

ment in advance of that point, so that the head, prothorax, and mandibles, do not fully counterpoise the weight of the posterior part of their body, occasioning this animal to assume a nearly vertical position when on the wing.

The apparatus and conditions of flight in birds and insects are very different, varying according to the functions and structure of the animal. In birds a longer and more acute anterior extremity distinguishes the wing, by which their Creator enables them to pass with more ease through the air; but in insects that extremity is not a trenchant point that can win its own way, but usually is very blunt, opposing either the portion of a circle, or a very obtuse angle to it; hence, perhaps, it is that the common dung-beetle,\* which is a short obtuse animal, "wheels its droning flight" in a zig-zag line, like a vessel steering against the wind, and thus it flies, as every one knows, with great velocity as well as noise. This also may be one reason why insects have usually a greater volume of wing than birds, and that a very large number are fitted and adorned with *four* of these organs, which can sometimes hook to each other by a beautiful contrivance,† and so form a single ample van to sail on the aërial waves, and bear forward the bluff-headed vessel. The motions in the air, of numerous insects, are an alternate rising and falling, or a zig-zag onward flight, in a direction up and down, as all know who have observed the flight of a butterfly, or a kind of hovering in the air, or a progress from flower to flower, or backwards and forwards, and every way in pursuit of prey,—how admirably has their Creator furnished them to accomplish all these motions with the greatest facility and grace. And though their wings are usually naked, without any representative of those plumes which so ornament the wings of birds, and give them as it were more prise upon the air, yet

\* *Geotrupes stercorarius*, &c.

† *Mon. Ap. Angl. i. 108.*