

taken a trip to the Pacific coast and back. Is taking only intestinal antiseptics, and these are to be gradually reduced.

Jan. 1, 1906. Patient has had no return of former symptoms. Took up his business after returning from his trip in the spring of 1903, and is now doing more business than ever. Has large interests in electric roads in the south and southwest; employs all the state convicts in one of our southern states in the manufacture of shoes; has just leased a large building in one of our southern cities, also for the manufacture of shoes; and in addition has interests in an insurance company, piano manufactory and real estate in connection with the large estate of his father. This case is plainly one of recovery.

CASE V. Oct. 5, 1903. C. F. I. Male. Fifty-five years. Bank officer and has scarcely been absent from his work a day in over thirty years. Father is said to have been insane; also a sister's child is insane. Recently patient's position was changed; the new work upset him and he became confused not only over the new work but also over matters generally. Could not sleep. Found no sympathy at home. Says for several years has had much gas and uncomfortable feeling in stomach. Now has nausea and frequent eructation of gas. Had to give up his work. Much depressed. Worries continually about different matters. Has pressure all over his head.

Two days ago felt so badly that he left his house at seven o'clock in the evening with a revolver in his hand saying he was going to shoot himself. Wandered about in the dark until eleven o'clock not having the courage to carry out his threat.

Treatment: Prescribed glyco-thymoline 2 dr. in water t.i.d. after meals. Bromide with ergot. Also high enemas of salt solution. Paraldehyde for insomnia, and a trip into the country.

This patient improved up to a certain point, and is able to lead an outdoor life in the country without mental responsibility, so may be classed among the improved cases.

Nov. 17, 1905. He writes that he has had a year of peace, that he is in pretty good condition, that he has a good mountain home and is getting on very well.

CASE VI. June, 1903. E. T. S. Female. Married. Age forty years. Several children. Born in England. Wife of a partner of a prominent publishing firm in New York. Now spending summer in New Hampshire. Cannot bear to have her husband away. Says she has a desperate feeling that her mind is unhinged and has "a horrid impulse to suicide or something worse." Has frightful dreams and a crushing pain in the back of her head. Has been taking stimulants to keep her spirits up. Has insomnia, waking about three in the morning and being unable to go to sleep again. Says "When I do sleep, I am harassed by terrible dreams. This is a beautiful country and the air is delightful, but the implacable silence of it frenzies me and I feel a maddening desire to destroy myself or something." Appetite poor. Much gas in bowels and stomach. Constipated.

Treatment: Stopped all stimulants and restricted her diet. Placed her on antiseptic tablets made by manufacturing chemists and prescribed elimination by perspiration.

Aug. 22. Writes: "I believe the tablets have been beneficial for I am feeling immensely better, and quite reconciled to this place. I am now desperately ashamed of having lost my self-control. I am trying to follow all your directions, but won't you allow me just one cup of tea a day? Have been constipated of late, but I feel extremely encouraged." This is the

last I have heard from this patient, and therefore is classed among the improved cases.

CASE VII. January, 1903. E. P. Female. Married. Age, thirty-five years. Has had periodic attacks of depression for several years. Case referred to me by Dr. V. Y. Bowditch. Patient is of nervous temperament. Is always able to entertain herself, having many accomplishments including painting, designing, leather work, etc. Clever and intelligent.

Was brought to me by her mother from New York, and had to be carried to her apartment at the hotel, not being able to stand or walk. Has delusions of self-persecution and thought she was had done wrong at different periods of her life, but could not make it plain to anyone else. Has lost much flesh. Mother says these attacks come about once a year. Head feels badly and aches a great deal of the time. Is confused and cannot bear the light. Worries a great deal because she has never had children. Dreams are unpleasant. Has been gradually running down for some time. Tongue is coated. Breath bad. No abnormal amount of gas.

Treatment: Gave liquid diet. Calomel in 1-10 gr. doses. Beta naphthol in 5 gr. doses an hour before meals. Benzoate of sodium $\frac{1}{2}$ dr. one hour after meals. High enemas of salt solution, and salt baths at night. No other drugs or medicine.

Feb. 11, no headache for some days. Sleeping very well every night. Diet now consists of Matzoon four times a day; eggnog; chicken soup; bouillon; toast; juice of an orange; Mellin's Food; lettuce; cereal milk; celery and occasionally a small piece of steak.

March 12, sat up for an hour. Is now taking a more solid diet.

March 18, saw a visitor for half an hour; slept for two hours afterwards. Is now sleeping from ten to twelve hours a day, which includes the morning and afternoon nap.

March 24, on regular diet. Eating and sleeping well. Goes to the theatre, driving, walking, etc.

Feb. 1, 1906. Patient has had no attack since she recovered from the last one in 1903. Her husband lost his position in 1905, causing the family to give up their house and the patient to support herself; this she is doing by designing silver. The change disturbed her to the extent of making her restless, but she slept and ate well and is now working for remuneration, for the first time in her life. This case has recovered and under favorable circumstances there should be no relapse.

(To be continued.)

THE SECRET OF THE MAYOS' SUCCESS.

BY WILLARD BARTLETT, A.M., M.D., ST. LOUIS.

SITUATED in Rochester, Minn., a pretty town of eight thousand inhabitants, there is a surgical clinic which is altogether unique and remarkable. It may be said to have been founded by the father of the present surgeons in charge. In 1883 a tornado swept through the fertile valley in which Rochester lies, and about eighty people were more or less seriously injured. The Sisters of St. Francis, who maintained a convent in Rochester, nursed the wounded, under the direction of the senior Mayo and, in consequence of the experience thus gained, conceived the idea of building a hospital for him. This early undertaking was a success, and from the humble

beginning has grown the beautiful and useful structure with one hundred and fifty beds which, from the outset, has been devoted to surgery exclusively.

W. W. Mayo, the father, now a hale old man of eighty-six, was aided a little later by W. J. Mayo, now forty-four, and a little later still by C. H. Mayo, at present forty years of age. The father has long since retired from active practice, though his genial presence is frequently manifest at the hospital.

This perfectly equipped modern structure stands among evergreen trees on the slope of a hill overlooking the fertile valley in which the town of Rochester nestles. The building is complete in every detail, from the operating-room equipment to a clinical laboratory in which are installed all of the latest devices for emergency pathological diagnosis, as well as for permanent work of a statistical bearing.

Before entering the hospital every patient must pass through the private offices of the Mayos, where a trained corps numbering sixteen is employed to work up the various details of "up-to-date" diagnosis. Like specialists in other fields, the Mayos have a great many cases referred to them by internists and other physicians, but it is worthy of note that a far larger percentage of those who occupy beds in St. Mary's Hospital come solely on the recommendation of other patients who have been treated there. In this way the "material" differs essentially from that of most surgeons.

One knowing the vast amount of work that is done at Rochester will naturally ask the question, Where do so many people come from? A recent magazine writer, in speaking facetiously of the work, referred to the "scope of a country practice"; and it is astonishing to note that this "country practice" has embraced benign stomach cases from twenty-six states and Canada, as W. J. Mayo stated in a recent article on the subject. A wag, when asked where the Mayos got all their patients, remarked that they were not yet getting any from Mars or the other planets, for as yet they all came from this world; and, indeed, he was not so far wrong, for they do come from almost all parts of this globe. A surgeon who was visiting the Rochester clinic in 1905 is authority for the statement that at one time there were in the hospital residents of the following American cities: New York, Chicago, St. Louis, New Orleans, Washington, Minneapolis, St. Paul and Denver; so you may estimate the scope of this country practice.

In 1904 these two men did over three thousand surgical operations, and the average daily number performed is now somewhere between twelve and fifteen. The greater number of these are major procedures, but the ease and celerity with which they are turned off will astonish the observer who is at the clinic for the first time. Naturally, an unequalled opportunity for post-graduate work in surgery is presented at Rochester, and the generosity with which explanations and descriptions are given is surprising. The

Mayos never seem to tire of answering questions, and they must be called upon to answer the same questions many times.

On Oct. 6, 1905, the Society of Clinical Surgery met in Rochester as the guests of the Mayos, and a list of the operations performed on that day will no doubt be of interest to those who are desirous of knowing what the clinic furnishes in a day:

(1) Abdominal hysterectomy; (2) pelvic tumor; (3) inguinal hernia, appendectomy and excision of the gall bladder; (4) chronic ulcer of the stomach; (5) tuberculous glands in the neck; (6) chronic ulcer of the stomach; (7) exophthalmic goiter; (8) cancer of the pylorus; (9) cystic gall bladder; (10) obstruction of the common bile duct; (11) perineorrhaphy and internal Alexander operation; (12) chronic ulcer of the stomach.

One might suppose that this was a special program in view of the fact that so many distinguished guests were present, but it is interesting to note that the next day's program was equally varied, with fourteen, instead of twelve, great operations.

To show what a wealth of statistical material is accumulated at Rochester, one has but to refer to the fact that up to 1905 some eight hundred stomach operations had been performed there, and more than eleven hundred abdominal sections for gall-stone disease. This seems almost incredible to one who has not visited Rochester, and any description which deals with cold figures alone must be utterly inadequate to do the subject justice. Those who have not seen the Mayos work are wont to ask, How is it possible for them to do so much in so limited a time? It is true they usually commence about 8.30 A.M. and are through in time for a one o'clock lunch. This facility is hard to explain, though it seems simple enough to an observer on the ground. The reason is that the utmost simplicity prevails. The Mayos' system is perfection itself. The assistants are trained to the highest degree and are permanent, while the dexterity of the surgeons themselves is marvelous. Two operating rooms are in constant use. No time is lost between operations, yet there is not the slightest evidence of nervous haste.

Surgeons flock to Rochester. If ten men were asked to tell exactly what they went for, nine would reply that they went to get some of the Mayos' *tricks*. The Mayos have shown rare ability in selecting what is best in the technique of every clinic they have visited, while their own ingenuity makes an indelible impression on visitors, and their methods, which are now common property, were once the astonishment of all men who saw them at work. It is common enough in any operating room to hear the surgeon say he is doing this or that by the Mayos' method, but the observer has yet to hear one of the brothers call an operative procedure his own.

Each may be called properly a specialist in surgery. William J. Mayo devotes almost his entire attention to intra-abdominal lesions, es-

pecially those of the stomach, duodenum and biliary passages. Charles H. Mayo does everything else, as well as those above mentioned, in his brother's absence. C. H. Mayo is thought to be most famous for his work on exophthalmic goiter, glands of the neck, inguinal hernia, senile prostate and varicose veins of the lower leg, although he operates for cataract or some other eye lesion almost every morning. Thus it will be seen that the two brothers cover an immense field and, when both are at work, divide the field between them. At the same time the work does not suffer when either is on his vacation. The work of the two is not alike, so comparisons as to their technical ability are impossible. The observer is most impressed by the fact that William J. Mayo is masterful, while Charles H. Mayo is ingenious, — if one may describe each by a single adjective. Those who know these men best recognize that their one leading motive in professional life is to do what is best for their patients, and to expose these fortunate or unfortunate ones to the minimum of danger.

What is the secret of the Mayos' success? In a word it is simply whole souled love of their work and devotion to duty, supplemented by American ambition, ingenuity and management. Many of the qualities that have made the Mayos successful and famous have made Rockefeller the richest man in America, and Edison the most noted electrician. There is no chance or accident about all this. The Mayos are striking personalities, who stand for something, and that something is success in surgery.

Clinical Department.

A FATAL CASE OF GASTRIC TETANY.

BY LINCOLN DAVIS, M.D., BOSTON.

THE following case of gastric tetany seems worthy of record, not only on account of the comparative rarity of the disease, and the obscurity which still surrounds its etiology, but also on its own account by reason of the severity of the symptoms, and the rapidity of the fatal outcome.

On July 17, 1905, at Marblehead, I was called about 10.30 P.M., to see a maid servant who was said to be having convulsions. I found a poorly developed, emaciated woman, single, forty-two years of age, lying in bed in a state of great nervous excitement, moaning with pain and declaring that she was dying. She was conscious, and able to respond to questions. It was not easy, however, to get a definite history of her ailment from her, as she could concentrate her mind on any one subject only for a moment at a time. From her, and from other servants in the house, I was able to learn that she had been in her usual health until that afternoon. She had vomited then, and shortly afterwards the pain and numbness began in her hands; this gradually increased and extended to her legs, until she finally reached the state in which I found her. She denied having taken any medicine or drug, and there had been no mental shock of any kind so far as could be learned.

Examination.—Face deeply flushed. Pupils equal. Respiration seemed normal. Pulse 100. Temperature 99. Heart sounds normal. Both arms were flexed at elbows and wrists; the fingers were flexed at the metacarpo-phalangeal joints, and extended at the phalangeal joints; the thumb was adducted and flexed on the palm of the hand. The hand was strongly pronated and held close to the chest, in the characteristic conical or obstetric position. The spasm of the left hand was more marked than in the right. Both feet were strongly plantar flexed, and the toes were likewise flexed. No spasm of other muscles was noted; the muscles of the neck were relaxed, and permitted of free flexion of the head. Great pain was complained of in the affected muscles.

Under gentle and persistent passive motion and massage, together with verbal assurance that her condition was not alarming, the spasm of the muscles of the left hand relaxed, and the fingers could be fully extended; also the wrist and elbow. The abdomen was somewhat distended, soft and not tender.

I gave her morphia, gr. $\frac{1}{4}$ subcutaneously, and directed that a dose of epsom salts be taken in the morning. When I left her that night the muscular spasms had almost wholly gone, and she was resting quietly, quite free from pain.

The correct diagnosis was not made by me at this time, nor, in fact, later, the relaxation of the spasm having led me to regard the condition as hysterical.

The next morning there was still some stiffness of the left hand, and fingers; otherwise her condition seemed normal. She had had a fairly good night; vomited once. I decided to take her to Boston to the Massachusetts General Hospital.

The patient was able to sit up in the train, and seemed quite normal during the first part of the trip. The locomotive unfortunately broke a driving rod, which necessitated a delay of about one hour. It was a very hot day, and the heat in the stalled car became intense. The patient complained greatly of this, and became quite restless, and began to have spasmodic contractures of both hands. When we finally arrived in Boston the contractures of the arms had become pronounced, and she was groaning with pain. Nevertheless she was able with slight assistance to walk from the car to a cab, and from the cab into the hospital. Having given a brief account of the case, I was obliged to leave the patient and did not see her again.

The following is an abstract of the hospital record:

East Medical Service. Dr. Minot. V. 625, p. 192.

N. McN. Maid. Single. Forty-two years of age. July 18, 1905.

Well developed and poorly nourished. Face and hands cyanotic. Conscious. Pupils contracted, equal, and react to light. Tongue moist, slight white coat. Teeth in good condition. Throat negative. Glands in neck and groins. Heart: Impulse and dullness in 4th space inside nipple line, three and a half cm. from midsternum; action regular; first sound at apex replaced by loud, harsh systolic murmur transmitted to axilla; second sound at apex not heard. Lungs negative. Abdomen, full, soft and tympanitic; no masses. Spleen not palpable. No edema. Jaws open half way. Forearms tightly flexed on arms over chest, and wrists and fingers firmly flexed, with thumbs inside; cannot be extended. Both legs extended with toes flexed. Legs can be flexed with difficulty. Temperature 100.8; pulse 120; respiration 25. Hemoglobin, 100%; leucocytes, 18,600.

Urine: normal, acid; albumin, sugar and bile absent; Diazo reaction absent. Sediment: many squamous cells and round cells; some leucocytes; very rare hyaline cast.