

sides effectually guarded from injury by being contained in a hollow bony socket, termed the orbit, and composed of seven portions of bone. These seven elements may be recognised in the skulls of all the mammalia, and perhaps also in those of all other vertebrated animals, affording a remarkable illustration of the unity of the plans of nature in the construction of the animal fabric.

#### § 4. *Physiology of perfect Vision.*

THE rays of light, proceeding from a distant object, strike upon the convex surface of the cornea, which being of greater density than the air, refracts them, and makes them converge towards a distant focus. This effect, however, is in part counteracted on their emergence from the concave posterior surface of the cornea, when the rays enter into the aqueous humour. On the whole, however, they are refracted, and made to converge to a degree equal to that which they would have undergone if they had at once impinged against the convex surface of the aqueous humour, supposing the cornea not to have been interposed.

A considerable portion of the light which has thus entered the aqueous humour is arrested in its course by the iris; so that it is only those rays which are admitted through the pupil that are subservient to vision. These next arrive at the crystalline lens, where they undergo two refractions, the one at the anterior, the other at the posterior surface of that body. Both these surfaces being convex outwardly, and the lens being a denser substance than either the aqueous or the vitreous humours, the effect of both these refractions is to increase the convergence of the rays, and to bring them to unite in a focus on the retina at the bottom of the eye. The most considerable of these refractions is the first; because the difference of density between the air and the cornea, or rather the aqueous humour, is greater than that of any of the humours of the eye compared with one another.