diagnosis. We had no picture of the patient's mental condition to help us, and there was no information as reported as to whether there was involvement of the olfactory or other cranial nerves, nor any of the well-known cerebellar symptoms, asynergia, adiadokokinesis, cerebellar catalepsy, etc., which might assist in differentiating between a cerebellar or a frontal lesion.

Dr. Noyes, in closing, said it was not only the unexpected death of the patient that had prevented a more complete history of the case, but also the fact that he was a foreigner, and so obstinate and excitable that it was almost impossible to do anything with him. Aside from this, his mental condition appeared to be fairly normal.

A CASE OF PHYSIOLOGICAL EXTIRPATION OF THE GASSERIAN GANGLION FOR TIC DOULOUREUX

By Alfred S. Taylor, M.D.

A man, 62 years old, was markedly alcoholic up to twelve years ago, when he stopped absolutely. He was addicted to the excessive use of tobacco. His general health had always been good, with the exception of severe facial neuralgia, which dated back over 2 years.

When Dr. Taylor first saw the patient, in August, 1911, he stated that 27 months before he had had a severe attack of left facial neuralgia. Three months later an x-ray picture was taken, which showed the presence of an unerupted wisdom tooth in the left lower jaw. After this was extracted, he enjoyed almost complete relief from pain for nearly a year. Then the attacks of pain recurred, gradually becoming more frequent and severe, so that even the slightest touch or the act of masticating would excite a paroxysm. Even large doses of codeine and cocaine only partially dulled the pain. His general health became impaired, and he lost over 25 pounds in weight, in six weeks preceding operation.

Operation, August 24, 1911, by Dr. Taylor: Through the Hartley-Krause approach, made on the left side, the skull was opened and the dura pushed away from the bone. The Gasserian ganglion was then exposed, the second and third roots were identified and the sheath divided to expose the ganglion. Both the motor and sensory roots were severed proximal to the ganglion. The wound was then closed without drainage. The patient insisted upon going home on the sixth day after the operation. Since then he had been entirely free from pain and had regained his lost weight. His eyesight was constantly improving, and the over-activity of the tear-gland had ceased.

Dr. Taylor said the great advantage of the physiological extirpation of the ganglion in these cases was that the operation was comparatively simple, and that there was no interference with the ganglion itself, which was left to perform its natural functions. After extirpation of this ganglion, interference with the nutrition of the eye on the affected side was exceedingly common.

In this case, Dr. Taylor said, the patient had developed a certain amount of sensibility to touch on the side of the face which was operated on, but there was a marked difference between the sensibility of the two sides. In one other case where he did this operation the patient was positive that there had been no alteration in the sensibility on the affected

side, although Dr. Taylor said he was positive that the posterior root had been divided.

Dr. Jelliffe said he was under the impression that Van Gehuchten and Spiller used the term "physiological extirpation" to describe the tearing of the root from its central connections. The former made the point that it was only by tearing out the root that a physiological extirpation was accomplished.

Dr. Taylor said he did not think that distinction held good, because a physiological extirpation was one by which the ganglion was put out of commission without its removal from the body. We might divide the nerve, as he had done in this case, or tear it out; both would accomplish the same purpose, but one was distinctly surgical while the other was less precise. The tearing out of the nerve had been done by Spiller and Frazier in their experimental work.

Dr. Clark said we had recently heard so much about the treatment of trifacial neuralgia by injections of alcohol, that it was a distinct relief to have a case of this kind presented, and it was a fairly good example of what could be expected from this comparatively simple operation, even in a man 62 years old.

Dr. Leszynsky asked Dr. Taylor whether he plugged the foramen or occluded it in any way after division of the root, after the method practiced by Dr. Robert Abbe. Personally, the speaker said, he favored the alcoholic injection treatment before resorting to a radical operation on the skull. After a successful injection treatment the patient might have relief for several years. This occurred in several of his cases after a single injection.

Dr. Kennedy said he had had the opportunity of seeing a number of cases where the Gasserian ganglion was extirpated, and in only one of them had there been any subsequent interference with the nutrition of the eye. This freedom from ocular complications was attributed to the fact that the lids had been sewed together previous to the operation to prevent injury from the effects of the ether.

Dr. Kennedy said he had seen so many cases of trifacial neuralgia where an unsatisfactory result had followed the use of alcohol injections that he was glad to see the case shown by Dr. Taylor. It was preferable, he thought, for the surgeon to do an open operation in patients sufficiently strong to stand the major operation as then he could see what he was doing, rather than resort to injections which were given more or less blindly.

Dr. Rosenbluth said that although the results in the case presented were very beautiful and gratifying from a surgical standpoint, yet he thought it would be interesting to call attention to a method of treatment that had given very gratifying results in the cases coming under his attention the last year and a half. This was the treatment by diathermy or thermo-penetration, as derived from the regular high frequency currents. The results were uniformly good. One case in particular that had been made idiotic from dosing with morphine had shown remission from the very first application. The time, one and a half years in about six to ten cases, had been too short to give the final report on them.

Dr. Jelliffe asked Dr. Kennedy whether, as the result of his and Dr. Maloney's special study and observations of sensibility after facial and trigeminal nerve injuries, he would expect to find more pronounced protopathic disturbances after such a radical operation on the fifth nerve,

and also whether he could not give some suggestions relative to the course of the fibers of deep pressure sensibility of the facial region.

Dr. Kennedy replied that as the result of his investigation with Dr. Maloney of many purely fifth and seventh nerve injuries, he had been led to believe that the pressure-pain sense in the face was only partially supplied by that group, and partially by the sympathetic. He and Dr. Maloney had arrived at the conclusion that the sympathetic had a great deal more to do with the sensation of pressure-pain in the face than it had previously been given credit for. That conclusion had been reached by a process of elimination.

Dr. Taylor, in closing, said that in the case he had shown nothing was done but to expose the ganglion and divide the nerve roots. No plug nor other foreign material was interposed. In Dr. Abbe's cases the roots were divided anterior to the ganglion, and some foreign material was interposed to prevent regeneration, but in his own cases, Dr. Taylor said, the roots were divided posterior to the ganglion, and the fact was generally accepted that the posterior sensory root did not regenerate.

Dr. Taylor said he had never resorted to the use of alcohol injections for the relief of trifacial neuralgia, nor did he expect to do so, but he had seen a number of cases where that method of treatment was followed by very disastrous results.

Dr. Leszynsky said that personally he had never had any bad results follow the alcohol injections.

A CASE OF HEMI-HYPERTROPHY OF THE FACE

By I. Abrahamson, M.D.

A man, 26 years old, single, a machinist by occupation, and a native of Hungaria, came to the clinic complaining of occipital pains which began in the morning and lasted the entire day.

Examination showed a hemi-hypertrophy of the lower two-thirds of the left face, which the patient stated dated back as long as he could remember. The hypertrophy involved chiefly the bony structures, but also the ear, teeth and tongue. The bones that were involved were the superior and inferior maxillary, the malar and the temporal. The alveolar processes were enlarged. On the inner side of the left cheek there was a sessile tumor, and a similar one over the left parietal region. The x-ray showed that the left base of the skull was also involved, and there was decided condensation of the bone. The sella turcica was not enlarged. The fundi and the special and general sensations were normal. The fields were normal. The urine was negative, the sugar tolerance normal, as were the electrical reactions. There was an absence of vasomotor symptoms, *i. e.*, sweating, flushing, salivation and lachrymation. The patient's body was symmetrical, and there was no change in the reflexes. The subcutaneous tissue was not markedly involved over the affected side of the face. Psychically, the patient was normal.

Dr. Abrahamson said he regarded this as a case of hemi-hypertrophy of the face, probably of congenital origin. Since Beck described the first case, in 1836, a number of similar cases had been reported, both congenital and acquired. In some only the soft structures were involved, in others only the bones, while in some the entire half of the body was involved. The bones most often involved were the maxillæ.