aneurism of the aorta; the first part of great size, involving the arch and encroaching on the lung, but doing little mischief thereby; and the second fusiform, and a little larger than a hen's egg, on the descending aorta, immediately opposite the left bronchus, which it gripped. The aneurism had not ruptured, but the bronchial wall adjacent to it was perforated, and the opposite mucous membrane ulcerated extensively; these results being due evidently to pressure, with such flattening of the bronchus that its walls rubbed against one another. At the moment of death a few ounces of purulent-looking stuff (for the first time) escaped from the mouth, and was exactly like that found in the lung beyond the seat of obstruction. The left lung had all the appearances of destructive pneumonia. The vagi were compressed, and the recurrent laryngeals were stretched equally on the two sides. But no destructive change had occurred in the right lung. The left pulmonary plexus could be readily dissected, and was distinctly protected from pressure by the firm and unyielding bronchus which the aneurism could not displace, but which it had compressed all the more effectually. In Case 2 (a man aged forty-two) an aneurism, the size of an orange, springing from the ascending aorta, directly compressed the left bronchus. It had not ruptured, but had caused ulceration of opposite walls of the bronchus by their compression against each other. The corresponding lung was destroyed in the same manner as in the first case, the difference being one of degree only.⁴ The nerves were but little affected, and equally on the two sides. The right lung was simply in a condition of compensatory emphysema. The patient was under observation about three months, and the evidences of consolidation, with imperfect entrance of air, came on gradually. In neither this nor the former case did the side fall in, and in each the left lung was, though so destroyed, larger than normal. Nothing indicated collapse as a forerunner of the vast changes; which beyond all doubt were due to direct compression of the bronchi.

It is impossible to refer to more than a few cases which bear on the subject. In all these the direct relationship between the cause and effect (as far as the bronchi are concerned) is passed by. I would ask attention to the short account I have given of some of Dr. Ogle's cases, especially to those in which, without any collapse being present, there were signs in the bronchial tubes of the beginning of the destructive process, and also in the lung affected—engorgement &c., for example,—because these early stages of change are of value in efforts to determine the whole pathological process. Dr. Farquharson⁵ related a case for Surgeon-Major Wyatt, in which an aneurism compressed the left bronchus and there was complete consolidation of the left lung. Again, in Dr. Hayden's "Diseases of the Heart" there is a record of a post-mortem examination, in which destructive changes in one lung were found; the bronchus was compressed by an aneurism, and it is likely that the changes were due to the compression, though the author does not allude to the question. But Sir William Gull has attributed destructive pneumonia to pressure on the nerves, and quotes several cases in proof of this view.⁶ In all the changes were one-sided, and he admits that the balance of evidence from physiological experiments favour the opinion that section of one vagus does not produce obvious effects in the lungs, though it has been shown that division of both vagi causes destructive processes—effusion of serum, purulent infiltration, and sometimes gangrene of the lungs.

I will venture on a brief *résumé* of the cases on which the theory of destructive pneumonia from nerve-paralysis is dependent. It should be mentioned that Sir William Gull nowhere alludes to bronchial compression as an agent in the production of this pneumonia. In the first case an aortic aneurism extended downwards and backwards, and compressed the left vagus and adjacent branches of the pulmonary plexus. No mention is made of the left bronchus, and, in the absence of such, it may be asked whether it was not possibly compressed, seeing that the pulmonary plexus was implicated. Nor is mention made of the state of the nerves on the right side. The left side was flattened, and the lung found in a state of destructive pneumonia. Sir William Gull believes that collapse had come on with paralysis of the bronchial tubes, and that

pneumonia followed. The case was under observation eleven days only. In the second case there were physical signs of consolidation of the right lung and of imperfect entrance of air. Post mortem an epithelial cancer at the commencement of the œsophagus was found to have invaded the tissues in the mediastinum, and especially those about the right bronchus, which were infiltrated by cancerous growths. The right pneumogastric was so far involved that it could not be traced to its distribution. One of the bronchial glands, enlarged by cancerous change, had extended into the tissue of the right bronchus. The right lung was extensively consolidated, and the changes in it were undoubtedly those of destructive pneumonia. The author admits that in this case the destruction could not be unequivocally attributed to disease of the nerves; he gives no share, however, to the bronchial obstruction, but thinks that obstruction of the absorbents and the bronchial veins would influence the result. In the third case there was "fibrous thickening" of the mediastinal tissues and around the right bronchus (but not narrowing or compressing it). The right vagus and pulmonary plexus were implicated, and the former could not be traced through the growth. There was flattening of the corresponding side during life, with absence of entrance of air. The patient was only seven days under observation. The right lung was changed in like manner as in the other cases. The left lung was healthy, and the bronchi on this side were free. Sir William Gull says "the case affords an excellent illustration of the effects which are referable to paralysis of the pulmonary plexus on one side." Here also he thinks collapse followed upon paralysis of the bronchi. The disease was questionably malignant, and it is not stated whether the patient had or not had syphilis.

(To be concluded.)

CLINICAL REMARKS

ON A

CASE OF CÆSAREAN SECTION.

By HENRY MORRIS, M.A., F.R.C.S.,

SENIOR ASSISTANT-SURGEON TO, AND LECTURER ON ANATOMY AT, THE MIDDLESEX HOSPITAL.

THERE are a few operations on the body which a surgeon may never have to perform; and yet, on the other hand, he may at any moment be called upon suddenly to undertake them. It is therefore his duty to prepare himself, in anticipation, for such a responsibility. Cæsarean section is one of these operations, and, as it is required more frequently in private than in hospital practice, any one of you may possibly have to perform it. For this reason I will endeavour to illustrate the steps of the operation by narrating and commenting upon a recent case.

A short time ago, I was called up by Mr. Smith Richards, of Bedford-square, to go with him and my colleague, Dr. Hall Davis, to see a woman in labour upon whom they had decided it was necessary to perform Cæsarean section. The patient, Mary A. S—, aged forty, had been married eighteen years, was the mother of six living children (the youngest of whom was six years of age), and had had one miscarriage eight years ago. All her previous labours had been good; but since her last confinement she had been under treatment for "paralysis of the muscles of the back" and "rheumatism," and for some time past had stooped, had been getting "curved in the back," and very quickly became tired. She had also been suffering for a long while from cough, unaccompanied by expectoration. She now stated that during this pregnancy the child seemed "very high up," but she had not mentioned this to Mr. Richards when she, as her full time approached, requested him to attend her; and as he had previously confined her, and had heard nothing of her ailments subsequent to the last confinement, he of course had no ground whatever for suspecting the actual state of her pelvis. The labour commenced with slow and feeble pains, which continued for twelve hours before the membranes ruptured; after this the pains became more frequent and stronger, and then at last she sent for the assistance of Mr. Richards. Finding that delivery in the usual way could not be ac-

⁴ Both patients were under the care of Dr. Silver, to whose kindness I owed the opportunity of showing the specimens.

⁵ Path. Trans., vol. xiv.

⁶ Guy's Hospital Reports, Third Series, vol. v., 1859.

complished, not even after craniotomy, which he had commenced, he called in Dr. Hall Davis, who, after careful examination, decided at once that nothing remained for the poor woman's chance of recovery but Cæsaean section, so great was the pelvic contraction of both inlet and outlet.

The sanction of the patient and of her friends having been obtained, it was determined, on Dr. Davis's representation of the case, as she lived near, to transfer her into one of the special wards of the Middlesex Hospital for the performance of the operation and careful subsequent nursing. The room having been brought to a proper temperature, and everything duly prepared for her reception and the operation, she was admitted at about half-past three o'clock on the morning of November 3rd. At that time she had been in labour thirty-two hours, during the greater part of which she had been retching and vomiting at intervals, and had kept next to nothing but soda-water and whisky upon her stomach. She was moaning with pain, her voice was feeble, and her pulse 70, small, weak, and compressible. The following is extracted from notes by Mr. Bigg, the house-surgeon, and Mr. McIntyre, the obstetric assistant, both of whom were unremitting in their attention to the patient:—A mixture of equal parts of chloroform and ether was used as the anæsthetic. The bladder having been emptied, and the patient lying on her back with the shoulders well raised, an incision was made along the middle line of the abdomen from a little below the umbilicus to within an inch or more of the symphysis pubis. The parietes were remarkably thin, and nothing intervened between them and the uterus. It was found necessary to enlarge the incision to expose the uterus sufficiently, and this was done by prolonging it upwards on the left of the umbilicus so as to avoid dividing the round ligament of the liver. The uterus was then opened by a straight incision extending downwards from the fundus for about four inches. During this step, and subsequently, care was taken to keep the uterine and abdominal walls in apposition, so as to avoid the descent of the intestines between them, and also to prevent the escape of anything from the cavity of the uterus into the peritoneal cavity. The left arm of the fetus presented at the opening, and, as the uterus was tightly contracted, Mr. Morris found it necessary partly to withdraw the arm before he could seize the foot. This done, he replaced the arm and extracted the fetus, feet first. Dr. Hall Davis now detached and removed the placenta, and ascertained that the channel leading into the vagina was free. A small quantity of blood was sponged out of the uterus, the edges of the uterine wound were brought together by three strong and two finer catgut sutures, and the wound in the abdominal wall was adjusted by means of four deep silk sutures passing through the peritoneum, and three superficial and intermediate ones. A pad of dry lint was placed over the wound; this was covered by several folds of carbolised gauze, and all was retained in place by four or five broad strips of strapping applied transversely across the abdomen. The usual flannel bandage for ovariotomy cases enveloped the abdomen. The uterus contracted immediately after the removal of its contents, so that there was no cause of delay in the operation. Very little blood was lost, and the pulse, though small and weak, was quite as good as before the anæsthetic was commenced. An enema of brandy and one-third of a grain of morphia was given immediately after the patient was placed in bed.

At 10 A.M. she had slept a little; some discharge of blood had been going on per vaginam; she had passed no urine, and there was none in the bladder. Nutritive enemata were ordered; but, the rectum being found loaded with fæces, an enema of half a pint of warm water was first injected, which brought away a small quantity of fæces. To take white wine whey, arrowroot, milk, or beef-tea, according to her fancy.—At 1.30 P.M. there was much distension of abdomen from flatus; no marked tenderness; no pain except when coughing. Can take nothing by the mouth save ice. Passed four ounces of urine voluntarily an hour ago. Pulse 88; temperature 98.8°; respiration 22. Expresses herself as feeling that she is doing well, and compares her present state thankfully with that of yesterday. O'Beirne's tube was passed to relieve the distension, but it became plugged with fæces. Another warm-water enema to be given.—6 P.M.: Vomiting at intervals. Pulse 120; temperature 102.6°; respiration 36. Has passed urine voluntarily more than once—sixteen ounces in all. Tympanites considerable. O'Beirne's tube still becomes plugged by fæcal matter.

Nov. 4th.—1.30 A.M.: Pulse 140; temperature 101.3°; respiration 38. Has had no long sleep. Is complaining of

pain in the left iliac fossa. There is a continual feeling of nausea, but no excessive vomiting. Has taken and kept down nearly half a pint of arrowroot. Still passes urine voluntarily. To discontinue the mixture of lithia and compound tincture of cardamoms which was ordered yesterday, as it excites vomiting. At 10 A.M., pulse 148, temperature 102.6°, respiration 56. Since 6 A.M. has vomited only one ounce of bile-stained fluid, but there has been frequent retching, attended with great eructation. Eleven ounces of urine have been passed voluntarily. A somewhat offensive discharge is going on per vaginam. The abdomen is more tympanitic and distended than it was; probably this is attributable to the direct and extensive interference with the sympathetic nervous system consequent upon a wound of the uterus at full term. During the night the patient loosened the abdominal bandage and felt some relief thereby. No flatus can be withdrawn by an O'Beirne's tube, as the upper part of the rectum is still loaded with fæces; some fæces have just been extracted by means of a lithotomy scoop. The dressings of the wound were changed, as they were soaked with blood-stained serum which had oozed from the lower end of the wound. The lowest of the deep sutures of the abdominal wound was then untied and readjusted more loosely, and the lowest suture of all, a superficial one, was entirely removed. This was to allow of the escape of any pent-up fluid from the abdominal cavity, if there were any such. Only a few drops of sero-sanguineous fluid came away from the wound. There was marked dulness in the left iliac region, and a hard tumour was felt in this situation. Half an ounce of whisky and ten drops of tincture of opium in water were given by the mouth and retained. This was followed by sleep for an hour and a half. During the day, up till 9.30 P.M., she continued to retch a good deal, and vomited everything except another dose of whisky and opium, part of which she retained. The pulse, respiration, and temperature continued to rise until the pulse reached 162 and the temperature 104.8°. Then she became delirious; the temperature fell to 102.2°, the pulse, small, irregular, and compressible, was still very fast, and the respiration dropped to 16, and was very laboured. The skin was dry and pungent, and a considerable and very offensive discharge per vaginam continued during the evening and through the night, and gave rise to a most pernicious odour in the room. Her condition was now quite hopeless—indeed, she seemed for some hours moribund; the lips and tongue were dry, the breathing was short and again became rapid, the temperature returned to 104.8°, and a state of low wandering delirium continued.

Towards the morning of Nov. 5th, however, she rallied a little, and a small quantity of yellow fæces was voided at the same time as the urine. Enemata of beef-tea and egg were still administered, and were partly retained. At 1.30 P.M. the wound was examined, and clean dressing applied; there had been but little discharge from it. She was unconscious. Pulse 166, and very small; temperature 105.4°. At 2.40 death occurred, being about sixty hours after the operation. Ten minutes afterwards the temperature of the body was 104.6°.

A post-mortem examination was made twenty-four hours after death, by Dr. Coupland, and the following is abridged from his report:—Body emaciated; abdomen distended; surface generally pigmented. The distance between the iliac spines measured nine inches. In the median line of the abdomen, extending for a distance of three inches downwards from the umbilicus, there was an incision through into peritoneal cavity. The margins of the wounds showed no signs of union except along the upper half inch. The abdominal parietes were extremely thin, and through the incision, after removing the six interrupted sutures which were holding the edges together, coils of intestine were seen covered by a layer of soft puriform lymph. After reflecting the abdominal wall, the uterus was brought into view, lying partly in contact with the parietal peritoneum in the left iliac fossa, and partly covered by coils of intestine. The uterine surface and the adjacent parietal peritoneum, as well as some coils of intestine in the neighbourhood, were smeared by soft puriform lymph; but the area of peritonitis was limited to the lower part of the abdomen. The uterus, pale, flaccid, and marked by impressions of the viscera in contact with it, appeared in the left iliac fossa and left half of the hypogastric region. It was about the size of the foetal head at full term, or larger. On its anterior surface there was a vertical incision from near the fundus to the vesico-uterine pouch; the line of incision lay almost midway between the insertions

of the Fallopian tubes. It was united by five catgut sutures, one of which (the second from the top) had become detached, so that the external edges of the wound gaped at this spot a little. On removing the sutures the cavity of the uterus presented an irregular sloughing surface. The uterine wall at the seat of incision measured one inch in thickness. The stomach, ileum, cæcum, and colon much distended with flatus; the rectum contained a quantity of yellow fæces. The bladder healthy. Lungs engorged and deeply pigmented; a few old adhesions between parietal pleura and upper part of left lung. Right heart full of black blood-clot. Left ventricle contracted and empty. Valves natural. Liver fatty, large, smooth, of a yellowish-brown colour and "dry" appearance. Spleen large and very soft, measuring six inches by three inches.

The foetus removed at the operation was a male of full term, and weighed (after exposure for three days) 7 lb. The head had been opened by craniotomy. It measured in length 21½ in., in breadth across the shoulders 7 in., across the pelvis 4½ in., and when placed as nearly as possible in the intra-uterine posture it measured 11½ in. in length.

The pelvis exhibited the characteristics of deformity and contraction peculiar to mollities ossium supervening in adult life. There were the marked irregularity of the brim, the extreme projection forward of the sacral promontory, and the beaked projection of the pubic bones at the symphysis, with the narrow arch and the approximated ischia, which rendered vaginal examination very difficult. The available sacro-pubic diameter at the brim of the pelvis measured barely 1½ in.

(To be concluded.)

might be constructed, and the object of this communication is to introduce to the profession an improved form of forceps for this purpose. I therefore devised that of which the accompanying woodcut is an exact copy, both as to size and form. In length this instrument measures five inches and a half. It is intended to be taken in the hand and held horizontally, or at a right angle, to the head of the patient. There is thus secured a great increase of power in manipulating the affected hairs, and the process of depilation can be carried on without the inevitable fatigue to the finger and thumb resulting from the use of the ordinary depilating forceps. The end is somewhat curved, or rather bent at a slight angle, and thus one or many hairs, as required, may be readily seized.

The full value of the instrument is only apparent when large patches have to be dealt with, as in the cases of widespread tinea tonsurans or tinea favosa. I find that it acts powerfully, and with great certainty. The teeth are but slightly marked, but the bite is accurate, and easily maintained by the closed hand.

No doubt can be entertained as to the value of depilation in the treatment of parasitic disease of hairy parts. I am free to confess, however, that some years ago, when I was demonstrator of skin diseases, I was careless in the efficient practice of it, and, indeed, gave it up for some time. In the tenth vol. of St. Bartholomew's Hospital Reports (1874), at p. 278, in a report upon certain skin diseases, I stated my reasons for this. But I have since had reason to change my opinion, and I think those who have much to do with ringworm will bear testimony as to the value of careful depilation in hastening a cure in many instances.

So far as I know, the application of Coster's paste (one drachm of iodine dissolved in one fluid ounce of oil of tar) to the affected patches is the best preliminary treatment to depilation, and the pain attendant upon the process seems to be diminished by this parasiticide.

Certainly, with the forceps here described, there will in future be less objection to the practice than there may have been hitherto.

Messrs. Arnold and Son, of Smithfield, have carefully manufactured this instrument at my suggestion.

Grafton-street, Piccadilly.

ON AN IMPROVED FORCEPS FOR DEPILATION.

By DYCE DUCKWORTH, M.D., F.R.C.P.,

ASSISTANT-PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL; EXAMINER
IN PRACTICE OF PHYSIC IN THE UNIVERSITY OF EDINBURGH.

I THINK it will be generally allowed that the practice of depilation, as commonly followed, is a tedious and often unsatisfactory procedure. It seems to me that the chief reason of this lies in the marked unsuitableness of the instrument usually employed for the purpose. The ordinary depilating forceps is small and short—barely three and a half inches in length—and one might suppose that it had been designed to meet the occasional requirements of the ophthalmic surgeon in cases of trichiasis. It is made after a French pattern, as used by M. Bazin, at l'Hôpital St. Louis, in Paris. A drawing of it is to be found in Professor McCall Anderson's book on "Parasitic Skin Diseases," p. 45. The main principles in it, so far as I can judge, consist in the squared ends of the extremities, and the absence of deeply-cut teeth in them. It acts very well if it be used to remove single hairs, but if large patches of diseased hair have to be dealt with, it is, without question, a paltry and inefficient instrument. So much so is this the case that I venture to believe the practice of depilation is often neglected altogether, or very imperfectly performed.

It has occurred to me that a more efficient instrument

THE ARTIFICIAL PRODUCTION OF HUMAN DISEASES IN THE LOWER ANIMALS.

By W. LAUDER LINDSAY, M.D., F.R.S.E.,

PHYSICIAN TO THE MURRAY ROYAL INSTITUTION, PERTH.

(Continued from p. 456.)

TUBERCULOSIS, in some of its many forms, has not only been artificially produced by the experimental pathologist in a variety of ways, but it is constantly being manufactured, so to speak, by the ignorance and thoughtlessness of those who are concerned in (1) the husbanding of cattle, (2) the custody of pet animals, and (3) the exhibition of wild animals in menageries or zoological gardens.

It is thus producible like so many other serious disorders of the lower animals—disorders that inevitably affect on the large scale the welfare of man—both (1) intentionally, for experimental purposes on the small scale, and (2) unintentionally or ignorantly, by the keepers of dairies, stables, house pets, and menageries, on the large scale.

Among the modes by which tuberculosis has been artificially produced in the lower animals are the following:—1. By inoculation with tubercular matter (a) from the human lung, (b) from the cow, (c) from rabbits. 2. By inoculation with the sputa and blood of human phthisical patients. 3. By inoculation with non-tubercular matter. 4. By the use of various merely mechanical irritants, such as setons. 5. By feeding on tubercular matter (a) from man, (b) from phthisical cows. 6. By feeding on the milk and flesh of phthisical or tuberculous cows or oxen. 7. By the inhalation of dried, expectorated tubercular matter reduced to fine powder. 8. By long confinement of cows in badly constructed byres—that is, deficient in warmth, dryness, light, ventilation, and cleanliness. 9. By subjecting the same animals to excessive and prolonged lactation. 10. By in-and-in breeding of farm stock. 11. By exposing in our menageries wild animals, accustomed to warm climates and forest freedom and food, to such unnatural and pernicious