to an affection of the canalicular portion of the optic nerve, which manifests itself in a central scotoma or perhaps in complete blindness. At first there may be no changes in the disc, or merely inflammatory signs, but later pallor from degeneration of the nerve fibers appears.

Dr. W. C. Posey, two years ago, described vascular changes in the optic disc and surrounding retina in cases of ethmoiditis. And Dr. Arnold Knapp has recently reported a case of retrobulbar neuritis with central scotoma in which, by removing a portion of the middle turbinate and draining the ethmoidal cells, the vision was restored to normal. He believes that the common cases of retrobulbar neuritis following influenza are of ethmoidal origin. An illustrative case is the following:

CASE 6.—Three months ago I saw a woman, aged 30, who, two years before, had noticed a sudden diminution of vision in the left eye, which passed off in the course of a few weeks. When I first saw her there had been a rather sudden complete loss of sight in the left eye two weeks before, and this eye had no perception of light. The pupillary reaction to light also was lost. Medicinal treatment had not improved her condition. The optic disc was swollen, and the retinal veins were dilated and tortuous.

Examination and Treatment.—In the right eye, acuteness of vision and the field of vision were normal, hence the lesion on the left side lay anterior to the chiasma. Since nothing could be discovered in the orbit to account for the complete blindness, a diagnosis of disturbance in the canalicular portion of the nerve was made. Examination of the nose revealed an abnormal middle turbinate on each side. A portion of the middle turbinate on the left side was removed by a rhinologist, so that drainage of the ethmoidal cells was established, and vision in the periphery of the field at once returned. The large central scotoma gradually became narrower, and three weeks after the operation vision in the left eye was 20/20, with a normal field.

Course of Disease.—A few days later vision in the right eye sank to 20/70, with a central scotoma and normal peripheral limits of the fields. The middle turbinate on this side showed more evidence of disease than the other had shown, and removal of a portion of it was followed by restoration of normal vision in the right eye in a few days.

As stated above, Marx reported sixteen cases of non-toxic retrobulbar neuritis, and six of these patients were found later to have multiple sclerosis. Most of the remaining patients gave each a history of coryza preceding the diminution of vision. Is one not justified, therefore, in assuming that some of these ten cases of retrobulbar neuritis were of ethmoidal or sphenoidal origin?

Non-toxic retrobulbar neuritis has long been a mysterious disease, but it would seem now that a little more study might rob it of much of its mystery and teach us that although syphilis, diabetes, neoplasms, injuries and the like may be causes, non-toxic retrobulbar optic neuritis, in the majority of cases, if it does not mean disease of the accessory sinuses of the nose, means multiple sclerosis.

RECAPITULATION.

Disturbances of vision are found in about half of the cases of multiple sclerosis. Usually the dimness of vision is noticed early in the course of the disease, and it may come on long before any other symptoms have attracted attention.

More than half of the patients with multiple sclerosis who complain of failing sight have central scotoma in the field of vision, and the ophthalmologic diagnosis of their condition is retrobulbar neuritis. Toxic cases of retrobulbar neuritis, due to poisoning with tobacco,

alcohol, lead, and the toxins arising in pregnancy are readily recognized and diagnosed as toxic. The causation of non-toxic retrobulbar neuritis, however, has often been obscure. We have learned recently that many of these cases are due to sphenoidal and particularly to ethmoidal disease, which involves the optic nerve in the optic foramen.

In my opinion, we shall soon come to the belief that a non-toxic retrobulbar neuritis, if not due to a sinusitis or directly to syphilis, diabetes, a neoplasm, or trauma is, as a rule, a manifestation of multiple sclerosis, although no other symptoms of the disease may be present.

DISCUSSION.

DR. D. R. BROWER, Chicago: There is probably no disease of the nervous system in which mistakes are so frequently made as in the multiple sclerosis. A few years ago there was in the Presbyterian Hospital of this city, a woman at the menopause. She had a coincidence of cerebral and spinal symptoms. She had intention tremor, disturbance of speech, spasticity of lower extremities, slight ataxia, exaggerated reflexes and disturbance of bladder. The physician in charge of the case sent the patient to her home in Iowa with the diagnosis of multiple sclerosis and the usual prognosis. The so-called Christian Science was becoming active in her town. She became interested in it and in a few days was cured. From that day she has been a most ardent propagator of the cult—a case of hysteria mistaken for multiple sclerosis. I do not think that sufficient attention was paid to the eye in this case. The concentric limitation of the field of vision in hysteria is quite different from the central scotomata or irregular contractions of the field of vision in multiple sclerosis. I believe that, if an ophthalmologist had been called in consultation, the error in diagnosis might not have been made. Nystagmus is a valuable eye symptom, especially that form developed by forced movements. Disturbances in the innervation of the muscles of the eye are also valuable aids to diagnosis. The various eye symptoms may take place very early, so that the majority of cases demand the combined action of the two specialties in the beginning to make diagnosis certain.

DR. PETER BASSOE, Chicago (exhibiting Weigert-Pal specimens of horizontal sections through the optic chiasm of a case, material from which he had received from Dr. J. D. Madison, Milwaukee): I call attention to the great extent of degeneration in the optic nerve, normal fibers being found at the periphery only. The patient died at the age of 24 and had been ill for four years with all the cardinal symptoms and marked optic atrophy.

Clinical Notes

A CASE OF MULTIPLE ARTHRITIS DEFORMANS.

ERNEST H. MUSE, M.D.

ROANOKE, VA.

The following is a rare and interesting case of multiple arthritis deformans. There are few such typical cases of this disease on record, and the marked deformity makes this case doubly interesting, as death usually claims such victims before this advanced stage has been reached.

Patient.—A mulatto boy, aged 19. He was born in Boteourt County, Virginia, in 1889; and moved to Roanoke in 1893, where he has since resided.

History.—He went to school in his early childhood, and was apparently in as good health as any boy of his age. During the twelfth and thirteenth years of his life he was delivery boy at a meat stall at the city market, and during these two years he was exposed to a great deal of bad weather. In the

fall of his thirteenth year he suffered slight pains in various parts of his body; especially in the joints of the extremities. These pains his physician pronounced of a rheumatic character. They grew worse at times, and then would subside entirely, only to return again at a later date; and on their return they were more severe than during the preceding attack. The pains gradually grew worse, and later a thick bloody serum begun to accumulate about the knees, along with a low grade of inflammation. The disease has gradually advanced until the present condition has been reached. About three years ago both of his knees contained an edematous fluid, which pained him considerably. His attending physician aspirated and drew off a quantity of bloody serum. This sufficed to relieve the pain for a short time only; the serum reaccumulating. Another physician was called and he made incisions into the joints, and inserted rubber drainage tubes. Since this the patient has never walked. Contractions of the tendons and muscles soon left him in the condition which he now presents. The knee joints do not seem to be completely ankylosed; but the impaired mobility seems to be due to the contractions of the tendons and muscles, and to the enlargements of the ends of the bones which go to make up these joints. Some two years ago vision in the left eye began to fail, and this gradually grew more marked, until about eight months ago it became totally blind.

Examination.—There is marked ptosis of the left eyelid, which droops so much that it almost covers the pupil. There is only about half normal vision in the right eye. This eye is also gradually growing worse, and will eventually, if the patient lives long enough, become totally blind. The external ocular muscles of the eyes have contracted and caused diverging strabismus. Torticollis has also developed during the progress of the disease, the contraction of the sternocleidomastoid being well-marked. There are well-marked enlargements of the articular ends of the phalangeal bones; atrophy of the muscles, and binding of the skin to the bones between these joints. There are exceptionally well-marked nodules on the left hand. The disease as a whole seems to have affected the left side more than it has the right; especially the eye, hand, knee and foot. The thumb nail on the right hand dropped off about three weeks ago. The thumb nail of the left hand is loosening. The osseous tissue of the elbows and shoulders are enlarged somewhat similar to the condition of the knees, the elbows being much larger than the shoulders. I tried to get a photograph of the naked subject, but he would not submit to it. The muscles between the hips and knees, as well as those between the knees and ankles are much atrophied; in fact they have wasted almost entirely away. The arteries and veins between the hips and ankles are very prominent, and apparently are in their normal condition. The pulsation of the arteries can be felt at almost any point between these joints. Feet: The marked enlargement of the feet is one of the most interesting features of this case. The left foot weighs 12¼ pounds. This enormous weight is principally due to the edematous condition, but the osseous enlargement adds materially. The foot has turned outward and backward to an angle of 78 degrees. The right foot is at about a right angle. Almost all the toe nails on the left foot have come off, and the others are loosening, and will eventually be exfoliated. The splotches on the left foot indicate a dry form of gangrene. The skin is broken in several places, presenting exuding ulcers. The right foot is considerably enlarged, weighing seven pounds. There are no gangrenous or ulcerated areas on this foot, the skin being intact; but there is considerable edema. The nail on the great toe of this foot has been shed, and the others are loosening.

Other Points of Interest.—There are several interesting peculiarities about this case which are well worth emphasizing. At the time of the beginning of this disease this boy was very much darker than the average negro, in fact he was almost black. The pigmentation has made some mysterious disappearance, and he is now almost white, with the exception of about half of the right foot. His hair, before the disease started, had the characteristic nappy appearance which so distinctly marks his race. Now it is straight and black, and resembles greatly the hair of the Indian. The viscera seem

to be very little affected. The heart has a very rapid, quick pulsation, the rate per minute reaching 120 on first count and 115 on second. I could not locate any valvular lesions. The lungs are in good condition. The patient breathes freely while in a quiet attitude, but on exerting himself in talking over a considerable length of time he will take a long deep breath, and show other signs of fatigue. He has a good appetite, eating almost anything put on the family table, and assimilating his food as well as could be expected under such sedentary conditions. He keeps his bed most of the time, but gets up once or twice during the day and sits in a chair, but he has to have assistance in getting in and out of bed.

The functions of the liver and kidneys are well preserved,

the bowels moving regularly, without the aid of drugs. The urine is normal in quality and quantity, and is passed with ease and painlessly.

The patient has been treated by eight or ten of the best physicians of the city prior to coming under my care, which was about four months ago. There is practically nothing that can be done for him in his present condition that I know of in the way of a curative treatment. I am meeting the symptoms as they arise and relieving them as best I can. The principal treatment that he is getting at present is an occasional anodyne to relieve pain, which is principally in his left foot, and

the syrup of iodid of iron as a systemic tonic. He seems to be holding on with remarkable tenacity under this treatment, there being but very little change in his condition since I first saw him.

A BODY ELEVATOR AND SUPPORT FOR OPERATIONS ON THE ABDOMEN AND TRUNK.

GEORGE W. HAWLEY, M.D.
SEATTLE, WASH.

As operative surgery has extended its attack on one organ after another within the body, and operative procedures have become more pretentious and finished,

position desired and patients often roll or slip out of position! Cushions, as well as all stationary supports, require attendants to raise the patient while being put in place and provide no ready means of changing the degree of elevation when once in place. The Lilienthal body elevator is a great improvement in many respects, in that the patient's body can be raised or lowered at will without touching the patient, and the position obtained is secure. Its only disadvantages are that it is usually made a stationary part of a table and can not be moved from one part of a table to another or fitted to other tables. Also, it provides only for horizontal elevation.

Figure 1.

Figure 2.

Figure 3.

Fig. 1.—Showing elevation of both ends of the bar equally, as obtained by the Lilienthal elevator. Used to raise the upper abdomen in operations on the gall bladder, stomach, etc., to support the lumbar region in operations on the kidneys and to raise the hips in applying abdominal binder, hip spica, and cleansing the patient after operation. Small sand bags are shown bracing the ends.

Fig. 2.—Shows elevation of one end only (right) with pin in opposite end to prevent the patient from sliding. Pads can be placed over the pin to soften the pressure.

Fig. 3.—Unequal elevation of both ends with pin in the down side. This is about the position and elevation obtained with Cunningham's kidney table.

there has arisen the necessity for exposing the various operative fields to better advantage.

To obtain exposure of any operative field it is customary and natural to raise and support different parts of the body in order that the different structures to be treated may be brought to prominent view and adjacent interfering ones induced to recede out of the way. The time-honored sandbag has long been used for this purpose,

Fig. 4.—Elevation of the right side showing exposure and slant of the abdomen. In this position the intestines gravitate to the left side, and the right half of the abdomen is brought up into excellent position for the surgeon as he stands at the left of the table.

pose, but a few substitutes have been taking its place, notably, Edebohl's air cushion, Cunningham's kidney support, and the Lilienthal body elevator attachment on the new Baldwin, Lilienthal, and Markoe operating tables.

Many difficulties are often found in lifting and bracing a patient's limp body on the operating table. Sandbags and cushions frequently fail to maintain the

Herewith is presented a simple contrivance which can be attached to any operating table and to any part of it. By it elevation of the body from the hips to the shoulders can be obtained, of one side only, of one side more than the other, or both sides equally. As with Lilienthal's elevator, elevation is produced by a thin flat bar placed transversely across the table. By raising and supporting one end of the bar, elevation of the right or left side of a patient's body can be had. By lifting both ends of the bar equally, or one more than the other, both sides are elevated alike, or one more than the other.

The elevation of one side of the body more than the other introduces positions which possess features distinctly advantageous, though but little used and difficult to obtain. In operations on one kidney this has been recognized. In abdominal operations raising one side of the body induces the intestines to gravitate away from that side, in the same way that the Trendelenburg posture induces gravitation away from the pelvis, and the Hartley position away from the upper abdomen. Ordinarily, with the patient flat on the table the operator is required to stoop over the table in order to see the structures directly beneath his incision. For this reason he usually stands on that side of the patient in which he is to make his incision. If, however, he stands on one side of the patient and elevates the opposite side the surface of the abdomen is inclined in the same manner in which one holds a book, the opposite half of the abdomen is brought toward him and into prominent view, the deeper parts are tilted and come into more direct line with his vision, and the necessity and danger of suspending his head over the wound is lessened.