her injury had nothing to do with her spinal symptoms. Possibly Dr. Dana said, trauma might in exceptional cases be the cause of tabes, but if so, he had never seen an example of it.

THE PHILADELPHIA NEUROLOGICAL SOCIETY

December 23, 1907

The President, DR. ALFRED GORDON, in the Chair

STEREOGNOSIS IN LESION OF LEFT PARIETAL LOBE

By Alfred Gordon, M.D.

The patient, a man of 56, while in an attack of acute melancholia, shot himself, the bullet penetrating the right temple. It was arrested beneath the left parietal lobe and was removed by operation. The surgeon had to destroy a large portion of the superior parietal lobe. Before as well as after operation repeated examinations showed no change in the stereognostic function or in the general sensorium. The present case argues against the absolute view of parietal localization accepted by the majority of observers.

SEGMENTAL ASTEREOGNOSIS IN PARIETAL LESIONS

By W. B. Cadwalader, M.D.

Segmental astereognosis resulting from partial lesions of the parietal cortical area was first reported by Drs. Mills and Weisenburg several years ago. The present case is a similar one, and is that of a colored boy of 22, who two years ago was injured on the right side of his head, this producing unconsciousness. When he regained his senses he was paralyzed in the whole left side, with considerable sensory disturbance. The weakness on this side has almost totally disappeared but there still remains increased reflexes with Babinski phenomenon. At one time the patient was unable to recognize any object placed in his left hand, but the stereognostic function is gradually returning, especially in the thumb and forefinger. At the present time he is unable to recognize objects placed between the three ulnar fingers, but he can do so with the thumb and forefinger, but not so well as with the corresponding fingers of the right hand. There is besides ataxia in the finger-to-nose test which becomes more marked as the ulnar fingers are used. There is also disturbance of the sense of position, of movement and of localization in the whole upper limb, this being more marked on the ulnar side. Touch and pain are also involved in this upper limb, more over the ulnar side of the hand and arm. The wound is over the right parietal area.

Dr. C. K. Mills thought, as Dr. Gordon reported, that the man had no astereognosis, unless he had what he (Dr. Mills) had not been able to demonstrate, some little diminution of the various forms of sensation. Dr. Mills did not think, in the light of the numerous cases reported, that this case could be regarded as at all conclusive against the position of the so-called stereognostic center in some part of the superior parietal lobule.

He did not know exactly what had been destroyed, but from the position of the wound he thought it probable that the most destruction was at the junction of the superior and inferior parietal lobules and the occipital convolutions which border on them. Probably the explanation of the case, if the present theories of localization are correct, is that there is sufficient of the superior parietal convolution and the quadrate lobule left to carry out the function of stereognostic conception. The view of Dr. Mills and one advanced by him early in the discussion of this subject is that the stereognostic center is located in the superior parietal lobule or in a portion of it, and also in the superior part of the quadrate lobule or precuneus. The latter is probably intact in this case and also much of the superior parietal convolution. He does not think the case could be used to absolutely controvert the theory of the presentation of the stereognostic function in the superior parietal lobule or quadrate lobule.

Dr. W. G. Spiller said he had reported one of the first cases in this country (*JOURNAL OF NERVOUS AND MENTAL DISEASE*, Jan., 1899, p. 43) of ataxia produced by a parietal lobe lesion although the case of Starr and McCosh antedated his. Since then he has recorded several cases with the symptom complex of parietal lobe lesion. Similar cases have been reported by others. These symptoms are usually so distinct that it is well to be cautious in denying their importance. The wound in Dr. Gordon's case was evidently at the junction of the parietal and occipital lobes, and therefore we could hardly expect parietal symptoms from a lesion in that region.

Dr. Weisenburg said he was sorry that Dr. Cadwalader's patient was not present for he showed so well where the stereognostic center is located in opposition to the case shown by Dr. Gordon in which it seemed to Dr. Weisenburg that the parietal lobe was not at all involved. In the above discussion on astereognosis it seemed to him that one very important point was not touched upon, and that was that Dr. Gordon in the discussion of his own case talked of astereognosis as if it were an entirely distinct function without involvement of such other senses as those of localization, of pressure, of movement and of position. In Dr. Gordon's case there was no disturbance whatever of sensation, and this fact in itself is proof that the parietal lobe could never have been involved.

Dr. Gordon, in closing, quoted several authorities from his paper, to support his hypothesis. As to the case he presented, Dr. Gordon said that the direction of the bullet was oblique and an incision was made at the level of the parietal lobe. The direction of the bullet was such that it forced the operator to penetrate in the same direction and destroy a large part of the parietal lobe. Dr. Gordon called Dr. DaCosta's attention to the case before the operation and asked him to make a special effort to tell him particularly what lobe he was going to operate on. He said the superior parietal lobe and had to destroy a large portion of the cortical tissue with white matter in endeavoring to extract the bullet.

Even if the patient presents slight symptoms of sensory disturbances, the destruction of the cerebral tissue is entirely out of proportion with the mild symptoms Dr. Mills alludes to as possibly present in this case. Dr. Gordon said he had tested the patient on many occasions for touch, pain and temperature, the slightest touch, the pressure touch, temperature, the extreme degrees of temperature, the mild, and the man could tell every time exactly what was done. In Dr. Gordon's judgment, in spite of the remarks made by the speakers, this patient presents a contradiction to the

localization theory, that is as to the generally adopted view. Then in literature we have recorded cases where astereognosis was found corresponding to lésions of portions of the brain other than the parietal lobe. Dr. Mills himself in an article speaks of the limbic lobe as a possible center for astereognosis.

HEMIANESTHESIA TO PAIN AND TEMPERATURE AND
LOSS OF EMOTIONAL EXPRESSION ON THE RIGHT
SIDE, WITH ATAXIA OF THE UPPER LIMB ON
THE LEFT. THE SYMPTOMS PROBABLY DUE
TO A LESION OF THE THALAMUS OR
SUPERIOR PEDUNCLES

By Charles K. Mills, M.D.

The following case presents such an unusual combination of symptoms as to make it worthy of being presented to the Society and permanently recorded. It is difficult to fix the site of a single lesion capable of producing a symptom complex which includes hemianesthesia and loss of emotional expression on one side of the body and ataxia of the upper extremity on the other, but it is probable that such lesion is situated in the thalamus of one side, and perhaps extends into the superior peduncles of both sides.

G. S., thirty-four years old, barber, was admitted to the men's nervous wards of the Philadelphia General Hospital, November 29, 1907, complaining chiefly of weakness on the left side of his body and numbness on the right. The patient's mother died at the age of 39 from "typhoid pneumonia." His father is living and well. He has two brothers and one sister who enjoy good health. There is no history of renal, cardiac, tubercular or malignant disease in the family. The patient's history as to nervous or mental disorders is negative. The patient has always been an excessive drinker, principally using whiskey. He averaged about one-half pint of whiskey daily. He has had two attacks of gonorrhea and he had a sore on his penis, but no secondaries.

Ten weeks ago he was suddenly seized with vertigo, accompanied with nausea and vomiting. He was confined to his bed for a week and was under the care of a doctor. When he tried to resume his work as a barber, he found that his left side was somewhat weaker and the left arm more awkward than before his attack. He also found, while cutting a boy's hair, that this arm was tremulous, and he was not so proficient in his trade as heretofore. In addition he experienced a sense of numbness in the entire right side. His friends have noticed that since his illness, when laughing he only smiles with the left half of his face.

Examination of the patient shows that the pupils are moderately dilated, equal and regular. They react promptly to light, accommodation and convergence. Extraocular movements can be well performed. Associated movements are normal. There is no ptosis, nystagmus, exophthalmus or hemianopsia. When asked to look upwards, he does so and his forehead wrinkles equally well on both sides. The nasolabial folds are as well marked on one side as on the other. The palpebral fissures are about the same on the two sides. He can purse his mouth fairly well, as in whistling, and he can move the two sides of his face equally well. In spite of the fact that this man can perform all movements of the