

Society Reports.

AMERICAN NEUROLOGICAL ASSOCIATION.

Meeting of September 23, 24, 25, 1891.

[Continued]

THE PATHOLOGY OF HYSTERICAL ANÆSTHESIA, ILLUSTRATED BY TWO CASES SHOWING SOME UNUSUAL PHENOMENA.

Dr. MORTON PRINCE, of Boston, read a paper on this subject.

The peculiarity of these cases was that notwithstanding the presence of deep anæsthesia it could be proved that the patient felt any impression given to the hand. Pinching and pricking the skin were not perceived, but when the subjects were hypnotized they could accurately describe the tests which had been applied to the anæsthetic parts, and of which they had not been conscious. This showed that the impression was felt but not perceived. The most probable explanation was that the middle sensory centres (of Hughlings Jackson) were normal, but that in hysterical anæsthesia there is an inhibition of the highest sensory centres where the impressions are coördinated with the other psychical states constituting consciousness.

TUMOR OF THE CEREBELLUM, IN WHICH TREPHINING WAS DONE FOR THE RELIEF OF PRESSURE. (See page 97.)

This was a joint communication by Drs. KNAPP and E. H. BRADFORD, of Boston.

JACKSONIAN EPILEPSY; TREPHINING; REMOVAL OF SMALL TUMOR AND EXCISION OF CORTEX.

This was a joint communication by Drs. W. W. KEEN and C. K. MILLS.

MEDICAL HISTORY BY DR. MILLS.

S. W., twenty-seven years old; height, five feet; weight, ninety-eight pounds; until the first symptoms of the spas-

modic affection for which she applied for treatment had been in excellent health, with the exception of an attack of chronic otitis when she was a child, which had left her with a perforated membrana tympani and the occasional recurrence of a slight discharge. Ten years before coming under observation, while in a cold room in the northwest, she had for the first time a slight attack of left hemi-paræsthesia; her left hand, arm, and foot became numb and heavy. The sensation passed off in a few moments and was not accompanied by spasm or vertigo; but from this time, at intervals of weeks or months, she had attacks, usually slight, of the same character. Handling or unusual movements of the left arm would sometimes bring them on; at other times they would come without any apparent exciting cause. Between four and five years after the first of these sensory seizures, she had for the first time, as an accompaniment, a spasm involving both the left upper and lower extremity, but more marked in the former. From this time on she had at irregular, but more frequent intervals, these sensory and motor attacks, the spasm beginning on the left side, but after a time markedly attacking the right arm as well. The seizures increased in frequency, until after a few months she had them almost every day, and often six or seven during the twenty-four hours. The only time when she was free from them for a long period was in the spring of 1890, when, while suffering with a fever, she had no attacks for about three weeks. Although the attacks increased in severity and frequency, they had for many months remained much the same as they were when she first came under observation. She had been treated by various physicians, and on several occasions bromide treatment had been pushed, but always without any improvement, and usually she thought she grew worse under the use of drugs. She was sent to me for diagnosis and treatment by Dr. H. C. Yarrow, of Washington, D. C. Her general health, mental and physical, was good, and she had no evidence of paralysis.

Soon after coming under observation I had several opportunities of witnessing her seizures, and one description would answer for all, with the exception that sometimes her consciousness was more deeply affected than at others. She would feel a prickling sensation in her left arm, and would utter a plaintive cry. The left arm would immediately extend at the shoulder and elbow, and almost coincidentally the left leg would become spastic in extension, and the head would be twisted to the right.

The right upper extremity would then be strongly flexed at the elbow, and the whole limb carried over the chest, as if the hand was grasping the region of the heart. The spasm continued for a few seconds, passing off with a laughing sound and facial expression. In the shortest attacks she did not appear to lose consciousness at all, and during the early weeks that she remained under observation she never seemed to be completely unconscious during the seizures, and could detail most of what was said and done by others during them. She sometimes complained of having pain in the precordial region. She repelled any touching or handling during the spells, and explained afterward that it hurt her and made her worse.

At first the case was regarded as probably one of hysterо-epilepsy, and the patient was treated with tonics and gymnastics to improve her general and nervous health, but in spite of such treatment and the best of care her attacks grew more frequent and severe. About three months after coming under observation, an attack, which began in the usual manner, became extremely violent, and was attended with total unconsciousness. In November the patient began to have day and night as many as ten to fifteen serious attacks. After several consultations with Drs. Weir Mitchell, Keen, Sinkler and Lloyd, it was finally decided that an operation should be performed.

In deciding on a site for operation the history and character of the sensory and spasmodic attacks were carefully considered. The case had begun with sensory disturbance in the limbs of the left side, particularly in the upper extremity. The spasm had first affected this side, and usually, as near as could be determined, was initiated with a shoulder movement on this side, although the spasm diffused and extended so rapidly to all parts of the left arm and leg, and to the right upper extremity, that it was sometimes difficult to determine how it began. Sometimes, however, the right side escaped. On the left side the patient showed slight drooping and apparent weakness of the muscles about the mouth, although this was so little marked as to be scarcely more than is not infrequently present normally.

On the day preceding the operation Dr. Bassette examined the patient and made the following report of her condition: Pupils normal; slight drooping of the left upper lip, but otherwise the face normal; no paralysis of the limbs; no impairment of touch, sight, taste, or smell. Hearing much impaired on the left side. Dr. C. S. Turnbull had

previously examined her ears, and reported a chronic otitis media with perforation, which required but little treatment, and which he thought had nothing to do with her brain symptoms. Knee-jerk was present; no ankle clonus. Heart and lungs were normal.

SURGICAL HISTORY AND REMARKS BY DR. KEEN.

On the day before the operation, December 10, 1890, the carpet was taken up, the walls wiped down, and the floor, wood-work, etc., were washed with a solution of carbolic acid, 1 to 40. The patient's head was shaved and carefully disinfected. The position of the fissure of Rolando was outlined first by means of Hare's method, and then by that of Horsley, the cranial index being determined from measurements made as follows:

Antero-posterior diameter 19.1 cm.; biparietal diameter 14.3 cm. $14.3 \div 19.1 = 0.748 +$. Practically the cranial index was therefore 0.75; and this corresponded to an angle of 69° for the Rolandic fissure. From glabella to inion was 13.25.

The position for the trephine centre was fixed 1.75 inches to the right of the median line, in the line of the fissure of Rolando. This was marked on the scalp by a small puncture in the bone. The fissure of Rolando was also marked at its two extremities by two similar punctures in the bone, so as to identify it after its surface marking was lost by the lifting of the flap.

A large horseshoe flap was made, and on turning this back no abnormal appearances of the skull were found. The centre pin of a one and one-half inch trephine was now inserted 1.75 inches from the median line as before determined, the upper edge of the trephine reaching to a point one inch from the median line.

Dr. Park kindly did the trephining for me, so that my hands should not be unsteadied by the muscular fatigue involved in this part of the operation. It was very fortunate that I asked him to do so, for the skull was very thick and the trephining required much time and a good deal of muscular effort. The thickness of the button removed varied from five-sixteenths of an inch to seven-sixteenths of an inch, and the diploë was almost entirely obliterated. The under surface of the button of bone was eroded in a number of connected small pits corresponding to the small growth described below. The little pits resembled a miniature bunch of grapes, the stem of the bunch consisting of a vessel of considerable size which had also eroded the bone.

On the removal of the button of bone, free hæmorrhage took place from the dura at the margin of the trephine opening where this vessel ran, but the bleeding was soon controlled by a ligature. The tip of the growth was one-sixteenth of an inch in front of, and the same distance internal to the centre of the trephine opening. The growth was elevated one-quarter of an inch above the surface of the dura, and after cutting the dura and lifting the flap, it was found that the granulation or growth had its origin apparently from the pia, and had bored through the dura and formed a nest for itself in the skull. The dura and pia were, of course, adherent at the point where the growth lay.

A triangular bit of the dura, including the growth, was removed by the scissors and placed in Müller's fluid. The exposed pia arachnoid was œdematous with enlarged veins and capillaries. Nothing else abnormal was found. A fissure corresponding to the line of the fissure of Rolando was seen, and five convolutions were exposed, all of which appeared to be normal. From the moment that the brain was exposed no antiseptics were applied to it, but only warm, boiled water.

Careful investigations were then made with the faradic current with a view of determining the cortical centres exposed. A small bipolar antiseptic electrode was used. A secondary current was applied; the electrode was connected with the terminal of a Flemming faradic battery, and the current was obtained by passing the switch to the first button of the instrument, and withdrawing the regulating cylinder to a distance of two and one-quarter inches.

The electrical tests clearly indicated that the centres for the shoulder, upper arm, thigh and knee had been determined, or probably the region which represents the merging of the movements of the upper and lower extremities. A consultation was held with reference to the propriety of excising this region, and it was determined to do this, first, in order to make a subcortical exploration for any further lesion, and secondly, to prevent the recurrence of the spasms by removing what seemed to be their primary seat.

With a pair of scissors and sharp bistoury a portion of the cortex, about three-fourths of an inch in diameter, was removed. It included all the cortical gray matter. The arm, leg and face were carefully observed during excision, but this mechanical excitation was absolutely without effect in producing movements.

After the excision had been performed considerable trouble arose in checking the hemorrhage from a large vessel, but this was controlled by two ligatures passed into the brain, and by temporary packing with iodoform gauze. During the operation, small bits of iodoform gauze were packed between the dura and the skull to check some hemorrhage. During the progress of the operation the pulse fluctuated markedly, becoming for a short time weak and rapid. The extremities also became cold. This occurred at the time of the considerable hemorrhage from the large vessel mentioned. The hemorrhage having been checked by pressure and hot water after the ligature referred to had been applied, a small rubber drainage-tube was inserted through the defect into the dura. A small bundle of horse-hairs was also passed through and through under the flap, which was then sutured into place and dressed as usual. The bone was not replaced, as it was not deemed to be wise in consequence of its thickness and sclerosed condition.

On December 11th, the first day after the operation, the drainage-tube was removed. On the 13th, the third day, the horsehair was removed, and a slight escape of cerebrospinal fluid occurred. On the 15th, the fifth day, nine stitches were taken out and five were left. On the 21st, the eleventh day, the last stitches were removed from the wound, which was entirely healed, except at one or two of the stitch holes and where the flap was at a slightly different level.

Remarks.—The bone was so much thickened and sclerosed as to raise the question of whether there was not possibly an element of hereditary syphilis in the case, but this is positively excluded. In the absence of such an explanation it was, of course, possible that the thickening of the bone was due to the irritation caused by the pressure of the little growth. Whether it was a local thickening could not be accurately ascertained at the operation. In either case it seemed unwise to replace the bone.

Accuracy of localization.—The accuracy of the localization of the shoulder centre and also of the centres in its neighborhood is worthy of remark. The tip of the growth was found within one-sixteenth of an inch of the point selected as the location of the shoulder centre and the seat of the irritation.

The nature of the growth.—Its appearance suggested that it was a hypertrophied Pacchionian body, but the microscopical examination showed that it was sarcomatous, with some hemorrhagic pachymeningitis. That it was the probable cause of the epileptic attacks seems very reasonable.

Unfortunately, the irritation had continued possibly long enough to establish the epileptic habit, and to this may be due the fact that the attacks have continued since the operation, though with lessened frequency and severity ; or, as suggested by Dr. Mills, sarcomatous growths or infiltration may be present elsewhere in the brain. Whether they will ultimately disappear or not is a question which we are not yet in a position to decide.

Excision of the cortex.—We might have limited the operation to the removal of the growth and the dura which contained it, and then later, had the attacks not disappeared, have done a second operation and removed the shoulder centre. Against this, however, is the argument that a second operation involves a second peril to life, and also that the convolutions might have been so adherent to the flap and the new tissue which would fill the opening, that it might have been difficult at the second operation to recognize them, and to delimit the centres to be removed with the same accuracy that we could at the primary operation. All the questions which present themselves upon reflection upon such cases should be stated with a view to their consideration, and the determination of what is the wisest course.

Drainage.—Since this operation was done I have operated on a number of cerebral cases, with absolute closure of the wound without drainage. In two cases there has been considerable accumulation of bloody serum which has been evacuated by gentle separation of the flap between the sutures. In one case this had to be done four times, and in the other but once ; so that I am now quite convinced that, as a rule, drainage can be dispensed with in cerebral operations. Had it been dispensed with in this case the apparent risk of a fungus cerebri would have been avoided. In fact, I think this one of the strongest reasons why drainage should not be employed in cerebral cases. Possibly a few strands of horsehair might be used to advantage for a short time, but a drainage-tube should not be used.

After removal of the dura, cannot the loss of substance be made good by the transplantation of a piece of the pericranium?—In the after-history of the case one point was purposely not mentioned, but reserved for consideration here. A few days after the operation the flap bulged to such an extent that I was afraid that the union of the flap to the rest of the scalp would give way, and that a fungus cerebri would appear, especially at the site of the drainage-tube. Fortunately this did not occur, but gradually subsided and the wound

healed without incident. In reflecting upon this case, it occurred to me that the conditions were most favorable for the formation, almost inevitably, of a fungus cerebri, which I believe actually took place subcutaneously, but unfortunately subsided without appearing on the surface. Under the flap was a deep well, corresponding to the thickened bone, the dura, and the excised portion of the brain—in depth perhaps an inch or more.

When the dura is opened and closed by suture there is little danger of a fungus cerebri, but where there is a loss of substance of the dura, and especially where the cortex is excised, there is a marked tendency to the formation of a fungus cerebri, especially where the distance between the scalp and the surface of the excised portion of the brain is as deep as in this case. To avoid this it occurred to me that we had ready means at hand in the transplantation of a piece of the pericranium similar to the transplantation of skin by Thiersch's method.

On the 10th of May, 1891, in another case operated upon at the Jefferson College Hospital an opportunity occurred to me to test this. A piece of the pericranium was separated from the scalp, cut loose, and attached by a few interrupted sutures at its margin to the dura, thus filling the gap produced by the excision of a piece of the dura. The transplanted bit was turned upside down, so that the osteogenetic surface lay upward, in order that if the bone should form from it, it should grow upward into the gap in the skull, rather than downward, and so possibly press upon the brain. The result was all that I could wish. No fungus cerebri formed, and up to September 1st he had not only been entirely free from his epileptic attacks, but there had been no mischief arising from the transplanted pericranium, which presumably therefore has retained its vitality.

MEDICAL HISTORY AFTER THE OPERATION, AND CERTAIN
SPECIAL FEATURES OF THE CASE, BY DR. MILLS.

History of loss and recovery of power in the left limbs after the operation ; sensory investigation.—When the patient came to from the effects of the ether, she had a feeling of numbness and heaviness in the left arm and hand, and also at times in the back of the left shoulder—what she described as a “battery sensation,” or a feeling of prickling. Five hours after the completion of the operation she was cautiously tested for motion and sensation. The tests were not elaborate, for fear of disturbing her too much. The left shoulder movements were paralyzed, but all the forearm,

hand, and finger movements were retained, but weak. The power of flexion at the elbow was very feeble, probably abolished; extension was present, but much diminished. So far as could be determined, sensations of touch, pain, and temperature were preserved.

December 11th (first day after operation). The loss of power in the left arm and leg were about the same as noted the day before. Dynamometer: Right hand, 50; left hand 26. Sensation was carefully tested for and found to be normal.

12th (second day after operation). The paralysis of the shoulder persisted, that of the upper arm was increased, and there was more marked loss below the elbow and in the hand and fingers. The left leg was growing much weaker; the loss of power was most decided below the knee.

13th (third day after the operation). The foot movements were almost entirely abolished, but some power of flexion and extension of the thigh remained. The left upper extremity was completely paralyzed. No loss of sensation could be made out in the shoulder or anywhere in the upper or lower extremities.

From December 13th to 20th (third to tenth day after operation) the paralyzed left extremities remained the same—paralysis was total in the arm and almost so in the leg, the only power retained in the latter being that of pushing the leg downward after it had been thrust upward and held by the examiner. On December 20th (the tenth day after operation) the patient had slight power of extension and flexion of the thigh, and marked increase of power of extending or thrusting the limb downward against resistance. Gradually power returned to all parts of the lower extremity, as nearly as could be made out in the following order: Thigh extension, thigh flexion, abduction, adduction. Until January 3d (the twenty-fourth day after operation) no foot movements below the knee returned. At this date signs of flexion and extension at the ankle appeared. January 2d, she could flex the leg over the thigh, and cross the left leg over the right, and could perform, but in a weakly manner, all movements of the foot and leg.

No change was observed in the paralysis of the arm until December 29th (nineteenth day after operation) when, if the forearm was slightly flexed, she could extend it; at this time, as above noticed, she had regained considerable power in the lower extremity. January 1, 1891 (twenty-second day after operation), she began to flex the distal and second phalanges, but had no power of phalangeal extension, and no wrist

movements. On January 3d (twenty-fourth day after operation) she could flex, extend and separate the fingers and hand, but had no elbow or shoulder movements. On January 6th (the twenty-seventh day after operation) she gained decided power in flexing and extending the elbow, and on January 7th (the twenty-eighth day after operation) she could elevate the arm nearly in a horizontal line. On January 12th (the thirty-third day after operation) she had regained all movements of both upper and lower extremities, and had been able to walk for several days. The limbs remained weak, and this weakness continued most decided for shoulder movements. All true paralysis, however, had practically disappeared.

The order in which paralysis of different muscular groups appeared and disappeared is of considerable physiological interest.

Knee-jerk was found to be increased on the left side, and ankle clonus was present on the day after operation. Gradually the exaggerated knee-jerk diminished, and on December 23d (thirteen days after operation), when the power of flexing and extending the thigh had greatly improved, ankle clonus disappeared.

History of spasms after operation.—At 4.30 P.M., on the day of the operation, the patient had a slight attack without unconsciousness, in which the right arm at the elbow and wrist was flexed, but the arm was not carried over the chest as in the old attacks; the head was drawn to the right. The left extremities and face and the right leg were not involved.

December 11th (first day after operation.) She had light seizures at 5, 6 and 8.30 P.M. The spasm affected both arms and the left leg.

A careful daily record was kept of the spasmodic seizures until February 1, 1891—that is, for a period of nearly eight weeks after the operation. She averaged four or five attacks daily, occasionally only one, two, or three. The majority of these seizures was in the early morning hours, between 1 and 2 A.M. They were commonly of moderate severity, none of them as severe as the frequent attacks which she had had several weeks just preceding the operation. The character of the attacks was usually as already described, but they varied somewhat at different times. As a rule, both arms took part, the right upper extremity becoming spastic in flexion, the left either in extension or extended and affected with some clonic spasm; the left leg was usually extended, but was sometimes flexed. The right leg, when included in the spasm, was usually semi-flexed at the hip

and kneec. During the week from January 26th to February 1st, the average number of seizures was somewhat smaller, on the 26th being only three, on the 31st two, and on the other days three, four, and five. So far as the distribution of the spasm in different parts of the body was concerned, their severity was somewhat influenced by the varying degrees of loss and recovery of power on the side paralyzed after the operation. About three days after the operation, as will be recalled, the paralysis of the upper and lower extremity was almost complete, and for several days the left leg took little part, or no part, in the spasm, taking, however, an increasing part as power was recovered. The same was true of the left arm. During most of the time that these notes were taken the spasms preponderated on the right side, the morbid ascendancy of the left side, however, reasserting itself as power was more and more recovered.

This patient has been seen at longer or shorter intervals from the time of operation—December 10, 1890, to July 7, 1891. Her history has been a monotonous one, and can be condensed into a few sentences. Usually she has had about three attacks in twenty-four hours, these, as a rule, occurring during the night, most commonly in the early morning hours. Sometimes she had an attack after daylight, between 6 and 8 o'clock in the morning. Occasionally she has had two attacks in succession. The spasms have never attained the severity or frequency which they had for a short time prior to the operation. She had then as many as twelve to fifteen in twenty-four hours, often with total unconsciousness, involuntary urination, and subsequent great dazing and confusion of mind. At the time of the last examination and report, and for some time previous, the attacks usually began with a feeling of numbness in the left shoulder and a lifting and jerking movement of the entire left arm. The spasm spread, involving the left side, and sometimes also the right side. Sometimes she was unconscious in the attack, but as often not. She now has good use of both the left arm and the left leg, all movements being preserved. The left arm, however, shows some general weakness, is easily fatigued, and the patient thinks that overuse of it brings on the spells. Her general health is good—better than for a long time—and she has gained from five to ten pounds since the operation.

The small growth of granulation, with the attached piece of dura mater, and also the excised segment of cortical and subcortical tissue, were placed in the hands of Dr. Allen J. Smith for microscopical examination. Dr. Smith has pre-

pared six slides showing the appearance of the membrane, growth, or granulation, and of the excised cortex. He reports that connected with the growth or granulation are spots of hæmorrhagic pachymeningitis, and several points in its interior which are decidedly sarcomatous. He also reports that beyond the engorgement of the vessels and the presence of hæmorrhage at the surface, and at one point at the margin, that the excised cortex was apparently normal.

At the time of the operation the general impression of those present was that the small growth was a large, isolated, pachyionian granulation, which had perforated the dura and eroded the inner wall of the skull. The microscopical examination would seem to throw a doubt upon that view and make it more likely that after all we had a real neoplasm of very small size ; but, perhaps, without further investigation, the question may not be regarded as absolutely decided. If the growth was sarcomatous, the possibilities are strong that other sarcomatous foci or growths were present in the brain; and it was in part because of the suspicion that a subcortical mass might be present that the cortex was excised. It is not improbable that the other hemisphere may contain a sarcomatous growth, as the localizing symptoms were at times confusing. The patient had clonic spasms of the right arm, although, as has been stated in the clinical history, the symptoms began on the left side and the attacks were initiated by both sensory and motor disturbances on this side. Since the operation right-sided spasms have often been a striking feature.

Supposing that the small tumor was a pachyionian formation, it is by no means certain this had not to do with the causation of the spasmodic phenomena ; and still another view that may be taken is that such a formation had resulted from the frequent and long-continued localized cortical discharges with their accompanying hyperæmia. The question of pachyionian formations in general, and particularly of those which we sometimes see either isolated or in small groups, may have some importance in connection with the subject of cortical epilepsy and paresis.

PORENCEPHALUS, IN WHICH TREPHINING WAS DONE FOR THE RELIEF OF LOCAL SYMPTOMS; DEATH FROM SCARLET FEVER; EXHIBITION OF THE SPECIMENS.

This paper was contributed by Drs. DE FORREST WIL-
LARD and JAMES HENDRIE LLOYD.

The patient was seven years of age, and had spastic hemiplegia of cerebral origin. There was inability to walk and internal strabismus. Muscular development was good. There was no anæsthesia, no antecedent history obtainable. There were convulsions followed by enfeeblement of mental faculties and athetoid movements of right arm. The child was getting rapidly worse and was trephined by Dr. Willard. The patient developed scarlatina three days after the operation and died on the eighteenth day. At the autopsy there were no signs of meningitis but there was demonstrable porencephalus involving the Rolandic region.

Dr. DANA, in opening the discussion, said that there was no question as to the validity or utility of operation in certain cases. The points that he would like to hear brought out were as to the propriety in operating in cases of Jacksonian epilepsy, tumors, for the relief of pain, and in porencephalus. He maintained conservative views on this subject, but would like to hear opinions relating to details in excision of the cortex, and as to operation for infantile cerebral hemiplegia. These cases were often associated with epilepsy, imbecility, or idiocy. He would like to hear more as to the operation for cerebral tumor. He referred to his recent collection of the histories and specimens of twelve cases of cerebral tumors which had not been operated upon. Three could have been recognized, localized, and operated upon. Two others were well-defined sarcoma in the middle of central convolutions.

Dr. B. SACHS mentioned that during the past year he had seen numerous cases bearing upon this question. The result of surgical interference in focal epilepsy he thought particularly distressing. He referred to Dr. Mills's case, and said that unfortunately, in spite of the operation, the epileptic attacks persisted. It had been shown that after removal of focus the secondary degeneration also affected the cortex. In cases of tumor, operation is more favorable, as secondary degeneration is less thoroughly established. In focal epilepsy we may render the case improved but not cured. He believed that no one could point to a single case with freedom from attacks for two years after operation. In operating upon porencephalus it would seem to be increasing the size of an existing cavity. Infantile cases should be carefully selected or the operation would fall into discredit. In porencephalus the motor symptoms are surprisingly great, while the mental symptoms are slight. Everything points to a pre-natal effect, rather than to an

acquired cerebral palsy. Such cases as the latter are suitable for operation if seen at an early stage. This condition is frequently due to meningeal hæmorrhage, and we should operate early. If secondary degeneration has taken place the operation is useless.

Dr. NANCREDE, of Philadelphia, agreed with the previous speaker as to early operation, and cited a case in which no spasm had occurred for three years after operation for focal epilepsy of long standing. He believed that hernia cerebri after operation occurred as a result of encephalitis.

Dr. BREMER, of St. Louis, called attention to the importance of testing the muscular irritability in hemiplegic lesions by applying the faradic current to the shaven scalp. He had found the irritability greater on the affected side. He spoke of a successful case of operation for focal epilepsy, and had examined the excised portion of the cortex. There were no changes in the cellular elements, but there was abundant and excessive hæmorrhage in the intervascular spaces. This should teach us the precaution to avoid too much pressure on the cortex while operating.

Dr. DAVIS, of Philadelphia, referred to meningeal hæmorrhage in the newly-born as being generally due to disease in the mother, such as chronic nephritis, thus transmitting vascular degeneration to the infant and a predisposition to hæmorrhage. He believed in the propriety of early surgical interference only in marked cases, but the results were unsatisfactory where the mother suffered from constitutional disease.

Dr. BULLARD, of Boston, agreed with Dr. Sachs in his views as to the selection of suitable cases for operation in young children, and said that, although we cannot cure the focal epilepsy, we may alleviate many unpleasant symptoms. He referred to one of his recent cases in an adult with hemiplegia and epilepsy. The patient was trephined and a hæmorrhagic cyst evacuated. No attacks had occurred in two months. He thought it too early after operation to report the case. He believed that hernia cerebri may be due to a neglect of septic precautions.

Dr. J. J. PUTNAM, of Boston, said we deceive ourselves in believing because there are local spasms that there must be focal disease.

Extreme diffuse lesions may give rise to focal symptoms. He cited a case in illustration. This fact explains some of the unsuccessful results of excision. He agreed with Dr. Sachs in the view that the changes in epilepsy are diffuse, and advance independently of the bone lesion.

Dr. KNAPP held the same opinion as to the rather gloomy outlook in cases of trephining for focal epilepsy. He had had one case trephined when the patient had had but twenty fits; yet even here the fits returned. In another traumatic case, where the spasm involved only the muscles of the neck and arm there was found lepto-meningitis extending in all directions from the trephine opening.

Dr. MORTON PRINCE, of Boston, agreed with Dr. Putnam in regard to diffuse lesion causing focal symptoms. Literature did not seem to furnish histories which would enable us to discover the final results in focal epilepsy. We should operate and give the patient every possible benefit. He thought the relation of sensory to motor symptoms of importance. The sensory symptoms were most likely functional.

Dr. KEEN, in closing the discussion, said he was not aware of the character of the tumor at the time of operation. Possibly its removal without excision of the cortex would have been better. He has had no case of positive and permanent cure. The operation, he thought, was warranted, owing to the probability of relief. As to the existence of secondary degeneration in these cases he has been unable to verify this by microscopical examination. Cases of defective development, such as porencephalus, should not be operated upon, but operation may prove beneficial in cases of microcephaly, but the patient is exposed to greater danger. In thirty-seven such cases there were nine deaths.

Dr. MILLS said that at the first Congress, three years ago, the subject of cerebral localization, both from the neurological and the surgical side, had received large attention, and during the three years since the meeting an immense number of intra-cranial operations, some guided and some supposed to have been guided by accurate localizing phenomena, had been performed. The results had not been as brilliant, or even as encouraging, as our early enthusiasm had led us to anticipate. Something, however, had been accomplished, and many of the failures were not inherent to the subject and absolutely necessary, but had been the result of our still imperfect knowledge. Trephining guided by localization was not played out, but the science of localizing must become still more exact. We have learned that we cannot always depend upon signal symptoms and serial progression of spasmodic phenomena. We have learned that some of the sub-localizations are not exact. We have not yet nearly solved the localization aspect of lesions of association tracts between different areas of the cortex. Small lesions in the

capsules and ganglia, and in various regions in the corona radiata, cannot always be fixed with an approach to accuracy. The importance of more thoroughly appreciating diffuse and multiple lesions has already been dwelt upon by others in this discussion, and our comparative ignorance of the characteristics of some of these lesions has been one of the important sources of error. His increased experience still led him to believe that we might, with a more perfect knowledge of brain functions, hope for good results in a certain small percentage of cases of brain tumor, abscess, and hæmorrhage as well as in some fractures and other traumatisms. He believed that operation was not warranted in clear cases of porencephalus. The value of excision of the cortex was unsettled, but the weight of evidence based upon operations done was against it, although he had had one successful case. He suggested that in certain cases, instead of excision, trephining might be performed, the dura removed, and direct treatment of the cortex, either by electricity or by local medication, might be resorted to with advantage. This could be done by local applications to the scalp or even perhaps by careful antiseptic hypodermic applications.

TUMOR OF THE MESENCEPHALON WITH EXHIBITION OF THE BRAIN.

Dr. LLOYD read a paper with the above title, reported the history of the case, and exhibited the specimen.

PARANOIA PRESENTING SOME INTERESTING FEATURES.

This was the title of a paper read by Dr. C. EUGENE RIGGS, of St. Paul. The patient was a young man who, together with various other symptoms, had periods of double consciousness. The question would arise as to whether the patient's peculiar acts were prompted by the morbid egoism so common in paranoia, or were a manifestation not infrequently associated with epilepsy.

DEFORMITY OF THE PALATE IN IDIOTS.

Dr. WALTER CHANNING, of Boston, presented a series of charts and plaster charts showing the formation of the palates of one hundred and fifty cases of idiocy. A prominent feature of interest was that this was the first time that any accurate observations with measurements had been

made along these lines. From the writings of Dr. Langdon Down the impression had arisen that in nearly all idiots palates were vaulted and V-shaped. Channing had classified his cases into average, neurotic and deformed, showing a percentage respectively of forty-three, thirty and twenty-seven per cent.

THE VIRILE REFLEX IN RELATION TO CLINICAL AND FORENSIC NEUROLOGY.

Dr. HUGHES in this paper announces the discovery of an oral and aural reflex and the verification of the anal reflex lately announced as a discovery, and maintains that we are on the eve of great discoveries in reflex phenomena. He thinks that we are warranted in the conjecture of a law on the subject to the effect that all apparent paths of conduction terminating in a spinal cerebro-spinal or motor ganglion centre are, under certain circumstances either physiological or pathological—transformable in reflex expansion, where there is not distinctive or indurative change at the centre. In short, it is possible, apparently, from present data, to elicit reflex phenomena, if the appropriate stimulus is applied and central or peripheral conductivity is not impaired in many parts of the body in which this phenomenon has not yet been discovered.

ELECTION OF MEMBERS.

The following-named gentlemen were elected to active membership: Dr. H. A. Tomlinson, of Philadelphia; Dr. Edward Cowles, of Somerville, Mass.; Dr. Henry H. Donaldson, of Worcester, Mass.; Dr. James Wright Putnam, of Buffalo, N. Y.; Dr. William Browning, of Brooklyn, N. Y.; Dr. Edward B. Angell, of Rochester, N. Y.; Dr. G. J. Preston, of Baltimore, Md.; Dr. Richard Dewey, of Kankakee, Ill.; Dr. Walter Channing, of Boston, Mass.

PAPERS READ BY TITLE.

The following papers were read by title: "Syphilis of the Spinal Cord," by Dr. Philip Zenner, of Cincinnati; "Gun-shot Wound of the Left Cuneus, with Complete Right Homonymous Hemianopsia," by Dr. J. T. Eskridge, of Denver; "The Virile Reflex in Relation to Clinical and Forensic Neurology," by Dr. C. H. Hughes, of St. Louis; "Facial Hemi-hypertrophy," by Dr. W. A. Hammond, of Washington; "A Case of Unilateral Paralysis of the Lips, Tongue, and Pharynx, with the Presentation of Specimens," by Dr.

G. M. Hammond, of New York ; "Fracture of the Eleventh Costal Spine, followed by Injury of the Spinal and Sympathetic Nerve-supply of the Bowel in the Region of the Ileocaecal Valve, Intestinal Hæmorrhage and Death on the Seventh Day," by Dr. J. T. Eskridge, of Denver ; "Some Suggestions Concerning the Ætiology of General Paresis," by Dr. H. A. Tomlinson, of Philadelphia ; "Statistical Notes on 232 Cases of General Paresis, with Special Reference to its Ætiology," by Dr. H. M. Bannister ; "The Mortality of Epilepsy in Asylums for the Insane," by Dr. Wooster.

ELECTION OF OFFICERS.

The officers elected for the ensuing year were : *President*, Dr. C. L. Dana, of New York ; *Vice-Presidents*, Dr. P. C. Knapp, of Boston, and Dr. E. N. Brush, of — ; *Secretary and Treasurer*, Dr. G. M. Hammond, of New York ; *Councillors*, Dr. Wharton Sinkler, of Philadelphia, and Dr. E. D. Fisher, of New York.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of January 5, 1892.

The President, Dr. L. C. GRAY, in the chair.

THOMSEN'S DISEASE.

Dr. C. L. DANA exhibited a male patient, thirty-three years of age, who presented the typical phenomena of this disease. The family and personal history of the patient were good. There was no specific trouble, and no previous nervous disturbances. The first symptom noticed was a weakness of the muscles, which came on at the age of seventeen. Three years subsequently it was found that when the fists were closed they could not be opened again voluntarily for some little time. These conditions had increased, until at the present time the only muscles not involved in the process were those of the thighs and upper arms. The myotonia was most marked in the muscles of the forearms and legs. No contraction of the pillars of the fauces were observed. There were no sensory disturbances. Reflexes were nearly abolished, and could only be obtained by reinforcement. There was slight increase of reaction to the galvanic current, but not to faradic. The