

examined by M. Jourdan, all the processes did not penetrate through the membranes of the alimentary canal; the eight first processes were covered, but at the point of contact the membranes were very lucid and thin. The second series is composed of eight processes, all of which, except one, penetrate into the cavity of the pharynx. They project two lines, and the lowest are as strong as the incisors of a man.

The dental processes here described are composed of three substances; a layer of enamel covering the crown; an osseous substance, a little darker than the common osseous substance; and an areolar cellular matter, occupying the centre of the process, and communicating with the spongy tissue of the body of the vertebra. The enamel is the part last formed, and is not laid down before the process is on the point of passing through the membrane. M. Jourdan regards this first portion of the alimentary canal as a kind of pharynx; it is very large, extending from the mouth to a few lines below the heart; here it becomes suddenly narrowed, and terminates in the œsophagus. Its muscular tunic is composed of two layers of fibres. The mucous membrane presents the longitudinal folds of the other ophidiæ, and is very remarkable from the openings for the teeth. In one part the mucous membrane embraces the processes in a manner analogous to the gums.

Thus M. Jourdan establishes the existence of certain processes of the vertebral column, having the form of teeth, performing their functions, and penetrating into the alimentary canal through the mucous membrane. Their connexion with the spinal column distinguishes them essentially from the pharyngeal teeth of the carp and cartilaginous fishes.

CASE OF
AXILLARY ANEURYSM
CURED BY SECURING THE
SUBCLAVIAN ARTERY.

Communicated by PROFESSOR LIZARS,
Edinburgh.

ON the 16th of April last, I was requested to visit Mrs. Hain, who complained of severe pain in the left shoulder, extending down the arm to the tips of the fingers, accompanied by a very disagreeable pricking sensation; the pain darted along the course of the nerves, and was

much increased by pressure, and the hand, after the least movement, was affected with severe spasms. Upon examination, I discovered a pulsating tumour in the axilla, about the size of a man's small fist, and when applying my ear, I could distinctly hear a thrilling whizzing noise, or the jarring sound peculiar to aneurysm high up in the axilla, and the skin presented its natural appearance. The heat of the affected arm was considerably greater than that of the other; the pulse was 90, full, and strong, and could only be felt when the arm was placed in the straight position.

The patient could not assign any cause for its origin, and first perceived the tumour about ten years ago, when it was very small, and gave her little or no inconvenience, even when engaged at her usual employment, which is that of a weaver. She stated that it had enlarged remarkably slowly, and that only within the last six months had it increased with any rapidity. About eight days ago, while making her bed, she felt a sensation as if something had given way in the tumour, and in the evening of the same day she observed it had become of a different shape, and much larger than on the previous day. On the same evening she was seized with the severe pain in her shoulder, which gradually extended down the arm to the points of the fingers; and she remarked, that since the pain had become so severe in the arm, she found her general health considerably impaired; she was forty-two years of age, and of rather a spare habit of body, and her countenance indicated great bodily suffering.

I ordered cold lotions to be applied to the arm, and enjoined rest, with strict antiphlogistic regimen; but stated to the patient, that an operation in my opinion was the only remedy. I also requested Mr. Cooper to see the case, who, after examining the tumour, coincided with my views, and we agreed to request Professor Lizars, of Edinburgh, to perform the operation, to which our patient consented in a few days. That gentleman, on his arrival on the 26th of April, considered the case favourable for an operation, which was, accordingly, performed on the following day, in the presence of nineteen of my professional friends, among whom were Dr. Ramsay, Mr. Crichton, Mr. Cochrane, Mr. Saunders, Mr. Martin, and Dr. Taylor of Broughty Ferry; the professor was assisted by Mr. Alex. Lizars, lecturer on anatomy in Edinburgh, Mr. Cooper, and myself. The patient was placed on a table with her head to the light, and her shoulders raised on a couple of pillows, with the head gently reclining over, and the face

turned away from the side to be operated on. The affected arm was kept close to her side, and the shoulder brought round towards the mamma. The professor then made an incision of the integuments at the root of the neck, parallel with, and a little above, the clavicle, from the acromion process of the scapula, nearly to the tracheal margin of the sterno-cleido-mastoideus. He next divided the platysma myoides, and cautiously cutting, exposed the lower belly of the omo-hyoideus and the scapular margin of the scalenus anticus, when the subclavian vein presented itself, large and turgid, which was held aside with a curved spatula. In performing this part of the operation, one of the small cervical veins was intentionally divided, and required a ligature. The attachment of the omo-hyoideus to the clavicle was also separated. The first rib could now be distinctly felt, together with its tubercle, and the acromial margin of the anterior scalenus and the axillary plexus of nerves were evident to the eye, but no artery was seen or felt. Mr. Cooper immediately remarked, that the artery was held aside along with the vein under the curved spatula; accordingly on the removal of this instrument, the artery was seen posterior to the vein, from which it was carefully separated, and a common aneurysmal needle easily carried under it. The vessel was compressed on the needle, when all pulsation ceased in the tumour, as also in the arteries at the wrist, so that every one present was satisfied it was the subclavian artery. The ligature was tied with facility with the fingers, and both ends were cut away; the lips of the wound were approximated with stitches, and covered with lint previously dipt in cold water. The whole of the operation, from the time the patient was placed on the table to her being put to bed, occupied ten minutes. There was little or no blood lost—not more than two ounces.

The pulsation in the tumour never returned; but about sixty hours after the operation, it could be felt in the arteries at the wrist. The stitches were removed on the third day, as a considerable portion of the wound had healed by the first intention; two adhesive straps were applied, and allowed to remain on for four days, when the wound had so granulated and contracted as to require no further support or even dressing. From this period, eight days after the operation, nothing particular occurred. The patient's bowels were kept open with small doses of castor oil, and she was ordered low diet and rest until all risk of hemorrhage was past. The ligature had never been seen, and she has felt no pain in the

region of the artery or anywhere else. The tumour is diminished to one-fourth of its former size, and she uses her arm in her common household work, and intends shortly to resume her usual employment of weaving.

(Signed) JAMES KNIGHT, Surgeon.

83, Nethergate, Dundee,
28th June, 1834.

Remarks by Mr. Lizars.

The preceding case deserves to be recorded, from the anomalous course of the subclavian artery, for there appears little doubt that the vessel accompanied its vein anterior to the scalenus anticus muscle, otherwise how did the curved spatula so easily hold the artery and vein aside? How did we see the scapular margin of the scalenus anticus and the brachial plexus of nerves, and feel the surface of the first rib between these, but no artery?

Had I not made a clear dissection of the parts so as to see every organ, and been assisted by an anatomist, I would still have doubted its variation. I have since examined the arteries of a few subjects, but a hook or spatula cannot embrace it and its vein in the same manner. Few facts are more valuable to the surgeon than the varieties of arteries. The brachial artery seems to divide so frequently above the elbow-joint, that such appears to be the more regular distribution. Tiedemann's and P. H. Green's (of Dublin) collections of the varieties of arteries are invaluable.

The accompanying drawings exhibit the wonderful varieties of nature. They were sketched by a very intelligent pupil of mine, Mr. Henry Taylor, who devoted much of his time in the prosecution of pathological anatomy during the rage of our late epidemic cholera.

They were taken from a stout man who died of pneumonia at the advanced age of 61, the father of a large family, healthy and robust, and who himself had generally enjoyed good health.

Had this old man during his life required the arteria innominata to be secured for aneurysm, where would the operator have found it?

JOHN LIZARS.

Edinburgh, 38, North Place,
22nd July, 1834.

(*Vide Engravings on opposite page.*)

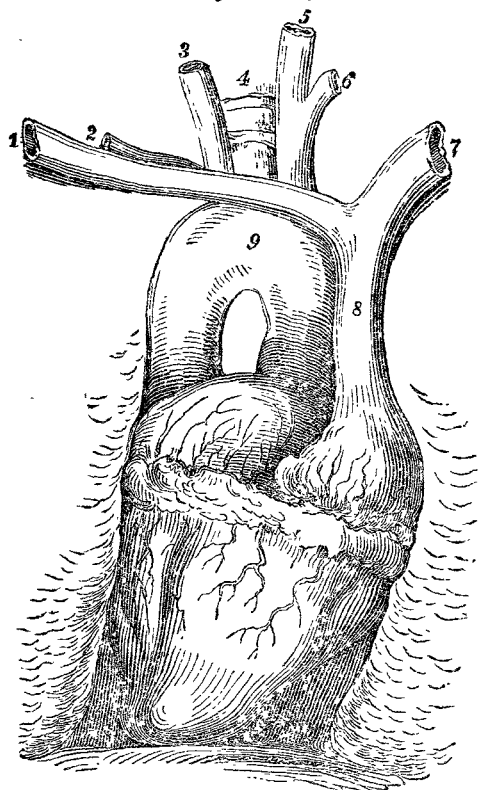
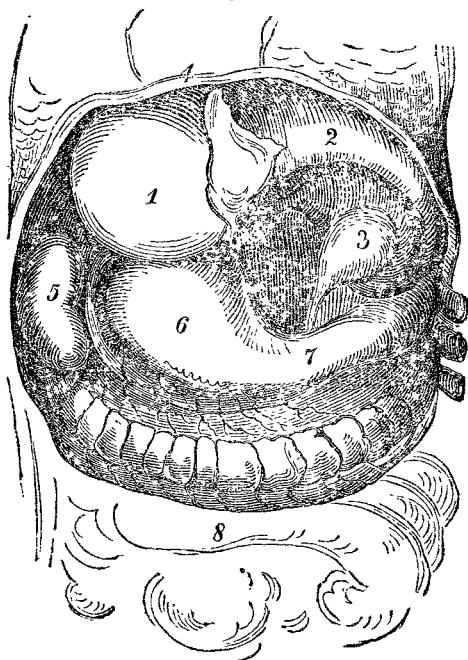
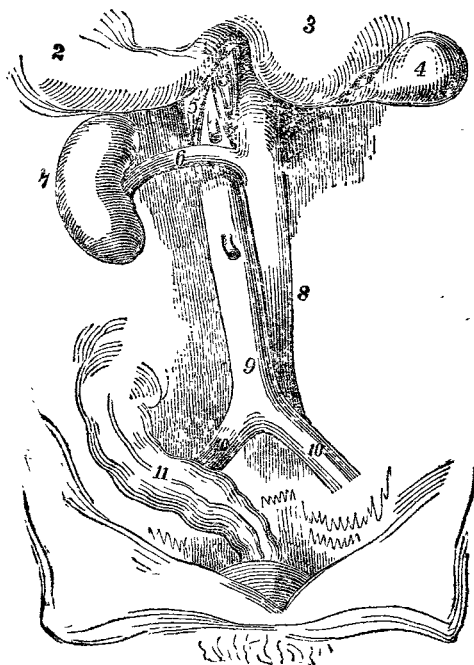
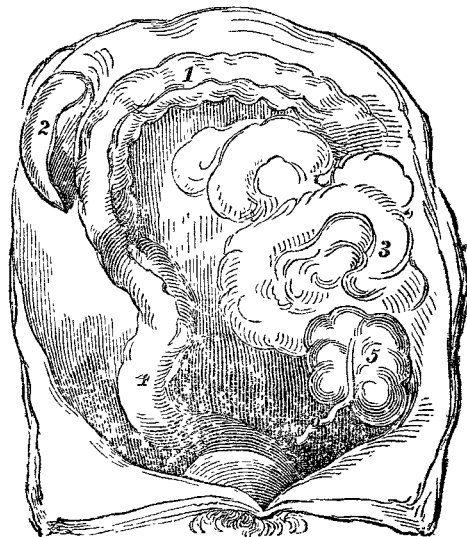
Fig. 1—View of Heart, in Situ.*Fig. 3**Fig. 2**Fig. 4*

Fig. 1.—1. Subclavian vein. 2. Subclavian artery. 3. Carotid. 4. Trachea. 5. Innom. carotid. 6. Subclavian a. 7. Subclavian v. 8. Vena cava. 9. Aorta.

Fig. 2.—1. Oesophagus. 2. Stomach. 3. Lobulus spigelii. 4. Gall-bladder. 5 5. Crura of Diaphragm. 6. Right renal vein. 7. Right kidney. 8. Vena cava. 9. Aorta. 10 10. Common iliacs. 11. Sigmoid flexure of colon.

Fig. 3.—1. Right lobe of liver. 2. Left lobe of liver. 3. Gall-bladder. 4. Diaphragm. 5. Spleen. 6. Stomach. 7. Pyloric extremity. 8. Small intestines.

Fig. 4.—1. Transverse colon. 2. Spleen. 3. Small intestines. 4. Sigmoid flexure of colon. 5. Caput cæcum. 6. Processus vermiformis.