

case in which the diagnosis was doubtful would always be decidedly in favor of tuberculous, and, to a less extent, cerebrospinal meningitis. A true ankle clonus is likewise very rare in contradistinction to the other forms of meningitis. The pupillary reflex is but little altered.

MYASTHENIA GRAVIS. W. A. Jones. (*Journal A. M. A.*, Nov. 4, 1916.)

Jones reports a case of myasthenia gravis, with necropsy, in which a thymoma was found in the thymic region just above the heart and immediately behind the sternum, imbedded in loose connective tissue and not adherent to the sternum or to any of the thoracic viscera. In commenting on the case he says the literature on the thymus gland is neither convincing nor satisfying. It seems to be generally recognized that the thymus and the thyroid are interrelated and it seems reasonably safe to assume that the thymus is in some way responsible, like the thyroid, for disturbances of bodily metabolism. It is also probable that it has some other relation with ductless glands, but their dependence on each other is not definitely determined. The presence of the thymus in a person of middle life, particularly when associated with an exophthalmic goiter, is a very strong index, he says, that the thymus is the main disturbing element, and the operator who removes the thyroid gland without recognizing a thymus hyperplasia produces a change in the circulation of the thymus which not infrequently is followed by sudden death. The relation between thymic disease and the central nervous system has never been determined. The majority of thymic deaths in young people and children are probably due to pressure effects, but this does not eliminate the probability of toxins in the blood stream also.

DO ANIMALS FEEL PAIN? Van Rijnberk. (*Nederlandsch Tijdschrift voor Geneeskunde*, Amsterdam, August 25, II, No. 8, pp. 671-750.)

The author here cites further examples, such as that if the tail or part of the body of a honey-sucking bee or male copulating shrimp or frog is cut off, the creature continues undisturbed to suck honey and the male does not release the female from his embrace. The twitching of the skin of a horse is a reflex action which occurs the same if the communication with the brain is shut off. He says further that veterinarians report that quite a considerable operation can be done on the large, herbivorous domestic animals while they are feeding and they may continue feeding without interruption. Dogs, cats and rabbits after severe operations in the laboratories are as lively and frolicsome as before so soon as the effect of the general anesthesia has passed off. He adds that dogs cannot be trained by the eyesight alone; there must always be some pleasurable or disagreeable experience connected with the act in which it is being trained. Even in man, he continues, the sensation of pain seems to be restricted to the outlying parts of the body. It is still a question whether sound organs in the thoracic and abdominal cavities are sensitive to pain. "In short," he concludes, "the attempt to answer the question 'Do animals feel pain?'—which the layman answers glibly in the affirmative—is to step on a treacherous trapdoor which drops one into a hornets' nest of philosophy, psychology and biology."

WOOD ALCOHOL POISONING. A. O. Gettler and A. V. St. George. (*Journal A. M. A.*, Jan. 19, 1918.)

These writers say that national prohibition will undoubtedly lead to much "moonshining," adulteration and dilution of liquor. This is evident from the recent increase of cases of wood alcohol poisoning, six of them fatal. Such cases, the writers believe, will become still more frequent in the

future in spite of rigid measures against adulteration. A warning, they think, is due to physicians, coroners and health officers as to these possibilities. Refined wood alcohol tastes like ethyl alcohol and is considerably cheaper, hence the probability of its use by ignorant dealers in liquor adulteration. The authors report the findings in the six fatal cases. The diagnostic features of acute wood alcohol poisoning are extreme physical weakness, acute gastrointestinal symptoms, blindness, and deep coma ending in collapse and death. In the chronic cases, blindness is the chief feature. A differential diagnosis from epilepsy, and especially from all types of coma, must be made. This is frequently difficult. But we should be suspicious, at least, of wood alcohol poisoning in these cases. To be of any value, treatment must be prompt. It consists essentially of getting rid of the poison in the body, and of supportive measures. The poison is slowly and incompletely oxidized in the system into still more dangerous poisons, namely, formaldehyd and formic acid and as such very slowly eliminated by the kidneys. The stomach should be washed out early and frequently and the washings tested for wood alcohol. Intravenous saline or sodium bicarbonate infusions and phlebotomy and transfusions, if the latter can be had quickly, should be employed. In addition to warmth and strong stimulation with strychnin, digitalis, caffeine, camphor, epinephrin and oxygen must be given. The authors doubt the value of ethyl alcohol to replace the methyl product. For the treatment of the chronic cases they refer the reader to the article by Buller and Wood in *The Journal*, Oct. 1, 1904, and that of Birch-Hirschfeld in *von Graefe's Archiv*. The postmortems in four of the fatal cases showed, as gross appearances, marked cerebral congestion with increased cerebrospinal fluid; also marked visceral congestion and acute pulmonary edema and congestion. In addition, the heart and vessels contained only dark fluid blood. In one of two cases there was pulmonary tuberculosis and in the other, degeneration of the kidneys and liver. A chemical analysis of parts of the brain was made in all six cases and methyl alcohol poisoning found. It is important, the writers say, to note that there is a dangerous common use of refined wood alcohol in the preparation of essences, for flavoring Florida water, witch hazel, etc. They suggest, therefore, suitable legislation for the prohibition of the sale of wood alcohol for domestic uses—measures similar to laws now existing in England and Germany.

ARSENIC AND THE MENINGES. J. H. Barbat. (*Journal A. M. A.*, Jan. 19, 1918.)

Barbat has studied the penetration of the meninges by drugs intravenously and intraspinaly injected. From a careful study of the literature, he finds that only in a few instances have investigators been able to recover arsenic in the spinal fluid after its intravenous administration, and never after intramuscular or oral administration. The only important drugs that have been found to pass through the meninges and the ependymal cells are hexamethylenamin, uranin, chloroform, and in one case reported by Rotky, bromin. A review of some of the reports of the literature shows that the presence of arsenic in the cerebrospinal fluid is variable and needs explanation. Under normal conditions, we may assume that the meninges and the ependymal cells are practically impermeable to passage of all but a few drugs. What causes this impermeability? In 80 per cent. of the cases cerebral meningeal irritation accompanies the acquired permeability. The writer holds that it can be further increased by reducing the spinal pressure. The removal of the larger part of the fluid, he maintains, must create a congestion and if the capillaries are dilated, their contents will move with greater freedom. He has been able to demonstrate definitely that, in twenty-