thyroid cartilage was notched, and the external and anterior jugular veins severed. The perfusion apparatus and saline solution was sent for. Clamp forceps were immediately applied to the cut vessels, and one on each side of the aperture in the common carotid, from which a small spurt of blood, certainly not half a teaspoonful, was jerked out.

The left median basilic vein was exposed by an incision, to which the patient did not object, being "too far gone," and 20 ounces of warm saline solution slowly perfused. An ordinary glass syringe with a capacity of 5 ounces was used, with india-rubber tubing attached to a cannula in the vein. The effect was most marked. After 7 ounces he took a short, distinct inspiration, at 10 ounces a deeper one, and his radial pulse was now felt beating feebly. After 15 ounces his breathing became regular and deep; at 18 ounces he opened his eyes, but did not appear to be conscious. The clamped vessels were now tied with catgut, the wound cleansed with carbolic acid lotion, and dressed with cyanide gauze.

Thus far the treatment had been carried out on the ambulance, elevated at the foot. He was now wheeled to bed, surrounded by hot water bottles, and the foot of the bed elevated 18 inches. The house-surgeon, Mr. McCormack, accompanied him, and remained by his side until we saw him an hour later, when he had sufficiently recovered to answer to his name, when called loudly, although he did so in a very squeaky voice. He rapidly improved in condition until October 27th (the twenty-second day), when a violent hæmorrhage occurred, preceded a few hours previously by a small trickle, easily controlled by pressure.

The house-surgeon, assisted by his colleagues, at once opened up the wound, found blood oozing from the distal ends of the carotid and jugular, which were promptly clamped. My colleague, Mr. R. A. Bickersteth, who was in the infirmary, arrived in time to apply ligatures to the common carotid, which was not sound; this necessitated search for the internal and external carotid arteries, which were tied, and the internal jugular with a small branch entering it. The patient was very collapsed after this, but quickly rallied, only to suffer from another hæmorrhage nine days later (November 5th) from the internal carotid artery. The house-surgeon, Mr. T. H. Agnew, applied sponge pressure until our arrival, when on removing it no bleeding occurred, so we decided this time to rely on pressure, a sponge well sprinkled with iodoform under cyanide gauze, and a figure-of-8 bandage of elastic webbing around the forehead and neck. A quart of hot water was injected into the rectum, all of which was absorbed, and acted most beneficially in reviving him. This dressing was removed in two days, and cyanide gauze only, used.

From this time he made a slow recovery and was discharged, but returned with a small sinus in the lower part of the neck, in which we found a catgut ligature; it was removed, and the wound quickly healed.

The result of all this interference in detail is found to be: weakness of the sterno-mastoid, paralysis of the trapezius owing to division of the spinal accessory in the posterior triangle of the neck; paralysis of the deltoid, due to injury of the brachial plexus; paralysis of the left vocal cord, due to division of the left pneumogastric; paralysis of the left hypoglossal nerve and a few filaments of the facial; division of the left sympathetic, evidenced by contracted fixed pupil and diminution of palpebral fissure; and, finally, when he coughs, a distinct hernia of the left lung into the root of the neck. Put thus in detail the list looks formidable, but the only symptom that causes any inconvenience to the man is the weakness of the shoulder, which necessitates him doing light labour, of course, at less remuneration than his former employment. We do not feel justified in endeavouring to reunite any of the severed nerves in such a cicatrised neck.

We cannot too highly praise the assistance rendered by Mr. McCormack and Mr. Agnew, house-surgeons, on whom, of course with their colleagues, the success of the case really depends for their prompt treatment of the secondary hæmorrhages, which might easily have proved fatal in less capable hands. The case is interesting as an example of what some patients can recover from. It seems with many important physiological points, and, as far as we can gather, the man has not altered mentally in the slightest.

The photographs were taken in May, 1895,

Summary of Treatment.—October 5th. Ligature of common carotid in two places, 3 and 4 (Fig. 1). Ligature of internal jugular in two places, 1 and 2 (Fig. 1). Ligature of external and anterior jugular. Perfusion of 20 oz. saline fluid. October 27th. Secondary hæmorrhage; attempted ligature of common carotid, 5 (Fig. 1). Ligature of external carotid, 9 (Fig. 1). Ligature of internal carotid, 8 (Fig. 1). Ligature of internal jugular and branch, 6 and 7 (Fig. 1), by Mr. R. A. Bickersteth. November 5th. Hæmorrhage from internal carotid treated by packing and pressure. Injection of 2 pints of warm water in the rectum.

THORACOPAGOUS MALE TWINS WITH A COMMON HEART: TRANSPOSITION OF VISCERA IN ONE TWIN.

By C. M. KEMPE, M.R.C.S., L.S.A.,
New Shoreham.

On May 2nd I attended Mrs. A. during her first confinement. On my arrival at 2.30 p.m. the nurse informed me that the pains came on at 4 a.m. on April 30th, but were not sufficiently bad for her to be sent for until 8.30 a.m. on May 2nd. The pains at that time came at intervals of about every ten minutes, and the membranes had ruptured between 10.30 and 11 a.m. The pains becoming more frequent and stronger I was sent for at 2 p.m.

I found the os uteri well but not fully dilated, and the head presenting. The pains were strong and forcible, coming on every three or four minutes.

In a short time the os became fully dilated, the head coming down at each pain, but receding in the interval in such a manner that I came to the conclusion there was some obstruction from above which prevented it descending, as the pelvis was capacious and the pains very strong and expulsive. Shortly after 4 p.m. I applied the long forceps, and with great difficulty delivered the head, and then, with much trouble, got down the arms and shoulders. Directly the second arm was delivered a third arm shot down; then I

found I had to do with connected or interlocked twins. Finding it impossible to deliver the woman unaided I procured the assistance of my partner, Dr. Fuller. On his arrival he took the arms and shoulders, already outside, of the first infant, which presented and bore it well back, giving it a twist so as to bring the body in the oblique axis of the pelvis. I at the same time pulled on the other arms that protruded. By these means the first infant was soon delivered, the buttocks coming out under the arch of the pubes, shelling out as it were. The second child quickly followed, the breech coming first. By my traction on the protruding arm it probably lessened the tension of the band between the two infants, and so allowed us to hook out the first. The placenta (there was one placenta and only one umbilical cord) followed

almost directly, and the uterus contracted. The woman has made a good recovery without a single bad symptom, and is now about her usual duties. I may mention that she went to her full time.

By a *post-mortem* examination it was found that the infants had not breathed; their weight was about 13 lbs., length 18½ inches, circumference of heads respectively 14 and 13½ inches. There was only one heart, which was lying in the space between the two, and had six cavities—namely, four auricles and two ventricles.

Playfair mentions only nineteen such cases as having been recorded.¹

NECROPSY OF TWINS JOINED TOGETHER, BORN MAY 2ND, 1895.

The specimen apparently represents twin pregnancy at term. The twins, both male, and well-nourished, are united face to face by the anterior part of the thoracic and abdominal walls from the top of the sternum to the insertion of the umbilical cord. Below the umbilical level the anterior abdominal walls are wanting in both children, the abdominal viscera being seen through the peritoneal membrane. The children are twisted so as to make both faces look to the front, and both gluteal regions backwards and outwards.

Measurements.—Circumference, occipito-frontal, of right head ... 13½ inches.
Circumference, occipito-frontal, of left head ... 14 inches.
Circumference round the united thorax ... 17 inches.
Length of specimen ... 18½ inches.
Weight of specimen ... 12 lbs. 8 ozs.

For the purpose of inspecting the viscera with as little disturbance as possible incisions were carried: (1) Down the line of union in front as far as the umbilicus; (2) outwards from the upper end of the first incision along the two anterior clavicles. The flaps thus formed were turned back, exposing the anterior sternum and ribs.

Each sternum is composed of half a sternum belonging to each foetus, and between the two sternums thus formed is a space. Diagrammatically it might be represented somewhat thus: Suppose A and B represent two transverse sections of

sternums and ribs placed facing each other. Let the interrupted line represent a division of each sternum; then let the upper and lower part (in the diagram) of each sternum unite with the opposite side, and you have the condition present. The anterior ribs were divided, and the breastbone turned up.

Thorax.—The heart, for there was only one, was found lying in the space (C). It was large, and had six chambers, four auricles, and two ventricles. It would appear that each child had had the rudiments of a perfect ventricular cavity, but though the septum separating them was well marked, yet there was no trace of the intraventricular septum which should have divided each ventricular space into right and left chambers. The aortæ and pulmonary arteries sprang directly from their own ventricular cavities. The aorta of the left child curved over to the right, and ran down the right side of the spine. The viscera in this child were, of course, transposed. There was a common pericardial sac, but four pleural sacs. There were four lungs, in which it was evident that no attempt at respiration had taken place.

Abdomen.—There was one common peritoneal cavity. The livers were complete, and united in the middle line. There were two gall bladders and a double set of all the other abdominal organs, those of the left child being transposed, situs

mutatus being the rule in one of a pair of thoracopagous twins.

MEMORANDA: MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

FOREIGN BODY IN ORBIT: THE BILL OF A FISH.
LANCE-CORPORAL G. S., 2nd Battalion West Riding Regiment, while at a bathing parade in Barbadoes, W.I., on July 21st, 1891, was struck by a fish. About half an hour later, on admission into hospital, he presented a small lacerated wound beneath the right orbital ridge, at the junction of its outer and middle thirds. On examination with the finger a rough body was felt embedded in the orbit. This required some amount of force for its removal, having apparently passed from the outer side downwards and inwards behind the eyeball, to be wedged into the bones on the inner side of the orbit. Some slight bleeding occurred from the right nostril on its removal. This foreign body was found to be the bill of a fish, 2¼ inches in length: the greatest

Natural size.

width was ⅓ inch, and it was armed with six teeth, the longest of which was ½ of an inch. The eyeball, which was intact, had been levered forward; it protruded considerably and was fixed and immovable. The conjunctiva on the edge of the globe was torn transversely. There was some ptosis. The pupil was widely dilated and reacted slowly. There was no vision except perception of light. The man was subsequently invalided from the service with loss of vision from atrophy of the right optic disc. Surgeon-Major Whitehead, A.M.S., Assistant Professor of Surgery, Netley, reports that on his admission into Netley on April 18th, 1892, there was found to be "marked atrophy of the right optic disc."

W. BURRELL THOMSON.

York.

Surgeon-Major, A.M.S.

VIPER BITE: A PERSONAL EXPERIENCE.

On July 12th, the weather being warm, while incautiously handling a viper 16 inches in length, the reptile struck me with its fangs, inflicting two small punctured wounds on the left forefinger close to the metacarpo-phalangeal joint. I was in good health, and weighed 136 lbs. at the time of the injury. Grasping the wrist I sucked the wounds energetically, spitting out the blood withdrawn, and about ten minutes later applied strong solution of ammonia to the punctures, noticing while I did so that my conjunctivæ were much injected, and feeling slight throbbing at the temples. The finger and hand had commenced to swell immediately after the injury was inflicted.

The heart's action now became rapid, and numbness of the lips and tongue, with swelling of them and the sublingual glands, followed. Within half an hour of the accident epigastric sinking and vomiting occurred, the vomit having a peculiar earthy taste; colic, purging and strangury succeeded, while the swelling of the lips, tongue, and sublingual glands increased, until deglutition and articulation were abolished.

These symptoms continued to intensify, with much prostration, an intermittent pulse (140), and slight cyanosis, till about three hours after the inoculation, when improvement commenced. The general symptoms of poisoning and the swelling about the mouth then quickly disappeared, conversation and swallowing being easily accomplished two hours

¹ See No. 75, Royal College of Surgeons Museum, Teratological Series. The heart (No. 76) is common, and has two ventricles and an auricle. There is no situs mutatus in either twin.—[ED.]