enjoys good health. He kept a canary which died before he broke down in health.

CASE 3.—This patient was a medical man, aged 31 years, practising in a health-resort. He was a well-built, athletic man and had always been in the enjoyment of good health. There was no family history of tubercle. Illness commenced with hæmoptysis during influenza. There was dulness at the apex of one lung with a few fine crepitations and expectoration containing half-a-dozen tubercle bacilli in a field. There was loss of weight to the extent of 21 lb. This patient recovered completely after one winter in the Alps. He weighs now 13 st. His height is 5 ft. 9 in. He writes: "We had two birds and strange to say they both died about the time of my illness."

CASE 4.—The patient was a dental surgeon, aged 43 years. There was no family history of tubercle. He was well nourished and was in good health up to two years ago. His weight then was 13 st. and his height was 5 ft. 11 in. After a small hæmoptysis cough and expectoration supervened with bacilli in the sputum. Canaries were kept in the house but none died, nor did any of the birds appear to be diseased. This patient is still under treatment.

CASE 5.—The patient was a woman, aged 20 years. She lived in a healthy part of Queensland, Australia. She was taken ill with cough, feverishness, expectoration, and emaciation. Râles were detected throughout both lungs, but very few bacilli were observed. There was no family history of tubercle either in the parents or grandparents. From 15 to 20 canaries were kept in an aviary on the balcony of the house; several of these birds died from time to time. A brother had died from phthisis, aged 25 years. Another brother, aged 23 years, and a sister, aged 20 years, had died from phthisis. The patient named above died after one year's illness. All these persons had been in contact with the birds for some years.

CASE 6.—A family living in a healthy situation in Silesia kept a large number of birds in an aviary fitted with artificial trees, water, &c., in the conservatory. There was no hereditary taint of tubercle with the grandparents who died at advanced ages—viz.: the maternal grandmother, aged 89 years, from heart disease; the maternal grandfather, aged 70 years, from gout; the paternal grandmother, aged 75 years, and the paternal grandfather, aged 75 or 80 years, from disease not known, but it was not lung disease. The family inhabiting the house died as follows: the mother, aged 61 years, from pulmonary consumption of three years' duration; the father, aged 57 years, from pulmonary consumption of six months' duration. Nine sons and daughters also died from phthisis at the following ages: 12 years, 14 years, 16 years, 17 years, 19 years, 24 years, 30 years, 36 years, and 37 years. Two daughters remain alive, aged about 50 and 60 years; both are affected with pulmonary tubercle in the quiescent condition.

CASE 7.—The patient was a youth, aged 18 years. He had had hæmoptysis yearly since 12 years of age. A cavity had formed in the right apex. Several canaries were kept in the house previously to the first hæmoptysis. During the holidays he would have the birds in his bedroom. They were considered to be "unlucky" in bird-keeping as so many died.

CASE 8.—The patient was a woman aged 33 years. Illness commenced with cough, expectoration, and loss of flesh about two years ago. There was now excavation at the apex of the right lung. There was no family history of tubercle and the patient occupied a spacious house in a healthy situation in London. She frequently visited a house where canaries were kept in the bedroom, dining-room, hall, and kitchen. The smell of the cages often made her feel sick. There were two members in the family she visited—husband and wife—but no children. The husband mentioned developed pulmonary disease at the age of 40 or 45 years, although he was considered a strong man and had been an athlete at Oxford.

CASE 9.—A woman, aged 22 years, was taken ill in June, 1892, with a cough. Hæmoptysis occurred in 1893. There was no loss of flesh, feverishness, or shortness of breath. A winter spent in Egypt did not prove beneficial. She preferred cold climates. A cavity formed in the right apex without much constitutional disturbance. A linnet and a canary were kept in the house before her illness; she frequently kissed the birds, both of which died from a wasting disease with loss of feathers.

CASE 10.—The patient was a woman, aged 41 years. She had suffered from a slight cough for two or three years. In 1896 the cough became troublesome and feverish symptoms

supervened. She lost a little weight in the summer, but regained the loss during the cool weather of the autumn. There was scattered tuberculous mischief in the upper portions of both lungs, but with patience and care the disease has become comparatively quiescent. A canary was kept in the dressing-room for four or five years. The bird died.

As there is generally a high mortality amongst cage-birds, especially if several are kept together, and tuberculosis being very frequent with them, the birds which become affected can doubtless spread bacilli during the course of the disease. It appears therefore inevitable that any person inhaling the contaminated dust of the house runs a decided risk of becoming infected by a respiratory impurity of a virulent nature. On the other hand, tuberculous dust can be deposited on the food of a household, especially on milk, butter, cheese, bread, jellies, pastry, and all cold viands, and in this way convey the avian bacillus to the stomach and intestines. Perhaps the relation of the foregoing cases in which over 30 persons became attacked by tubercle may tend to elicit further information from other observers on the important question of tuberculous infection from avian sources. There have been cases already observed where the avian race have themselves become infected from human sources—e.g., in the case of poultry picking up tuberculous expectoration or eating food previously masticated by tuberculous human beings. It is stated that parrots have taken the disease in this manner and also by the bird inhaling the bacilli of human sputum along with dust deposited in dwelling-rooms, mentioned by Friedberger and Fröhner, Hayes, and others. This does not, however, affect the question of the avian race being capable of re-transmitting the infection in their turn if kept in a diseased condition in contact with human beings. Although doubts have been expressed regarding the identity of avian tuberculosis with that of mammals, Friedberger and Fröhner mention that the more recent investigations of Cadiot, Gilbert, Roger, Fischl, Courmont, and others tend to show that these two forms of tuberculosis are produced by the same species of bacilli, although by different varieties, the differences between them having been produced by differences in their respective modes of nutrition. The number of song birds kept in captivity, especially canaries, must be very large. It is stated by a recent writer in *Good Words*, under the *nom de plume* of "Nightingale," that at a moderate estimate 400,000 canaries are sold every year in Great Britain.

Montreux, Switzerland.

Clinical Notes :

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON HERNIA OF THE VERMIFORM APPENDIX.

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IN THE LANCET of May 6th, 1899, two very interesting instances of the vermiform appendix being the sole occupant of a femoral hernial sac are recorded—one having been under the care of Mr. Edmund Owen and the other under the care of Mr. W. H. Battle. One of the most interesting points raised by these cases is the question whether true strangulation of an appendix in a hernial sac ever occurs. By strangulation I would imply the sudden descent of the viscus through a hernial aperture and the immediate nipping of its tissues by the edges of the ring, so that there results an obstruction to the proper return of blood from its vessels. That such may occasionally happen may be true and that it may be in evidence without signs of intestinal obstruction is obvious, for the lumen of the caecal appendage is not in the direct line of the onward flow of the intestinal contents. But I venture to think that in a large majority of cases where untoward symptoms occur when an appendix is herniated, these are due to inflammatory processes precisely

similar to those which may affect the appendix while still within the abdominal cavity. It is well known that the symptoms of appendicitis may supervene with surprising rapidity, and this fact applied to inflammation within a hernial sac would perhaps lead to the belief that sudden strangulation had occurred. In many cases where an appendix has been found in a hernial sac, apart from other viscera, adhesions have been noted, showing evidence of past inflammatory action even if this has been but slight. Again, concretions and foreign bodies within the appendix have been recorded when this organ has been found outside the abdomen. No doubt when inflammation is in evidence the appendix becomes greatly thickened and its tissues will thereby be considerably pressed upon by the fibrous structures around the neck of the sac, but this is a secondary effect and should not be designated primary strangulation. The appendix has been found alone in the sac of a right inguinal, a right femoral and a left inguinal hernia, but I do not know of any instance where it has descended into and remained the only occupant of a left femoral, an umbilical, or a ventral hernia. It has been discovered at all ages, and out of 29 cases which I collected in 1896¹ it lay in the sac of an inguinal hernia in 16 cases and in that of a femoral hernia in 13 instances.

Harley-street, W.

NOTE ON THE COUNTING OF THE WHITE BLOOD CORPUSCLES.

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In the counting of the blood corpuscles it is advisable, as has been pointed out by Sherrington,² to use a single preparation for the enumeration of both the red and the white corpuscles. The blood must be diluted with some suitable fluid at least 50 times, otherwise the red corpuscles are so closely crowded that no trustworthy count can be made. In blood thus diluted the white corpuscles, if not in excess of the normal, are few and far between; over the whole area of 400 squares that are ruled on the floor of the cell in the Thoma-Zeiss hæmocytometer not more than from 12 to 20 white corpuscles are to be seen in the case of normal blood; the number is so small as to afford a quite inadequate basis for the calculation of the total number of white corpuscles in the cubic millimetre of blood. The object of this note is to indicate a simple means of increasing the area available for the purpose of the count. It is by the use of the camera lucida. The most convenient form is the Zeiss-Abbe drawing camera, which is used with the stage of the microscope in a horizontal position—an important matter in dealing with fluid preparations; the image of the field is projected on to a piece of paper or cardboard lying horizontally on the table immediately to the right of the microscope stand. Before making the blood-count the ruled squares on the floor of the hæmocytometer cell are brought into focus and with the aid of the drawing camera the outline of as many squares as appear in the field is accurately marked out on the cardboard. At the time of making the count the image of the corpuscles which lie on the unruled part of the cell floor is thrown by means of the camera on to the cardboard, and the corpuscles which appear to lie over each square are enumerated and included in the count. In practice it is convenient to use a mechanical stage, and with the help of this it is possible to map out with great accuracy as much of the floor of the cell as is occupied by the drop of diluted blood and to enumerate the white corpuscles lying thereon. In this way the number of white corpuscles which are brought under notice for the purpose of the count is multiplied many times. It is, of course, essential that the eye-piece, objective, and tube-length used during the count should be the same as on the occasion of marking out the squares on the cardboard. For the dilution of the blood I know of no better fluid than that recommended by Sherrington,³ consisting of: distilled water, 300.0 cubic centimetres; sodium chloride, 1.2 grammes

neutral potassium oxalate, 1.2 grammes; and methylene blue, 0.1 gramme. In this solution the shape and colour of the red corpuscles are preserved. The red corpuscles are not stained. The nuclei of the white corpuscles are in every instance stained and the distinction of the white from the red corpuscles is thus facilitated. For the differential count of the white corpuscles it is desirable to work with an immersion lens and as the depth of the hæmocytometer cell renders this impossible it is necessary to prepare a special fluid film. The subject of the differential count was discussed in a paper, to which I would refer, recently read by me at a meeting of the Royal Medical and Chirurgical Society.⁴

Weymouth-street, W.

NOTE ON A CASE OF SYPHILIS WITH NO PRIMARY SORE.

BY C. F. MARSHALL, M.D. VICT., F.R.C.S. ENG.,

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CASES of syphilis in which a primary sore is absent are well recognised by continental authorities, but most English surgeons, I believe, are still sceptical on the point. The following case which was under observation from the first is therefore worth recording.

On March 21st a man, aged about 25 years, was sent to me by Dr. Steegmann with a view to the diagnosis of syphilis. He had a roseola rash on the chest, abdomen, and flanks, but no other signs and no primary sore. In January (two months before) he had contracted gonorrhœa and feared that he had also got syphilis owing to some inflamed smegma glands exciting his suspicion. From that date up to the present time he was under the observation of Dr. Steegmann and myself, and at no time did any "primary sore" develop. Later, in March, a typical polymorphous secondary syphilide appeared followed by injection of the fauces and mucous patches on the prepuce. There can, I think, be no doubt that this was a case of syphilitic infection without a primary sore.

Writing on syphilis in 1897 Stassano⁵ was of opinion that many cases of syphilis occur without a primary chancre and that a solution of continuity is not necessary for its formation, as shown by the occurrence of chancres on the tonsils, where such solutions of continuity could hardly occur. Stassano even goes so far as to consider "primary chancres" as part of the "secondary" eruption because of the absence of any sign at the situation of the chancre during the period of incubation. Mr. Hutchinson, who has been kind enough to give me his present views on this subject, says: "I have seen not a few cases of constitutional syphilis in which, although carefully observed, no chancre had been noticed."

Finsbury-square, E.C.

⁴ The Clinical Examination of the Hæmic Leucocytes, delivered on April 25th, 1899.

⁵ La France Médicale, August 6th and 13th, 1897.

THE HEALTH OF GLOUCESTER.—The report of the medical officer of health (Dr. Campbell) for 1898 to the Gloucester Urban Sanitary Authority has just been issued. Dr. Campbell estimates the total population of the city at 41,450, an increase of 284 in the year. The births numbered 1315—688 males and 627 females—compared with 1336 in the previous year. The rate is 31.7 per 1000 compared with 32.6 per 1000. There were 694 deaths, as compared with 726—a rate of 16.7, as compared with 17.6 in the previous year. This is regarded as an extremely gratifying fact, as it places the city on a par with the most healthy towns in the kingdom. Dealing with the water-supply, the report states that the three sources of supply now available are capable of providing 20 gallons per head per day for double the population now supplied. On the whole, the supply generally will, it is stated, compare favourably with that of the best supplied towns, and the only fault that can be found is that the Witcombe and Robinswood Hill supplies are not sand-filtered as well as decanted and that the Newent supply is not chemically softened.

¹ St. Bartholomew's Hospital Reports, 1896, vol. xxxii., p. 93-105.

² Proceedings of the Royal Society, vol. lv.

³ Loc cit.