tampon. It is hour-glass shaped, each half being inflated separately. When in use one-half is in the stomach, the other half outside. This was perfectly efficient in closing the fistula, and was quite comfortable to the patient.

Dr. Caddy, house-surgeon, afterwards fitted the feeding tube with the inflating tampon, and thus the nurses were able with ease to feed the patient without any loss of food.

After three weeks the parts were firmly united, and the fistula had assumed a valvular form, so that slight pressure with a small compress was found sufficient to retain the contents of the stomach.

Throughout, the temperature never rose above 100° F., except on the ninth day after the operation, when pus formed in the neck and was discharged from one of the exploratory punctures I made on March 18th. Pus continued afterwards more or less to be discharged from this part.

On April 18th she left the hospital.

On June 9th she went to Morecambe to visit some friends, and she remained there till June 30th, when she returned to Barrow feeling very ill. Pneumonia developed, and she died on July 2nd, 102 days after gastrostomy had been performed.

I made a *post-mortem* examination of the body twenty-four hours after death. I found a cancerous mass in the gullet below the level of the thyroid, and the sinus in the neck was connected with it.

The stomach was adherent to the anterior abdominal wall and to the under surface of the liver. The fistula was near the centre of the anterior or upper surface of the stomach.

The absence of pain, and the almost entire absence of bleeding when instruments were passed, on the one hand, and on the other the narrowness of the stricture and its recent and rapid development, made the nature of the obstruction difficult to determine.

CASE OF DOUBLE PYOSALPINX CURED BY ASPIRATION.

Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By R. H. BOURCHIER NICHOLSON, M.R.C.S.ENG.,
Surgeon to the Hull Royal Infirmary.

A. P., aged 23, servant, unmarried, was admitted to the Hull Royal Infirmary on April 25th, 1888, under my colleague Dr. E. Daly. She had pain in the left inguinal region three years ago. During the present attack she had had pain for a month in the same situation. Menstruation was regular, but the pain was much worse at that time, and there was much headache. There was no leucorrhœa. The urine was normal. The temperature was 101° in the evening, and on the third day rose to 103°. She was treated for acute ovaritis with dysmenorrhœa by leeching, pot. brom., etc., for four weeks. I was then asked to see her. I found the abdomen so tender in both iliac regions that she could not bear the slightest pressure. We had her put under ether, and made a careful examination in consultation with my colleagues. We found that there was a swelling in each broad ligament, on the right side the size of my fist, and on the left as large as a tangerine orange. By the bimanual method these could be distinctly made out; and as there had evidently been considerable inflammation in the region, shown by the fixed position of the uterus, I decided in the first instance to try aspiration through the vagina. Up to this time the evening temperature had ranged from 101° to 103°, the girl losing flesh and evidently going rapidly wrong.

On May 17th I aspirated the right pyosalpinx, and evacuated four ounces of pus, after which I passed the aspirator into the left swelling, but nothing escaped except a little blood. Next morning the temperature was normal, where it remained for two days. It then gradually crept up to 101° for five nights, when I again examined, and found the left swelling much enlarged; therefore I again aspirated it, when I removed three ounces of pus. Her temperature went down to normal, and only once again rose above 101°; this was on the second day after the second aspiration, when for some unexplained reason the temperature went up to 104°. She then made a steady convalescence, and was discharged on July 19th, cured.

Now this is a case in which I was advised to open the abdomen and remove the growths, etc., which would have been a decidedly more brilliant operation; but I think, as the result has proved,

the less heroic treatment was the better, and certainly the less dangerous.

TALIPES EQUINO-VARUS IN THE ADULT: TWO SUCCESSFUL CASES OF DOUBLE OPERATION BY EXCISION OF A POR- TION OF THE TARSUS: DAVIES- COLLEY'S OPERATION.

By F. R. FAIRBANK, M.D., F.S.A.,
Surgeon to the General Infirmary, Doncaster.

DURING the year 1887 two extreme cases of talipes equino-varus in the adult were operated upon by me, according to Mr. Davies-Colley's method, successfully. I beg to offer brief notes of them as a contribution to the discussion on "The Operative Treatment of Club-foot." Both my patients were over 40 years of age. In neither of them was the deformity congenital.

The first, J. D., reported that he was all right until about 13 years of age, when he was maltreated by his father and left, he believes, for dead. His feet became gradually so much distorted that when I saw him first he could place only the outer side of the little toe of each foot on the ground, and he could only move about on crutches. He begged of me to amputate both feet, as he thought he would be better off with stumps. I admitted him to the Doncaster Infirmary, and on February 15th, 1887, I operated on the left foot. I first divided the tendo Achillis and the tendon of the tibialis posticus, and then proceeded as directed in Erichsen's *Surgery* (eighth edition), making an incision on the outer side of the foot only. The foot was put up in plaster-of-Paris on March 26th, a window being left to dress the wound. By April 27th the wound was entirely healed, and he could easily walk about with a little assistance. On May 3rd he was discharged to go to Southport Convalescent Home.

He was readmitted on June 7th, 1887, for operation on the right foot, which was performed on June 9th. I followed the same line of operation, except that I made a free incision on the inside of the foot as well as on the outside. I found this rendered the operation easier, and gave freer vent to the subsequent discharge. The wounds were kept aseptic, the temperature rising once—the day after operation—to 100° F., but not again. On July 12th plaster-of-Paris was applied, and he was discharged soon after to again go to Southport Convalescent Home. On January 24th, 1888, the feet were both straight, and he could walk alone well; up and down stairs and out of doors. There was, however, a projection on the outer side of the right foot over the tarsus, which caused him pain when he had been walking some distance. I therefore removed a further slice of bone. Recovery was rapid, the wound being kept aseptic. His feet are of the natural form, but shorter than is usual. He can now walk well.

My second case, John F., a heavy, broad-built man, aged 41, was admitted to the infirmary and operated upon on April 15th, 1887. He reported that he was not born lame, but that the deformity began to come on after an illness, acute rheumatism (?) when he was about 9 years old. Latterly the deformity had increased so much, that for the last five or six years he had been unable to follow his work at the pit's mouth. Walking about caused severe pain, and life was a burden to him, as he could only sit all his time in a chair, and was dependent on his relations. The deformity was extreme, as in the first case, the feet being drawn back and the toes inwards, so that he could only put the outer side of the little toes to the ground.

On April 15th, 1887, I operated on the left foot in the same manner as on the left foot of the first patient, dividing the tendons first, and making an incision only on the outer side of the foot. The after-treatment was long and tedious, the man being much out of health, with some chronic bronchial trouble, and the wound became septic. In August he was sent to the Scarborough Sea Bathing Infirmary with the foot put up in plaster-of-Paris.

He was re-admitted to the Doncaster Infirmary in November, 1887, for operation on the right foot. At this operation, as in the second of the former case, I made an incision on the inner as well as the outer side of the foot, and divided the tendons first. The case did very well; only on the day after the operation did the temperature rise to 100°. The wound was kept aseptic, but

healed slowly. On January 14th, 1888, plaster-of-Paris was applied with a small window over the wound. He was discharged on February 6th, and has since then been again to the Scarborough Infirmary. He can now walk easily without support, and the feet are straight but shorter than usual.

REMARKS.—It is probably in adults that this operation will prove of the greatest service when the bones are deformed. Division of the tendo Achillis and of the tendon of the tibialis posticus before the more serious part of the operation renders it easier to perform, and a better idea can be formed then as to how much of the tarsus should be excised. An incision on the inner side of the foot as well as on the outer renders the operation easier, and gives freer vent to subsequent discharge; besides, if it be not made, there is a risk of sloughing of the skin there from injury from the point of the saw. There is considerable sanguineous discharge after the operation for two or three days, and this should be remembered, or the wounds may become septic. It is well for an assistant to hold firmly by the toes and allow the foot to hang during the dressings; in this way there is less pain, and a good position is maintained. The foot should be at once put into the normal position, and placed on a back splint with a foot piece. Union of the divided tendons takes place very satisfactorily in this way, and is strong and firm. It was necessary in each foot to divide the plantar fascia very freely, as it was much contracted.

ABSTRACT OF A PAPER ON EARLY WELSH MEDICINE.

By P. RHYS GRIFFITHS, B.S., M.B.LOND.,

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HITHERTO, little or no attention has been given to one of the most interesting features of Welsh history, namely, the history of Welsh medicine. Tradition ascribes to it an existence long years before the beginning of the Christian era, but historical references upon which any reliance can be placed are scanty until the period of the tenth century, when Howell the Good was the reigning monarch of Wales. The material supplied in his remarkable codes of law is not sufficient, however, to base any definite opinion upon the nature and extent of medical culture in these early days. It is not till the beginning of the thirteenth century that we meet with any work which gives us an insight into the condition of early Welsh medicine and its allied branches. Rhiwallon, the household physician to Rhys Grug, the son of Rhys ab Gruffydd, Prince of South Wales, in conjunction with his three sons, Kadvan, Griffith, and Einion, "caused a record of their skill to be committed to writing, lest no one should be found after them so endowed with the requisite knowledge as they were."

The record referred to consists of 188 sections or paragraphs, from which some interesting information may be obtained on the subjects of anatomy, physiology, medicine, surgery, pathology, materia medica, and therapeutics. These old physicians were evidently well acquainted with macroscopic anatomy. We find frequent references to the pericranium, dura mater, pia mater, brain, special senses, lungs and pleural cavities, heart and vessels, the organs of the digestive and alimentary system, all the abdominal organs except the spleen and the pancreas, the genito-urinary organs. The individual bones of the skeleton were apparently familiar to them, and so, also, were the joints.

Their knowledge of physiology was certainly crude in the light of the present day, though at the time it was up to the standard of that possessed by their neighbours in England. We find evidences of the old Galenian Theory of Constitutions, and of the earlier Hippocratic Humoral Theories. "Man," they said, "was formed of four elements, each being antagonistic to the others, and each consequently requiring continual aliment, which if it do not obtain, it will succumb." These four elements, no doubt, refer to the four humours—the phlegm, bile, blood, and black bile. So long as there was a right proportion and due combination of these several constituents, so long was the health of the body maintained. When this combination was disturbed, disease resulted. When a disease was progressing satisfactorily, these humours passed through certain changes in quality or coction preparatory to being expelled at the crisis. The spirit or anima was an im-

portant factor in the various physiological theories which then prevailed. In one section it is described as the medium by which the body is nourished.

In the department of medicine proper, to which the greater portion of the work is devoted, we find a very exhaustive list of diseases. In the accompanying table will be found enumerated those diseases to which special reference is made.

Nervous System.—Delirium, insanity or loss of reason, irritability of mind, loss of speech, paralysis, epilepsy or falling fits, inflammation of dura mater, intoxication.

Respiratory System.—Pneumonia, bronchitis, phthisis, pulmonary abscess, emphysema, epistaxis, quinsy, hoarseness.

Digestive System.—Flatulence, dyspepsia, hæmatemesis, vomiting, reptiles in the stomach.

Abdominal.—Adhesions of the liver, diseased liver, ascites, peritonitis, tympanites, abdominal tumour.

Intestinal.—Constipation, hæmorrhoids.

Genito-Urinary.—Pain in the kidneys, retention of urine, strangury, gravel, calculus in the bladder, impotence, profuse menstruation, prolapsus uteri, difficult parturition.

Skin.—Eczema, impetigo capitis, ringworm, nettle-rash, erysipelas, boils, carbuncles.

Bone.—Exfoliation of skull, fractures of long bones, patella, os frontis, non-union of fractures, disease of knee-joints, ribs, etc.

Fevers.—Latent fever, intermittent fever, ephemeral fever, small-pox, whooping-cough.

Eye.—Corneal opacities, catarrhal ophthalmia, blindness, pain in the eye, tinea ciliaris.

Ear.—Deafness, deafness after fever.

The surgery of this early period was of a somewhat advanced character. The general practice seems to have been to attempt the removal of any tumour or diseased condition by means of drugs taken internally or applied externally, and when these failed to resort to the knife or the cautery. The operations of lithotomy and trephining the skull are specially mentioned. From one section we are led to infer that they occasionally let out the pus from the pleural cavity by incision of the chest wall. It was the practice to ligature hæmorrhoids. Three aphorisms are interesting:—

"There are three bones in a man's body which, when fractured, will never unite again, and neither of these exists when a man is born—namely, a tooth, the knee-pan, and the os frontis."

"Three complaints which occasion long confinement—disease of the knee-joint, of the substance of a rib, and of a lung; for when matter has formed in either, a surgeon does not know when he (the patient) may be cured till he sees him well."

"A wounded lung is the physician's third difficulty, for he cannot control it, but must wait for the will of God."

Remedies were employed to promote the union of broken bones, to repress too actively growing granulation-tissue, to relieve retention of urine, and various other surgical ailments. For the removal of tumours extraordinary measures were occasionally resorted to, such, for instance, as the application of the "rump of a fowl" to the tumour until it disappeared.

The materia medica consisted of about 175 plants, flowers, roots, etc., the list including foxglove, poppies, valerian, peppermint, broom, etc. The preparations were simple infusions, decoctions, pills, ointments, etc. The measure employed was a cupful or some multiple of it.

No attempt was made to arrange in a systematic manner the virtues of the various drugs. The therapeutics of these early days was purely empirical. In the later work of Howell, the physician, there is a great advance in this direction.

In the treatment of disease drugs were regarded as all-powerful. Some of the prescriptions are remarkable for the large number of plants which are combined together. Dietetics received a large share of attention. A most elaborate table is given, which contains careful, though often quaint, directions for the regulation of diet in health and disease, and the preservation in other ways of the health. Emetics, purgatives, suppositories, cordials are frequently recommended. Baths of various kinds were employed. Bleeding was recommended occasionally. Local applications of various kinds—for example, poultices, counter-irritants, etc.—were frequently resorted to.

In this work there is a remarkable absence of superstitions and of charms. With one or two exceptions the superstitions are comprised in the sections devoted to the hygienic precautions for the various months of the year. The later work of Howell is much more rife with superstitions and charms, so that it would seem