosis J.72

The kidney is large and shows some foetal lobulation. The pelvis is dilated, as is the ureter. The prostate is moderately enlarged and the bladder trabeculated.

History: This is an incidental finding at autopsy, in a man who died from heart failure secondary to coronary artery disease. The right kidney was not found; its absence explains the size of the left kidney. The obstruction here was due to prostatic enlargement.

BLADDER - Stone J.73

The composition of the stone has not been determined.

History: This man suffered nocturia (four to six times a night), frequency and hesitancy for some six months. The calculus had been demonstrated radiologically and at operation a trabeculated bladder was noted and a moderately enlarged prostate removed.

KIDNEY STONE J.74

Stag horn calculus.

BLADDER AND PROSTATE J.75

- Carcinoma of the prostate

The bladder had been opened from above to show a nodular mass at the base of the bladder leading down into the urethra. On the reverse of the specimen the outline of the prostate can be seen with tumour tissue infiltrating the bladder.

History: This was an incidental finding in a man aged 66 who was found dead in bed; death was attributed to coronary artery disease. At autopsy the prostate was found replaced by tumour and extending into the base of the bladder, producing ureteric blockage with dilatation of the ureters. Microscopy showed a moderately well differentiated adenocarcinoma of the prostate; there was infiltration by tumour in the lung and the mediastinal lymph nodes were involved.

KIDNEY - Amyloidosis J.77

The kidney appears to be of normal size;
it is however, pale and the cortex and medulla sharply demarcated; the outer surface shows an occasional minute cyst and a fine granularity. the renal pelvis appears normal. There is no thrombosis of the tributaries of the renal vein.

History: This man appears to have been first seen in November 1976 at the age of 63; he had had gout for 13 years, which had been treated and, on the present admission, showed evidence of nephrotic syndrome. Investigation had established multiple myeloma with renal amyloidosis. He subsequently developed an acute renal failure and died in renal failure.

KIDNEY - Adenoma (Oncocytoma) J.80

The upper pole of the kidney is expanded by a circumscribed tumour which is homogeneous except for an apparent scar in the centre. This tumour is tan-coloured; the outer surface is nodular, but the capsule appears to be intact. The history of this specimen is not known; see also Specimen J.62

KIDNEY - Tuberculosis J.82

The specimen shows a kidney and portion of the upper ureter. The upper calyces show a moth-eaten appearance and there is some irregular thickening of the pelvis. The outer surface of the kidney shows a number of discrete nodules. The histology of the lesion is that of tuberculosis.

KIDNEY AND LIVER - Polycystic disease J.84

The specimen consists of one half of a kidney and a segment of liver. The kidney is almost entirely replaced by cysts measuring up to 2 cm. in diameter; some contain blood and others proteinaceous material. The liver, which is rather poorly fixed, shows multiple cysts up to 3 cm. in diameter; there is also scarring apparent.

History: This man was admitted at the age of 63 with hypertension; he died in hepato-renal failure. At autopsy the heart was enlarged and showed left ventricular hypertrophy. There were bilateral pleural effusions present and there was ascites. There were areas of mucosal haemorrhage in the small intestine. Histologically the liver showed evidence of subacute necrosis as well as cystic change.

RENAL DYSPLASIA (right) & AGENESIS (left) J.86

The left kidney is absent. The right kidney is a multicystic mass with a blood supply from the aorta and without a ureter. The adrenal glands are discoid rather than globular in outline as one would expect with displacement of one kidney and the absence of the second.

History: The baby was delivered prematurely as a breech at an estimated gestational age of 33 weeks. Oligohydramnios was noted. The child survived approximately 30 hours, was anuric and in respiratory failure. At autopsy there was evidence in addition to the present findings, of pulmonary hypoplasia.

RENAL TRACT J.87

- Hydronephrosis and hyperplasia of the prostate

The prostate is markedly and diffusely enlarged by a benign hyperplasia; it shows a prominent middle lobe. A thin piece of Perspex outlines the path of the urethra. The bladder is dilated, and the wall shows gross trabeculation. The ureters and the pelvis of each kidney are marked dilated.

History: This 88-year-old man had a history of chronic obstructive respiratory disease and not long before he died was demonstrated to have a raised urea and creatinine. Death was due to lobar pneumonia.

KIDNEY - Acute pyelonephritis J.88

The specimen is a kidney showing multiple minute yellowish areas in the cortex. There are several irregular scars present as well.

History: This was an incidental finding in an elderly man who died of pneumonia. The microscopy of the lesion is that of an acute pyelonephritis.

KIDNEY - Infarction J.89

There is a wedge-shaped infarct, yellowish in colour and demarcated by a red line at one pole of the kidney which otherwise shows a little irregular scarring.

KIDNEY - Wilms' tumour J.90

On the right-hand side of the specimen viewed from the front, there is a thin layer of light-brown-coloured tissue which is all that remains of the kidney. The kidney has been replaced and enlarged by partly necrotic partly haemorrhagic white tumour tissue in which, at the upper pole, a cystic area can be seen.

History: This child presented at the age of 3 years with a 3-day history of abdominal pain, lethargy, and fever. Examination showed a mass in the left hypochondrium which was ultimately confirmed as a renal tumour. The histology of the lesion is that of a Wilm's tumour (nephroblastoma); one lymph node at the hilum of the kidney showed tumour infiltration.

KIDNEY - Pyonephrosis J.91

The specimen is a greatly enlarged kidney showing gross calyceal dilatation; there is a purulent exudate apparent in some of the calyces. This a very old specimen and no information is available as to the history.

KIDNEYS - Contracted J.93

These are older specimens, and no history is available. The cut surface of each shows a reduction in cortical thickness and blurring of the cortico-medullary outline. The outer surface of each show's areas of broad scarring with extensive granularity.

KIDNEYS - Bilateral polycystic disease J.94

The kidneys are replaced by multiple cysts which on the left-hand side are large; the ureters are dilated and tortuous and the bladder, seen as the partly cystic mass in the centre is hypoplastic. The histology of the lesions is that of renal dysplasia with large cysts (Type II polycystic kidney of Osanthanondh and Potter).

History: This child was born at term; the baby did not breathe spontaneously despite intubation and oxygen; X-rays showed bilateral pneumothoraces.

URETHRAL VALVE - Stricture J.96

The specimen shows the urethra opened out to show a stricture near the bladder neck; the ureters are dilated and the kidneys multicystic.

History: The specimen is from a neonate, but no other details are known.

KIDNEY - Polycystic J.97

The renal parenchyma has been replaced by cysts which measure up to 2.5 cm diameter.

History: This woman died at the age of 56 following perforation of a diverticulum of the sigmoid colon. She had been in chronic renal failure for a number of years. At autopsy there were cysts in the liver as well as the kidneys.

KIDNEY - Simple cysts J.98

The kidney shows a number of cysts arising from the cortex including one massive cyst.
History: This was an incidental finding at autopsy.

KIDNEY - Medullary cystic (Sponge) J.99

The cut surface of the kidney shows numerous cysts up to 3.0 to 4.0 mm in the papillae. The kidney is somewhat smaller than normal, and the outer surface shows numerous healing scars; there appears to be an occasional small cyst present although this is unusual in this condition.

History: This was an incidental finding in a hypertensive woman who died from a ruptured myocardial infarct. This condition is said to be more common in men than in women and it usually appears in late middle-age. It may be associated with small renal calculi. The cysts are lined by columnar or cuboidal cells; the cause is unknown.

KIDNEY - Carcinoma of the renal pelvis J.100

The origin of the tumour from the pelvic wall is well seen; the tumour is some 3.0 cm in maximum dimensions and has a characteristic papillary pattern. It is partly covered by blood clot and does not appear to be extending beyond the wall of the pelvis.

History: This man had a transitional cell carcinoma of the bladder in 1979 which subsequently required regular diathermy; he was admitted on this occasion for assessment of further haematuria. A pyelogram showed a non-functioning kidney on the right side and a retrograde pyelogram and CT scan confirmed the presence of a tumour in the renal pelvis.

KIDNEY - Adenocarcinoma J.101

The specimen has been cut in such a way that it is difficult to recognise kidney tissue, but there is some present towards the lower pole. The kidney is greatly expanded by tumour with a rather nodular pattern in which there are a number of areas of mucinous degeneration. The histology is that of a rather poorly differentiated adenocarcinoma which is probably why the tumour does not have the characteristic yellowish appearance of the more commonly seen carcinoma.

KIDNEY - Transitional cell carcinoma J.104

The cut surface of the kidney shows a finely papillary tumour mass covering the whole of the exposed calyceal system in the upper pole; there is blood clot present in the lower part. In the renal parenchyma there are a number of discreet white areas apparently confined to the medulla and not apparently within the cortex. In this particular specimen much of the spread within the kidney is due to intra-tubular invasion with peripheral spread and growth to produce the discreet nodules seen. A further possibility is that some of the spread is due to retrograde lymphatic permeation and to direct infiltration.

URETER - Transitional cell carcinoma J.106

The proximal portion of the ureter is dilated, thin walled, and shows several small areas in the lower portion of mucosal haemorrhage. The ureter is blocked by a solid tumour some 2.5 cm long; it is difficult to see whether or not the wall is infiltrated but it probably is in view of the fact that there is an indentation in the wall together with some thickening, near the midpoint of the tumour. The distal portion of the ureter shows some thickening of the wall and a reduction in the size of the lumen. The histology of the lesion is that of a Grade III transitional cell carcinoma.

History: Unknown. It is very likely that the patient presented with haematuria.

KIDNEY & URETER - Transitional cell carcinoma J.108

The kidney is approximately normal size, but there is a patchy reduction in cortical thickness and there is quite extensive scarring with one small cyst apparent. The cut surface shows a dilated pelvis and dilated calyces with a number of patches of sessile papillary tumour involving all areas; the lower end of the ureter is also occupied by tumour. The dark staining in the lower calyx is blood and there appears to be some infiltration of the kidney by tumour at this point. The histology is that of a moderately well differentiated transitional cell carcinoma; in the apparently unaffected areas in the pelvis the changes of in situ carcinoma are present and transitional cell carcinoma is present in the lower part of the ureter.

KIDNEY (New-born) - infarction J.110

The specimen shows both kidneys, ureters, and the bladder. The left kidney is swollen and dark with infiltrated blood. The adrenal gland does not appear to be affected. The inferior vena cava is occupied by blood clot, but this is post-mortem in origin.

History: This child was stillborn at 32 weeks; foetal death had probably occurred some 8 days before. the mother's blood pressure was mildly elevated, and she had some ankle oedema. The foetus weighed 1530 g.

BLADDER - Carcinoma J.111

This specimen is difficult to orientate; there is a large tumour mass which in fact is projecting into a diverticulum of the bladder; part of the diverticulum can be seen above, and a cuff of bladder mucosa is apparent around the base of the lesion. The tumour is infiltrating bladder wall and originally measured 6 x 5 x 5 cm. The serosal fibro-fatty tissue does not appear to be infiltrated by tumour.

History: This man presented at the age of 62 with an episode of haematuria. Microscopically the tumour is a Grade III transitional cell carcinoma. The lymph nodes removed from the specimen were not infiltrated by tumour.

KIDNEY - Carcinoma J.112

The kidney is largely replaced by a yellowish tumour in which there are areas of haemorrhage and necrosis. The tumour extends through the capsule of the kidney and infiltrates and involves the adrenal gland, part of which can be seen on the side of the tumour near the mid-point.

KIDNEY - Unilateral hypoplasia J.113

The right kidney is reduced to approximately 1 cm in diameter; the ureter is of normal diameter and at its lower part is dilated to form a ureterocele some 2 cm in diameter; it appears to enter the bladder in the usual position. The left kidney is hyperplastic; it shows marked foetal lobulation; the ureter is normal and enters the bladder in the normal position.

History: This child was stillborn at 41 weeks; a breech presentation with precipitate labour and prolapse of the cord. Epithelial squames were found in the lung and there were petechiae on the surfaces of the heart and lungs indicative of intrapartum or intrauterine anoxia.

KIDNEY - Carcinoma J.114

The upper pole of the kidney is expanded by a circumscribed tumour not apparently extending through the capsule of the kidney; there is a large almost central area of scarring; the surviving tumour at the edges shows the characteristic yellowish colour of a renal carcinoma.

CYSTIC RENAL DYSPLASIA J.115

The specimen consists of two kidneys with attached bladder and urethra. There is also a testis present on the left with adjacent testicular cord. The right kidney shows foetal lobulation and has a normal attachment to the bladder. The left kidney, which is partially attached to the lower pole of the right kidney, appears atrophic and contains extensive areas of cyst formation. The left ureter is rudimentary and is dilated in its distal portion immediately adjacent to its attachment to the roof of the bladder. The bladder appears normal as does the urethra. The testis and cord are normal.

History: The specimen was obtained from a stillbirth of 36 weeks gestation. No clinical details are available.

KIDNEY - Arteriovenous Malformation J.116

The specimen is a hemisected left kidney of normal size. The renal cortex and medulla are normal. There is a mass of small vascular channels immediately overlying the renal pelvis. These are situated adjacent to the medullary renal fat. This patient had three episodes of haematuria over a 12-month period. Renal arteriography revealed the presence of a left upper pole arteriovenous malformation. This was treated by simple nephrectomy.

KIDNEY - Transplant, chronic rejection J.117

The specimen consists of a hemisected kidney. There is extensive dystrophic calcification. This is situated mainly in the immediate subcapsular area. The normal corticomedullary architecture of the kidney is lost and the kidney structures are replaced by diffuse, pale brown necrotic debris. The interlobar vessels are still visible. The features are those of chronic transplant rejection with marked dystrophic calcification.

KIDNEY & BLOCK DISECTION SUPRAGLOTTIC REGION J.118 - Renal Cell Carcinoma

The specimen consists of a left hemisected kidney. This is markedly enlarged, and the upper pole is extended by a tumour mass. The tumour is irregular, being yellow in colour. The central portion of the tumour is necrotic with focal areas of fibrosis, cyst formation and haemorrhage. The tumour extends through the renal capsule and is present immediately adjacent to the renal pelvis. The features are typical of a primary renal cell carcinoma. Also included in the specimen is a block dissection consisting of the tongue, larynx with vocal cords and adjacent tissues. Three separate tumour nodules are identified. The largest of these is situated in the supraglottic region and appears as a semi spherical mass up to 3 cm in diameter. Two further tumour nodules are present in the right and left pyriform sinuses. Histologic examination of these tumours showed them to be clear cell carcinomas and similar in character to the primary renal cell carcinoma found in the left kidney.

History: This 66-year-old woman presented with a left thyroid swelling and voice change and was found on examination to have paralysis of the left vocal cord. Hemithyroidectomy was undertaken and a clear cell carcinoma consistent with a renal primary was found. Further investigation showed a large retroperitoneal mass arising from the upper pole of the left kidney. Tumour recurrence in the

vicinity of the larynx necessitated tracheostomy. The patient remained relatively well for 18 months then rapidly deteriorated and died. Bronchopneumonia was found at post-mortem examination.

KIDNEY - Horseshoe Malformation J.119

The specimen consists of aorta and common iliac vessels opened posteriorly. Overlying the aorta there is a horseshoe kidney. The kidney is supplied by six renal arteries which branch at varying distances from the renal pelvis. The medullary fat has been removed to reveal a complex anastomosis of ureters draining each lateral portion of the horseshoe kidney. There is also a simple cyst situated at the left lateral pole of the kidney. The cyst wall shows considerable fibrosis which would be consistent with previous episodes of infection. The aorta and common iliac vessels exhibit marked atherosclerosis with widespread ulceration and associated dystrophic calcification and haemorrhage.

History: This 69-year-old man admitted to hospital with congestive heart failure secondary to cardiomyopathy, died of a left upper lobe pneumonia. The horseshoe kidney was an incidental finding at post-mortem.

KIDNEY - Oncocytoma J.120

The specimen is a hemisected right kidney. The lower pole is replaced by a semi spherical tumour mass. This is tan in colour and contains focal areas of haemorrhage. There is a central stellate scar. The tumour is invested by a thick pseudocapsule. The features are those of a renal oncocytoma.

History: This patient presented with a one-week history of intermittent right flank pain and haematuria. IVP showed a large tumour mass and right radical nephrectomy was undertaken.

KIDNEY INFARCTION J.121

The specimen is a left kidney which has been sectioned to reveal an area of old infarction situated within the upper pole. In this area the normal cortico-medullary demarcation is effaced. There is thinning of both the cortex and medulla. The remainder of the kidney shows some degree of lobulation with stippling of the capsule surface and cortical thinning. This latter feature is consistent with benign nephrosclerosis. The organised area of renal infarction was an incidental finding from the postmortem of an elderly female who had died of bronchopneumonia.

KIDNEY – Autosomal dominant polycystic kidney disease J.122

The specimen is a kidney sectioned in the coronal plane. Numerous cysts are seen throughout the cortex and medulla. The majority of these appear empty, however some contain blood-stained fluid and occasional small renal stones are seen. Large cysts extend through to the renal capsule and distort the capsular surface of the kidney. The features are those of autosomal dominant or adult type polycystic kidney.

KIDNEY - Hydronephrosis J.123

The specimen is a transected right kidney. The renal pelvis is markedly dilated, and the dilatation extends into the major calyces. There is pressure atrophy of the renal medulla and one of the renal papillae appears necrotic. There is a renal stone embedded in the ureter approximately 3 cm distal to the pelviureteric junction. The features are those of hydronephrosis secondary to impaction of a renal stone. This was an incidental finding at post-mortem.

URETER - Metastatic carcinoma J.124

The specimens are those of a hemisected kidney and portion of ureter. The mucosal surface of the ureter appears normal. The distal portion contains a partially encircling tumour mass. This is pale and has a nodular consistency. The kidney shows a moderate degree of hydronephrosis with dilatation of the renal pelvis and major calyces. There is early nephrosclerosis with blurring of the normal cortico-medullary demarcation. A small simple cortical cyst is seen on the surface of the kidney.

History: This elderly man was known to have adenocarcinoma of the prostate in addition to metastatic malignant melanoma. At post-mortem examination it was found that the prostatic carcinoma had extended into the base of the bladder and up both ureters, causing bilateral hydronephrosis.

KIDNEY - Adult polycystic disease J.125

The specimen is a transected kidney and includes a short portion of ureter. Multiple small cysts are seen scattered throughout the kidney. These are predominantly situated within the renal cortex, although renal medullary involvement is also identified. The features are those of early adult polycystic kidney.

History: The patient was an 11-year-old female who died of subarachnoid haemorrhage and had bilateral adult polycystic renal disease. There was a family history of polycystic kidney with disease being reported in both the patient's mother and maternal grandmother.

KIDNEY - Leiomyoma J.127

The specimen is a right kidney which has been sectioned longitudinally. Situated in the pelvis there is a solid pale tumour mass. This has a whorled appearance and contains a central area of cystic degeneration. The tumour compresses the renal pelvis and extends to the vicinity of the renal hilum. Microscopic examination of the tumour showed it to be a leiomyoma.

History: The tumour was an incidental finding at postmortem examination of a 45-year-old male who had died of acute myocardial infarction.

KIDNEY - Wilms' Tumour J.128

The specimen is a transected left kidney. The upper pole is expanded by an irregular tumour mass. This is lobulated and contains extensive areas of cystic degeneration. The tumour is invested by a pseudo capsule and does not appear to infiltrate the middle and lower poles of the kidney. Histologically the tumour was shown to be a nephroblastoma (Wilm's Tumour).

History: The patient was a 4-year-old female who was noted by her mother to have an abdominal mass which was treated by pre-operative chemotherapy and nephrectomy. The patient made an uneventful recovery. She has been followed for four years and remains free of tumour recurrence.

KIDNEY - Chronic Rejection J.129

The specimen consists of a kidney sectioned longitudinally. The kidney is oedematous, and the renal capsule is thickened. There is loss of cortico-medullary demarcation and there is widespread haemorrhage and infarction within both the cortex and medulla. The collecting system is distended by blood-stained fluid. The specimen is a chronic rejection kidney with super imposed infarction. The infarction is most pronounced in the upper and lower poles.

KIDNEY - Renal Cell Carcinoma J.130

The specimen shows a lobulated tumour mass appearing to arise in the vicinity of the upper pole of the kidney. The tumour contains extensive areas of necrosis and haemorrhage and in places has a characteristic yellow appearance. Histologically the features were those of a renal cell carcinoma.

BLADDER - Transitional cell carcinoma J.131

The specimen consists of a bladder. The lateral wall and fundus is grossly thickened by an infiltrative tumour mass. The surface of the tumour is ulcerated. Histology showed the tumour to be a grade 3 transitional cell carcinoma that extended through the full thickness of the bladder wall.

KIDNEY - Cystic Renal Dysplasia J.132

The specimen is a bisected kidney. the normal renal architecture is totally replaced by numerous small cysts composed of thin fibrous walls. Histologic examination showed the cyst to be lined by a thin layer of epithelium. In areas of clusters of atrophic tubules and nodules of cartilage were identified.

BLADDER STONE J.133

The specimen is a bladder stone. The central part of the bladder stone contains a rusty hairpin. The history associated with this specimen is unknown.

KIDNEY - Acute pylonephritis J.134

Specimen consists of a transected right kidney. The normal renal architecture is disrupted by numerous cystic spaces throughout the cortex and medulla scattered cysts contain purulent material. This was an incidental finding at post-mortem examination of a child who had received severe crus injuries to the abdomen. The left kidney, spleen and distal pancreas had been surgically removed.

K

SKIN

SKIN Malignant melanoma K.1

This is the central part of an oval piece of skin, which measured 22 x 17 cm. It had been removed with some 2 cm. thickness of the underlying fat. Towards the centre there is a raised, heavily-pigmented lesion some 2 cm. across with, at the upper pole, a pale area with, at one point at the periphery, an area of dark pigmentation. The central defect shown in the specimen is where a piece was taken for histology.

History: This man presented in 1975 with a black, pigmented lesion in the lumbar region, which had been present for some 20 years. The lesion was widely excised, and the area grafted. Microscopically, this was shown to be a malignant, nodular melanoma. By December 1977 there was no evidence of metastases.

SKIN - Carcinoma, metastatic K.2

A piece of skin and subcutaneous fat showing, centrally, a circumscribed tumour, with an umbilicated and ulcerated centre.

History: This man presented with a mass in the skin of the central abdomen, which was excised and shown to be a squamous cell carcinoma, this was ultimately determined to be a metastasis from a carcinoma of the lung.

SKIN - Squamous cell carcinoma K.3

This is a disc of skin, some 6 cm. across, showing a fungating, umbilicated tumour, from which a slice has been removed for histology. The surrounding skin is dark in colour.

History: This lesion was from the cheek of a woman in the Solomon Islands and, as a well-differentiated, squamous cell carcinoma, is remarkable for its size. We are told that the lymph nodes were not involved.

SKIN - Keloid K.4

An elliptical piece of pigmented skin, showing a raised ovoid area occupying much of the surface, lightly dimpled here and there.

History: This child developed keloid scarring following repair of a tetralogy of Fallot in 1970, seven years before this particular lesion was excised.

FINGER - Squamous cell carcinoma K.6

A finger, amputated at the metacarpophalangeal joint; on the medial side of the proximal interphalangeal joint there is an ulcerated tumour some 2 cm. in maximum diameter, with raised white edges. At the lower margin there is a biopsy area. The biopsy of this lesion showed a well-differentiated squamous cell carcinoma. Four other intraepidermal carcinomas were excised from this patient at the same time.

Auxillary Fingers K.9

This child was born with an auxiliary finger on each hand.

Malignant Melanoma of the Fingertip K.10

Arising from the region of the nail bed there is a pale fungating tumour some 2.5 cm. in maximum diameter. The cut surface shows the tumour extending down to the periosteum. Microscopy showed an amelanotic malignant melanoma.

History: This 42-year-old woman injured her finger in a washing machine wringer some 7 months before the finger was amputated. A month after the injury a tumour appeared in the nail bed and grew steadily over the back of the finger. It bled when touched and was tender. Six months postoperatively, enlarged lymph nodes were found in the right axilla; these were removed, and the presence of metastatic tumour confirmed.

HEAD OF THE PENIS - Carcinoma K.11

The specimen consists of part of an amputated penis, showing on the glans on the dorsal surface a shallow ulcer approximately 1.5 cm. across, which has been biopsied. There is oedema of the prepuce apparent.

History: There is no history available, but this is likely to be a squamous cell carcinoma.

SKIN (Natal cleft) - Pilonidal sinus K.15

The specimen is a block of skin and subcutaneous fat from the natal cleft. Just to one side of the midline there is a slightly raised area on the surface of the skin leading down into a track surrounded by tan-coloured tissue. On the reverse of the specimen a smaller track can be seen surrounded by pale scar tissue.

History: This presented as a painless lump in the sacral area of a man aged 33. On several occasions pus was discharged from the sinus. The lesion was excised but recurred later and further excision was needed.

THYROID GLAND - Metastatic melanoma K.18

The specimen shows half a thyroid gland in which there are numerous black nodules of varying size.

SKIN - Keratoacanthoma K.19

This is a conical piece of tissue, the base of which is a disc of skin some 2.5 cm in diameter. The cone is 3 cm high; the outer surface is black and probably partly necrotic.

History: This woman developed a painless lump on her forehead some 6 weeks before admission; initially, this was a small lump like a wart, with a crust on top; it was treated with caustic soda, which made it black, but did not reduce the size. It became progressively enlarged and bled several times. It was excised and the histology was that of a keratoacanthoma.

SKIN - Granuloma annulare K.20

The specimen is an ellipse of skin expanded in a uniform fashion by an ovoid mass in the dermis and subcutaneous tissue. The histology of the lesion is that of a granuloma annulare.

History: This presented as a nodular area over the head of the third metacarpal.

SKIN - Cutaneous horn K.21

The specimen shows a rim of skin from which a keratinous lesion is arising. This lesion had been present for many years on the hand of a woman of ninety years. The histology suggested that this was either a kerato-acanthoma or a low-grade squamous cell carcinoma. In view of the history the latter seems the more probable.

SKIN - Compound naevus K.22

The specimen is a portion of a skin lesion; the lesion consists of coarse tufts of epithelium showing a varying amount of pigment. The histology of the lesion is that of a compound naevus; the fronds are covered by stratified squamous epithelium in the basal layer of which are nests of naevus cells; the dermis contains numerous naevus cells. The lesion is benign.

History: This was an incidental finding and was removed for cosmetic reasons in an adolescent with spina bifida.

SKIN - Sub-ungual melanoma K.23

The specimen consists of the distal portion of an amputated finger; the nail has been removed; it had obviously been elevated by a dark-coloured tumour; the cut surface of the tumour shows melanin pigment with a central paler area. The original tumour measuring 2.1 x 1.5 x 0.5 cm; the histological picture was that of a nodular malignant melanoma.

History: This woman presented at the age of 76 with a long history of a split fingernail; 6 months before it had been injured and had become infected, since that time the nail had been lost and the lesion more obvious.

SKIN - Malignant melanoma K.24

The specimen is formed by skin, subcutaneous fat, and a thin layer of muscle. The tissue is expanded by a black nodular mass which is extending laterally and upwards where, at its most prominent point, it is ulcerated. The skin surface shows numerous satellite nodules indicating a wide field of change in the epidermis. This is a very old specimen; it is to be hoped that nothing as advanced as this would be seen today.

SKIN - Seborrhoeic keratosis K.25

This coarsely nodular, very large skin lesion shows microscopically a surface epithelium in which there is proliferation of basal cells and the formation of horn cysts - these are cystic structures lined by flattened epithelium and containing keratin. The underlying tissue is moderately vascular oedematous collagen. The majority of seborrhoeic keratoses rarely exceed 1 cm in diameter.

SOFT TISSUE – Haemangioma K.26

This unusually large haemangioma is placed in subcutaneous fat. The discrete vascular channels, many occupied by clotted blood, can be seen. The reddish-brown colour of some of the fat can be attributed to haemosiderin.

SKIN - Subcutaneous tissue - Xanthoma K.28

The specimen is part of a block of skin and subcutaneous tissue expanded by a circumscribed yellow nodule which represents the lesion.

History: This lump had been present for 5 years on the anterior shin. A lipid screen was normal.

SKIN - Pilonidal sinus K.29

The specimen is part of an excised pilonidal sinus - cut to show the sinus leading from the skin surface into a circumscribed (by fibrous tissue) mass in which there is a small cavity. The grey mass consists of granulation tissue in which there are hairs bleached by a long exposure to fixative.

SKIN – Dermatofibroma K.30

The lesion has been bisected to show a circumscribed not encapsulated light-yellow coloured mass expanding the dermis and subcutaneous tissue. The skin over the lesion is lightly pigmented. The dark marks at the margins of the skin delineate the limits of excision to the surgeon. These are a common benign skin lesion usually occurring on the limbs and often described by the doctor who excises the lesion as cystic.

SKIN - Keloid scar K.31

Specimen consists of a coarse nodular skin lesion which is markedly exophytic and polypoid. The surface of the lesion is pigmented. Sectioning of the specimen shows it to consist of dense collagenous connective tissue extending down from the epidermis.

PENIS - Squamous Cell Carcinoma K.32

The specimen is a longitudinal section of the distal portion of the penis. Situated inferiorly in the vicinity of the coronal sulcus is an irregular invasive tumour mass which has infiltrated to the corpus cavernosum.

History: The patient was 36-year-old man who presented with a long history of penile ulceration. On biopsy this was found to be moderately differentiated squamous cell carcinoma.

SKIN - Basal Cell Papilloma K.33

The specimen pot contains four skin ellipses. These have been sectioned in the central plane. Each of the ellipses contains a pigmented exophytic lesion exhibiting marked papillomatosis. These specimens were all shown to be basal cell papillomas (seborrhoeic keratosis) on histologic examination.

SKIN - Keratoacanthoma K.34

The specimen consists of three ellipses of skin each of which contain an ovoid to irregular pale exophytic lesion with central crusting. In the two larger specimens there are areas of superficial ulceration which is most prominent in the central portion of the nodule. Histologic examination of each of these specimens showed them to be keratoacanthomas.

SKIN - Basal Cell Carcinoma K.35

The specimen pot contains two fragments of skin. In the central portion of each of these there is an ovoid area of ulceration which is surrounded by a pale band of induration. Histological examination showed both these specimens to be basal cell carcinomas.

L

RESPIRATORY SYSTEM

LUNG - Secondary carcinoma breast L.1

The specimen consists of part of the upper and lower lobes of the lung and shows a diffuse infiltration by tumour with intervening areas of apparently normal lung tissue. On the pleural surface, some of these tumour areas stand out, and some show umbilification.

LUNG - Actinomycosis L.2

This is a slice of lung showing collapse, with an abscess cavity of 2 cm. across associated with pleural and lung scarring in the basal part of the specimen, with collapse and multiple small abscesses in the mid-area, again, associated with extensive pleural scarring. Pulmonary actinomycosis may be primary or secondary, the latter resulting from spread of the disease from below the diaphragm, particularly the liver, but occasionally from a cervicofacial infection. Primary pulmonary actinomycosis is mainly a peripheral lung lesion, and usually involves the pleura early in its development. Pleural involvement results in either empyema, or dense pleural adhesions, to which the infection may spread directly to involve the chest wall.

LUNG - Unresolved pneumonia L.3

This is a portion of lung, close to the hilum, showing very marked pleural thickening, together with, on the upper part of the cut surface, a tuberculated appearance; the tubercles are white, uniform and isolate anthracotic areas. The underlying pathology is alveolar fibrosis following the failure of inflammatory exudate in pneumonia to clear.

LUNG - Bronchial adenoma L.4

The specimen consists of a segment of lung, showing a bronchus and some of its subdivisions; the bronchus is largely occluded by a spherical tumour 2 cm. in diameter, showing some pale areas and some areas of haemorrhage. The bronchus leading away from the tumour shows a little dilatation. The lung tissue appears partly collapsed. This is a simple bronchial adenoma, with a minor degree of bronchiectasis.

LUNG - Congenital cyst L.6

This is a wedge of lung, opened to show a cystic area, which, in the specimen, has been filled with gelatin. The surrounding lung appears compressed and there is an obvious pleural reaction.

LUNG - Carcinoma L.7

This consists of part of the left lung cut from behind. This shows a tumour arising from the left main bronchus and extending into the lung substance with peripheral collapse. The tumour can be seen surrounding the bronchial cartilages and involving the mediastinal lymph nodes. On the reverse of the specimen there is obvious mediastinal involvement spreading to surround the pulmonary artery.

LUNG - Staphylococcal abscesses L.8

These are portions of an infant lung. The pleural surface of the larger piece on the right-hand side of the pot shows an exudate; there is no exudate on the pleural surface of the outer piece of the lung. Each lung shows multiple cysts, up to 1 cm. in diameter. Those on the right-hand specimen appear to be thicker-walled than those on the left. Some of the cystic areas contain amorphous debris and some blood clot. These are the characteristic appearances of staphylococcal lung abscesses.

LUNG - Hydatid cyst L.9

There is no recognisable lung tissue here; in one segment of the pot there is a collapsed pericyst, while the main specimen is an intact hydatid cyst. Inspection shows a finely granular inner surface to the cyst - these will be scolices.

LUNG - Tuberculosis L.12

The specimen consists of the greater part of a lung. It shows marked pleural thickening with adhesions; the cut surface shows a cavity of irregular outline, approximately 5 x 3 cm., lined with granular material; in the collapsed upper lobe, there is a caseous area 1 cm. in diameter, and smaller caseous areas can be seen in the other areas.

LUNG - Bronchiectasis L.13

The outer surface shows extensive old adhesions; the cut surface shows numerous cystic spaces, for the most part of obvious bronchial origin. The specimen is not properly orientated, but the white markers indicate the track of oesophago-bronchial fistula. There is extensive collapse, with gross scarring apparent on the cut surface of the lung.

LUNG - Bronchial cyst with fungal infection L.14

The lesion here is a thick-walled bilocular cyst containing in the left-hand side of the specimen, granular amorphous debris. The cyst appears to open into a bronchus.

History: The history of the specimen suggests that this is an old tuberculous lesion, sterilised by chemotherapy, and secondarily infected by a fungus.

LUNG - Hydatid disease L.15

The cut surface of the specimen, which consists of the whole of one lung, shows at least six cysts, up to 8 cm. in diameter. Two of the cysts show thin, almost translucent membrane and, in the upper cyst, the membrane has become detached and lies below the cyst. The cyst walls are of varying thickness; the wall represents the host's reaction to the parasite and is called the peri cyst. The outer surface of the lung shows marked pleural thickening, and the fat that can be seen indicates that, at these points, the pleural surfaces were firmly adherent. The outer surface of the lung also shows a number of cysts, which have been opened for display.

LUNG – Cystic fibrosis (Mucoviscidosis) L.18

This specimen shows both lungs, cut to display gross bronchiectasis involving all lobes but, perhaps most obvious in the right upper lobe. Many of the bronchi contain muco-purulent material. The right lower lobe gives the visual impression of consolidation. The hilar lymph nodes seen both anteriorly and posteriorly are grossly enlarged, likely due to reactive hyperplasia.

TRACHEA - Papilloma L.19

The specimen shows an adult trachea; in the lower-third, some 6 cm. above the bifurcation, there is a coarsely papillary nodule, some 2 x 5 cm. in diameter, attached to the antero-lateral wall. The polyp almost completely obstructs the trachea.

History: This patient showed paroxysmal nocturnal dyspnoea for 16 months prior to admission. Histologically, this appeared to be an inflammatory rather than neoplastic lesion.

LUNG - Pulmonary embolism L.20

The specimen shows a portion of the lower lobe of each lung, together with the pulmonary artery and the trachea, and major bronchi. The right pulmonary artery is completely blocked by coiled thrombus, which is extending into its branches while, on the left side, there is coiled thrombus, possibly several thrombi rather than one. There are anthracotic lymph nodes about the carina.

LUNG - Bronchopneumonia and pleurisy L.21

The outer surface of the lung shows fine, rather fibrinous, adhesions, indicative of recent inflammation; the upper lobe shows a confluent bronchopneumonia apparent on the left-hand half of the specimen; the lower lobe shows confluent consolidation, involving most of the lobe; this is greyish in colour and, therefore, probably older than the changes in the upper lobe.

LUNG - Multiple pulmonary thrombi L.22

The specimen is a portion of emphysematous lung, cut to show occlusion of a number of blood vessels by organising thrombus. There are numerous blood vessels involved, suggesting that this is a primary lesion, rather than embolic in nature.

LUNG - Miliary tuberculosis L.25

This is a section of left lung, showing multiple miliary nodules 2-3 mm in diameter. In several places the nodules have become confluent. The disease also involved liver, spleen, kidneys, and adrenals.

History: This patient was a known diabetic with hypertension, gout, and renal failure. In his final illness, he presented with a right pleural effusion.

LUNG - Carcinoma L.27

This consists of the lower part of the trachea including the bifurcation and has been opened from the back. There is a carcinoma involving the bronchus to the right upper lobe; the tumour is extending into the trachea and across the midline, with further satellite nodules in the lower part of the trachea. There is massive involvement of the para-tracheal lymph nodes.

LUNG - Emphysematous bulla L.28

This is a portion of lung cut to display a massive emphysematous bulla. The cut surface of the lung shows extensive emphysema, with apical consolidation, of uncertain origin.

History: This man died at the age of 92 from a haemopericardium, secondary to rupture of an antero-septal myocardial infarct.

PLEURA - Old infection L.30

The specimen is greatly thickened pleura stripped from rib and lung; the tissue is largely formed by fibrous tissue; it shows a cavity in the centre, which probably has been an encysted collection of fluid, the end result of inflammation.

LUNG - Emphysema L.31

The specimen is a portion of lung, inflated and showing extensive emphysema, most apparent at the margins and the apex.

LUNG - Emphysema L.32

The specimen is a portion of lung, cut to display a diffuse emphysema.

LUNG - Fibrocaseous tuberculosis L.33

The upper lobe of this lung shows extensive cavitating tuberculosis at the apex and anteriorly. There are also solid areas of tuberculosis apparent. That some of these cavities have contained caseous material can be seen from the granular appearance of the lining. There is a further tuberculous lesion at the apex of the lower lobe. Although there are some solid areas present, the histology of the lesion does not show tuberculous bronchopneumonia. Acid-fast bacilli were very numerous in the cavities.

LUNG – Diffuse alveolar damage (DAD) L.36

This specimen from the left lung shows patchy areas of haemorrhage, for the most part a few mm in diameter and areas confluent. There is a patchy haemorrhagic exudate on the pleural surface.

History: This lung is from a patient with disseminated lupus erythematosus. She had a markedly reduced platelet count and prolonged bleeding time. Microscopy of the lung showed patchy haemorrhage, oedema, and hyaline membranes.

LUNG - L.37

Secondary carcinoma (primary squamous lung)

A portion of lung, cut to display multiple deposits of tumour up to 2.5 cm. in diameter. This is the classical "canon-ball" pattern of metastasis. The cut surface of the specimen also displays hilar lymph nodes infiltrated by tumour.

History: This man was admitted to hospital in November 1975 with increasing shortness of breath, decreased exercise tolerance, pleuritic pain, and right-sided weakness. Previously, he had had recurrent attacks of bronchitis, and he had been a heavy smoker for 40 years. Examination showed spider naevi, a right pleural effusion, enlarged supra-clavicular lymph nodes, an enlarged liver, and left hemiplegia. Death occurred approximately 1 week after admission. At autopsy, a poorly-differentiated squamous cell carcinoma of the right upper lobe bronchus was demonstrated, with multiple metastases in the lungs, local lymph nodes and kidney.

RESPIRATORY TRACT - Diphtheria L.38

This consists of tongue, larynx, trachea, major bronchi, and portions of lung, together with heart. The epiglottis shows a shaggy exudate, which is also apparent almost completely obstructing the trachea and major bronchi. The exudate is more widespread than usual.

LUNG - Pleurisy and pneumonia L.39

The outer surface of the specimen shows a yellowish, thick, fibrinous exudate with a shaggy surface; the appearance indicates an exudate of recent origin. The cut surface shows a patchy bronchopneumonia, with some difficulty, as the darker red areas on the surface.

LUNG - Bronchopneumonia, with lung abscesses L.40

The specimen shows 2 portions of lung, cut to display extensive consolidation, with lung abscesses. There is a recent pleurisy apparent.

LUNG – Carcinoma L.42

The specimen consists of a portion of the right lower lobe and shows a lobular yellowish mass arising from a bronchus, probably the medial basal bronchus. The lesion shows areas of necrosis, and the tumour extends to the pleural surface, which is distorted. This is a peripherally situated tumour suggesting the possibility of bronchogenic adenocarcinoma, however histology is required to determine tumour type.

LUNG - Carcinoma and lipoid pneumonia L.44

This is a portion of the right lung. The bronchus to the upper lobe is displayed; this shows an irregularly-roughened area, slightly raised above the surface. Viewed from the side, one can see tumour tissue infiltrating the lung in relation to this bronchus. The lung also shows lipoid pneumonia secondary to obstruction by the tumour.

PLEURA - Decortication L.45

This is greatly-thickened pleura, which has been stripped from the surface of the lung and the chest wall. The rib markings are clearly seen on the medial surface of each specimen, which otherwise shows extensive fibrous thickening around an area of fibrin and necrotic debris.

History: This Maori boy was admitted on 8th August 1976, with a three-day history of fever, cough, blood-stained yellow sputum, and pain in the left side of the abdomen on deep breathing. The signs were those of a left lower lobe pneumonia, and review of previous chest films showed changes suggestive of bronchiectasis in the left lower lobe. He had a history of a number of attacks of respiratory infection since childhood. His clinical condition improved, but he showed increasing inability of the left chest, with a mild degree of scoliosis and, approximately one month later, decortication was carried out. Two years later, a left lower lobectomy and lingula resection for bronchiectasis was carried out.

LUNGS - Infarction L.46

The specimen is a slice of left lung, showing both lobes; at the apex of the lower lobe, there is an infarction extending to the pleura, and measuring some 10 x 5 cm. The infarct shows a haemorrhagic border, with central necrosis. In the upper lobe, there is an extensive emphysematous change, with a bulla visible on the pleural surface.

History: This man had shortness of breath on exertion for many years. In May 1976, he developed epilepsy. A chest X-ray showed an opacity in the lung; a brain scan, and a liver scan showed no space-occupying lesions. He had been a heavy smoker. He died in June 1976. The lungs showed extensive centrilobular emphysema and evidence of chronic bronchitis; a massive recent thrombus was found in the pulmonary arteries, with older organising thrombus in relation to the infarction. Examination showed no abnormality.

LUNG - Pneumoconiosis L.47

Each specimen is a slice of lung, dark in colour and showing numerous circumscribed black nodules, up to 0.5 cm. in diameter; in some areas, each shows a periphery of white scar tissue. On the pleural surface of each specimen there is a scar associated with a black lesion. The nature of the irritant in the lungs has not been established, but this man was a welder for many years.

PLEURA - Empyema cavity L.49

Here is a fibrous cast, stripped from the lung and chest wall, showing on the outer surface rib impressions. The fibrous tissue is thick, and the cavity apparent is lined by grumous material, in which there has probably been some bleeding.

History: This man was treated for pulmonary tuberculosis in the late 1940's; later he developed pulmonary hydatid disease, and had a left thoracotomy, with excision of two hydatids from the left lung in 1964.

In 1970, he developed right pleurisy, which went on to an effusion and an empyema. This lesion was considered to be tuberculous, and treated as such, but it did not improve satisfactorily. In 1976, he began to cough up dark blood-stained material, and he was treated further with anti-tuberculous drugs. No tubercle bacilli were found, but there seems little doubt that the lesion was tuberculous initially. The empyema cavity was excised.

LUNG - Intralobar sequestration L.51

This is a lower lobe of the left lung, mounted so that the basal part of each slice is directed towards the sides of the specimen jar. There are several cavities present; the largest of these is in the mid-zone of the lung, and measures 5 x 4 cm. There are other cavities arranged along the base of the lobe, measuring 3, 1.5 and 2 cm. in diameter. Much of the contents have been lost but were described as consisting of inspissated khaki-coloured material, some of it putty-like consistency, and some apparently purulent. Histologically, the cysts were lined by ciliated bronchial epithelium, and some showed a growth of aspergillus.

History: This young man had a respiratory infection in 1973, and a chest film in 1974 showed multiple cystic areas in the left lower lobe. In 1976 he had cystic areas in the left lower lobe, and a respiratory infection with a cough and a little sputum; the chest film showed several spaces with fluid levels in the lower lobe. A bronchogram was done, and this showed some clouding of the basal bronchial structures, but no communication to the cystic spaces. A provisional diagnosis of sequestration was made. Further examination of the specimen showed an aberrant artery entering the lung in the postero-basal angle. The artery, which was 0.5 cm. in diameter, divided into numerous branches supplying the sequestrated segment.

LUNG – Squamous cell carcinoma and secondary localised bronchiectasis L.54

Lung displaying a localised area of bronchiectasis. The bronchi contained gelatinous material. The causative lesion, a squamous cell carcinoma, can be seen although the bronchial origin of the tumour is not apparent in the specimen.

History: This man was asymptomatic but showed an abnormal shadow in the right lung field on X-ray. Three months prior to admission, he had had an episode of bronchopneumonia. He had a productive cough with, on 2 occasions, haemoptysis. He had smoked very heavily until 4 years before surgery.

LUNG - Wegener's granulomatosis L.56

The specimen displays a portion of both lobes of the left lung, showing a fibrinous pleurisy. The cut surface shows a number of nodular areas, most marked at the periphery of the lung, but present also within its substance.
There is a small area of apparent caseation at the apex. The main bronchi are reddened but, to the naked eye, there is no obvious ulceration.

History: A 66-year-old-man, admitted in August 1976, with a history of 3 weeks of arthralgia, cough with mucoid sputum (1 week) and malaise and weakness (3 weeks). On examination, his liver was palpable, and there was a pleural effusion at the right base. An X-ray showed consolidation, with an alveolar distribution, and he developed haemoptysis. He became increasingly anaemic (8 g.) and was in respiratory failure. Red cell casts and haemoglobin were found in the urine, and a renal biopsy showed polyarteritis, or Wegner's granulomatosis.

LUNG – Usual interstitial pneumonia (UIP) L.58

This is a section of right lung showing extensive interstitial fibrosis. Anthracosis is seen at the visceral pleural surface.

History: This 65-year-old man had rheumatoid arthritis. He complained of progressive difficulty in breathing. Microscopy of the lung showed extensive advanced usual interstitial pneumonia (UIP). In one area there was a classic Caplan's nodule.

LUNG - Bronchiectasis L.59

This is the lingula segment of the lung, showing extensive cylindrical bronchiectasis in the distal two-thirds.

History: This man had a cough with purulent sputum for 5 years, dating back to the age of 12. In this time, he had had 2 attacks of pneumonia in the lingula, 1 in 1975 and 1 in 1976. X-rays showed cystic changes and a bronchogram confirmed gross bronchiectasia.

LUNG - Tuberculosis and carcinoma L.60

This is part of the apical and posterior segments of the upper lobe of the lung. The pleural surface shows dense fibrous adhesions, and the cut surface shows an irregularly scarred area around the central cavity. There are small foci of caseous material here and there, and there is apparent scarring, which is perhaps tumour in the lesion. The cavity present has perforated on the pleural surface.

History: This man was seen in May 1977 with intermittent small haemoptysis over a 2-year period, with a weight loss of 10 kilos. He went to his doctor eventually because of back pain, and he was found to be short of breath; a chest X-ray showed cavitated tuberculous disease in the apical segments of both lungs. The sputum was found to contain tubercle bacilli, and he was treated with anti-tuberculous drugs. He did improve but, ultimately, it was felt that resection was advisable, and this was done. The histology of the lesion is that of a tuberculous lesion, in which there are a few acid-fast bacilli, and a very well-differentiated adenocarcinoma of the lung, extending through to the pleural surface.

LUNG - Congenital cystic disease L.61

This consists of the right lung, cut to display the cystic areas replacing most of the lung tissue; the intervening lung, where apparent, appears collapsed; the cysts are trabeculated and appear to be derived from bronchi. There are scattered adhesions on the pleural surface.

History: This child was assessed in 1976 in Samoa, where he was found to have extensive bronchiectatic changes throughout the entire right lung, causing him to produce copious amounts of purulent sputum, resulting in stunting of growth. His left lung appeared essentially normal. Examination showed prominent clubbing of both fingers and toes, prominence of the left anterior chest, and dullness to percussion over the entire right chest. On the grounds that this lesion was bronchiectasis, the right lung was removed. Histology showed, however, a relatively slight inflammatory component, a uniform distribution of the lesions throughout the whole lung, and the absence of glands in the walls of the bronchi, and the lesion was regarded as an example of congenital cystic disease of the lung, with multiple bronchogenic cysts of peripheral type.

LUNG - Tuberculosis L.63

This is a slice taken through an inflated left lung; there are fine adhesions over the pleural surface of the upper lobe; at the apex there is a cavity showing a trabeculated lining and containing some amorphous debris. In the surrounding lung there are several small caseous areas up to 0.5 cm in diameter, with a larger lesion beneath the pleura. The apical portion of the lower lobe, and the adjacent area of the upper lobe, is yellowish in colour, probably consolidated, and shows numerous caseous materials.

History: This woman had a 15-year history of systemic lupus erythematosus; she developed a nephrotic syndrome with renal failure and, shortly before her death, tuberculosis.

LARYNX - Carcinoma L.64

This shows the larynx opened from behind to display an irregularly nodular lesion occupying the area of the vocal cords, which can be identified only on the left. The lesion is partly ulcerated and extends upwards to the base of the epiglottis and appears to be infiltrating downward beneath the mucosa.

History: This man was admitted to hospital at the age of 84 with a history of progressive shortness of breath, hoarseness for 2 years and laryngeal stridor for a few months. Because of his general condition, laryngoscopy was not possible. He died shortly after admission.

LUNG - Asthma L.65

The left lung cut to show both lobes; the lungs are those of a child and showed marked mucous plugging the bronchi.

History: This child was a known asthmatic of uncertain severity; on the night before she died, she was apparently continuously in difficulty and had a further attack early in the morning in which she died. At autopsy, the right lung weighed 240 g., the left 200; the lungs were over expanded and showed extensive mucous plugging of the bronchi; histologically, numerous eosinophils were demonstrated in the mucous and in the bronchial walls.

LUNG - Bronchiectasis L.67

This is a portion of the lobe of a lung, showing patchy and irregular pleural thickening, and extensive bronchiectasis. The surrounding lung parenchyma appears collapsed.

History: In September 1979, this child was sent to hospital because he was coughing up yellow sputum. In 1966, he had been in hospital with a diagnosis of chronic bronchitis and pneumonia, and in 1972, when admitted for dental extraction, he had a chronic productive cough, suggesting bronchiectasis. X-rays following admission showed a large pneumothorax on the right side, with a small amount of fluid at the right base, with two-thirds collapse of the lung, which was almost uniformly opaque. He had anaemia and a lymphocytosis, and gross hypoalbuminemia. Haemophilus influenza was grown in the sputum. An empyema was drained, and he was referred for surgery. Present specimen consists of the right lower lobe; the removed portions of the right upper lobe showed bronchiectasis and a bronchopleural fistula, communicating with an empyema sac.

NORMAL LUNG L.68

Normal lung.

History: A young man, previously crippled by severe head injuries and resulting paralyses, committed suicide by cutting his throat.

LUNG – Bronchoalveolar carcinoma L.69

The cut surface of the lung shows extensive tumour infiltration in both lobes, extending to the periphery. No bronchial origin is demonstrated in the specimen. The histology was that of bronchoalveolar carcinoma.

LUNG - Secondary leiomyosarcoma L.70

This consists of a slice through the uninflated lower lobe of the left lung and shows in the lower pole a circumscribed pale tumour, with a whorled pattern showing on the cut surface. There was no clear relationship to the major bronchus.

History: At the age of 49, this woman underwent a hysterectomy and a leiomyosarcoma was identified in the uterus. Eight years later the chest X-ray showed the mass described above and the lobe was removed; the histology of the lesion is that of a leiomyosarcoma.

LUNG - Tuberculosis L.71

This is a slice taken from the centre of the left lung showing multiple caseous areas up to 5cm across. The largest of these in the apex of the lower lobe is cavitated. There was little evidence of reactive fibrosis, although there is some pleural thickening particularly at the apex of the upper lobe.

MEDIASTINAL LYMPH NODES - Sarcoidosis L.72

This specimen consists of the mediastinal structures, including trachea, aortic arch, and part of each pulmonary artery. The mediastinal lymph nodes are markedly enlarged but remain discrete.

History: The patient was a 51-year-old woman with a history of asthma who apparently died suddenly without medical attention. At autopsy, the left chest was obliterated by old adhesions and the apex of the right lower lobe was adherent to the chest wall. Microscopy of the lung and mediastinal lymph nodes showed non-caseating granulomas consistent with sarcoidosis. Her heart was enlarged weighing 740 grams, and microscopy of the heart showed myocardial lesions suggestive of acute rheumatic carditis rather than sarcoidosis. The liver and spleen showed changes of venous congestion. Death was ascribed to rheumatic heart disease and the finding of sarcoidosis was regarded as incidental.

LUNG - Secondary carcinoma L.73

The cut surface of the inflated right lung shows a prominent trabecular pattern in the upper and middle lobes, with consolidation in the lower lobe, where there is also at least one, rather poorly-defined, nodule approximately 1 cm. in diameter. The pleural surface shows a diffuse thickening towards the apex, with multiple minute nodules of thickened pleura in the other parts of the lung. The appearances suggest secondary tumour with marked lymphatic involvement.

History: This man had a past history of gastric carcinoma with gastrectomy 4 years before his death, and rectal carcinoma with anterior resection 3 years before his death. A chest X-ray following a short history of increasing shortness of breath showed a fine nodularity throughout the lung fields, and linear opacities consistent with fibrosis or lymphangitis. An open lung biopsy was attempted, but he collapsed, and this was not carried out. The scalene lymph nodes showed metastatic adenocarcinoma, consistent with an origin from stomach. Microscopically, tumour was demonstrated in the lung and pleura, but not apparently elsewhere.

LUNG - Secondary deposits? meningioma L.74

An inflated left lung showing a number of pleural and sub-pleural nodules measuring up to 3.5 cm. in maximum diameter.

History: At the age of 39, this woman had a large left front-temporal meningioma removed, with subtotal removal of recurrences in 1971 and 1976. Histology on both occasions was of a meningioma. In 1974, nodular opacities were noted through the lower half of the lung fields, at the age of 57, she was admitted in deep coma, from which she did not recover. She had a past history of hysterectomy for fibroids in 1960. At autopsy, nodules were found in both lungs; a meningioma some 4 cm. in diameter was found in the right frontal area, with a further nodule in the left frontal area at the site of the previous operation. There was a further nodule of tumour attached to the left sphenoidal ridge, and a further nodule was found some 7 cm. in diameter resting on the superior surface of the left cerebellar hemisphere. Histology of all these lesions was consistent with a diagnosis of meningioma.

LUNG - Tuberculosis

L.75

L.76

These are portions of the right lung. On the pleural surface there are adhesions of varying thickness; in some parts the parietal pleura is present as well. The pleural surface shows a number of white nodules up to 1cm in diameter; the cut surface shows extensive tuberculous involvement of all lobes. In the middle and lower lobes, there is little cavitation, but there is extensive cavitation in the upper lobe. The lower lobe, in particular, shows consolidation in addition to the caseous areas, and it is likely that the consolidated areas are areas of tuberculous bronchopneumonia.

History: This man, apparently young, was admitted to Wellington Hospital from a Japanese fishing vessel, and he died shortly after admission. At autopsy there were numerous purpuric spots on both legs. The right lung weighed 1290g and the left 1000g. Numerous acid-fast bacilli were present in the lesions, and there was also tuberculous bronchopneumonia. The liver weighed 1100g and showed a micro-nodular cirrhosis. Microscopically, the liver was fatty and showed alcoholic (Mallory's) hyaline. Death was ascribed to gram-negative septicaemia and shock, but no other clinical details are available.

LUNG - Secondary carcinoma (predominantly pleural metastases) L.77

The specimen comprises the outer portion of the left lung, showing an irregular finely-lobulated surface. Nodules of metastatic tumour vary in size from 1 mm to 1 cm; in some areas they have become confluent to produce large pleural plaques. The cut surface of the lung shows one subpleural deposit of tumour (4 x 1.5cm) as well as a number of small tumour nodules. No other information is available.

LEFT LUNG/RIGHT LUNG

Inflated left lung showing pleural thickening and saccular bronchiectasis in basal segments of each lobe; apical portions of each lobe are consolidated with bronchopneumonia. Right lung shows saccular bronchiectasis in central portions of upper lobe with bronchopneumonia and abscess formation in middle lobe; lower lobe is largely destroyed; it was fibrotic with extensive cavitation, perhaps the end result of bronchiectasis or either a fungal or tuberculous infection.

History: A 60-year-old man who died suddenly at home. History not available. At autopsy, approximately 1 litre of creamy/yellow pus in trachea and main bronchi, from which Haemophilus influenzae and Streptococci were isolated. Liver showed signs of chronic venous congestion and he was said to have died in right ventricular failure secondary to cor pulmonale, cystic bronchiectasis and massive infection.

LUNG - Emphysema L.80

Left lung cut in saggital plane to show on pleural surface numerous bullae, measuring up to 5 cm. in diameter. On cut surface, a panacinar emphysema is seen, most striking in apical and peripheral portions of upper lobe.

LUNG - Bronchopneumonia L.82

The left lung has been cut parallel to the hilum and shows, on the lower lobe particularly, a scant pleural exudate. The cut surface shows an extensive bronchopneumonia involving the greater part of each lobe; in the upper lobe particularly, there are several small rather poorly defined areas of early abscess formation. The lower portion of each lobe of the specimen appears to be free of disease.

History: This man died at the age of 46, having been coughing blood for 4 weeks without medical attention. He was admitted to hospital on the day of his death. He had a history of alcoholism. At autopsy, in addition to bronchopneumonia he showed a fatty liver.

LUNG - Adult respiratory stress syndrome L.84

The outer surface of this portion of lung shows a 4 cm. area of fibrin. The cut surface shows that the lung is solid and is mottled by yellowish areas which stand out from the grey-blue background. Microscopically there was extensive intra-alveolar fibrosis and thickening of the alveolar walls with capillary congestion and intramural haemorrhage.

History: The patient was delivered of twins approximately a month before she died. Before delivery there was a history of toxaemia; after delivery there were retained products of conception; she developed a disseminated intravascular coagulation and infarction of the small intestine. She was treated for septicaemia and disseminated intravascular coagulation but developed respiratory failure. Death occurred in respiratory failure. This is one of the manifestations of the lung changes in shock due to a number of causes. See Journal of Clinical Pathology, 1980, 33; 891.

LUNG - Pneumonia L.85

The specimen shows portion of the left lung; the pleural surface shows a number of abscess areas. The cut surface shows extensive consolidation, light tan in colour, with numerous abscess cavities. The upper portions of the lung are less markedly involved. Microscopy showed organising pneumonia with carnification and microscopic evidence of oxygen toxicity. No organisms were recovered at autopsy.

History: This young woman had an influenza-like illness and fever preceding admission to hospital, where she was found to have a bilateral pneumonia. No organisms were recovered but she was treated with antibiotics until she suffered a cardiac arrest 11 days after admission. She did not recover consciousness. The cause of the pneumonia has not been ascertained.

TRACHEA - Tracheal stenosis L.86

The specimen shows the trachea and thyroid gland. Immediately below the thyroid gland there is a 3 cm stenotic area in the trachea where the lumen is reduced to less than 1 cm in diameter.

History: At the age of 35 this man was involved in a motor vehicle accident in which he sustained chest and head injuries. The skeleton in the mid-area of the face was fractured and there were fractures of the ribs. Following tracheostomy, he developed tracheal stenosis; this was excised but recurred and in subsequent years was dilated at intervals. He had a long history of asthma and chronic bronchitis and at the age of 46 succumbed to these conditions, no doubt complicated by his tracheal stenosis.

LUNG - Carcinoma L.87

The carcinoma is arising in the left main bronchus and has spread peripherally to surround the aorta and the pulmonary vessels. Metastatic disease can be seen in the local lymph nodes. The pleura is involved, and the bronchi obstructed, and the lobe partly collapsed.

History: This man died suddenly at work at the age of 40 years and apparently without previous complaint.

LUNG - Fibrocaseous tuberculosis L.88

The specimen consists of the outer part of a lung. The lung has been removed with the parietal pleura, which is grossly thickened, and obviously firmly adherent to the visceral pleura. At the lower pole there appears to be a portion of the diaphragm. The cut surface shows extensive tuberculosis, involving the greater part of the lung, and there is a discrete white area related to the upper cavity, which makes one wonder if a tumour is not developing there. In the lower part of the specimen, marked bronchiectasis can be seen.

LUNG - Intralobar sequestration L.89

This shows a section of the left lower lobe; in the basal area there are several cystic spaces up to 2 cm across. The surrounding lung shows some collapse.

History: This man, at the age of 16, had a respiratory infection; on X-ray multiple cystic areas were seen in the left lower lobe. Two years later he had a further infection and again the cystic spaces were demonstrated radiologically. A bronchogram showed some clouding of the basal bronchial structures but no communication with the cystic spaces; a thoracic aortogram showed a single large vessel arising from the thoracic aorta about the level of the 11th thoracic vertebra and passing upwards and laterally to supply the abnormal area. A diagnosis of sequestration was made and the lobe removed. Histologically the cysts were seen to be lined by ciliated bronchial epithelium and in some cysts, there was a florid growth of fungus.

LUNG - Pulmonary embolism L.91

The left pulmonary artery is completely occluded by organised thrombus.

LUNG - L.95
Lymphangitis carcinomatosa (from a primary breast carcinoma)

The specimen consists of portion of the lower lobe of a lung. There is infiltration of the lymphatics by secondary carcinoma. This can be seen on the pleural surface where the lymphatics are outlined as a white network. The cut surface of the lung shows a variegated colour, with pale areas being tumour. The importance of this metastatic pattern is that it can be misinterpreted on imaging as a diffuse non-neoplastic process.

History: This woman presented at age 46 with a six-week history of increasing dyspnoea, pleuritic chest pain and haemoptysis. One year before, an infiltrating ductal carcinoma of the breast had been treated by simple excision. 3 months later a recurrence was apparent, and a simple mastectomy was carried out. At autopsy, tumour was demonstrated in lung, pericardium, axillary nodes, ovary, and in the mastectomy scar.

LUNG - Carcinoid tumour L.96

This specimen is part of a lower lobe of lung. Pleural thickening is apparent. An ovoid circumscribed tan-coloured tumour 2cm in maximum diameter is obstructing the main bronchus. There is gross cylindrical bronchiectasis distal to the tumour, with abscess formation in some areas.

History: This woman presented at the age of 33 with right lower lobe pneumonia from which she recovered. 6 months later a similar episode occurred during which there was some blood-staining of the sputum. This led to bronchoscopy. Histology of the lesion is that of a bronchial carcinoid tumour.

LUNG - Total lobe sequestration L.98

This is a portion of the right lower lobe; the cut surface shows a number of cysts of varying size crossed by trabeculae. There is a rim of consolidated lung at the periphery. The pleural surface shows adhesions. At operation an artery some 0.8 cm in diameter, presumed to arise from the abdominal aorta, was found entering the diaphragmatic surface of the lobe. Histologically the cystic spaces were lined by either respiratory epithelium or granulation tissue and the trabeculae in the cysts were found to contain blood vessels and compressed bronchioles. At operation the cystic spaces contained pus. There is controversy as to whether this represents a sequestration or a congenital cystic lung.

History: This child presented at the age of 11 with a 6-month history of fever, breathlessness, and foul-smelling sputum. Her condition since operation has markedly improved.

LUNG AND HEART - Pneumonia, pericarditis L.100

The surface of the heart is shaggy in appearance; there is a thick pleural exudate apparent over the left lower lobe with a patch of similar material at the apex of the upper lobe. The upper lobe shows an almost confluent bronchopneumonia and there are patchy areas of consolidation in the lower lobe.

History: This woman presented at the age of 46 with a history of chest pain, shortness of breath and being generally unwell for 10 days. She died shortly after admission into hospital. At autopsy, 100 millilitres of purulent fluid were found in the pericardial sac, and she had a left-sided empyema.

LUNG - Bronchiectasis L.103

The left lung has been cut in the sagittal plane. The pleural surface shows ragged fibrosis. The cut surface shows minimal lung tissue and gross saccular and cylindrical bronchiectasis. There is a large cavity at the apex.

History: At the age of 3 this Samoan child had a respiratory illness which was possibly tuberculous and subsequently he had a number of admissions to hospital with pneumonia. There was no family history of tuberculosis, the Mantoux test was negative, and no tubercle bacilli were isolated. By the age of 15 he looked well but apparently had poor exercise capacity. He had a chronic cough and produced purulent sputum. Because of his lung disability he had not attended school. A pneumonectomy was performed; his subsequent progress was good. Hilar lymph nodes examined at the time of the pneumonectomy showed no evidence of tuberculosis.

LARYNX - Angioneurotic oedema L.104

The epiglottis and the aryepiglottic folds are markedly oedematous; the cords themselves appear normal; there are scattered petechiae in the lining of the trachea.

History: This young man was found dead on the footpath; he had been last seen alive about an hour before. The oedema shown here was the only finding apart from petechiae on the surface of the heart. Blood alcohol 179 mg (139 mmol/l). A drug screen was negative. There was a vague history of asthma.

LUNG - Bronchial adenoma L.105

The tumour measures approximately 1.0 cm in diameter and occupies a main bronchus with a tongue of tumour extending outwards into the lumen. The bronchi are markedly bronchiectic.

LUNG - Anaplastic tumour L.106

The specimen shows both the upper and lower lobes of the right lung; in the lower lobe there is a circumscribed tumour mass in which there are numerous areas of necrosis. The tumour extends to the surface of the lung and the lung surrounding is compressed and collapsed. The histology of the lesion is that of an anaplastic tumour and there is uncertainty as to its origin.

History: This man presented at the age of 63 with an 8 to 10-week history of right-sided chest pain exacerbated by coughing and slowly increasing shortness of breath; he had a productive cough. He had a past history of rheumatoid arthritis. At operation the chest wall was involved, and several ribs were removed together with the lung. Neither anatomically nor histologically was it possible to say whether this was a primary undifferentiated carcinoma of the lung or an undifferentiated sarcoma arising from the chest wall. At autopsy, four days postoperatively, no primary tumour was identified.

LARYNX - Carcinoma L.107

The specimen shows the upper trachea, the area of the vocal cords, and the epiglottis. Arising in the larynx there is a carcinoma some 2.0 cm across which is involving the vocal cord. The tumour extended across the gland to involve the left pharyngeal sinus.

History: This man presented at the age of 57 with a history of hoarseness for 4-6 months. He was a heavy smoker. Examination showed the lesion, and a biopsy showed it to be a well-differentiated squamous cell carcinoma.

LUNGS - Interstitial emphysema L.108

The specimen consists of the lungs of a neonate and shows a number of areas of emphysema distributed throughout. This condition may occur, in the absence of artificial respiration, probably due to expulsive efforts in crying in lusty infants who have inhaled vernix or mucus.

TRACHEA - Adenoid cystic carcinoma L.110

The specimen is old and hence discoloured. The cut ends of the tracheal cartilage can be seen at one side of the specimen; within the trachea there is a nodular tumour some 5.0 cm across which is extending through the tracheal wall. These tumours are uncommon; they infiltrate locally and occasionally metastasise to the hilar lymph nodes.

LUNG - Lower left lobe - bronchial adenoma L.111

The cut surface of the lung shows a spherical polypoidal lesion just distal to the apical bronchus; there is evidence of obstruction of the basal bronchi. The surface of the tumour is smooth and the tumour measures approximately 1.0 cm across.

History: This woman presented at the age of 30 with a 12-month history of intermittent cough, wheeze, and occasional small haemoptysis. Bronchoscopy showed the lesion seen here. The histology of the lesion is that of a clear cell adenoma of salivary gland type arising in a bronchus.

LARYNX - Carcinoma L.113

The larynx has been opened from behind to show a fungating tumour on the mucosal surface of the epiglottis extending from the level of the left vocal cord to within 1 cm of the tip of the epiglottis. Viewed from the left side, tumour can be seen extending into the adjacent tissues. The histology of the lesion is that of a moderately well differentiated squamous cell carcinoma and involved lymph nodes were found in the bilateral block dissection of the neck carried out.

LUNG - Carcinoma L.115

The specimen shows a rather poorly defined tumour some 5 cm across in the lower part of the lobe. There is no obvious direct connection with a major bronchus. The tumour is partly necrotic in the central area; there is surrounding consolidation of the lung perhaps seen best on the reverse of the specimen; the lung is adherent to the diaphragm. The lymph nodes in the hilar area do not obviously contain tumour. the rest of the lung shows diffuse emphysema.

History: This specimen came from a middle-aged man who had been found dead. He showed advanced chronic obstructive respiratory disease, and the immediate cause of death was an associated acute bronchitis from which haemophilus influenzae was recovered. The tumour was a squamous cell carcinoma which was moderately well differentiated; no metastases were found.

LUNG - Bronchogenic carcinoma L.116

There is a carcinoma arising from the bronchus to the left lower lobe which has extended to occupy much of the upper portion of the lobe. It has further invaded the mediastinal tissues with, close to its origin, compression of a vein. The discrete ovoid and rounded areas in which carbon pigment can be seen are lymph nodes involved by the tumour. On the reverse side of the specimen compression of the superior vena cava can be demonstrated.

LUNG - Abscess and bronchopneumonia L.117

The upper portion of the pleura is thickened and shows some roughening of the surface with flakes of fibrin protruding. There is an abscess present approaching the pleura and measuring some 3 cm across at its widest. The wall of the abscess merges with consolidated lung. The abscess contains necrotic material. On the reverse of the specimen the consolidated lung is more clearly demarcated and the pleural thickening more apparent. In the lower specimen the pleural exudate does not cover the surface completely. The abscess cavity is larger and there is at least 1 small abscess in the consolidated lung close by.

History: This man, who died at the age of 51, had spent some 2 weeks in bed with gradually worsening "influenza". At autopsy the lungs showed evidence of chronic obstructive respiratory disease and there was an empyema on the right.

LARYNX - Acute epiglottitis L.119

The epiglottis is markedly swollen and distorted; the epiglottic folds are swollen and haemorrhagic, and there is general swelling of the tissues in the surrounding area. The vocal chords do not appear to be involved, but there is an area of haemorrhage in the tracheal mucosa immediately below the chords.

History: This man presented at the age of 30 with a sore throat of a few hours' duration. Examination showed an exudate over the left tonsil. He was however able to drink a glass of water without difficulty. Oral Penicillin and Panadol was prescribed. Half an hour later his wife rang to say that he could not swallow the tablets. Three hours after the onset of symptoms he had an acute and severe airways obstruction, he was blue in colour and could not be intubated. A tracheostomy was carried out but 40 minutes later he had a cardiac arrest.

EMPYEMA SAC L.120

This is a large plaque of fibrous tissue which has been removed on the outer side from the ribcage and the rib markings can be seen on the reverse of the specimen. The inner surface has been peeled from the lung. One irregular cavity can be seen at one margin and a cyst-like protrusion is apparent on the lower part of the specimen. The fibrous tissue appears to be up to 2 cm thick in some areas.

History: This patient presented at the age of 11 years with a 4-day history of fever, malaise, cough, and breathlessness. Examination showed a left basal pneumonia with a large left pleural effusion. After 14 days treatment he was much improved but still breathless on exertion and had a low intermittent fever. An empyema developed, there was no growth on culture at 4 weeks. Examination at this stage showed marked approximation of the ribs on the left, very poor movement of the left chest, a fixed raised left diaphragm, and a scoliosis with the concavity to the left. The sac was removed.

LUNG - Organising Legionnaires disease L.121

Hemisected left lung. There is pronounced anthracosis. This is most marked in the subpleural region. Patchy areas of organising consolidation are seen predominantly in the lower part of the upper lobe and the posterior segment of the lower lobe. There is a small multiloculated abscess containing purulent material. Histological examination of this specimen shows an organising pneumonia with early interstitial fibrosis. Legionnaires disease is an acute bacterial pneumonia. It gained notoriety in 1976 when a small epidemic was reported in the United States. The disease has, however, been known for some years prior to this. The causative agent Legionella pneumophilia is best detected using a silver stain.

History: The patient, a 73-year-old female, presented with a short history of depression. She was admitted to Porirua Hospital in August 1983 and readmitted in November 1983 for ECT. There was little improvement clinically. In late December she was noted to become increasingly dyspnoeic with obvious cyanosis. She was transferred to Wellington Hospital. Chest x-ray on admission showed interstitial pneumonitis. She developed respiratory failure despite erythromycin and gentamycin therapy and was transferred to the Intensive Care Unit for ventilation. Legionella titres taken on admission were 1:64 and had risen to 1:512 ten days later. She failed to make any clinical progress and died in respiratory failure. At postmortem examination the right lung weighed 1040 g. and the left lung weighed 900 g. Both lungs were firm, congested and oedematous.

LARYNX - Squamous Cell Carcinoma L.122

Specimen consists of a hemisected larynx with a small portion of proximal trachea. There is a large tumour mass situated predominantly in the supraepiglottic region. This has infiltrated the epiglottic cartilage and extends down to infiltrate the anterior portion of the vestibular fold. The tumour obliterates the vallecula and has extended up to infiltrate the base of the tongue.

History: The patient, a 54-year-old male, presented with a left cervical lymphadenopathy. He was otherwise free of symptoms. Laryngeal carcinoma was noted on laryngoscopy. The patient underwent a left radical neck dissection total laryngectomy with excision of the base of the tongue. Histological examination of the specimen showed it to be a squamous cell carcinoma.

LUNG - Small cell undifferentiated carcinoma L.123 A & B

L123 A

L123 B

Specimen A consists of two slices of left lung. The smaller piece contains the left main bronchus taken immediately adjacent to the trachea. The tracheobronchial nodes are markedly enlarged and infiltrated by pale tumour. There is peripheral anthracosis in several of the nodes. The tumour has extended into the substance of the lung and has invaded the majority of the left upper lobe; here the tumour has a nodular consistency with focal areas of necrosis and pinpoint haemorrhages. Immediately distal to the tumour in the vicinity of the apex, there is a pronounced lipoid pneumonia. The tumour has crossed the oblique fissure and extends into the left lower lobe. There is plugging of the distal left lower lobe bronchi and further foci of lipoid pneumonia are seen in the vicinity of the tumour in the lower lobe. Scattered vessels contain recent thrombi.

Specimen B contains bisected right and left kidneys, segments of liver and spleen and a portion of enlarged lymph nodes removed from the small bowel mesentery. A strip of mesenteric fat is attached to the nodes. All of the tissues show extensive infiltration by tumour. The tumour is solid and pale with focal areas of necrosis. Multiple nodules of tumour are seen within the liver, the majority of these contain foci of haemorrhage.

History: The patient, a 60-year-old man, had a past history of hypertension. He was a known smoker who consumed 25 cigarettes a day. He was admitted with a four-week history of anorexia, weakness, and weight loss, associated with intermittent dyspnoea. Chest x-ray showed an opacity of the left hemithorax with elevation of the left diaphragm and the suggestion of a mass above and behind the left hilum. He gradually deteriorated and died 19 days following admission. Histologic examination of tissue taken from the primary site and from each of the metastases showed small cell undifferentiated carcinoma.

LUNG - Squamous cell carcinoma L.124

This specimen comprises the upper lobe of the right lung with the apical segment of the lower lobe in continuity. There is a cavitating tumour mass in the upper lobe; this measures 4cm in maximum diameter and contains friable pale tumour which extends into the apical segment of the lower lobe. The adjacent lung is compressed. In places the tumour cavity appears to be lined by a relatively thick pseudo capsule. Tumour can be seen infiltrating this capsule and extending towards the right main bronchus. The lung immediately adjacent to the tumour cavity shows lipoid pneumonia. There is a pronounced subpleural anthracosis and two lymph nodes situated in the hilum are also anthracotic.

History: This 66-year-old man presented with a small right upper lobe mass discovered incidentally on routine chest x-ray. Radical right upper lobectomy was undertaken, and the patient made an uneventful recovery. He re-presented seven months later with metastatic tumour in a left axillary lymph node. There was a further recurrence in the left groin nine months after this. He died as a consequence of metastatic disease, two years after his initial presentation.

MEDIASTINAL NEUROBLASTOMA L.126

The specimen is a hemisected semi spherical tumour nodule measuring 5.5 cm in maximum extent. Cut surface of the tumour reveals a flesh consistency with widespread areas of dystrophic calcification, the latter being most marked in the central portion of tumour. Focal areas of haemorrhage are seen predominantly at the periphery. Tumour is attached to a thickened sheet of pleura.

History: The patient, an eight-month-old boy, was transferred from another hospital with a four-month history of progressive wheeze and repeated respiratory infections. Chest x-ray at that time showed a large mass occupying the upper third of the right pleural space. CT scanning showed that the mass arose in the superior anterior mediastinum. The tumour was surgically removed and shown histologically to be a neuroblastoma. There was no evidence of any metastatic spread, and the patient has remained well for five years with no evidence of recurrence.

SQUAMOUS CELL CARCINOMA OF LARYNX L.127

The specimen is a larynx that has been hemisected in the sagittal plane. There is a large infiltrative tumour mass originating in the region of the vestibular and vocal folds and extending anteriorly to infiltrate the soft tissues surrounding the thyroid cartilage. Immediately underlying the tumour there is a recent tracheostomy site, this contains necrotic debris in its wall.

History: The patient, a 60-year-old male, presented with a three-month history of progressive vocal hoarseness. Carcinoma of the larynx was diagnosed, and he underwent a course of radiotherapy. He re-presented a year later with further hoarseness and on examination was found to have an abscess in the anterior part of his neck immediately underlying the thyroid cartilage. This rapidly increased in size necessitating emergency tracheostomy. He then underwent laryngectomy and a further course of radiotherapy. Tumour recurred in the vicinity of the permanent tracheostomy some six months later.

LUNG - Asthma L.128

The specimen consists of sections taken from both lungs. The sections appear relatively normal although mucous plugging is evident in occasional smaller airways. The hilar nodes are anthracotic but do not show marked enlargement.

History: The patient was a known asthmatic aged 16 years who was admitted with a 24-hour history of progressive respiratory distress. Artificial ventilation was undertaken, and the patient died following the development of bilateral tension pneumothoraces.

CHEST WALL - Calcification L.129

The specimen is fibrofatty tissue which contains a lobulated spherical mass composed almost entirely of calcified connective tissue. This is an example of metastatic calcification developing in a 40-year-old man who had a long history of chronic renal failure.

LUNG - Bronchiectasis L.130

The specimen is a slice taken from the middle and lower lobes of the right lung. There is pronounced cylindrical bronchiectasis with dilated airways extending almost to the pleural surface. This is most pronounced in the middle lobe. Several large lymph nodes are seen within the hilar region. These contain anthracotic pigment and on microscopic examination showed reactive change.

History: This 46-year-old man had a long history of extensive bilateral bronchiectasis which was complicated by pulmonary osteoarthropathy. He developed cor pulmonale and required continued hospitalization with postural drainage and antibiotic therapy. Resection of the right middle and lower lobes was undertaken in an attempt to control recurrent infections. The patient suffered profound hypotension post-operatively and died of congestive heart failure.

LUNG - Interstitial Lung Disease L.131

There is pronounced interstitial fibrosis with lobulation and honeycomb formation which is most marked in the lower lobe. There is a mild degree of subpleural anthracosis.

History: This 62-year-old female had a long history of rheumatoid arthritis which was complicated by fibrosing alveolitis. Death was due to superimposed pneumonia.

N

FEMALE REPRODUCTIVE

UTERUS - Choriocarcinoma N.1

The cut surface of the uterus shows several partly-haemorrhagic areas, for the most part closely related to the endometrial canal, but with one nodule in the muscle of the fundus. That this lesion is malignant is suggested by its presence in muscle, not in a circumscribed encapsulated fashion, but in an irregular invading manner. The fact that the lesion is multi-focal, and not forming the mass that ordinary carcinomas do, points to the fact that it is a different lesion from an adeno-carcinoma. This lesion has arisen as a malignant change in trophoblast.

OVARY - Dermoid cyst N.2

Neither ovary nor cyst are displayed; what we have here is a mass of hairy skin with three teeth embedded at the top and to be seen as the hub of an ovarian teratoma. This specimen comes from the Island of Reil.

UTERUS, TUBES OVARIES - Ectopic pregnancy N.5

The specimen consists of the uterus, both tubes and ovaries. The left tube is enlarged and distorted in a nodular fashion and has ruptured exposing clotted blood. There are fragments of blood clot on the left ovary and in the left parametrial area, in keeping with bleeding into the peritoneum from a ruptured tube.

UTERUS - Choriocarcinoma N.6

The specimen consists of the uterus, both tubes and ovaries and upper vagina. The uterus has been opened to show a yellowish tumour of irregular outline invading the uterine wall; there are areas of haemorrhage within it, and probably also large areas of necrosis.

UTERUS - Carcinoma of the cervix N.9

The specimen is a small uterus; the cervix is replaced by yellowish tissue extending upwards at least to the internal os and expands the cervix laterally. The central area of the presenting part of the tumour in the vagina is ulcerated.

FALLOPIAN TUBE - Ectopic pregnancy N.10

This is presumably implanted in the Fallopian tube, which, however, is not recognisable. At the upper pole of the specimen there is placental tissue infiltrated by blood clot.

FALLOPIAN TUBE - Ectopic pregnancy N.11

The specimen is a Fallopian tube grossly distended by an ectopic pregnancy. The foetus is intact in the amnion and, at one point (11 o'clock), there is recognisable placental tissue; the rest of the placenta has been destroyed by blood clot. The wall of the tube is ruptured at one point (7 o'clock) and blood clot can be seen here.

FALLOPIAN TUBE - Ectopic pregnancy N.12

This is a Fallopian tube, distended by blood clot and placental tissue; there is amnion present, but no foetal parts can be seen.

UTERUS - Sarcoma N.13

The body of the uterus is enlarged and distorted by a tumour some 6 cm. in diameter, which also distorts the endometrial canal. The right-hand side of the tumour shows the usual structure of a leiomyoma, but the left half has a totally different appearance and is sarcomatous (the word means fleshy). It is likely that the tumour is invading the wall of the uterus. A smaller, benign leiomyoma is present beneath the serosa. The cervix shows a large Nabothian follicle.

UTERUS - Leiomyomata N.14

The body of the uterus is distorted and enlarged by fibrous tumours measuring up to 5 cm. in diameter. Several 'fibroids' of much smaller size are also present. The whorled appearance of the cut surface of these tumours is characteristic; although they are commonly called fibromyomata, they are more properly referred to as leiomyomata, pointing to their origin from smooth muscle. In the centre of the specimen, the endometrial canal can be seen distorted by one of the larger 'fibroids'.

PREGNANCY - Hydatidiform mole N.15

The specimen shows the classical grape-like appearance of a mole; each of the 'cysts' is a distended chorionic villus. The genesis of this lesion is not known, but it is associated with varying degrees of proliferation of trophoblast and is, thus, related to choriocarcinoma.

OVARY - Granulosa cell tumour N.16

The specimen is identifiable as ovarian in origin by the presence of a Fallopian tube, which can be seen from one side of the specimen stretched over its surface. The cut surface of the tumour shows large smooth-walled cysts up to 10 cm. in diameter; the intervening tissue is loosely textured and contains a number of yellowish nodules up to 5 cm. in diameter. These yellowish nodules are of thecal origin.

PREGNANCY N.17

The uterus has been opened to show embedded placenta; there is blood clot present, indicating retro-placental haemorrhage. In the fundus there is the thickened endometrium (decidua) of pregnancy.

CONJOINED TWINS N.18

The foetuses are joined in the thoraco-abdominal area with protrusion of the viscera through a defect in the anterior abdominal wall.

OVARY - Cystadenocarcinoma N.19

The specimen is not identifiable as ovary, but is an ovoid mass of tumour, apparently encapsulated, and showing extensive areas of haemorrhaging and necrosis. Microscopically, it was described as a cystadenocarcinoma.

UTERUS - Chronic cervicitis N.20

The uterus has been bisected to show the endo-cervical canal; there are numerous Nabothian follicles to be seen; these are dilated acini containing mucus, for the most part, and are the result of chronic inflammation blocking outlets of the glands. The body of the uterus is normal.

VULVA - Carcinoma N.21

The specimen is the tissue removed at radical vulvectomy for carcinoma. On the right labium there is a carcinoma some 4 cm. in diameter; on the left labium there are white areas, possibly of leucoplakia, a precancerous lesion. A dissection such as this would also include the removal of the lymph nodes in the groin.

UTERUS - Bi-cornuate N.22

The two horns of the endometrial canal are quite clearly seen; this is an anomaly similar in origin to a double uterus.

UTERUS - Carcinoma N.23

The uterus has been opened to show a carcinoma occupying much of the body, and infiltrating muscle. The presence of blood clot in the tumour draws attention to a common presenting symptom - bleeding.

UTERUS - Leiomyoma N.24

The uterus is enlarged and distorted by a leiomyoma which protrudes through the cervix, giving the whole tumour a dumbbell shape. The cut surface has the usual appearance of a benign leiomyoma.

OVARY - Serous cystadenoma N.27

This is a multilocular cyst; the intact locules contain thin fluid; the opened locules show - particularly in the largest-finely granular lining. This is a serious cystadenoma of the ovary. At the operation both ovaries were involved.

UTERUS - Carcinoma N.28

The body of the uterus shows a carcinoma, largely in the fundus but infiltrating muscle and, most unusually, extending through to the serous coat. There is a large blood clot present, and fragments of tumour are seen in that. There is a small polypoid piece of tissue in the endocervical canal, which differs slightly in appearance from the tumour and is probably a simple polyp. There are also dilated acini in the endocervical area, indicative of chronic inflammation.

BREAST - Fibro-adenoma N.29

This specimen is perhaps more obviously arising in breast in that there is skin, fat and skeletal muscle distorted by a large tumour. The tumour is circumscribed and composed, in part, of whorled fibrous tissue, and showing in some areas irregular clefts bordered by papillary tissue. This again, is unusually large and it, too, is benign.

BREAST - Carcinoma N.31

The specimen is a portion of breast, cut to expose, in the deeper parts of the breast tissue a rather poorly-defined carcinoma, greyish in colour. The top of the nipple is pale in colour, but the Paget's disease said to be present, on histological grounds, is not apparent in this specimen.

BREAST - Carcinoma N.32

The specimen shows a moderately well-defined tumour, some 2 cm. in diameter, close to the nipple. The streaky-white areas surrounding the inferior aspect of the tumour are probably normal breast tissue; the tumour extends upwards and is tethered to the skin, and should, therefore, have been readily identifiable clinically.

UTERUS - Perforation N.33

The specimen is an enlarged, thick-walled uterus, opened to display the endometrial canal, which is lined by a shaggy endometrium, markedly thickened in the fundal area. The size of the uterus, and the character of the lining indicate pregnancy. The arrow in the specimen extends through the perforation; the perforation occurred during a diagnostic curettage, presumably following a miscarriage.

BREAST - Carcinoma N.35

The tumour, greyish-red in colour and circumscribed, occupies much of the breast tissue in the plane of the specimen. The tumour is extending upwards into the nipple, as shown on the reverse side of the specimen. The defect at the apex of the specimen may represent a biopsy area, although there is little in the way of surrounding haemorrhage to support this.

BREAST - Carcinoma N.36

The specimen is a slice of breast tissue, apparently taken parallel to the surface of the breast; in the lower part, there is a poorly-defined multi-cystic area; some of the cysts contain blood. Microscopically, this was a well-differentiated adeno-carcinoma with much mucous secretion.

UTERUS - 3-month pregnancy N.37

A pregnant uterus, opened to display a three-month foetus.

History: This woman was considered to be suffering from disseminated lupus erythematosus, which was diagnosed in 1958 at the age of 23; the woman had suffered arthralgia from the age of 18 years. A renal biopsy in 1970 showed changes consistent with disseminated lupus, and there was also evidence of hypertension. In 1971 her fourth pregnancy was terminated by hysterectomy.

UTERUS, TUBES AND OVARIES N.38

- Calcified 'ovarian tumour'

A small uterus showing a polyp in the endometrium and Nabothian follicles in the cervix; one tube and ovary appear normal; the other ovary is enlarged by a calcified nodule. The nature of the lesion is not apparent, but this may be an ovarian teratoma. Other details not known.

UTERUS, TUBES & OVARIES - Leiomyosarcoma N.39

This specimen consists of a uterus, both tubes and ovaries. the uterus is enlarged and expanded by a partly haemorrhagic mass of tumour, which extends for several cm. in distance through the external os. The protruding portion of the tumour is nodular and does not appear to be ulcerated. The margins of the tumour appear well-defined and, in the upper quadrant, the tumour appears to be distorting the endometrial cavity. There is calcified fibroid, approximately 1 cm. in diameter; also apparent was a small fibroid present in the fundus.

History: This woman presented with post-menopausal bleeding for some 12 months. Shortly after the bleeding began, she had a curettage, but the findings were essentially normal. On the present admission, curetting's produced tumour tissue, described as a leiomyosarcoma. Eighteen months after operation, she was alive and well and showed no evidence of metastases.

BREAST - Carcinoma N.41

A sutured biopsy incision is seen on the skin surface. Beneath this there is an area of blood clot, seen on the reverse of the specimen. On the face of the specimen, there is a circumscribed tumour, 2.5 x 2cm, solid in appearance, in contrast to the adjacent breast tissue.

OVARY - Dysgerminoma N.42

A coarsely-lobulated tumour mass some 20 x 10 cm; the tumour is largely solid, but it shows an occasional area of necrosis. On the top of the specimen the remnants of ovarian tissue can be recognised.

History: This young woman presented in her first pregnancy with ruptured membrane at approximately 38 weeks. Labour failed to progress and further examination showed an obstruction which was relieved by removal of this tumour. Histologically, the appearances were those of a dysgerminoma.

UTERUS - Carcinoma N.43

A uterus, opened to show a polypoid tumour mass 3.5 x 2 cm., with no obvious invasion of the myometrium. There is a fibroid just under 1 cm. in diameter in the uterine wall, and there are several cystic areas in the lower part of the endometrial canal.

History: This woman presented with a post-menopausal bleeding, and biopsy showed a well-differentiated adenocarcinoma. The histology of the lesion shown here is a well-differentiated adenocarcinoma arising from relatively narrow base and showing little myometrial infiltration.

UTERUS - Fibromyoma N.44

This is a uterus, cut to display a massive fibromyoma, some 10 cm. across, which is distorting the uterine body. The endometrial cavity is not seen. Histologically, this lesion is benign.

OVARY - Carcinoma N.45

The specimen shows fallopian tube and ovary; the latter is greatly enlarged by tumour; the cut surface of the tumour shows that it is mainly solid, but with a number of cysts around the periphery in which there is gelatinous material. At one point towards the lower pole the tumour appears to have escaped the serosa, but elsewhere the tumour is confined.

History: The woman presented with abdominal pain and diarrhoea leading to a diagnosis of bowel obstruction secondary to a pelvic mass. Exploration disclosed a left-sided ovarian tumour and a carcinoma of the sigmoid colon. The histology of the colonic lesion and the ovary differed sufficiently for one to assume that these were different primary tumours.

OVARY - Fibroma N.46

The ovary appears to be replaced and expanded by a tumour; its surface shows the whorled pattern of a fibroma. The fallopian tube can be identified at the upper end of the specimen.

History: This woman suffered chronic lymphatic leukaemia, and, at death, autopsy showed the above specimen as an incidental finding.

BREAST - Carcinoma N.47

A portion of breast showing surgical incision, healing, running upwards from an umbilicated, partly-ulcerated extension of tumour into the nipple. On the posterior surface the main tumour mass, some 3 cm. in diameter, can be seen with a further tumour 2 cm in diameter a little distance away. In the main tumour mass stellate extension of the tumour into the surrounding fat can be seen. The histology of the lesions is that of a diffuse infiltrating carcinoma; there were, in fact, four distinct tumour nodules in the specimen.

UTERUS - Double uterus N.48

This shows a double body and a cervix, with fusion from the level of the upper end of the endo-cervical canal downwards. There would appear to be a single tube attached to each body, and one ovary is included with the specimen. There is a large 'bare' area on the lateral aspect of each body.

FOETAL ABNORMAILITY N.49

A macerated foetus, corresponding in size to approximately 18 weeks' gestation, showing bilateral hare-lip and cleft palate and six digits on each hand.

History: The woman presented with an inevitable abortion. Inspection of the foetus suggested the diagnosis of trisomy D. Chromosomal analyses of the parents showed normal male and female karyotype - maternal age 39.

UTERUS - Fibroid and pregnancy N.50

A uterus, showing one large fibroid distorting the body, and two smaller fibroids, and an amniotic sac and placenta.

UTERUS – Adenomyosis N.51

A markedly and symmetrically enlarged uterine body; the cut surface shows the trabecular pattern seen in adenomyosis. The endometrial cavity appears normal, and the surface shows no apparent abnormality.

History: This woman was admitted with polymenorrhea and menorrhagia. For some four-to-five years she had noted a markedly increased loss of blood at each period, with a decreasing time between periods. She was then aged 52. At her last period before admission, she had bled heavily for ten days, and then two weeks later had bled for another ten days.

OVARY - Benign teratoma (dermoid cyst) N.52

The specimen is a rather thick-walled ovarian cyst, mounted to show a nodular bony area projecting into the cavity, together with a number of hair fibres. The keratinous debris which was present has been removed. Accompanying the specimen, radiographs showing that the bony nodules are, in part, formed by teeth.

History: This woman, at the age of 18, was admitted with abdominal pain and, on examination, was found to have a pelvic mass. At operation, a large left ovarian cyst was found that had undergone 360 of torsion, but without infarction; the right ovary was enlarged to approximately three times the normal size. Histology showed that both of these were benign teratomas, or dermoid cysts; the specimen mounted is from the right ovary.

UTERUS - Abruptio placentae - de Couvelaire N.53

This is a uterus of the size expected immediately post-partum, but deep red in colour (de Couvelaire) - infiltration of the uterine wall by blood, said to occur in 5% of all cases of abruptio placentae.

History: This woman was admitted to hospital at the age of 44 in her ninth pregnancy, with an elevated blood pressure, ankle oedema and proteinuria. Some three weeks after admission she presented with pain in the back, vaginal bleeding, and clonic uterine contractions. The foetal parts could not be felt, and a diagnosis of abruptio placentae was made. She was delivered of a still-born child, and a sub-total hysterectomy performed.

FOETUS - Neural tube defect N.54

A foetus, approximately 7.5 cm. in length from crown to rump, showing a gross neural tube defect, with anencephaly and bifid spine extending the full length. The mother of this foetus had a raised alpha-foeto-protein level, one living child with spina bifida and a history of a previous termination of pregnancy with a high alpha-foeto-protein, and the delivery of a foetus similar to the one displayed here.

UTERUS, TUBES, OVARIES - Dermoid cyst N.55

This shows the uterus, both tubes and ovaries; the right ovary is replaced by a cyst, some 8 x 4 x 4 cm; the external appearance suggests a "doughy" growth, and this is, in fact, a dermoid cyst.

History: This is an incidental finding at autopsy.

UTERUS - Leiomyomata N.56

OVARY - Twisted cyst

This shows the uterus with two subserous leiomyomata apparent at the fundus; there is a large ovarian cyst present which is purple in colour, the result of twisting of the ovary on its pedicle.

History: This woman was admitted at the age of 42, following the sudden onset of severe pain in the right iliac fossa. The pain was persistent, and examination showed that she was tender in the right iliac fossa, with marked guarding, and showed rebound tenderness. A mass was felt in the right fornix, and, at laparotomy, the uterus and cyst were removed; the uterus was removed because she gave a history of menorrhagia and had been on the waiting list for hysterectomy.

PRODUCTS OF CONCEPTION N.57

This is a complete gestation sac containing a 12 mm. foetus. There is blood clot at one pole of the sac, while placental tissue can be recognised at the other.

History: This woman, aged 27, was admitted to hospital with vaginal bleeding of some hours' duration. The uterus was enlarged to 8 weeks; an intrauterine device was present. The products of conception were evacuated.

PLACENTA N.61

An apparently normal placenta of some 20 weeks of age. There is a small amount of blood clot adherent to the maternal surface; the umbilical cord is normal and shows three vessels.

History: This was the 8th pregnancy of a woman who had 2 stillbirths and a miscarriage, and 4 live births. She was admitted with an inevitable miscarriage and was delivered of a macerated foetus.

FALLOPIAN TUBE - Ectopic pregnancy N.62

This shows a fallopian tube, distorted, expanded, and ruptured by an ectopic pregnancy; the placenta is visible as fine fronds and there is blood clot present. The foetus is some 6.5 cm in length.

History: This woman was admitted with lower abdominal pain and vaginal bleeding. She had had a past history of a right-sided ectopic pregnancy; her last period was approximately 2 months before admission.

FALLOPIAN TUBE - Ectopic pregnancy N.63

This is a Fallopian tube showing distension of the distal two-thirds up to 2.5 cm in diameter. The cut surface of the extended areas shows organising blood clot, but no foetal parts are visible.

History: The woman, at the age of 25, was admitted to hospital with lower abdominal pain; her last normal menstrual period had been some eight weeks before, with an episode of bleeding for some two-to-three weeks a month before admission. Following the period of bleeding she was seen in another hospital and an intrauterine contraceptive device removed. On the day of the present admission, she gave a four-day history of vaginal bleeding, and a one-day history of lower abdominal pain of acute onset, with runs of spasmodic pain. At laparotomy approximately 500 ml. of blood was found in the abdominal cavity, and the tube was removed.

UTERUS - Red degeneration of a fibroid N.64

A bulky uterus, primarily enlarged by a fibroid some 6 cm across; the whorled surface of the lesion is well seen, and the whole is light purple in colour. The endometrial cavity can be seen compressed and distorted in the lower part of the fibroid. There is a small fibroid in the sub serous position towards the fundus. There are occasional Nabothian follicles in the cervix.

History: This woman went to see her doctor because of an attack of influenza, and a pelvic tumour was found on examination. Her periods had lasted 4 days and occurred at 1-to-4 monthly intervals over the previous 2 years.

UTERUS - Choriocarcinoma N.67

A moderately enlarged uterus showing several haemorrhagic nodules in the outer part of the muscle with a rather poorly defined tumour some 6 x 4 cm in the inner part of the muscle on one aspect of the endometrium.

History: There are no clinical details available; the lesion came from the Gilbert Islands. Histologically the lesion is a choriocarcinoma.

UTERUS - Endometrial polyp N.68

Uterus cut to show endometrial polyp some 3 x 2 cm arising in fundus. In lower part of polyp small cystic areas are seen, derived from acini.

UTERUS - Intrauterine device, misplaced N.69

Slightly enlarged uterus cut to show an IUD incompletely penetrating the muscular wall.

History: Device inserted six weeks post-partum in September 1977, without difficulty and there was no pain at any time. Two months later examination showed no abnormality, twelve months later presented with very heavy periods and uterus was removed.

UTERUS - Pedunculated leiomyoma N.70

Moderately enlarged uterus showing pedunculated tumour arising in myometrium beneath the mucosa and extending downwards through cervix. Two cystic areas present close to surface of lesion one of which contains blood and is likely to be of endometrial origin.

BREAST - Carcinoma N.71

The specimen shows a portion of breast which includes part of the nipple. In the substance of the fatty breast tissue there is a circumscribed area some 3 x 2 cm. where the tissue is light tan in colour and trabeculated. Between the tumour and the nipple there is a haemorrhagic area of irregular outline which is presumably related to the biopsy procedure. The histology of the lesion is that of a papillary adenocarcinoma; the lesion shown here represented one edge of a 4 cm. mass. The sections also showed a widespread intraduct in situ malignancy.

FALLOPIAN TUBE - Hydrosalpinx N.72

The distal half of the tube is distended and thin-walled. The ostium is obviously closed. The fimbriae are not apparent.

History: This was an incidental finding at laparotomy when bilateral ovarian cysts were removed. This woman had, 5 years before, an ectopic pregnancy in this tube.

FOETUS PAPYRACEOUS N.73

The specimen is a flattened parchment-like foetus some 7 cm in length. This is presumably one of a multiple pregnancy.

UTERUS - Adenomyosis and endometriosis N.74

The uterus has been cut to display the endometrial cavity. The wall is slightly thickened, and it is difficult to be certain, by the naked eye, of the presence of adenomyosis described by the Microscopist. Near the junction of the cervix and the body, there is a nodule some 2.5 x 2.0 cm which on the cut surface shows a number of discrete haemorrhagic areas. Microscopy of this area confirmed the presence of endometriosis and suggested that the excised tissue included portion of the bladder wall which was involved by the lesion.

History: This woman had had 4 previous pregnancies and over the year prior to hysterectomy had suffered severe lower abdominal pain, beginning about the 3rd day of the cycle and lasting between 3 and 14 days. Over the same period, she had noted painful contractions of the bladder following emptying during the period in which she had abdominal pain.

OVARY - Granulosa cell tumour N.76

The specimen is portion of an enlarged ovary (identified by the distal portion of the fallopian tube which is present). The ovary is expanded by a rather fibrous-looking lesion which shows a number of yellowish areas. The outer surface of the tumour is nodular. The microscopy of the lesion shows a granulosa cell tumour.

History: This woman noted, at the age of 79, a lower abdominal mass; she had noted some urgency of micturition, with dysuria. Her right ovary had been removed 8 years before; this was a granulosa cell tumour. At laparoscopy on the present occasion, there was evidence of peritoneal spread and postoperative chemotherapy was exhibited. Four months later there was a palpable mass in the right iliac fossa, but she was otherwise well.

UTERUS with Hydatidiform Mole and Foetus N.77

The specimen consists of a pregnant uterus, opened to show a foetus and placental tissue which has undergone hydatidiform change. The placenta is beginning to separate, as evidenced by haemorrhage between it and the uterine wall. The histology was that of a benign hydatidiform mole.

History: This woman was originally seen at 16 weeks with slight bleeding; the following week she was admitted to hospital as the bleeding had continued and the uterus had not changed in size; the foetal heart could not be heard. Sonar examination of the abdomen showed the uterus to be enlarged and partly filled by homogeneous material; the HCG titre was 2,000,000 i.u./l. Seven days postoperatively the HCG titre was 16,000 i.u./l and month later was 1,000 i.u./l. She remains well.

UTERUS - Haemangioma N.79

This is a uterus cut to display a large soft tissue mass distorting the endocervical area. This mass appears to be arising from the body of the uterus and distorting and elongating the endocervical canal; a portion of the mass almost protrudes through the dilated os. The cut surface shows numerous cystic areas 2-3 mms in diameter; some of them are haemorrhagic.

History: This woman presented with menorrhagia and some dysmenorrhea. She had also noted abdominal distension and examination 16 weeks before admission showed a uterus 12-14 weeks in size.

BREAST - Paget's Disease N.80

The nipple is inverted; the areola is poorly defined; there is an eczematous area of skin in the nipple area. On the under surface dilated ducts can be seen. No sections were taken from this, so the presence of an underlying duct carcinoma was not established.

UTERUS - Perforated N.83

On the anterior wall of the uterus, some 7.0 cm above the external os and near the midline, there is a haemorrhagic area in the serosa measuring approximately 1.0 cm across. The perforation extends from the endocervical canal to this point and below this there is an apparent laceration of the canal. There is placental tissue within the uterus.

History: Some 2 years before attempt at termination of pregnancy, the cervix had been cauterised because of a persistent erosion with a vaginal discharge. Difficulty was experienced in introducing a sound into the uterus at the time of termination and the uterus was perforated; hysterectomy was carried out.

UTERUS - Endometrial stromal tumour N.84

The specimen is a greatly enlarged uterus; the endometrial cavity is distorted by a circumscribed multicystic tumour with more solid areas at the periphery. The histology was that of an endometrial stromal tumour; a rate lesion that is regarded as arising in the endometrial stroma and to be of low-grade malignancy. Hart & Yoonessi, 1977, Obstetrics and Gynaecology, 49 393.

History: This woman, at the age of 41, presented with a heavy feeling in the lower abdomen and was noted to have an abdominal mass the size of a 24-week pregnancy. She had had heavy periods and at the time of examination the haemoglobin was 7.4 grams.

BREAST - Fat necrosis and calcification N.85

These are portions of a specimen removed from each breast; they are discoid in outline and show extensive calcification.

History: This woman presented at the age of 41, having a breast augmentation fifteen years before by a technique that was in vogue at that stage. A free graft of fat was taken from the buttocks and inserted behind the breast tissue. Clinically, the lesions are impossible to distinguish from a breast carcinoma and for that reason are usually removed.

UTERUS - Secondary carcinoma of the rectum N.86

The specimen shows a uterus with a tumour infiltrate in the lower part of the body and cervix. From the side it can be seen that tumour tissue is present in the parametrial tissues. The endometrial cavity contains gelatinous material, suggesting that the obstruction may have been present for some time.

History: This patient presented at the age of 60 with a short history of rectal bleeding. She denied any recent change of bowel habit but had been tired and lethargic for a month. Rectal examination showed a hard-craggy mass anteriorly, bulging into and fixed to the vagina. Abdominoperineal resection of the rectum was done, including the lower third of the posterior wall of the vagina. Four months later she had vaginal bleeding and examination showed recurrent tumour. A hysterectomy was then carried out. Some 4 months later she died with recurrent tumour of the pelvis and obstruction of the ureters.

PLACENTA N.88

- Normal; placenta and foetus papyraceous

This specimen consists of a normal placenta with the first part of the umbilical cord, and an abnormal placenta and foetus. The abnormal placenta is small and thin, and the foetus is flattened and parchment-like. The foetus is of approximately the size of sixteen weeks.

History: This was the result of a first pregnancy in a 27-year-old woman who had had hepatitis at the 4th month of pregnancy and was admitted to hospital with a threatened miscarriage at 19 weeks. An abdominal x-ray at 34 weeks showed a healthy child and a dead child. Delivery at term was uncomplicated.

OVARY - Actinomycosis N.89

The cut surface of the ovary shows a number of cysts, some containing thick greenish purulent material.

History: This woman presented with fatigue, pneumaturia and weight loss over a period of several months. Examination showed a mass in the lower abdomen. At operation a right tubo-ovarian mass was found, involving the anterior surface of the bladder and two loops of ileum. There was a fistula to the bladder and to the sigmoid colon. There was a dermoid cyst in the left ovary. Actinomyces Israelii was recovered from lesion.

OVARY - Pseudomucinous cyst adenocarcinoma N.90

The specimen is a partly necrotic tumour showing small cystic areas, arising in the ovary, and attached to the posterior surface of the uterus. There does not appear to be any spread outside the ovarian surface. There are areas of necrosis and haemorrhage apparent.

History: This woman was admitted at the age of 49 with a deep vein thrombosis and investigation showed pulmonary emboli. She was diabetic and grossly overweight (126 kg). While in hospital she improved slowly but developed abdominal pain and vomiting; her renal function deteriorated, and she became pale and shocked. Blood cultures taken at the time grew an E. coli but Proteus mirabilis was recovered at post-mortem. At autopsy disseminated intravascular coagulation was demonstrated. A mucocele of the appendix was also present.

OVARY - Fibrothecoma N.91

A small brown nodule at the apex of the specimen is the end of a fallopian tube. The ovary has been replaced by a nodular tumour with a yellowish cut surface showing prominent fibrous strands and a number of cystic areas. The histology of the lesion is that of a fibrothecoma.

History: This woman presented at the age of 74 with a large mass in the pelvis which had been present, she thought, for some years.

OVARY - Arrhenoblastoma N.92

The specimen is an ovary enlarged and replaced by tumour; the cut surface shows areas of haemorrhage and of cystic degeneration. It shows a number of yellow areas as well. The microscopy of the lesion is that of an ovarian arrhenoblastoma.

History: This is a very old specimen; no history is available, so we do not know whether or not this tumour was responsible for masculinisation of the patient.

UTERUS - Endometrial polyp N.93

The uterus is moderately enlarged and, in the fundus, shows a partly necrotic polyp.

History: This was an incidental finding in a woman with recurrent carcinoma of the breast who collapsed during anaesthesia and survived unconscious for several months.

UTERUS - Polypoid submucus leiomyoma N.94

In the fundus of the uterus is a dark polypoid lesion some 4.0 cm in maximum dimension. The histology of the lesion is that of a leiomyoma.

History: This woman presented at the age of 43 with intermenstrual bleeding and dysmenorrhoea. Some years before, similar symptoms led to the removal of a large endometrial polyp.

BREAST - Mucoid carcinoma N.95

The specimen has been encased in gelatin; the tumour shown is soft and friable. The specimen shows skin and fat distorted by haemorrhagic, partly necrotic tumour some 10.0 cm across. The original tumour measured some 10.0 x 9.5 cm. and the skin including the nipple was stretched over the tumour. Microscopically this was a mucoid carcinoma; there were tumour cells arranged in sheets and irregular masses supported by an abundant mucoid stroma. No involved lymph nodes were found in the axilla.

History: This woman presented at the age of 67 for investigation of an apparent epileptic attack. The presence of the breast tumour was noted, and the lesion removed. Investigation at the time and following the mastectomy showed no evidence of cerebral metastases.

OVARY - Endometriosis N.96

The ovary is greatly enlarged and shows two large and one small haemorrhagic area. Microscopy confirms the presence of endometriosis; the thin rim of yellowish material seen around the middle-sized lesion is iron pigment.

UTERUS AND OVARIES - Hypoplastic N.98

The uterus is very small; the right ovary has been removed entire for histology while the left ovary is represented by a small nodule below the tip of the tube.

History: This woman presented at the age of 37 because her hair was beginning to fall out. She suffered primary amenorrhoea. Laparoscopy showed "streak" ovaries and a small uterus. Her chromosome pattern was XY. It was decided to remove the ovaries because of the risk of development of a gonadoblastoma and the uterus was removed as well to facilitate replacement therapy.

BREAST - Papillary carcinoma N.101

The specimen shows the cut surface of a piece of breast in which there is a central ovoid area showing cystic spaces in some cases partly and in other completely filled with a coarsely papillary tumour. Towards one end of the specimen there is an 0.5 cm area of similar appearance. The histology of the lesion is that of a papillary carcinoma which has arisen within the duct system, in the sections examined infiltration by tumour into the surrounding tissue is apparent.

UTERUS & CERVIX N.102

- Haematometria secondary to scarring

The cut surface shows a cavity some 4.0 x 2.0 cm in the fundus, apparently almost completely separated from the cervical canal by an area of scar tissue.

History: This woman presented with a regular menstrual cycle but with irregular loss with spotting and occasional flooding relieved by progestogen therapy. Examination showed a retroverted uterus. In the past she had had a caesarean section for a transverse lie. It is assumed that the scarring is secondary to the surgical intervention.

OVARY - Fibrothecoma N.103

The specimen shows an ovoid tumour arising in an ovary. The outer surface is smooth; the cut surface shows a whorled appearance; the lesion is partly white in colour with yellowish areas. There is a cyst at one pole.

History: This woman presented at the age of 60 with lower back pain and central abdominal pain, frequency and nocturia. On examination a nodular mass was found in the pelvis and was subsequently removed. These tumours, which are not common, are thought to arise from the ovarian stromal externa and interna along the margins of the developing follicles. The yellowish areas are an integral part of the tumour and are due to the accumulation of lipid in the tumour cells.

BREAST - Carcinoma N.104

Shown here is a section of female breast with a typical scirrhous carcinoma approximately 2.0 x 1.5 cm towards the lower part of the specimen. The tumour appears to be puckering the surrounding fat; the cut surface is slightly concave as by retraction and the tumour is homogeneous.

UTERUS N.105

Caesarean section, antepartum & postpartum haemorrhage

The specimen is a uterus cut slightly off centre so that the cervical canal cannot be clearly seen; the uterus is enlarged and shows a sutured incision from a classical Caesarean section; the cavity is largely filled by blood clot and placental debris.

History: This woman presented near term with antepartum haemorrhage from placenta praevia. Caesarean section was followed by postpartum haemorrhage and the uterus was removed.

BREAST - Fibrosarcoma N.108

The lesion shown is circumscribed, by the skin on one surface and by fat and a little muscle on the under surface. There is recognisable, apparently normal, breast tissue at one pole. The lesion is formed by an irregularly nodular mass in which there are large cystic spaces. There are also areas of haemorrhage apparent.

History: This lesion had been present for some years in a woman who was 23 years old when the breast was removed. Histologically the solid areas are formed by spindle-shaped cells showing little variation in size and almost no mitotic activity. The lesion has been variously described as cystosarcoma phyllodes (foliage-like, branching protruberances of tumour tissue within cystic spaces) and as giant fibroadenoma. A small proportion of these tumours metastasize so that the name fibrosarcoma is probably appropriate. The patient is alive and well and free of metastatic disease 20 years after the breast was removed.

FOETUS - Cyclops & neural tube defect N.110

There is a single palpebral fissure enclosing a double globe. There is a proboscis directly posterior to this, there is obviously little cerebral tissue present and there is an associated neural defect posteriorly. There do not appear to be any limb defects.

BREAST - Intracystic papillary carcinoma N.111

The cut surface of the breast shows a number of cysts measuring up to 9.0 x 5.0 cm. The remnants of old blood clot can be seen in one while other show nodular papillary protrusions into the cyst cavity.

History: This woman presented with an abnormal breast at the age of 55. The outcome of the disease is not known.

FALLOPIAN TUBE - Twin ectopic pregnancy N.112

The tube is greatly distended and opened to show 2 gestational sacs - the larger contains a 5 cm foetus and shows placental tissue in the wall over an area some 5 cm across. The 2nd sac contains a barely recognisable foetus approximately 1.5 cm in length, only the umbilical cord can be clearly made out. In the wall there are areas of blood clot, foetal death has obviously occurred sometime before.

History: This woman presented some 3 months after her last menstrual period with occasional spotting. A pregnancy test was reported as negative - approximately 1 week later she presented again with abdominal pain radiating to the shoulders - a pregnancy test was reported as positive. Laparoscopy showed the presence of blood in the abdomen, both recent and old, and laparotomy followed with removal of the left tube.

OVARY - Ovarian tumour N.113

This is a part cystic ovarian tumour with a smooth outer wall. The tube can be seen on the posterior surface. The cut surface shows nodules of tumour demarcated by thin fibrous septae. In several of these nodules very small cystic areas can be seen. The histology of the lesion is that of an endometrioid carcinoma - a lesion in which endometrial-like acini are present and in which the stroma is ovarian in type. Occasional acini are dilated, and these form the small cystic areas seen in the nodules; the larger cystic areas are also lined by an endometrial type of epithelium. It is said that some 20% of all ovarian carcinomas are of this type, but the group forms only some 5% of the total number of ovarian tumours. It is most commonly seen in the elderly.

History: This woman presented at the age of 90 with confusion, congestive heart failure, and a pelvic mass. Death was due to a ruptured aortic aneurysm. No metastases were found from this tumour.

BREAST - Intracystic papilloma N.114

This shows a thin-walled cyst with an ellipse of skin at 1 pole and barely recognisable breast tissue at the other. Within the cyst is a sessile tumour just over 1 cm across. This is said to be a simple papillary tumour. Whether it is the end result of a fibroadenoma or represents an intraduct papilloma is not clear. The specimen is very old and there is no known history.

UTERUS N.115
- Chorio carcinoma with pulmonary secondaries

In the lower part of the jar the uterus has been opened to show that it is expanded and infiltrated by patchily haemorrhagic tumour. The tumour extends down into the endocervical canal. The section of lung above shows multiple rounded metastatic deposits from this tumour.

UTERUS - Endometrial polyp N.116

The uterus is enlarged, and in the fundus, there is a polyp measuring approximately 3 x 1 cm. The point of attachment is not shown. Normal endometrium can be seen lining most of the cavity. The polyp has a rather fibrous appearance, and the tip is haemorrhagic so that there may have been some interference with its blood supply presumably because of the size of the lesion.

OVARY - Secondary carcinoma (stomach) N.117

The ovary is expanded very considerably by tumour tissue. The serosal surface appears normal. The cut surface shows a cystic area in which there are remnants of blood clot containing a discrete nodule of tumour which at 1 pole shows ovarian tissue in which there are the remnants of a corpus luteum haematoma. There is a further cystic area containing blood clot and measuring approximately 2 x 1 cm. This may also be a corpus luteum haematoma although its origin is not as clear as the first described.

History: This patient presented originally with a carcinoma of the stomach and sometime later presented with an abdominal mass. One ovary weighed 700 grams and the other 60 grams, and both were infiltrated by tumour with a pattern of adenocarcinoma infiltrating dense fibrous tissue consistent in appearance with an origin from stomach.

FALLOPIAN TUBE - Hydrosalpinx N.118

The tube is enormously distended and convoluted. The fimbriated end is blind and the finbriae are no longer to be seen. At the back of the specimen is a portion of a corpus luteum.

History: This woman presented at the age of 40 with an asymptomatic pelvic tumour. Some years previously she had had tubal ligation and this lesion had followed.

BREAST - Giant fibroadenoma N.119

This very large tumour can be seen to be circumscribed and to show overall a nodular pattern as can be seen when viewed from the side. The tumour appears to be encroaching upon although not invading the nipple, and at 1 point on the skin surface there is a shallow ulcer approximately 1.5 cm long and 0.5 cm wide. This is presumably due to pressure interfering with the blood supply to the skin in that area. The cut surface has a brownish colouration which is probably artifact, the result of age. The cut surface shows a general whorled pattern with a number of cystic areas ranging in size from less than 1 mm to 1 mm at the periphery which is some 4 x 1 cm. These cystic areas are lined by epithelium and form the "adenomatous" part of the fibroadenoma. The whorled solid areas are formed by proliferating fibrous tissue. This is a very old specimen, most of the lesions of this nature seen today are no more than 2-3 cm in size.

UTERUS - Endometriosis N.120

This is a hemisection of a uterus of normal size showing for the most part a smooth serosal surface. In the lower part of the body anteriorly there is a nodule of partly cystic tissue measuring approximately 2 x 2 cm. The presenting surface of this shows patchy areas of haemorrhage. The cervix is unremarkable. Histologically the area on the surface showing patchy haemorrhage is in fact a piece of bladder wall to which the uterus was adherent.

History: This woman presented with infertility and histological evidence of endometriosis in the connective tissue deep to the perineum. She did not respond to attempted hormonal suppression and finally the uterus and adnexae were removed together with the portion of involved bladder to which the uterus was firmly adherent.

UMBILICAL CORD - Knotted N.121

True knots occur in the cord when loops form through which the foetus can pass. If these are drawn tight when the foetus descends in labour stillbirth, secondary to anoxia, can occur. These knots are to be distinguished from the common occurrence of nodular aggregations of Wharton's Jelly which are not significant.

PLACENTA - Velamentous insertion of the cord N.122

The umbilical cord is usually attached near the centre of the foetal surface of the placenta but may be inserted at any point between the centre of the margin. In some cases, as here, it is inserted into the membranes, i.e. a velamentous insertion. This has no clinical significance.

FALLOPIAN TUBE - Ectopic pregnancy rupture N.123

The tube as such is not recognisable but the walls are represented by the lighter brown layer of tissue seen over much of the specimen. The tube is expanded and distorted by clotted blood and organising blood clot can be seen on the outer surface of the tube. Towards the centre there is a cavity approximately 2 cm in diameter in which there is a 9 mm embryo.

History: At the age of 25, this woman presented with vaginal bleeding and lower abdominal pain which led to the diagnosis and treatment of a left ectopic pregnancy. Nine months later she presented with a threatened miscarriage and 1 month after this described the onset of vaginal bleeding and lower abdominal pain. At operation 500 ml of old blood clot was found in the peritoneum and a partly ruptured right ectopic pregnancy was demonstrated and the tube removed.

OVARY - Stein-Leventhal "Syndrome" N.124

The ovary is enlarged 2-3 times; the outer surface is thickened; the cut surface shows numerous cysts arranged along the periphery. No corpora lutea can be seen. It is assumed that the cysts represent follicles which have not been able to mature.

History: This was an incidental finding at autopsy in a woman whose obstetric history was not known.

OVARY - Dysgerminoma N.125

The specimen is a markedly enlarged left ovary with an oviduct stretched over its superior surface. The ovary is expanded and replaced by a homogeneous brown tumour mass with focal areas of cyst formation.

History: The patient, a 9-year-old female, presented with a two-month history of left flank pain associated with intermittent vomiting. She was treated for a urinary tract infection and the symptoms persisted. On examination a mass was palpable above the symphysis pubis which persisted after micturition. Laparotomy showed a large left ovarian tumour which was completely removed.

PLACENTA N.126

- Velamentous insertion of umbilical cord

The specimen is a normal-sized placenta with attached umbilical cord. The umbilical vessels are intensely convoluted and varicose. They ramify and anastomose to form a single umbilical cord which contains three vessels. Occasional infarcts are seen on the maternal surface of the placenta.

History: The patient, a primagravid, was delivered of a healthy female at 40 weeks gestation. The pregnancy had been complicated by a retroverted incarcerated uterus at 14 weeks which was corrected under general anaesthesia.

UTERUS N.127

- Squamous cell carcinoma cervix

Specimen consists of a bisected uterus; part of the right broad ligament is still attached. There is an invasive tumour situated in the cervix, extending up through the lower segment into the uterine body. The surface of the cervix is completely eroded and ulcerated. Foci of necrosis and haemorrhage are present. The uterine body is enlarged and there is a moderate degree of induration. The uterine lumen contains purulent material. Microscopic examination of the tumour showed it to be an invasive squamous cell carcinoma.

History: This woman died unexpectedly at the age of 54 years and at post-mortem was found to have a pulmonary embolism. The invasive squamous cell carcinoma of the cervix with secondary pyometria was undiagnosed at time of death.

UTERUS AND CERVIX - Scar, lower segment N.128

Specimen is a hemisection of the uterine corpus and cervix sectioned in the median plane. The cervix is normal. Situated in the anterior portion of the lower uterine segment there is a healed scar 4 cm from the cervical os. This scar is the result of two deliveries by lower segment caesarean section for cephelo-pelvic disproportion, 7 and 9 years prior to hysterectomy.

OVARY - TORTION N.129

Specimen consists of an enlarged ovary 6.5 cm in maximum extension. The ovary has been completely replaced by extensive haemorrhage. A residual follicular cyst also containing haemorrhage is seen towards one edge. Attached to the ovary is a portion of fallopian tube. The features are those of acute haemorrhagic infarction of the ovary secondary to tortion.

PLACENTA N.130

- Velamentous insertion of umbilical cord

The specimen is a placenta measuring 10.5 cm in maximum extent with an attached portion of umbilical cord. The umbilical vessels leave the cord and run between the amnion and smooth chorion before reaching the placenta. The features are those of a velamentous insertion of the umbilical cord. There is a moderate degree of retroplacental haemorrhage.

History: Retroplacental haemorrhage with foetal death at 24 weeks gestation.

OVARY - Mucinous cyst, adenocarcinoma N.131

Specimen is an ovarian tumour measuring 21 cm in maximum extent. The tumour is multiloculated and several of the cysts are lined by fibrinopurulent material. Focal areas of haemorrhage are also seen. There is a large solid area of tumour on the left side of the specimen, this shows cystic degeneration. Histologically the tumour had the appearance of a mucinous cyst adenocarcinoma.

History: This 49-year-old female presented with an abdominal mass and underwent oophorosalpingo-hysterectomy for a large left sided mucinous cyst adenocarcinoma of the ovary. Metastatic tumour was noted in the large bowel mesentery. The patient underwent a course of chemotherapy and died of recurrent disease six months after initial diagnosis.

LEFT OVARY - Brenner tumour N.132

The specimen is a hemisected ovary. The majority of the ovary is replaced by a pale tumour mass. The surface of the ovary is lobulated, and the tumour has a firm consistency upon sectioning. Multiple areas of cystic degeneration are seen. The oviduct is stretched over the surface of the ovary and appears normal. Histologically this was shown to be a Brenner tumour. These tumours are characterized by a dense stroma containing nests of transitional epithelium.

OVARY - Benign Cystic Teratoma N.134

The specimen consists of a left ovary which has been sectioned longitudinally. Attached to the ovary is the fallopian tube. The ovary is expanded by a large tumour mass which contains a variety of tissues. The majority of the tumour is composed of sebaceous material which contains hairs. Several cystic structures are seen superiorly and immediately adjacent to the ovarian hilum. The hilar portion of the ovary is oedematous as is the fallopian tube and there are extensive areas of subcapsular haemorrhage. The features are those of a benign cystic teratoma which has undergone torsion. The tumour was found in a 31-year-old female who presented with abdominal pain.

UTERUS - Leiomyosarcoma N.135

The specimen consists of a transected uterus with a separate segment of tissue removed from the uterine body. In the anterior wall of the uterus there is an intramural tumour mass. This has an irregular partially infiltrative margin and is variegated pink and white. In the separate segment of uterine body focal areas of haemorrhage seen. Histologically this is a malignant smooth muscle tumour or leiomyosarcoma of the uterus. No clinical details are available.

OETUS - Anencephaly N.136

The specimen is a male foetus measuring 15 cm in crown heel length. There is a central cranial defect with a protrusion of cerebral tissue. The features are those of anencephaly. There is no associated spina bifida.

OVARY - Ectopic Pregnancy N.138

The upper portion of the specimen is a sectioned ovary. This is markedly expanded by blood clot and membranous tissue. Histologically this contained chorionic villi decidua and blood clot. No foetal tissue was found. The features were those of an ovarian pregnancy. The lower tissue fragment is a normal fallopian tube.

BREAST - Carcinoma N.139

The specimen consists of a portion of breast tissue that includes the nipple. The nipple is inverted and immediately underlying it there is crescentic area of induration. Histologic examination showed this area to contain poorly differentiated ductal carcinoma.

BLADDER - Transitional Cell Carcinoma N. 140

Specimen consists of transected bladder and uterus. The lumen of the bladder contains recent blood clot and there is widespread ulceration of the surface mucosa. The wall of the bladder is thickened and extensively infiltrated by carcinoma. The tumour extends into the lower uterine segment which is firmly adherent to the external surface of the bladder. Histologic examination showed the tumour to be a high-grade transitional cell carcinoma.

O

MALE REPRODUCTIVE

TESTIS - Seminoma O.2

The specimen is not readily identifiable as testis. There is a segment of normal testis at the upper left between 9 and 11 o'clock. The testis has been expanded and replaced by greyish tumour, in which there are areas of necrosis.

TESTIS - Thrombosed varicocoele O.4

The specimen consists of testis, epididymus and cord. Between 9 and 11 o'clock on the specimen there is a hydrocoele; at the lower pole of the testis, part of the epididymus can be seen. The epididymus is otherwise not recognisable, being expanded by a haemorrhagic cystic area 5 x 1 cm., surrounded by dense fibrous tissue. The testis itself is, perhaps, rather smaller than usual, and shows a thickened tunica. The cord appears normal. This lesion was initially regarded as infected but, when the swelling produced by the thrombosed varicocoele did not subside, the testis was removed.

TESTIS - Seminoma O.5

The specimen consists of a greatly enlarged testis, to which is attached the spermatic cord. In the upper right-hand corner of the specimen, between 1 and 2 o'clock, there is a segment of surviving testis; the organ is otherwise replaced and greatly expanded by a greyish-white tumour, in which there are areas of necrosis.

TESTIS - Teratoma O.6

The specimen is a testis and cord. At the upper pole of the testis, as identified by the position of the cord, the testis is expanded by a cystic structure, which appears circumscribed; at the lower pole, there is normal testicular tissue. The tumour, which is a teratoma, shows multiple cysts with some small areas of calcification.

TESTIS - Teratoma O.7

The specimen consists of a testis and cord. There is surviving testicular tissue at the upper right-hand corner in the 2 o'clock position. The testis is expanded and replaced by tumour, showing multiple small cysts, areas of haemorrhage and necrosis and, in some areas, what appears to be cartilage.

TESTIS - Torsion O.9

The specimen shows a rather small testis and epididymis, with areas of haemorrhage throughout. The outer surface shows haemorrhagic discolouration.

TESTIS - Seminoma O.10

The specimen consists of cord, epididymis, and testis; there is no obvious surviving testicular tissue, although the testicular capsule is intact. The testis is replaced, and somewhat enlarged, by white tumour tissue, in which there is an occasional small area of haemorrhage.

TESTIS - Infected hydrocoele sac O.11

The specimen shows a thick-walled structure, lined by necrotic material. This is not identifiable as testis nor, indeed, as a hydrocoele sac.

History: The patient presented with a 3-4-year history of scrotal swelling.

TESTIS - Torsion O.12

An infant testis, epididymis and cord intensely congested, with the cord showing several twists.

TESTIS - Seminoma teratoma O.13

A testis and cord; in the lower left-hand corner of the specimen, a rim of testicular tissue can be seen; the testis is greatly enlarged by tumour which, in the lower part, is white and homogeneous, with several pinkish areas while, in the upper part, there is a circumscribed haemorrhagic nodule of a teratoma. The total specimen weighed 300g. The histology of the lesion is of a mixed seminoma and teratoma; in the latter, there are areas of choriocarcinoma.

TESTIS - Chronic epididymo-orchitis O.14

The central feature here is a cavity containing purulent material, walled off from the rest of the tissue by a rim of granulation tissue and fibrous tissue. The testis is compressed to a semi-lunar shape, and there is obvious scarring in the head of the epididymis.

History: This man was admitted to hospital at the age of 77, with pain in his hip following a fall. No fracture was demonstrated, but he was diabetic and had had a previous stroke. He had also a carcinoma of the bladder. He stayed in hospital for some time and, while there, developed an epididymo-orchitis, which led to the removal of the affected area. No organisms appear to have been isolated from the lesion, and there was no histological evidence of tuberculosis.

TESTIS - Torsion O.15

A testis and part of the spermatic cord, showing intense congestion.

History: This boy presented at the age of 19 with pain in the left groin four days prior to admission, with progressive swelling and increasing pain in this area. Both testes wer undescended.

TESTIS - Teratoma O.16

This consists of an enlarged testis and spermatic cord. The testis is enlarged by tumour, white in colour, and spongy in appearance. There is a rim of normal testicular tissue apparent on one side of the specimen. The tunica appears intact.

History: This man presented at the age of 21 with a swelling in his left testis. HCG levels were reported as 40 IU/Litre. Histologically, this was shown to be a malignant teratoma. Intermediate Type A.

TESTIS - Seminoma O.17

This shows a portion of testis and epididymus with, at the upper pole, circumscribed nodule 1.5 cm. in diameter.

History: This man presented at the age of 46 with a swelling of his left testis, which did not improve on antibiotices. The histology is that of a seminoma; the tumour from which this specimen came is 5 cm. in diameter.

TESTIS - Hydrocele O.18

On the left-hand side, the hydrocele sac has been opened, and the testis incised; the testis is, perhaps, a little small. The lining of the hydrocele cavity is smooth. On the right-hand side, the hydrocele sac has not been opened, and it can be shown by manoeuvring the specimen that the sac transmits light, except at the lower left-hand corner where, presumably, the testis lies.

History: This was an incidental finding at autopsy in an elderly man with diabetes, obstructive airways disease and coronary artery disease, who died of bronchopneumonia.

TESTIS - Teratoma O.19

The testis is very markedly expanded by a semi-cystic tumour, showing areas of necrosis and haemorrhage. The surviving testicular tissue can be seen at several points at the periphery.

History: This man presented at the age of 28 with a six-month history of increasing swelling in the right testis. The testis was removed and is described as weighing 634 g. This histology is that of a malignant teratoma, intermediate. No tumour was found in the cord. He was subsequently found to have secondary deposits in the abdominal lymph nodes; these were removed and shown to contain tumour; he was later treated with irradiation and chemotherapy. One year later, he is alive and well.

TESTIS - Torsion O.20

The specimen is an enlarged, haemorrhagic testis with enlarged haemorrhagic epididymus, showing an epididymal cyst some 3 cm. across. Spermatic cord congested.

History: A 62-year-old man presenting with swollen and painful testis; degree of swelling and pain was such that provisional diagnosis of epididymo-orchitis was made. He failed to respond to antibiotics and scrotum was explored, with removal of infarcted testis and epididymis.

TESTIS, EPIDIDYMIS & CORD O.21
- Testicular gangrene

The outline of the testis is preserved as is that of the epididymis, but no normal testicular tissue can be seen. The testis is haemorrhagic and shows areas of necrosis.

History: This man was admitted with bilateral epididymo-orchitis which failed to settle on antibiotics. Both testes were found to be gangrenous at operation and were removed.

TESTIS - Seminoma O.22

The testis is grossly enlarged by a tumour which is homogeneous, except for areas of haemorrhage. The testicular capsule appears intact.

History: A sudden increase in the size of the right testis was reported at the age of 10 years. The testis was removed and the owner reports that the dog has suffered no untoward effects and is still fit and well at the age of 12 years.

TESTIS - Torsion O.24

This is a child's testis and epididymis; the cut surface shows that both are infarcted.

History: This 3-year-old child was admitted with a 24-hour history of swelling and redness of the scrotum without pain. At operation a full 360 torsion was demonstrated.

TESTIS - Teratoma and choriocarcinoma O.25

The specimen consists of approximately half a testicular tumour (there is nothing about the specimen that identifies it as testis). The cut surface shows no recognisable testicular tissue except perhaps near the apex of the specimen; there is a circumscribed pale nodule in which there are cystic areas while the rest of the surface shows small cysts and areas of haemorrhage. The microscopy of the tissue is that of a teratoma with areas of choriocarcinoma.

History: This lesion came from a 20-year-old man; the outcome is not known.

TESTES - Bilateral seminoma O.26

These small testes are very largely replaced by yellowish homogenous tumour; in the smaller a partial rim of surviving testis can be seen. The specimen comes from a dog, in which these tumours are not uncommon.

TESTIS - Granulomatous orchitis O.28

The specimen consists of a testis sectioned longitudinally. The epididymis and a small segment of cord is attached. The testis is enlarged, the tunica albuginea is thickened, and the testicular architecture is effaced by a diffuse creamy infiltrate. The epididymis and cord are swollen. Microscopic examination of the testis showed a granulomatous orchitis with associated vasculitis. Features were diagnostic of syphilitic orchitis.

TESTIS & EPIDIDYMIS - Tuberculous epididymitis O.29

This is a very old specimen and one which is not likely to be seen today. The epididymis is seen to be elongated and expanded by necrotic material demarcated from the surrounding by a dense fibrous tissue. This is a classical fibro caseous tuberculosis. The testis although compressed is not involved by the disease. Laterally there is a caseous nodule which may well have been communicating with the skin to produce a tuberculous sinus.

TESTES - Hydrocoele O.30

The specimen is a large thin-walled sac which trans illuminates. This was removed from a 16-month-old child.

TESTIS - Tuberculosis O.31

The specimen is a transected testis with attached epididymis and a short portion of cord. The epididymis has been largely replaced by an area of cystic degeneration. This shows widespread caseation. A further focus of caseous necrosis is seen underlying the lower pole of the testis within the thickened tunica vaginalis. The features are those of tuberculous epididymitis.

TESTIS - Infarction, hydrocele, and varicocele O.32

Specimen is a transected left testis with attached cord. The cord contains a varicocele. The tunica vaginalis is included, this is thickened in areas and there is a moderate hydrocele. The hydrocele sac is line by blood clot and proteinacious exudate. An intravascular coil is present towards the cut edge of the cord. The testis shows diffuse haemorrhagic infarction as does the overlying appendix testis.

History: The patient had a long-standing varicocele, and attempts were made to thrombose this by the introduction of a coil into the venous system. Microscopically the vessels of the epididymis showed widespread obliterative endarteritis which has resulted in testicular infarction.

TESTIS - Sertoli cell tumour O.33

This specimen is a hemisected testis with an attached portion of cord. Situated in the central portion of the testis and compressing the rete testis there is a semi-spherical tumour mass. This is pale and has a firm consistency. On sectioning this was shown to be a Sertoli cell tumour with no histologic evidence of malignancy.

History: The patient presented with a short history of painless testicular swelling.

TESTIS - Haemorrhagic infarction O.34

The specimen is a testis with attached portion of cord and adjacent tunicavaginalis. The appendix testis is seen at the lower pole of the specimen. The testis and appendix testis show diffuse haemorrhagic infarction. There is a small secondary hydrocoele and the parietal surface of the tunicavaginalis is lined by organized blood clot.

History: This 44-year-old male presented with a short history of painful testicular swelling. At operation it was found that the testis had undergone torsion with haemorrhagic infarction.

TESTIS - Infected Hydrocele O.35

The specimen consists of the tunica vaginalis which is markedly thickened. The wall contains areas of haemorrhage and pale necrotic material is seen on the luminal surface. The testis is contained within the expanded tunica vaginalis. The normal testicular architecture is obliterated by fibrosis. The clinical history is not known.

R

ENDOCRINE SYSTEM

THYROID GLAND - Adenoma R.1

The specimen is a circumscribed nodule showing on the outer surface numerous blood vessels; the cut surface has a yellowish trabeculated appearance in which are several cystic cavities up to 2.5 cm. in diameter. There is an occasional area of haemorrhage. The specimen is not readily recognisable as coming from thyroid apart from a suggestive of thyroid tissue at the base.

TRACHEA, R.2
THYROID GLAND & PARATHYROID ADENOMA

The specimen shows an adult trachea and a normal thyroid gland; when the specimen is viewed from the right-hand side on ovoid nodule approximately 1.5 x 1 cm is seen; this is distinct from the inferior pole of the thyroid and is a parathyroid adenoma.

ADRENAL GLANDS AND UTERUS, R.3
TUBES AND OVARIES
- Congenital hyperplasia of the adrenal glands.

This shows 2 enlarged adrenal glands (at autopsy these weighed 20 g). The adrenals are normal in contour but much bigger than normal. Beneath is mounted a uterus together with the tubes and ovaries which come from a neonate. This child presented as a male and died in what, in retrospect, could be described as an Addisonian crisis.

THYROID GLAND - Carcinoma R.5

The cut surface of the specimen shows several nodules of capillary tissue, greyish in colour and with areas of haemorrhage; towards the right of the specimen there is a more homogeneous area rather poorly defined. This specimen is not readily recognisable as thyroid tissue except perhaps from the side.

THYROID GLAND - Adenoma R.6

The specimen shows the cut surface of a thyroid nodule; there's recognisable thyroid tissue at one side. The nodule is composed of brownish tissue in which there are small areas of haemorrhage towards the base and one large area at the top where there is blood clot. Histologically, but not necessarily visually, this is a simple thyroid adenoma.

KIDNEYS AND ADRENAL GLANDS R.7 - Bilaterial Adrenal Haemorrhage

The specimen shows neonatal kidneys each surmounted by a well-defined haemorrhagic mass in the position which the adrenals would occupy; the shape of the mass corresponds to the shape of the adrenal glands which in this case are considerably enlarged.

History: This child died shortly after Caesarean section in which 35 minutes were taken to resuscitate the child. No cause for the haemorrhage was found.

PARATHYROID GLANDS - Adenomata R.8

The specimen shows part of three parathyroid adenomas; they are noted to be circumscribed greyish nodules lying in recognisable thyroid tissue in the case of the two larger.

ADRENAL GLAND - Infarction R.9

The specimen shows 5 pieces of adrenal gland, 3 from one adrenal and 2 from the other. The specimen mounted to show the long axis of the adrenal shows that approximately half of the gland is infarcted; the area involved is greyish in colour and shows an obvious haemorrhagic infiltrate. The specimen mounted to show the cut surface of the gland shows the same features but in a patchier way. The specimen cut in the long axis demonstrates rather more clearly the effect of involvement of a single vessel. The patient showed adrenal vein thrombosis not demonstrated in the specimen.

THYROID GLAND - Adenoma R.10

This nodule shows thyroid tissue on the left-hand side stretched over a nodule; the nodule which is sharply circumscribed and indeed appears to be capsulated is formed by greyish tissue in which there are areas of haemorrhage and calcification.

THYROID GLAND - Simple nodules R.11

This specimen shows the posterior surface of the thyroid; the right lobe is normal while the left lobe is expanded by two nodules measuring up to 2.5 cm. The smaller nodule shows areas of scarring and calcification while the larger nodule, at the lower pole, shows some cyst formation.

THYROID GLAND - Hashimoto's disease R.14

A portion of thyroid gland which is enlarged; the cut surface shows a nodular pattern and a very distinctive yellowish colouration.

History: This woman, at the age of 58, presented with a throat swelling; we have no record of investigations at that time, but she was apparently treated with potassium iodide tablets for 3 months without improvement. She subsequently came to surgery, when this gland was removed. The histology was that of Hashimoto's disease.

THYROID - Nodular goitre R.15

Viewed from the front of the jar, one can see that the thyroid is extensively enlarged by numerous nodules, measuring up to 4 cm. in diameter; some of these nodules show degenerative changes, while other appear to consist entirely of colloid. The reverse side of the specimen shows more clearly the extent of the lesions, with considerable enlargement of both lobes, and involvement of the isthmus. The lower pole of the right lobe extends downwards for some centimetres.

History: This young woman presented at the age of 22 years with a history of gradual enlargement of a goitre, recently causing difficulty with breathing and swallowing. At operation, nodules were found extending behind the oesophagus on the right side below the clavicle. The histology of the lesion was that of a simple nodular goitre.

THYMUS - Teratoma, malignant R.16

A lobulated tumour, approximately half of it cystic and containing gelatinous material. Towards one side there is a circumscribed nodule some 8 x 5 cm.; the surface shows a number of blood vessels, much solid tissue and a number of
cystic spaces. The white material in the cystic area is not explained.

History: This young man was referred for investigation at the age of 19 because a miniature X-ray had shown an abnormal mediastinal shadow. Various investigations were done, including angiography, which established the presence of an anterior mediastinal mass, which was subsequently removed. An enlarged lymph node was found in the left tracheobronchial angle, and tumour tissue was present at the apex of the left upper lobe of the lungs. Microscopy established that this was a well-differentiated terratoma, with the usual benign, well-organised elements but with, in addition, malignant tissue classified as "endodermal sinus tumour (yolk-sac carcinoma)". He died from his disease within 2 months.

THYROID GLAND - Simple colloid nodule R.17

This shows a thyroid gland, with an enlarged right lobe; the cut surface shows a nodule in which there are a number of aggregates of colloid. The left lobe and isthmus appear normal.

History: This was an incidental finding at autopsy in a man who died of ischaemic heart disease.

ADRENAL GLAND - Nodular hyperplasia R.20

Somewhat enlarged adrenals showing, in the cortex a number of moderately well-defined nodules of yellowish tissue measuring up to 0.5 cm. in diameter.

History: This was an incidental finding in a woman aged 80 who died from a carcinoma of the lung. Sections of the adrenals showed no tumour deposit, and there was no evidence that the nodules were functioning.

ADRENAL GLAND - Secondary Carcinoma R.22

The specimen shows kidney which is unremarkable and the adjacent adrenal gland which is expanded and replaced by tumour.

History: This man had a history of tuberculosis of the right lung with a right lower lobectomy in 1953. In December 1975 he presented with swelling of the face and breathlessness and subsequently was found to have osteolytic lesions in the ribs and vertebrae. Biopsy of a rib showed a poorly differentiated carcinoma. At autopsy the lesion was found to be a poorly differentiated adeno-carcinoma probably arising from the lung with secondaries in adrenals and bones.

ADRENAL GLANDS - Bilateral haemorrhage R.24 (Waterhouse-Friderichsen syndrome)

The specimen shows both kidneys and adrenal glands from a child; the adrenal glands are swollen and haemorrhagic.

History: This child had a cold a week prior to death; at autopsy meningitis was demonstrated, from which haemophilus influenzae were recovered.

THYROGLOSSAL CYST R.25

The specimen consists of the epiglottis and glottis and shows anteriorly, a cyst some 3 cm. in diameter containing brownish, gelatinous material the cyst lies immediately below the level of the hyoid bone. The isthmus of the thyroid gland is formed by a downgrowth of a tube of epithelium from the base of the tongue; the upper portion of this tube above the hyoid bone is lined by squamous epithelium; if this persists and obstruction occurs, it may give rise to a "lingual dermoid". The lower part of the duct, below the hyoid bone, is lined by columnar ciliated epithelium and thyroglossal cysts arise from this, although more usually the duct undergoes involution.

BRAIN R.26

- Chromophobe adenoma of the pituitary

At the base of the brain there is a haemorrhagic mass some 3 x 2 cm; there is haemorrhage in the surrounding tissues and in the brain immediately above, presumably due to surgical intervention.

History: This patient, at the age of 27, was admitted for investigation of "brain tumour". At operation some days later, the lesion was partly removed and following this he developed a right-sided paralysis and shortly afterwards died. At autopsy, the pituitary was replaced by tumour which had expanded the fossa and extended into the anterior fossa on the left. The tumour was distinct from the optic chiasma; the third ventricle was compressed from below. Histologically the lesion was a chromophobe adenoma of the pituitary.

ADRENAL GLAND - Calcified R.27

The gland is somewhat reduced in size although its general shape is maintained. The surface is nodular and examination of the gland before mounting showed extensive calcification. This is likely to be due to old tuberculosis; the state of the opposite gland is not known but if affected in this manner some degree of adrenal insufficiency must have been present.

THYROID - Simple adenoma R.28

The specimen shows an enlarged left lobe of thyroid gland; the cut surface shows a simple nodular goitre. There is one small nodule visible in the right lobe posteriorly.

History: This was an incidental finding at autopsy in a woman who died of pulmonary embolism.

PARATHYROID - Adenoma R.29

In the lower part of the right lobe of the thyroid gland there is a roughly spherical nodule approximately 1.5 cm in maximum diameter which is encapsulated and white in colour.

History: This woman, at the age of 50, died suddenly. She had a vague illness over the previous 2 years; shortly before her death she was restless and could not sleep, then developed difficulty in breathing and died. Bronchopneumonia was demonstrated at autopsy; the histology of the lesion is that of parathyroid adenoma and there was calcium deposition apparent in the smaller blood vessels of the heart, kidney, liver, thyroid and spleen, and in capillaries in the alveolar walls. There were larger areas of metastatic calcification in the kidneys and heart.

THYROID GLAND - Carcinoma R.31

The general outline of the thyroid gland is preserved but the right lobe is grossly enlarged by nodules of tumour tissue; there are areas of necrosis present. The left lobe appears normal. The tumour is compressing the trachea.

History: This woman presented at the age of 72 with increased difficulty in swallowing and occasional episodes of dyspnoea which became acute, and she was admitted in a state of anxiety because of difficulty in breathing. Before a tracheotomy she had a cardiac arrest and subsequently developed a respiratory arrest which was irreversible. She had known of a swelling in her thyroid gland for some 50 years. At autopsy, metastatic deposits were found in lung, heart, adrenals, and local lymph nodes.

THYROID GLAND - Medullary carcinoma R.32

The specimen consists of a thyroid gland viewed from behind, showing the right lobe expanded by partly haemorrhagic tumour to some 6.0 x 3.5 cm. The left lobe is also expanded by a nodule. The histology of the lesion in the right lobe is that of a medullary carcinoma, while the lesion in the left lobe is a simple thyroid nodule.

History: This woman, at the age of 52, had been aware of the thyroid swelling for 24 years. She visited her doctor for a routine check and on examination a hard lymph node was found at the upper end of the right sternomastoid muscle. One year before that had not been present. Further examination showed 3 hard lymph nodes in the deep cervical chain. A total thyroidectomy was carried out and a modified block dissection of the right side of the neck was done. Histologically these lymph nodes were involved by tumour. One month later there was evidence of secondary deposits in rib, sternum, and cranial vault; she continued to deteriorate and died some six months after surgery.

ADRENAL GLAND - Phaeochromocytoma R.33

The specimen shows part of a haemorrhagic encapsulated tumour in which there are a number of cystic spaces. A thin layer of adrenal cortex can just be made out at the lower pole of the specimen. Histologically the lesion is a phaechromocytoma.

ADRENAL GLAND - Secondary carcinoma R.34

The gland has been bisected to show that it is expanded by a homogeneous pale binodular lesion which histologically shows the appearances of a poorly differentiated carcinoma and as such is regarded as secondary. A likely primary source is lung.

PITUITARY GLAND - Adenoma R.35

There is a large tan-coloured nodular rough-surfaced mass lying to the right of the brain stem. This extends into the right temporal lobe and shows the right internal carotid artery at its upper border. There is no apparent increase in intracranial pressure.

History: This man presented at the age of 60 with diplopia. An enlarged pituitary fossa was demonstrated, and biopsy showed an eosinophilic adenoma. He developed the features of acromegaly and latterly showed symptoms suggestive of extension of the tumour into the right cerebral hemisphere.

ADRENAL GLAND R.36
- Carcinoma of the adrenal cortex

This roughly hemispherical mass measured some 10.0 cm. in maximum dimension. The cut surface shows a nodular pattern and is brownish in colour with areas of necrosis. Microscopy showed this to be a carcinoma of the adrenal cortex.

History: This man was admitted to hospital with a 3-month history of tiredness and loss of appetite and a marked weight loss. He described night sweats. Investigation showed proteinuria and numerous white cells in the urine; there were hyaline and granular casts present. His liver was markedly enlarged. A renal biopsy showed membranous glomerulonephritis; further investigations showed a mass in the right renal area and his abdomen was explored. A 10.0 cm. mass was felt above and separate from the superior pole of the right kidney behind the peritoneum. Some 3 weeks after discharge he was readmitted with abdominal pain. He died in hospital before investigations were complete and permission for autopsy was refused.

THYROID - Simple nodular goitre R.37

This is a markedly enlarged thyroid showing numerous nodules up to 3.0 cm. in diameter. There are obvious areas of haemorrhage present, and some nodules are quite clearly surrounded by fibrous tissue. The histology of the lesion is that of a simple nodular goitre.

History: This woman presented at the age of 72 with a large thyroid gland which had been slowly enlarging over the years.

PANCREAS - Islet Cell adenoma R.38

The specimen consists of much of the body of the pancreas; at the tail there is a circumscribed tumour approximately 1.5 cm in maximum diameter. The cut surface looks rather fibrous and pale.

History: This woman first presented at the age of 22 with a two-year history of urinary tract infections; renal calculi were demonstrated, and the serum calcium was elevated. One parathyroid adenoma and 3 normal parathyroid glands were removed. Three years later she presented with hypoglycaemia; the cause could not be demonstrated until 2 years later when the present lesion was resected, and a second adenoma of similar size was enucleated from the upper surface of the pancreas. Two years later there was evidence of recurrent hyperparathyroidism and her neck was again explored and 1 parathyroid adenoma and 4 probable adenomas were removed. (Multiple endocrine adenomas - Type I).

THYROID GLAND - Congenital hypoplasia R.40

The specimen shows the larynx and thyroid cartilage with the upper part of the trachea. The thyroid gland can be seen in its usual position, but it is obviously very small.

History: The patient was a woman who died at the age of 20 following a cardiorespiratory arrest of undetermined cause. She had been institutionalised since childhood because of mental retardation; latterly she had been maintained euthyroid but without any mental improvement.

HYOID BONE - Thyroglossal cyst R.41

Running at an angle to the transverse through the middle of the specimen is a portion of the hyoid bone. Below is a 1.5 cm ovoid cyst, and above is a 1.5 cm fibrous cord. The cord and cyst are in continuity, the cyst representing the dilated portion of the thyroglossal duct and the cord, the almost obliterated portion, running to the base of the tongue.

History: This woman at the age of 28, noticed a lump in her neck, it varied in size but there was no pain. Examination showed a lump in the left upper part of the neck below the hyoid bone and above the thyroid. The lump was mobile and not tender and could just be seen to move with her tongue.

ADRENAL GLAND - Cortical adenoma R.42

On the reverse of the specimen adrenal cortex can be seen both spread over the lower part and on the cut surface from the top. The lesion is a circumscribed tan-coloured mass in which there are areas of haemorrhage and necrosis. This is an unusually large lesion and may well have been associated with Cushing's disease, but the history is not known.

KIDNEYS, ADRENALS, PANCREAS & SPLEEN R.43

- Waterhouse-Friderichsen Syndrome

Specimen consists of kidneys, adrenals, pancreas, and spleen. The kidneys are dissected to show the renal arteries and ureters, the renal arteries taking their origin from the aorta. The kidneys show foetal lobulation and there is an area of subcapsular haemorrhage over the anterior surface of the left kidney. The adrenals are slightly enlarged and appear dark and friable. The pancreas is normal. The spleen is hypoplastic. Features are those of bilateral haemorrhagic infarction of the adrenals or the Waterhouse-Friderichsen syndrome.

History: The patient, a 7-month-old girl, was found dead at home. Her parents had noted a head cold one week prior to death. This had been associated with pyrexia and cough. One day prior to death she vomited several times. At post-mortem petechiae were present on the forehead and the cheeks. Post-mortem blood culture grew streptococcus pneumoniae. Death was due to pneumococcal septicaemia complicated by bilateral haemorrhagic infarction of adrenals.

THYROID GLAND R.44

- Angioinvasive follicular carcinoma

The specimen consists of a segment of tumour nodule removed from the thyroid gland. This is encapsulated and appears homogenous apart from two pale areas situated in the periphery. These contain a central focus of haemorrhage. Microscopy showed the tumour nodule to consist of multiple neoplastic thyroid follicles containing colloid. The tumour exhibited only mild nuclear pleomorphism, however there was evidence of angioinvasion in one area immediately adjacent to the tumour capsule.

ADRENAL GLAND - Metastatic carcinoma R.46

Specimen consists of two sectioned adrenal glands. Multiple pale tumour deposits are seen throughout both glands.

History: The patient had undergone mastectomy for breast carcinoma and died some months later with metastatic disease in the lung, brain, and adrenal glands.

S

EYE SECTION

EYE - Retinoblastoma S.1

An eye cut in the long axis to show a brownish, nodular tumour, in which there are areas of necrosis and haemorrhage pushing the retina forward. In this specimen there is no evidence of extra-ocular spread.

EYE - Melanoma S.2

This shows 2 halves, presumably of the same eye, cut in the long axis to show a tan-coloured tumour, nodular in outline, arising in the superior part of the pigmented layer and pushing the retina forwards and downwards.

EYE - Retinoblastoma S.3

An eye cut in the long axis showing in the inferior half a nodular, partly-necrotic tumour, showing white flecks and, at one part, a rather delicate lace-like pattern. The lens has been removed. The tumour appears continuous with the optic nerve, and it may be that the lesion has spread in this way.

EYE - Anterior staphyloma S.4

An eye cut longitudinally to show an anterior staphyloma arising apparently in relation to the ciliary body and iris. These lesions, the result of sustained high pressure, occur at points of weakness such as limbal scars, the ciliary sciera in cyclitis and the equatorial exits of the vortex veins.

EYE - Melanoma S.5

An eye, cut to show a brownish, fairly, sharply-defined tumour, approximately 1.5 cm. in maximum diameter, occupying the inferior part of the eye.

EYE - Neurofibroma of the optic nerve S.6

This shows an eye; in the region of the optic nerve there is a circumscribed light tan-coloured tumour, apparently with a whorled pattern. The posterior part appears to have been biopsied.

EYE - Malignant melanoma S.7

The eye has been opened to show a black lesion approximately l.0 cm in diameter and several millimetres thick detaching the retina. An extension of the tumour through the sclera can be seen at the same level.

EYE - Conjunctival melanoma S.9

The conjunctiva is infiltrated and expanded in a nodular fashion by a lesion which shows a variable amount of pigment. The lesion extends to but not necessarily into one of the muscles of the eyeball. The lesion encroaches upon the iris.

History: This man presented at the age of 57 with a 2-year history of sore, photophobic, red eye. Examination showed an area of melanosis which was biopsied. The particular piece biopsied was benign. Further biopsies were taken 2 and 3 years later and in each instance the lesion was reported as malignant. There is gradual extension of the lesion through the conjunctiva and 5 years after presentation the eye was removed because of the extension and the presence of glaucoma.

EYE - Normal S.10

This is a normal eye.

X

TRAUMA

SPLEEN - Traumatic rupture (delayed) X.1

A slightly enlarged spleen showing an extensive and organising subcapsular haematoma (the capsule has been stripped and removed to display the haematoma).

History: This man was admitted to Hospital at the age of 29 following the onset of acute abdominal pain some 3-4 hours before. The pain radiated to both shoulder-blades, but not to the back. an exploratory laparotomy was undertaken, and the lesion discovered with a moderate amount of blood lying free in the abdominal cavity. Subsequently a history of being involved in a motor-vehicle accident three weeks before was elicited.

STOMACH - Injury X.3

This consists of the greater part of the stomach and shows, on the posterior surface, on the lesser curvature immediately below the cardia, a vertical tear in the mucos, some 3 cm long. The tear extends to the main muscle mass, and the floor of the tear is bloodstained. There is no other lesion apparent.

History: This man was last seen alive, after returning from a fishing trip, at midnight on 26 February 1977; at that time, he complained of severe stomach pains and was later found dead in bed. At autopsy his coronary arteries showed gross atheroma, with pinpoint narrowing of the descending branch of the left coronary artery, and with microscopic evidence of ischaemic scarring in his heart muscle. There were petechiae on the arch of the aorta, and a small bruise at the entrance of the inferior vena cava; the combined weight of his lungs was 1650g, which showed gross oedema in the upper lobes. Death was attributed to coronary artery disease. In addition, he showed a bruise 1 inch in diameter over the mid-point of the sternum and the sternum beneath it was broken. He showed bruises approximately 1 x 1.5 inches in both intercostal spaces between the 5th and 6th ribs, and fractures of the 2nd and 3rd ribs on the right, and of the 2nd, 3rd and 4th ribs on the left in the anterior axillary line. In addition, he showed this lesion of the stomach, and these injuries are attributed to attempted resuscitation.

OESOPHAGUS, STOMACH - Blunt injury X.4

The specimen shows the lower end of the oesophagus and the upper end of the stomach, with an extensive sub-mucosal haemorrhage.

History: There are no details available, except that this man suffered a blunt injury to his abdomen in a motor vehicle accident.

LIVER X.5

- Focal nodular hyperplasia with subcapsular haematoma (Traumatic)

A portion of liver, cut to display towards the anterior edge, a pale circumscribed nodule approximately 1.5 cm in diameter; there is also a subcapsular haematoma present, and a simple cyst of the liver can also be seen.

History: This woman at the age of 55, as a pedestrian, was struck by a car; she suffered a compound fracture of both tibia, fracture of the right femur, a fracture/dislocation of the right elbow, fracture of the right hand and a fracture/dislocation of the 2/3 cervical vertebra (X.20). The disorders of the liver illustrated here were found at autopsy.

OESOPHAGUS - Pierced by bone X.6

The specimen shows, in the upper part, a piece of bone piercing the oesophagus and extending into the aortic arch.

History: This woman came to hospital saying that she had swallowed a piece of bone. An X-ray showed no evidence of this, and she was discharged. One week later she was readmitted complaining of a nagging substernal pain present on exertion and absent when in bed and slight hematemesis the day before admission. After 24 hours in hospital, she had several hematemeses and a massive melena and died. At autopsy a piece of mutton bone 1 inch long was found as shown.

OMENTUM - Foreign body X.7

The specimen shows a needle embedded in fat. The specimen came from a 20-year-old obese, psychiatrically disturbed patient whose skin showed many scars from self-inflicted wounds. A year before this needle was removed, the patient had pushed the needle through the abdominal wall, as she had done on several previous occasions.

TONGUE, TRACHEA & BOTH LUNGS FROM AN INFANT - Foreign body X.8

The specimen is self-explanatory, showing a portion of a peanut impacted in the right main bronchus, just beyond its origin. There are some small areas of haemorrhage in each lower lobe, which may represent violent respiratory effort, but there is no certainty in this. There appear to be some small areas of haemorrhage at the base of the epiglottis.

TRACHEA - Tracheostomy X.9

This shows the trachea; there is a 2 cm tracheostomy present in the upper part. The trachea below the tracheostomy is extensively ulcerated and shows several areas of exudation in the lower part.

History: This young man was admitted with head injuries and a fracture of the right tibia, and of the left femur, following a motor vehicle accident; he was a front seat passenger. He died 14 days after admission, having had a tube in his trachea for that length of time. He also had a naso-gastric tube in place and his oesophagus was ulcerated at the lower end of the larynx, and at the level of the tracheal bifurcation. At autopsy a fractured skull was found; the cause of death was given as bronchopneumonia.

TRACHEA X.10

The specimen shows a cross section of the trachea with, anteriorly, a track leading to the innominate artery also shown in cross section.

History: This young man was admitted to hospital following a motor vehicle accident in which he had been thrown from the vehicle, sustaining a fracture dislocation in the region of the second and third cervical vertebrae. He survived in hospital for 12 days, when he died following a massive haemorrhage from the trachea. At autopsy an ulcer 1.5 cm was seen in the larynx; this had penetrated to the oesophagus; there was a further ulcer in the trachea some 3.5 cm above the carina which had penetrated the innominate artery.

HEART - Acute arsenical poisoning X.11

A heart, opened to show extensive subendocardial haemorrhage, mainly in the aortic outflow tract. The heart also shows hypertrophy of the left ventricle, and some apparent scarring within the myocardium, but it is otherwise unremarkable.

History: This man, whether by accident or design, took 2 tablespoonfuls of Morton's arsenical weed-killer.

AORTIC VALVE CUSP - Traumatic rupture X.12

This shows the 3 cusps of the aortic valve. There is a transverse tear, with surrounding bruising in the posterolateral cusps close to the line of attachment.

History: This young man, while hang-gliding at Paekakariki, crashed into the side of a hill, sustaining a vertical circumferential fracture of the skull, fracture of the lower jaw in the midline, fracture of the sternum. There was extensive bruising in the lungs and mediastinum and in the heart, but the ribs were not broken. The lesion shown here is traumatic in origin.

SUBCLAVIAN ARTERY - Aneurysm X.13

The specimen is regrettably rather discoloured but shows an aneurysm some 4.0 cm across arising in the first part of the subclavian artery. This young man died following rupture of the aneurysm which occurred at the time of a fight. It is not known how the aneurysm came to be there, but it is possibly traumatic in origin.

AORTA - Traumatic tear X.14

The aorta has been opened to show an intimal tear approximately 1.5 cm long just below the ductus arteriosis. The aortic dimple at the site of the ductus is unusually large and one can see, on the pulmonary artery side of the ductus, a nodular protrusion into that vessel.

History: Approximately 4 weeks before his death, this man was involved in a motor vehicle accident in which he sustained a number of fractured ribs. He developed renal failure and died from perforation of the stercoral ulcer of the sigmoid colon. In chest injuries, the aorta can be torn in the region of the ductus arteriosis, which presumably forms a relatively fixed point against which the aorta moves in the shearing strains imposed by chest deformity. If the tear goes deeply enough, then death can occur from bleeding; on occasions an aneurysm can form at this site.

CERVICAL SPINE - Fracture X.15

The upper cervical spine has been bisected; a fracture can be seen through the first cervical vertebra and there is bruising in the anterior longitudinal ligament with haemorrhage in the dura.

History: This injury was sustained by a 35-year-old woman in a motor vehicle accident; she was a front seat passenger on the right-hand side of a left-hand drive car which was struck on the right side. In addition to this injury, she sustained a ruptured spleen, torn liver, and broken ribs.

CERVICAL SPINE & CORD - Bruising of cord X.16

The specimen consists of the upper part of the cervical spine of an infant, showing bruising of the upper part of the cord over some 2 cm of the central area. There is no obvious fracture of bone.

History: This child was admitted to hospital some hours after it began to vomit and convulse. A short time before this it had been found drinking a glass of wine left over from a party the previous evening; a blood alcohol level of 32 mg/100 ml was recorded some 10 hours after the time of ingestion. The child stopped breathing while in hospital and could not be resuscitated. At autopsy several bruises were found on the under surface of the scalp and the brain was swollen and coning had occurred (necrosis of the cerebellar tonsils was demonstrated microscopically). X-rays showed no skeletal fractures; there was some bruising of the anterior longitudinal ligament of the neck; the bruising of the cord was thought to have occurred during hyperextension of the neck, possibly during a convulsion.

CERVICAL SPINE X.17

- Fracture - Ankylosing spondylitis

This shows collapse of the 5th cervical vertebra, with compression of the cord.

History: This woman had a long history of rheumatoid arthritis and ankylosing spondylitis. Five days before death she fell from a chair; her neck subsequently was painful, and she developed paraesthesia of the hand.

RECTUS MUSCLE - Ruptured X.18

This shows the central portion of the right rectus abdominus muscle; in the lateral part there is a 3 cm tear directed downwards, with surrounding haemorrhage. The tear does not extend through the posterior rectus sheath. The anterior sheath has been dissected off.

History: This man, at the age of 63, had a 1-week history of influenza before his death. Death was due to bronchopneumonia; no virus was isolated. At autopsy, this lesion was seen, with no bruising in the overlying skin. It is presumed due to coughing.

BONE - Bilateral fractures of the tibia X.19

This shows both tibias cut longitudinally to display a fracture. The fracture is much more obvious in one than in the other; in one there is surrounding haemorrhage. The centres of ossification at each end of the tibia are well seen.

History: This child, aged 17 months, died apparently unexpectedly. The child showed fractures of both tibia at approximately the same level, and fractures of the 9th and 10th ribs on the right side. Radiologically these were regarded as being 3-5 weeks old. The child had had at least 1 fall down 15 steps, and enquiry satisfied the authorities that the injuries were accidental in origin.

2/3 CERVICAL VERTEBRA - Fracture/dislocation X.20

This shows the spinal column bisected to display a fracture/dislocation of the 2/3 vertebra, with compression of the cord by haemorrhage and disc material.

History: This woman at the age of 55 was, as a pedestrian, struck by a car; she suffered a compound fracture of both tibia, fracture of the right femur, a fracture/dislocation of the right elbow, fracture of the right hand and the lesion illustrated here. At autopsy there was a subcapsular haematoma in the liver, which also showed a nodule of focal hyperplasia (X5).

SKULL - Fractured X.21

As can be seen by the size of the anterior fontanelle, this is the vault of the skull of a baby and shows bilateral fractures radiating from the central point of each parietal bone. The periosteum has been stripped back during examination of the fractures.

History: This child was the victim of an assault; from the distribution of the fractures, it would appear that pressure was applied equally on either side, but the exact mechanisms by which these were inflicted is not known.

CERVICAL SPINE - Fracture and spinal cord damage X.22

This shows the cervical spine, opened to display the spinal canal. The body of the fifth cervical vertebra is fractured and compressed, and the spinal column related to this shows an area of haemorrhage near its centre.

History: This man was admitted, at the age of 32, with a fracture of the cervical vertebra and total motor paralysis below the 8th cervical segment, and partial sensory loss to pain below the 4th thoracic segment. He had been involved in a motor vehicle accident. Some 5 days after admission, he lost consciousness unexpectedly, and was found to have grossly raised intracranial pressure; he had a fracture of the occipital bone. He died shortly afterwards.

BRAIN - Trauma X.24

A coronal slice of brain through the anterior portions of the temporal lobes; there is gross, extensive haemorrhage both in the sub-arachnoid space and within the substance of the brain with swelling and distortion of the ventricular system. The posterior face of the specimen shows a laceration in the temporo-parietal area on the left and an area of infarction to the right of the midline in the parietal lobe.

SKIN - Lacerations X.25

This shows two pieces of skin, the smaller marked with a portion of tattoo. The specimen has been mounted to demonstrate the relationship between the two wounds, which are some 3 inches apart. The wound on the right, which was on the right side of the neck, is roughly semilunar in shape, has jagged edges and, in the upper portion, shows saucering, indicating the direction in which the injury was inflicted - that is from left to right. The smaller wound shows the same features.

History: This man was involved in a fracas, which ended when he was stabbed in the neck with a broken beer bottle. The main wound extended to the vascular bundle, and there was a transverse laceration inch long in the internal carotid artery, with an inch tear in the internal jugular vein running vertically at the same level. This man survived long enough to reach Theatre but died shortly afterwards.

SKIN AND HEART - Stab wound X.26

The specimen consists of the apical portion of the heart and a piece of skin. There is a 2 cm stab wound in the skin; one edge of the wound is blunt and the other sharp, indicating a weapon sharp only on one side. The heart shows a stab wound approximately 1.5 cm long, suggesting that the weapon came to a point.

History: The wound was inflicted by a carving knife and entered the left side of the chest, between the 4th and 5th ribs, 1 inch to the left of the midline and 5 inches below the level of the sternal notch. The wound penetrated downwards through the apex of the heart, the diaphragm and the left lobe of the liver, to a depth of approximately 5 inches.

SKIN AND RECTUS MUSCLE - Stab wound X.27

In the skin there is an almost linear stab wound, slightly sharper at the lower end than at the upper. The wound has carried through the skin of the abdominal wall to penetrate the rectus muscle and peritoneum.

History: This young man was stabbed in the right flank with a heavy wedge-shaped knife with a blade 26 cm long, 5 cm wide at the base and at the apex coming to a point. The right kidney was cut across, as was the inferior vena cava, the head of the pancreas, the anterior and posterior walls of the stomach; the point of the knife finally came to rest some 4 cm below the left costal margin and some 7 cm to the left off the mid-line. The subcutaneous tissues but not the dermis was involved at this point. The wound, as might be expected, was fatal.

PANCREAS & SPLEEN X.28A

- Traumatic rupture of pancreas

This shows a somewhat enlarged spleen together with the tail of the pancreas; the pancreas shows areas of haemorrhage in the central part. The fat in the hilum of the spleen shows areas of fat necrosis.

History: This young man presented with left-sided upper-abdominal pain some ten hours after he had been assaulted and kicked in the abdomen. The serum amylase was raised. At operation the tail of the pancreas was found transected and only attached to the body of the pancreas by the splenic artery and vein. There was free fluid in the abdomen and areas of fat necrosis were apparent.

SIGMOID COLON - Ischaemic colitis X.28B

The specimen is a length of large intestine opened to show an area of haemorrhagic ulceration towards the lower end and an area of haemorrhage at the upper end with an occasional area of haemorrhage in the intervening tissue. Microscopy of the ulcerated area gave evidence of a complex series of essentially ischaemic events. The degree of organisation in the ulcerated area was thought consistent with ischaemic colitis secondary to trauma some three weeks prior to the removal of this length of bowel. The other haemorrhagic areas were thought to be consistent with mechanically-induced ischaemia related to torsion. In addition, there were changes suggestive of disseminated intravascular coagulation.

History: This man, some three weeks before this length of bowel was removed, slid from the top of a pass in the Southern Alps for some 1500 ft downwards on ice and tumbled a further few hundred feet down a scree slope, spending the night unconscious in his shorts without his pack and was rescued 24 hours later by helicopter. At that time, he was found to have a central temperature of 27. He spent the next 5 weeks in the Intensive Care Unit with acute renal failure, badly frost-bitten feet, severe peripheral neuropathy and a right lateral popliteal nerve palsy, pancreatitis, ischaemic colitis and severely lacerated legs. Some three weeks after admission he developed a torsion of the sigmoid colon which led to the removal of this lesion. Some 8 months later he was fully recovered apart from having lost part of left big toe and with a persistent peripheral neuropathy affecting the distal half of each foot.

BRAIN STEM - Haemorrhage - Trauma X.29

There is an extensive haemorrhage in the brain stem; the brain shows some swelling but no other apparent abnormality.

History: This young man fell beneath a slowly moving milk truck and sustained a fractured skull and the brain stem injury shown here. In spite of this injury, he survived ten days.

CAROTID ARTERY - Trauma X.30

The external carotid artery has been completely severed.

History: An elderly woman tripped while carrying a casserole dish; the dish shattered, and she suffered a 5.0 cm deep wound on the right side of the neck. The bystanders were unable to arrest the bleeding.

OESOPHAGUS X.31

The lower portion of the oesophagus shows a number of linear ulcers; there is a general reddening of the upper part of the mucosa.

History: This young man swallowed several ounces of Mercurochrome and later took an overdose of Dothiepin. Death occurred some seventeen hours after ingestion of the Mercurochrome.

HYOID BONE - Fracture X.32

There is an area of bruising approximately 1.0 cm long over the right horn of the hyoid bone just distal to the junction of the horn and the body. Close inspection shows a small fracture line just beyond the joint.

History: This man was involved in an altercation in which he was variously battered and died following an incised wound of the throat.

HEART - Trauma X.33

The posterior surface of the heart shows extensive bruising at the point of insertion of the inferior vena cava and of one of the pulmonary veins. There is further bruising in the atrioventricular groove on the right, on the posterior surface of the heart and at the apex. There is a further small bruise on the lateral margin of the right ventricle.

History: This 14-year-old schoolboy was struck while running across the road by a transit van. He suffered a fracture of the left forearm and chest, and abdominal injuries including rupture of the diaphragm, a torn liver and spleen. The heart also showed a tear in the septum just beneath the level of the aortic valve.

LIVER - Haematoma X.34

On the inferior surface of the liver (the specimen has been mounted at right angles to the normal orientation), in relation to Riedel's lobe there is an encapsulated lesion consisting of organising blood clot in which there are areas of calcification. The liver shows a micro-nodular cirrhosis.

History: This woman had a long history of congestive heart failure and chronic obstructive respiratory disease. She was apparently an alcoholic and had had a number of falls and an occasional fracture. It is assumed that this lesion which had been present for a long time, is the result of injury.

THYMUS - Petechial haemorrhage X.35

The thymus is perhaps a little larger than is seen in early adolescence; it shows multiple petechial haemorrhages.

History: The history is not known but the changes are suggestive of asphyxia.

GLOTTIS - Impacted food X.36

The specimen shows a large piece of meat impacted in the glottis.

History: The cafe coronary occurs in those who have insufficiently chewed food often while under the influence of alcohol. A second class of patient is the one who is mentally disturbed. Death results very quickly from asphyxia.

STOMACH - Lysol Poisoning X.37

The specimen is part of a dilated stomach showing extensive ulceration and exudation consistent with the ingestion of a corrosive poison.

CUT THROAT X.38

The trachea has been partially severed and the internal carotid artery partly cut across.

LARYNX - Strangulation X.39

The specimen shows a line of congestion beginning in the upper pharynx just above the level of the vocal cords with very marked congestion at the base of the tongue. Strangulation was by means of pyjama trousers tied tightly around the neck.

AORTA - puncture wound X.40

Inside the arch of the aorta just beyond the origin of the left subclavian artery there are two tears in the intima; these are associated with dissection of the adventitia.

History: These wounds were produced by a Ramset nail some 8.0 cm long which ricocheted and penetrated the chest wall transfixing the left upper lobe of the lung and penetrating the arch as seen here. The dissection in the adventitia extended into the pericardium proximally and to the level of the diaphragm distally. Death was from blood loss into the pleural cavity.

GUNSHOT WOUND - Entrance X.41

The specimen shows a rounded punched-out hole with irregular blackening of the adjacent skin and showing a central "abrasion" ring.
This was an entrance wound, 303 calibres, the weapon being fired against the chest wall with a thin layer of clothing between the muzzle and the chest wall.

BRAIN - Trauma X.42

There is a patchy subarachnoid bruising in the parietal area of one side with quite marked cortical bruising in the opposite temporal lobe. There are further small areas of haemorrhage in the grey matter in the opposite temporal lobe and there are patchy minute haemorrhages in other parts of the grey matter.
History: This young man fell some 20 metres onto his head sustaining gross head injuries with a circumferential fracture of the skull.

BRAIN Gunshot wound (0.22) X.43

In the lower part of the parietal lobe towards the front there is a ragged cavity some 2 cm across with numerous minute areas of haemorrhage in the surrounding tissue. The damaged area is much greater in extent than the diameter of the bullet and covers an area some 5 cm in diameter.

History: In this instance the entrance wound was in the skin at the right temple. The bullet passed through both parietal lobes and was found near the surface of the posterior part of the left parietal lobe.

TRACHEA & OESOPHAGUS - Stenosis X.44

The upper of the 2 specimens is formed by the epiglottis and upper trachea. Some 1.5 cm below the level of the vocal cords the trachea is obstructed by a fine web in which, in the centre, ar 2 fine holes separated by a thin membrane. In the lower oesophagus some 3 cm above the cardia there is an oesophageal stricture 1 cm long from which a piece has been removed for histology. The oesophageal wall is thickened and in the centre of the stricture the lining epithelium is ulcerated.

History: This child presented at the age of 11 years in status asthmaticus. An endotracheal tube was inserted as was a gastric tube. He recovered from this episode but 5 months later had an attack of wheezing, became unconscious, and died. These lesions are assumed to be a reaction to intubation.

BRAIN - CEREBELLUM & PONS X.45
- Pontine haemorrhage

The specimen shows splinter-shaped haemorrhages in the pons. In this instance they are the result of injury.

SPINAL CORD - Transection X.46

This shows the cerebellar hemispheres and the brain stem showing extensive subarachnoid haemorrhage. The cut surface of the upper part of the spinal cord shows an area of haemorrhagic softening on the right-hand side.

History: This child, at the age of 4, was apparently hit by a car and died shortly after admission to hospital. Examination showed extensive abrasions and bruises of the upper part of the body, and a fracture/dislocation of the 1/2 second cervical spine. At autopsy, there was extensive bruising in the retropharyngeal area, a linear fracture of the left supraorbital plane, and a complete transection of the cervical cord just as it emerged from the foramen magnum.

BRAIN - Rupture of corpus callosum X.47

A coronial section through the brain, showing blood clot in the lateral ventricle and in the third ventricle, with an area of periventricular haemorrhage on the left, and rupture of the corpus callosum.

History: This woman, at the age of 55, was as a pedestrian struck by a car. She suffered a compound fracture of both tibiae, a fracture of the right femur, a fracture/dislocation of the right elbow, a fracture of the right hand and a fracture/dislocation of the 2nd and 3rd cervical vertebrae. The skull was not fractured.

BRAIN - Injury X.48

On the left side of the parietal and temporal lobes there is extensive subarachnoid bruising with punctate cortical bruising. There is further bruising on the right side in the temporal lobe, but this is rather less marked. The narrowness of the lateral ventricles suggests some brain swelling.

History: This man, aged 48, fell down a companionway at sea (blood alcohol 285 mg/100 ml 2 hours after the accident). There was a fracture of the skull in the left parietal area. There was haemorrhage in the brain stem and the cerebellar tonsils were coned.

BRAIN - Traumatic haemorrhage X.49

The cut surface of the brain shows multiple petechiae in both grey and white matter. The ventricular system is compressed and the convolutions of the brain somewhat flattened, suggesting oedema.

History: This child jumped in front of a car and probably died instantly. The skull was not fractured but there was both subdural and subarachnoid bleeding apparent.

BRAIN - Trauma X.50

This shows extensive cortical bruising, such as is commonly seen with movement of the brain against the skull.

History: This man, as a pedestrian, was deliberately run down by a car and showed an extensive bruise in the left parietal region and circumferential fracture of the skull involving both vault and base.

TONGUE, EPIGLOTTIS, TRACHEA & NECK MUSCLES X.51 - Strangulation

This specimen shows discrete bruising on the right side of the base of the tongue, of the lower part of the left side of the epiglottis and of the left vocal cord. There is also discrete bruising in the pharyngeal wall. Examination on the reverse side of the specimen shows no obvious bruising. The pattern of bruising here is consistent with manual strangulation in which, on occasions, the thyroid cartilage can be broken.

LUNG - Trauma X.52

The cut surface shows a number of haemorrhagic areas in the lung substance where the lung appears more or less intact. In the lower part there is a large irregular wedge of blood clot extending to the diaphragmatic surface with further evidence of damage close by. The pleural surface shows a number of haemorrhagic adhesions.

History: The wheel of a horse-drawn cart passed over this woman's chest. She survived 12 days. At autopsy one lung showed multiple cystic cavities containing brown fluid, presumably resulting from trauma. The histology showed bronchopneumonia, infarction, haemorrhage, and areas of organising pneumonia with overall appearance of 'shock lung'.

RADIUS - Fracture of the head X.53

The excised head of the radius shows an obvious fracture line which appears to extend through the full thickness of the excised specimen. There is some loss of cartilage on the sides with some osteophytic lipping in keeping with an osteoarthritis.

History: This 56-year-old woman presented with pain on extension and rotation of the left forearm together with numbness and tingling of the left little and ring fingers. She had had a number of admissions for injury including a fractured jaw, minor head injuries and a dislocated shoulder, all probably related to excessive alcohol intake.

TRACHEA - Blunt injury X.54

The specimen consists of a larynx with proximal trachea and attached thyroid gland. There are extensive areas of haemorrhage over the anterior tracheal surface extending up to envelope the thyroid gland and the anterior surface of the larynx as far as the hyoid bone. There is a transmural tear situated in the anterior tracheal wall, immediately inferior to the cricoid cartilage.

History: A 67-year-old woman was admitted to hospital following a head-on motor vehicle accident. She died soon after admission. Post-mortem examination showed separation of the first and second cervical vertebrae and extensive oedema and bruising to the spinal cord.

CHEST WALL - Stab injury X.55

Specimen is a block of chest wall taken from the right upper quadrant to include the nipple. Three incised stab wounds are present penetrating the skin. The first of these is situated 3.5 cm medial to the nipple and has a slightly curved upper border. This stab wound is slanted inwards and downwards measuring 1.1 cm in length. The second wound is present 3 cm lateral and 4 cm superior to the nipple being situated in the anterior axillary line. This stab wound again did not penetrate the full thickness of the chest wall. The third puncture wound is also situated in the anterior axillary line, being 6 cm below the nipple. This wound contains clotted blood. At post-mortem examination it was found that this wound passed just below the 6th rib to enter the diaphragm and the anterosuperior aspect of the right lobe of the liver.

History: This 28-year-old man was the victim of an altercation and received a total of 4 stab wounds. The fourth wound, not represented in this specimen, penetrated the pericardium and aortic arch. The resultant hemopericardium causing death.

HEART - Endocarditis X.56

The specimen is a heart opened to display the right atrium and both ventricles. The ventricles are normal. Scattered small pale brown vegetations are seen on the leaflets of the mitral, tricuspid and pulmonary valves. The features are those of a resolving bacterial endocarditis.

History: This young man was severely injured in a motorcycle accident, suffering a liver laceration and ruptured spleen. He underwent suturing of the liver laceration and splenectomy, but later developed septicaemia. Despite aggressive treatment he died 11 days after the accident. Microscopic examination of the left ventricle showed microfoci of infarction. There was early diffuse alveolar damage in the lungs and the kidneys showed resolving acute tubular necrosis. These features are indicative of the shock syndrome and are probably due to profound hypovolaemia.

STOMACH - Acid Burns X.57

The specimen consists of the distal portion of the oesophagus and the stomach. There is erosion of the mucosal surface of the oesophagus. The gastric mucosa shows pronounced oedema with diffuse haemorrhage and ulceration.
The patient was a 68-year-old man who accidentally drank 20ml of concentrated sulphuric acid believing this to be water. The acid resulted in extensive destruction to the upper gastro-intestinal tract with profound haemorrhage.

SKULL BONE - Ramset Wound X.58

Entrance and exit wound. The specimen was taken from the postmortem examination of a 59-year-old male who committed suicide using a Ramset nailing device. The upper specimen represents the entrance wound while the lower fragmented portion of skull is the exit wound.

SHOTGUN PELLET INJURY X.59

The specimen consists of the left external iliac artery and its branches. There is an area of haemorrhage surrounding the left femoral artery and an obvious perforation of the vessel wall is present. Death resulted from a shotgun wound to the area of the left groin resulting massive blood loss.