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The Syndrome of Obstinate Progression in the Cat*

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For some time we have been intrigued by a large cellular mass in the brainstem known as the nucleus interpeduncularis. Gudden[1] noted that "Ueber seine physiologische Bedeutung is so veil wie nichts bekannt." The statement is equally true today. So we decided to make some lesions in it with the aid of the Horsley-Clarke apparatus to see what would result. Judging from its known anatomical connections we expected some alteration of behavior relating to food. Instead there resulted a most amazing behavioral disturbance which we have decided to call the syndrome of obstinate progression.

As soon as the cats recover from the anesthetic they begin to progress obstinately forward, making a peculiar low cry, and will turn aside for no obstacle. If such a cat is in a cage he will thrust his head into the corner and push with all his might until exhausted. He will rub off all the hair and macerate the scalp. If put down on the floor he will start forward and continue directly ahead until he meets an obstacle. He will never turn aside from any obstacle but continue to push his head against it until it gives way or he falls and, by accident, gets a start in another direction. If he is on a table-top he will walk directly ahead beyond the end and fall sprawling to the floor. If the door of his cage is opened he will walk directly out in the same manner and fall. This behavior continues as long as the animal lives, usually about 3 days. He shows no tendency to follow the observer and attends to nothing in his environment, but will eat if he is held with his nose in the neighborhood of food.

In 8 instances of destruction of the interpeduncular nucleus this obstinate progression has developed more or less strongly and never have we observed it when the nucleus was missed. Moreover, in all the lesions which Ranson and his pupils have made in other regions of the pons and midbrain, never was this striking behavior described. In all our cases the location of the lesion has been determined by serial sections stained alternately by the methods of Nissl and Weil.

The only recent description of this syndrome which we have found is that of Mettler[2] who produced it by removal of the frontal lobes of the cerebrum, including the heads of the caudate nuclei. Since removal of the frontal lobes less the caudate nuclei does not produce this abnormal behavior Mettler is inclined to relate it to the destruction of the caudate nuclei. It is interesting to note that Magendie[3] produced violent forward movements by extirpation of both "corps striés" in acute experiments on rabbits.

We are not familiar with any known anatomical or physiological relationship between the caudate nuclei and the interpeduncular nucleus. Since, in none of our cats, was the lesion strictly confined to the interpeduncular nucleus we have avoided calling this abnormal behavior the syndrome of the interpeduncular nucleus, pending the production of more sharply localized lesions, but we felt that it was worthwhile to record its production from a region so far away from the caudate nuclei.

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1 Gudden, B. von, *Arch. f. Psych. u. Nerven krankh.*, 1881, **11**, 424.

2 Mettler, F. A., *Research Pub. Assn. Res. in Nerv. and Ment. Dis.*, 1942, **21**, 150.

3 Magendie, F., *Leçons sur les fonctions et les maladies du système nerveux*, Paris, Lecaplain, 1841.