and tingling in her legs. She did not feel sure of her steps, and felt dazed."

When first seen, on May 4th, 1911, she could only walk with difficulty. There was much loss of power in the legs, especially of the extensor muscles. Knee-jerks and plantar reflex were absent. Sensation to touch was impaired, but not abolished. The upper extremities were not affected, and there was no diplopia or squint. She left the institution, and was subsequently treated in the Mill Road Infirmary, Liverpool. At the present time we hear she has practically recovered the use of her legs, and is able to walk slowly. Her general health is good. She had worked in the ironing room since the previous September.

CASE II.

F. G., aged 17 years, was seen by us together on June 29th, 1911, and admitted to Chester General Infirmary on June 30th. The patient stated that three weeks before admission her legs started "going from under her," and became painful. Everything she took "came back." She said she felt giddy, and if she looked long at one object she saw it double. She had worked from March to June in the ironing room.

The patient on admission is pale and anaemic-looking, with a cyanosed appearance, which becomes more marked on exertion. Her eyelids are puffy. Heart sounds are normal, but beat is irregular. Tongue clean. Bowels constipated.

The pupils are dilated, but react sluggishly to light. On fixing an object with the eyes there is convergent squint, the external recti muscles are both completely paralysed, and on looking at an object on either side of the field of vision there is marked nystagmus.

There is complete loss of power below the knees, and great wasting of the leg muscles; the muscles of the thigh act very slowly, but any attempt at movement brings on violent cramp in the legs. There are no knee-jerks or plantar reflexes, and on taking hold of the calf of the leg the patient cries out with pain. The tibialis anticus has completely lost its power, and the foot lies with the toes pointing downwards; on lifting the leg the foot is quite flail-like. There is complete loss of sensation of touch below the knee, but the sensations of heat and cold are not impaired. Electrically there is a complete reaction of degeneration. There is retention of urine. The ordinary routine examination of the urine on admission showed nothing abnormal. Later a more detailed examination revealed arsenic. For a week after admission a catheter had to be used.

She was treated with strychnine and dilute hydrochloric acid, and milk and barley water until the vomiting stopped. Massage to the legs was begun as soon as the tenderness was sufficiently diminished for the patient to bear it, that was in about nine weeks after admission. Supports were kept below the feet to keep the toes up in order to prevent any deformity occurring. The weakness of the external recti muscles slowly passed off, and now she is able to move her eyes perfectly, and there is no diplopia or nystagmus. Now, eighteen weeks since her admission, she is able to flex and extend her knee, but her leg muscles are still very weak, though the tenderness has completely disappeared. She is still improving under massage and electrical baths to her legs. Menstruation began again in October after four months' cessation.

CASE III.

A. D., aged 15 years, was admitted to the Chester General Infirmary at the same time as Case II. About the end of May she noticed her legs getting weak; about a week later her calves became painful, and have been getting worse since. At the same time there was giddiness and pain in her eyes; she says that she saw things "as through a mist." She had abdominal pain and vomited after food. She had been working in the ironing room for about two months.

On admission, this patient's condition was exactly the same as Case II, except that none of the symptoms were so severe. She had diplopia, but only slight paresis of the external recti. There was loss of power in the legs and tenderness of the muscles on gripping the calf, but very little if any wasting. There was no bladder trouble. There was arsenic found in the urine. This patient improved more rapidly than Case II, and in seven weeks' time was able to get up and in ten weeks could walk, but still had ankle-drop and difficulty in walking. In fifteen weeks she had lost all her symptoms and was apparently quite well.

CASE IV.

A. N., aged 16 years, seen by us at the laundry on July 3rd, 1911. The day before she had tumbled while standing at her work, her legs simply giving way beneath her. She had no vomiting, but was very anaemic looking, and had no other symptoms except the weakness in her legs. This patient was sent home at once.

CASE V.

M. C., aged 40 years, was admitted into Chester General Infirmary on July 11th, 1911. She was deaf and dumb, so that it was very difficult to obtain a history from her. Her legs were extremely painful on taking hold of them, but she was able to walk with help. There was no squint, and apparently she had not got diplopia. She improved rapidly under treatment, and was discharged quite cured on September 20th, 1911.

CASE VI.

G. M., aged 23 years, complained of pains in the abdomen and legs, with some loss of power. She was removed by her friends, and subsequently admitted into the Royal Hospital, Salford. Here she was diagnosed as a case of "peripheral neuritis of

unknown origin." This girl was engaged in the ironing room from April, 1910, to April, 1911. Her symptoms were much the same as in the other cases: Numbness and tingling in the legs and left hand; reflexes absent, loss of power; vomiting and giddiness. This patient has now returned to her work at the laundry. She has regained her reflexes, but still walks slowly, and does not seem quite well yet.

A NOTE ON PAROXYSMAL ATTACKS OF DYSPNOEA, OCCURRING AT NIGHT, IN HEART DISEASE.

By HUGH BARBER, M.D.LOND.,

ASSISTANT PHYSICIAN, DERBYSHIRE ROYAL INFIRMARY; LATE MEDICAL REGISTRAR, GUY'S HOSPITAL.

I AM tempted to send brief notes of four cases of heart disease, in which asthmatic attacks occurred at night, by a letter of Dr. James Mackenzie¹ in the BRITISH MEDICAL JOURNAL, which contains the suggestion that such attacks must be seen at the time, in the night, to be fully appreciated. After several years' post-graduate appointments in the medical wards of a large hospital, I had hardly realized that such attacks existed, but in private practice, in a few years, I have met with four cases in which very definite paroxysmal attacks of dyspnoea came on suddenly in the middle of the night as one of the earliest symptoms of a diseased heart.

I have been present during many attacks, and during at least one in each case. The patient has gone to bed apparently in his usual state of health, or, at any rate, not having complained of feeling ill; he has been seized with an attack, usually between 1 a.m. and 2 a.m., which has compelled him to sit up, and has appeared to be similar in every way to the spasmodic attacks occurring in asthma. The attack has passed off in time, varying according to its severity and the treatment adopted; and next morning, at any rate in the earlier attacks, there has been little or no distress on waking. The pulse has varied, being rapid in the most severe attacks; the veins have not been excessively full nor the cyanosis extreme. The patient usually has had the sensation of an obstruction to his breathing, which he locates as underneath the lower part of the sternum. Sometimes a little expectoration has occurred, and been accompanied by slight relief; there has not been much tendency to flatulence, and carminatives have not given relief. There has been no pain, nor have paroxysms of angina pectoris occurred at any other time in these cases.

Morphine, usually combined with atropine, given hypodermically, has brought relief in ten to fifteen minutes in most cases. Nitrites have proved disappointing, and so has morphine administered by the mouth if the attack is well established. To prevent recurrence rest has seemed to be the essential remedy, but the paroxysms seem to recur as soon as the reserve force of the heart is again exhausted.

The features, common to all the cases, are that they occurred in elderly men in whom the heart was enlarged. In no case was there valvular disease which appeared to be primary, nor signs of an aneurysm. In two the high blood pressure might suggest chronic interstitial nephritis as a primary disposing cause to the heart trouble, but in the absence of albuminuria, or other signs of kidney disease, the attacks would not appear to be uraemic. In the three fatal cases it has not been possible to obtain a *post-mortem* examination, but I imagine the morbid anatomy of the condition, in all, has been degeneration of the heart muscle.

CASE I.—A man, aged 72 years; had been a casual labourer. First seen at 2 a.m. in March, 1906, with a typical asthmatic attack; he had never had any attacks previously, nor any serious symptoms of heart disease. He felt quite well on going to bed before the attack, and was in no distress in the morning. The heart was enlarged with the impulse $\frac{1}{2}$ in. external to the nipple line in the fifth space; there was a mitral systolic bruit. He rested in bed a day or two. He died in the street about eight weeks later, having had no other symptoms of heart trouble.

CASE II.—A man, aged 75 years, who was known to have an enlarged heart, but was attending to the business of a large mill. On December 27th, 1906, he went to bed in his usual health. I was called up at 1 a.m. to an asthmatic attack, which lasted about half an hour, and then subsided. Examined later

in the day, he had no dyspnoea, the lungs were very emphysematous, the cardiac dullness extended 1 in. external to the nipple line; there were no bruits. The tension of the pulse was high, and the artery thickened (blood pressure, taken subsequently, was 180 mm.). There was no albuminuria. He remained fairly well, with occasional tendency to a little swelling of the feet until the second attack occurred, in the early morning on April 4th, 1909. This was followed by a bad breakdown, with much oedema, which, again, after sufficient recovery had taken place to allow him to attend his office, was followed by a third attack of asthmatic character, on December 28th, 1909; dropsy set in, and he died, with the distress usual in mitral disease with anasarca, on April 14th, 1910.

CASE III.—A man, aged 50 years, an ironmonger; enjoyed good health until 48 years of age, after which age he had been short of breath on exertion. First seen during a short feverish bout lasting four days; the heart impulse was in the sixth space, 2 in. external to the nipple line, no bruits; pulse moderate tension (blood pressure, taken subsequently, 145 mm.); liver 2 in. below the costal margin; no oedema. He returned to work in a few days, but a few weeks later, on February 1st, 1909, I was called up to an asthmatic attack, which was relieved with morphine; in several of the next few nights the paroxysm recurred. He has been under observation since, and has had several bouts of heart failure, beginning, on each occasion, with these night attacks, which have tended to recur for several nights in succession; bromide has not prevented the attacks, and morphine, by the mouth, has only been of use if taken before any respiratory distress has developed. There has been some pyrexia at times, but only a definite embolism once, in April, 1911, when aphasia was present for six hours. The physical signs are unchanged, in November, 1911; there has never been oedema, though occasionally the feet are rather puffy. He has avoided attacks of an asthmatic nature for the last nine months by taking the greatest care not to overexert himself. The attacks in his case have been most violent, producing lividity and profuse sweating, unless cut short with morphine hypodermically.

CASE IV.—A managing clerk, 50 years old; first seen in October, 1910, for shortness of breath on slight exertion; has had no previous illness. The heart was enlarged, dullness 2 in. external to the nipple line, mitral systolic bruit, rough first sound in the aortic area, no diastolic bruit; pulse 110, high tension, blood pressure 170 mm., artery rather thick; lungs emphysematous; urine contained no albumen, but 5 per cent. of sugar present. A few days' rest, with suitable diet, reduced the pulse to 84 and the percentage of sugar to 1.25. He returned to work with a pulse of 80 in about a month. In January, 1911, he did a fortnight's very strenuous work, mostly mental, and on the 15th went to bed tired, but otherwise well. At 1 a.m. next morning he had an asthmatic attack; the pulse later in the morning was 120 and the breathing rather rapid, but no urgent dyspnoea. After a long rest he again returned to work, contrary to advice, and broke down in March, in June, and in August, one of the earliest symptoms of failure in each case being an asthmatic attack in the night. In September he developed oedema, and died with the usual symptoms of mitral regurgitation with anasarca on October 12th.

In a fifth case—an alcoholic man—I have been called up very many times to attacks which at the time have been exactly comparable, but as it was not possible to demonstrate any enlargement of the heart, as there was a large amount of albumen in the urine and as no *post-mortem* examination was obtained, I have not included the case, though I should conclude that the attacks depended on a degenerated heart muscle.

Probably such attacks are not very rare, but they are very striking, and appear to have received little attention in textbooks. Under the index of "cardiac asthma" in one book,² I have found a clear account of such paroxysms, but nowhere else. This name, "cardiac asthma," has been criticized, and one cannot presume to enter that controversy; but these spasmodic paroxysms, occurring in association with senile heart troubles, would appear to be in need of further recognition in books, for they would seem to be an early and, to the medical man fresh from hospital, an unexpected indication of a very grave condition.

REFERENCES.

¹ Correspondence on Cardiac Asthma, BRITISH MEDICAL JOURNAL, November 4th, 1911. ² *Diseases of the Heart*, James Mackenzie, M.D.

THE late Sir Samuel Wilks, Bart., left estate valued at £16,822.

AMONG the diaries we have received is one issued for the benefit of amateur photographers by Messrs. Burroughs, Wellcome and Co. In addition to space for ordinary diary notes it includes tables on which to record a variety of important details concerning exposures, and a multiplicity of photographic tips. Information is also given as to how to obtain permission to take photographs at certain public galleries and elsewhere, and in the cover is a movable exposure calculator. There is more than one issue of the diary, since the details given vary somewhat with the latitude in which the book is to be used. The price of the edition for Great Britain and Central Europe is 1s.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

VACCINE TREATMENT OF BACTERIAL INFECTION OF THE STOMACH WALL.

THE following case may be of interest to some of your readers. The patient, a man aged 48, who consulted me in April 1910, had been suffering for some twelve months from "foul breath." So great was the social inconvenience that it became almost impossible for him to carry on his business, involving as it did intercourse daily with a somewhat fastidious *clientèle*.

In his efforts to seek relief he had consulted many physicians and specialists, among the latter a very eminent throat specialist who declared that he was quite free from nasal trouble, and a dentist who declared that his denture was flawless.

I made a very careful general examination and could discover no physical disability save a cystitis of long standing (45 years). This latter, the patient informed me, dated back to his childhood when he had been operated on for stone in the bladder, at the age of three years. A stricture followed the operation, and as long as the patient can remember his urinary stream has been small. There were no symptoms of stone at the time of examination. On passing a No. 4 catheter about 2 oz. of "residual" urine came away; this was found to contain numerous pus cells, and on bacteriological examination yielded a growth of pure streptococcus.

The patient did not complain of "indigestion" (that much abused term). He had a hearty appetite, but eating or starving he had his "foul breath." The stomach emptied itself in normal time, and the gastric chemistry was normal. Cultivations made from specimens of his stomach contents yielded streptococcus and *B. coli*.

There was a possibility that the streptococcus found in the stomach came from the nose or was due to pyorrhoea alveolaris, but the opinions of the above mentioned specialists would seem to negative this. The patient would therefore seem to be suffering from a bacterial infection of the stomach, and it is interesting to note that the streptococcus was found in the bladder also.

I had a "vaccine" prepared consisting of a streptococcus from the urine and a *coli* from the stomach in the following proportions:

	1	2	3	4
Streptococcus	5	5	10	20
<i>Coli</i>	5	10	15	20

I made the first injection on April 19th, 1910, and repeated it at intervals of one week, giving in all four doses. By the middle of May, 1910, the "foul breath" had completely disappeared and has not returned up to the present, now seventeen months afterwards.

The case presents many features of extreme interest to the stomach specialist, but in the course of a short communication I shall refer to one only. Hitherto, infection of the stomach walls by the *B. coli* has been noted by gastro-enterologists in obstruction of the pylorus due to malignant disease only, and I have been unable to find in the literature any record of a case in which, though the gastric motility was normal, a bacterial infection of the stomach mucosa by this organism had occurred.

The cystitis in this patient improved, but did not, of course, disappear during the treatment, but he has since had the urethral stricture dilated, and all the pus has disappeared from his urine.

Dublin. FRANK KENNEDY CAHILL, F.R.C.S.I., D.P.H.

TREATMENT OF INTESTINAL STASIS.

I HAVE read with interest Dr. Frank Elvy's article on this subject in your issue of November 4th. My method in the treatment of chronic constipation may also be of use, especially as the patient can carry out the treatment himself.