ing wrong in that region. Treatment by her family physician not proving beneficial, she was induced by the advertisements in a religious paper to try "Mrs. Converse's treatment," and for two years she had regularly taken this concoction, probably an expensive solution of potassium bromid. Making it clear to the mother that I made no pretense of ability to cure epilepsy, I informed her that, from the history of headaches I considered it important to have the eyes carefully examined, and held out in justification of this the hope of greater comfort in life even if epilepsy was not affected by eye treatment. A mydriatic was ordered, and on examination by skiascopy the following result was obtained: Right eye, $+ .50$ Ds. = $+ 50$ Dc. Ax. 45; left eye, $+ .50$ Ds. = $+ 50$ Dc. Ax. 135. An esophoria of 1 degree at infinity and 4 degrees at reading distance was converted into orthophoria by glasses giving a full correction, and with this vision equalled 20/15. I prescribed the above glasses for constant wear and told them that I believed the headaches would be relieved and that she would probably be able to read and sew with comfort, but that I could not encourage them greatly to hope for a cessation of the epileptic attacks; I was skeptical on account of the low degree of refractive error.

On May 21, 1906, this patient entered my office, and with much pleasure observed that I did not recognize her. The change in her appearance was certainly very marked, and any one might have been excused for not recalling the delicate patient I had first seen. She had been on a visit to New York and had stopped on her way home to tell me that she was perfectly well. Since she began wearing the glasses she has never had any recurrence of the headaches nor convulsions.

When I presented a part of this paper at a recent meeting of the Ophthalmologic Section of the Baltimore City Medical Society, Dr. J. Frank Crouch, in discussing the subject, related two interesting cases of his own experience, the notes of which he has kindly handed me with permission to publish herewith.

CASE 5.—Clara K., aged 13, referred by Dr. G. J. Preston in April, 1905. The child for two years had been having severe chorea, for which all ordinary methods of treatment had been tried before she was taken to a specialist on diseases of the nervous system. On their first visit, Dr. Preston informed the parents that he was going to have all her organs examined in turn to try to find some causal factor, and advised them to consult an oculist first. Under atropin I found a hypermetropia of 3.5 diopters in each eye, for which full correction was ordered. The child began to improve at once, and at the end of three weeks was entirely free from choreic manifestations. I kept her under observation for six months and saw no tendency to recurrence.

CASE 6.—Mrs. Emma Z., seamstress, was sent to me Nov. 2, 1898, by her physician, on account of severe headaches which occurred whenever any effort was made to use her eyes. Under a mydriatic the following defect was discovered and correction ordered: Right eye, $+ 1.25$ Dc. Ax. 105; left eye, $+ 3$ Ds., which glasses gave her 20/20 in the right and 20/30 in the left eye. After the mydriatic wore off a test of the muscular balance indicated an exophoria of 4 degrees for distance, which was increased to 8 degrees for near. The correction was worn for three months, at the end of which period a tenotomy of the external rectus of the left eye was performed, reducing the exophoria for near work to 1 degree. After the tenotomy the patient became entirely comfortable, using her eyes without pain the entire day.

"One month after operating she incidentally mentioned the fact that on account of her agitation she had forgotten to take a certain medicine which her physician had been giving to her because of fainting spells, and asked whether the operation could have any influence on her nerves, for she had had no recurrence since discontinuing her drugs, a thing which had not been possible for two years. I at once called up her physician, Dr. Wilmer Brinton, to learn the character of the attacks. To my inquiries he replied that the woman undoubtedly had epilepsy, having required large doses of bromids for more than two years. I kept close watch of this patient, making her re-

port at frequent intervals, and at the end of two years, inasmuch as she had no recurrence of epilepsy, dismissed her."

It seems to me that such cases as the six here reported tend to prove that eyestrain is an exciting cause of epilepsy in persons whose constitutional weakness predisposes them to the disease. The removal of one reflex excitant does not, of course, cure the disease; the predisposition is always there, and if the patient be again subjected to eyestrain the attacks will probably recur, or, if the eyes be kept in perfect condition, some other exciting factor, like pregnancy, shock or great anxiety, may precipitate a convulsion. Every case of epilepsy certainly deserves a careful examination of all the special organs, the eyes included, by experts for the purpose of ascertaining and eliminating any possible exciting factor.

Clinical Notes

REPORT OF A CASE OF REMOVAL OF THE GANGLION OF THE FIFTH NERVE FOR TIC DOULOUREUX.

FOLLOWED BY PARALYSIS OF THE SEVENTH NERVE ON THE SAME SIDE.

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All cases of excision of the ganglion of the fifth nerve should be reported because of the comparative rarity of the operation; but an additional interest attaches itself to the case here reported because of the motor paralysis which followed.

History.—F. P., male, aged 32, had little of note in his personal or family history, except that his father was an alcoholic. The patient lived for a time in Arkansas, but had to move on account of malaria. He was unable to take quinin for this disease, as the drug produced a severe hematuria. He commenced having attacks of pain in the spring of 1889. For these attacks he was treated medicinally and without relief. He also had most of his teeth extracted without, of course, any good resulting therefrom. In 1904 the superior maxillary branch of the fifth nerve was excised; the operation gave him relief for a few months, but the pain returned in the latter part of the same year, when the superior maxillary branch was resected for the second time. These operations were done by Dr. Ross at the Deaconess' Hospital in Indianapolis. The last operation gave relief for a short time only.

Operation and Result.—On Jan. 28, 1905, I operated on the superior maxillary branch of the nerve, removing all of that portion of the nerve lying in the infra-orbital canal, and at the same time resected more than two inches of the inferior maxillary nerve. Relief from this operation was short, and in November of the same year the patient came to Hope Hospital, where I removed the ganglion. A large opening was made in the skull, the dura was lifted, the superior and inferior maxillary nerves were grasped with forceps, pulled well out of their respective foramina and divided. The ganglion was then split from before backward between the ophthalmic and superior maxillary trunks and removed. The aim was to avoid injury to the ophthalmic division of the nerve. The middle meningeal artery was not injured. The hemorrhage, as is usual, was considerable and principally venous, and was controlled by gauze packing. After the removal of the ganglion, the wound was closed with buried catgut sutures, a few strands of catgut being used as a drain. The eyelids were not sewn together. The wound healed by first intention, recovery was prompt, and the man remains, thirteen months after the operation, free from pain. Sensation in the cornea was not completely destroyed, but was lessened by the operation. On the

day after the operation, a facial paralysis was noticed on the side of the operation. This paralysis proved to be permanent.

Microscopic Examination.—The report of the pathologist, Dr. B. W. Rhamy, is as follows: "In the section of Gasserian ganglion I find a small amount of leucocytic infiltration, the evidence of a slight chronic inflammation. Also hyperplasia of the interstitial connective tissue, or fibrosis, and some degeneration of ganglion cells, probably from pressure. The condition here is probably the result of chronic hyperemia or inflammation."

Paralysis of the facial nerve, resulting from removal of the ganglion of Gasser, so far as I am aware, has not been reported before. There was no evidence of infection about the wound. There was no traumatism inflicted that could have involved the trunk of the facial, either inside or outside of the cranial cavity, provided it occupied, in this subject, its usual position. But two explanations occur to me, of this unusual sequel, either the paralysis of the facial was a mere coincidence or the course of the nerve was in this subject unusual.

Since this report was written, a third explanation of the cause of the facial paralysis was suggested to me by Mr. Harold Mouser, a medical student of mine, and I am inclined to regard it as the most probable one. He suggested that the facial nerve was traumatized by traction of the chorda-tympani.

INFECTION WITH FLY LARVÆ, *ANTHOMYIA CANALICULARIS*.

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An interesting case of infection with this larvæ was brought to my observation in May, 1906, by Dr. George E. Lyon, Toledo, Ill. With the assistance of Mr. N. C. Gilbert of the University of Wisconsin, a practical zoologist, the identification was made and a search through literature revealed but seventeen cases heretofore reported, as follows: Five in America, five in Germany, and the remainder scattered throughout France, England, Sweden and the Argentine Republic, a rather wide range of territory.

Anthomyia canalicularis is the larva of the very small black house fly so often seen on windows. The flies, which are often found parasitic in man, lay eggs on decaying vegetables, the larvæ varying in size from $\frac{1}{8}$ to $\frac{1}{4}$ inches in length. The body proper is long and narrow, has developed lateral branchii or gills, and is divided into segments, ten or fourteen, according to age. They are beset bilaterally with feathered bristles, two to each segment. The larvæ are light brown in color, and when passed in the stools are more or less active. They invade the intestine and produce alarming symptoms until vomited up or passed with the feces. The life of the larvæ in the human intestine is about two weeks. They are ingested as eggs and hatched out in the small intestine and are highly resistant to all forms of treatment.

Patient.—B. B., male, aged 30, native of Illinois, single, weight 145 pounds, height 5 feet 5 inches, occupation rural mail carrier.

Personal History.—The patient's habits are good. He drank some beer last summer in hopes of gaining relief. He takes a glass only occasionally now. He lived on farm for twenty years. When six or seven years of age he was troubled with *Ascaris lumbricoides*, but vermifuges relieved all symptoms. The patient was a driver in a livery stable until 27 years old, since which time he has been a rural mail carrier. He has never been in robust health.

Present Illness.—Twelve years ago last June the present illness began. He felt drowsy for a week or two, and the day after a sixteen-mile ride on horseback was attacked with severe abdominal pains, which could not be relieved by home remedies. Treatment by a physician (the nature of which the patient does not know), resulted in a bloody diarrhea, followed by constipation. This condition existed for several months, and was followed by very severe pains in the region of the liver. A diagnosis of pleurisy was made at this time, but the pain continued more or less for about six years, during which interval the patient was markedly constipated. The constipation continued but the pain became transferred from the right hypochondrium to the head, where it existed when the patient was seen. During the past six years the patient has consulted many physicians; has been to various mineral springs and to the dispensary of a medical school; has taken great quantities of "patent medicine," all to no purpose.

Examination.—Patient's condition in April was as follows: Pulse, soft and full; eyes dull, with pupils constantly contracted; respiration normal; temperature normal; appetite indifferent; bowels sluggish; abdomen tympanitic—full even after catharsis. Urine high colored, with much uric and hippuric acid. Pain, severe; constant headache with pains radiating from lumbar region upward along the spine to base of brain.

Treatment.—In April this consisted of: Potassium citrate, saw palmetto, liquid couch grass, fluid extract corn-silk, sandalwood, and compound spirits of ether; capsules containing strychnin, arsenous acid; podophyllum, salol, monobromated camphor and pepsin. This treatment was continued for three weeks and resulted in loss of all pain except frontal headache, but the benefit was only transitory. The patient was then lost

Drawing of the larva of *Anthomyia canalicularis* (enlarged, (Braun).

sight of until the middle of May. On Saturday, May 19, he began eating raw pumpkin seeds and continued same without food until Tuesday morning, when a saline purge was given. At noon on Tuesday he passed about a quart of fecal matter fairly alive with the larvæ of *Anthomyia*, perhaps 1,000 or 1,500 in all. He was then put on santonin, calomel and malefern, with no further result than to empty the intestinal tract completely. The abdomen decreased five inches in circumference and patient slept during the two following nights better than for months. An examination of the urine at this time showed nothing abnormal except some spermatozoa, few in number. Three days later a few more larvæ were passed, which showed that the whole colony did not come away at once. The patient's condition since June 1, 1906, was about the same. He continued to pass a few larvæ from time to time for several weeks after the first evacuation. He was then treated for a time by one of the foremost medical men in the middle west, until he located at Colorado Springs, from which place he was reported as improving. On January 21, 1907, the patient reported that he was feeling much better and gaining flesh. He had just returned from Colorado and engaged in business. He reported he was free from headache, but not entirely well, although no reference was made to the larvæ.

The Evolution of Medical Thought.—Medical science is constantly in a process of evolution. The apparent truths of to-day are the fallacies of to-morrow, and too often the results of the researches of many years are quickly forgotten.—E. B. Young, M.D., in the *Bull. of Am. Acad. of Med.*