symptoms were great restlessness, anxiety, and giddiness, the patients complaining also of "pins and needles" in the legs and feet. In another case, a girl taking 3 grammes daily for chorea became on the third morning drowsy, giddy, and finally delirious, with laboured, slow breathing, these symptoms lasting for about five hours. Dr. Jennings also records a case in which a maniacal condition followed the administration of large doses of the drug. It is striking how closely many of these symptoms resemble those which we have been able to produce in animals.

The foregoing research was conducted in the laboratory of Dr. Lauder Brunton at St. Bartholomew's Hospital, and to him we owe our very warm thanks for the use of it, and still more for his kindness in aiding us at all times with his advice and suggestions as to means of procedure.

FOUR CASES OF NEPHROLITHOTOMY.¹

By FRANCIS IMLACH, M.D.,
Liverpool.

CASE I. J. M., aged 26, married, two children, admitted into hospital March 26th, 1885. For the past four years she had suffered occasionally from gravel, but not, so far as she knew, from hæmaturia. Three weeks after the birth of her second child (July, 1883) she felt a hard and painful swelling in the left side of the abdomen, which was lanced, one month later, by her medical attendant in St. Helen's. Ten ounces of pus escaped, and the incision soon healed, but ten days later an abscess pointed two inches in front of the cicatrix, and it was opened and drained. On admission, pus flowed freely from both orifices. Her general health was much reduced by frequent vomiting and uncontrollable diarrhoea, and her brow, temples, and palate were bronzed, as in Addison's disease.

On April 7th, after administration of chloroform, the structures between two long sinuses were severed, and a second incision at right angles to the first was made along the outer border of the erector spinæ. The sinuses entered the renal pelvis, from which, with the aid of a metal scoop, fragments of a calculus weighing 106 grains, and branching into the calyces, were gradually removed. Several deep burrowing sinuses were opened, and a glass drainage-tube inserted. During the course of the night she vomited blood, and also passed blood by the rectum, but otherwise her recovery was uneventful, and the wound had quite healed when she left hospital on May 6th. The calculous fragments appeared to be phosphatic, but, on section of the largest one, alternate layers of uric acid and phosphates were shown. Previous to operation there was a daily flow (mean of three days) of forty ounces of urine, specific gravity 1026; on boiling with nitric acid there was one-half volume of albumen, and pus cells were seen under the microscope. Ten days after operation the albumen entirely disappeared from the urine, the daily quantity of which (mean of five days, April 22-26) was thirty-one ounces, specific gravity 1022. I recently heard from this patient that she was in good health. There had been an occasional urinous discharge from a small fistulous opening until two years ago.

CASE II.—Mrs. E., a tailor's wife, aged 31, with one child, appeared in August, 1886, with a perceptible swelling, dull to percussion, in the right side of the abdomen, which she had felt for five years. There was no distinct history either of hæmaturia or of urinary gravel. The menstrual period was often delayed for three or four months, and her health was indifferent. From the position of the tumour and the fluctuation of its contents, a diagnosis of suppurative pyelitis was made.

On September 22nd, the kidney was reached by a lumbar oblique incision, and the bulging cortical border opened. After about twelve ounces of pus had been evacuated, five uric calculi, together weighing 550 grains, were removed, the cavity was copiously washed with warm water, and a drainage-tube inserted. The wound rapidly healed, the patient was up and out within three weeks of the operation, and no fistula remains.

CASE III.—Mrs. E. M., aged 48, who had given birth to eight children, came to me on November 3rd, 1886, complaining of lumbar pains, which had been for years ascribed to the menopause, although this condition had been reached three years previously without any cessation of the painful symptoms. As there was always considerable pain on pressure, and doubtful swelling in the region of the left kidney, with a small quantity of pus con-

stantly in the urine, on October 19th, 1887, I cut down upon that organ, after an anæsthetic had been exhibited by Dr. Dawson, and opened an abscess containing nearly an ounce of pus. Three days later, dissatisfied with the condition, I extended the incision, and was so fortunate as to remove three small uric acid calculi, the largest one from the left renal pelvis, and the two smaller from the entrance to the ureter, which they blocked. In less than a month she went home, but for several months there was some urinous discharge from a small fistula.

CASE IV.—Mrs. C. H., aged 27; five children, the youngest born July, 1888. Ten years ago, after a fall from a chair, which hurt her right side, she had hæmaturia for a fortnight. Five years later a tumour, the size of an egg, appeared in her right side, which slowly grew until, on January 3rd, 1889, when I first saw her, it extended an inch beyond the navel, and was a prominent, fluctuant, abdominal tumour. As Dr. Stoney, of Milloom, Cumberland, who had referred her to me, agreed in my diagnosis of suppurative right kidney, with possible calculus, on January 5th, with his kind assistance, I incised the tumour at its most prominent part, an inch and a half to the right of the navel, and, without injury to the peritoneum, evacuated thirty ounces of fetid pus; and I then scooped out a soft triangular calculus, to which the renal calyces were intimately adherent. There was little attendant hæmorrhage after the cavity had been well washed with hot water, but a glass drainage tube was inserted for some days. In three weeks she returned home, and though there is still (March 10th) a slight purulent discharge, it appears to be superficial, for no fistula can be detected. The calculus weighs 2½ drachms.

All four cases are illustrative of suppurative pyelitis, with calculus as cause or consequence. In Case III. the renal pelvis appears to have ruptured and the pus to have partially escaped among the paranephric cellular tissue. In none of them was "renal colic" very marked; in one only was there undoubted hæmaturia, but in all some pus in the urine. Absence of shock after operation may probably be ascribed to the copious flushing with warm water.

CLINICAL MEMORANDA.

ON EXOPHTHALMIC GOITRE AND ALLIED NEUROSES.

In the JOURNAL for March 30th, Dr. Hale White reports a case which, as he says, "throws an important light" on the pathology of exophthalmic goitre. Several nervous disorders which have been found associated with this disease are mentioned subsequently.¹ Dr. Manby calls attention to the intimate relation which in his cases has been shown to exist between this disease and diabetes. The following case is quoted as giving further evidence on this point, and it also shows the coexistence of a trophic neurosis I have not before seen noted in connection with either disease. J. T., aged 34, a domestic servant, came under observation October 16th, 1883. In the family history there was no trace of diabetes. The patient stated that she had always had good health until four years ago, when she noticed that she was unusually tired after her ordinary duties. About two and a half years ago she began to lose flesh, and noticed she was passing an unusually large quantity of water, and had a craving appetite. On examination, she was found to be pale and emaciated; her eyes were very prominent; the thyroid gland was enlarged, especially on the right side. The thyroid enlargement had been noticed for five years; two years ago it decreased considerably; for the last twelve months it had been stationary. The patient was noticed to be almost entirely bald. She said she began to lose the hair of the head eighteen months ago; three months ago the hair was nearly all gone except two small patches behind the mastoid process. Within the last three months the hair had been reappearing, and several fresh patches had made their appearance lately. The hair from the face was gone except from the inner part of the right superciliary ridge and from the whole of the left lower eyelid. Hair from pubes and body generally almost all gone. Her pulse was irregular, about 90. For five years she had suffered from palpitation. She had not menstruated for two years. Her skin was dry. She complained of thirst; passed urine in large quantities. It had high specific gravity, and contained abundance of sugar. Her sight was good. Graefe's sign of exophthalmic goitre was present.

¹ Read at a meeting of the North Wales Branch.

¹ JOURNAL, May 11th.