saw her again in September, when slight increase in the size of the tumour was to be noted. She had been trying Count Mattei's remedies, without any effect, of course. In September, 1894, she came to me again expressing a wish for an operation. She had been for nine months under a quack living near Birmingham, who had undertaken to cure her without operation, and had, she said, "nearly killed her."

On September 18th, under chloroform, with all antiseptic precautions, I performed what is called Thomas's operation, by making an incision along the curved groove below the breast, and shelling out the tumour. The drainage tube was removed on September 20th, and the stitches of silkworm gut on September 25th. There were three dressings, and the patient was up on September 30th. The temperature was normal throughout, except on the evening of the tenth day,

when it went up to 100° F. The illustration shows the appearance of the breast on October 6th.

IX.—CASE OF ALOPECIA AREATA.

H. R., aged 35, a builder, was seen on June 13th, 1892. There were several bald patches at the back of the head, which had come on during the previous nine months. He was ordered an ointment of the yellow oxide of mercury (gr. iv to an ounce of vaseline), which he continued to use till the middle of September. The hair commenced to grow again, being at first quite white and very fine. When seen in November, 1894, the hair was black, and there was no remnant of the disease left.

I am indebted to Dr. Morland, House-Surgeon Cardiff Infirmary, and Dr. J. D. Williams, Resident Medical Officer, Cardiff Union Hospital, for assistance in preparing some of these notes.

TREATMENT OF FUNCTIONAL CURVATURES OF THE SPINE BY GYMNASTICS.

By CHARLES ROBERTS, F.R.C.S.

OUR sympathy with Mr. Christopher Heath's efforts to rescue the treatment of lateral curvatures of the spine from the instrumentalists must not be allowed to lead us into the opposite fault of putting too great trust in the gymnasts. A knowledge of the various forms of gymnastics and considerable discrimination in their application is essential. There is no pathological relation between angular curvature due to caries of the vertebrae and its constitutional effects and the functional accommodation of the elastic spinal column to faulty positions and habits of the body, to unequal length of the lower limbs, or to imperfect or irregular action of a few or many of the spinal groups of muscles. The one should be called organic curvature, or, indeed, organic disease, while the others should be called functional curvatures of the spine. If we once get the functional nature of lateral curvatures impressed on our minds, we shall see the uselessness of the instrumental and the recumbent treatment necessary in

organic disease, and we shall set about removing the causes and assisting Nature to restore the spinal column to its normal condition.

Functional curvatures of the spine are—in relation to the conditions which accompany them—healthy and normal. If one leg is shorter than the other there must be a curvature of the spine to a corresponding degree to keep the body erect. This is a cause, but not in my experience so common a cause as Mr. Heath has found it. The spine in young girls is very flexible, and placing a book under one foot will obliterate some lateral curvatures which are not due to unequal length of the two legs. Unless there is a measurable difference between the two legs the curvatures due to this cause need not be meddled with, and when the difference of the two legs is considerable all that is necessary is to alter the soles and heels of the shoes. Without the adjustment of the length of the legs, gymnastics will be injurious as tending to confirm a functional curvature of the spine on an unequal base. Gymnastics are not a remedy for this form of curvature, they serve only to improve the general health.

Next we have a series of curvatures caused by faulty positions in school owing to the left hand and arm being employed to support the body, and the right arm left free to write, draw, hold books, etc. Of the same kind are the curvatures produced by playing active games in which the right hand, arm, and leg are chiefly used. In this class of cases we have a functional accommodation of the spine to balance the body, and in addition, an unequal development of the muscles of the two sides of the body, those of the right side being stronger than those of the left. These are the most troublesome forms of spinal curvature, as correcting the position of the body does not correct the curvature of the spine, the faulty curves being fixed and retained by the unequally balanced muscles. At first sight there does not appear to be any reason why girls should be more liable to spinal curvatures than boys; but girls are excessively right handed, much more so than boys, and this has much to do with initiating, if not actually causing, lateral curvature in girls. It is just because there is this disproportionate muscular development of the lateral halves of the body that gymnastics have to be employed with great caution.

To hand over these cases to the ordinary teacher of gymnastics is not to cure them but to make them worse, because the muscles on the stronger side, being better nourished, grow stronger more rapidly than those on the weaker side. In prescribing physical exercises for this class of cases the immediate needs of the weaker half of the body must be provided for, together with the avoidance of the faulty positions, until the curvatures have been corrected, when general gymnastic exercises may be adopted. Cases of this kind sometimes recover by the use of instruments or the recumbent position, because the faulty positions are forcibly corrected, and muscular action is restrained until both sides of the body become equally impoverished, and a fresh start is made on equal grounds. With proper supervision this class of cases is best treated by gymnastics of the simpler sort with dumb-bells and the like, and not by the trapeze and ropes above the ground. The so-called Swedish system has no advantages over the ordinary methods, and it is slower in its results.

The chief indications for the treatment by gymnastics of the lateral and the cervical angular curvature causing round shoulders are to equalise the muscular development of the two lateral halves of the body, and to favour the freest possible mobility of the vertebra in all directions on each other, and trust to a good carriage of body (due to a good all-round muscular development) to secure the true erect position of the spinal column. In cases of functional angular curvature, lying in the prone position with the arms tucked under the chest favours its correction, but little is gained by adopting the supine position in any functional form of curvature except as avoiding unfavourable positions of body.

A very large number—probably the majority of the cases of functional spinal curvature—are hysterical, and are mere imitations of conditions which the patient has seen, or heard described, or read about. I have seen growing-out shoulders and spinal curvatures in cases of chorea maintained throughout the disease, and disappear only with the choreic symptoms, notwithstanding the lack of muscular control by such

patients. For these hysterical cases, sea air, sea bathing and swimming, together with games and gymnastic exercises, are the best remedies, combined with general medical treatment.

I have seen what might be described as an epidemic of "spinal complaints" in a girls' school where the discipline was foolishly prudish and constrained, just as one often sees epidemics—epidemic because catching from one to another—of laughing and crying and other hysterical outbreaks in the wards of a hospital.

NOTES ON THE ETIOLOGY OF GOITRE.

By H. C. L. MORRIS, M.D. BRUX., L.R.C.P., M.R.C.S.,
Hambleden.

DURING two and a-half years' residence in Hambleden, Buckinghamshire, I have seen over 50 cases of goitre in my practice—a strikingly large number out of a population of about 2,000; and I have little doubt that there are many more cases that have not come under my observations. The district is situated on and at the foot of the southernmost spurs of the Chiltern Hills. The soil is excessively chalky, and, with a few exceptions, the water supply is obtained from deep wells sunk into the chalk. When the springs are low the water is drawn up and even consumed while still milky in colour, for the poor take little trouble to boil or let it settle. I have met with no cases from the tops of the hills, where spring water is unattainable and the people drink stored rain water.

Of my 55 cases, all were water drinkers, only 4 being males, and the ages ranged from 4 to 76. There seems to me to be little doubt that the presence of calcium and magnesium carbonates in the water is the sole cause of the disease in my cases. When the springs are high the water, tested by Clark's soap test, represents about 30 in 100,000 of total hardness, but when the springs are low the water is turbid, owing to the buckets disturbing the bottom of the wells.

The following instances are a little remarkable.

A girl, aged 23, who is in service in London, invariably gets an enlargement of the thyroid about a week after she comes home, the enlargement disappearing shortly after her return to her situation.

In another case a family came to reside in this district, having previously lived on a clayey soil. Within six months three out of four children, aged 5, 7, and 8 years, presented thyroid enlargements. There was a little difficulty at first about these children, for I found that their water supply came from a rain water tank. I discovered, however, on making inquiries that the water they drank at school came from a chalk well, and was occasionally turbid. The fourth child, who did not attend school, showed no signs of the disease.

In several other instances new-comers have developed goitre shortly after settling in the neighbourhood.

I feel certain that heredity had nothing to do with the etiology of my cases, for in only one instance was there the slightest suspicion of it. Nor has intermarriage been a factor, for the one village in which the inhabitants have largely intermarried is, if anything, clearer of the disease than those round about it.

The amount of iron in the water is so infinitesimal that I think it can be left out of consideration. That goitre may be produced by other causes in other places I think probable, but that it is produced in this neighbourhood solely by the carbonates of lime and magnesia in the drinking water I feel convinced.

PROFESSOR HERRING, of Prague, has been appointed to the chair of Physiology in the University of Leipzig, vacant by the death of Professor Karl Ludwig.

THE annual festival of the Order of the Hospital of St. John of Jerusalem in England, was held on June 24th. After a religious service in St. John's Church, Clerkenwell, which has been restored, the original crypt of the old church of the Priory of the Order being preserved, the general assembly was held in the Charterhouse under the presidency of the Earl of Lathom.

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

A CASE OF HYPERPYREXIA FOLLOWING INFLUENZA.

THE following case seems worthy of record both as regards the rarity of the complication in influenza, and also as being one of the highest temperatures on record in a non-hysterical patient. Dr. Bryant, in a collection of 100 cases of hyperpyrexia published in the *Guy's Hospital Reports* for 1894, only quotes one higher temperature apart from pure hysteria, and that was in a hysterical patient suffering from phthisis, in which case the temperature rose to 128°.

A. W., aged 31, married, a publican, had been treated for intemperance. He was not of a hysterical type, and had generally enjoyed good health. From March 20th to April 1st he was laid up with an attack of epidemic influenza similar to the present one except that his temperature never gave rise to any anxiety. The course run by the disease was quite normal. The profuse sweating with its accompanying rash of sudamina was a marked symptom. The recovery from this attack was complete.

On April 15th he complained of feeling unwell, and was seen in the afternoon, when he had a temperature of 102.2°. The pulse was full, 90. He was sent to bed and put on fluid diet, and ordered a mixture containing liquor ammoniacetatis. As in the previous attack, there was severe sweating, which produced the most marked rash of sudamina and miliaria that we had ever seen. The next day he was more comfortable, the temperature 101.4°, pulse 90. On April 17th he was about the same, the temperature was 102°, on April 18th 101°, and on April 19th 101°. On April 20th he was seen about 3 P.M., the temperature was 103°, the pulse 104; he was chatting perfectly rationally, and apparently in no different condition from what he had presented during the last few days, except that the sweating had somewhat diminished. About 6 P.M. he became suddenly violent, requiring three people to hold him in bed. When seen a few minutes later he was quite unconscious, breathing stertorously; there was no corneal reflex; the pulse was extremely small, about 120; and the temperature was 110.2° (twice taken) in the axilla. Ice was placed in each axilla, and the trunk and arms rubbed with it, but this was of no avail, and he died within a quarter of an hour of being seen.

He had never complained of pains in his joints, nor had he suffered from severe headaches; the lungs were quite free from physical signs on the afternoon of his death.

Dr. Rodman subsequently learnt that after his visit at 3 P.M. on the day of his death the patient had expressed to his wife grave apprehensions of impending evil from his feverishness, from which he could not be dissuaded. He laid great stress upon the fact of his having heard Dr. Rodman say as he went down stairs that his temperature was 103°, and higher than during the previous days.

The case was one of great interest, as within the space of at the most three hours the temperature had risen upwards of seven degrees, and the history given points to the fact that it was only during the last half hour or so of his life that any symptom due to the existence of hyperpyrexia was noticed.

There were no symptoms to point to any pyæmic condition—for example, ulcerative endocarditis or meningitis.

Post mortem decomposition was exceedingly rapid.

G. H. RODMAN, M.D.

East Sheen, S.W. ARTHUR C. HOVENDEN, M.B., B.S. Lond.

CONTROL OF HÆMORRHAGE IN AMPUTATION AT THE SHOULDER-JOINT.

In recent numbers of the *BRITISH MEDICAL JOURNAL* there have been articles by different surgeons on various methods of controlling hæmorrhage in amputation at the shoulder-joint. I should like to mention a method which I adopted in 1891, in a case of spreading traumatic gangrene of the arm. My method, I think, differs in some small degree from those already described. An elastic tourniquet was applied round the axilla and tied over the shoulder and an assistant's