

Again, by virtue of the facilities afforded in measuring weakness and paralysis of the ocular muscles through the symptom diplopia, ophthalmology affords a means of careful testing of certain important muscle changes that does not exist in any other branch of medical science.

It is evident, therefore, that the visual apparatus is closely bound physiologically and pathologically to the cerebrospinal and the sympathetic systems; it is similarly associated with the circulatory system; and, by virtue of these two relationships, it is likewise related to the abdominal viscera.

*Functional* changes in the visual apparatus are concomitant phenomena of organic derangements of other apparatus of the general system. A noteworthy example of this is the early occurrence of the Argyll-Robertson pupil in posterior spinal sclerosis and in dementia paralytica. Associated with the Argyll-Robertson pupil, diplopia, due to paresis or paralysis of one or more of the extra-ocular muscles, is a symptom of frequent occurrence. Double-vision is always an important sign, so important that it should be assumed to indicate some functional or organic derangement of the central nervous system until the contrary may be proven to be the fact. Moreover, inasmuch as diplopia, the Argyll-Robertson pupil, and other changes in the motility of the muscles of the iris are often the earliest premonitions of serious nervous affections, intelligent examination of the pupillary reflexes, routine measurements of the power of the ciliary muscles and systematic search for the presence of diplopia are essential steps in a competent investigation of every case of nervous disease. Inequality of the pupils, abnormalities of the light and the convergence-accommodation reflexes, whether they belong to the Argyll-Robertson type or not, ptosis, ectropion, lagophthalmus, exophthalmus, enophthalmus, nystagmus are symptoms of central disease, and correct interpretation of their presence materially assists in the diagnosis and the treatment.

Functional derangements of the visual organs, as observed in functional derangements of the general system, are exemplified by attacks of obscuration of sight, sometimes noted