

RESTLESSNESS AND MORBID HUNGER IN MAN¹

THIS study began with the observation in children who had epilepsy and other signs of lesions of the brain, of a symptom-complex consisting of marked restlessness, mental deficiency and, in some cases, morbid hunger. These cases presented similarities to experimental animals which, following removal of the prefrontal region of the brain, show excessive motor activity, morbid hunger and mental defects.² A study was then made of a series of 279 restless children to determine whether there was evidence in them to indicate a lesion of the prefrontal cortex.

The cases were divided into three groups: (1) markedly restless children; (2) mildly restless ones; (3) children who were restless at home but not on their visits to the clinic. An analysis of the intellectual performance on the Binet-Simon scale showed that the average intelligence quotient of the first group was 62; of the second, 86; and of the third, 95. A control group of 273 non-restless cases averaged 92 in intel-

lectual status. Evidence of organic brain disease, including developmental defect, was present with much greater frequency in the markedly restless group (98 per cent.) than in the least restless group (43 per cent.). Morbid hunger occurred in 44 of the cases and was similarly associated with mental defect and with frequency of cerebral lesions. The close association with mental deficiency suggests that the brain defect involves predominantly the prefrontal region.³

Milder degrees of restlessness, particularly when readily controllable, are seen in otherwise normal children and do not indicate organic disease of the brain.

Marked restlessness, morbid hunger and mental deficiency thus constitute a syndrome in man, analogous to that observed in experimental animals. It appears to be due to a lesion of the prefrontal region of the brain. The syndrome occurs in a variety of disorders at all ages of life, but particularly in developmental anomalies and senile degenerations.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

DETERMINATION OF THE VISUAL POWER OF EACH EYE IN ANIMALS¹

IN attempting to delineate the exact loss of visual power after unilateral occipital lobectomy in monkeys, it was desired to test the ability of the homolateral and contralateral eyes individually. Covering one eye with bandages was unsuccessful in monkeys, first, because they tore the bandage away; and second, because it interfered with attention in visual discrimination tests.

The idea then presented itself that an opaque plaque made to fit in the conjunctival sac might solve the problem. After trying a number of plastic substances success was attained with paraffin. Its translucence was overcome by suspending in it finely divided charcoal. The plaques are hand-made just before use, and inserted while the animal is under cyclopropane anesthesia.

Within one hour of insertion the animal exhibits no consciousness of the presence of the plaque, and will go through tests as well as normally. Over periods up to 48 hours no damage has resulted beyond a slight conjunctivitis, which rapidly subsides.

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¹ From the sub-department of neurology, The Johns Hopkins University.

² L. Bianchi, "The Mechanism of the Brain and the Function of the Frontal Lobes," Wm. Wood and Company, 1922; J. F. Fulton, C. F. Jacobsen and M. A. Kennard, *Brain*, 55: 524, 1932; C. P. Richter and M. Hines, paper read at the Second International Neurological Congress, 1935.

PERMANENT PRESERVATION OF SMALL ZOOLOGICAL SPECIMENS

DR. E. O. ESSIG's¹ recent account of reconditioning some small insects brings to notice the fate which befalls much valuable zoological material. The success of his efforts, resulting from astute deduction of obscure data, and the employment of a skilled technique can not always be duplicated, because of the nature of the material. In many instances, type specimens and valuable dissections are irretrievably lost, because of their original preservation in small vials. It seems impossible to devise any kind of removable stopper for these containers which will prevent the evaporation of the fluid preservative, sooner or later. Some workers enclose their vials in a larger container, and keep the latter filled with fluid, but this does not insure against carelessness of some future custodian.

For fifteen years soft parts of mollusca have been preserved at the California Academy of Sciences by hermetically sealing them in glass tubes. The method was devised because of the personal loss of a collection of dissections during a long absence from the country.

A person does not need to be an expert glass blower to make the seal. The usual laboratory blast lamp is the only equipment needed. Ordinary soft glass test-tubes make excellent containers. Since the work-

¹ From the Department of Physiology, University of Wisconsin.

³ A. F. Tredgold, "Mental Deficiency (Amentia)," Wm. Wood and Company, 1929.

¹ E. O. Essig, *SCIENCE*, n. s., 84: 2167, 47-48, July 10, 1936.