

into a condition of painful contraction. For this purpose, let us consider, first, the pain of eye strain which is referred to the globe of the eye itself. Until very recently there was no way of explaining this which was quite satisfactory, this being for the reason that the mechanism of accommodation was not entirely understood.

According to the theory of Helmholtz, which is generally taught, the ligament of Zinn is tense when the eye is at rest, and it relaxes more and more in proportion to the degree of accommodation. Evidently this theory does not satisfactorily explain the facts of what we call eye strain, and this has long been a stumbling block, because we are still conscious of much increased effort when looking at a near point.

A better explanation has been given more recently, and for this our thanks are due especially to Prof. Tscherning. The gist of it is that the act of accommodation is not rather a passive one, as Helmholtz supposed, but in reality, when we look at a near point, we contract the ciliary muscle, and that tightening draws the edges of the lens, bending the central portion of the anterior surface further forward, thus making it more convex. It would lead to a long digression to attempt to give the reasons which lead to this conclusion. Suffice it to say that the facts in favor of this view amount practically to a demonstration. Now that we know that to look at a near point means entirely an active muscular effort, it is no longer difficult to explain the pain in the eyes which constitute the first features of ocular headaches.

Second, a certain amount of accommodation always means a certain amount of convergence of the visual axis to the point at which the eye is focused. This means tension of the internal recti, and also to a certain extent the superior rectus and the inferior rectus.

Third, the accessory muscles of the forehead and of the head are brought into action when any special effort is necessary to maintain the act of accommodation. It is the tension of those accessory muscles largely which give rise to the pain which is pre-eminently a headache. These accessory muscles are so numerous as to warrant more exact consideration. We easily recognize the corrugator supercilii as an accessory muscle in the act of accommodation, because when a person looks intently at a near object, there is an instinctive desire to "scowl," as we say, by contracting of these muscles.

Another important muscle in this connection is the occipitofrontalis. In many individuals the horizontal wrinkles caused by its contraction can be seen in the centre, and even at the side of