

THE SUCCESSION OF FOREST TREES ¹

EVERY man is entitled to come to Cattle-Show, even a transcendentalist; and for my part I am more interested in the men than in the cattle. I wish to see once more those old familiar faces, whose names I do not know, which for me represent the Middlesex country, and come as near being indigenous to the soil as a white man can; the men who are not above their business, whose coats are not too black, whose shoes do not shine very much, who never wear gloves to conceal their hands. It is true, there are some queer specimens of humanity attracted to our festival, but all are welcome. I am pretty sure to meet once more that weak-minded and whimsical fellow, generally weak-bodied too, who prefers a crooked stick for a cane; perfectly useless, you would say, only *bizarre*, fit for a cabinet, like a petrified snake. A ram's horn would be as convenient, and is yet more curiously twisted. He brings that much indulged bit of the country with him, from some town's end or other, and introduces it to Concord groves, as if he had promised it so much sometime. So some, it seems to me, elect their rulers for their crookedness. But I think that a straight stick makes the best cane, and an upright man the best ruler. Or why choose a man to do plain work who is distinguished for his oddity? However, I do not know

¹ An Address read to the Middlesex Agricultural Society in Concord, September, 1860.

but you will think that they have committed this mistake who invited me to speak to you to-day.

In my capacity of surveyor, I have often talked with some of you, my employers, at your dinner-tables, after having gone round and round and behind your farming, and ascertained exactly what its limits were. Moreover, taking a surveyor's and a naturalist's liberty, I have been in the habit of going across your lots much oftener than is usual, as many of you, perhaps to your sorrow, are aware. Yet many of you, to my relief, have seemed not to be aware of it; and, when I came across you in some out-of-the-way nook of your farms, have inquired, with an air of surprise, if I were not lost, since you had never seen me in that part of the town or county before; when, if the truth were known, and it had not been for betraying my secret, I might with more propriety have inquired if *you* were not lost, since I had never seen *you* there before. I have several times shown the proprietor the shortest way out of his wood-lot.

Therefore, it would seem that I have some title to speak to you to-day; and considering what that title is, and the occasion that has called us together, I need offer no apology if I invite your attention, for the few moments that are allotted me, to a purely scientific subject.

At those dinner-tables referred to, I have often been asked, as many of you have been, if I could tell how it happened, that when a pine wood was cut down an oak one commonly sprang up, and *vice versa*. To which I have answered, and now answer, that I can tell, — that it is no mystery to me. As I am not aware that this has been clearly shown by any one, I shall lay the more stress

on this point. Let me lead you back into your wood-lots again.

When, hereabouts, a single forest tree or a forest springs up naturally where none of its kind grew before, I do not hesitate to say, though in some quarters still it may sound paradoxical, that it came from a seed. Of the various ways by which trees are *known* to be propagated, — by transplanting, cuttings, and the like, — this is the only supposable one under these circumstances. No such tree has ever been known to spring from anything else. If any one asserts that it sprang from something else, or from nothing, the burden of proof lies with him.

It remains, then, only to show how the seed is transported from where it grows to where it is planted. This is done chiefly by the agency of the wind, water, and animals. The lighter seeds, as those of pines and maples, are transported chiefly by wind and water; the heavier, as acorns and nuts, by animals.

In all the pines, a very thin membrane, in appearance much like an insect's wing, grows over and around the seed, and independent of it, while the latter is being developed within its base. Indeed this is often perfectly developed, though the seed is abortive; nature being, you would say, more sure to provide the means of transporting the seed, than to provide the seed to be transported. In other words, a beautiful thin sack is woven around the seed, with a handle to it such as the wind can take hold of, and it is then committed to the wind, expressly that it may transport the seed and extend the range of the species; and this it does, as effectually as when seeds are sent by mail in a different kind of sack

from the Patent Office. There is a patent office at the seat of government of the universe, whose managers are as much interested in the dispersion of seeds as anybody at Washington can be, and their operations are infinitely more extensive and regular.

There is, then, no necessity for supposing that the pines have sprung up from nothing, and I am aware that I am not at all peculiar in asserting that they come from seeds, though the mode of their propagation *by nature* has been but little attended to. They are very extensively raised from the seed in Europe, and are beginning to be here.

When you cut down an oak wood, a pine wood will not *at once* spring up there unless there are, or have been quite recently, seed-bearing pines near enough for the seeds to be blown from them. But, adjacent to a forest of pines, if you prevent other crops from growing there, you will surely have an extension of your pine forest, provided the soil is suitable.

As for the heavy seeds and nuts which are not furnished with wings, the notion is still a very common one that, when the trees which bear these spring up where none of their kind were noticed before, they have come from seeds or other principles spontaneously generated there in an unusual manner, or which have lain dormant in the soil for centuries, or perhaps been called into activity by the heat of a burning. I do not believe these assertions, and I will state some of the ways in which, according to my observation, such forests are planted and raised.

Every one of these seeds, too, will be found to be winged or legged in another fashion. Surely it is not

wonderful that cherry trees of all kinds are widely dispersed, since their fruit is well known to be the favorite food of various birds. Many kinds are called bird cherries, and they appropriate many more kinds, which are not so called. Eating cherries is a bird-like employment, and unless we disperse the seeds occasionally, as they do, I shall think that the birds have the best right to them. See how artfully the seed of a cherry is placed in order that a bird may be compelled to transport it, — in the very midst of a tempting pericarp, so that the creature that would devour this must commonly take the stone also into its mouth or bill. If you ever ate a cherry, and did not make two bites of it, you must have perceived it, — right in the centre of the luscious morsel, a large earthy residuum left on the tongue. We thus take into our mouths cherry-stones as big as peas, a dozen at once, for Nature can persuade us to do almost anything when she would compass her ends. Some wild men and children instinctively swallow these, as the birds do when in a hurry, it being the shortest way to get rid of them. Thus, though these seeds are not provided with vegetable wings, Nature has impelled the thrush tribe to take them into their bills and fly away with them; and they are winged in another sense, and more effectually than the seeds of pines, for these are carried even against the wind. The consequence is, that cherry trees grow not only here but there. The same is true of a great many other seeds.

But to come to the observation which suggested these remarks. As I have said, I suspect that I can throw some light on the fact that when hereabouts a dense pine

wood is cut down, oaks and other hard woods may at once take its place. I have got only to show that the acorns and nuts, provided they are grown in the neighborhood, are regularly planted in such woods; for I assert that if an oak tree has not grown within ten miles, and man has not carried acorns thither, then an oak wood will not spring up *at once*, when a pine wood is cut down.

Apparently, there were only pines there before. They are cut off, and after a year or two you see oaks and other hard woods springing up there, with scarcely a pine amid them, and the wonder commonly is, how the seed could have lain in the ground so long without decaying. But the truth is, that it has not lain in the ground so long, but is regularly planted each year by various quadrupeds and birds.

In this neighborhood, where oaks and pines are about equally dispersed, if you look through the thickest pine wood, even the seemingly unmixed pitch pine ones, you will commonly detect many little oaks, birches, and other hard woods, sprung from seeds carried into the thicket by squirrels and other animals, and also blown thither, but which are overshadowed and choked by the pines. The denser the evergreen wood, the more likely it is to be well planted with these seeds, because the planters incline to resort with their forage to the closest covert. They also carry it into birch and other woods. This planting is carried on annually, and the oldest seedlings annually die; but when the pines are cleared off, the oaks, having got just the start they want, and now secured favorable conditions, immediately spring up to trees.

The shade of a dense pine wood is more unfavorable to the springing up of pines of the same species than of oaks within it, though the former may come up abundantly when the pines are cut, if there chance to be sound seed in the ground.

But when you cut off a lot of hard wood, very often the little pines mixed with it have a similar start, for the squirrels have carried off the nuts to the pines, and not to the more open wood, and they commonly make pretty clean work of it; and moreover, if the wood was old, the sprouts will be feeble or entirely fail; to say nothing about the soil being, in a measure, exhausted for this kind of crop.

If a pine wood is surrounded by a white oak one chiefly, white oaks may be expected to succeed when the pines are cut. If it is surrounded instead by an edging of shrub oaks, then you will probably have a dense shrub oak thicket.

I have no time to go into details, but will say, in a word, that while the wind is conveying the seeds of pines into hard woods and open lands, the squirrels and other animals are conveying the seeds of oaks and walnuts into the pine woods, and thus a rotation of crops is kept up.

I affirmed this confidently many years ago, and an occasional examination of dense pine woods confirmed me in my opinion. It has long been known to observers that squirrels bury nuts in the ground, but I am not aware that any one has thus accounted for the regular succession of forests.

On the 24th of September, in 1857, as I was paddling down the Assabet, in this town, I saw a red squirrel run

along the bank under some herbage, with something large in its mouth. It stopped near the foot of a hemlock, within a couple of rods of me, and, hastily pawing a hole with its fore feet, dropped its booty into it, covered it up, and retreated part way up the trunk of the tree. As I approached the shore to examine the deposit, the squirrel, descending part way, betrayed no little anxiety about its treasure, and made two or three motions to recover it before it finally retreated. Digging there, I found two green pignuts joined together, with the thick husks on, buried about an inch and a half under the reddish soil of decayed hemlock leaves, — just the right depth to plant it. In short, this squirrel was then engaged in accomplishing two objects, to wit, laying up a store of winter food for itself, and planting a hickory wood for all creation. If the squirrel was killed, or neglected its deposit, a hickory would spring up. The nearest hickory tree was twenty rods distant. These nuts were there still just fourteen days later, but were gone when I looked again, November 21st, or six weeks later still.

I have since examined more carefully several dense woods, which are said to be, and are apparently, exclusively pine, and always with the same result. For instance, I walked the same day to a small but very dense and handsome white pine grove, about fifteen rods square, in the east part of this town. The trees are large for Concord, being from ten to twenty inches in diameter, and as exclusively pine as any wood that I know. Indeed, I selected this wood because I thought it the least likely to contain anything else. It stands on an open plain or pasture, except that it adjoins an-

other small pine wood, which has a few little oaks in it, on the southeast side. On every other side, it was at least thirty rods from the nearest woods. Standing on the edge of this grove and looking through it, for it is quite level and free from underwood, for the most part bare, red-carpeted ground, you would have said that there was not a hardwood tree in it, young or old. But on looking carefully along over its floor I discovered, though it was not till my eye had got used to the search, that, alternating with thin ferns, and small blueberry bushes, there was, not merely here and there, but as often as every five feet and with a degree of regularity, a little oak, from three to twelve inches high, and in one place I found a green acorn dropped by the base of a pine.

I confess I was surprised to find my theory so perfectly proved in this case. One of the principal agents in this planting, the red squirrels, were all the while curiously inspecting me, while I was inspecting their plantation. Some of the little oaks had been browsed by cows, which resorted to this wood for shade.

After seven or eight years, the hard woods evidently find such a locality unfavorable to their growth, the pines being allowed to stand. As an evidence of this, I observed a diseased red maple twenty-five feet long, which had been recently prostrated, though it was still covered with green leaves, the only maple in any position in the wood.

But although these oaks almost invariably die if the pines are not cut down, it is probable that they do better for a few years under their shelter than they would anywhere else.

The very extensive and thorough experiments of the English have at length led them to adopt a method of raising oaks almost precisely like this which somewhat earlier had been adopted by Nature and her squirrels here; they have simply rediscovered the value of pines as nurses for oaks. The English experimenters seem, early and generally, to have found out the importance of using trees of some kind as nurse-plants for the young oaks. I quote from London what he describes as "the ultimatum on the subject of planting and sheltering oaks," — "an abstract of the practice adopted by the government officers in the national forests" of England, prepared by Alexander Milne.

At first some oaks had been planted by themselves, and others mixed with Scotch pines; "but in all cases," says Mr. Milne, "where oaks were planted actually among the pines and surrounded by them [though the soil might be inferior], the oaks were found to be much the best." "For several years past, the plan pursued has been to plant the inclosures with Scotch pines only [a tree very similar to our pitch pine], and when the pines have got to the height of five or six feet, then to put in good strong oak plants of about four or five years' growth among the pines, — not cutting away any pines at first, unless they happen to be so strong and thick as to overshadow the oaks. In about two years it becomes necessary to shred the branches of the pines, to give light and air to the oaks, and in about two or three more years to begin gradually to remove the pines altogether, taking out a certain number each year, so that, at the end of twenty or twenty-five years, not a single Scotch

pine shall be left; although, for the first ten or twelve years, the plantation may have appeared to contain nothing else but pine. The advantage of this mode of planting has been found to be that the pines dry and ameliorate the soil, destroying the coarse grass and brambles which frequently choke and injure oaks; and that no mending over is necessary, as scarcely an oak so planted is found to fail."

Thus much the English planters have discovered by patient experiment, and, for aught I know, they have taken out a patent for it; but they appear not to have discovered that it was discovered before, and that they are merely adopting the method of Nature, which she long ago made patent to all. She is all the while planting the oaks amid the pines without our knowledge, and at last, instead of government officers, we send a party of woodchoppers to cut down the pines, and so rescue an oak forest, at which we wonder as if it had dropped from the skies.

As I walk amid hickories, even in August, I hear the sound of green pignuts falling from time to time, cut off by the chickaree over my head. In the fall, I notice on the ground, either within or in the neighborhood of oak woods, on all sides of the town, stout oak twigs three or four inches long, bearing half a dozen empty acorn-cups, which twigs have been gnawed off by squirrels, on both sides of the nuts, in order to make them more portable. The jays scream and the red squirrels scold while you are clubbing and shaking the chestnut trees, for they are there on the same errand, and two of a trade never agree. I frequently see a red or gray

squirrel cast down a green chestnut bur, as I am going through the woods, and I used to think, sometimes, that they were cast at me. In fact, they are so busy about it, in the midst of the chestnut season, that you cannot stand long in the woods without hearing one fall. A sportsman told me that he had, the day before, — that was in the middle of October, — seen a green chestnut bur dropped on our great river meadow, fifty rods from the nearest wood, and much further from the nearest chestnut tree, and he could not tell how it came there. Occasionally, when chestnutting in midwinter, I find thirty or forty nuts in a pile, left in its gallery, just under the leaves, by the common wood mouse (*Mus leucopus*).

But especially, in the winter, the extent to which this transportation and planting of nuts is carried on is made apparent by the snow. In almost every wood, you will see where the red or gray squirrels have pawed down through the snow in a hundred places, sometimes two feet deep, and almost always directly to a nut or a pine cone, as directly as if they had started from it and bored upward, — which you and I could not have done. It would be difficult for us to find one before the snow falls. Commonly, no doubt, they had deposited them there in the fall. You wonder if they remember the localities, or discover them by the scent. The red squirrel commonly has its winter abode in the earth under a thicket of evergreens, frequently under a small clump of evergreens in the midst of a deciduous wood. If there are any nut trees which still retain their nuts standing at a distance without the wood, their paths often lead

directly to and from them. We therefore need not suppose an oak standing here and there *in* the wood in order to seed it, but if a few stand within twenty or thirty rods of it, it is sufficient.

I think that I may venture to say that every white pine cone that falls to the earth naturally in this town, before opening and losing its seeds, and almost every pitch pine one that falls at all, is cut off by a squirrel, and they begin to pluck them long before they are ripe, so that when the crop of white pine cones is a small one, as it commonly is, they cut off thus almost every one of these before it fairly ripens. I think, moreover, that their design, if I may so speak, in cutting them off green, is, partly, to prevent their opening and losing their seeds, for these are the ones for which they dig through the snow, and the only white pine cones which contain anything then. I have counted in one heap, within a diameter of four feet, the cores of 239 pitch pine cones which had been cut off and stripped by the red squirrel the previous winter.

The nuts thus left on the surface, or buried just beneath it, are placed in the most favorable circumstances for germinating. I have sometimes wondered how those which merely fell on the surface of the earth got planted; but, by the end of December, I find the chestnut of the same year partially mixed with the mould, as it were, under the decaying and mouldy leaves, where there is all the moisture and manure they want, for the nuts fall fast. In a plentiful year, a large proportion of the nuts are thus covered loosely an inch deep, and are, of course, somewhat concealed from squirrels. One win-

ter, when the crop had been abundant, I got, with the aid of a rake, many quarts of these nuts as late as the tenth of January, and though some bought at the store the same day were more than half of them mouldy, I did not find a single mouldy one among these which I picked from under the wet and mouldy leaves, where they had been snowed on once or twice. Nature knows how to pack them best. They were still plump and tender. Apparently, they do not beat there, though wet. In the spring they were all sprouting.

Loudon says that "when the nut [of the common walnut of Europe] is to be preserved through the winter for the purpose of planting in the following spring, it should be laid in a rot-heap, as soon as gathered, with the husk on, and the heap should be turned over frequently in the course of the winter."

Here, again, he is stealing Nature's "thunder." How can a poor mortal do otherwise? for it is she that finds fingers to steal with, and the treasure to be stolen. In the planting of the seeds of most trees, the best gardeners do no more than follow Nature, though they may not know it. Generally, both large and small ones are most sure to germinate, and succeed best, when only beaten into the earth with the back of a spade, and then covered with leaves or straw. These results to which planters have arrived remind us of the experience of Kane and his companions at the north, who, when learning to live in that climate, were surprised to find themselves steadily adopting the customs of the natives, simply becoming Esquimaux. So, when we experiment in planting forests, we find ourselves at last doing as Nature does.

Would it not be well to consult with Nature in the outset? for she is the most extensive and experienced planter of us all, not excepting the Dukes of Athol.

In short, they who have not attended particularly to this subject are but little aware to what an extent quadrupeds and birds are employed, especially in the fall, in collecting, and so disseminating and planting, the seeds of trees. It is the almost constant employment of the squirrels at that season, and you rarely meet with one that has not a nut in its mouth, or is not just going to get one. One squirrel-hunter of this town told me that he knew of a walnut tree which bore particularly good nuts, but that on going to gather them one fall, he found that he had been anticipated by a family of a dozen red squirrels. He took out of the tree, which was hollow, one bushel and three pecks by measurement, without the husks, and they supplied him and his family for the winter. It would be easy to multiply instances of this kind. How commonly in the fall you see the cheek-pouches of the striped squirrel distended by a quantity of nuts! This species gets its scientific name, *Tamias*, or the steward, from its habit of storing up nuts and other seeds. Look under a nut tree a month after the nuts have fallen, and see what proportion of sound nuts to the abortive ones and shells you will find ordinarily. They have been already eaten, or dispersed far and wide. The ground looks like a platform before a grocery, where the gossips of the village sit to crack nuts and less savory jokes. You have come, you would say, after the feast was over, and are presented with the shells only.

Occasionally, when threading the woods in the fall, you will hear a sound as if some one had broken a twig, and, looking up, see a jay pecking at an acorn, or you will see a flock of them at once about it, in the top of an oak, and hear them break them off. They then fly to a suitable limb, and placing the acorn under one foot, hammer away at it busily, making a sound like a woodpecker's tapping, looking round from time to time to see if any foe is approaching, and soon reach the meat, and nibble at it, holding up their heads to swallow, while they hold the remainder very firmly with their claws. Nevertheless it often drops to the ground before the bird has done with it. I can confirm what William Bartram wrote to Wilson, the ornithologist, that "the jay is one of the most useful agents in the economy of nature, for disseminating forest trees and other nuciferous and hard-seeded vegetables on which they feed. Their chief employment during the autumnal season is foraging to supply their winter stores. In performing this necessary duty they drop abundance of seed in their flight over fields, hedges, and by fences, where they alight to deposit them in the post-holes, etc. It is remarkable what numbers of young trees rise up in fields and pastures after a wet winter and spring. These birds alone are capable, in a few years' time, to replant all the cleared lands."

I have noticed that squirrels also frequently drop their nuts in open land, which will still further account for the oaks and walnuts which spring up in pastures, for, depend on it, every new tree comes from a seed. When I examine the little oaks, one or two years old, in such

places, I invariably find the empty acorn from which they sprung.

So far from the seed having lain dormant in the soil since oaks grew there before, as many believe, it is well known that it is difficult to preserve the vitality of acorns long enough to transport them to Europe; and it is recommended in Loudon's "Arboretum," as the safest course, to sprout them in pots on the voyage. The same authority states that "very few acorns of any species will germinate after having been kept a year," that beech mast "only retains its vital properties one year," and the black walnut "seldom more than six months after it has ripened." I have frequently found that in November almost every acorn left on the ground had sprouted or decayed. What with frost, drouth, moisture, and worms, the greater part are soon destroyed. Yet it is stated by one botanical writer that "acorns that have lain for centuries, on being ploughed up, have soon vegetated."

Mr. George B. Emerson, in his valuable Report on the Trees and Shrubs of this State, says of the pines: "The tenacity of life of the seeds is remarkable. They will remain for many years unchanged in the ground, protected by the coolness and deep shade of the forest above them. But when the forest is removed, and the warmth of the sun admitted, they immediately vegetate." Since he does not tell us on what observation his remark is founded, I must doubt its truth. Besides, the experience of nursery-men makes it the more questionable.

The stories of wheat raised from seed buried with an ancient Egyptian, and of raspberries raised from seed found in the stomach of a man in England, who is sup-

posed to have died sixteen or seventeen hundred years ago, are generally discredited, simply because the evidence is not conclusive.

Several men of science, Dr. Carpenter among them, have used the statement that beach plums sprang up in sand which was dug up forty miles inland in Maine, to prove that the seed had lain there a very long time, and some have inferred that the coast has receded so far. But it seems to me necessary to their argument to show, first, that beach plums grow only on a beach. They are not uncommon here, which is about half that distance from the shore; and I remember a dense patch a few miles north of us, twenty-five miles inland, from which the fruit was annually carried to market. How much further inland they grow, I know not. Dr. Charles T. Jackson speaks of finding "beach plums" (perhaps they were this kind) more than one hundred miles inland in Maine.

It chances that similar objections lie against all the more notorious instances of the kind on record.

Yet I am prepared to believe that some seeds, especially small ones, may retain their vitality for centuries under favorable circumstances. In the spring of 1859, the old Hunt house, so called, in this town, whose chimney bore the date 1703, was taken down. This stood on land which belonged to John Winthrop, the first governor of Massachusetts, and a part of the house was evidently much older than the above date, and belonged to the Winthrop family. For many years I have ransacked this neighborhood for plants, and I consider myself familiar with its productions. Thinking of the seeds

which are said to be sometimes dug up at an unusual depth in the earth, and thus to reproduce long extinct plants, it occurred to me last fall that some new or rare plants might have sprung up in the cellar of this house, which had been covered from the light so long. Searching there on the 22d of September, I found, among other rank weeds, a species of nettle (*Urtica urens*) which I had not found before; dill, which I had not seen growing spontaneously; the Jerusalem oak (*Chenopodium Botrys*), which I had seen wild in but one place; black nightshade (*Solanum nigrum*), which is quite rare hereabouts, and common tobacco, which, though it was often cultivated here in the last century, has for fifty years been an unknown plant in this town, and a few months before this not even I had heard that one man, in the north part of the town, was cultivating a few plants for his own use. I have no doubt that some or all of these plants sprang from seeds which had long been buried under or about that house, and that that tobacco is an additional evidence that the plant was formerly cultivated here. The cellar has been filled up this year, and four of those plants, including the tobacco, are now again extinct in that locality.

It is true, I have shown that the animals consume a great part of the seeds of trees, and so, at least, effectually prevent their becoming trees; but in all these cases, as I have said, the consumer is compelled to be at the same time the disperser and planter, and this is the tax which he pays to Nature. I think it is Linnæus who says that while the swine is rooting for acorns he is planting acorns.

Though I do not believe that a plant will spring up where no seed has been, I have great faith in a seed,—a, to me, equally mysterious origin for it. Convince me that you have a seed there, and I am prepared to expect wonders. I shall even believe that the millennium is at hand, and that the reign of justice is about to commence, when the Patent Office, or Government, begins to distribute, and the people to plant, the seeds of these things.

In the spring of 1857 I planted six seeds sent to me from the Patent Office, and labeled, I think, *Poitrine jaune grosse*, large yellow squash. Two came up, and one bore a squash which weighed 123½ pounds, the other bore four, weighing together 186¼ pounds. Who would have believed that there was 310 pounds of *poitrine jaune grosse* in that corner of my garden? These seeds were the bait I used to catch it, my ferrets which I sent into its burrow, my brace of terriers which unearthed it. A little mysterious hoeing and manuring was all the *abracadabra presto-change* that I used, and lo! true to the label, they found for me 310 pounds of *poitrine jaune grosse* there, where it never was known to be, nor was before. These talismans had perchance sprung from America at first, and returned to it with unabated force. The big squash took a premium at your fair that fall, and I understood that the man who bought it, intended to sell the seeds for ten cents apiece. (Were they not cheap at that?) But I have more hounds of the same breed. I learn that one which I despatched to a distant town, true to its instincts, points to the large yellow squash there, too, where no hound ever found it before, as its ancestors did here and in France.

Other seeds I have which will find other things in that corner of my garden, in like fashion, almost any fruit you wish, every year for ages, until the crop more than fills the whole garden. You have but little more to do than throw up your cap for entertainment these American days. Perfect alchemists I keep who can transmute substances without end, and thus the corner of my garden is an inexhaustible treasure-chest. Here you can dig, not gold, but the value which gold merely represents; and there is no Signor Blitz about it. Yet farmers' sons will stare by the hour to see a juggler draw ribbons from his throat, though he tells them it is all deception. Surely, men love darkness rather than light.