

only during the first stage of germination that the motion to be described takes place, and it is evident that the power of being able to move about is to enable the plant to find a suitable place to grow upon. The radicle at first grows out, and when it has attained a length of about an inch it develops upon its extremity a flattened disk, and then curves about until the disk is applied to any object that is near at hand. If the spot upon which the disk fastens is suitable for further development of the plant, germination continues, and no locomotion takes place; but if, on the contrary, the spot should not be favorable, the germinating embryo has the power of changing its position. This is accomplished by the adhesive radicle raising the seed and advancing it to another spot; or, to make the process plainer, the disk at the end of the radicle adheres very tightly to whatever it is applied; the radicle itself straightens and tears the viscid berry away from whatever it has adhered to, and raises it in the air. The radicle then again curves and carries the berry to another spot, where it again fixes itself. Dr. Watt says he has seen this repeated several times, so that to a certain extent the young embryo, still within the seed, moves about. It seems to select certain places in preference to others, particularly the leaves, which in the *Memecylon* are evergreen and very dense. The berries on falling are almost certain to alight on the leaves, and, although many germinate thereon, they have been frequently observed to move off the leaves on to the stems, and finally fasten there.

Fertilization of Clover.—Meehan's *Gardener's Monthly* for September contains, as usual, some matters of special interest to botanists. Prof. J. W. Beal gives the result of three years' experiments to ascertain whether red clover not visited by bees will produce seeds. The experiments were made by covering some heads and comparing them with others uncovered. It would appear that the covered heads often produced a considerable number of seeds; but, as sometimes they produced none, and, "in nearly every case, the heads which were covered soon fall to the ground, where they remain until ripe," the experiments seem inconclusive and require to be repeated with more care and with a larger number. The germinating powers of the seed should also be tested.*

Gordonia pubescens.—In the same number of the *Gardener's Monthly*, Mr. Ravenel gives a history of the discovery and loss of *Gordonia pubescens*, L'Her., which was last seen in the uncultivated state, by Moses Marshall in 1790, as stated in a letter in Darlington's Memorials of Bartram and Marshall, which does not seem to be referred to by Watson in his Bibliography.

A monstrous Cypripedium.—In the September number of *The Druggist*, Chicago, Professor Bastin describes and figures a monstrous *Cypripedium* found last June in the pine barrens at the southern end of Lake Michigan. It had all three sepals distinct and of equal size, and the three nearly equal petals were shaped alike, differing from the sepals only in being a little narrower and of course al-

* In an editorial Mr. Meehan refers to these experiments in corroboration of his own experiments and conclusions that there are many reasons why clover does not seed, aside from mere questions of pollinization.