corncobs, oats, and straw in a closed shed; and (*c*) cleaning out a silo. The last activity was undertaken during the first week in September, 2–3 weeks before the onset of infection. It consisted of shoveling the silo floor clear of a foot of dried vegetable and sawdust material. The silo had been employed as an icehouse but had been unused for a number of years. A. E., Jr., sat in the truck into which his father and older brother shoveled the dust. Occasionally some would land on his head, and sometimes he threw handfuls in the air and back at the others.

It seemed important to survey the farm, and particularly the silo dust, as the most likely source of the fungus. The methods used for isolation of *H. capsulatum* were adapted after those suggested by Emmons (*1*). Briefly, these consisted of diluting the samples 5–10 times with normal saline in a cylindrical graduate. After thorough mixing the suspension was allowed to stand for an hour while the larger particles settled. One-ml portions of the supernatant were inoculated intraperitoneally into each of a group of 10 Swiss mice (CFW strain). Two to three mice from each group were then sacrificed at intervals of 10–30 days after inoculation, and their spleens and livers removed, ground in sterile sand, and cultured for the presence of fungi.

The culture media employed were corn-meal agar (*5*), Sabouraud's glucose agar (*5*), and blood agar plates which were enriched with glucose and cysteine and to which penicillin and streptomycin were added. The media were then streaked with the homogenized spleen and liver mixture, and all were incubated at room temperature. In addition, some duplicates of the blood agar plates were incubated at 37° C. The cultures were observed for 2 months. They were considered positive for *H. capsulatum* only after demonstration of the characteristic tuberculate chlamydospores.

On November 27, 1950, 70 samples of soil from about the farm buildings, yard sand, ground feed, and material from the silo were collected and pooled into 15 groups and examined for *H. capsulatum* as described above. The homogenized liver and spleens of mice inoculated with Groups 2 and 7 yielded *H. capsulatum* on culture with all three media. Both groups were from the silo. Group 2 consisted of one large sample from the floor of the silo. Group 7 was made up of 5 samples scraped from the walls of the silo. Examination of these 5 samples individually yielded histoplasma organisms from one.

Four months later, March 26, 1951, a second survey of the farm for the presence of the fungus was made. Sixty samples pooled into 6 groups were examined. Groups 2 and 6 containing material from the floor and from a ledge near the floor of the silo yielded *H. capsulatum* organisms.

It seems most probable that the father and two sons became infected from the inhalation of large quantities of infectious silo dust at the time the silo was cleaned. Monthly surveys of the silo environment are under way in an effort to learn more about the presence of this fungus in nature and the epidemiology of the disease in man and animals.

Addendum: Four additional monthly surveys have been made. Out of a total of 106 soil samples from the silo, 26 have yielded *H. capsulatum*.

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Differential Effects of Cerebellar Anterior Lobe Cortex and Fastigial Nuclei on Postural Tonus in the Cat[1]

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The influence of the anterior lobe (cortex and nuclei) of the cerebellum upon postural tonus has classically been considered a unitary one, its ablation causing marked hypertonicity of the antigravity extensors, and its presence partially inhibiting the tonus of these muscles even in the decerebrate animal. Electrical stimulation of the medial part of the anterior lobe cortex itself, or its nuclei of projection, the fastigial nuclei, inhibits extensor and facilitates flexor tonus in the normal or decerebrate animal, the inhibition being followed, upon cessation of the stimulus, by a powerful extensor rebound which exceeds for a length of time the tonus present before the stimulus. When ablation or stimulus is confined to one side, the extensor release or its inhibition has been considered to be primarily on the ipsilateral side, although reciprocal effects have been noted in the contralateral limb. These effects, at least in the cat and the dog, are more pronounced in the fore than in the hind legs.

Since electrical stimulation of the medial anterior lobe cortex and of the fastigial nuclei give similar inhibitory and rebound phenomena, it has been assumed that these structures similarly affect tonus mechanisms. That such an assumption is erroneous is indicated by the following acute experiments on decerebrate cats. Fig. 1 shows schematically the relative position of the two forelegs following decerebration (*A*), the lesions indicated by crosshatch.

When the cortex only of the medial anterior lobe is removed by aspiration on one side (*RMC*), the response of the forelegs is the classical one—i.e., augmentation in extensor and decrease in flexor tonus in the leg of the same side (Fig. 1, *B*). Moreover the effect is reciprocal in that the opposite distribution

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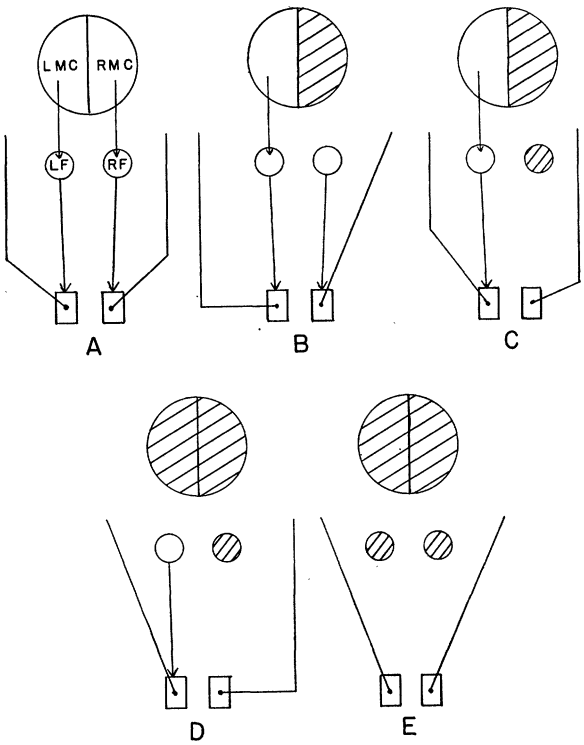

FIG. 1.

of tonus is present in the leg of the contralateral side. Subsequent removal of the fastigial nucleus (*RF*) on the side of previous cortical ablation gives an immediate and clear-cut reversal of the cortical picture (Fig. 1, *C*).

The effects following removal of the remaining cortex of the anterior lobe, and its fastigial nucleus are illustrated in *D* and *E*. The bilateral augmentation of extensor tone seen in *E* is identical with that following bilateral destruction of cortex only.

These effects are related only to median or vermian cortex of the anterior lobe and to the fastigial nuclei. The lateral or hemispheric anterior lobe cortex and its nuclei of projection, the so-called interpositus nuclei, are relatively inoperative on postural tone under these conditions. Their stimulation, however, gives ipsilateral, moderate extension and wrist supination, followed by a rebound of opposite direction. Stimulation of the medial area confirms the usual picture previously described, involving contralateral as well as ipsilateral forelegs in a reciprocal manner.

The general conclusions from this work are as follows:

1) Imposed upon a background of decerebrate rigidity, one half of the medial cortex of the anterior lobe, or its fastigial nucleus, always influences postural tone in the forelegs in a reciprocal manner. An increase in extensor tonus in one leg is accompanied by extensor decrease in the contralateral leg. Flexor tone, although less marked, follows in each leg reciprocally.

2) The effect of removal of this cortex is reversed by removal of its fastigial nucleus. This nuclear picture has hitherto been unrecognized, and makes necessary considerable alteration in the concept of cerebellar function.

3) These results, obtained in acute preparations, have been completely confirmed in chronic animals with unilateral cerebellar lesions produced 3 weeks previous to decerebration.

4) The picture following unilateral cortical removal is thus the same as that of extensor rebound following electrical stimulation of cortex or nucleus. The picture following subsequent unilateral nuclear removal is similar to that occurring during the stimulus of cortex or nucleus (i.e., extensor inhibition accompanied by flexion).

5) The release of this nuclear effect following cortical removal indicates an important afferent supply, other than from the anterior lobe cortex, which allows independent function of the fastigial nucleus.

6) Additional acute experiments indicate that the postural effects described above are intact following unilateral and bilateral destruction of the labyrinths, of the dorsal roots of the first three cervical nerves, after hemisection and transection of the thoracic spinal cord, and after previous removal of all parts of the cerebellum except the anterior lobe and the fastigial nuclei.

7) The distribution of tone in the forelegs is similar following bilateral destruction of cortex and nuclei to that following bilateral destruction of cortex alone. The opposite postural effects of cortex and fastigial nucleus are apparent after unilateral lesions only, and would appear to be a manifestation of an imbalance in the reciprocal distribution of tone, dependent upon the unilaterality of the lesions, and centered at a spinal level.

The Pharmacologic Analysis of Intestinal Stimulants[1]

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A recent report from this laboratory dealt with the inability of even high concentrations of atropine to interfere with the stimulating action of nicotine on the isolated intestine of the rabbit (*1*). Although this observation may be found in the literature (*2*), it is quite evident that the rabbit's intestine has been used for testing the ability of atropine to antagonize stimulating actions of drugs on this preparation without a knowledge of the above information. The widely accepted concept that the stimulating action of nicotine on the intestine is antagonized by atropine appears true in reference to other animals. This has been con-

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