

nished with two compound eyes, each being the frustrum of a cone, but incomplete on that side which is opposite to the other eye. In the asaphus (Tab. 132), four hundred spherical lenses have been detected in each eye; but in general the lenses have fallen out, as often happens after death in the eyes of the common lobster. "Thus," observes Dr. Buckland, "we find in the trilobites of these early rocks, the same modifications of the organ of sight as in the living crustacea. The same kind of instrument was also employed in the intermediate periods of our geological history, when the secondary strata were deposited at the bottom of a sea inhabited by limuli, in those regions of Europe, which now form the elevated plains of central Germany. But these results are not confined to physiology: they prove also the ancient condition of the seas and atmosphere, and the relation of both these media to light. For in those remote epochs, the marine animals were furnished with instruments of vision, in which the minute optical adaptations were the same as those which now impart the perception of light to the living crustacea. The mutual relations of light to the eye, and of the eye to light, were, therefore, the same at the time when crustacea first existed in the bottom of the primeval seas, as at the present moment."*

49. INSECTS OF THE COAL FORMATION.—Several species of beetle (*curculio*) have been found in the

* Bridgewater Essay.