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CILIA.

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Anyone who has watched the minute organisms, seen in a drop of pond-water under the microscope, must have been struck by the extremely active motions of many of them. Simple in structure, and destitute of limbs, they rush across at a furious rate, or glide smoothly and swiftly in serpentine fashion, or spin round and round in endless gyrations. How are these astonishing movements produced? They are due to cilia, the simplest and most insignificant of all organs of locomotion. These organs are widespread in the animal kingdom, though, curiously enough the Arthropods, that large class of animals embracing crustaceans, insects, spiders, centipedes, etc., do not possess them, so far as naturalists have been able to ascertain. As a rule they are very small and abundantly scattered, but they may be few and of considerable length, when they are then distinguished as flagella, not cilia. A flagellum and a cilium are, however, structurally and functionally the same. Flagella occur in plants as well as in animals, and the spores of some algae are so active, when swimming about, that they may be readily mistaken for minute infusorian animalculæ. Certain bacilli, too, possess one or more flagella, and like the Monads, the lowliest of all animal organisms, are able to progress with considerable speed. *Noctiluca* is a remarkable flagellate animal, like a small particle of jelly. It swims through the water by means of its lashing flagellum, and it often occurs in such countless myriads at the surface of the sea, that being phosphorescent and able to admit light, the waves are brilliantly illuminated over considerable areas. In contrast to *Noctiluca*, we find that in *Paramecium*, the commonest of ciliated infusorians, minute cilia occur thickly all over the surface of the body,