

order to force her to sexual intercourse, without the wished for result. When Forster saw the patient, Basedow's disease was well developed, and both epididymes were swollen and painful. More careful observation may, perhaps, in future establish in the male the same connection between troubles in the sexual sphere and Basedow's disease, as is acknowledged by all the authors on this subject, to exist in women. It is not impossible also, that perhaps, hereditary influence may come into play in the development of this disease. At least, there is one instance on record, in which two sisters suffered from it. The post-mortems on individuals, who had during life been subject to Basedow's disease, have revealed the following pathological conditions. In some cases the heart was perfectly normal, in most of the cases also free from any valvular deformity. In the large majority, however, the heart was found to be hypertrophic, especially the left ventricle. Its muscular tissue showed sometimes fatty and sometimes amyloid degeneration. The struma was mostly found to be caused by simple hypertrophy of the glandular tissue or by colloid metamorphosis. In some cases there were fibrous nodules and deposits of chalk present in the tumor. In other cases the tissue of the thyroid gland was found perfectly unaltered, and the struma could only be explained by an over-filling of the blood-vessels during life. This latter condition applies especially to cases where the struma was intermittent. The eyeballs were as a rule found normal, at least where no ulcerations of the cornea etc., had taken place. In a case I once had occasion to examine, I found central choroido-retinitis in one eye. Von Recklinghausen found in one case the tissue of the external ocular muscles undergoing fatty degeneration. In all other cases, also in mine, this condition did not exist. The fatty tissue of the orbit is in most of the cases hypertrophic to a varying degree. These pathological conditions, of course would never explain the clinical symptoms. The pathologists therefore looked for some other changes in the body, and lately great attention has been paid to the anatomical condition of the nerves in this disease, especially the cervical portion of the sympathetic nerves. Trousseau and Peter, found the lowest cervical ganglion enlarged, reddish and hyperæmic. Its nervous elements were reduced in size and number, whilst the fat and connective tis-

sue were greatly increased, and the latter very fibrous. These and similar changes in the sympathetic nerve have been found nearly in every case, since the attention of the pathologist was first drawn to them.

What, now, is the real nature of Basedow's disease? Certain it is, that the three chief symptoms, *i.e.*, *palpitation of the heart* with hypertrophy and enlargement of the carotid arteries and jugular veins, struma and exophthalmus with the loss of co ordination in the movements of the eyeball and lid must spring from some common cause. The sympathetic nerve seems therefore to be the centre of the disease. A number of hypothesis were brought forward to explain the nature of the disease. I mention here only one, which is the most plausible and at the same time based upon the few facts the pathologists have found in examining such cases. Paralysis of the cervical part of the sympathetic, due to the pathological changes found in its course, would explain very well the dilatation of the carotid arteries and jugular veins, the vascular struma and the exophthalmus, if we assume that the latter is due to relaxation of the walls and consequent dilatation of the orbital bloodvessels. By the experiments of Claude Bernard, however, it has been proven that cutting the cervical part of the sympathetic nerve produces dilatation of the pupils, contraction of the orbicularis palpebrarum muscle and, instead of exophthalmus as in this disease, retraction of the eye-balls. To explain the symptoms in Basedow's disease, *i.e.*, normal pupil and protrusion of the eye-balls, we would therefore expect rather an irritation of the sympathetic nerve. The difficulty is overcome by another experiment of the same author, by which he has proven that after cutting the so-called oculo-pupillary nerve-fibres and irritating the peripheral end, widening of the palpebral fissure, protrusion of the eye-balls and contraction of the pupils will ensue. These oculo-pupillary nerve-fibres form a part of the cervical portion of the sympathetic, and originate from the anterior root of the second dorsal nerve. We come thus to the hypothesis that the main portion of the cervical part of the sympathetic nerve is paralyzed in Basedow's disease, while a smaller part of it, *viz.*, the oculo-pupillary fibres are in a state of irritation. The palpitation of the heart may, of course, be caused either by a diminished action of the tenth nerve (vagus) or an increase of