sod in which the ordinary annuals are unable to flourish. Break up the sod after any number of years, and subdue the perennial grasses, and we shall have a crop of annuals the first season—Veronicas, Chenopodiums, Euphorbias, Portulacas, Ambrosias, Crab-grasses, Foxtails, Panicums, etc. Cease cultivation, and the Poas and Glycerias will immediately resume possession. Similarly, the pertinacity with which the common knot-grass seizes and maintains its position only along the hardest-beaten footpaths is notorious, while the greater plantain renders itself no less conspicuous growing alongside. Earth thrown out of cellars and wells is generally known to send up a ready crop of weeds, and, not unfrequently, of species previously unknown in that spot. In all these cases, after allowing for all known possibilities of the distribution of seeds by winds, birds, and waters, it still seems probable that germs must have previously existed in the soil.

Similar sudden appearances of new forms take place when a change is effected in the chemical nature of the soil. Illustrations are familiar to every agriculturist. How soon does a dressing of undecomposed muck, or peat, or sawdust develop a crop of acid-loving sorrel, and how readily is it again repressed by a dressing of some alkaline manure? Let the waters of a brine-well saturate a meadow, and how long before we witness the appearance of the maritime *Scirpus* and *Triglochin*, or some other salt-loving plant whose germs, unless spontaneously developed, must have lain dormant at a greater or less depth?

Something of the same nature is witnessed on the disappearance of dominant species, whether through the agency of man or the processes of Nature. It is well known that the clearing of a piece of forest and the burning of the brush is almost always followed by the appearance of certain unwonted plants known as "fire-weeds." In many