

great exactness to the length of the tube attached to it; so that an image of an external object is formed precisely at the point where the retina is placed to receive it.\*

Little is known of the respective functions of these two kinds of eyes, the simple and the compound, both of which are generally possessed by the higher orders of winged insects. From the circumstance that the compound eyes are not developed before the insect acquires the power of flight, it has been inferred that they are more particularly adapted to the vision of distant objects; but it must be confessed that the experiments made on this subject have not, hitherto, led to any conclusive results. Dugès found, in his trials, that after the stemmata had been covered, vision remained apparently as perfect as before, while, on the other hand, when insects were deprived of the use of the compound eyes, and saw only with the stemmata, they seemed to be capable of distinguishing nothing but the mere presence or absence of light. Others have reported, that if the stemmata be covered with an opaque varnish, the insect loses the power of guiding its flight, and strikes against walls or other obstacles; whereas, if the compound eyes be covered while the stemmata remain free, the insect generally flies away, rising perpendicularly in the air, and continuing its vertical ascent as long as it can be followed by the observer. If all the eyes of an insect be covered, it will seldom make any attempt whatsoever to fly.

The eyes of insects, whether simple or compound, are immoveably fixed in their situations; but the compound eyes of the higher orders of the class Crustacea, are placed at the ends of moveable pedicles, so as to admit of being turned at pleasure towards the objects to be viewed.† This, how-

\* This interesting fact was communicated to me by Captain Kater, who, together with Mr. Children, assisted Dr. Wollaston in this examination.

† Latreille describes a species of Crab, found on the shores of the Mediterranean, having its eyes supported on a long jointed-tube, consisting of two articulations, which enables the animal to move them in various directions, like the arms of a telegraph.