

47. Lilly, John C. 1957. "True Primary Emotional State of Anxiety-Terror-Panic in Contrast to a 'Sham' Emotion or 'Pseudo-Affective' State Evoked by Stimulation of the Hypothalamus" (Abstract). Fed. Proc. 16:81

349. TRUE PRIMARY EMOTIONAL STATE OF ANXIETY-TERROR-PANIC IN CONTRAST TO A "SHAM" EMOTION OR "PSEUDO-AFFECTIVE" STATE EVOKED BY STIMULATION OF HYPOTHALAMUS. John C. Lilly. Natl. Inst. of Mental Health, Bethesda, Md.

Ranson and Magoun, Bard and Masserman, among others, have maintained that activities and states occurring during heightened neuronal activity in specific zones in the hypothalamus are not "true" emotions; these states are merely signs of stimulation of the "peripheral motor mechanism for emotional expression"; and there is no true subjective experience corresponding to the clinical picture. From the following experiments, this point of view seems to us to be factually incorrect. In the walls of the 3rd ventricle above the stalk of the pituitary we have found a region, the stimulation of which evokes a clinical picture of anxiety-terror-panic in the unanesthetized monkey. During this state the pupils and palpebral fissures are dilated, the whole body shakes nonsynchronously; the directed movements are those of escape in an older monkey and those of holding on to the mother in a young one; if a non-food, potentially damaging object is brought within the visual field near enough to bite, the monkey reaches with his head and jaws and bites the object repetitively, so strongly that teeth are broken out of the jaw; this biting is continued until either the object is removed or the stimulation stopped. There is no evidence of pain stopping the biting during the stimulation; following the train, behavior connected with pain in the gums is seen (licking, refusal of food, etc.). We succeeded in training the monkey to switch off trains of stimuli at levels of current $1/5$ to $1/2$ the levels at which the clinical signs of anxiety appeared. In one monkey this habit was not extinguishable with a 12-day gap in training, whereas that for an extremely painful stimulus in the trigeminal nucleus extinguished within this period, and required re-training. Apparently this state is more "unpleasant" to the monkey than even severe pain.