of which was covered with a dirty grey-coloured eschar. Serum from vesicles contained a few bacilli; half a drop, given to a rabbit, had no perceptible effect. 9 P.M. He had no pain or distress. The tongue was moist. He had taken food moderately. The swelling had extended over the scapula; as far as the middle, it was hard, terminating by a distinct ridge; beyond, it was softer. In front, the swelling had extended over the chest, and was not so hard as behind. Pulse 116, soft. After he had been helped up in bed to the sitting position, and lay down again, the pulse was 130, and irregular. Temperature in the left axilla 99.8°, in the rectum 104.1°; respiration 24.

May 24th, 10.30 A.M. He passed a fairly good night; was not restless. He had no pain, but some uneasiness over the abdomen, which was relieved by vomiting. He appeared calm and composed. Pulse 130, very small, and difficult to count. Temperature in the left axilla 99.1°, in the right axilla 99.8°, in the rectum 102.3°; respiration 22. Serum from vesicles contained ten to twenty bacilli in each field. The contents of two tubes, given to a mouse, were fatal in seventeen and a half hours. 9.30 P.M. He had a restless day; passed no urine; his appetite was gone; his face shrunken. The swelling was extending; the extremities were cold; pulse imperceptible; temperature under the tongue 95°. He died ten hours afterwards. Serum from the arm contained bacilli; two tubes, given to a mouse forty-five hours afterwards, were fatal in sixty-five hours.

Post mortem examination, made by Mr. Kenyon, nine hours after death. The ends of the fingers were of a dark colour. The upper surface of the scrotum had a dark-red colour. The swelling of the arm was much more yielding than during life. The injured part of the forearm was removed; the cut surfaces were crowded with small interstitial hæmorrhages. There were no pleural effusions, nor enlargement of bronchial glands. The blood was fluid. There was no staining of the endocardium; no subserous petechial spots in the heart. All the viscera were apparently natural. Portions of the internal organs were sent to Professor Greenfield for examination. Serum from the arm contained numerous long motionless bacilli; after keeping two days in a capillary tube, the bacilli were very long and convoluted.

WOOLSORTERS' DISEASE.

By S. LODGE, M.R.C.S., Bowling, Bradford.

JOSEPH BOOTH, aged 62, had suffered from bronchitis several times. He was inconvenienced by hydrocele, and this I had tapped twice or thrice, at distant intervals. He was a somewhat weak, but temperate and regular workman, and found constant employment as a comber, washer, or carder of wool. He was engaged in the latter occupation up to May 4th, and he died early on the 6th.

On the 5th, a message was received from him of the usual character—not a particularly pressing one—and Mr. McArthur visited him. He found him sitting upright in bed, quite sensible, breathing rather quickly but easily; he complained of pain in the head and in the region of the liver; he had vomited some dark fluid. The tongue was furred, and red at the margins; the temperature low; pulse small and quick; the skin moist; and he was blue all over, but especially upon the extremities, both upper and lower. There was great congestion of the lungs, but no *rdles* could be detected. The unfortunate man died after thirty hours' illness.

With respect to the certificate, we agreed that it would be safest not to assign a first cause of death; but, as the second, in Mr. McArthur's absence, I wrote "venous congestion".

For important sanitary reasons, it was necessary to have the body removed as soon as possible; but, before the interment, I determined, as far as circumstances permitted, to ascertain the *post mortem* condition; and, therefore, forty-eight hours after death, made a second external inspection of the body, and secured a few tubes of blood from the jugular vein. I had previously mentioned the case to Dr. Bell, and I believe he did the same.

Immediately after death, there was discoloration, almost amounting to blackness, over the face, neck, and chest; but, on my second inspection, when the blood was taken, this appearance had considerably changed; still there was much lividity of these parts, and of the extremities also.

The blood was immediately handed to Mr. Tacey for examination, and he reports having found a few rods, *i.e.*, bacilli, and, when the fluid was stained (according to Kock's method) with aniline violet, some spores. His observations were made with a Zeiss, 16 × 1500 diameters.

The remarkable point in connection with the foregoing case is, that the man was taken ill when employed at a carding machine. The material he was watching, as it passed through the process, had been previously twice washed at a temperature of 130°, and afterwards dried in a swift current of hot air. Of course, it had been carried through the preparing machines (five in number), and twice combed. In fact, when carded, it only required to be rolled into balls to finish it.

SIX CARDIAC AND VASCULAR CASES: WITH REMARKS AND ENGRAVINGS.

By EDWIN RICKARDS, M.A., M.D.,
Physician to the General Hospital, Birmingham.

CASE I. *Stenosis of the Pulmonary Valve: Imperfect Ventricular Septum: Malposition and Narrowing of the Pulmonary Artery: Narrowing of the Descending Part of the Arch of the Aorta.*—John L., aged 21, was an out-patient at the General Hospital, January 1876. He was cyanotic; his lips, ears, fingers, and toes were of a purple hue; his skin was thin; his fingers bulbous; his nails incurved. From his account, there did not appear to be any family tendency to disease or malformation of the heart, rheumatism, syphilis, or disease of the lungs. He earned his livelihood by playing a whistle in the streets. All his life he had been blue-skinned, and subject to attacks of palpitation of the heart, accompanied with cough, shortness of breath, and pain in the chest, the pain extending from nipple to nipple. He was especially liable to these attacks at the end of a long tune and in cold weather. When he was so affected, he said, he became "as black as a coal, and his veins stood out". His hands and feet were always cold. He was fully developed, though somewhat undersized for his age. He was very intelligent. His chest was carefully examined. There were no signs of disease of the lungs; no marked increase of cardiac dulness; no thrill. The apex-beat and impulse were normal. A coarse superficial systolic murmur was heard at the base of the heart, having its maximum intensity at the second left costal cartilage. Between the base and apex of the heart was heard another murmur, soft and systolic, and having its maximum intensity over the sternum on a line with the nipples. At the apex of the heart, the two sounds were distinct, though the first was accompanied by a soft systolic murmur. The pulse, 80 per minute, presented no peculiarity; the temperature in the mouth was 97.4°; the urine was not albuminous.

In consequence of notes being taken of his case by Mr. Spofforth (the physicians' assistant), and of some remarks I made to the students, he was lost sight of until the following December, when he was admitted into the hospital with acute phthisis, of which he shortly died. Between his being an in- and an out-patient, he had three attacks of profuse hæmoptysis. At no period was there any dyspnoea.

A *post mortem* examination was obtained with difficulty, and was made under rigid conditions. The lungs were studded throughout with small cheesy masses of catarrhal pneumonia, some of which had softened. There were a few small cavities. The heart was slightly enlarged, and weighed ten ounces and a half; its muscle was healthy. The aorta was much narrowed beyond the origin of the left subclavian artery. The pulmonary artery was very narrow, and was situated on the right side of the aorta. The right chambers of the heart were dilated, and their walls somewhat thickened; the left chambers appeared of normal size. The septum ventriculorum was deficient at its base, so that the finger could be passed from the right to the left ventricle, and from the right ventricle into the aorta. The pulmonary valve was represented by a conical diaphragm, with a central aperture scarcely large enough to admit of the passage of a crow-quill; in this diaphragm were three deep indentations, showing its origin from the three segments of the pulmonary valve. The auriculo-ventricular and aortic valves were perfect; on all of them were small vegetations, evidently of long standing. The aorta appeared to come off from both ventricles equally. The foramen ovale and ductus arteriosus were both closed. The engraving shows the right ventricle opened along its right border; its anterior part removed; the pulmonary artery turned back and drawn over to the left side, so that the posterior part of that vessel is seen anteriorly in the engraving. A slit has been made in the posterior part of that vessel to expose the conical diaphragm, through which a fine curved probe has been passed. The left ventricle has been incised, and a thick probe passed from it through the abnormal aperture in the septum into the right ventricle. A slit has been made in the anterior part of the aorta. The small vegetation are only apparent on the tricuspid valve, and there indistinctly. I am