rigid; all the limbs which had been paralyzed were thrown into contraction, and incapable of extension thirty hours after death. On removing the calvarium the dura mater was found much distended with serum, the skull separating from that membrane without any effort being used. The upper part of the hemispheres appeared studded with Pacchionian bodies, which latter were very numerous and of large size; the superficial veins were very distinct and prominent all over the surface, and turgid with blood of a very dark colour; the corpus callosum was healthy, and about half an ounce of clear fluid escaped from the lateral ventricles. The substance of the brain was sound and firm; the punctæ were, however, more numerous and distinct than usual; the medulla oblongata was healthy in structure, but very florid externally; the cervical portion of the spinal cord was covered with a net-work of small vessels of a very distinct outline, and the central portion of the medulla spinalis was found pulpy and softer than natural—the theca evidently thickened, and in a highly vascular state externally.

In all the parts of the cerebro-spinal axis which were examined, every vessel, down to the most minute, appeared distinctly prominent, and full of fluid blood. On removing the pharynx from the front of the upper cervical vertebrae, an abscess was opened, from which a quantity of thick and laudable pus escaped. The sac of this abscess extended from the anterior surface of the axis down to the body of the sixth cervical vertebra, being bound down by the longus colli and rectus capitis muscles. The atlas was completely ankylosed to the occiput, the left side of this vertebra being very rough, bare, much exposed, and partially absorbed. The inter-articular surfaces of the atlas and axis were rough to the touch, and the cartilages quite gone. Owing to this condition of the two upper vertebrae, the odontoid process projected through the foramen magnum, and on rotating the head, that process pressed on the lower surface of the medulla oblongata and its corresponding portion of the spinal cord. The check ligaments, connecting the odontoid process to the occiput, remained entire, but the transverse ligament was quite gone, so that the patient had a slight power of rotating the head whilst lying on his back, but on moving the body without carrying the head in a perpendicular line with it, (as had occurred shortly before death,) dislocation became inevitable.

The whole of the cervical vertebrae exhibited traces of disease; anteriorly to their bodies were several lymphatic glands in the intermediate stages between simple enlargement and actual suppuration. The transverse and articular processes of the upper six vertebrae were rough to the touch, and their inter-articular cartilages more or less absorbed.

On opening the thorax and abdomen, symptoms of considerable venous congestion were manifest; every incision, whether in the parietes or viscera of these cavities, was followed by a copious flow of dark, fluid, venous blood. The lungs exhibited no trace of tubercular deposit, but they were much congested. The heart was of natural size, its valves and structure being quite normal; the right and left ventricles contained fluid blood. The liver was quite healthy in structure, its portal ramifications being also full of fluid blood. The spleen was of natural size, and healthy in structure; this organ did not present the congested appearance which was so remarkable in all other parts of the body. The kidneys were pretty healthy, and the lower part of the ileum showed considerable traces of tubercular disease. This intestine, like all the rest of the abdominal viscera, was much congested externally, but when laid open, its internal coat appeared completely studded with small round bodies, about the size of mustard seeds; these, on examination, proved to be diseased solitary glands, filled with tubercular matter. The aggregate glands of Peyer were healthy in structure, but prominent and feeling rough to the touch; the mesenteric glands were in the same state. The cæcum and colon were distended with fæces, very hard, and terribly fetid. The bladder was thickened in parts, its rugæ were enlarged, but the internal coat showed no sign of disease.

There are in the preceding case several points, not only of interest, but somewhat opposed to generally received notions. It is, first, rather unusual to see the paralysis, which probably arose from congestion and softening of the cord, become manifest in the irregular manner described; for the lower extremity lost its motor power on the opposite side on which it had appeared in the upper, and sensation remained all through intact. It would almost appear as if the motor divisions of the spinal nerves were more easily affected than the sensory portions by the softened and congested state of the cord, which gradually becomes established in cases of

this kind. No doubt but that the primary mischief lay in the cervical portion of the column, where the abscess formed, in consequence of caries; yet it has not always been observed that the medulla spinalis, upon such an affection of the bones of the column as here existed, underwent such changes as were here noticed, which changes caused the subsequent paralysis of all the extremities. A dislocation of the affected vertebrae was, however, sooner or later inevitable, except the ankylosis between the first and second had become as complete as was the case with the atlas and occiput.

The relationship between scrofula and tuberculosis seems to have again been exemplified in this instance, for signs of the latter disease were already existing on the intestinal mucous membrane; but the lungs had not yet suffered, and here again we see that tubercles sprung up in the localities where they are so prone to appear among young people. Who knows whether the pulmonary organs would not have eventually been attacked had the scrofulous affection of bone been arrested or had exhausted itself? Still, in spite of such an undoubted scrofulous diathesis, it would seem that there must always be for the manifestations of this sad tendency some exciting cause which gives it activity. May it not be supposed that the exposed neck and habitual stooping posture had something to do with the development of the disease in the cervical vertebrae? But this is a wide field of inquiry, into which we shall perhaps be permitted to enter on another occasion. We conclude for the present by finally remarking that the urine was not in this case, as is generally observed in paralysis, of an alkaline nature; though the nervous supply to the bladder was certainly deficient, as proved by the involuntary micturition. But this very circumstance would tend to explain the unalkalinity of the urine, since ammoniacal changes are supposed to take place from the stagnation of the urine in the bladder.

In contrast with the foregoing case, where the work of destruction was slow, but terribly sure, we shall just adduce, from the notes of Mr. Stretton, late house-surgeon to St. Bartholomew's Hospital, a few details of a case of injury to the spine, which was speedily followed by paralysis and death, and in which the lesion inflicted upon the spinal marrow was of the same description as in the instance just described.

ST. BARTHOLOMEW'S HOSPITAL.

Full on the Nape of the Neck; Compression of the Medulla Spinalis; Death; Autopsy.

(Under the care of Mr. PAGET.)

MARGARET J—, aged forty years, was brought late at night to the surgery of St. Bartholomew's Hospital, on Sept. 22, 1852, after having received an injury to her neck from a fall into an area. The patient's countenance was anxious, her face pallid, and skin cold; the pulse very small and feeble, beating ninety times in a minute, and the pupils answering to the stimulus of light. There was complete loss of motion and sensation in both the upper and lower limbs, a slight wound on the forehead, and the woman complained of great pain at the back of her neck. The patient was carefully removed to bed, and covered very warm.

She slept a little during the night, but was much troubled with a cough, which has come on since the accident, and mucous expectoration, which is brought up with much difficulty. It was noticed in the morning that the intercostal muscles were acting normally; the skin had now become warm and moist, the pulse was 84, and tolerant on pressure, the tongue being, however, slightly furred. The bowels acted freely, but the patient seemed to have no control over the sphincters; the abdomen was large and tympanitic, and no urine had been passed. It was observed that slight motion had returned in the right arm, and even more so in the legs; sensation had quite returned, but there was still great pain at the back part of the neck. The catheter was now used, and the urine was found highly ammoniacal. The patient was ordered low diet, and the urine was again drawn off in the evening.

On the third day the face was bloated and slightly livid, and there was more difficulty of expectoration; pulse 90, soft; skin moist; tongue almost dry. The abdomen was getting more distended and felt uncomfortable; the patient had lost all power over the bladder, and no improvement was taking place in the slight amount of motor faculty which had been regained. Frictions were now desired to be made over the abdomen, and an expectorant mixture was prescribed.

It was found on the next (fourth) day that the patient had been very restless during the night; the difficulty of expectoration was on the increase, (so much so that the patient was apprehen-

sive of being choked.) The wound on the forehead looked livid, and ceased to discharge. No action of the bowels was taking place, and the tension of the abdomen was causing great distress. Mr. Paget ordered a turpentine injection, a ten-grain dose of calomel, and some castor-oil to be taken three hours afterwards. In the evening of this same day the woman became delirious and noisy, refused to take anything, and fancied that everybody wished to injure her. She was now given four ounces of gin with thirty minims of laudanum.

This combination controlled the delirium, but did not procure sleep. The pulse became more powerful and quicker, the mucous rattles reached the larynx, and in the afternoon the patient expired.

Post-mortem examination, twenty-four hours after death.—The body was very livid; no bruise was perceptible at the back of the neck, but considerable effusion of blood was visible in the tissues. The vertebral arches were removed in the cervical region, and the spinal marrow exposed and removed. On passing the finger along this portion of the medulla, a depression was felt in it, in the locality of the third cervical vertebra; and on making a longitudinal section, a small ecchymosis, about the size of a split pea, was seen in the posterior part, just opposite the depression in the cord—namely, by the third cervical vertebra. There was a slight projection of one of the vertebræ into the canal; the intervertebral substance, between the second and third as well as between the third and fourth vertebræ, being partially ruptured, and allowing of unnatural mobility between the bones. The brain was congested, as also the lungs, which latter contained frothy mucus.

It is interesting to notice how the sudden pressure and concussion which the spinal marrow suffered, produced effects analogous to those described in the preceding case, and which were owing to chronic disease of the cord. One difference, however, should not remain unmentioned—viz., that, in the latter case, where the symptoms occurred so rapidly, sensation was lost as well as motor power: so that the effect of sudden pressure upon the spinal marrow seems to be more extensive in its effects than slow congestion and softening. The cough which came on immediately after the accident was probably owing to a lesion of the pneumogastric nerve, and the difficulty of expectoration could be attributed to a morbid change which had taken place in the nerves supplying the muscles of respiration. The paralysis of the bladder and rectum is an additional proof that the whole length of the medulla spinalis had suffered, both from the concussion of the fall, and the pressure caused by the displaced intervertebral substance.

CHARING-CROSS HOSPITAL.

Melanosis of the Eye in a Child Five Years Old.

(Under the care of Mr. HANCOCK.)

IF we might judge from the vast number of cases which come under our cognizance in the hospitals of this metropolis, we should be inclined to say that the occurrence of melanosis is happily somewhat rare: very few instances have of late been observed, and those which have attracted attention are principally melanosis of the eye. We, however, recollect a boy of fifteen years of age, who had a small tumour removed from the dorsal region at St. Bartholomew's Hospital, which tumour, on being cut open, was found to be a melanotic mass. No other manifestation of the kind was visible upon this patient.

The other cases of melanosis which have been published in the "Mirror" are,—Melanosis of the eye, (Mr. Fergusson), *THE LANCET*, vol. ii. 1849, p. 617; Recurrence of a melanotic tumour, (Mr. Fergusson), vol. i. 1851, p. 622; Melanosis of the eye, (Mr. Critchett), vol. ii. 1851, p. 386; Melanotic tumour growing from the heel, (Mr. Le Gros Clark), vol. ii. 1852, p. 175; Melanotic tumours in several parts of the body, (Mr. Fergusson), vol. ii. 1852, p. 176.

Melanosis, when of the true kind, is generally looked upon as a malignant disease, and its almost certain recurrence goes some way to support this notion. But it should be borne in mind that most pathological observers, especially Mr. Paget, consider that melanotic tumours are analogous to common cancerous growths, with the pigment superadded. As to the latter, we learn from Mr. Erasmus Wilson's investigations of the epiderma, that the colour seen in melanosis is, microscopically, of the same nature as the chromatogenous matter of the skin, and of the choroid coat of the eye-ball. Mr. Wilson says, in the preface to the 3rd edition of his work on the "Diseases of the Skin:"

"I found (in investigating the structure of the epiderma)

the perfect cell to be composed of secondary and tertiary cells, and the essential and primary constituent of these cells to be granules of extreme minuteness. As a contribution to structural anatomy, these observations are important, inasmuch as they demonstrate the theory of the development of a cell advanced by Schwann to be inapplicable to the cells of the epiderma and epithelium. I next found that these minute granules were the agents of coloration of the skin, that they were in reality the pigment; the difference in their tint giving rise to all the known diversities of shades met with in the rete mucosum, the nails and hairs. Further examination proved that the pigment of the choroid membrane of the eye-ball and that of melanosis were composed of identical organisms."

The melanotic degeneration of the eye in so young a subject as in the present case, and the changes which took place in the corresponding organ previous to the cancerous development, are phenomena well deserving of description. The following are the facts:—

Anne W—, aged five years, and coming from the country, was admitted Nov. 6, 1852, under the care of Mr. Hancock. She is a delicate-looking child, with light hair and fair skin, through which the course of the veins can be distinctly traced. The patient's parents are healthy, and have nine children, one of whom died when an infant, of inflammation of the bowels. About seven years before the present period, a brother of the patient suffered from a tumour which formed on the external canthus of the left eye. This tumour was removed at St. Thomas's Hospital; the boy's age is now fifteen years; his health has been good since the operation, and no return in the cicatrix or any other part of the body has taken place.

The patient's mother is not aware of any other relative, either upon her own or the father's side, ever having suffered from tumour or any disease of the eye. She states that when the child was five months old she noticed a peculiar glassy appearance of its *right* eye; this was looked upon by a surgeon as a cataract; the eye, however, began gradually to diminish in size, and in a short time was reduced to its present shrunken condition. Of course the sight of this eye was then quite lost.

The child grew up, however, in good health, and had not a day's illness for more than three years, when the sight of the *left* eye began also to fail, and the poor little creature became very nearly blind. After this state of things had lasted for a little while, a gradual development of the left eye-ball (the one affected in the last place) began to be noticed. This enlargement was accompanied by excessive pain; but the swelling was not persistent, and the organ diminished several times, during which periods the patient was nearly free from pain.

Three months before admission an opening was made in the cornea with the hope of evacuating matter, but without success. After this the eye became rapidly worse, and the swelling began again to increase in size, the pain being at the same time very great.

On admission, the eye had the appearance of staphyloma, the cornea protruding greatly, and being of a yellowish-white appearance. The conjunctiva was considerably congested, and the eye was so staphylomatous, that the lids would not cover it. The eye-ball was at the same time conical, with the apex at the cornea, and not presenting chemosis with receding cornea, as in advanced stages of fungus.

As the child was now quite blind, and the protrusion of the eye was very unsightly, Mr. Hancock resolved to remove the cornea with the anterior portion of the sclerotic coat, to remedy the deformity, and to preserve the attachments of the recti muscles, in view of the use of an artificial eye.

The child was, therefore, put under the influence of chloroform on the 8th of November, 1852; but when Mr. Hancock had removed the above-mentioned parts, he found the interior of the eyeball occupied by a dense, firm mass, of a yellowish colour externally, but blackish in the centre; he therefore at once proceeded to remove the eyeball, and began by making a cut about three-quarters of an inch long, at the external canthus, to get plenty of room. Mr. Hancock then passed a strong ligature through the eyeball from the outer to the inner canthus, and removed the globe with a pair of curved scissors, keeping the instrument close to the bone, so as at the same time to remove the muscles and soft parts contained in the orbit. There was less bleeding than commonly attends these operations; the orbit was plugged with wet lint, the margins of the wound by the outer canthus were brought together with sutures, a wet pad of lint confined by a bandage fixed over the eye, and the child removed to bed.

To the naked eye the tumour when examined had the