Dr. Grant has also shown the true nature of the currents of fluid issuing at different points from the surface of these animals, as well as the absence of all visible movements in the orifices which give exit to the fluid. Never did he find, in his experiments, the slightest appearance of contraction produced in any part of the sponge, by puncturing, lacerating, burning, or otherwise injuring its texture, or by the application of corrosive chemical agents. Of his discovery of the fluid currents, he gives the following interesting account: "I put a small branch of the *Spongia coalita*, with some sea-water, into a watch-glass, under the microscope, and, on reflecting the light of a candle through the fluid, I soon perceived that there was some intestine motion in the opaque particles floating through the water. On moving the watch-glass, so as to bring one of the apertures on the side of the sponge fully into view, I beheld, for the first time, the splendid spectacle of this living fountain, vomiting forth, from a circular cavity, an impetuous torrent of liquid matter, and hurling along, in rapid succession, opaque masses, which it strewed every where around. The beauty and novelty of such a scene in the animal kingdom, long arrested my attention, but after twenty-five minutes of constant observation, I was obliged to withdraw my eye from fatigue, without having seen the torrent for one instant change its direction, or diminish, in the slightest degree, the rapidity of its course. I continued to watch the same orifice, at short intervals, for five hours, sometimes observing it for a quarter of an hour at a time, but still the stream rolled on with a constant and equal velocity." About the end of this time, however, the current became languid, and, in the course of another hour, it ceased entirely. Similar currents were afterwards observed by Dr. Grant in a great variety of species. They take place only from those parts which are under water, and immediately cease when the same parts are uncovered, or when the animal dies.

It thus appears that the round apertures in the surface of a living sponge are destined for the discharge of a constant