

administered, both separately and together, to rabbits and dogs. The animals either died from the toxic effects, or were killed after a degree of tolerance for the gland substance had been established. This tolerance was evidenced by the increase in weight after the initial fall, which the first doses always produced. The pathological lesions found were nearly identical in the three groups of animals. The chief were hyperæmia of the respiratory and digestive apparatus, and frequent hæmorrhagic erosions of the stomach, leading to perforation in one case. The kidneys were generally healthy. The thyroid gland was atrophied, and the remains of the thymus showed more or less reaction from hyperæmia to a true regeneration of gland tissue. The central nervous system showed no naked-eye change. Microscopically, there were marked degenerative changes. Chromatolysis, partial or complete, was present and accompanied in some cases by disintegration more or less marked by the achromatic part. Occasionally vacuolar and yellow globular degeneration was observed. The nuclei were markedly swollen, with indistinct outline and loss of staining. They completely filled up the atrophied cell body in many cases. These alterations were chiefly noted in the frontal and parietal lobes, the occipital being always less affected. The pons and medulla were affected similarly but to a less degree. In the cord, the lesions were chiefly noted in the enlargements. The thymus-fed animals always showed more marked changes in the cords than those thyroid-fed. This was the opposite to what took place in the cortex, where the thyroid feeding produced most degeneration.

The authors conclude that the thymus produces in the organism similar effects to those produced by the thyroid, but less marked. It produces an attenuated thyroidism. From the changes in the central nervous system, they conclude that the thyroid has a special and specific action on the nerve-cells, either in directly nourishing or by neutralising some noxious substance and maintaining in them a normal chemical constitution. They point out the marked effects which result from over-production in some cases of Graves' disease.

The thymus produces similar effects, and the authors think that it probably produces this attenuated substance during the period of childhood, when a less energetic effect is required. They also point out that its selective action for the spinal cord would then also be of value.

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*Resistance to Putrefaction of the Cerebral Cortical Cells in a Series of Animals* [*Resistenza alla putrefazione delle cellule della corteccia cerebrale nella serie animale*]. (*Il Manicomio, fasc. i and ii, 1899.*) Alessi, W.

The author studied in a series of animals (lizards, frogs, rats, pigeons, guinea-pigs, rabbits, and dogs) the changes due to putrefaction in the cerebral cells, and especially the time of their appearance. The tissues were exposed to air for periods of from twelve to seventy-two hours before fixation. It was found that the changes were always more early and more marked the higher in the zoological scale the animal was. The higher specialisation of the cells probably entailed a greater degree of instability.

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