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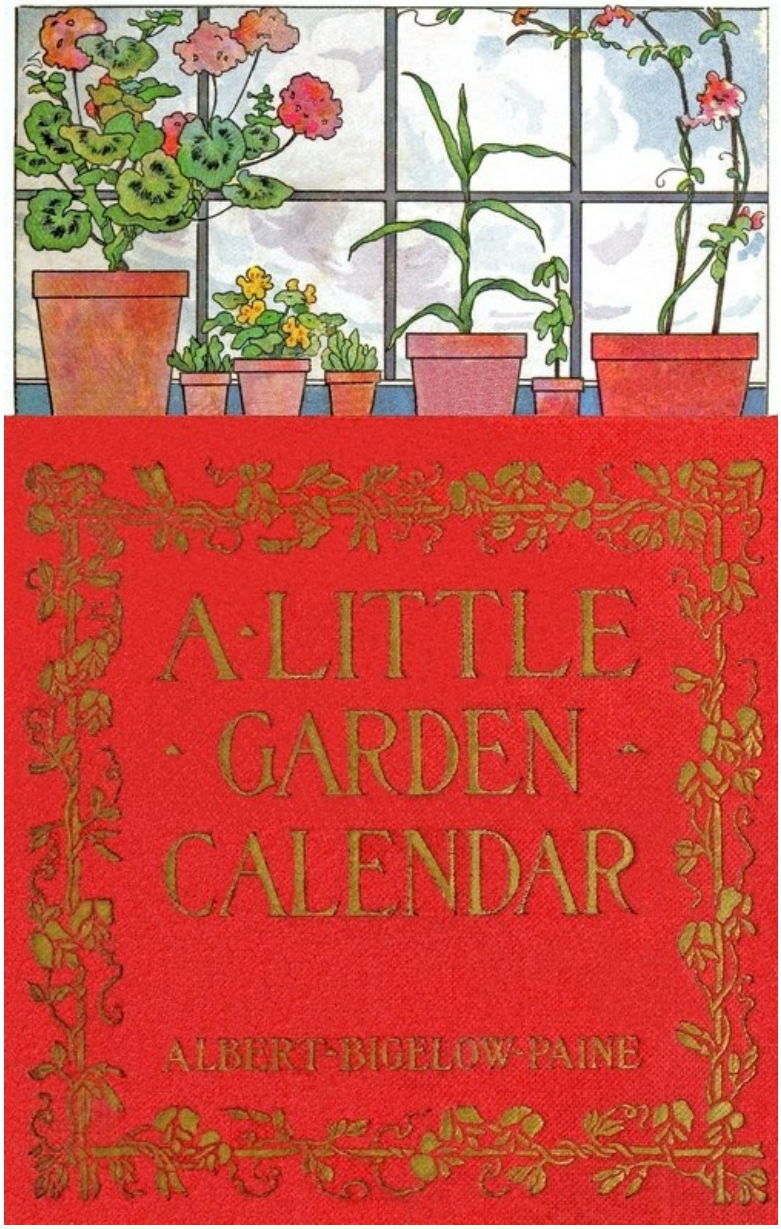

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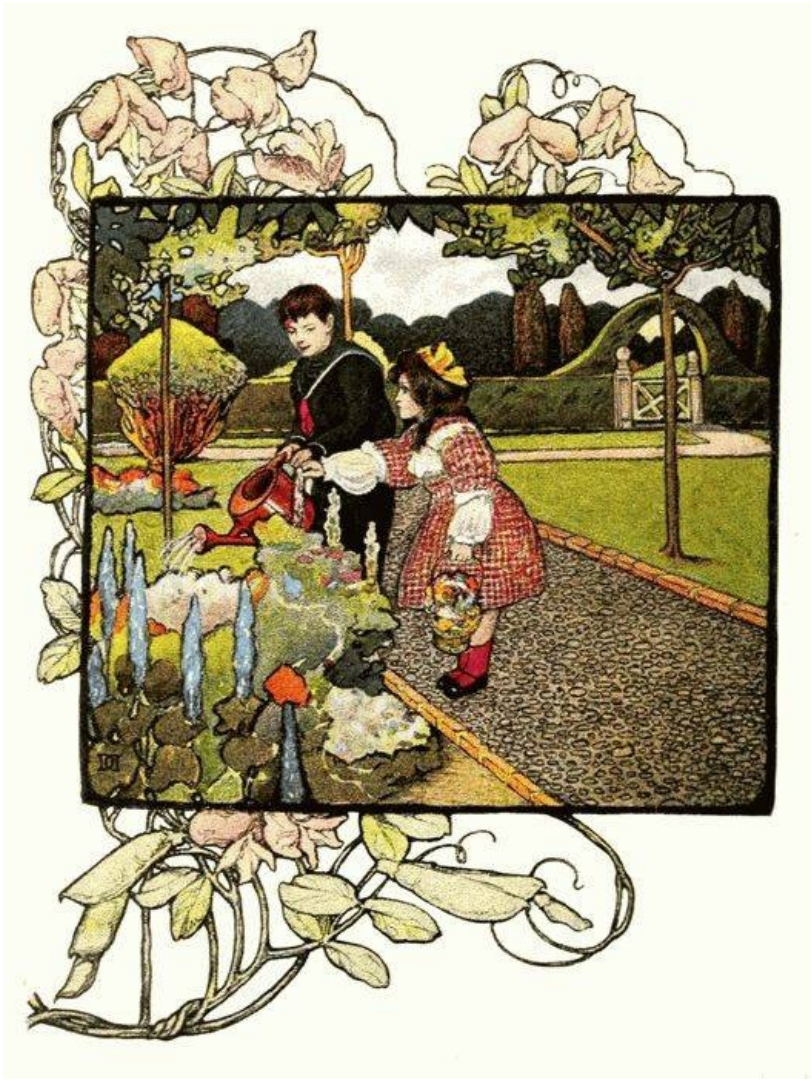
A LITTLE GARDEN CALENDAR



A Little Garden Calendar

For Boys and Girls

by

Albert Bigelow Paine

Author of "The Little Lady, Her Book,"
"The Arkansaw Bear," Etc.

With Forty-six Illustrations

P H I L A D E L P H I A

HENRY ALTEMUS COMPANY

Published March, 1905

BY THE SAME AUTHOR

The Little Lady, Her Book,	$1.00
The Arkansaw Bear,	1.00
The Wanderings of Joe and Little Em,	.50

A Word to Teachers and Parents

[v]

When Dr. S. P. Langley, Secretary of the Smithsonian Institution, established the Children's Room in that great museum, he took for his motto, "Knowledge begins in wonder," and he put into this room a selection of specimens especially intended to excite interest in the young mind. The biggest bird and the littlest were placed side by side; curious eggs, nests, and insects—not many in number, but temptingly displayed—were ranged about to attract attention and to awake the desire to know more. It was the same Dr. Langley who had once declared that his chief interests in life were children and fairy stories, and it is in the little Washington room that we seem to find the thought embodied, for the children are there, and the fairy stories of nature are suggested on every hand.

[vi]

It is with Dr. Langley's motto in mind that the "Little Garden Calendar" is offered to parents and teachers, and to children themselves who are old enough to read. The author has tried to tell in simple language a few of the wonders of plant life, and to set down certain easy methods of observation, including planting, tending, and gathering the harvests, from month to month, throughout the year. Along with this it has been his aim to call attention to the more curious characteristics of certain plants—the really human instincts and habits of some, the family relations of others, the dependence of many upon mankind, animals, and insects, and the struggle for existence of all. Simple botany plays a part in the little narrative, which forms a continuous story from chapter to chapter, interwoven with a number of briefer stories—traditions, fairy tales, and the like, all relating to plant life and origin. These are presented by way of entertainment—to illuminate fact with fancy—to follow, as it were, the path of knowledge through the garden of imagination.

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The illustrations in this book are from excellent photographs—especially made for the various chapters—that the student of plant life may compare and identify with some degree of assurance as to varieties and particular specimens, especially in the matter of plant organisms. The volume is divided according to the calendar, for the reason that in the plant world there is interest for every month in the year if only someone is by to point the way, and it is for this purpose that the little story of Prue and Davy and their garden is offered to instructors in the schoolroom and at home, and to the young people themselves, with the greetings and good wishes of

The Author.

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A LITTLE GARDEN CALENDAR

JANUARY

I

YOU MAY BEGIN YOUR GARDEN RIGHT AWAY

THIS is the story of a year, and begins on New Year's day. It is the story of a garden—a little garden—and of a little boy and girl who owned the garden, and of the Chief Gardener, who helped them.

And the name of the little boy was David, after his grandfather. So they called him Davy, because when grandfather was a little boy, he had been called Davy, and this little boy wanted to be just as his grandfather had been—just the same kind of a little boy, with the same name and all.

[14] And the name of the little girl was Prudence, and she was called Prue. For when her mother was a little girl, *she* had been called Prue, and the Chief Gardener still called her that, sometimes, when he did not call her just Mamma. And the little girl was five years old, and the little boy was 'most seven—"going-on seven" the little boy always said, when you asked him.

The garden was in a window, at first—in two windows, side by side—called a double window. It had to be in a window, because outside it was very cold, and the snow was white and deep on the beds where the Chief Gardener had flowers and vegetables in summer-time.

Prue and Davy were looking out on this white, snow-covered garden on New Year's afternoon. Christmas was over, and spring seemed far away. And there had been *so* much snow that they were tired of their sleds.

"I wish it would be warm again," said Davy, "so there would be strawberries and nice things to eat in the garden; don't you, Prue?"

[15] "And nice green grass, and dandelions and pinks and morning-glories," said Prue, who loved flowers.

Then the little girl went over to where the Chief Gardener was reading. She leaned over his knee and rocked it back and forth.

"Will it *ever* be warm again?" she asked. "Will we *ever* have another garden?"

The Chief Gardener turned another page of his paper. Prue rocked his knee harder.

"I want it to be warm," she said. "I want it to be so we can plant flowers."

"And things," put in Davy, "*nice* things, to eat; pease and berries and radishes."

"Oh, Davy, you always want things to eat!" said the little girl. "We've just had our New Year's dinner!"

"But I'd be hungry again before the things grew, wouldn't I? And you like strawberries, too, and short-cake."

The Chief Gardener laid down his paper.

"What's all this about strawberry short-cake and morning-glories?" he asked.

[16] "We want it to be warm," said Prue, "so we can have a garden, with pinks and pansies—"

"And pease—" began Davy.

"And a short-cake tree," put in the Chief Gardener, "with nice short-cakes covered with whipped cream, hanging on all the branches. That would suit you, wouldn't it, Davy boy?"

The very thought of a tree like that made Davy silent with joy; but Prue still rocked the knee and talked.

"When *will* it be warm? When *can* we have a garden?" she kept asking.

"It is warm, *now*, in this room," said the Chief Gardener, "and you may begin your garden right away, if you like."

The children looked at him, not knowing just what he meant.

"In the window," he went on. "There are two, side by side. They are a part of the garden, you know, for we always see the garden through them, in summer. You remember, we said last year they were like frames for it. Now, suppose we really put a little piece of garden in the windows."

[17]

Prue was already dancing.

"Oh, yes! And I'll have pansies, and roses, and hollyhocks, and pinks, and morning-glories, and —"

"And I'll have peaches, and apples, and strawberries, and pease—"

"And a field of corn and wheat," laughed the Chief Gardener, "and a grove of cocoanut trees! What magic windows we must have to hold all the things you have named. They will be like the pack of Santa Claus—never too full to hold more."

"But can't we have all the things we like?" asked Davy, anxiously.

"Not *quite* all, I'm afraid. The hollyhocks and roses that Prue wants do not bloom the first year from seed. It would hardly pay to plant them in a window-garden, and as for peach and apple trees, I am afraid you would get very tired waiting for them to bear. It takes at least five years for [18] apple-trees to give us fruit, often much longer. Peach-trees bear about the third year. I think we would better try a few things that bloom and bear a little more quickly."

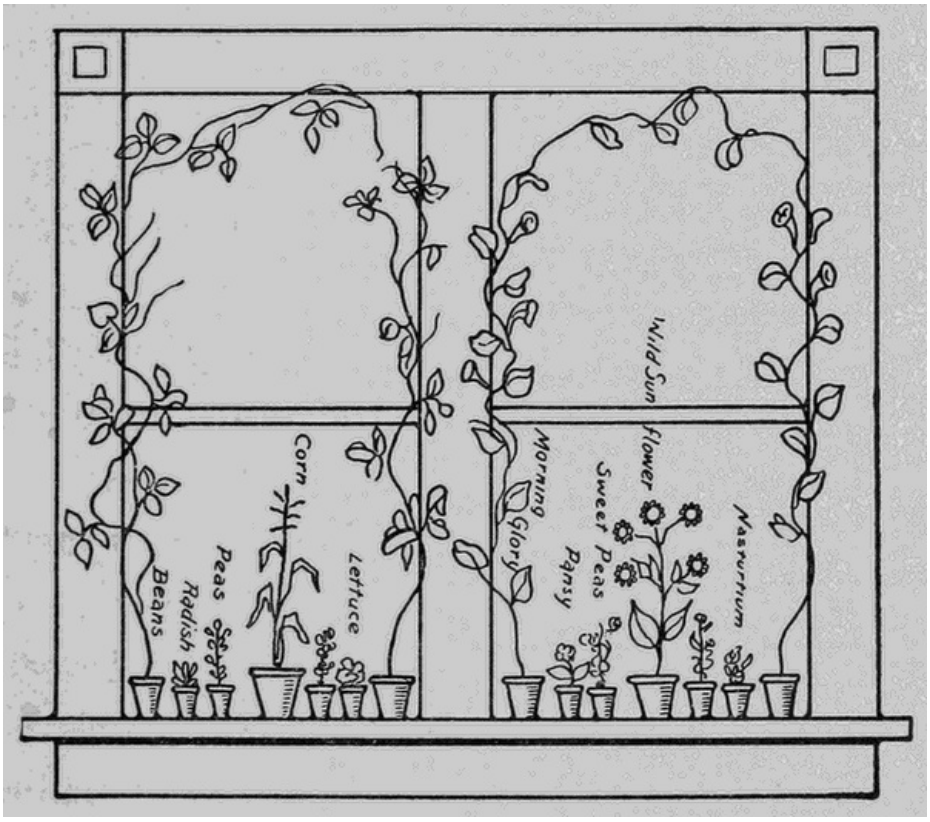
II

YOUR GARDEN MAY NOT LOOK AS I HAVE IT HERE

THE Chief Gardener took his pencil and a piece of paper, and drew a little plan. He was not much of an artist, and sometimes when he drew things he had to write their names below, so that Prue and Davy could tell which was the rabbit and which was the donkey, and so they wouldn't think the kitten was a lion. But a window was not so hard, and then he could put names under the plants, too. On the next page is the picture that the Chief Gardener drew.

While he was making the picture, the children had been asking questions.

"Which is my side? Oh, what's that in the center—that tall plant? What are those vines? What [19] will we have in those littlest pots? Oh, I know what those are! Those are morning-glories! Oh, goody!"



DAVY'S WINDOW **PRUE'S WINDOW**

The last was from Prue, when she saw the artist putting the flowers along the vines that he had made climbing up the sides of her window.

"Yes," said the Chief Gardener, "those are morning-glories. You can have two vines in each pot, [20] if you wish, and in that way get four colors—blue, white, purple, and pink. On Davy's side I have made climbing beans—scarlet and white runners—because they are very pretty, and also very good to eat. Davy's is a vegetable, and yours a flower, garden. Then, if Davy wants some flowers, and you get hungry, you can give him flowers for vegetables."

"Oh, that will be playing 'market,' won't it? I just love to play 'store' and 'going to market.'"

"My beans look a good deal like Prue's morning-glories, all but the flowers," said Davy.

"So they do, Davy; and they really look something the same in the garden. The leaves are nearly the same shape, only that the morning-glory's is more heart-shaped, and then beans have three leaves to the stem instead of one. Sometimes I have taken a morning-glory for a bean, just at first."

"What else have we?" asked Prue. "What are the little flowers, and the big one in the center?" [21]

If the Chief Gardener felt hurt because his pictures did not show just what all the flowers were, without telling, he did not say so. He said:

"Well, in the center of your window, Prue, the big flower is made for a sunflower. Not the big kind, but the small western sunflower, such as we had along the back fence last summer. I think we can raise those in the house."

"I just love those," nodded Prue.

"Then those two slender plants are sweet-pease on your side, and garden-pease on Davy's. I put two in each window, because I know that you love sweet-pease, while Davy is very fond of the vegetable kind."

"I'd like a whole bushel of sweet-pease!" said Prue.

"And I wish I had a bushel of eating pease!" said Davy, "and I know that's sweet corn in the middle of my window. I just love it!"

"Yes," said the Chief Gardener, "and a little pot of radishes on one side, and a pot of lettuce salad on the other. Do you think you like that, Davy?" [22]

"Can't I have strawberries, instead of the salad?" asked Davy.

"Strawberries don't bear from seed the first season, and I can't remember any fruit that does, unless you call tomatoes fruit, and I don't think a tomato vine would be quite pleasant in the house. It doesn't always have a sweet odor."

"Oh, well, I can eat lettuce," said Davy. "I can eat anything that's good."

"What are in my other little pots?" asked Prue for the third or fourth time.

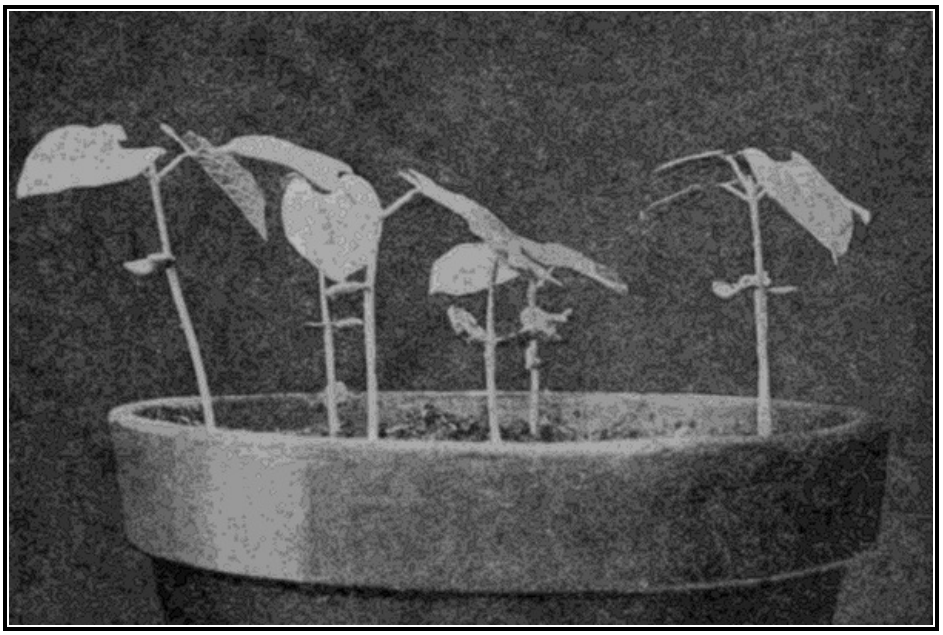
"Well, one is meant for a pot of pansies—"

"Oh, pansies! pansies! Can't I have two pots of pansies?"

"You can have three or four plants in one pot—perhaps that will do. Then you can put nasturtiums in the other little pot. They are easy to grow, and very beautiful."

"Yes," said Prue, "I never saw anything so *lovely* as your nasturtiums by the house, last year." [23]

The Chief Gardener looked at the sketch and tapped it with his pencil.



THE BEANS AT THE END OF TWO WEEKS

"Of course," he said, "your garden may not look just as I have it here. I don't draw very well, but I can make things about the right sizes to fit the windows, and that isn't so hard to do with a pencil as it is with the plants themselves. Plants, like children, don't always grow just as their friends want them to, and they are not always well behaved. You see—" [24]

"But won't my bean vines and corn grow up like that?" asked Davy.

"And won't my morning-glories have flowers on them?" asked Prue.

"I hope they will, and we will try to coax them. But you see things may happen. Sometimes it comes a very cold night when the fires get low, and then plants are likely to chill, or perhaps freeze and die. We can only try to be very careful."

"How long will it take them to grow?" asked Davy.

"That is not easy to say. When everything is just right, some seeds start very soon. I have known radishes to pop up within three days, when the weather was warm and damp. Corn will sprout in about a week, in warm weather. Sweet-pease take a good deal longer, though we can hurry them a little by soaking them in warm water before we plant them. But we will talk about [25]

all that later. First, let's see about the pots and earth, and the seeds."

III

MANY SEEDS ARE GIVEN WINGS

THE Chief Gardener took Davy and Prue down in the basement, where in one corner he kept his flower-pots and garden-tools.

"I'm going to use the hoe," said Davy, reaching for the long handle.

"I'll have the rake for my garden," said Prue.

The Chief Gardener smiled.

"I don't think we'll need either for this gardening. A small weeder or an old kitchen-knife will be about the largest tool you can use."

Then he picked out some pots, set them side by side on a table, and measured them to see how long a row they made. Then he changed them and measured again.

"There," he said, "those will just fit one window. Now, another set for the other window and we are ready for the soil." [26]

"Where will you get dirt? Everything is frozen hard," said Davy.

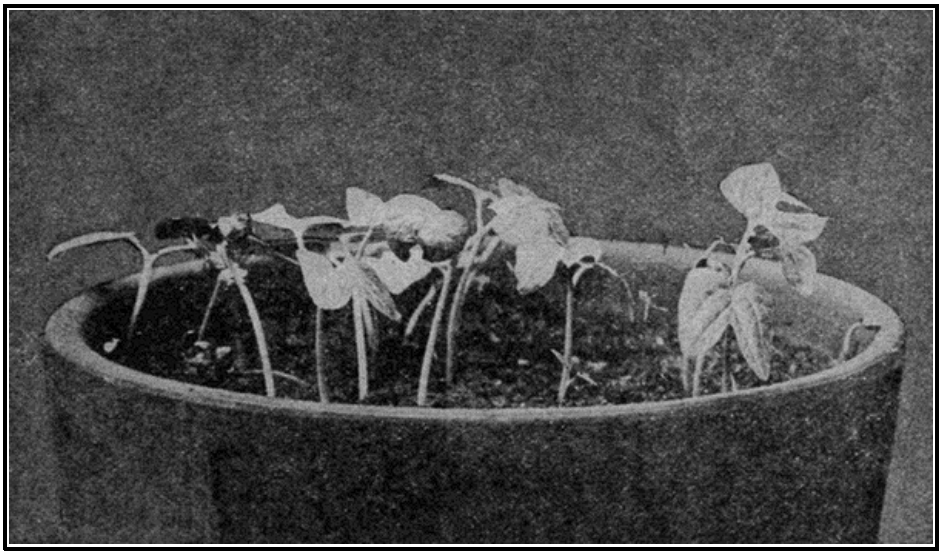
The Chief Gardener took up a spading-fork from among the tools.

"We'll get our hats and coats, first," he said, "then we'll see what we can find."

Outside it was really very cold, but the children, with their thick wraps, did not mind. They raced in the snow across the empty little garden, and followed the Chief Gardener to a small mound in one corner. Here he pushed away the snow, and with the fork lifted up a layer of frozen-looking weeds; then another layer, not quite so frozen and not quite so weedy; then still another layer that did not seem at all frozen, but was just a mass of damp leaves and bits of grass. And under this layer it must have been quite warm, for steam began to rise white in the cold air.

"Oh, see!" said Prue. "What makes the smoke?" [27]

"That's steam," said Davy, wisely; "but what makes it warm?"



THE MORNING-GLORIES TWO WEEKS OLD

"Fever," said the Chief Gardener, "just as you had, Davy, that night you ate too much layer-cake. You said you were burning up, but it was only nature trying to burn up the extra food. That is what nature is doing here—trying to burn up and turn to earth the pile of weeds and grass I threw here last summer for compost. Next spring the fire will be out, and leave only a heap of rich soil for the garden." [28]

Beneath the last layer there was warm, dark earth. The Chief Gardener filled the basket he had brought, and they hurried back to the basement to fill the pots.

"Not too full—we must leave room at the top for digging and watering, without spilling dirt and water on the floor. Then the plants will help fill up by and by, too, and I think we would better put in a little of this compost at the bottom. When the roots run down they will be glad to find some fresh, rich food. Don't pack the earth too tightly, Davy; just jar the pot a little to settle it, and it should be fine and quite dry. Perhaps we'd better dry it a little," the Chief Gardener added, as he saw by the children's hands that some of the earth was rather damp and sticky.

So he brought out a flat box, emptied all the pots into it, and set the box on top of the furnace.

"While it's drying, we'll go upstairs and pick out the seeds," he said. [29]

"Oh, see my beans! How pretty they are!" cried Davy, as the Chief Gardener pointed out the purple-mottled seeds of the scarlet runners.

Prue looked a little envious. She was fond of pretty things.

"But my pease are better-looking than those crinkly things of yours," she said; "mine are most like little beads; and see my nasturtium seed! They look good to eat, like little peanuts."

It was Davy's turn now to be envious. Anything that looked like peanuts must be very good to eat.

"People often pickle nasturtium pods," said the Chief Gardener. "They are fine and peppery. So Prue will really have something to eat in her garden, while Davy will have beautiful flowers on his scarlet runners."

"See my morning-glory seed, like quarters of a little black apple, and how tiny my pansy seeds are!" cried Prue, holding out the papers. [30]

Davy was looking at the little round, brown kernels that the Chief Gardener had said were radish seeds, and the light little flakes that were to grow into lettuce.

"What makes seeds so different?" he asked soberly.

"Ah, Davy, that is a hard question," answered the Chief Gardener. "A great many very great people have tried to answer it."

He opened a little paper and held it out for them to see.

"What funny little feather-tops!" said Prue.

"Like little darts," said Davy. "What are they?"

"Marigold seeds. They are very light, and the little tufts or wings are to carry them through the air, so they will be scattered and sown by the wind. Many seeds are given wings of different kinds. Maple seeds have a real pair of wings. Others have a tuft of down on them, so light that they are carried for miles. But many seeds are hard to explain. Plants very nearly alike grow from seeds that are not at all alike, while plants as different as can be grow from seeds that can hardly be told apart, even under the magnifying-glass." [31]

The pots filled with the warm earth were brought up and ranged in the windows.

"How deep, and how many seeds in a pot?" asked Davy.

"That depends," the Chief Gardener answered. "I believe there is a rule that says to plant twice as deep as the seed is long, though sweet-pease and some other things are planted deeper; and you may plant more seeds than you want plants, so that enough are pretty sure to grow; four beans in each pot, Davy—two white and two colored, and three grains of corn in the large center pot."

The children planted the seeds—the Chief Gardener helping, showing how to cover them with fine earth—the corn and beans quite deeply, the sweet-pease still deeper, fully an inch or more, the smaller seeds thinly and evenly: then how to pat them down so that the earth might be lightly but snugly packed about the sleeping seeds. [32]

"Now we will dampen them a little," he said, "and when they feel their covering getting moist, perhaps they will think of waking."

So he brought a cup of warm water, and the children dipped in their fingers and sprinkled the earth in each pot until it was quite damp. Then they drew up chairs and sat down to look at their garden, as if expecting the things to grow while they waited.

IV

I THINK SEEDS KNOW THE MONTHS

But the seeds did not sprout that day, nor the next, nor for many days after they were planted.

Prue and Davy watered them a little every morning, and were quite sure the room had been warm, but it takes sunshine, too, to make seeds think of waking from their long nap, and the sun does not always shine in January. Even when it does, it is so low in the sky, and stays such a little time each day, that it does not find its way down into the soil as it does in spring and summer time. [33]

"You said that corn sprouts in a week," said Davy to the Chief Gardener, one morning, "and it's a week to-day since we planted it, and even the radishes are not up yet."

Prue also looked into her little row of pots, and said sadly that there was not even a little teeny-weeny speck of anything coming up that she could see.

"I'm sorry," said the Chief Gardener, "but you know I really can't make the sun shine, and even if I could, perhaps they would be slow about coming, at this season. Sometimes I think seeds know the months as well as we do, for I have known seeds to sprout in June in a place where there was very little warmth or moisture and no sunshine at all. Yes, I think the seeds know." [34]

"And won't my pansies come at all?" whimpered little Prue.

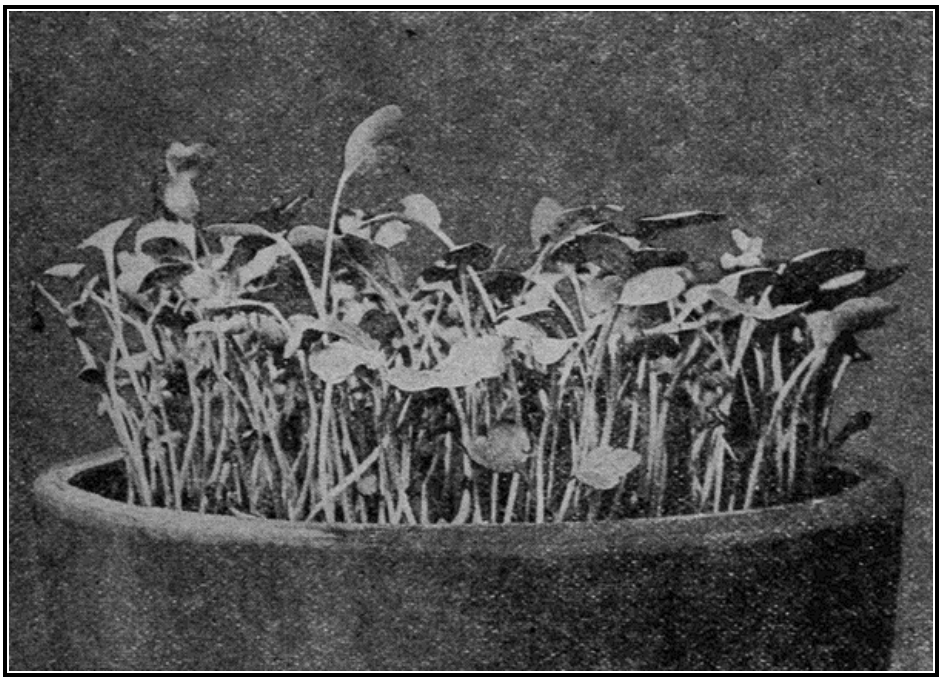
"Oh, I think so. They only need a little more coaxing. Suppose we see just what is going on. You planted a few extra radish seeds, Davy. We will do as little folks often do—dig up one and see

what has happened."

So the Chief Gardener dug down with his pocket-knife and lifted a bit of the dirt, which he looked at carefully. Then he held it to the light and let the children look. Sticking to the earth there was a seed, but it was no longer the tiny brown thing which Davy had planted. It was so large that Davy at first thought it was one of his pease, and on one side of it there was an edge of green.

"It's all right, Davy boy. They'll be up in a day or two," laughed the Chief Gardener. "Now, we'll try a pansy."

"Oh, yes, try a pansy! try a pansy!" danced little Prue, who was as happy as Davy over the sprouting of the radish. [35]



THE POT OF RADISHES

So the Chief Gardener dug down into the pansy-pot, but just at first could not find a pansy seed, they were so small. Then he did find one, and coming out of it were two tiny pale-green leaves, and a thread of white rootlet that had started downward.

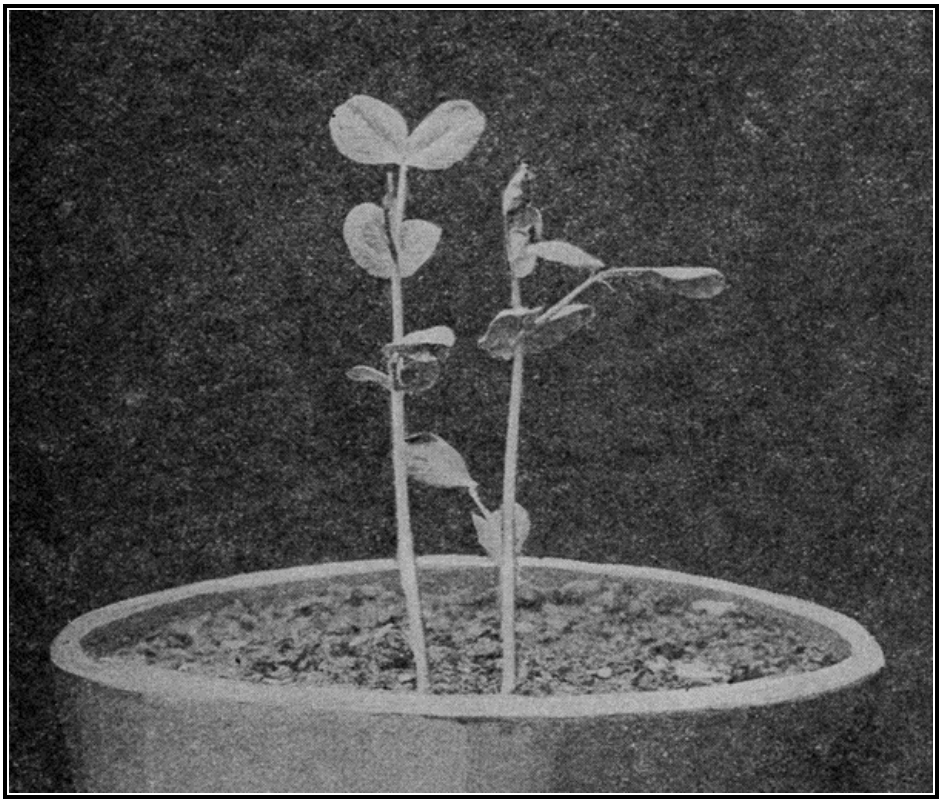
Prue clapped her hands and wanted the Chief Gardener to dig in all the pots, but he told them that it would not be good gardening to do that, and that they must be patient now, and wait. So then another anxious week went by. And all at once, one morning very early, Prue and Davy came shouting up the stairs to where the Chief Gardener was shaving. [36]

"They're up! They're up!"

"My pansies!"

"And my radishes! They've lifted up a piece of dirt over every seed, and there's one little green point in the corn-pot, too!"

The Chief Gardener had to leave his shaving to see. Sure enough! Davy's radishes and Prue's pansies were beginning to show, and one tender shoot of Davy's corn. And in less than another week Davy's lettuce and pease and beans were breaking the ground above each seed, while Prue's garden was coming too, all but the sweet-pease, which, because of their hard shell, sprouted more slowly, even though they had been soaked in warm water before planting. But in another week they began to show, too, and everything else was quite above ground. [37]



THE PEASE TWO WEEKS OLD

Then the Chief Gardener dug up one each of the extra seeds, root and all, and showed them just how they had sprouted and started to grow. He showed them how the shell or husk of the seed still clung to the two first leaves of some of the morning-glory and radish plants, how when the little plant had awakened from its long nap, it had stretched, just as a little boy would stretch, [38] getting up out of bed, and how, being hungry, it had made its breakfast on a part of the tender kernel packed about it in the seed, and then pushed its leaves up for light and air. He also showed them how the grain of corn and the pea stayed below the ground to feed the little shoots that pushed up and the sprangled roots that were starting down to hunt for richness. But they all laughed at the beans, for the beans left only the husk below and pushed the rich kernel up into the air—coming up topsy-turvy, Davy said, while Prue thought the leaves must be very greedy to take the kernel all away from the roots, instead of leaving it where both could have a share.

And now another week passed, and other tiny leaves began to show on most of the plants. These were different shaped from the first oval or heart-shaped seed-leaves—real, natural leaves, Prue said, such as they would have when they were grown. Only the corn did not change, but just [39] unfolded and grew larger.

And so in every pot there were tender green promises of fruit and flower. The little garden was really a garden at last.

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FEBRUARY

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FEBRUARY

I

LITTLE PLANTS WON'T STAND MUCH HANDLING

YET the little garden seemed to grow slowly. The sun in February was getting farther to the north, and came earlier and stayed later than it had in January, and was brighter, too. But for all that, to Davy and Prue, each new leaf came quite slowly—just a tiny point or bud at first, then a little green heart or oval or crinkly oblong with a wee stem of its own. It was very hard to see each morning, just what had grown since the morning before.

Of course they did grow—little by little, and inch by inch—just as children grow, and a good deal faster, for when they measured their bean and morning-glory vines, they found one morning [44] that they had grown at least a half an inch since the day before, and that would be a good deal for a little boy or girl to grow in one day.

But Davy perhaps remembered the story of "Jack and the Beanstalk" and how Jack's bean had grown to the sky in a very short time; and, of course, remembering a story like that is apt to make anybody impatient with a bean that grows only half an inch a day.

"I think it would be a good plan," he said one morning, "to tie a rubber band to the top of each of my bean vines, and then fasten the other end higher up the window to help pull the vines along."

And little Prue said:

"I pulled my morning-glories along yesterday a little, with my fingers. I know they grew a tiny speck then, but they don't look quite so nice this morning."

The Chief Gardener came over to see what was going on.

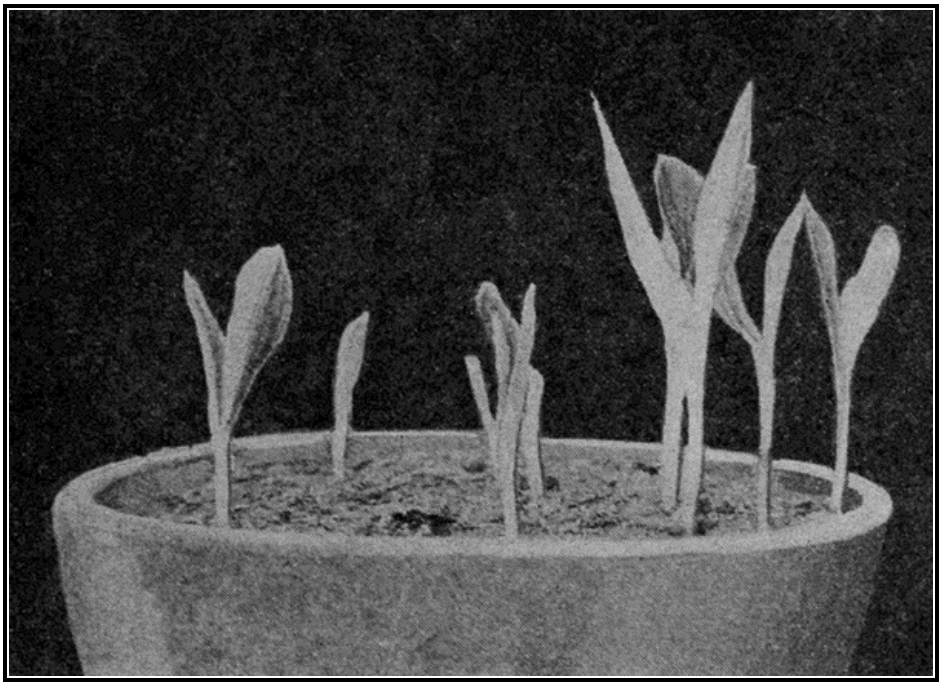
"I don't think we'd better try any new plans," he said. "I'm afraid if we pull our plants to make [45] them grow, we will have to pull them up altogether, pretty soon, and plant new ones. Tender little plants won't stand much handling."

The Chief Gardener was not cross, but his voice was quite solemn. Little Prue looked frightened and her lip quivered the least bit.

"Oh, will my morning-glories die now?" she asked; "and I pulled the pansies just a tiny speck, too. Will they die?"

"Not this time, I think; but I wouldn't do it again. Just give them a little water now and then, and dig in the pots a little, and turn them around sometimes so that each side of the plant gets the light, and nature will do the rest. Of course you can't turn the bean and morning-glory pots after they get to climbing the strings, but they will twine round and round and so turn themselves. Your garden looks very well for the time of year. Perhaps if you did not watch it so much it would grow faster. They say that a watched pot never boils, so perhaps a watched plant [46] does not grow well. I am sure they do not like to be stretched up to a measuring-stick every morning at eight o'clock. Suppose now we put up the strings for the morning-glories and beans to climb on, and some nice branchy twigs for the pease, then water them well and leave them for a few days and see what happens."

So then the Chief Gardener and the two little gardeners went down in the basement, where they found some tiny screw-hooks and some string, and where they cut some nice sprangly little limbs from the Christmas tree that still stood in one corner, and was getting very dry. Then they all came up again and put up strings for the scarlet runners and morning-glories, by tying one end of each string to a stout little stick which the Chief Gardener pushed carefully into the soil between the plants, and then carried the string to the small screw-hooks, which were put about half-way up, and at the top of the window-casings. The branchy twigs were stuck carefully into [47] the pots where the pease grew, and stood up straight and fine—like little ladders, Prue said—for the pease to climb.



THE CORN AT THE END OF TWO WEEKS

"It's just like a circus," said Davy. "The beans and morning-glories will be climbing ropes, and the pease will be running up straight ladders."

"And while we are waiting for the performance to begin," added the Chief Gardener, "suppose you let me tell you something about the performers—where they came from, and some stories that are told of them." [48]

II

HEY FOR THE MERRY LITTLE SWEET-PEA

THE Chief Gardener went into the next room, which was the library, and drew a cozy little settee up before the bright hickory fire. It was just wide enough for three, and when he sat down, Davy and Little Prue promptly hopped up, one on each side. In a low rocker near the window Big Prue was doing something with silks and needles and a very bright pair of scissors. The Chief Gardener stirred the fire and looked into it. Then he said:

"Speaking of pease, I wonder if you ever heard this little song about

'THE TWO PEAS

'Oh, a little sweet-pea in the garden grew—
  Hey, for the merry little sweet-pea!
And a garden-pea, it grew there, too— [49]
  Hi, for the happy little eat-pea!
    In all kinds of weather
    They grew there together—
  Ho, for the pease in the garden!
Hey, for the sweet-pea! Hi, for the eat-pea!
    Hey, he, hi, ho, hum!

'Oh, the sweet-pea bloomed and the eat-pea bore—
  Hey, for the merry little sweet-pea!
And they both were sent to a poor man's door—
  Hi, for the happy little eat-pea!
    In all kinds of weather
    They came there together!
  Ho, for the pease from the garden!
Hey, for the sweet-pea! Hi, for the eat-pea!
    Hey, he, hi, ho, hum!

'Now, the poor man's poor little girl lay ill—
  What a chance for a merry little sweet-pea!
And there wasn't a cent in the poor man's till—
  Good-by to the jolly little eat-pea!
    In all kinds of weather
    They brought joy together
  When they came from the happy little garden!
Hey, for the sweet-pea! Hi, for the eat-pea!
    Hey, he, hi, ho, hum!'"

"Was there really ever a poor man and a little sick girl who had pease sent to them?" asked little Prue, as the Chief Gardener finished. [50]

"Oh, I am sure there must have been! A great many of them."

"But the ones you sung about. Those really same ones—did they ever really live, or did you make it up about them?"

"I don't think my pease would be quite enough for a poor man who didn't have a cent of money," said Davy, after thinking about it.

"But my sweet-pease will be enough, only I want to know if there is really such a little girl, so I can send them. Is there, Papa?"

"Well, I am sure we can find such a little girl, if we try. And I know she'd be glad for some sweet-pease. And now here's a little story that I really didn't make up, but read a long time ago.

"Once upon a time there were two friars—"

"What are friars?" asked Prue. "Do they fry things?"

"Well, not exactly, though one of these did do some stewing, and the other, too, perhaps, [51] though in a different way. A friar is a kind of priest, and these two had done something which the abbot, who is the head priest, did not like, so he punished them."

"What did they do?" asked Prue, who liked to know just what people could be punished for.

"I don't remember now. It's so long—"

"What do you *s'pose* it was?"

"Well, I really can't s'pose, but it may have been because they forgot their prayers. Abbots don't like friars to forget their prayers—"

"If I should forget my prayers, I'd say 'em twice to make up."

"Oh, Prue!" said Davy, "*do* let Papa go on with the story!"

"But I would. I'd say 'em sixty times!"

"Yes," said the Chief Gardener, "friars have to do that, too, I believe; but these had to do something different. They had to wear pease in their shoes."

"Had to wear pease! In their shoes!"

"Yes, pease, like those we planted, and they had to walk quite a long ways, and, of course, it [52] wouldn't be pleasant to walk with those little hard things under your feet.

"Well, they started, and one of them went limping and stewing along, and making an awful fuss, because his feet hurt him so, but when he looked at the other he saw that instead of hobbling and groaning as he was, he was walking along, as lively as could be, and seemed to be enjoying the fine morning, and was actually whistling.

"'Oh, dear!' said the one who was limping, 'how is it you can walk along so spry, and feel so happy, with those dreadful pease in your shoes?'

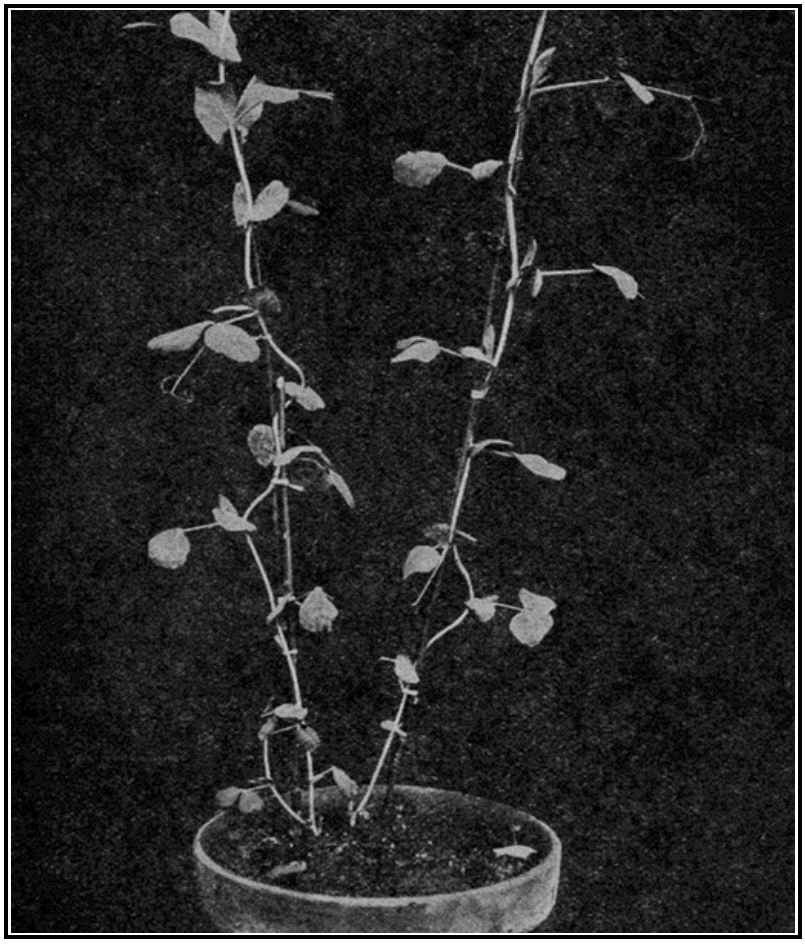
"'Why,' said the other, 'before I started, I took the liberty to *boil my* pease!'"

"But, Papa," began little Prue, "I don't see—"

"I do," said Davy, "it made them soft, so they didn't hurt."

"What kind of pease were they?" asked Prue. "Like Davy's or mine?"

[53]



THE PEASE RUN UP STRAIGHT LADDERS

"Well, I've never heard just what kind they were. There are a good many kinds of pease, and they seem to have come from a good many places. Besides the sweet-pease and garden-pease, [54] there are field-pease, used dry for cattle, and in England there is what is called a sea-pea, because it was first found growing on the shore of a place called Sussex, more than three hundred and fifty years ago, in a year of famine. There were many, many of them and they were in a place where even grass had not grown before that time. The people thought they must have been cast up by some shipwrecked vessel, and they gathered them for food, and so kept from going hungry and starving to death. The garden-pea is almost the finest of vegetables, and there are many kinds—some large, some small, some very sweet, some that grow on tall vines and have to have stakes, and some that grow very short without stakes, and are called dwarfs. There are a good many kinds of sweet-pease, too, different sizes and colors, but I think all the different kinds of garden-pease and sweet-pease might have come from one kind of each, a very, very long time ago, and that takes me to another story which I will have to put off until next time. I have some [55] books now to look over, and you and Davy, Prue, can go for a run in the fresh air."

III

EVEN CLOVER BELONGS TO THE PULSE FAMILY

It was on the same evening that Prue and Davy asked for the other story. And of course the Chief Gardener had to tell it, for he had promised, and little Prue, especially, didn't like to put off anything that had been promised. So this is the story that the Chief Gardener told:

"The Pulse family is a very large one. I don't know just where the first old great-grandfather Pulse ever did come from, but it is thought to be some place in Asia, a great country of the far East. It may be that the first Pulse lived in the Garden of Eden, though whether as a tree or a vine or a shrub, or only as a little plant, we can't tell now."

"I think it's going to be a fairy story," said Prue, settling down to listen. "Is it, Papa? A real, true [56] fairy story?"

"Well, perhaps it is a sort of a fairy story, and I'll try to tell it just as truly as I can. Anyway, the story goes, that a long time after the Garden of Eden was ruined and the Pulse family started west, there were two cousins, and these two cousins were vines, though whether they were always vines, or only got to be vines so they could travel faster, I do not know. Some of their relations were trees then, and are now; the locust tree out in the corner of the yard is one of them."

Davy looked up, and was about to ask a question. The Chief Gardener went on.

"The cousins I am talking about, being vines, traveled quite fast in the summer-time, but when it came winter, they lay down for a long nap, and only when spring came they roused up and

[57]

traveled on. One of them was a very fine fellow, with gay flowers that had a sweet smell, and people loved him for his beauty and fragrance. The other brought only greenish-white flowers, not very showy, but some thought him far more useful than his pretty cousin, for he gave the people food as he passed along.

"So they journeyed on, down by the way of the Black Sea, which you will know about when you are a little older, and still farther west until at last the pretty Pulse cousin and the plain but useful Pulse cousin had spread their families all over Europe, and were called P's, perhaps because the first letter of their family name began with P. Then by and by it was spelled p-e-a, and they were called garden-pease and sweet-pease, and were planted everywhere, one for the lovely flowers, and the other for food. Now we have them side by side in your windows, just as they were when they first started on their travels, so very, very long ago."

"Did they really travel as you have told?" asked Davy, looking into the fire.

"Well, I have never been able to find any printed history of their travels, so it may have been something like that." [58]

"They did, didn't they, Papa?" insisted little Prue, who always wanted to believe every word of every fairy story. "They went hand in hand, just as Davy and I do when we go walking, didn't they?"

"And Davy is the garden-pea and you the sweet-pea, is that it? Well, they did come a long way—that is true—and they do belong to a very large family. Why, even the clover belongs to the Pulse family, and the peanut, and the locust, and the laburnum, and there is one distant branch of the family that is so modest and sensitive that at the least touch its members shrink and hide, and these are called sensitive plants."

"Aren't beans of the Pulse family, too?" asked Davy.

"Why do you think so?" asked the Chief Gardener.

"Well, I remember that the flowers are something alike, and then they both have pods." [59]

A MEMBER OF THE PULSE FAMILY

"And you are right, Davy. Both the flowers are what is called butterfly-shaped, and pods of that kind are called legumes. Whenever you see a flower of that shape, or a pod of that kind, no matter how small or how large, or whether they grow on a plant or a tree or a shrub, you will know you have found one of the Pulse family and a relative of the pea. Your scarlet runners are about second cousins, I should think, and I have something to tell about them, too, but it is too late this evening." [60]

IV

BEANS AND MORNING-GLORIES TWINE TO THE RIGHT

"My morning-glories are climbing! My morning-glories are climbing up the strings!"

"And so are my scarlet runners! Two of them have gone twice around already, and one of them three times! But oh, Papa, something has broken one of my stalks of corn, right off close to the ground!"

It was two days after the strings had been put up, and Prue and Davy had tried very hard not to

look at their garden during all that time. Then they just had to look, and found that the beans and morning-glories were really starting up the strings. But what could have happened to Davy's corn!

The Chief Gardener hurried down to see. Then with an old knife he dug down into the pot a little, and up came, what do you suppose? Why, a white, fat ugly worm—a cut-worm, the Chief Gardener called him. [61]

"They are a great enemy to young corn," he said, "especially in cool weather. Sometimes almost whole fields have to be replanted. Blackbirds will kill them, but many times the farmer thinks the blackbird is pulling up his corn, and drives him away with a gun, when the blackbird is only trying to help the farmer."

"Do you suppose there are any more?" asked Davy anxiously.

The Chief Gardener dug carefully around the other stalk, until the white roots began to show.

"No, I think your other stalk is safe," he said, "at least from cut-worms."

Grown-up Prue came to see the gardens. Yes, the vines were really making a nice start, as well as the other things. One of Davy's pease had sent out some tiny tendrils that were reaching toward the slender twig-branches, but thoughtful Davy was looking first at his beans, then at Prue's morning-glories. [62]

"They all go around the strings just alike," he said at last; "all the same way. Why don't some go the other way?"

"You ask such hard questions, Davy," the Chief Gardener answered. "I have never known anybody to tell why all the beans and morning-glories twine to the right, any more than why all the honeysuckles twine to the left." The Chief Gardener turned to the little woman beside him. "There must be some reason, of course; some law of harmony and attraction. I suppose it would be quite simple to us if we knew. Why, where did Davy go?"

Davy came in, just then, with his hat and coat on.

"I'm going to look at the honeysuckles," he said, "those out on the porch."

The others put on wraps, too, and went with him. It was crisp and bright out there, and dry leaves still clinging to the vines whispered and gossiped together in the wintry breeze. [63]

"They do!" said Davy, "they every one turn the other way—every single one! How do you suppose they can tell which way to start—which is right, and which is left?"

The Chief Gardener shook his head.

"Perhaps a story might explain it," he said. "Stories have to explain a good many things until we find better ways."

So then they went inside to see if a story would really tell why the morning-glory and scarlet runner always twined to the right, and why the honeysuckle always twined to the left. And this was the Chief Gardener's story:

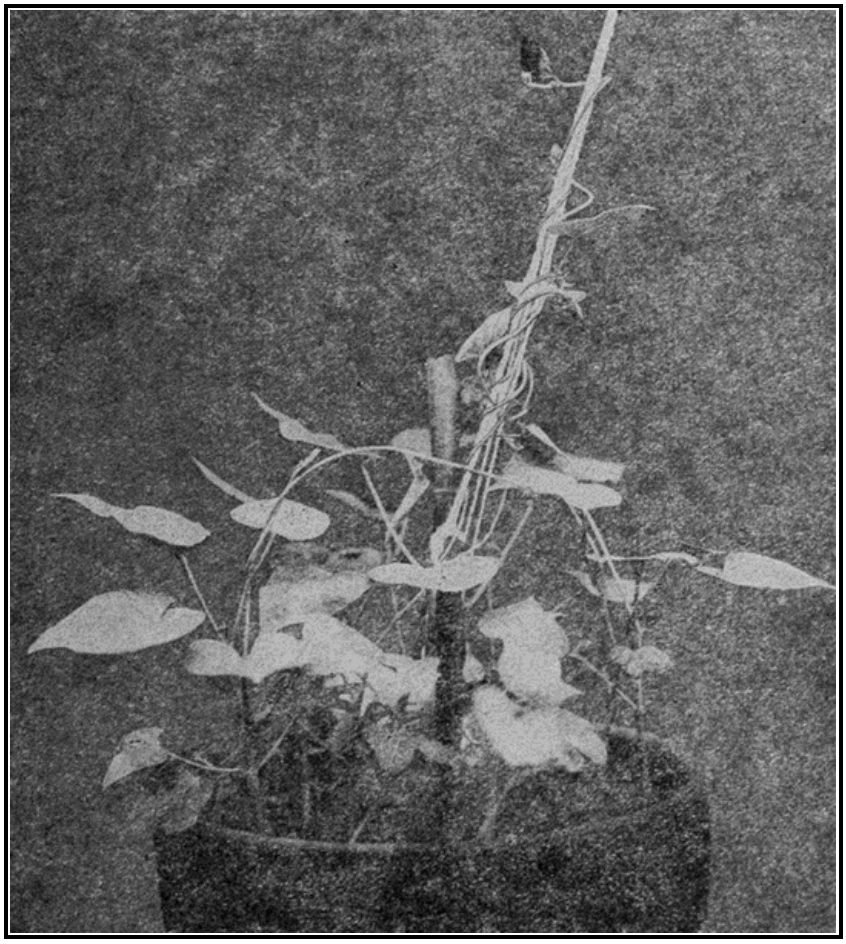
V

THE HONEYSUCKLE TWINES ALWAYS TO THE LEFT

"AWAY back in the days that came after Eden, the time I told you of, when the garden was given up to weeds and the plants went wandering out through the world, a certain morning-glory and climbing-bean were good friends, and were often found together—twining up the same little tree or trellis, and very happy. Of course they were not called morning-glory and bean then, and the honeysuckle that grew near was not called honeysuckle either, though it had just the same sweet flowers, and the humming-birds came to suckle honey from them, just as they do now, in summer-time. I don't know what the old names were. It has been so long since then, I suppose they are all forgotten. [64]

"Now the honeysuckle was very proud of its sweet flowers, that scented all the air around and drew the beautiful humming-birds, while the morning-glory and bean had only very pale little flowers that the humming-birds did not care for at all.

"And the honeysuckle used to laugh at them, and tell them how plain and useless they were. How they lived only a little while in summer, and withered when the frost came, while it only shed its leaves, and stood strong and sturdy against the wind and cold of winter, ready to grow larger and more useful each spring. And this, of course, made the two friends feel very sorry, and wish they could be beautiful and useful, too. [65] [66]



THE MORNING-GLORY TWINES TO THE RIGHT

"Now, one day in early spring, the sun, who makes the plants grow and gives the colors to the flowers, heard the honeysuckle, which was putting out green leaves on its strong vines, laughing at the bean and morning-glory, that were just peeping from the earth.

"And the sun said, 'This is too bad. It is not fair for one who has so much to make fun of those who have so little. I must give them more.'

"So, lo and behold, when the morning-glory vine began to bloom, instead of having pale little flowers, they were a beautiful white and blue and purple and rose color, and when the bean blossomed, it had a fine scarlet flower, and both were more beautiful than the honeysuckle, though the honeysuckle still had its sweet perfume, and its honey for the humming-birds."

"But what about the twining?" asked Davy. "That is what you started to tell."

"Why, yes, of course. I forgot that. Well, when the sun came to look at them he said, first to the [67] honeysuckle, 'Because you have been so proud, you must follow me,' and to the bean and morning-glory, 'Because you have been meek, you shall turn always to meet me,' and since that day, the honeysuckle has turned always to the left, following the sun, while the bean and the morning-glory have twined always to the right, to meet it on every turn."

The Chief Gardener paused, seeing that Davy was making circles in the air with his finger—first circles to the right, then more circles to the left. Then the circles got slower and slower, showing that he was thinking very hard.

"That's right," he said at last. "If they turned to the right, they would meet the sun every time around, and if they turned to the left they would be following it."

The Chief Gardener was glad he had told his story right.

"And then, by and by," he said, "I suppose people must have given them their names—the [68] honeysuckle's because of the humming-birds that came to suckle the flowers, and the morning-glory's because it made each morning bright with its beautiful flowers, while the bean they called the scarlet runner, and when they found that its pods held good food, they planted it both for its flowers and its usefulness, and valued it very highly, indeed. Just where all this happened I do not know. The honeysuckle and morning-glory now grow wild, both in Europe and the United States, and the scarlet runner is said to have been found wild in these countries, too, though I have never seen it except in gardens."

"Papa," asked little Prue, "haven't my morning-glories any useful relations, like my sweet-pease?"

"Why, yes, of course, let me see. The sweet potato belongs to that family. It is really about a first cousin, and useful drugs are made from the juice and root of a wild morning-glory. There are [69] hardly any families that do not have both useful and ornamental members, and most of them, I am sorry to say, have troublesome ones, too, which we call weeds. But I must run away now, and

all that will have to wait until another time."

[70]
[71]

MARCH

[72]
[73]

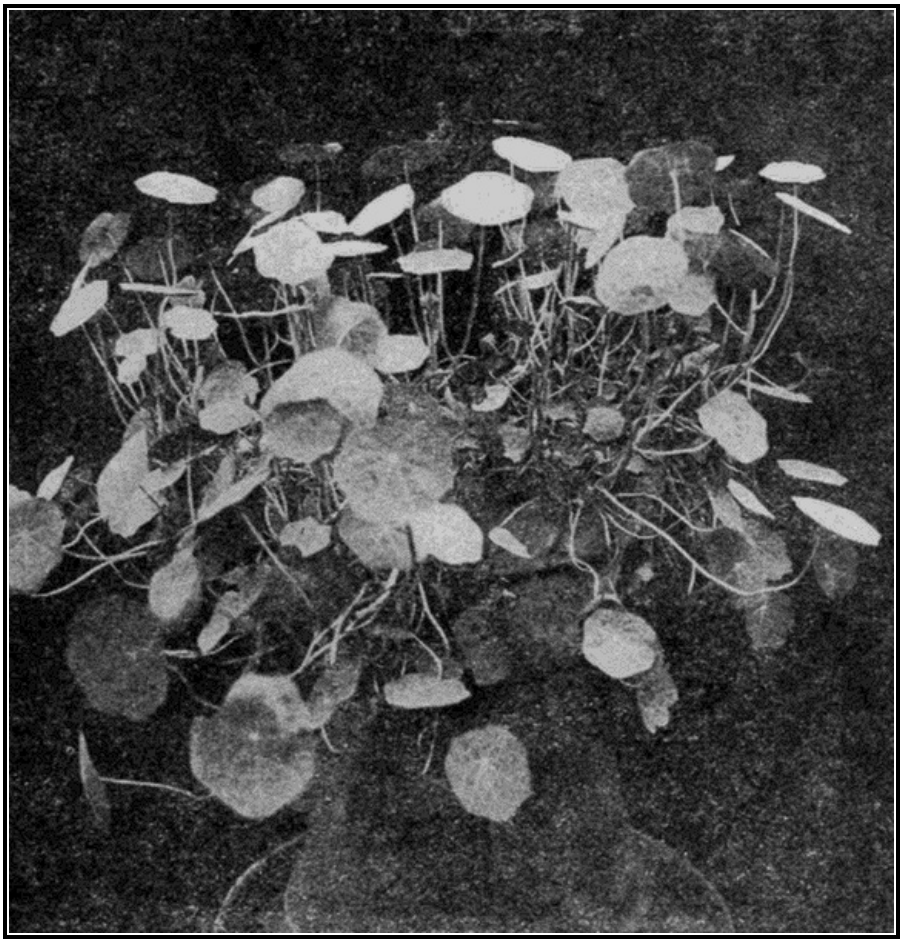
MARCH

I

STILL, IT WAS REALLY A RADISH

AND so the month of February passed. Once the vines had started up the strings, they seemed to grow faster—almost as if they were running races, while the pease reached out and clung to the little twigs, and stood up straight and trim, like soldiers. The pansies and nasturtiums, too, and the lettuce and radishes all sent out more and more leaves, and began to hide the little pods. Davy was wild to pull up just one radish to see if it wasn't big enough to eat, but on the first day of March, when the Chief Gardener told him that he might do so, he was grieved to find only a pale little root, just a bit larger and a trifle pinker at the top, instead of the [74] fat, round vegetable he had expected.

Still, it was really a radish, Davy said, and he cut the thickest part in two and gave half to little Prue, who brought out her little dishes and set her table that Santa Claus left under the Christmas Tree. Then she put her piece on one little plate, and Davy's piece on another, and picked one tiny pansy leaf and one from the nasturtiums to make bouquets. And Davy picked a lettuce leaf—a very small lettuce leaf—for a salad, so that when their little table was all spread and ready, with some very small slices of bread, and some cookies—some quite large cookies—and some animal crackers, with milk for tea, it really looked quite fresh and pretty and made you hungry just to look at it.



THE NASTURTIUMS BEGAN TO HIDE THE LITTLE POT

And, oh, yes, I forgot to say that there was some salt, the least little bit, in two of the tiniest salt dishes, and when they sat down at last to the very first meal out of their garden, all on the first day of March, when no other gardens around about had been planted yet, they dipped the tiny [75]

bits of radish into the tiny salt dishes, and nibbled it, just a wee bit at a time to make it last, and last, ever so long. And they said it tasted real radishy, and that the lettuce leaf, with one drop of vinegar and a speck of salt, was just fine. And little Prue held her doll and made her taste, too, [76] and then the Chief Gardener and grown-up Prue must each have a tiny, tiny bite.

And so, of course, Davy got to be really quite proud of his first radish, and said that after all it wasn't so bad for the first one, and that it was almost as big as a slate-pencil, in the thickest part. Pretty soon they might have a radish that would be big enough for each one to have quite a piece, and they would serve it on a whole leaf of salad. He felt sure that on his birthday, which would be on the tenth, they might really have something very nice.

Then Prue was very quiet for a minute, thinking. By and by she asked:

"And do you think I will have flowers for Davy's birthday? Davy can just pick his lettuce and radishes any time. My 'sturtiums and pansies are as big as his things, but I have to wait for them to bloom."

"Why, that's so, Prue." The Chief Gardener went over to her pansies and looked at them very [77] closely, but if he saw anything he did not speak of it. "Oh, well," he said, "if you don't have flowers for Davy's birthday, maybe you will for mine. It comes in March, too, you know. And then it's ten days yet till Davy's, and you never can tell what will happen in ten days."

Alas, this was too true. It got quite warm during the second week of March, and the fire in the furnace was allowed to get low. Then one night it suddenly turned cold—as cold as January.

"Oh, what makes some of my pea leaves look so dark?" asked Davy, as they stopped in the icy sitting-room for a moment, before hurrying through to the warm dining-room, where a big open fire was blazing.

The Chief Gardener shook his head, rather solemnly.

"I'm afraid they are bitten a little by Jack Frost," he said.

"Oh, mine are all dark, too," whispered Prue, sorrowfully. "I am going to take them right out to [78] the dining-room fire, and warm them."

"And that would be the very worst thing you could do," said the Chief Gardener. "Let them stay right where they are, and we will heat the room slowly by opening the register just the least bit at a time, and draw the shades to keep out the sun. Perhaps if we do that the frost will come out so gently that the plants will not be killed. If you should warm them quickly they would be very apt to die, or at least to be badly injured."

So they did as the Chief Gardener said, and kept the sitting-room quite cool all day. Then by another day the pease and all the others looked about as well as ever, only a few of the tenderest leaves withered up and dropped off because Jack Frost had breathed harder on these than on the others. As for the radishes and lettuce and pansies, they hadn't minded it the least bit, for they [79] can stand a good deal of cold, and the corn and sunflower and nasturtiums didn't lose any leaves, so, perhaps, they didn't care for a touch of frost either.

II

THE SUN SWINGS LIKE A GREAT PENDULUM

And now with each day there was brighter sunshine that came earlier and stayed longer. From a high east window they saw the sun rise each morning, when it was bright weather, and when they happened to be awake in time, and they saw how the big red ball crept farther and farther to the north, along the far fringe of trees, beyond all the houses which they could see.

"It rose away down beyond that little white house on Christmas morning," said Davy, who was always up early. "I remember very well. Now it's got past the tall pine by the red barn. How much farther will it go?"

The Chief Gardener pointed to a dim pencil-mark on the window-sill. [80]

"That was the angle of the shadow," he said, "on the twenty-first of June, and points to just where the sun will rise on the longest day of the year. You will have to be up very early to see it on that day." He pointed to another faint line. "That," he said, "was the angle on the twenty-first of December, the shortest day. The sun swings like a great pendulum from one point to the other and gives us winter and summer, and all the seasons between. Half-way between these marks is due east, and there the sun will rise on the twenty-first of March, which is the first day of spring."

"Do you think our garden things are looking at it, and wishing it would hurry and get farther toward the June mark," said little Prue.

"I think they are," the Chief Gardener answered. "They don't have eyes, as we have, but they have a way of seeing the sun, and of knowing just where it is, for most of them turn toward it as [81] they grow, and some of them follow it all the way across the sky, from morning until night, and then turn back and wait for it to rise again. Your sunflower would do that, Prue, if it were out under the open sky."

THE VERY SMALL LETTUCE LEAVES

"Oh, it does now. I mean it looks toward the sun in the morning, with its top leaves, and keeps them turned toward it as far as it can."

"So you have noticed that, have you? Well, I'm glad, for I have read in books—books written by very wise men—that the sunflower did not really do this, but that it was just an old fable. I think [82] those wise men, perhaps, never saw the wild western sunflowers, but only the big tame ones that have heavy, coarse stems and are so big and clumsy and fat that they couldn't well turn, even if they wanted to. I have seen whole fields of wild sunflowers—little ones like yours, and long before they were in bloom—with every stem bent toward the sunrise, when there was not a breath of wind blowing; and I have seen the same flowers straighten their little stems as the sun rose higher, and then bend them again to the west in the evening; and the little bend would be so tight and firm that you could hardly straighten the stalk without breaking it. Very wise men make mistakes sometimes, mistakes that even a little girl would not make, just because they have not happened to see something which a little girl with sharp eyes has seen and thought about. It is a wonderful and beautiful sight on the prairies of the West to see miles of wild sunflowers in full bloom. They are like a great sea of gold, and in the early morning, when the air is still, every [83] bloom is faced toward the sunrise, as bright and fresh and faithful as the sun itself."

"I should think there would be a story about the sunflower," said Davy, half speaking to himself.

"Oh, there have been many stories about it, Davy. After breakfast I will try and remember the one I like best."

So then they hurried down to the dining-room, pausing just long enough to see that the garden was all safe, and to notice that the upper leaves of Prue's sunflower were really faced so far to the sun that there was a sharp little crook in the stem, then out to the big dining-room fire, for the fragrant breakfast that was waiting, and back to the library fire for the story that was to be told.

[84]

III

LONG BEFORE THERE WERE ANY RAILROADS AND CITIES

"Once upon a time—"

"Oh," said Prue, "once upon a time—I just love 'once upon a time.'"

"Yes," nodded Davy, solemnly, "and once upon a time there was a little girl who couldn't keep still so that her Papa could tell a story."

Prue snuggled down, and the Chief Gardener began all over.

"Once upon a time, long before there were any railroads, and cities such as ours, long before Columbus ever sailed over the ocean to a new world—when all this great wide country, as you know, was held by Indians, who hunted and fished, and made war sometimes, when they had disputes—there lived away in the far West two very friendly tribes. Their lands joined and they hunted together, and when one tribe was at war the other joined in and helped to fight the [85] enemy. So they became almost as one tribe and their children grew up together.

"Now, in one tribe there was a little Indian boy, a chief's son, who was very fond of a little Indian girl of the other tribe. Their mothers had always been great friends, and often for a whole day at a time the little Indian boy and girl played together, and as they grew up they cared for each other more and more, and the Indian boy, Ahlogah, said that when he was older and a chief he would make the little Indian girl, Laida, his wife.

"But it happened that in Laida's tribe there was also a chief's son, a jealous-hearted and cruel boy that Laida did not like. But this boy cared for Laida, and like Ahlogah made up his mind that some day she should be his wife.

"So they all grew up, and Ahlogah and Laida loved each other more dearly every day, and Kapoka, the other youth, grew more jealous and more cruel-hearted. And when one day his father [86]

died, and he became chief of his tribe, he said that if she did not give up Ahlogah, he would make war on Ahlogah's tribe.

"So then Ahlogah and Laida met one evening just before sunset to say good-by for the last time. Their tribes had never been at war, and they were willing to part forever to keep Kapoka from making a war now. Laida had not promised to marry Kapoka, she had only promised not to see Ahlogah again. And now they parted, just as the sun was going down, and they both turned to see it for the last time side by side. And then Ahlogah said:

"'To-morrow just at sunrise go to the high rocks above the river and look to the east. And where the river passes through our lands, I will go also to see some high rocks, and I will look to the east, too, when the sun rises, and I will know that though we are apart, we are watching the sun rise together, and it will be always our message of love to each other as it travels across the sky.'

"So Laida went back to her tribe and Ahlogah to his, and every morning they watched from [87] their high rocks above the river, and held out their arms to the rising sun, as a message it should bear between them.

"And Kapoka found out that Laida went every morning to the high rocks, and held out her arms to the sun. And he found that Ahlogah also went every morning to the high rocks farther up the river. Then Kapoka knew that Laida would never be his wife as long as Ahlogah was alive. And one morning very early Kapoka left his wigwam and crept across to the lands of the other tribes, and to the high rocks where Ahlogah stood waiting for the sunrise. And just as the sun rose, and Kapoka knew that Ahlogah would not hear him, he slipped up behind Ahlogah, and gave him a great push that sent him over into the swift river, hundreds of feet below.

"And the swift river caught him and tossed him and whirled him about, and finally carried him [88] down past the high rocks where Laida was sending her message to the sun. And Laida looked down and saw him coming. She saw his chieftain's dress and plumes tossed and whirled by the water. She knew it was Ahlogah, and she waited for him. Then, when he just was below the high rocks where she stood, she gave a great cry, 'Ahlogah!' and she was in the whirling, tossing water beside him.

"Then the tribes searched together, and they found Ahlogah and Laida far below, cast up on a place of white pebbles, side by side. And they buried them, side by side, and both the tribes mourned. But when the spring came there grew upon their graves two strange flowers with bright, beautiful faces that turned each morning to the sunrise. And these they named Ahlogah and Laida, but in another year there were more of them, so they called them sunflowers, and after that the land in September, the month when they had died, was like gold with the beautiful flowers of the sun."

"But what became of the wicked Kapoka? What did they do with him?" asked Prue, anxiously. [89]

"They never saw him again. I suppose he was ashamed to come back, and by and by his brother, who was good and noble, ruled the tribe, and they dwelt in peace for many generations."

"Do sunflowers belong to a family now?" asked Davy.

"Oh, yes, to the very largest of all families—a family that spreads all over the world, and the sunflower has been found to be so perfect in form that the family is sometimes called the Sunflower Family. Its true name is the Composite Family, which means flowers with thick, bunchy centers, formed of a lot of very tiny little flowers, with a rim of petals around the whole—rays they are called—making it into one big flower."

"The black-eyed Susans must belong to that family, too," said Davy.

"They do, and the daisy, and the marigold, and the zinnia, and the aster, and your lettuce, too, [90] Davy, and many, many more. Whenever you see a flower with a round bunchy center and a rim of petals, like a sunflower—no matter what color or how small it is—you will know it belongs to the Composite Family. I suppose there are more of this family in America than in any other country, but the sunflower is the finest of them all, and the most generally useful. Its seeds are full of fine oil, and are excellent food for cattle and poultry. The Indians sometimes use them for bread. The flowers themselves are full of honey, the leaves, too, are good for cattle, and the stalks make fine fuel. In many places and many countries the sunflowers are cultivated and valued highly. Of course, there are other useful members, and your lettuce is one of the finest salads in the world."

[91]

IV

DID YOU EVER SEE THE LITTLE MAN IN THE PANSY?

MARCH was really an exciting month in the little window gardens. With longer and brighter suns, everything grew faster, until the windows began to look full and green, and the children often went outside to look in, and were very proud, indeed, of the pretty show of vines and leaves beyond the glass.

The race of vines became very close. Davy had one bean and Prue one morning-glory which kept ahead of the others, and grew about the same each day. They grew so fast that Davy thought if he would only watch very closely he would be able to see them grow a little, but watch as he would, he never could catch the little vine turning or sending out a new leaf. It was like the short hand of the clock. It went twice around each day, but nobody could see it move.

The corn and the sunflower were having a race, too, and the sunflower was a little ahead, [92]

though Davy's corn was a good deal taller when he lifted the points of the leaves.

"I don't think that is fair," said Prue, and the Chief Gardener was called to decide.

"No," he said, "the corn must be measured from where the leaves turn over, until it sends up its tassel, or bloom. Then it may be measured to the top of that. And that may be sooner than you think, too," he added, as he looked down into the healthy-looking green stalk that was fully two feet high. "And just see those vines; why they are more than half-way up the casings already!"

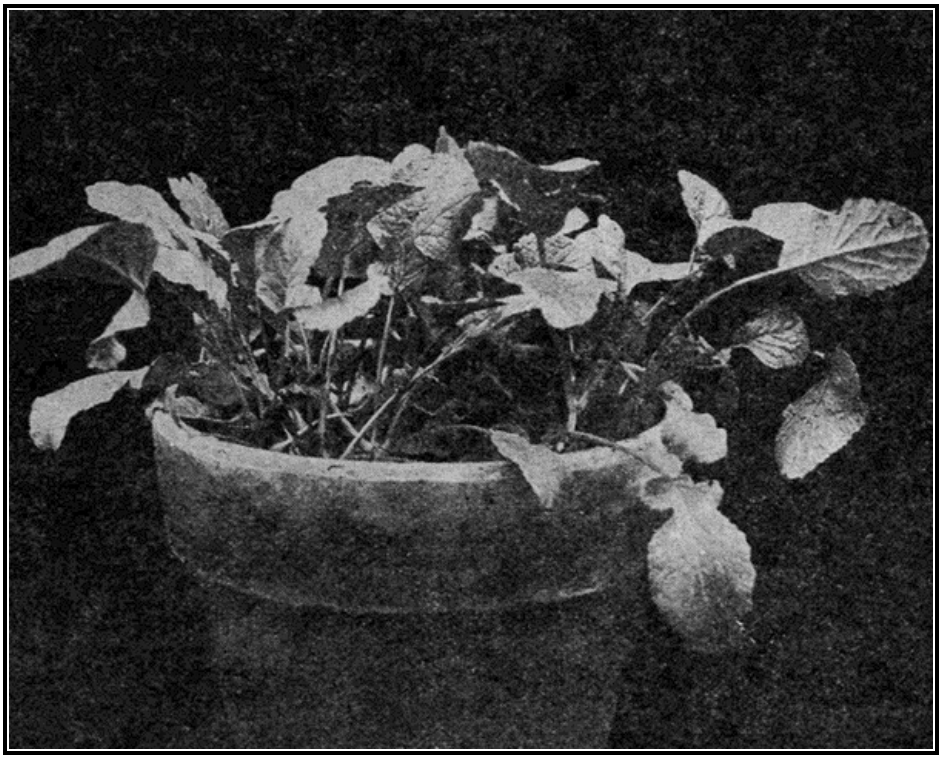
It was the day before Davy's birthday, and Prue was looking anxiously at her pansies. All at once she gave a joyous cry.

"Oh, Papa, a bud! Oh, it truly is, a real sure enough bud!"

The Chief Gardener looked with care.

"Yes," he said, "it is really a bud, and quite a large one, too. It begins to show the color. It's going to be a purple one, I believe." [93]

Prue was fairly wild with excitement.



DAVY'S POT OF RADISHES

"Oh, may I pick it to-morrow for Davy's birthday?" she asked.

"I don't believe I would, Prue. It won't be open for a week or more, perhaps. I would wait until it opens."

So Davy's birthday came and passed without flowers from their garden, but they did have radishes, two of them, and these were cut in two and divided around so that each had quite a nice taste, and a leaf of salad, too. The radishes were nearly as big as marbles, little marbles, of course, and very red and beautiful, and Prue put her pansy-pot on the table, and showed the bud, with its purple tip, every time Davy made any mention of his radishes or his lettuce, and with a big cake and other good things they had a very happy time indeed. [94]

But now things began to happen in real earnest. The pansy bloomed—a big velvety, purple bloom, and then there was a yellow bud and a yellow bloom with a purple spot in the center. Little Prue was simply too happy to keep still, and danced in front of her garden almost from morning until night.

Then suddenly they found a bud on the bean vines, and then on the morning-glories, and then there were blooms—pink and purple blooms on the morning-glories, and scarlet and white ones on the beans. Then Davy's corn sent out a plume at the top, a wonderful tassel, and when Davy measured to the top of it he found that it was over three feet high. [95]

"My birthday will be a regular feast of flowers," said the Chief Gardener, and really there was good reason for saying so, for the window casings were white, scarlet, pink, and purple, and the tasseling corn and the broad green leaves of the sunflower were fair and lovely. And Prue's pansy-pot was again on the table, and when the dinner was over, the Chief Gardener drew it toward him, and picking one of the purple blooms that was nearly ready to fall, said:

"Did you ever see the little man in the pansy?"

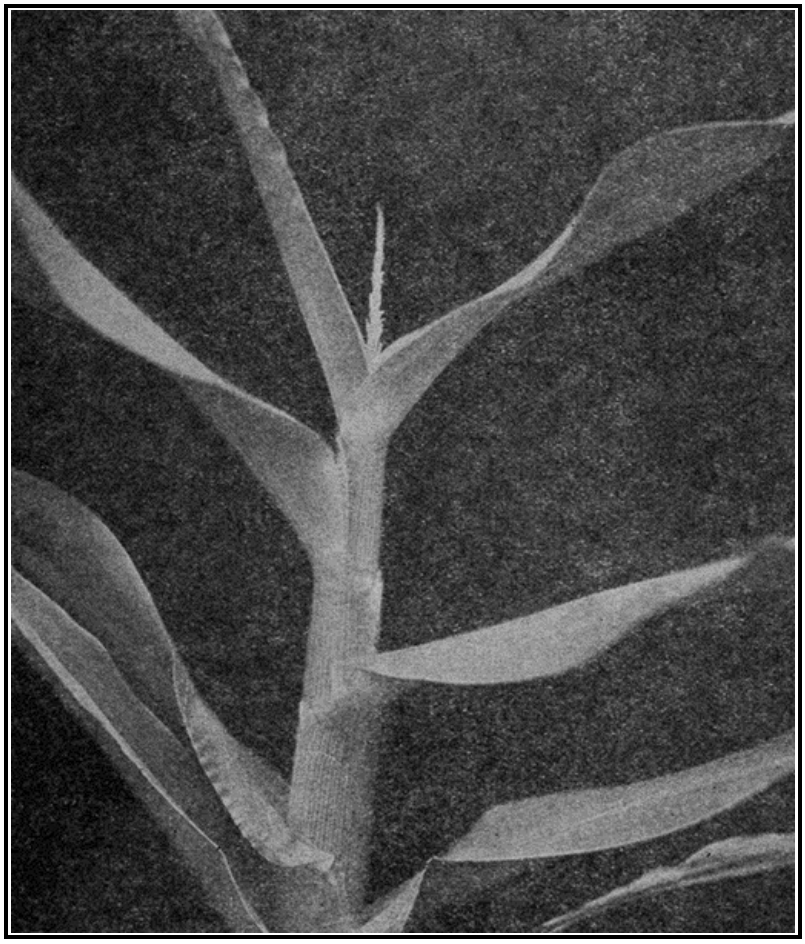
"No, oh, no," said Prue and Davy together. "Show him to us, Papa."

So then the Chief Gardener pulled off carefully all the petals of the flower, and there, sure [96]

enough, sat a little round-bodied man, in a wonderful green chair, made of the outer part, or calyx, of the flower. His head was light green, his coat pale yellow, and he wore a rich, brown collar. Just below him was a round green sack or tube, filled with water, and when the Chief Gardener slitted it down, why there, truly, were two little legs and feet that had been in the little vessel. The children were delighted.

"Oh, tell us about him!" they said. "Who is he?"

"He was a king," said the Chief Gardener, "a poor, feeble king, who always sat on a green throne, with his feet in a tub of water. And his wife and daughters, all very splendidly dressed, used to perch themselves around him on the throne and ask for more money to spend on their fine clothes, and they were often cruel to him because he wouldn't give it to them, crowding him and almost smothering him with their velvet dresses.



"DAVY'S CORN SENT OUT A PLUME AT THE TOP"

"So one day the fairies heard of it, and came to see. And they took pity on the poor king, and [97]
the next time the wife and daughters were crowding him on his throne they changed the king and [98]
his throne and all the others, with their fine dresses, into a flower. And the flower was the pansy. The velvet petals are the wife and daughters. The calyx is the green throne, and this little man is the poor, sick king with his feet and legs still in the little tub of water, though he can never be worried and scolded again."

"I know that story is true," said little Prue, "for there is the very little man, himself, and oh, see, you can take his coat off, and there is a little green body inside."

Sure enough, it was as Prue had said, and the Chief Gardener explained. "That little body becomes a pod to hold the seeds by and by. The little coat helps to make the seed, too. I won't tell you all the names of these things now, for you could not remember so much. Only try to remember that the green throne is called the calyx, and each little piece of it is a sepal, while the beautiful wife and daughters are called petals, and when taken together are called a corolla, and [99]
that this is true of every complete flower."

And so March, too, slipped away. And on one day near the very end of the month, when it had been warm and bright for nearly a week, the Chief Gardener went out into his garden and turned over some of the earth which was getting dry. Davy said that it smelled all new and springy, and reminded him of kite-time. And then the Chief Gardener made two little beds of his own, and in one he sowed some lettuce, and in the other some radish seed, because these were the things most likely to grow from an early planting. Davy and Prue watched and helped, and were very anxious to have little beds of their own, but the Chief Gardener told them that they would better wait at least another month before they did any outside gardening. Their window gardens were just coming to their best time, he said, and planting outside so early was always risky.

And that night when the wind went to the northeast, and a cold rain set in, that turned to snow [100]

before morning, and made the ground all white and glassy like December, they were very glad they had not made any beds, and were sorry for the Chief Gardener's little beds of vegetables, outside beneath the cold, cold snow.

[101]

APRIL

[102]
[103]

APRIL

I

THE YELLOW DUST IS A FOOD FOR THE SEED

APRIL showers began early. The sun shone out brightly on the morning of the first day, but by breakfast time the rain was pattering down, and all the rest of the day there were showers, one after another, that streamed down the garden windows and made a little river of the path outside. Davy said he had never seen it rain so much in one day, and Prue said it was too bad. The Chief Gardener said it was an April fool.

But there was reason to be happy, after all. Whether it was the shower outside; or the sun that was trying to shine; or just because it was April, Prue and Davy did not know, but Prue all at once [104] found a bud on her sunflowers and Davy about the same time discovered a tiny brown silky bunch on his corn, the beginning of the ear.

Then they forgot all about the rain, or at least they did not care so much, and got their books and their little table and sat down by their garden, which was now a real garden, of real flowers and vegetables, and read some stories about other little people, and looked at the pictures and talked about what they would do when warm weather came and they had a still bigger garden outside.

And that night, when the Chief Gardener came home, he had to look at the corn and the sunflower the first thing, and say, "Well, well," every time Prue told him how she had first seen the bud, which was a good many times, and he had to explain to Davy all about the corn silk, and the little ear that was still behind the rough green leaf, and how the dust, or pollen, dropping [105] down from the tassel above helped to make the corn swell and grow on the ear.

"It is so in every flower, the yellow dust is a food for the seed. In most plants the seed-pod and the food-dust or pollen are all in one flower, but with the corn they are separate, as you see. Did you ever notice, Davy, how much a cornstalk looks like an Indian, with plumes, and its ear, like a quiver for holding arrows?"

"Oh, is that why people sometimes call it Indian corn?" asked Davy.

"No, that is not the reason. At least, there is a better one which I will tell you when we have had our dinner."

So by and by, when dinner was over, and Prue had two servings of pudding because she didn't care for chocolate cake—one very little serving, of course, the Chief Gardener and Davy, and big Prue and little Prue all went into the library, and the Chief Gardener told the story of

[106]

II

THE COMING OF THE CORN

"You remember," said the Chief Gardener, "how I told you about the first sunflowers—"

"Yes," put in Prue, "about that wicked Kapoka, who pushed poor Ahlogah from the high rocks. Oh, I hope he is not in the corn story, too."

"No, he isn't in the corn story, but it was, perhaps, about that time that the corn came to the American Indian tribes, for the corn was first found in America, and it is a true Indian plant like the sunflower. Like the sunflower, too, it came once upon a time.

"Well, then, once upon a time, there was a year of famine. The winter had been very cold, and almost all the wild game, upon which the Indians then lived, had either died or gone out of the country. The fish, too, seemed scarce and hard to catch, and the wild fruit had been winter-killed. There was little to eat during the winter, and even when spring came it was not much better, [107] though by and by some of the game came back and there were more fish in the streams.

"Still it was very hard to get enough food, and every bird and animal was killed wherever found, and brought to the camps to be eaten.

"But one day there flew down very close to one of the very large camps a big bird, such as no one of the tribe had ever seen before. It was not a hawk, nor an eagle, for it was a golden yellow, and it seemed to have come a very long way. It sat quite still, and its wings drooped, and it did not seem frightened when the wondering and hungry Indians came nearer to look at it.

"Then one or two Indians began stringing their bows to shoot the great bird for food. But others

said, 'No, let us not harm the stranger. He has come from a far country. And see, the color is golden, like the sun. Perhaps, the sun has sent a messenger, as a good omen.'

"So they did not kill the bird, but even brought it food, little as they had, and the bird ate and [108] rested through the day. Then just at evening he lifted his great wings and flew away into the sunset, and was seen no more.

"But when a week had gone by, there came up where the bird had rested a strange new plant which grew very fast in the warm sun and shower and sent out long graceful leaves, and at last a plume at the top like that of an Indian chief, and from behind the graceful drooping leaves, tufts of silk that became ears, and were like Indian quivers. And when the summer was past, the tribe gathered these ears, and pulled away the husk, and lo, there were the rows of ripened corn, golden like the great bird.

"Then the tribes from far and near were called together, and there was great rejoicing and thanks for this new gift, brought to them by the wonderful bird of the sun. And to each chief was given a few of the grains for planting, so that the next year all the tribes around about were [109] watching and tending the tall green stalks that were to give them abundance of seed against another famine.

"And that is the legend of the corn. After the third year there was seed for all, and corn became the best and surest food for all the Indian tribes. When the white men came, they ate it, too, and by cultivation made new kinds and colors. Now we have the sweet or sugar corn, the Davy's, and we have popcorn, too, which is only a dwarf corn with a hard, flinty shell which pops open with heat."

"Do they raise corn in any other country except America?" asked Davy.

"Oh, yes, there is a great deal raised in other countries now, and I believe they claim to have found some grains of it in a very old tomb in Greece, and a picture of it in a very old book in China, so, perhaps, it was from some place in the far East that the great bird of the Indians came with the seed."

"And does it belong to a family, too?" asked little Prue. [110]

"It is claimed by the grass family, and, of course, it is something like big grass. Wheat and oats and, indeed, all the grains, belong to that wonderful family, too. Then there is broom-corn, useful for making brooms, while sugar-cane, which is also a grass, gives us our best sugar and molasses, but corn not only gives us the ears for food, but the leaves are used for cattle, and the husks for making cushions and mattresses, and for packing fruits. Syrup also is made from the young stalks, and the dry stalks are used for thatching, stable-bedding and fuel. In fact, every part of the corn is valuable, and I think we might call it the king, or, perhaps, being an Indian, the chief of the tribe of Grasses."

"I know the best of all the things that comes from it," said little Prue.

"What?" asked Davy.

"Pop-corn balls," said Prue.

[111]

III

CROSS BY NAME AND CROSS BY NATURE

WHAT wonderful things happened to the little window-garden in April! The nasturtium bloomed early in the month—first a red one then a yellow one, then a lot of red and yellow ones. They were so beautiful that almost every meal the little pot stood on the table, and sometimes the pansy-pot, too.

And then the sweet-pease bloomed, beautiful pink and white and purple blooms that were so sweet you could smell them as soon as you came into the room. Davy's garden-pease had bloomed even sooner, and had little pods on them by April. Before many days the tiny pease inside began to swell, and you could see every one quite plainly when you turned the pod flat side to the light. As for the beans and morning-glories, they had bloomed and bloomed, and already had seed-pods hanging all the way up the vines that now reached to the top of the casings and [112] looped down and joined in a long festoon which hung between.

And how proud the children were of their two beautiful windows. And how happy they were when passers-by stopped to look in, and perhaps wondered about the gardens, and maybe thought that the rosy-cheeked boy and girl looking out between the blossoms and leaves and vines were the brightest and best flowers that bloomed there.

And Davy's corn sent out another ear, a little one, and both ears grew and the pollen from above sifted down, and Davy knew that inside the green husks the sweet kernels were forming.

"When can we eat it?" he asked almost every day. "Don't you think it's about big enough now?"

"When the silk turns brown," said the Chief Gardener. "That is about the best rule. I think you'll have pease and beans, too, pretty soon, so you can have quite a feast."

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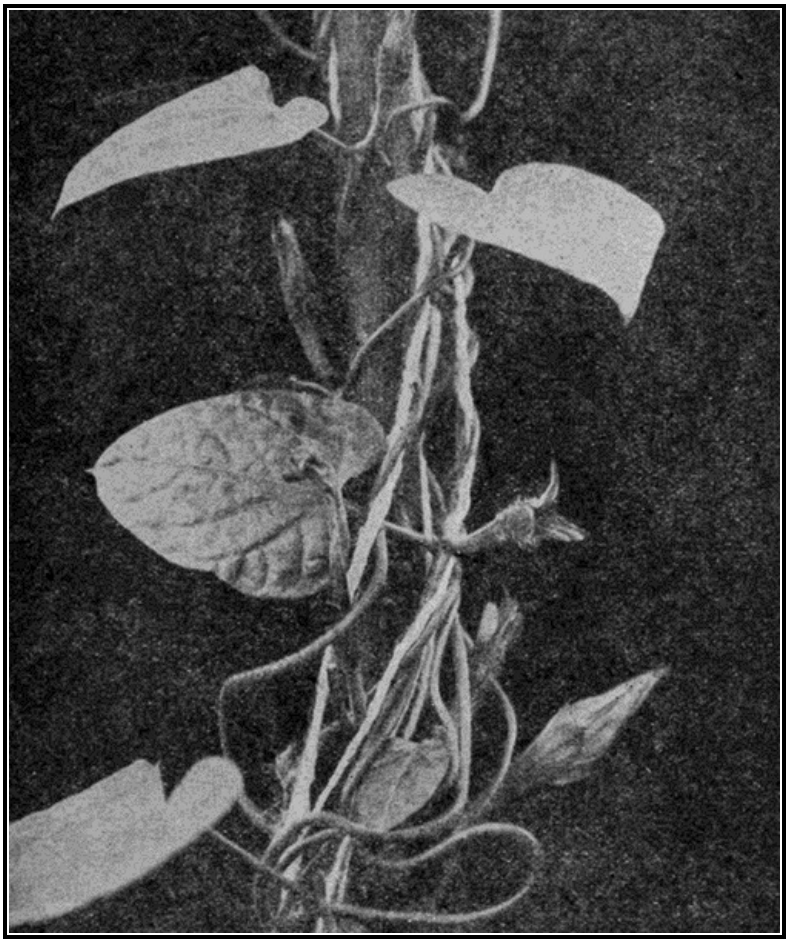


"THE MORNING-GLORIES HAD BLOOMED AND ALREADY HAD SEED-PODS"

"Just in time for my birthday," said big Prue, who had been an April baby a long time ago.

"It's ever so long till my birthday," said little Prue, rather sadly. "I don't think we'll have [114] anything left by August."

"Oh, but I'll have a fine garden outside by then," said the Chief Gardener, "and you will, too. I'll have radishes and lettuce now before you know it;" for in spite of the cold snow and freeze, the Chief Gardener's first planting had sprouted fairly well, and was rapidly filling his first two little beds.

"Papa, you haven't told us a word about my nasturtiums yet, and they're so lovely. Not a single story or anything, nor about their family relations, or where they came from—not a thing."

"Well, that's so," said the Chief Gardener, "perhaps because I wanted to make a family affair of it. You see, Davy's radish is a sort of a name-cousin of your nasturtium, and I've been thinking that when I told about one I'd tell of the other, too, and that I'd call the story

[115]

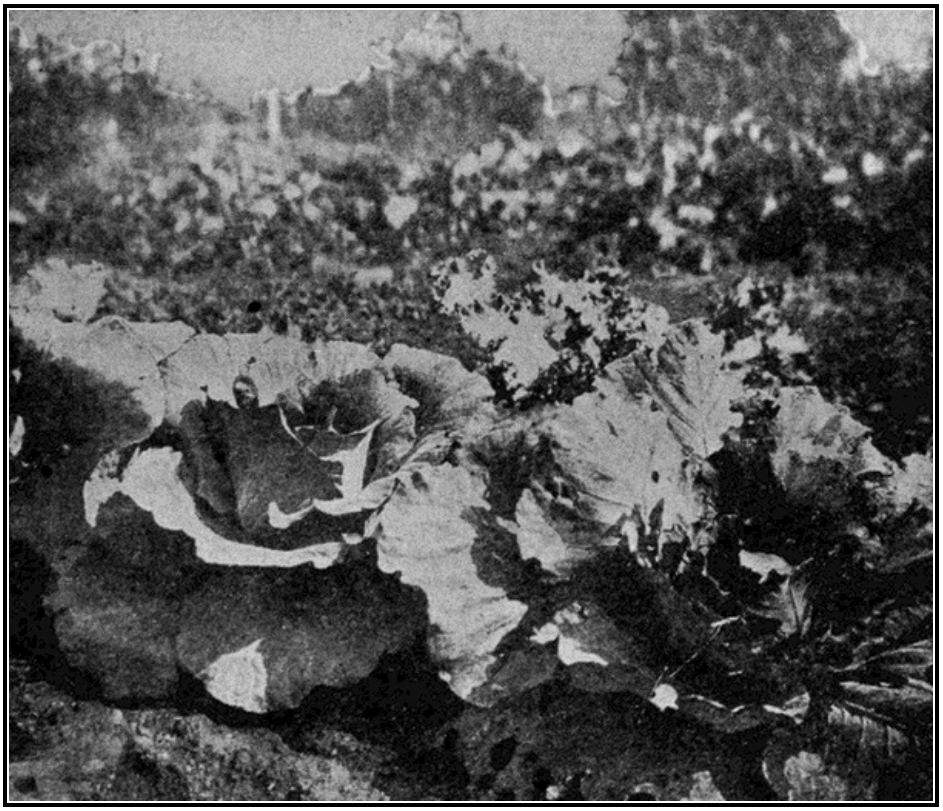
IV

A PEPPERY FAMILY

"NOBODY seems to know just where the Cross family came from. You can find them in every part of the world now, some of them growing as weeds, some as flowers, and some as very fine vegetables. But wherever they came from, in the beginning, they were certainly of very sharp, [116] biting natures, and never could agree. Why, they were so cross that even their flowers were shaped like little crosses, and people called them cruciferous, which means cross-shaped, and used to say of them,

> "'Cross by name and cross by nature,
> Cross of fibre, face, and feature,'

and did not want them in their gardens, because they disturbed the other vegetables and flowers, and might make them cross, too.



"CABBAGE" WAS THE FAT FELLOW'S NAME

"Well, the Cross family became tired of this, at last, and made up their minds to be either useful or ornamental: at least, most of them did. So they got together, and after a great deal of quarrelling among themselves to begin with, for, of course, they couldn't help that when they had been unpleasant so long, they at last began to work together and decide what each wanted to be, and how it could be brought about.

"'I think,' said a fat one who was always better-natured than any of the others, 'I should like to be a nice sweet vegetable that people were very fond of and gave a good place to, in their [117] gardens, where I should be well taken care of.'

"So the Clerk of Plants, who was alive then, like the Weather Clerk, you know, put down 'Cabbage,' which was the fat fellow's name, and wrote after it, 'Sweet vegetable—needs care.'

"'I,' said another, 'would like to be a sweet vegetable, too, but I want to grow mostly under the ground, so that I will need less care to keep off insects and worms.'

"So then the Clerk of Plants wrote 'Turnip,' and put after it, 'Vegetable with sweet, wholesome root; needs little care.'

"So they went on with those who wanted to be vegetables. But most of the others did not want to be quite so sweet in their nature as the turnip and the cabbage. They said they liked people with a little temper of their own, so the radish, who was a fat, red little chap, was put down as a vegetable rather sweet, but with sharp flavor, and 'Horseradish' was put down, 'Very sharp and [118] biting, to be used only for seasoning.' The Clerk was about to turn to those who wanted to be flowers, when a little green plant, who had been named 'Nose Torment,' because he made people's noses itch and burn, spoke up and said, 'I should like to be beautiful and useful, too—a pretty green dressing that people like, and I will grow in the water, which may wash away some of my ill manners.'

"So then the Clerk of Plants dropped the name of 'Nose Torment' and wrote down, 'Water Cross, a fine table-salad—grows in clear streams.'

"'But I don't like the name "Cross,"' said the little plant.

"'Oh, well,' said the clerk, 'spell it with an "e" then—make it Cress.' So Water-cress it became, and all the others spelled their family name with an 'e,' too, and became the Cress family instead of the Cross family, just as people often change the spelling of their names to-day.

"But the Clerk of Plants wasn't through, for there were a good many who wanted to be flowers. [119] Some of them wanted to be very sweet flowers, and some, like mustard, wanted to be flowers and useful, too. So the Clerk wrote down 'Wallflower,' and 'Stock' and Candy tuft,' and a good many others, but there was one gentle little blossom which said, 'Oh, I want to be white and pure, and have a sweet and delicate perfume that all people will love.' And this was 'Alyssum,' and when the Clerk wrote it down, he wrote it 'Sweet Alyssum,' and so it has been called ever since.

"And then, when the Clerk was all through, he said, 'There are some who have not come to the meeting. Where is your brother, Mustard? And yours, Alyssum, the one we call Pepper-grass, because he is so fiery?'

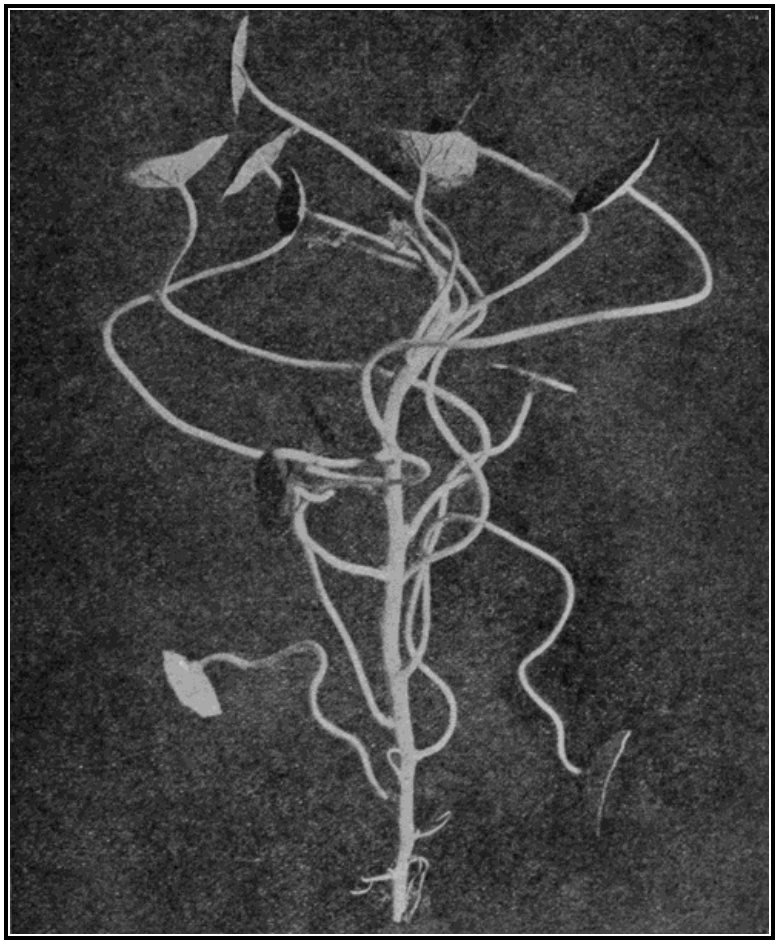
"Mustard and Alyssum shook their heads sadly.

"'Well,' said the Clerk, 'they have had their chance. They are wild and will always be,' so he wrote down. 'Wild Mustard' and Pepper-grass,' and after these names he put the word 'Weeds.'" [120]

"But my nasturtium, Papa, what about that?"

"Why, that's so, I forgot all about your nasturtium. Well, you see, it doesn't really belong to the Cress family, but is only a name-relative. The word nasturtium comes from two Latin words, *nasi tormentum*, which means Nose Torment, and it was Nasturtium that little Water-cress had sometimes been called."

"But," said Prue, "my nasturtium isn't water-cress."



"THEY CALLED IT NASTURTIUM"

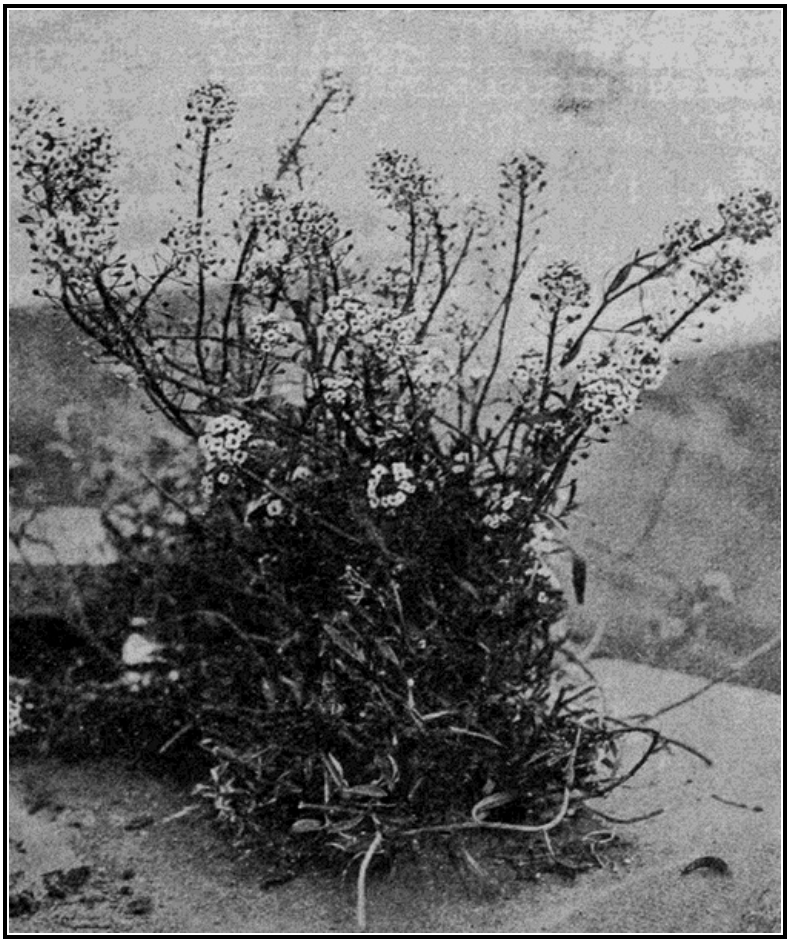
"No, but when it was discovered, and the people tasted the leaves and the flowers, and sometimes used them for salad, and especially when they found it had a sharp-tasting seed, they called it Cress, Indian Cress, and then they took the name that little Water-cress had dropped and called it Nasturtium. So you see it isn't really a Cress or a Nasturtium. It is only called that. [121] It's true name is Acriviola, or Sharp Violet, because of its taste, and the flower, which is shaped something like a violet. All the true Cress family have a corolla of but four petals, shaped like a [122] cross, and nearly all the flowers, and especially the seed-pods, have a sharp flavor. Even the Sweet Alyssum has the least touch of the old flavor, and mustard is very sharp. On the whole, the Cress family has become a most useful and ornamental family, and the Acriviola or Nasturtium, which is neither a violet nor a nasturtium, but a geranium—of the geranium family, I mean—need not be at all ashamed of its adopted names."

V

FOR IN THAT DISH WAS DAVY'S CORN

WHEN big Prue's birthday came, there was much excitement. Of course, there were the presents which must be hidden until the very morning, but even the presents were not of the very greatest importance this year. Oh, no, this year it was the garden. Big Prue's birthday was to be a regular garden feast.

[123]



ALYSSUM—THE SWEETEST OF THE "CROSS" FAMILY

For now the days had become warm and bright. Already the children had been to the woods for hepaticas and violets, and everywhere the trees were tinged with green. The little garden had [124] fairly filled the window so that now you had to look between the vines to see. Even in the garden outside, the Chief Gardener had made some more beds, and the first ones—the radishes and lettuce—were so well along, that early on the morning of big Prue's birthday he brought in some tiny radishes and some tender green salad leaves, almost as good, Davy said, as the first ones from his garden.

"These are for breakfast," he said. "You and Prue will have to supply the birthday dinner."

And that is just what they did.

First of all there was a lovely bunch of sweet-pease on big Prue's plate—these, of course, being from Prue's garden. There was a little bunch of pansies for Prue, while for the Chief Gardener and Davy there were round, bright sunflowers, one each for their buttonholes.

In the center of the table there was a wonderful little glass bowl of nasturtium flowers, that [125] were so fresh and pretty that one must be hungry just to look at them.

Then it was Davy's turn.

In a pretty salad-dish on a little side table, there was a lettuce salad that looked like a great green bloom, and lying upon another smaller dish at the side, were four of the roundest, reddest radishes imaginable, the very last of the little garden crop. But now something came in in two small covered dishes, something that steamed, and behold, when they were opened, in one were Davy's beans, ever so many, white and mottled, all cooked and hot and ready to be eaten, and in the other Davy's pease! But that was not all. Still another steaming dish came in, and when that was opened, everybody fairly shouted, "Oh, my!" for in that dish was Davy's corn! Think of it! Two whole ears of corn, one large one to be divided between little Prue and Davy.

Never was there such a birthday dinner as that. The flowers were beautiful, the beans and the [126] pease splendid, while the corn, why the corn was just the sweetest and best corn that was ever raised. They all said so, and Davy got excited and said he was going to plant a thousand acres of corn just as soon as the Chief Gardener would let him.

And then they began to plan for the new garden of summer-time, which was to be made outside.

Most of their things they thought they would take out of the windows, and reset in the open garden, but, of course, there were no radishes or lettuce to take now, and the corn and pease were no longer of value, while the vines would be hard to move. So they decided to take out all but the vines. Prue could reset her pansies and nasturtiums and sunflower, and the sweet-pease, which would bloom all summer, perhaps, leaving the morning-glories and scarlet runner in the windows, to bloom as long as they would.

"My windows would look very bare without even the vines left of the little gardens," said big Prue, "but it is getting so green outside, that we won't miss them so much now, and, of course, everything must go, sometime." [127]

"And we are going to have them next year," said Davy. "We will begin then earlier, and have other things, too, but first we are going to have ever and ever so much outside, in the real garden. Prue is going to have flowers, and I am going to have, oh, ever and ever so many good things to eat!"

And so with big Prue's birthday dinner, the little garden in the windows saw its greatest glory, and the month of April, which had been its happiest season, came to a happy end.

[128]
[129]

MAY

[130]
[131]

MAY

I

SWEET-PEASE HAVE TO BE PUT DOWN PRETTY DEEP

IT was May and the apple-trees were in bloom. In the garden outside was the Chief Gardener, with Prue and Davy—one on each side—hoeing and digging and raking. The early plantings, like radishes and lettuce and pease, were already well along, but it was just time, now, for a second planting of these things, and for the first planting of such things as corn and beans, and most of the kinds of flowers.

Some sweet-pease, it is true, little Prue had planted earlier, one warm day in April, when the Chief Gardener had dug for her a trench along the fence, and she had put in the pease, one at a [132] time, and just so far apart, so that they wouldn't crowd, she said, or get in each other's way. The trench was quite deep—most too deep, Prue thought, but then sweet-pease have to be put down pretty deep, and the soil dragged up to the vines as they grow, to give them strength. Now, she planted some sweet-williams, and pansies, and mignonettes, and alyssum, and had brought most of her pots from the house, and set the things in a little row by themselves, so that they might still be company as they had been through the long winter and late spring.

Davy, too, had made a fine garden, with six hills of sweet-corn, one hill of cantaloupes, a row of pease, a little row of onions, lettuce, and radishes, besides a very small row of sweet herbs, such as marjoram, fennel, and thyme. Each garden was fully eight feet square, which is really quite a good-sized garden, when you remember that it must be kept nicely tilled and *perfectly clean* of weeds.

"I think I will have a hill of cucumbers, too," said Davy. "I like cucumbers." [133]

"But they won't do, near your cantaloupes," said the Chief Gardener. "You see, cucumbers and cantaloupes belong to the same family, and one of the most twining, friendly families I know of. Each member left to itself is very good in its way, and often ornamental, but let them run together ever so little and before you know it they begin to mix up and look like one another, and even have tastes alike. A cucumber-hill there, Davy, would spoil the taste of your cantaloupes, and the cucumbers would not be good either. It's the same way with watermelons, and citrons, and pumpkins, and all the rest of the gourds."

"Gourds!"

"Why, yes, they all belong to the Gourd family, and they will all look and taste like gourds if you give them a chance. It's really, of course, because the pollen of one blows into the bloom of the other, and the members of the Gourd family are so closely related that pollens blend and mix. [134] Different kinds of corn will do the same thing. That is why we have our popcorn as far from our sweet corn as we can get it. There are other families that do not mix at all. We grow apples and plums and peaches and roses, side by side—even different kinds of each—and they never mix."

"But apples and plums and peaches are not roses, are they?" asked little Prue.

"Just as much as strawberries, and pears and quinces are," said the Chief Gardener.

The children looked at him rather puzzled.

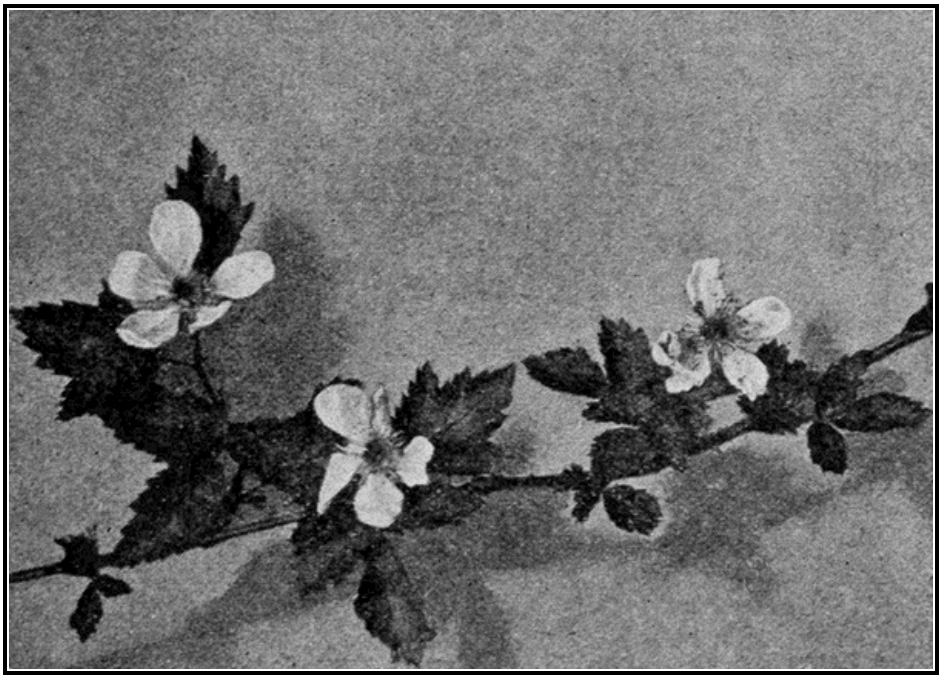
"How about blackberries and raspberries?" asked the Chief Gardener. "Don't you think they look a little, a very little, like wild roses, only the flowers are smaller and white, instead of pink?"

"Why, yes, so they do!" nodded Davy.

"And doesn't the bloom of a blackberry look like the bloom of a plum, and a cherry, and a pear, and an apple, and all those things?"

"A good deal," said Prue, "and wild crab blossoms look just like little wild roses, and they smell [135] so sweet, too."

"And the wild crab has thorns like a rose, only not so sharp," said Davy.



"DON'T YOU THINK THE BLACKBERRY LOOKS A LITTLE LIKE A WILD ROSE?"

"And a rose has little apples after the bloom falls," said the Chief Gardener. "I have known children to eat rose apples, though I don't think they could be very good."

Davy had run down to the corner of the garden and came back now with something in his hand. [136] It was a wild rose that grew by the hedge there; a pretty, single pink blossom. Then he stopped and picked a strawberry bloom, and one from the apple-tree that hung over the fence. These he brought over to the little bench where Prue and the Chief Gardener had sat down to rest.

The Chief Gardener took them and held them side by side.

"There, you will see they are all very much alike," he said.

The children looked at them. Then Prue ran across the lawn and came back with a little yellow bloom.

"Isn't this flower one of them, too?" she asked. "Some people call it wild strawberry, and some sink-field."

"That," said the Chief Gardener, "is cinque-foil. I suppose the name sink-field comes from that. It is French, and means five-leaved, but sink-field is not so bad a name either, for it often grows [137] in moist places. Yes, that is a rose, too."

"Then buttercups must be roses," said Davy. "They look just like that."

"No, Davy, that is one place where our eyes must look sharp. Can you find a buttercup?"

"Oh, plenty," said Prue, and ran to bring them.

Then the Chief Gardener took a buttercup and an apple-bloom, and held them side by side. There was a difference, but not very great. Then he took his knife, and divided the blossoms in half.

"Now look again," he said, and he took a small magnifying-glass from his pocket and held it so that they could see. "The petals and the sepals (that make the corolla and the calyx, you know) are a good deal the same," he said, "but, you see, there are many more stamens in the buttercup, and then the seed pod or pods, which we call the pistils, are not at all alike. The buttercup has a lot of tiny pods or pistils inside the flower, while the apple-bloom has one round pod below the [138] flower, and this forms the fruit. The buttercup does not make fruit. It belongs to the Crowfoot family, and is a cousin of the hepatica and of the larkspur, which you would not think from the shape of the larkspur's bloom. The Crowfoot family is not so beautiful nor so useful as the Rose family, which is, perhaps, the most useful family next to the Grass family, and certainly one of the most beautiful families in the world."

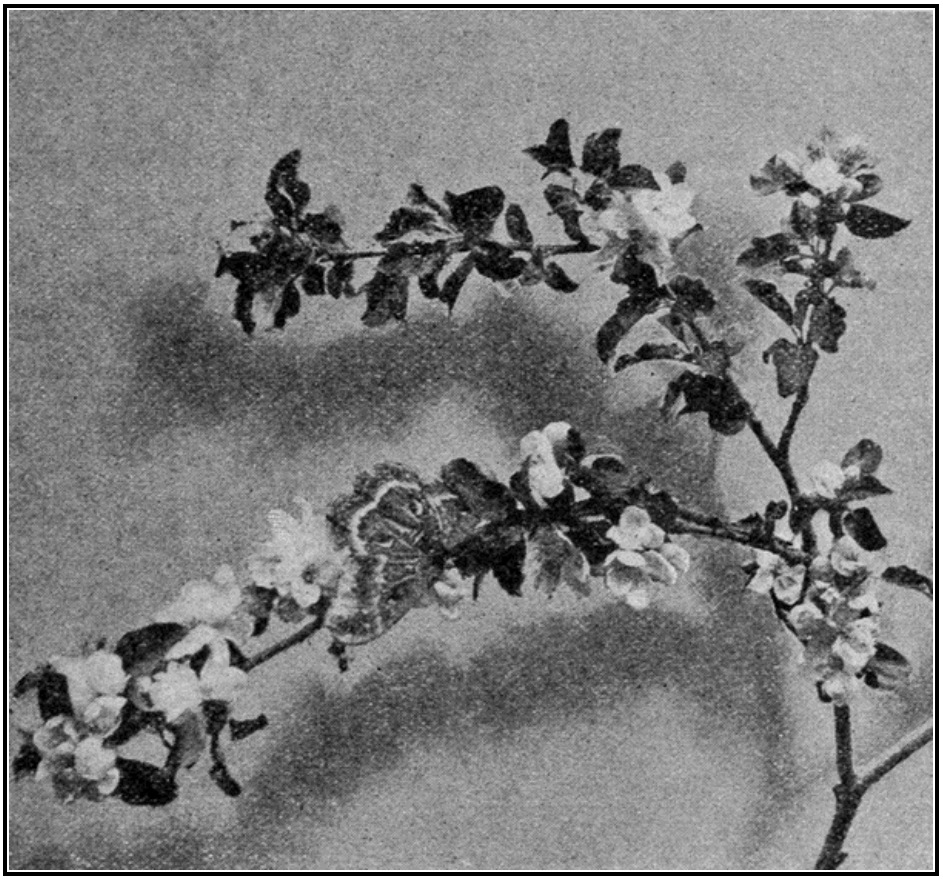
"I think the Rose family is nicer than the Grass family," said Prue.

"Oh, no," said Davy. "We couldn't do without wheat and corn, and we could do without fruit and flowers—that is, of course, if we had to," he added with a sigh.

"I couldn't," said little Prue. "I like flowers best, and jelly and jam to eat on my biscuits, and you like all those things, too, Davy, and shortcake, and berry pie."

"Of course! but how would you have biscuits and shortcake without wheat to make the flour [139] of?"

The Chief Gardener smiled.



"AND THE APPLE-BLOSSOM, TOO"

"We can't decide it," he said. "They go together. It is said that we shall not live on bread alone, and I don't think we could live altogether on fruit and flowers, though I believe some people try [140] to do so. Jam and bread go together, and a shortcake must have both crust and fruit to be a real shortcake. Wheat fields and orchards march side by side, and taking these together we have peach pudding and apple tart."

Prue was looking out over her little garden where the smoothly patted rows of beds made her quite happy, just to see them.

"I've got four things that begin with sweet," she said. "Sweet-pease, sweet-williams, sweet-mignonette, and sweet-alyssum."

"And my little Sweetheart is the sweetest flower of all," said the Chief Gardener.

II

DIFFERENT FAMILIES OF ANTS HAVE DIFFERENT DROVES OF COWS

It seemed wonderful to the Chief Gardener how much the children had learned just from the little pots of their window-garden. He had let them begin these gardens merely as an amusement, [141] at first, but during those long winter weeks while the plants were growing and being cared for daily, little by little, Prue and Davy had been learning the how and why. When the seeds began to come now, he had to tell them very little about the care of the plants.

It is true that Davy was a little too anxious to hoe his rows of pease and salad almost before they were out of the ground, and hoed up a few plants, while Prue wanted to water her garden when the bright sun was shining, which would have baked the ground and done more harm than good. But they both knew so much more than they had known a year ago, that the Chief Gardener was glad of those little window-gardens which were now gone.

"You see, I was remembering the worm that cut off one of my cornstalks," said Davy one morning when the Chief Gardener found him digging carefully around the tender shoots. "I found one, too, but he hadn't done any harm yet."

"I'm crumbling the hard dirt around my little plants," said Prue, "it's so sharp and cakey, and I [142] pull out every little weed I see, so they won't have a chance to get big."

The Chief Gardener looked on approvingly. Then he walked over to his own rows and looked carefully at his pease, which were just now beginning to bloom. Then he got down and looked more closely. Then he called Davy and Prue. They left their work and came quickly.

"Look here," said the Chief Gardener, "I have a whole drove of cattle in my garden."

"Cattle!" said Davy.

"Oh, Papa's just fooling," said Prue.

"Why, no," said the Chief Gardener, "don't you see them. There is a whole drove of cows," and

he pointed to some little green bug-like things that clustered on the tips of his pea-vines.

The children looked closely and then turned to him to explain.

"There are some ants there, too," said Davy. "They are crawling up and down."

"Yes," said the Chief Gardener. "They own the cows. The cows are those green things—aphides, [143] they are called, and the ants milk them. Look very carefully now."

Prue and Davy watched and saw an ant go to one of the green insects and touch with its bill first one, and then the other, of two little horns that grew from the aphid's back. And then the ant went to another aphid, and did the same thing. Then they saw that tiny drops of fluid came from the ends of these tiny green horns.

"That," said the Chief Gardener, "is honeydew, or ant's milk. The ants are very fond of it, and wherever you find these aphides, you will find ants, milking them. In fact, I believe the ants keep these aphides during the winter in some of their houses, and drive them in the spring to tender green feeding-places like these pea-vines, so that the milk will be sweet and plentiful. I have heard that different families of ants have different droves of cows, and fight over them, too."

The children were very much interested in all this, and watched the ants run up and down the [144] vines and milk their cows. Then the Chief Gardener said, "I'm sorry, but I'm afraid we'll have to get rid of these. They are very bad for young plants, and ants are, too. They suck the juice, and ruin them. I must give them a mixture."

He went into the basement and cut up a few ounces of whale-oil soap, and dissolved it in hot water. Then when it was cool and weakened, he sprinkled the pease with it. The next day all the cows were gone, and most of the ants. But about a week later, just after a shower, there they were again, and the Chief Gardener said that the ants must have driven up a new herd. So he had to sprinkle them again, and even once more before the end of the month; and while he was sprinkling, he sprinkled the little gardens, too, for whale-oil soap when it isn't used strong enough to hurt the young plants is a fine thing for little gardens, and big ones, too.

[145]

III

THERE ARE MANY WAYS OF PRODUCING SPECIES

THERE were a good many rains in May. The weeds grew and grew, and it was hard to keep them down when it was wet and warm, and the plants were still so small. Prue and Davy had to get down close and pull them out carefully with their fingers, and this left the little green rows so straight and trim, and the earth smelled so nice when the sun came out warm, after a shower, that the children grew happy in the work, and wanted to plant new things almost every day.

Around the house Prue had planted a border of nasturtiums on one side, and a border of marigolds on the other, and they were all coming up and looked as if they would grow into strong, fine plants. Davy had planted some hills of castor beans in the garden, because the Chief Gardener had said that they were good for the three Ms—moles, malaria, and mosquitoes. He [146] was also attending very faithfully to a row of strawberries which the Chief Gardener had told him he might have for his own. The little boy was quite skillful with a hoe, and could take care of his vegetables almost as well as the Chief Gardener, so the Chief Gardener thought.

"You must not hoe your beans when the dew is on them, Davy," he said one morning. "The vines are tender and it causes them to rust or blight, but you may hoe most of the other things, and you may hoe around most of your vegetables as often as you want to. Loosening up the soil about young plants makes them grow. It gives the roots a chance to spread, and lets sun and air into the soil. You must be a little more careful with flowers, Prue, for they are usually more tender, and it is better to dig with an old knife or a small, weeding rake. You must thin out your plants, too. Keep pulling from between, as they grow larger, so that they stand farther and farther apart. [147] Where plants grow too thickly they are small, and the flowers and vegetables poor. People sometimes try to raise more on a small piece of ground by having more plants on it, but it does not pay, for the plants do not produce as much as if there were only half as many on the same soil. Give everything plenty of room and air, and they will grow and thrive like children who have a good playground and plenty of wholesome food."

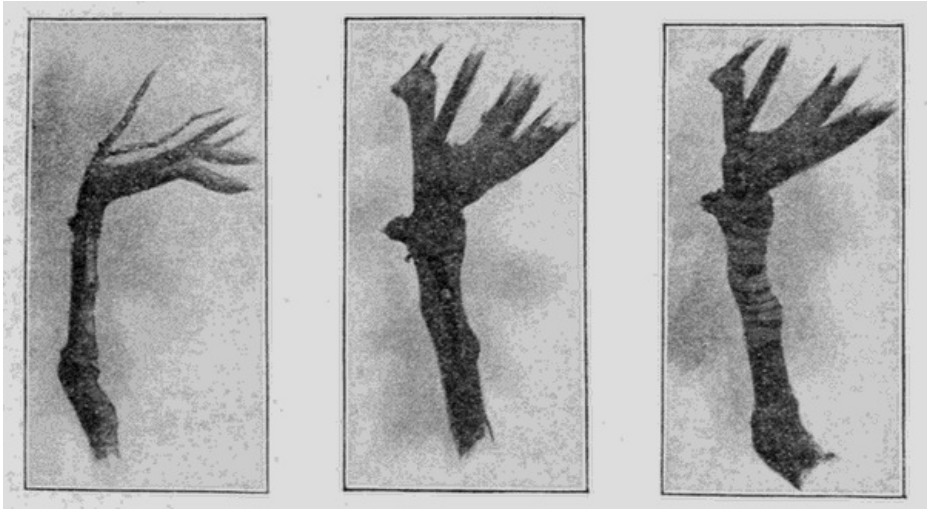
"Papa," said Prue, "you were talking the other day of the different kinds of one thing: what makes them?—the different kinds of roses, I mean, and pansies, and—"

"And peaches and apples," interrupted Davy, "I want to know that, too."

The Chief Gardener did not answer just at first. Then he said, "I am afraid that is a pretty big subject for little people. There are a good many ways of producing species of flowers, and some of them are not easy to understand. But I can tell you, perhaps, about the fruits now, and we will [148] try to understand about some of the flowers another time.

"To begin with, the upper part and the lower parts of our fruit-trees are different. The root and a little of the lower stalk is from a seed, and upon this has been grafted or spliced with soft bands and wax, a bud from some choice kind of peach or apple or plum, or whatever the tree is to be, and this new bud grows and forms the tree. Sometimes a bud of the choice kind is merely inserted beneath the bark of another tree and grows and forms a new limb. By and by, when it bears fruit, the fruit will be of the kind that was on the choice tree, but the seed, though it looks just the same, may be altogether different. If a seed like that is planted, it may make a tree like the root part of the one from which it came, or it may make a tree like the upper part, or it may

make something different from either one. No one can tell what that seed will bring. So fruit growers plant a great many such seeds each year, and once in a great while some new peach, or [149] apple, or plum, or cherry, finer than anything ever grown before, comes from one of those seeds. Then every little limb of that tree is saved and grafted or spliced to a lot of sturdy little roots that have come from other seeds, and this new kind of fruit goes out all over the world and is grafted, and re-grafted, until there are trees everywhere of the new kind."



The bark is slit to receive the bud | **The bud is inserted in the opening** | **The limb is then closely bound**

BUDDING

"And wouldn't I get those same fine peaches we had last year if I planted the seeds?" asked [150] Davy.

"You might, Davy, but there are a hundred chances to one that you would get a very poor, small peach, which you would not care to eat."

Davy looked disappointed.

"Well," he said, "I might as well pull it up, then."

"Why, did you plant one, Davy?" asked the Chief Gardener.

"Yes, last summer. I didn't know then, and after I ate my peach I planted the seed over there in the corner, and now it's just coming up, and I was going to keep it for a surprise for you."

"That's too bad, Davy, but let it grow, anyway. Perhaps it will make some new and wonderful kind. Even if it doesn't, we can have the limbs grafted when it is larger."

"Oh, and can you have more than one kind on a tree?"

"Why, yes, I have seen as many as three or four kinds of apples on one tree." [151]

"And peaches, and apples, and plums, and pears, all on one tree, too?" said Prue. "Why that would be a regular fairy tree!"

"We could hardly have that," laughed the Chief Gardener, "though I have heard of peaches, and nectarines, and plums being all on one tree, though I have never seen it. I don't think such things do very well."

They went over to look at Davy's little peach-tree, which was fresh and green and tender, and seemed to be growing nicely.

"It should have fruit on it in three years," said the Chief Gardener.

Davy and Prue did not look very happy at this. It seemed such a long time to wait.

"It will pass before you know it," the Chief Gardener smiled.

"I shall be as old as Nellie Taber," said little Prue, who had been counting on her fingers, "but Nellie will be older, too," she added with a sigh. "So I'm afraid I can't catch up with her." [152]

The Chief Gardener led them over to another part of the garden, where there was a bunch of green leaves, like the leaves of a violet, but when they got down to look, they found that the flowers, instead of being all blue, were speckled and spotted with white.

"Oh, Papa, where did you get those funny violets?" asked Prue. "What makes them all speckly?"

"I think," said the Chief Gardener, "that this is one of Nature's mixtures. I found it in the Crescent Lake woods last spring, and brought it home. There may be others like it, but I have never seen them. So you see, Nature makes new kinds herself, sometimes. You know, don't you, that the pansies you love so much, Prue, are one kind of violet, cultivated until they are large and fine?"

"Why, no, are they violets? Are my pansies violets?"

"Yes, they are what is called the heartsease violets. They were a very small flower at first, and not so brightly colored. They will become small again if you let them run wild a year or two." [153]

Prue was looking at the variegated violet in her hand.

"I should think there's a story about this," she said, nodding her busy, imaginative little head.

"Suppose you tell it to us, Prue," said the Chief Gardener.

"Well, I think it's this way," said Prue. "Once upon a time there was a little girl named Bessie. And she lived way off—way over by Crescent Lake—with an old witch-woman who was poor. And Bessie had to carry milk to sell, every day, because they had a cow, and Bessie couldn't drink the milk, because they had to sell it.

"And one day when Bessie was going with the milk through the woods, she stopped to pick some flowers, because she liked flowers, all kinds, and specially violets. And when she stooped over to pick the violets, a little of her milk spilled out of her pail, and it went on the violets, right on the blue flowers. And when Bessie saw them all spattered with the milk she says, 'Oh, how funny you look! I wish you'd stay that way all the time.' And there was a fairy heard her say that, and she liked Bessie because she was so good, so she made the violets stay just that way with the white spots on them, and Bessie went home, and one day when the old witch-woman died the fairy brought a prince on a white horse, and Bessie went away with him to be a princess, in a palace covered with gold and silver, and lived happy ever after." [154]

The Chief Gardener looked down at the little girl beside him.

"Why, what an exciting story! Did you make it all just now?"

"Yes, just now. It just came of itself," said little Prue.

"And didn't Bessie want her violets?" asked Davy. [155]

"She took some of them along with her in a basket, and planted them around her new palace."

"And the rest she left for us," said the Chief Gardener. "I know now what to call them. We shall call them Bessie's Violets."

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[157]

JUNE

[158]
[159]

JUNE

I

THEN THEY WENT DOWN INTO THE STRAWBERRY PATCH

JUNE, the month of roses, and strawberries. The beautiful month when spring is just turning to summer, and summer is giving us her first rare gifts.

In Davy's garden the corn was up, and had grown more in two weeks than the corn planted in the house had grown in four. It was the long sunny days that did this, and the showers that seemed to come almost too often, but perhaps the gardens didn't think so, for they grew, and the weeds grew, too, and kept Prue and Davy busy pulling and hoeing and cultivating.

Davy's radishes were big enough to eat just a month from the day they were planted—think of it!—when those planted in the house had taken ever and ever so long. Prue's pansies and sweet-pease, and her other three "sweets" were all up, too, and so green and flourishing. [160]

But perhaps the thing that made them both happiest, at this season, was the Chief Gardener's strawberry-patch. Either that or big Prue's roses—they were not sure which.

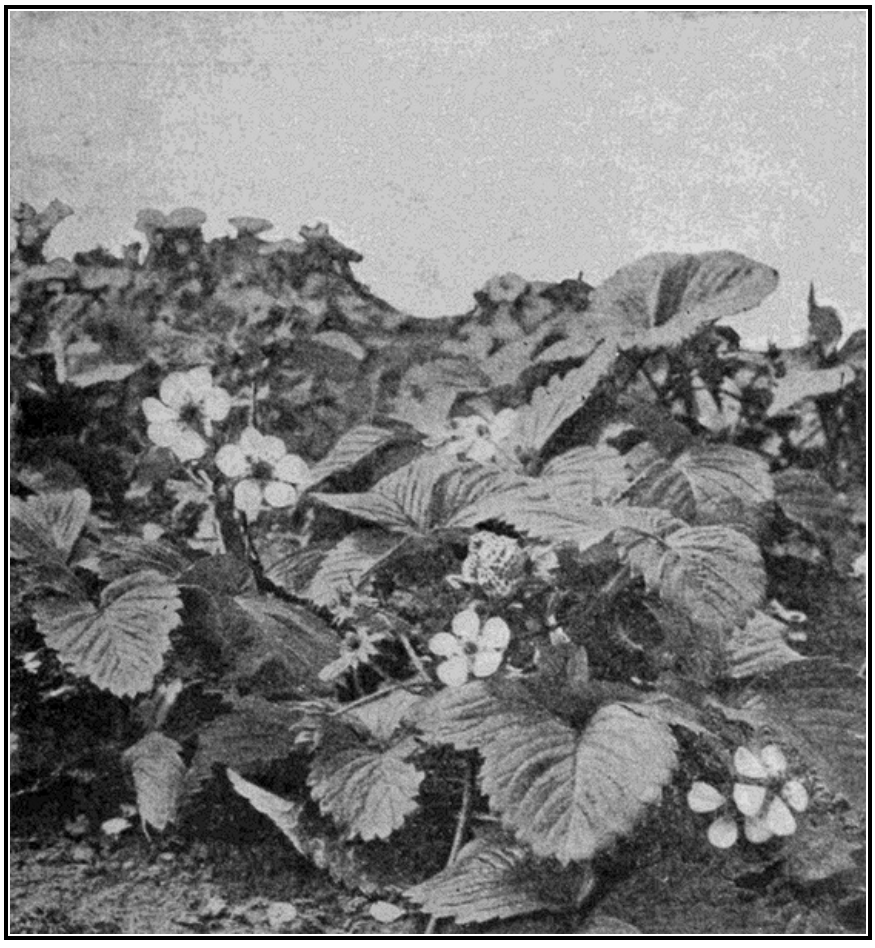
"When I grow up, I am going to have acres and acres of strawberries," said Davy.

"And miles and miles of roses," said Prue.

"And herds and herds of little Jersey cows that only give the richest cream," said the Chief Gardener.

"And we'll put wreaths of roses about the cows' necks," said big Prue, "and drive them home at evening, and milk the rich creamy milk and put it on the fresh strawberry shortcake, just out of the oven—"

[161]



THE CHIEF GARDENER'S STRAWBERRIES

"And eat and eat forever," interrupted Davy.

"And be happy ever after," finished little Prue.

After that nobody said anything for quite a long time—thinking how fine all that would be, when it came. [162]

Then they went down into the strawberry-patch where the big red berries were ripening on the broad, green leaves. And little Prue and her mamma went into the house and came out with two bowls—one quite large bowl—white, with blue vines and flowers on it, and one quite small bowl—white, with blue kittens on it, chasing one another around and around on the outside.

And the Chief Gardener and big Prue picked the ripe red berries and put them in the big bowl. And Davy and little Prue picked the ripe red berries and put them into the little bowl. And sometimes the Chief Gardener would eat a berry—a real, real ripe one—just to see if they were good, he said.

And sometimes big Prue would eat a berry—a real, real little one—just to see if little berries would do for a shortcake, she said.

And sometimes little Prue would eat a berry, and sometimes Davy would eat a berry—big, big berries—just because they looked so good, and tasted so good, that a little boy and a little girl could not help eating them, even if it took some of the berries out of the shortcake they were going to have for tea. [163]

But they didn't eat all of the berries they picked. Oh, no. They put some of the berries into the little white bowl with the blue kittens chasing one another around and around on the outside. And the Chief Gardener and big Prue put most of their berries into the big bowl with the blue flowers and vines on it. And by and by both of the bowls were full—full clear to the top and heaping—so that no more berries, not even the very little ones, would lay on.

And then big Prue took the big bowl, and little Prue the little bowl, and they went up the little garden step into the house, carrying the bowls very carefully, so as not to spill any of the red berries that were heaped up so high that no more, not even very little ones, would lay on. And the Chief Gardener and Davy followed along behind, talking of the fine June evening, and saying how long the days were now and how far to the north the sun was setting. Then they looked around at the garden, and wondered if they would have green corn by the middle of July, and when they looked under the bean vines they found that some pods were quite large, and the Chief Gardener said that by Sunday they could have beans, and pease, with lettuce and several other green things—a regular garden dinner. [164]

And then little Prue came out and called them to come—right off. And they saw that she was dressed in a fresh white dress, and that her hair was tied with a bright blue ribbon, and her face was as rosy as a strawberry.

"We have got the deliciousest shortcake that ever was!" she called, as they came closer, "and I helped, and rolled the dough and picked over some of the berries!"

"You didn't put all the berries in," said the Chief Gardener. [165]

"Oh, I did—I did, Papa—all but two."

"And I will have those," said the Chief Gardener, and he lifted the little girl in his arms and gave her a big, big kiss, on each rosy cheek.

"I think June is the best month that ever was!" said Davy a little later, as he finished his second large piece. [166]

"It always seems the queen month to me," said big Prue, "perhaps because it is the month of the rose—the queen of the flowers."

"Is the rose really the queen of the flowers?" asked little Prue.

"I have always heard so."

"How did she get to be queen? Did she just happen to be queen, or did the other flowers choose her?"

Little Prue's mamma looked thoughtfully out the garden window, where a great climbing rambler was a mass of red blossoms.

"Do you think any other flower could be queen over that?" she asked.

"Why, no, but—but don't folks have to choose queens, or something?"

"They do presidents," said Davy.

"I think you'll have to tell us about it," laughed the Chief Gardener. "It's your turn for a story, anyway."

So then big Prue took them all out on the wide veranda, where they could watch the sunset, that came very late now, and there she told them [167]

II

HOW THE ROSE BECAME QUEEN

"Once upon a time there was a very great garden that lay between two ranges of blue, blue hills. And the sky above was blue, as blue as the hills, so that you could hardly tell where the sky ended and the hills began, and underneath was the great, beautiful garden which covered all the lands between.

"And in this rare garden there were all the choicest flowers and fruit that the world knew, and when the flowers were all in bloom, under that blue, blue sky—in all the wonderful colors of gold and crimson, and royal purple, and with all the banks of white daisies, and all the sweet orchards of apple-bloom, there was nothing like it in the whole world, and the sweet perfume went out so far that sailors on the ships coming in from sea, a hundred miles away, could smell the sweet odors, and would say, 'The wind blows from the garden of the Princess Beautiful.' For I must tell you that the garden was owned by a great Princess, and she was called Beautiful by all who knew of her, and every traveler to that distant country made his way to her white marble palace to seek permission to look upon the most wonderful garden in all the world. [168]

"And many who came there were of high rank, like herself, and some of them tried to win her love, for the Princess was like her name and as beautiful as the rarest flower in all that marvelous garden. But to princes and even kings she would not listen, for her heart and pride were only in her flowers, and she wished to remain with them forever and be happy in their beauty. She was only sad when she saw that some of those who came went away with heavy hearts because she would not leave her palace for theirs. [169]

"Now once there came to the palace of the Princess Beautiful a great queen. She had traveled far to see the splendid garden, and when she came, the Princess led her with all her court among the flowers. And all that sunlit day, under the blue, blue sky, the great queen and her court lingered in the garden—up and down the paths of white shells, where hyacinths and lilies and daffodils and azaleas grew on every side—and rested in the shade of the blossoming orchard trees. And when it was evening, and they had gone, and the flowers were left alone, they whispered and murmured together, for never before had they seen a queen and her court.

"And by and by as the days passed, the flowers decided that they, too, must have a queen—some rare flower, fine and stately, whom they would honor, even as they had seen their beautiful Princess honor her royal guest. And night after night they talked of these things, but never could decide which of their number should be chosen for the high place. [170]

"And then one day a great sadness came upon the fair garden between the hills. A young traveler from an unknown country had come to the white palace, and one sunny afternoon the Princess Beautiful had led him among the beds of primroses and lilies and daffodils. And when the sun was going down and she turned and looked into his face, and saw how fair he was, and how the sun made his hair like gold, how it shimmered on his beautiful garments of velvet and fine lace, she felt for the first time a great love arise within her heart. Then, all at once, she forgot her garden, her palace and her pride—forgot everything in all the world except the fair youth who stood there with her in the sunset—and she told him her great new love.

"And as she spoke, softly and tenderly, the words she had never spoken to any one before, the breeze died, and the sun slipped down behind the far-off hills. And then, as the light faded, it seemed to the Princess Beautiful that the fair youth before her was fading, too. His face grew dim [171]

and misty—his hair became a blur of gold—his rare garments melted back into the beds of bloom. And behold, instead of the fair youth there stood before her in the twilight only a wonderful golden lily with a crimson heart.

"Then the Princess Beautiful knew that because she had cared only for her garden, and had sent from her those who had offered a great love like her own, that this wonderful lily had come to her as a youth with a face of radiant beauty, and with hair of gold, to awaken a human love in her heart. And each day she mourned there by the splendid lily, and called upon it to return to her as the fair youth she had loved; and at last when its flowers faded and the stem drooped, the white palace of the Princess Beautiful was empty, for the Princess lay dead beside the withered [172] lily in the rare garden between the hills.

"And there they made her grave, and above it they built a trellis where a white climbing rose might grow. But when the rose bloomed, instead of being white, it was a wonderful crimson, such as no one had ever seen before. And when the other flowers saw those beautiful crimson blossoms, they no longer mourned, for they said, 'This is our Princess Beautiful who has returned to be our queen.'

"And so it was the red rose became the queen of flowers, and a symbol of great human love. The poet Burns sings,

> 'My love is like a red, red rose
> That's newly blown in June,'

and it was always in June that the great crimson rose bloomed on the grave in the garden of the Princess Beautiful."

"And did the lily ever bloom again?" asked little Prue.

"I'm sure it must have done so. We always speak of roses and lilies as belonging together, and [173] there is a great golden lily called the Superbus, which I think might have been the beautiful youth that came to the white palace."

"Does the story mean that we shouldn't care too much for our gardens?" asked Davy. "More than for folks, I mean?"

"Do you know, Davy," said the Chief Gardener, "I was just wondering about that, too."

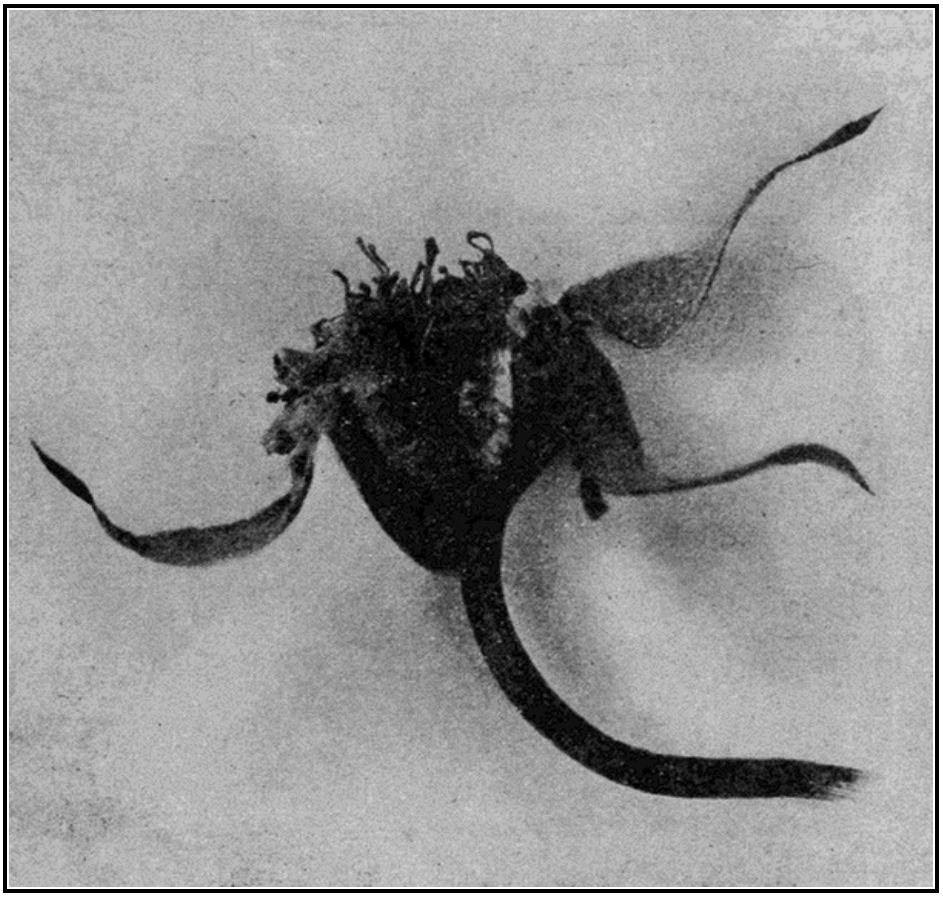
III

THE SUN IS THE GREATEST OF ALL CHEMISTS

It was about a week later, that one afternoon little Prue and Davy and the Chief Gardener were helping big Prue with her roses, and admiring all the different kinds. Little Prue had been thinking a good deal about roses since the story of the Princess Beautiful, and wondering just which of the climbing red ones had grown about her grave. Then she began to wonder about all the kinds, and how they came. She spoke about this now, as her mamma pointed out one which [174] she said was a new rose—just offered for sale that year.

"Where did it come from?" asked the little girl, "where do new roses come from?"

"From seed," answered the Chief Gardener, "like the new peaches and apples I told you of. Roses belong to the same family, you know, and they are grafted much in the same way. Then the seeds are planted, and from these, fine new kinds are likely to come. Rose-growers are always trying hard to make new kinds by mixing the pollen. The pollen, you remember, is the yellow powder on the little tips of the stamens. These tips, as I believe I told you, are called anthers, and the slender part of the stamen is the filament. It is the pollen falling from the anthers upon the single green stem or pistil in the center of the flower that produces the seed. The pistil is divided in parts, too. The little top piece is called the stigma, and the slender green stem is called the style. The pollen falls on the stigma and is drawn down through the style to give life to the seed- [175] pod below."



THE ROSE STAMENS AND PISTIL WHICH PRODUCE THE SEED

The Chief Gardener picked the bloom of a single bramble rose and pulled it apart to show the children all these things.

"Now," he went on, "gardeners often take a rose of one kind and color and shake it gently over [176] a rose of another kind and color, so that the pollen will fall from the anthers of one upon the stigma of the other. In this way the seeds are mixed and it may happen that wonderful new roses come from those seeds. Sometimes, instead of shaking the rose, the gardener carefully takes up the pollen on a tiny soft brush and lays it gently on the stigma of the other rose, all of which has to be done as soon as the bloom is open. Of course, such roses are kept to themselves, and labeled, and the seeds are carefully labeled also."

Davy and Prue were both interested.

"Oh, can I make some new kinds of roses," asked little Prue, greatly excited. "Can I, Mamma?"

"You may try, but I am afraid you will not be very successful where all the roses are out here in the open air. Still, it will do no harm to see what will happen, and you might get something very wonderful."

"I am already trying for a new kind of peach," said Davy. [177]

"And if you get a good one we will call it the 'Early David,'" laughed the Chief Gardener.

"And what will you call my rose?"

"Why, 'the Princess Prue,' of course."

"Do seeds from the same bush make the different roses?" asked Davy.

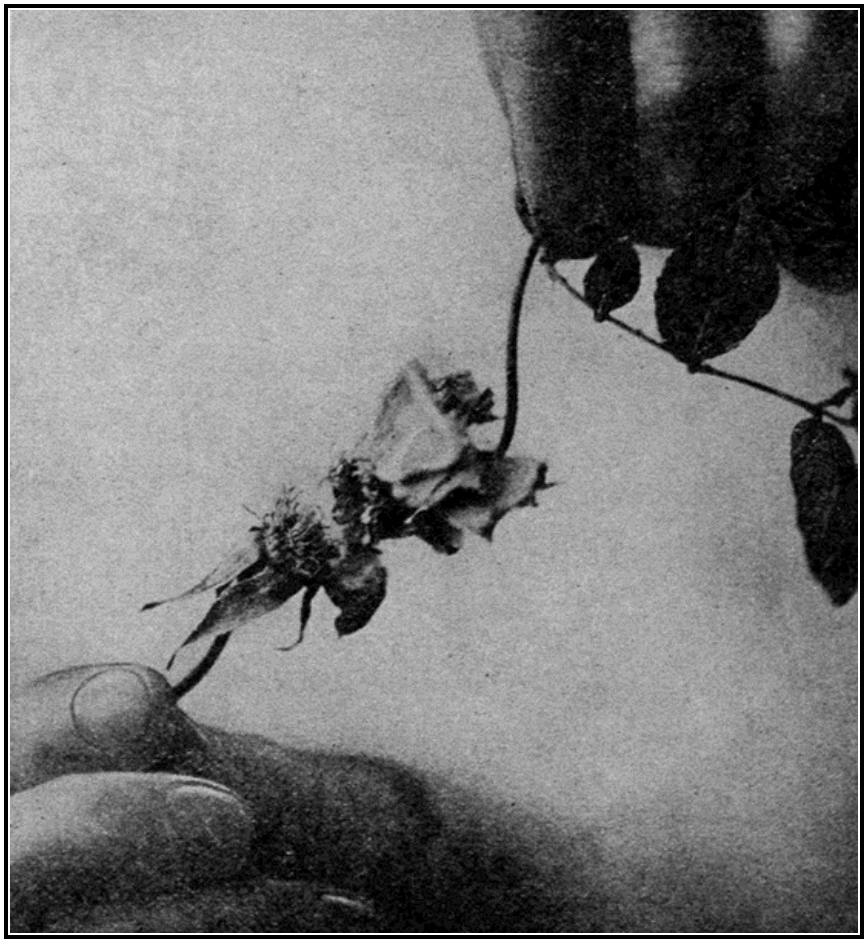
"Yes, and from the same pod."

"But are the seeds just alike?"

"They are so far as anybody can see, but when they come to grow and bloom, one may be a white rose, another pink, and another red. Some may be dwarfs in size, and others giants. All may have the same sun, the same water, the same air, and the same soil. It is only the tiny little difference which we cannot see that makes the great difference in the plant, by and by."

Davy was thinking very hard. Soon he said:

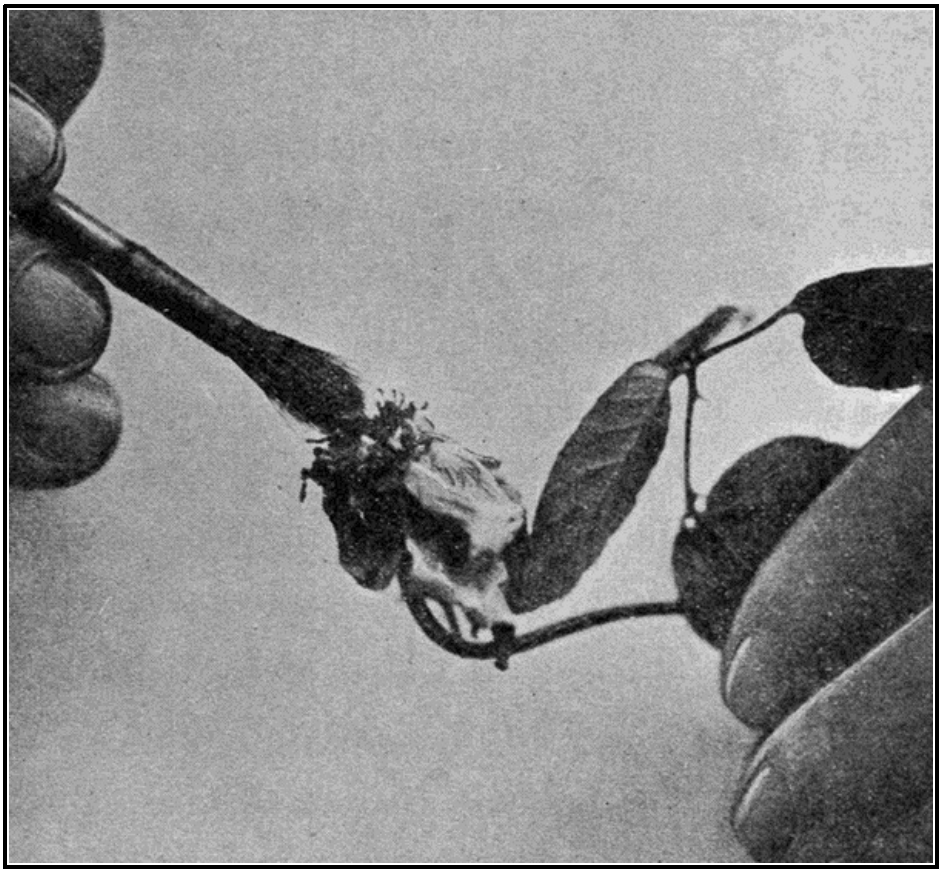
"And where do sweet and sour and all the pepper and mustard and horseradish tastes come [178] from? The air and the water don't taste. I never tasted much dirt, but I don't believe any of it would bite like a red pepper."



"GARDENERS OFTEN TAKE A ROSE OF ONE KIND AND SHAKE IT GENTLY OVER A ROSE OF ANOTHER KIND"

The Chief Gardener laughed.

"No, Davy, I don't believe it would," he said. "And I think the sun is the only one who could [179] answer your question. It is a chemistry which no one of this world has been able to explain. Chemistry is a magic which you will understand by and by, and you will know then that the sun is the greatest of all chemists. Suppose we go down into your gardens and see what he is doing [180] there."



"SOMETIMES THE GARDENER TAKES UP THE POLLEN ON A SOFT BRUSH AND

They all went down the little steps that led to the Chief Gardener's enclosure, where Prue and Davy had their gardens, side by side with his. There just as they entered was a great mass of morning-glory vines that every morning were covered with a splendor of purple, and pink, and white, and blue, and just beyond these was a mass of dianthus pinks of every hue and shade. Bachelor-buttons, petunias, and verbenas were all there, too, besides Prue's sweet-pease by the fence, and her alyssum and mignonette. Then came Davy's things, all fresh and growing, and beyond these the Chief Gardener had ever so many things, from beets to beans, from parsley to parsnips, from carrots to corn. In one small corner by the strawberry-bed there grew a little bed of pepper plants, and near-by a row of tomatoes. The Chief Gardener stopped in the midst of all these things.

"Here is the sun's chemistry," he said. "We put some tiny bits of life in the ground. The same [181] earth holds them, the same rain wets them, the same air is above them. Then the sun shines, and with that earth and water and air and that tiny seed, it makes something different of its own. Of one it makes a flower, of another a fruit, and of another a vegetable. Of the flowers it makes many kinds and colors—of the fruits and vegetables it makes many shapes and flavors. The sweet red strawberry and the fiery red pepper grow side by side. It makes food of the roots of the beet, and the parsnip, and carrot, and of the seed of the bean, and of the corn. It fills the mustard, and the horseradish, and the pepper, with a flavor so that we may season our meats and soups, and it gives to thyme, and marjoram, and fennel, a sweet savor that is like an odor of by-gone days. Into the flowers it pours the color and perfume that make them delicious and beautiful, and into the fruit and vegetables the starch and phosphates that make them pleasant to the taste and nourishing to our bodies. Where do all these things come from? We do not see the colors, or smell [182] the perfumes, or taste the sweet and the sour and the bitter in the air and water, and we could not see, or smell, or taste, them in the earth. Yet they must be there, and only the sun knows just how and where to find them, and how to make the best use of them for the world's good, and comfort, and happiness. Without the sun the earth would be bare and cold, and there would be no life—at least, not such life as we know. Every breath we draw, every bite we eat, every step we take, every article of clothing we wear, comes to us through the sun."

"Papa, we *can* see the sun's colors," said Davy. "When it shines through the cut-glass berry-dish it makes all its colors on the table-cloth."

"So it does, Davy, I didn't remember that. A glass prism shows us all the colors in the sunlight, and these are the colors that it puts into the flowers and fruit—just how, I am afraid we shall [183] never know, though like all great wonders, I suppose, it is really a very simple thing. When plants grow without sunlight, they grow without color, and it is the same with little boys and girls. Open air, sunlight, fresh water, and good food—these are what make plants and people strong and happy and beautiful."

And so June passed and half the year was gone. Prue and Davy were brown from working and playing out of doors, and were growing so fast that Davy said it was hard for his corn to keep up with him. They took great pride in the flowers and vegetables that came to the table from their gardens and always wanted them in separate dishes from those that came from the larger garden. When any of their friends came to dine with them, it was Prue's flowers that were to be worn and Davy's vegetables that were first to be served. By the end of June some of the early things were gone, and had been replanted. Other things had grown so big that they were beginning to crowd in their rows and beds, so that by the first of July, the little gardens that grew [184] side by side, and could be seen like a picture through the windows where the winter gardens had been, reminding little Prue of Alice's garden in Wonderland, had become almost a wonderland jungle.

[185]

JULY

[186]
[187]

JULY

I

A PLANT IS DIVIDED INTO THREE PRINCIPAL PARTS

"CLASS in botany will please rise."

Davy and Prue looked up quickly from their little corner by the peach-tree. It was a warm day, and they were resting in what they called their "house," because it was a shut-in nook behind the corn, and with tall sunflowers on the other side. Just now when the Chief Gardener came upon them they were pulling some flowers to pieces and talking about them very earnestly.

"Class in botany please rise," he said again, taking a seat himself on a bench close by.

"But I can't—it's too warm," said little Prue, "and besides I've got my lap full of flowers."

"Can't the class in botany sit by the teacher?" asked Davy. [188]

The teacher moved over. Prue gathered her dress into an apron, and presently the children were perched one on each side of the Chief Gardener, who fanned himself with his straw hat, for it was a real July day.

"We've been seeing how many of the parts of a plant we knew," said Davy. "We know all the parts, I guess, but of some plants we can't tell which are which."

"Suppose you name the parts for me," said the Chief Gardener.

"Oh, let me! Let me!" began Prue. "I asked first!"

Davy looked a little disappointed, but waited.

"Very well, suppose you try, Prue."

The little maid was excited.

"Why—why, there's the c'roller and the calyx and the pistil and the panthers, and—"

The Chief Gardener laughed in spite of himself, and Davy looked rather shocked.

"She always calls the anthers 'panthers,'" he said, sorrowfully, "and she never will say 'corolla' right." [189]

"And those are not the parts of a plant either," added the Chief Gardener, "but the parts of a flower. A plant is divided into three principal parts. Now, Davy, it's your turn. See if you can tell me what they are."

"Well," began Davy, "the root is one."

"The root is one, Davy; quite right. Now for the others."

"The leaves are another."

"The leaves, yes, the leaves are another."

"And the flower makes three, doesn't it? But then there's the stalk, too. That makes four. There must be four parts."

"There are a great many parts," nodded the Chief Gardener, "but there are only three principal parts—the root, the stem, and the leaf. To a botanist—one who studies plants and how they grow—the flower is only a branch of the stem, and its parts are leaves."

"I suppose that is why rose-petals are called leaves," said little Prue. [190]

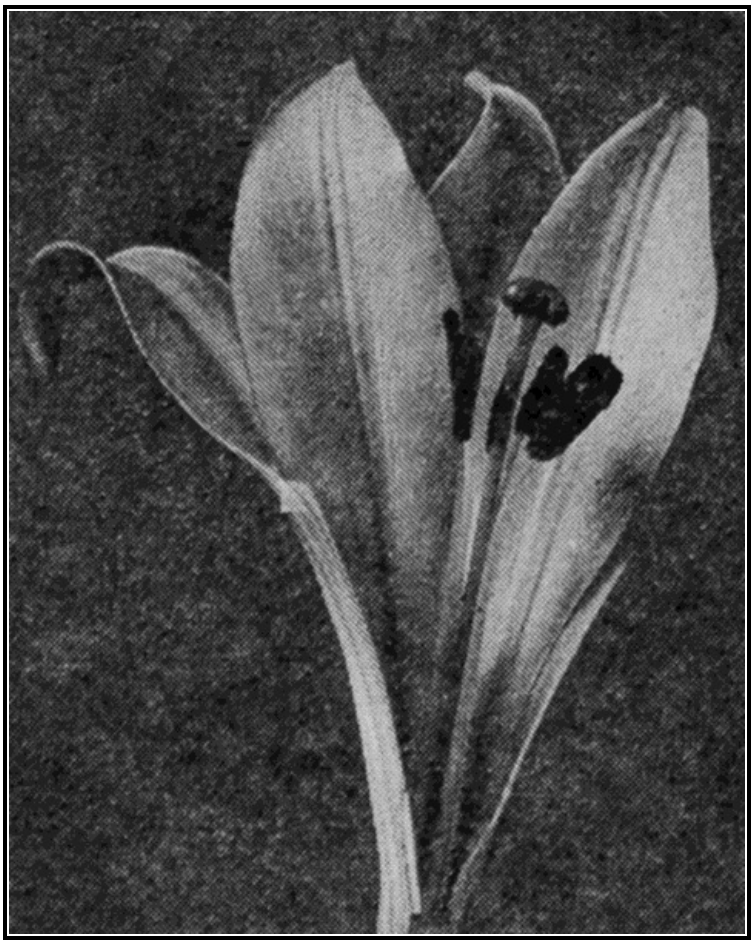
"I think it is."

"But—but don't you think a flower *ought* to be a principal part?" asked Davy.

"Well, it is in a way. It is a particular kind of a principal part, made for a special purpose. But after all, it is really a branch, for it comes from a bud, just as other branches do, and it comes just where any branch would come. Many times you cannot tell whether a bud is going to make a flower or just leaves until it opens. And there are a few queer flowers in the world that can hardly be told from leaves even after they do open."

II

THERE ARE EXOGENS AND ENDOGENS



THE PISTIL AND STAMENS OF THE LILY

"Now let us tell the parts of a flower. That was what we were doing when you came up," said Davy.

"And let me tell again," said little Prue. "I know I can get them right, this time." [191]

So little Prue told again, and got it almost right, though she did call anthers "panthers" again, just as the first time.

"Now, Davy, it's your turn," said the Chief Gardener.

Davy picked up a little pink flower which he had found in the grass. It was oxalis, or sorrel, and sometimes the children nibbled the sour leaves, calling it sour-grass. Of course, you must not forget that Davy was older than Prue, and perhaps a little more thoughtful.

"This," he began, picking off the little green flower-casing, "is the calyx, and each little piece is called a sepal. This flower has five sepals in its calyx, and five petals in its corolla. These are the petals," and he pulled out the little pink flower-leaves, and laid them by the green sepals. Then he held it up for the Chief Gardener and little Prue to see.

"Look at the stamens," he said. [192] "They all grow together at the bottom."

"That's because your sorrel is a Monadelphian," said the Chief Gardener.

Davy looked puzzled.

"I know what a Philadelphian is," said Prue.

Davy laughed.

"The words are very much alike," smiled the Chief Gardener. "They both mean brotherhood, and come from some old Greek words. Philadelphia means brotherly love, and Monadelphia means brotherly union. You see those stamens are all brothers and are joined together as one. All plants with such stamens are called Monadelphians."

"A stamen has three parts," Davy went on, "its filament, its anther, and its pollen. The filament [193] is the stem, the anther is its cap, and the pollen is the dust which falls on the pistil and helps to make the seed."

Very carefully Davy took away the ring of stamens, and left only the little yellowish-green center of the sorrel flower.

"This is where we get the seed," he said, as gravely as an old college professor lecturing to a class. "This is the pistil, and it has three parts, too: the pod, the style, and the stigma. The stigma is the little piece at the top which catches the pollen from the anthers. The style is the stem, and the pod is the big part below which holds the seeds."

He held up the little stripped flower again. "This pistil has five styles and five stigmas," he went [194] on. "A good many flowers have more than one. It has ten stamens, too—two stamens for each style, and five petals and five sepals. You can divide it by five all the way through."

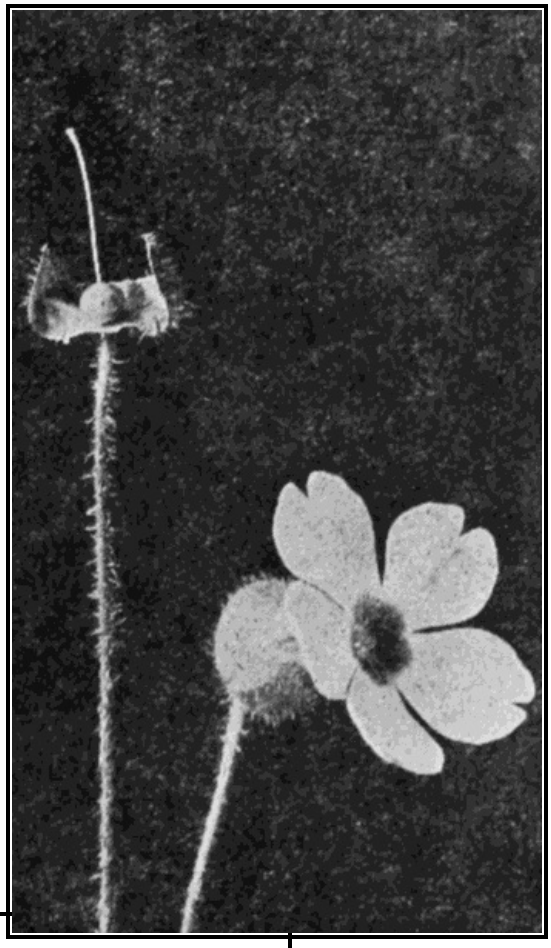
"Even to the seed-pod," added the Chief Gardener. "It has five divisions," and he cut the tiny green pulp and showed them with his magnifying-glass. "The little sorrel flower is one of the most perfect of flowers—one of the most perfect in a great class of flowers called Ex-o-gens. There is one other class called End-o-gens. Those words are from the Greek, too. Exogen means outward-growing. Endogen means inward-growing. The stem of an Exogen grows by layers, as most trees grow."

"Oh, yes," said Prue, "I know. We counted the rings on that big oak that was cut down over by the lake last year. It had one ring for each year."

"That's right, Prue, and the stem of the Endogen grows inside a shell, and is often just a soft [195] pith, like the inside of a cornstalk. These are the two great classes of all flowering plants and [196] trees. You can always tell the difference by their stems; nearly always from their leaves; always from their seeds, if you have a strong magnifying-glass, for the little germ of the Exogen has two leaves like the morning-glory, and the germ of the

Endogen has but one like the lily, or corn. But the easiest way for you to tell is by the flowers. An Exogen flower nearly always goes by fives, like the little sorrel bloom, sometimes by fours, but hardly ever by threes. The Endogen flower is nearly always divided in threes, like the lily, which has six petals. It very seldom has four parts, and never five. So, you see, we know right away that the sorrel and the rose and buttercup are Exogens, and that the lily and the hyacinth and the daffodil are Endogens. Of course, there are many flowers not so easy to place as these, and I am afraid I am giving you too hard a lesson for one time, especially for such a hot day."

"But I'm not hot now," said Davy. "There's a fine breeze, and I like to sit here and talk." So they talked on about the different kinds and classes of plants, and by and by when big Prue found them, little Prue had much to tell her about all the new things she had learned. And she was careful not to pronounce anything wrong, and to explain that an Exogen was a plant that grew on the outside, and that an Endogen was another plant that grew on the inside, and big Prue said that Davy must be an Exogen, because he was getting so fat, and that little Prue must be an Endogen, because she was growing so smart. Then everything had to be told over, and then it was tea-time, with a dainty table all spread under the arbor, and delicious raspberries, and very, very delicious ice-cream. [197]



A PISTIL AND CALYX AND A COMPLETE FLOWER

A GROUP OF ENDOGENS—THE LILY, HYACINTH, AND DAFFODIL

III

I DON'T SEE WHAT WEEDS ARE FOR, ANYWAY

And the very next day was Fourth of July, with all the fire-crackers and torpedoes and sky-rockets that always come on that day.

But there was something else. For when big Prue and the Chief Gardener come to the [198]

breakfast-table, they found that Davy and little Prue had arranged what Prue called a "susprise." The room was all red, white, and blue—not with flags or bunting, but with flowers.

There were bowls of red and white and blue morning-glories on the sideboard, and in the center of the table there was a very large bowl of red, white, and blue sweet-pease, so nicely arranged that each color was separate, and the whole looked like a cake of flowers cut in three equal parts. And there were other red and white and blue flowers, too, but the sweet-pea bowl in the center was the finest of all.

There was not much gardening that day, of course, for there were parades to see and music to hear, and fireworks in the evening. The Chief Gardener had brought home the fireworks, and when all the rockets had been fired and the Roman candles, he brought out something larger than the rest, and when it was lighted, it all at once turned into a great flower-pot and sent out [199] hundreds of the most beautiful fiery flowers, such as no garden would grow, no matter how hot it was.

"That is to pay for the sus-prise you gave us this morning," said the Chief Gardener, when little Prue was through dancing and squealing and jumping up and down with delight. "They grew in that hot sun yesterday."

But little Prue didn't believe it, though she did ask if some of the stars which came out of the rockets didn't stay in the sky with the other stars. She was quite certain she had never seen so many in the sky before.

July was a great month in the little gardens. Almost everything bloomed and bore. The pinks, the pansies, the alyssum, the sweet-williams and the morning-glories—they grew and then bloomed and crowded each other in their beds until some of them had to be moved into new places, while as for Davy's things, his corn grew taller and taller, until it shaded his tomato vines, [200] and he was afraid they would not do well for want of sun. But the sun was up so high, and was so hot in July, that perhaps they got enough anyway, for they grew so big they had to be tied up, and the tomatoes on them were so large that Davy thought one was almost enough for a whole family. As for his beans—well, Davy will plant fewer beans next year. They began to bear just a little at first, and then, all at once, there were beans enough on his few hills, not only for himself and Prue, but for the rest of the family, and then for the neighbors, too. Davy picked nearly all one hot afternoon to keep up with his bean crop, and then nearly trotted his fat legs off carrying little baskets to the different people that he knew, explaining to each that these were really from his own garden—his own beans that he had planted and tended himself. Then he and Prue carried some vegetables and flowers to a little hospital not far away, where there were some sick children, and some who were just getting well. And it was a happy, happy time for the little boy [201] and girl when they took the things they had planted and cared for to the other little boys and girls who seemed so glad to have them come.

But as the weather grew warmer and summer showers came the weeds got worse and worse. Sometimes when Davy and Prue had tried very hard to get them all out and found that new ones had come almost over night, while some of the old ones they had cut down had taken root again, they were almost discouraged.

"I don't see what weeds are for anyway," Davy said one warm morning, almost crying, and little Prue, whose face was very red and hot, flung herself down in the shady peach-tree house, too tired to talk. "Now, there's that old pursley, I pull and pull and cut, and unless I carry every bit of it away, it all takes root again and grows right along as if I hadn't touched it."

"Yes," said the Chief Gardener, "it is a nuisance. I suppose its pretty sister is very much ashamed of it."

"Its sister! Why, who is its sister?" asked Davy, while little Prue sat up and forgot she was tired. [202]

"Miss Portulaca Purslane, of course, sometimes called Rose-moss, because her flower is something like a wild rose and her stem and leaves a little like overgrown moss."

"Oh, is my sweet rose-moss just old pursley weed?" whimpered little Prue, who was very proud of a little bunch of portulaca that was just in full bloom. She had chosen the pretty flower from a catalogue, and it had been one of her best growers.

"Why, no, Prue, your rose-moss is not a weed at all, but she belongs to the Purslane family, and like a good many other families it has a member who has run wild and become a disgrace to its relatives and a trouble to everybody. There is another wild purslane, but it is not a weed. It is just a little wild-wood cousin of Portulaca. Her name is Claytonia, and she lives in pleasant places in the woods, and hides under the leaves in winter-time. Most people call her Spring-beauty." [203]

"Oh, Spring-beauty! Oh, I know! Just bushels of them—Davy and I found over by the lake last spring! Little white flowers with pink lines in them, and smell—just a little tiny smell—so—so springy and wild. Oh, I just love Spring-beauties! But I'm sorry my nice rose-moss is pursley. Is it, Papa? Is it really a sister to that ugly weed?"

"Suppose you bring a branch of each over to the bench here—one with flowers on it."

Prue brought a sprig of her precious rose-moss, and Davy a large piece of the pursley from the pile he had just cut down. The Chief Gardener took them and put them together.

"You see, they are a good deal alike," he said, "though the leaves are different—Miss Portulaca's being the finer."

Then he took one of the tiny pursley flowers and put it under the magnifying-glass, and let the

children look. Yes, it was almost exactly like the beautiful flower of the rose-moss, only smaller. [204]
Each flower had two green sepals and five colored petals, also five stamens, so they knew it was an exogen, though it would have been harder to tell this from the thick, pulpy leaves and stem. The little seed-pod of each had a tiny cap which lifted off when the seeds were ripe, leaving a perfect cup, heaping full.

"You see, children," said the Chief Gardener, "weeds do not care to be either useful or ornamental. So they become rank and common, and lose their beautiful flowers. But somehow they never have any less seed. They want to grow just as thickly as they can, and however small their flowers are, the seed-pods are always full to the brim."

"Well," said Prue, "I'm sure there can't be any of my flowers relation to chickweed. I never can get that out of my beds."

The Chief Gardener thought a minute.

"Why, yes, Prue," he said, "that's Cousin Stella; I suppose she came to see the beautiful Dian [205]
and to make her all the trouble she can."

"Oh, Papa! what do you mean by Stella and Dian?"

"Well, Stellaria is chickweed, and she's a cousin to Dianthus, your lovely pinks. I suppose you might call them Stella and Dian, for short. They are not very nearly related, but they do belong to the same family, and perhaps they were once more alike. I don't suppose beautiful Dian would own Stella, but Stella (or perhaps her weed friends call her Chick), is a great nuisance and makes Dian and *her* friends all the trouble she can."

"Papa," said Davy, who had been silent all this time, "are there really any plant families that don't have wild members who behave badly and become just weeds?"

"I don't remember any real weeds in the Lily family, Davy, though almost any plant will become a weed if allowed to run wild and live in fence corners, like a tramp. They become prodigals then, [206]
like the man's son in the Bible. And sometimes they come back to the garden, as the prodigal son did, to become well-behaved and useful flowers again. Of course, there are many others that have always lived wild in the woods and fields, and are not called weeds, because they do not spread and destroy other plants. These are our wild flowers, and the world would be poor, indeed, without them. Sometimes we bring them into the garden, and make them grow larger and call them by a new name. And sometimes, I am sorry to say, a sweet wild flower will suddenly spread and overrun the fields and become almost a weed. I am afraid our beautiful daisies are becoming a weed to a good many farmers. Those fields that are like banks of snow, and so beautiful to us, must worry the man who owns them and cannot get rid of the millions of 'rare Marguerites!'"

Little Prue sighed.

"Oh, dear," she said, "it's just too bad that there isn't some flower, or somebody, or something [207]
that can be just every bit good, all the time, to everybody."

The Chief Gardener smiled.

"We can only do our very best," he said.

[208]
[209]

AUGUST

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AUGUST

I

THERE ARE JUST TWO KINDS OF LEAVES

A GOOD many things were ripe in August, and some of the things were through blooming. Prue did not plant a great deal. It was too hot to dig long in the sun, and then there did not seem to be much in the way of flowers that could be planted so late. Davy planted a few turnips and some late beans and salad, because there was time for these, but even Davy found it pleasanter to sit in the shade, where there was a breeze, and pull plants to pieces and talk about Exogens and Endogens and the different parts of things, than to hoe and dig and rake on an August day.

[212] The Chief Gardener heard quite loud voices under the peach-trees, one warm afternoon. Prue and Davy were not really quarreling, but they seemed to be a good deal in earnest about something. The Chief Gardener went over there.

"What is all the excitement?" he asked.

Davy held up and waved a large stem of very coarse grass.

"It's an Endogen," he said, very decidedly, "isn't it, Papa?"

"It isn't at all, is it, Papa?" eagerly asked little Prue.

The Chief Gardener took the plumey stem and sat down.

"Why do you think it is an Endogen, Davy?" he asked.

"Because it's a grass, and belongs to the grass family. And corn belongs to the grass family, too, and corn is an Endogen, for it has a big pith instead of rings. So if corn is an Endogen, grass is, too."

[213] The Chief Gardener smiled.

"Well, that's pretty good, Davy, and is true enough, but it isn't just the best way to reason. Now, Prue, why did you think it was an Exogen?"

"Because the stem is hollow, and makes a ring when you cut off a little slice of it, and because the bloom part is in five pieces."

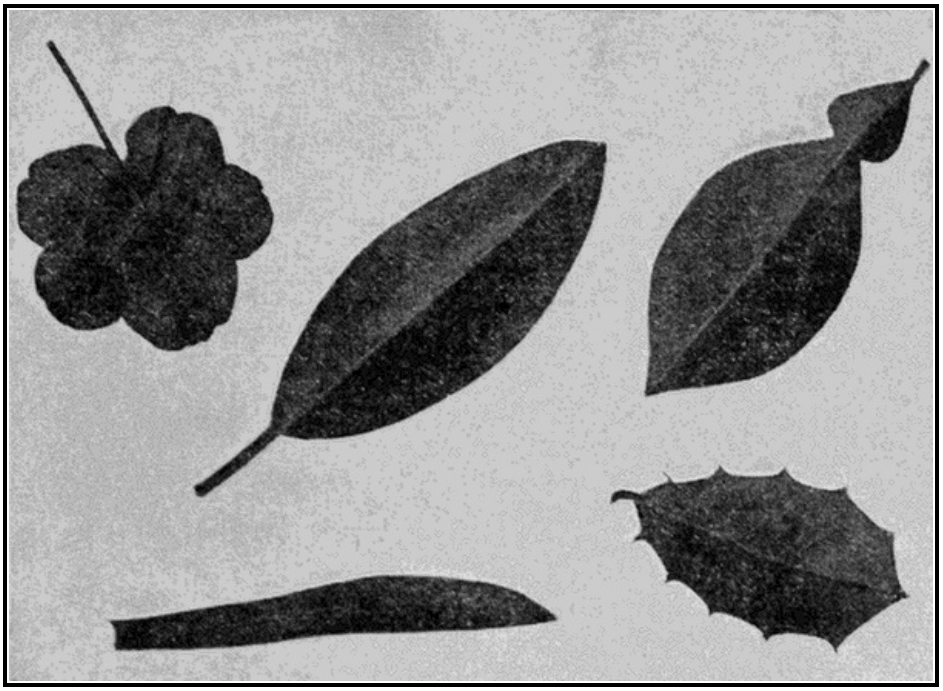
"Sharp eyes," nodded the Chief Gardener, "but Davy is right. There is not always a pith in the endogens. Pipe-stems and fish-poles are hollow, but the cane we make them of is an Endogen, too. And as for the bloom part of this grass, it is a sort of a tassel, like that of the corn. The real blooms are very tiny—too small for us to examine. And then, perhaps, some insect or bird has nipped some of it away. I think I must tell you a little more about leaves, so Davy won't have to know that grass is an Endogen because corn is, and so you won't be mistaken. Suppose, Davy, you try to tell me how many kinds of leaves there are."

[214] Davy looked quite helpless.

"It would take a hundred years," he said.

"Why, no," said Prue. "There are just two kinds. Exogens and Endogens."

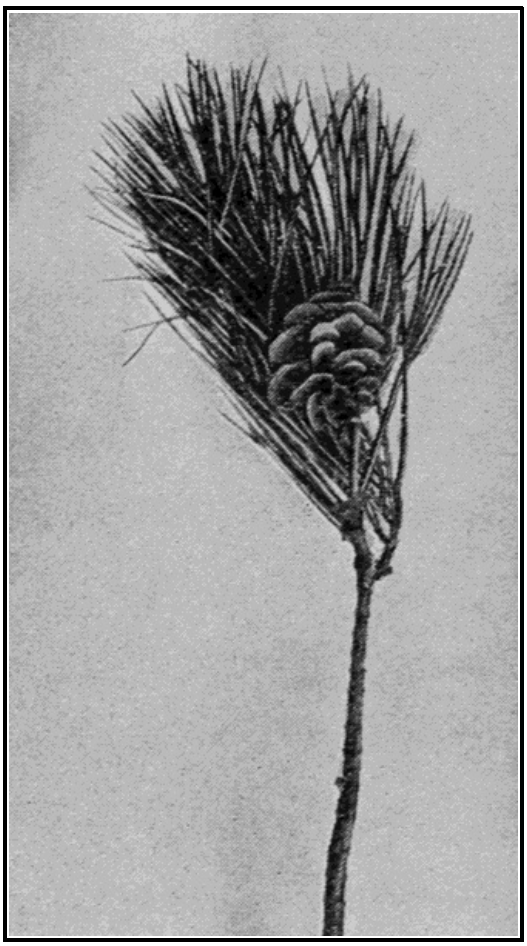
Davy laughed, and the Chief Gardener laughed with him.



SOME SIMPLE LEAVES

"But you are right, Prue, in one way," he said. "There are just two kinds of leaves—simple and compound. A simple leaf is a leaf of just one blade, like a grass leaf, or the leaf of a morning-glory. A compound leaf is a leaf made up of several blades, like a bean leaf, which you know is divided into three parts. Of course, there are hundreds of shapes and thousands of species of leaves, but there are just two great kinds, simple and compound. Suppose, Davy, you look about and bring me three compound leaves, and you, Prue, try to find three simple leaves, and let's see what they are."

The children jumped up quickly, and wandered out into the sunny garden, looking as they went. The Chief Gardener heard them chatting, as they looked this way and that. Presently they [215] returned with what they had found. Little Prue climbed up in his lap.



PINE-NEEDLES ARE LEAVES

"Look at mine first!" she said, holding them out, and fanning herself with her little hat.

Davy sat down by them, and looked his collection over to be sure they were right.

"Well, Prue, let's see what you have," began the Chief Gardener. "One peach leaf—that's simple enough. Then here's a lily leaf—that's simple, too. But what's this? It looks as if it came from a Virginia creeper. But where's the rest of it? That's only part of a leaf."

"I told Prue that," said Davy, "and I brought a whole one for one of my compound leaves."

Davy held up what he had brought. The Chief Gardener took the stem of the Virginia creeper. Branching from it were five little stems with a small leaf on each. Prue had taken one of these to be a complete leaf, when it was really only a part of one compound leaf divided into five parts.

"You see, Prue, there is only one stem that joins the [216] main stalk," explained the Chief Gardener. "Whatever branches out from that stem is a part of that leaf. What else have you brought, Davy?"

Davy held up a blackberry leaf, and the leaf of a tomato.

"Those are both right," said the Chief Gardener. "The blackberry has three parts like the bean, and the tomato has a good many parts. There are some leaves that are compounded as many as four times—each little stem being compounded over and over until there are hundreds of little parts, and yet all are connected with the main leaf-stem which joins the stalk or branch, making really only one leaf. Of course, it is not always easy to tell about leaves, any more than about flowers. Sometimes shapes are so peculiar that it is almost impossible to tell just

what they are. Pine-needles are leaves, but it is hard to tell whether they are simple or compound, and it would be hard to tell whether the pine was an Exogen or an Endogen if we had only the needles to go by." [217]

"But you haven't told us how to tell that by the leaves at all," said Davy. "That is what we started to find out."

"That's so, Davy. It's hard to keep to the subject in botany. There are so many things, and all so interesting."

The Chief Gardener took up the lily leaf and that of the blackberry, and held them up to the light. [218]

"Do you see the difference?" he asked.

"Why, yes," said Prue, "the blackberry is all criss-crossy, and the lily leaf runs straight and smooth."

"Those are the veins," said Davy; "I heard Mamma say so."

"Yes, they are the veins," nodded the Chief Gardener, "and when they form a network, or run criss-crossy, as Prue says, it means that the plant is an Exogen. When they run side by side smoothly, as they do in corn and grass, it means that the plant is an Endogen. There are a few of both kinds which do not quite follow this rule, like the pine-tree, which is an Exogen, but has its little straight-grained needles, or like smilax, which has netted leaves, but is an Endogen." [219]

II

SOMETIMES I THINK PLANTS CAN SEE AND HEAR

It was about a week after this that Davy and Prue came to the Chief Gardener with their hands filled with leaves.

"We want you to tell us about them," they said. "There is a lot of kinds and shapes, and some we can't tell whether they are simple or compound, or anything."

The Chief Gardener looked over their collection.

"Well," he said, "I am afraid you are getting ahead too fast. It would take a real sure-enough botanist to tell all about these leaves."

Davy picked up a daisy leaf.

"Is that simple or compound?" he asked.

"It's mostly ribs," laughed the Chief Gardener. "There really isn't much leaf about a daisy leaf, but what there is of it is simple, only it is so cut and sprangly that it might almost be called a compound leaf." [220]

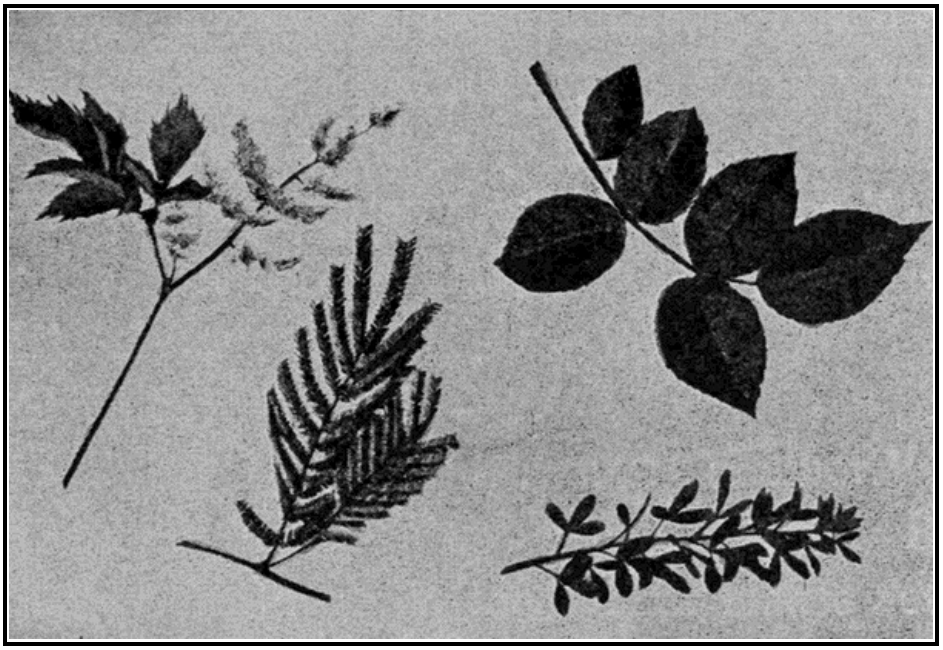
They looked at many others in the collection, and the Chief Gardener explained as far as he could.

"You will learn all the names of the different shapes some day," he said, "but it is too much for little folks. I suppose, though, you might remember the parts of a leaf. They are the blade, the stem, and the stipules."

"This is the blade, and this is the stem," said Davy, "but what are stipules?"

The Chief Gardener picked up a red clover leaf, and pointed to a little thin pale-green husk where the stem joined the main stalk.

"Those are stipules," he said. "In the clover they grow together, as one. The stipules are a part of the outside of the leaf-bud. When the bud opens, and the leaf goes out into the world, the stipules stay behind. Sometimes they are like little leaves, and take up air for the plant, just as the leaves do. Sometimes they almost take the place of leaves, and are quite large. Sometimes they are very tiny, and some plants have no stipules at all." [221]



"THERE IS A LOT OF KINDS AND SHAPES"

"But leaves have veins, too," said Davy.

"Those are parts of the blade. The blade has ribs—they make a framework which holds it together; also veins—the fine threads which help to carry the sap. You see, plants are a good deal [222] like ourselves, and live much in the same way. Some leaves have only one strong rib through the center—a sort of a backbone. Some have as many as six or seven."

They talked about these things, and looked at the different leaves and stems. Then they spoke of the stalks of different plants, and the Chief Gardener explained how the tender stalk of the lowliest plant, that of the tall twining vine, and the trunk of the giant oak, were all one and the same, only different in kind. Each came at some time from a tiny seed. Each put forth buds and leaves and branches. Each was made to withstand the storm—the oak by its strength, the vine by its fast hold on the wall or lattice, the tender plant through its lowliness.

"Oh," said Davy suddenly, "that makes me think of something. Our Virginia creeper on the front lattice has three ways to climb."

"What are they, Davy?"

"Why, it twists, for one way."

"Twines, you mean."

"Yes, twines, and then it has little curlers, like a grape-vine." [223]

"Tendrils, they are called, Davy."

"And little clingers, like an ivy."

"Feet, you should say. Yes, I have noticed that. A lattice is not very well suited to a Virginia creeper, and ours has to try every way known to vines, to hold on. I have never known all three ways on one vine before. But vines are very curious things. Sometimes I think they can see and hear. I know they can feel, for a honeysuckle shoot will grow perfectly straight until it touches something that can be climbed. Then it will begin to twist so fast you can almost see it."

"But why do you think they can see and hear?" asked little Prue.

"I don't know that I do really think so, but I have tried every way I can think of to keep those morning-glories of yours from running up my little pear-tree. I have pushed them away, and tied them away, and I have even cut some of them away. But if I turn my back for a day, or even a half [224] a day, there is one of them starting up the stalk, or, at least, reaching out for it as hard as ever it can."

Little Prue laughed, and ran over to see. Yes, there it was—a fuzzy green shoot half-way up the little pear-tree, and three more reaching out in the same direction.

"A vine will grow in the direction of a tree or shrub, if it is half way across the garden from it. Whether it hears or sees, or, perhaps, smells it, I do not know. Some vines will turn out of their way for a drink."

"For a drink! Oh, Papa!"

"Yes, certain melon vines. In dry weather they will turn to find a pan of water set several feet away. I suppose they can sense the moisture from it."

The children talked the rest of the afternoon about these curious things. They found where a scarlet runner had traveled several feet through the grass to reach a peach-tree, and had climbed [225] far up into its branches. Then Davy happened to remember the story about the vines which the Chief Gardener had told them during the winter, and told it all over to little Prue—how the

honeysuckle had laughed at the scarlet runner and the morning-glory, and had been punished by being made to twine to the left, away from the sun, instead of to the right, toward it, like the morning-glory and the bean. So the happy summer day passed, and in the cool of the evening big Prue came out to watch the sun go down, and in the pleasant arbor they all had tea together.

III

THERE ARE PLANTS WHICH DO NOT BLOOM

BUT during the last two weeks of August the Chief Gardener and big Prue and little Prue and Davy all went to the seashore, which was not far away. They lived in a pretty cottage near the beach, and there were meadows behind that stretched away to the blue hills. Davy and Prue [226] loved the sea, with all its curious shells and star-fishes and other wonderful creatures. They loved the white sand, where they found these things, and where the great waves billowed and broke over them when they bathed on hot afternoons. They loved the meadows, too, for here there were birds building in the grass, and flowers unlike any in their gardens, and little streams of clear water that went singing to the sea.

It was when they came from the meadow one afternoon, that they hurried to the Chief Gardener with the little basket which they always carried.

"We have found some things," said Davy, "and want you to look at them."

The Chief Gardener took the basket. On top were some mushrooms—two kinds. One had whity-brown tops, and was pink or brown or almost black underneath, while the other had yellow tops with white spots on them, and was very pale underneath. The Chief Gardener looked sharply at [227] the children when he saw these yellow mushrooms.

"Go and wash your hands, quickly," he said, "and I hope neither of you have put your hands to your mouth since you touched these."

"I haven't," said Davy, "and I picked the yellow ones."

"They are deadly poison," said the Chief Gardener, "they are called the Amanita, and even to touch the tongue with your fingers after handling them might make you very ill. The others are meadow mushrooms and harmless. But even they could not be eaten after being in the basket with the Amanitas."

The children ran to wash their hands, and were presently back to ask questions. Meantime the Chief Gardener had found a lot of beautiful moss and ferns in the bottom of the basket, and some lichens, which the children had gathered from a rocky cliff not far away.

"Papa, *aren't* mushrooms toad-stools, and *don't* they build them to sit on, in pleasant weather, [228] and to get under, when it rains?"

This was little Prue, and she was quite excited.

"I think they are some kind of plants," said Davy, "but I don't see where the flowers are, or how they make seeds."

"How about the ferns?" asked the Chief Gardener. "Did you find any flowers on the ferns?"

"No, but we found seeds."

Davy turned one of the fern leaves over, and, sure enough, there were a lot of little brown seeds under the ends of some of the leaflets. Then the Chief Gardener turned over one of the meadow mushrooms, and divided the little layers beneath with the tip of his pencil.

"That is where the mushroom keeps its seeds, too," he said. "We do not call them seeds, though, but spores. Fern seeds are called spores, also."

"But toads do sit under mushrooms, don't they?" insisted little Prue. [229]

"Why, yes, I suppose a great many toads have done that, but they are really plants, as Davy says."

Davy had become thoughtful.

"Are they Exogens?" he asked, "or Endogens? I should think the mushrooms might be Endogens from their stems, and the fern Exogens from their leaves."

"Well, Davy, that is very well said, but they are really neither one. They belong to a great class of their own. Exogens and Endogens are only the two kinds of flowering plants. These mushrooms and ferns and mosses and lichens all belong to the flowerless plants, and are called Crip-tog-a-mous—a very long word, which I do not expect you to remember. The divisions of flowerless plants are too hard a study for little folks, but the plants are all very interesting, and we can gather them, and see how they grow. In fact, I think we will have to call our meadow and [230] our beach your August garden."

"But there isn't anything on the beach," said Prue.

"How about all that seaweed you were gathering yesterday?"

"But does that really grow like our plants on the shore?" asked Davy.

"Very much the same, and it belongs to the flowerless class, too, along with the mosses and lichens and ferns and mushrooms. It has spores instead of seeds, and is really a sort of a moss of the sea."

"Oh, call us not weeds, we are flowers of the sea,
For lovely and bright and fresh-tinted are we,"

sang little Prue, with a memory of her kindergarten.

"Yes, they are flowers of the sea, though they do not bloom," said the Chief Gardener, "and are very beautiful in color and form. I will give you some white cards and you can gather specimens [231] to dry. You spread out the little branches with a tooth-pick, and the cards make pretty little books afterwards."

"But do seaweeds and mosses and lichens and ferns and mushrooms all belong to one family?" asked Davy.

"Oh, by no means. Not even all to the same division of flowerless plants. But it is too hard a study for a little boy, and it is enough to learn now that they do all belong to the big flowerless or Crip-tog-a-mous class."

"Papa, is it true that if you put fern seeds in your shoes, nobody can see you?" asked little Prue.

"Why, I don't very well see how '*nobody*' could see you, but I think somebody might."

"It says in my fairy book that the princess put fern seed in her shoe, and then there wasn't any one who could see her. I wish it was like that. I'm going to try it," and the little girl pulled off some of the brown spores and tucked them in her dusty ties.

"Can you see me? Can you see me, now?" she asked, dancing about. [232]

"Why, no," said the Chief Gardener, who pretended to be looking for her in another direction.

"Can you, Davy? Can you see me?"

"Not very well, when *you* go so fast," laughed Davy. "Stand still, and let me try."

Just then big Prue came out on the porch, and little Prue danced up to her.

"Can *you* see me? Can you *see* me, Mamma? You mustn't, you know, because I've got fern seed in my shoe."

Big Prue shut her eyes, and put out her arms.

"No, I can't see you," she said, "but you feel like the same little girl," and she kissed the little round tanned face on her shoulder.

IV

THE PRINCESS BY THE SEA

"I HEARD you talking about flowerless plants," big Prue went on, "as I sat there by the window. I [233] wonder if you would like to hear a little story of how they came to be without flowers."

"Please, yes!" and little Prue forgot her fern seed and hugged closer.

"Well, once upon a time there was a princess with a beautiful garden—"

"Is this the same princess that turned into a red rose?"

"Oh, no, this is another princess. There have been a great many princesses with gardens. This princess lived by the sea, where there was a meadow, and a cliff not far away, much like it is here. She loved her flowers more than anything in the world, and her garden was so beautiful that even the fairies loved it better than their own gardens of fairyland and came at midnight to dance in the moonlight, after the princess was asleep.

"And the princess knew that they danced there, for once a gentle fairy had come to her and told her of it, and warned her never to try to see them, for whoever sees the fairies dance by the [234] midnight moon may meet with some dreadful misfortune, which even the fairies themselves cannot help.

"But when the princess heard about the fairy dance, she wanted to see it very much. Instead of trying to forget it and going to bed before it began, she thought of it all the time, and the more she thought, the more she made up her mind to see it, no matter what might happen afterwards.

"So one night, just before twelve o'clock, she crept into a large cluster of blooming ferns—"

"But ferns do not bloom—"

"They did then, and their sweet odor filled the still night air; the moon was white and round in the sky, and the level sea had a path of glory that led close to where she lay.

"The princess thought how beautiful was all the world, and especially her garden, and she grew sad to think that perhaps some time she would not be there to see it all. And then all at once she [235] forgot everything else, for there in the moonlight were the fairies, dancing in a great glittering ring.

"The princess looked, hardly daring to breathe. Then it seemed to her that she could not see so well. She rubbed her eyes, but the world about her only grew dimmer still. She thought the moon had gone under a cloud, but it was sailing high in the sky. And then everything faded out, the world became dark and the princess gave a great cry of grief, for she knew that her punishment had come, and she was *blind*!

"The fairies heard the cry, too, and vanished, but the gentle little fairy who was her friend came

and guided her in sorrow to her palace, and said, 'I can grant you one wish, but it must not be to see again—that I cannot grant.'

"'Then,' said the princess, 'if I cannot see my flowers, I wish that they may never bloom again until some one, who cares more for them than I, shall wish to see them.'

"And the wish came true. Never a flower in the garden of the princess bloomed from that day. [236] Their buds dropped, their leaves shrank, and many of them hid away where they would not be seen by passers-by. Some slipped away into the water and became seaweeds. Some hid in the deep woods, and crept into dark places, and became ferns. Others, growing smaller each year, became moss. Some hid among the rocks of the cliff and became lichens. And some, who wanted to be useful if they could not bloom, scattered themselves over the woods and fields and became mushrooms. But some of these were of bitter or sharp nature, and these we cannot eat. And some grew wicked and vicious, and these are poison. One of them, the Amanita, which had bloomed as a great golden white-spotted flower in the garden of the princess, became the most vicious of all. It kept much of its color, which now makes people shun it because it is a sign of deadly poison."

"And will the flowers that grew in the garden of the princess never bloom again?" [237]

"Never, unless some one who cares more for them than she did shall wish to see them."

"But how can I care so much unless I can see them?" asked little Prue.

"Perhaps that is why they will never bloom again," said Davy.

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SEPTEMBER

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SEPTEMBER

I

A FLOWER REALLY HAS CLOTHES

THE little gardens were in quite a bad way when Davy and Prue came back from the seashore. Everything had done well, even to the weeds, and that was just the trouble. It took two whole days, working when the sun was not so very hot, to get the beds in shape, and the Chief Gardener had to work, too, very hard. But by and by everything was clean and beautiful again, and the seat under the peach-tree was a finer place than ever, because there were more things in bloom, and everything had become more beautiful.

One day Davy came to the seat, where little Prue and the Chief Gardener were resting, with a [242] double carnation in his hand.

"I wish you would look at this," he said. "I can't tell petals from stamens."

The Chief Gardener took the flower, and slowly pulled it to pieces.

"Well, no," he said; "it isn't the easiest thing to do, though, of course, those anther-looking things must belong to stamens."

"But the filaments are like petals," objected Davy.

"Yes, and here are others like them, though they have no anthers. Those are supposed to be stamens, too, or, at least, they were stamens, once."

Davy looked puzzled.

"You remember I told you once, Davy, that a flower was only one form of a leaf—a leaf intended to make the plant beautiful, and to make it bear seed. Well, in some plants, especially cultivated ones, the flower-leaves seem to get rather mixed in their parts."

The Chief Gardener picked a scarlet canna that grew near. [243]

"Here is a flower which has three little petals and four large flower-leaves which you would think were petals, wouldn't you? But the stamens and petals and sepals are so mixed that even botanists can hardly decide which is which. In a water-lily, too, the petals gradually become stamens, so, perhaps, the leaf came first, ages and ages ago, and little by little it has changed, first to sepals, then petals, then to stamens and pistils, so that it could make seeds and scatter them to the wind. Gardeners make double flowers out of single ones by a process of turning stamens and even pistils into petals. The double flower is sometimes very beautiful, but it is not the most perfect flower. The wild rose is more perfect than the finest double American Beauty. Perhaps double flowers came before single ones, a long time ago, when the leaves were turning to blossoms, so that the gardeners who make the wonderful double blooms now are really going [244] backward instead of forward. But that is all too hard. I'm afraid—especially for a little girl who likes very double carnations."

"I know everything you're talking about, just as well as Davy does," said the little girl, sitting up quite straight. "And I like single flowers, 'specially lilies, and wild roses; but I think double flowers are nice, too, because they seem dressed up, like folks—queens and princesses, all with nice dresses—velvet and chiffon and lacey stuff."

"Why, that is just what they are, Prue. They are dressed up, and, of course, the more anything, or anybody, is dressed up the less they are really like themselves. The petals and sepals of a flower are really fine clothes, you know, just as you sometimes play they are, when you make hollyhock dolls, and it wears them for just about the same reason that we wear ours. It might grow and be useful without them, but it would not be very attractive, and some of its friends and [245] servants might pass by without seeing it."

"Servants! But flowers don't really have servants. That must be just a story."

"No—at least, it is all very true. Flowers are like people in very many ways. They really have servants and friends, and some of them live off other flowers and plants, and some of them eat and sleep, very much as we do. I will tell you something about that another time."

II

THE FLOWER HAS MANY SERVANTS

It was about a week after this that little Prue was picking some sweet-pease for the table when Davy came along with the Chief Gardener.

"The servants are busy this morning," said the Chief Gardener.

"Do you mean me?" asked little Prue. "I am trying to pick some flowers, but there are so many bees around that I'm afraid."

"Those are the servants I mean. I do not think they will hurt you if you are careful. They are [246] only collecting their wages, and working at the same time."

Davy and Prue looked close.

"What do you mean by their working?" asked Davy. "Do you mean for the flower, or for themselves?"

"For both. Watch this bee. You see, he pushes open the flower for honey, but to get it he has to cover his legs with the pollen from the anthers, which are placed down in this little lower part called a keel, just where his legs and body will be covered. Then he comes out and goes to another flower and carries this pollen, and really rubs it on the stigma there as he crawls in and out, and takes more pollen, and so goes on from one to another—a real servant, doing a real duty and getting his pay as he goes."

"But he doesn't have to do it. The pollen would fall on the stigma anyway, wouldn't it?"

"It might with the sweet-pea, but even if it did, the pollen from the same flower is not as good [247] as the pollen from another flower from a different plant, and the seed would be poor and the plants would grow weaker every year. There are many insects that act as servants to the flowers, and the wind is one of the servants, too. It shakes the corn-tassel so that the pollen falls on the silk and makes the ear, and it carries the pollen of one stalk to the silk of another—sometimes from one field to another."

"But, of course, the bee doesn't know that he does it," said Prue, who was still very intently watching the little servants of the sweet-pease.

"I am not so certain of that," the Chief Gardener said musingly. "The flower must know, for it dresses in bright colors so that the bee may see it, and offers honey as pay for his work. And if the flower knows, why shouldn't the bee?"

"But don't you think it might all just happen so?" asked Davy.

"I don't think anything in nature just 'happens so,' Davy, and I am sure that the bee's work for [248] the flower doesn't, for there are too many flowers that would have no seed and would die out if it were not for the bees that carry the pollen, and most of these flowers have grown just to fit in every way the especial little bee, or big bee, or insect, that comes to work for them. There are some flowers, like the sweet-pea, that the bee cannot get into without getting pollen on his legs, and there are others that drop it upon his back. Some flowers have stamens that wither before the pistil is ready for the pollen. In such flowers the little servants go from one to the other—from a new flower to an old one—carrying the pollen which would not be of any use in the flower where it grew."

"And is that really all that the flower's pretty color and sweet smell and delicious honey are for?" asked little Prue, "just to get bees to work for it?"

"No, Prue, I don't think so. I think all the world of nature is harmony, like sweet music, and the [249] flowers with their beauty and sweetness are part of it, but I think that just as we may attract friends and good servants by kindness and offering something in return, so the flowers attract the bees and butterflies, and even a little girl and boy to keep the weeds away. The more a flower depends on an insect to carry its pollen, the gayer or sweeter that flower always is. The orchids, which are almost the finest flowers in the world, seem to be made especially for the insects, and they could not do without them, any more than the insects could do without the flowers."

"And is that what makes some flowers such funny shapes, too?"

"I think it is. The foxglove, and the horse mint, and many others, have curious shapes and forms, just to fit their little helpers, and the milkweed has a funny little saddle-bag which it hangs to the bee's feet, so that he can carry it to another plant. There is another kind of a milkweed [250] which is very cruel, for it attracts small insects by its odor, and when they come they are caught by a sticky substance and held until the weed sucks them down and really eats them, much as we eat our food. So, you see, plants are a good deal like people, just as I told you the other day."

"You said they could sleep, too."

"Yes, your rose-moss closes up every night, shuts its eyes just as you do, and rests. Many flowers close at night, and some even droop their heads quite low, like the bird, which sleeps with its head beneath its wing."

III

A FLOWER MAY REALLY REASON

How beautiful was the September garden! The wild sunflowers were all in bloom like a wall of gold. A bunch of black-eyed Susans at the corner of the house seemed trying to imitate its large [251] cousins, and was just as bright and yellow, too, in a small way. The little Susans had not been planted, but had strayed in out of the field somewhere, perhaps longing to be with people. A row

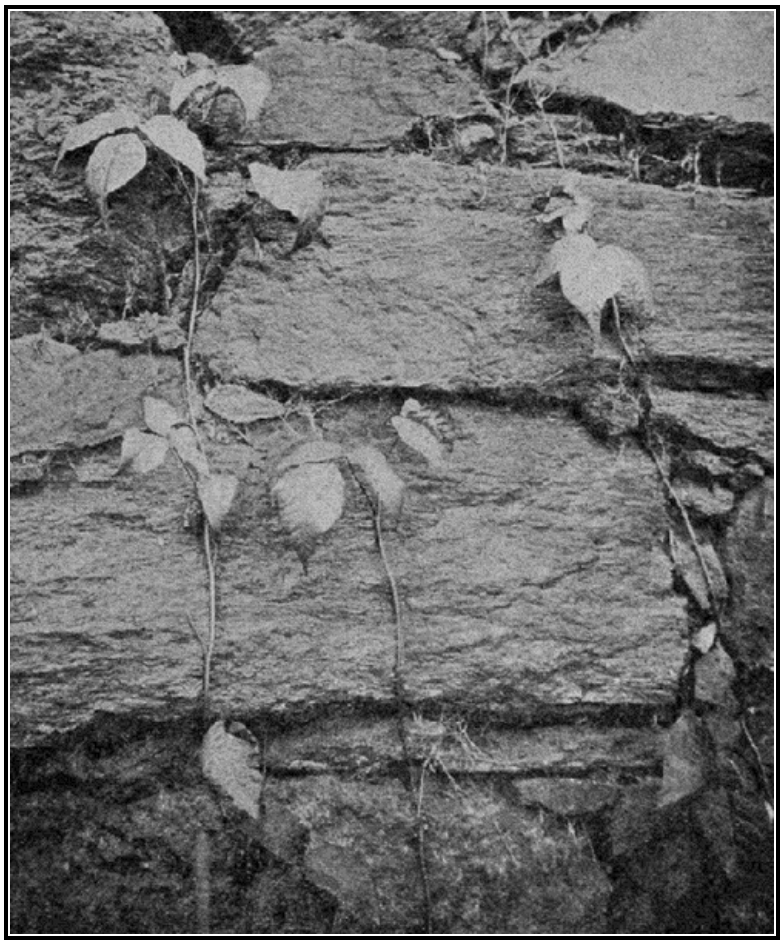
of bright red cockscombs made a crimson line of plumes down one side of a garden-path, and just beyond them Davy's third planting of beans was in full bearing. Prue's pinks and sweet-pease bloomed on and on, and her alyssums and the other sweets became sweeter every day.

"Do you think all these things like to be together?" Prue asked, one afternoon, as they sat looking at them from the shade of the peach-tree.

"I think those that grow well do," said Davy. "They seem to, anyway."

"And they do, Davy," said the Chief Gardener. "A plant that doesn't like a place will not grow in it, and in the woods and fields we only find those plants together which like that particular spot. Down below the hillside yonder you will find golden-rod and several kinds of tall blue and white [252] daisies and grasses that all belong there, and seem very happy together. They would not grow well in the wet woods, and would soon die out, but there are other plants that grow and tangle and are happiest where the ground is damp and the shade overhead. So, you see, there we have another way that plants are like people—they have their proper company, and, perhaps, their societies and friendships. I am sure they have their friendships, for there are certain little plants, and big ones, too, that you will nearly always find together. Violets and spring-beauties and adder-tongues must love each other, I am sure, for you seldom see one without the others, and there are certain vines, like the Virginia creeper and the poison-ivy, that are nearly always together, though why the Virginia creeper should care for the poison-ivy I don't see. Perhaps it doesn't seem poison to the creeper, but only to us."

"It seemed poison enough to me," said Davy, "when I got a dose of it last year. It nearly itched [253] me to death."



"BEWARE OF THE VINE WITH THE THREE-PART LEAF"

"Yes, it is terrible stuff, and little folks, and big ones, too, have to be very careful, for it looks [254] very much like its friend, the creeper, only that its compound leaf is divided into three parts instead of five. You can always tell by that, and you must always *beware of the vine with the three-part leaf*."

"Do poison-ivy and Virginia creeper belong to the same family?" asked Davy.

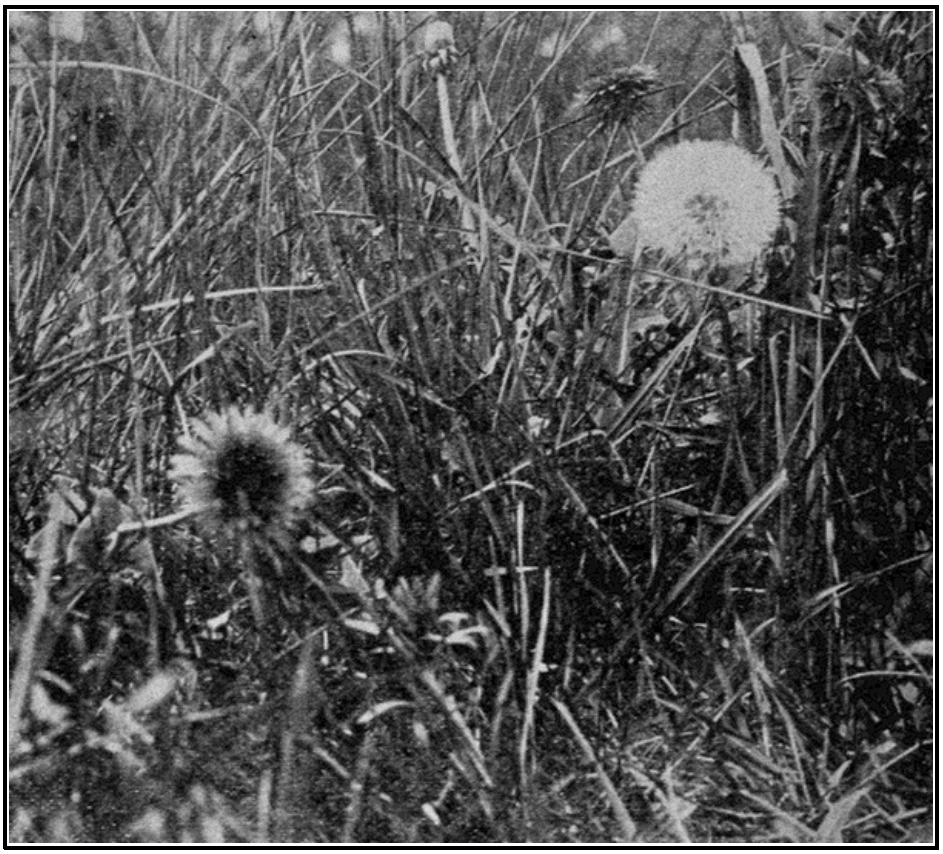
"No, though they look so much alike. The poison-ivy belongs to the Sumach family, while the creeper belongs to the Grape family. The families are quite close together, but are separate. Often members of different families are better friends than members of the same family, and that is still another way that plants are like people."

"Do you suppose the poison-ivy knows that it is poison?" asked Prue, who liked to believe that plants were really *just* like people.

"Perhaps it does. We can never be quite sure how much a plant knows. I told you once how I believed they could feel and hear, and even see. I am almost sure that the dandelion can reason." [255]

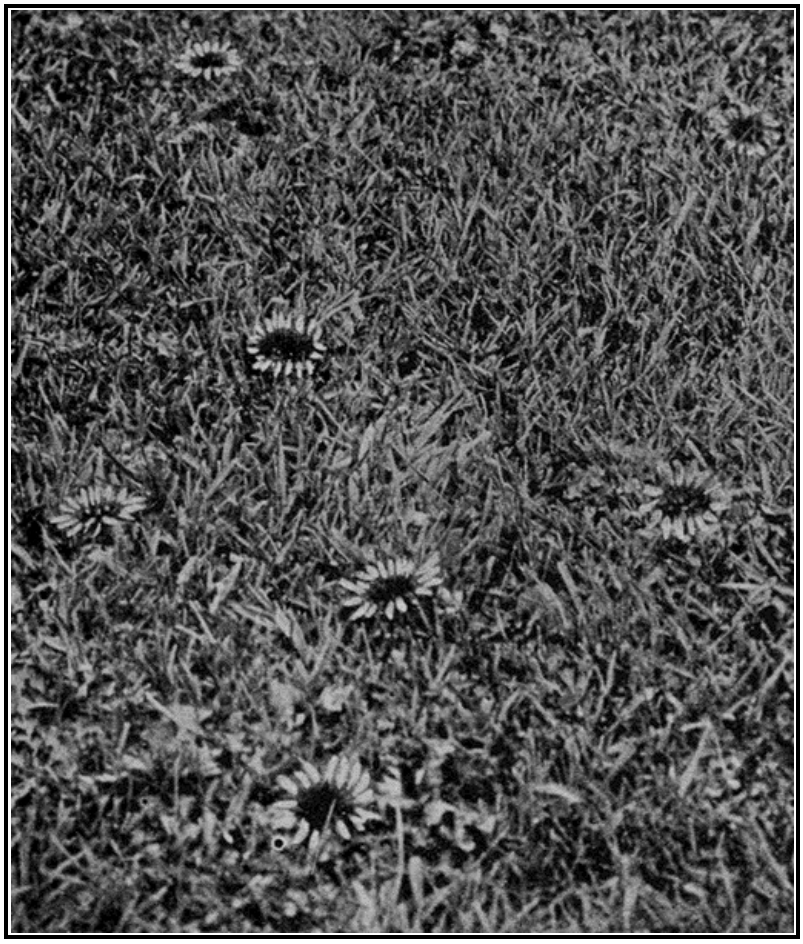
Davy looked interested, and the Chief Gardener went on.

"You will remember, Davy, how when the dandelions first bloomed they had quite tall stems. Then we mowed the lawn, and when they tried to bloom again the stems were shorter. We mowed again, and the stems grew still shorter, and so they became shorter and shorter each time, until they bloomed flat against the ground, so low that we could not mow them. They were bound to bloom, and they did bloom, and then all at once almost in a day they shot up long pale stems with balls of white-winged seeds that were ready when we mowed again to float away at a touch or a puff, to be ready to sprout and grow another year. The dandelion is bound to spread its seed. By and by it learns that the lawn-mower cannot cut below a certain level. So it blooms below the lawn-mower's cutting-wheel, and then when it is ready to seed, it pops up as high as [256] ever it can, and stands waiting for the mower to come around and help scatter its seed. Perhaps it doesn't really reason, but it does something exactly like it, and there are people in the world who would be happier if they could do the same thing."



THE DANDELION IS BOUND TO SPREAD ITS SEED

And just then big Prue came out into the garden, and they all sat on the bench under the peach- [257] tree, and watched the sun going down, away off over the purple hills. And they thought how the summer was nearly over, and how soon the glory of the little garden would be fading, and how [258] the snow would be sifting down among the withered leaves.



"SO IT BLOOMS BELOW THE LAWN-MOWER'S CUTTING-WHEEL"

IV

SOME FLOWERS LIVE OFF OTHER FLOWERS AND PLANTS

So summer with its song and its blossom came to an end. Autumn clad in gold and purple came across the land, and the gentle haze of Indian summer lay upon the fields. From the banks of golden-rod below the hill, Prue and Davy filled jars and vases, and one day they brought in great bunches all linked and bound together with something like a tangle of golden thread.

The Chief Gardener was not at home that day, so they brought their discovery to big Prue to explain.

"Why," she said, "that is dodder, or love-vine. It is what is called a parasite, for it has no root in [259] the ground, but lives from the plant it grows on."

Then she showed them where the small, tough little rootlets were really embedded in the stalk of the golden-rod from which it drew its strength and life.

"Oh," said Prue, "that is what Papa meant when he told us once that some flowers lived off other flowers and plants, just as some people live off other people."

Big Prue nodded.

"There are a good many such plants," she said. "The mistletoe we get for Christmas grows on several sorts of trees. Its seed lodges under the bark and sprouts there, just as it would in the ground. Then the wood grows up around the root, and the mistletoe becomes almost a part of the tree. Then there are many kinds of mosses, and the Indian pipe—that white, waxy flower which you found in the woods not long ago, and thought you had found a flowering mushroom. It is a sort of a relation of the mushroom, for it springs from damp, decaying leaves, and has no real [260] root, but it is more of a parasite, for it feeds mainly on roots of living trees and plants. This dodder blooms and drops its seeds to the ground, where they sprout, but as soon as it finds a weed to cling to, the root dies and it lives only on the weed."

"Why do they call it love-vine?" asked little Prue.

Her mother took the long golden tendril and twined it about her slender white finger. Then she told them the story of

V

THE PRINCE AND THE THREAD OF GOLD

"There was once a prince," she began, "who lived in a far country between blue seas. And all the land the prince owned, and a great palace, but he was not happy, because there was a little

fisher girl more beautiful than the sunrise, who would not come and dwell in his palace and be his princess. [261]

"When this fisher girl saw the prince coming toward her, she would dance away laughing, like a ripple of sunlight on the water, and there were some who said she was not a real child, but a sea-fairy, for she had been found as a babe by the fisher's wife, cast up on the sand, after a great storm.

"But the prince did not care whether she was a human being or not. He thought only of her, as each day she grew taller and always more beautiful. He went every morning to the fisher's hut to beg that they would give her to him, and this they would have been glad to do had Dodora been willing, but always she laughed and danced away when they spoke of it, and sometimes they did not see her again until evening.

"But one morning, when she was eighteen years old, and they spoke to her, she said, laughing:

"'Tell the prince to tie a knot in the thread of love. If he will tie a knot in the thread of love it will hold me fast,' and again she danced away, while her laugh came as the tinkle of the tide among the pebbles on a still evening. [262]

"So when the prince came that day they told him, and he went away sadly, for he thought she was only playing with him for her amusement.

"But that night, as he walked alone in the moonlight by the shore, he suddenly saw on the sand in front of him a radiant fairy, spinning on a silver spinning-wheel a wonderful thread of gold. Without daring to breathe he stood and looked at her, and then he saw that it was from the rays of moonlight that she was spinning the thread. All at once she rose and came to where he was standing.

"'Here is the thread of love,' she said to him, and then she showed him how to tie the true lover's knot in it. 'With this you may win our Dodora,' the fairy added, and then suddenly like a breath of perfume she was gone, leaving the thread of gold in the prince's hands. [263]

"And all that night the prince tied and retied the true lover's knot, as the fairy had showed him, and next morning he hurried with it to the fisherman's cottage where Dodora lived. And when Dodora saw him coming, she did not dance away as she had always done before, but went forward to meet him, and took his hand. Then suddenly she snatched the golden thread from him and ran, with the prince after her. She ran fast, but he was about to overtake her, when Dodora dropped the knot into the weeds, and then all at once she stopped, for the wonderful thread had suddenly become a great tangle of gold that held Dodora fast, and she could not get away. So the prince overtook her, and led her to his palace, where they lived happily for a long time. And the thread of love grew as a wonderful vine that had no root in the earth, but twined about the weeds and spread over the country in many places. Some called it Dodora, after the princess, and this [264] was changed at last to 'dodder' by those who did not know. Others called it golden thread, and still others called it love-vine, and tied true lover's knots in it which they threw over their shoulders on moonlight nights. If these knots grew they won their sweethearts. They did not always grow, but about the palace of the prince the vine flourished in a golden mass, and the prince, never forgetting the wonderful night when it had been spun for him out of moonbeams, let it grow through all the world, to become the golden thread of love."

[265]

OCTOBER

[266]
[267]

OCTOBER

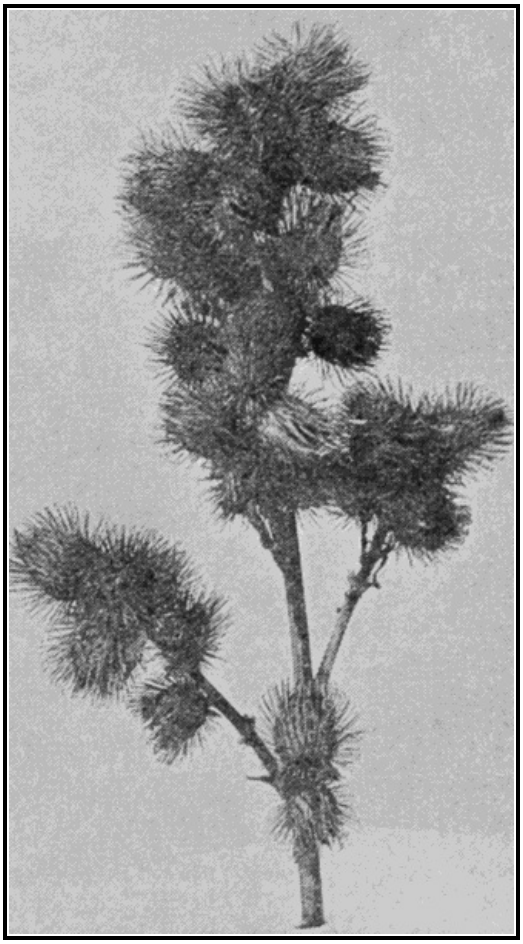
I

SEEDS ARE MADE TO BE PLANTED

OCTOBER brought seedtime in the little garden. Many seeds had ripened during the summer, and Prue had already gathered some of the tiny black flakes from the opened pods of her precious pinks, and Davy had saved some seed pease. But October was the real harvest-time. The children took a lot of white envelopes, and upon them Davy printed the names of all the seeds they expected to gather. Into these envelopes they put carefully the different little black and brown and white seeds after they had picked and blown the husks all away, so, as Davy said, they would look just like seeds bought at the store.

[268] And some of the seeds were big flat beans, or little long round beans; and some, like the sweet-pease, were very round, like shot; and some, like the cockscomb seeds, were tiny and shiny and black and so slippery that Prue lost more than she got in her envelope, though she got enough, for there is *such a lot of seed* on a cockscomb. Some seeds were in funny little pods that snapped when you touched them, and sent the little black or brown shot flying in every direction, like a charge out of a bomb, and these had to be gathered very carefully. Then there were seeds with little wings, made to help them to fly, and there were seeds with little claws made to catch and hold on, so they would be carried and planted in many places. But these were mostly weed seeds, and were only gathered because they clung to the children's clothes, and stuck so fast that it was hard to pick them off.

[269] "You see," said the Chief Gardener, who was watching them, "everything has a way of taking care of itself. Just as I told you about the dandelion, the plants have something which is very much like reason, or instinct, to guide them. These zinnia seeds do not have the little prongs, because the zinnia does not need them. It is a garden flower, and the seed will be taken care of. But those brown two-pronged little things you are picking off your coat-sleeve came from its very near relation, the Spanish needle, which is a weed, and must look out for its own planting. Those wild sunflowers turn top-side down, and the little yellow birds that peck and chirp about them all day are scattering the seed so thickly that next spring the garden will be covered with the young plants. The big tame sunflower doesn't take care of itself nearly so well. Of course, you remember how the dandelion seeds go drifting on the wind, while the thistle-down that goes floating by is carrying seed to some farmer's field, or fence corner. Then there are the maple seeds, which have two wings, or keys, as they are called, and there are many of these key seeds that are tossed here and there when the wind blows. The wind and the birds are the servants that sow the wild seeds, just as the bees and butterflies helped to make them."



[270] **"THEY CLING TO EVERYTHING THAT PASSES"**

"But there are some thistles," said little Prue, "that are not blown by the wind. They have stickery balls, and I make baskets out of them."

[271] "Those are burs, and they are carried by sheep and cows, and by people. They cling to everything that passes. I have seen a horse's mane so full of them that it had to be cut off. The burdock is a very bad weed, and there ought to be a story about it, but I suppose if there was one, it must have been so unpleasant that it has been forgotten. There are many other weeds almost as bad. There are seeds with all kinds of hooks and claws to grab and stick, and there are many that are carried in the dirt which clings to the feet of animals and men and even birds."

"I should think some weeds would make their seeds look like flower seeds, to fool people."

"Well, that is just about what they do. There are cockle seeds in the wheat, and so nearly the same size that the threshing-machine will not take them out, and there are many little plants in the grass that have seeds so nearly like those of the grass itself that we are obliged to sow them with the grass seed. So, you see, men, too, become servants of the wise, persevering weeds. Certain beans and grains have been carried by water, and have been known to be brought across stretches of the sea to be scattered and planted upon a new shore."

"How many kinds of seeds are there?" asked Davy. [272]

"About as many as plants, Davy."

"I don't mean that. I mean how many principal kinds—like flowers, you know—they are Exogens and Endogens."

"Oh, I see. You mean classes. Well, I suppose we might say two, fleshy and dry. Then we might divide the dry into seeds and nuts, and the fleshy into fruits and vegetables."

Davy and Prue were both thinking.

"I suppose my beans are dry," Davy said at last.

"Yes, of course."

"But we ate them green, and they were not dry then."

"That was before they were ripe. There are a number of things that are fleshy when eaten green, that become pods or hulls when the fruit is really ready to gather. Of course, there are fruits and nuts and vegetables that, like flowers, are hard to put in any class. Take the almond— [273] you would call that a nut, of course."

"I just love almonds," said little Prue.

"And aren't they nuts?" asked Davy.

"Yes, the almond is a nut, but you would hardly call the peach a nut; yet they grow exactly alike, except that the outside of the almond is tough and not fit to eat. The walnut is a nut, too, of course, but the hull is quite fleshy, even after the nut is ripe; and there are certain sorts of foreign plums that have a sweet kernel, so they are really fruit and nut in one. But I think we shall have to go nutting next week, and then we can tell more what we think about them."

"Nutting! Oh, yes, we'll go nutting!" cried little Prue. "And we'll take baskets, and Mamma, and stay all day and bring home just bushels."

"We must take plenty of dinner in the baskets," said Davy, who remembered one time when the dinner had been less than he thought it should be. So then they ran into the house to put away [274] their envelopes of seeds, and to tell the news.

II

THERE ARE BITTER NUTS AND SWEET ONES

How splendid it was in the October woods. Some of the trees were almost bare, some of them were a fine russet brown, and some were all crimson and gold; and the gold was so beautiful against the blue sky that it seemed to Davy and Prue that October, after all, might be the very best month of the year.

There was a brook that wound through the woods. On both sides of it were bottom lands, and here the hickory and walnut and butternut trees grew. Near the hillsides there were groves of hazel with their brown clusters, half opened by the frost, ripe for gathering. Camp was made near the brook, and then all hurried to the nut-trees; the children kicking their feet through the rustling leaves that covered the ground. The Chief Gardener found quite a large section of a [275] young tree which he put on his shoulder for a battering-ram. Then he walked several steps, and butted one end of it against a tall hickory-tree, and down showered the nuts, clattering in the leaves—the hulls bursting and flying in all directions.

Then how the children scrambled and gathered.

"Let's clear the leaves away first, next time," said Davy, "so they will be easier to find."

And this they did, and so they went from tree to tree, gathering hickory-nuts, large and small, and walnuts, butternuts, and chestnuts, and these they emptied into sacks they had brought in the little wagon that was not hitched far away.

By and by, Davy spied a patch of hazel, and each with a basket, Prue and he gathered until they were tired, and it was lunch-time.

How very hungry they were! Is there really anything like nutting to make a little boy and girl hungry? And there was plenty of luncheon, this time. Davy ate until he did not care to get up [276] right away, but was glad to lean back against a tree, and talk, while the Chief Gardener smoked and little Prue and big Prue put away the things, and hulled some of the hazelnuts, which little Prue said seemed to be more hulls than nuts, for there was only about enough to cover the bottom of one basket when they were all hulled.

"What makes all the nuts have such big, thick hulls, anyway?" she asked, as she tried to pound open a thorny chestnut-bur.

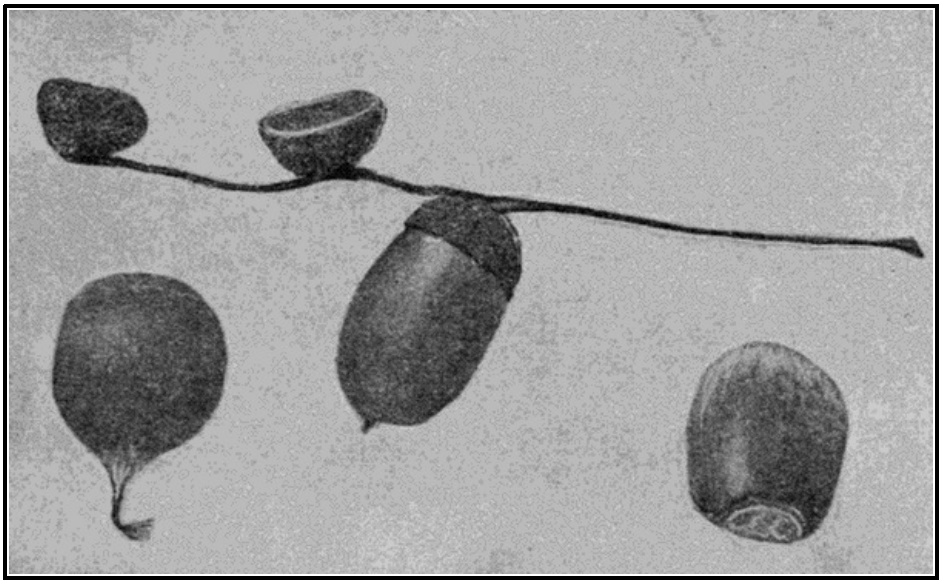
"I think the hulls must be to protect the young nuts from birds and squirrels," answered her

mother. "The trees do not like to have them carried off until they are quite ripe, so they hold them very tight and enclose them in a very tough shell, and the shell is very bad-tasting, too. But when the nuts are ripe and sweet they let go of them very easily, just as other seeds are dropped, and the hulls open and the harvest is ready for whoever may come to gather it."

The Chief Gardener picked up a hickory-nut from one of the baskets. [277]

"You see, we are eating flower-pistils all the time," he said.

"Are we? I don't believe I ever thought about that," said Davy.



THREE MEMBERS OF THE ACORN FAMILY

The Chief Gardener pointed to the little black tip on the top of the nut.

"That was once the stigma," he said. "You see, it is quite like one, even now. Of course, it was soft then, and the pistil below was soft, too. Then as it grew it became harder and harder until [278] the shell formed, and it was really a nut. The calyx hardened, and made the hull. The pistil and the calyx of a flower are the parts that last longest, but the stamens and the corolla are just as useful in their way. They form a separate flower on the nut-trees. We will have to come to the woods next spring when they are in bloom."

"Papa, don't hazelnuts and chestnuts belong to the same family?" asked little Prue, who had some of each in her chubby hands.

"Why, yes, but why did you think so, Prue?"

"Well, you see, they both have those white spots on them, and I thought mebbe it was a kind of family mark."

"Wise little head, Prue. And now what else is there that has the family mark—we might call it the family seal?"

The children were silent a moment, thinking. They were sitting under a big oak tree, and all at once Davy's eye caught something in the leaves, just by his hand.

"This!" he shouted, and held up an acorn. [279]

"Right you are, Davy boy! The nut that stands at the head of the family. Few acorns are fit to be eaten, except by animals, but you see how round and perfect the family seal is, and though the acorn-cup is nothing like the chestnut-bur, or the husk of the hazel, it perhaps would be, if the green acorn itself was not so bitter that it does not need any other protection. The oak is one of the finest and most useful of all trees, and the hazel and chestnut and beech are probably very proud of belonging to the Oak family."

"And how about hickory and walnuts?" asked Davy.

"They are in a family together—the Walnut family. There are three kinds of walnuts—the English walnuts, the butternuts, and these. There are as many as half a dozen kinds of hickory nuts, and some of them are as bitter as the bitterest acorns."

"Pignuts—I know those," said Davy. "They're awful. I tried to eat some last year." [280]

"You gave me one, too," said Prue. "I don't think that was very nice of you."

Davy blushed and grinned, as he recollected the round, puckered face of little Prue, after she had tasted the bitter nut.

"Never mind, Prue; we'll give him a mock-orange some day," said her mother.

"The pecan is a hickory-nut, too," said the Chief Gardener, "a nut that has left all its bitterness in the shell."

"Davy is a pecan-nut," said little Prue. "He's just bad outside."

Then the little party made ready to go home. They had a good way to drive, and it grows chilly on October evenings. How still it seemed to have grown in the woods when they were ready to go. A squirrel scrambled up a hickory-tree, and sat chattering at them as they drove away.

"He is scolding us for carrying off his winter food," said big Prue. "Oh, let's leave him some!" [281] said little Prue, the tender-hearted.

"Pshaw!" said Davy. "There are enough nuts in these woods to feed all the squirrels in the world."

III

THERE ARE MANY THINGS CALLED FRUITS

TRULY October was harvest-time in the little garden. The winter apple-tree yielded several bushels of bright red fruit, and Davy's pumpkin-vine had great yellow pumpkins scattered all about. Some of them Davy could hardly lift, and when they were carried into the cellar, on the very last day of the month, they made a real pyramid of gold. Then there were some late tomatoes, too, and peppers, which big Prue made into pickles; also, a last gathering of green corn, besides several ears of ripe corn, for seed, and all the pop-corn—fifty-five ears of it from Davy's little patch.

There were some things to be taken up, too, and put into little pots for the window-gardens, [282] which Davy and Prue were going to have all through the winter, this time.

There was a good open fire in the dining-room when Davy came in, after picking his pumpkins, for the nights were getting colder, and the bright blaze seemed so friendly and cheerful.

"I am going to try some of my pop-corn," he said suddenly, and started for the popper.

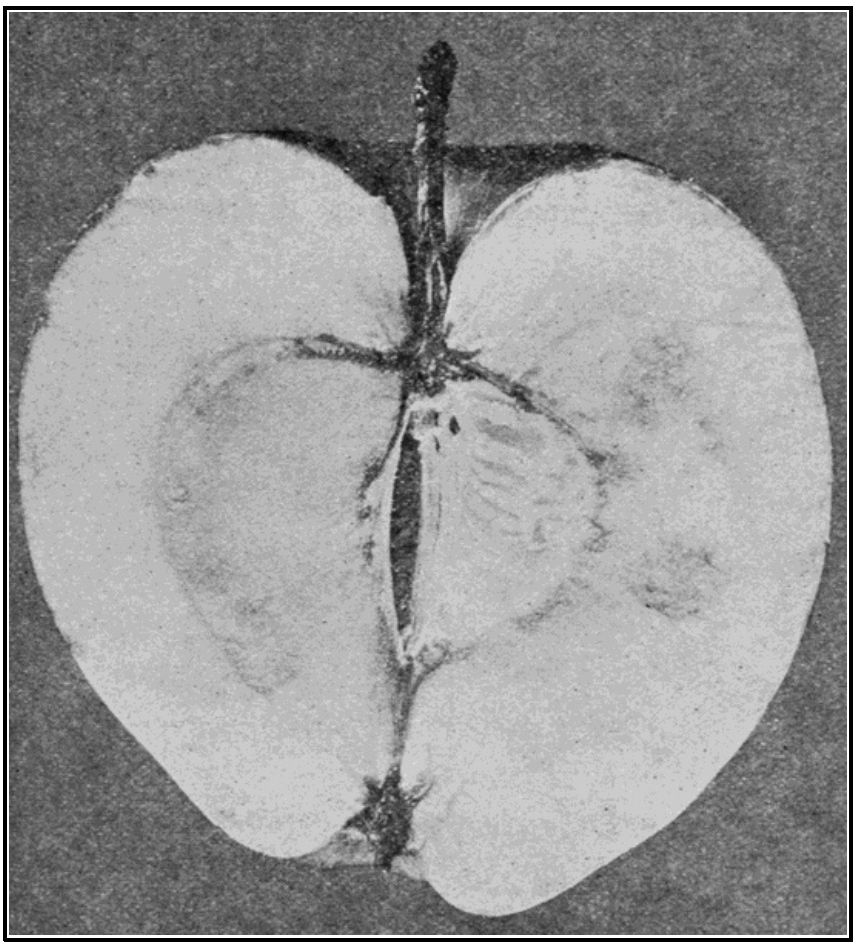
"I'll get some apples," said little Prue.

"I'll bring some nuts," added the Chief Gardener.

"And I'm afraid if you have all those things now, you won't care for tea afterwards," objected big Prue.

"Never mind tea," said Davy. "These are the very best things for a fire like this, and then if we don't want tea afterwards it'll save trouble."

So the pop-corn and apples and nuts were brought, and the little family gathered about the [283] bright blaze.



THE APPLE IS A CALYX. THE PISTIL IS THE CORE INSIDE OF IT

"Just think," said Davy, "it's only a few months ago that I planted this corn, and saw it come up, just little green sprouts, and now it's ripe and in the popper."

"And just think," said his mother, "it's a little while ago that the apple-trees were all in bloom so sweet, and now the apples are ripe, and we have them here on a plate." [284]

"I like to think about the summer," said little Prue. "It all seems so nice and shiny. It was hot, though, too, sometimes, in the garden."

The Chief Gardener picked up one of the apples.

"That is a pretty good calyx, Davy," he said.

Davy stopped popping corn a minute. His face was rather hot, anyway, from the glowing coals.

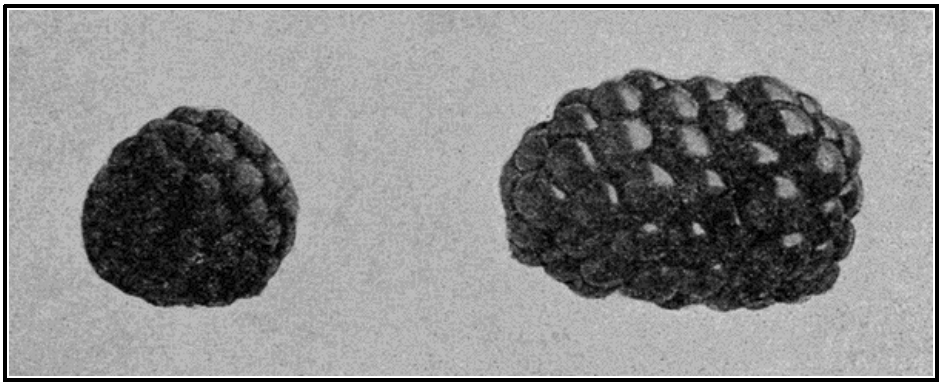
"Why, I thought that was the pistil," he said.

"The pistil is the core inside of it. It is the calyx of the apple-bloom that grows fleshy and makes the best part of the apple."

The Chief Gardener cut the apple in half, and showed the faint line that marked the core.

"That was the pistil," he said, "and at the end you see there are still the tips of the sepals and little traces of the stamens. The apple is one of our very finest fruits, and we ought to be glad that [285] at least one of the Rose family has such a fine calyx. The rose itself gives us sweet flowers, but its apples would be pretty poor eating. They are called hips."

"But is the peach a calyx, too?" asked Davy. "It belongs to the same family."



A RASPBERRY IS A CLUSTER OF PISTILS WITHOUT THE CORE. A BLACKBERRY IS THE END OF A FLOWER-STEM WITH A CLUSTER OF PISTILS AROUND IT.

"No, the peach is just the pistil, and it is the same with the plum and apricot and cherry. In the pear and quince it is the calyx, like the apple; in the raspberry each little part is a separate pistil with one seed, as I believe I showed you once, last summer."

"How about the strawberries?" asked Prue. "I like those best." [286]

"I think I showed you that, too, but perhaps you have forgotten. The strawberry is still different. It is neither a calyx nor a pistil, but just the pulpy top of the stem that the flowers rest upon. It is covered with tiny pistils, though, of one seed each."

"That is why strawberry seeds are on the outside," said Davy.

"Yes, and the little pistils are called akenes, though you need not try to remember that now."

"It is strange," said big Prue, "how many things become fruits."

"Yes," said the Chief Gardener. "A fig, for instance, is simply a hollow stalk which grows thick and pulpy, and has a lot of little flowers inside that turn to seed when the fig ripens. A pineapple is a cluster of flower-leaves. A strawberry is the end of a flower-stem. A blackberry is the same, with a little cluster of pulpy pistils on the outside. A raspberry is the little cluster of pistils [287] without the core; so that the blackberry is really the connecting-link between the strawberry and the raspberry. In gooseberries, grapes, cranberries, and huckleberries we eat the entire pistil, seeds and all. In peaches, plums, and cherries we eat only the outer part, and in apples, pears, and quinces we eat only the calyx, unless we eat the core."

"Well," interrupted Davy, "I am going to eat a nice big red calyx, now, core and all, and I'm going to eat some hickory-nut and pop-corn pistils, all but the shells and cob, and I feel hungry enough to eat those, too."

So then they drew closer around the bright blaze as evening gathered on the little faded garden outside.

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[289]

NOVEMBER

[290]
[291]

NOVEMBER

I

THERE ARE ANNUALS, BIENNIALS, AND PERENNIALS

BUT November was not all brown and dry. The warm days lingered. The lawn kept green, and suddenly about the house there was the most wonderful glory of yellow and rose and white and crimson, for the radiant flower of autumn, the chrysanthemum, was in full bloom. How beautiful the flowers were when the sun was bright, and when it was cloudy they seemed to have kept some of the sunlight and cheer to make the dooryard glad.

"I don't remember when you planted the chrysanthemums," said Prue, one bright morning to the Chief Gardener.

"No, it was when you were a very little girl—about four years ago." [292]

"I remember," said Davy. "I helped you."

"Why don't you have to plant them every year?" asked Prue.

"Because they are perennials—they live on, year after year."

Prue did not seem to understand very well, so the Chief Gardener explained.

"There are three kinds of plants," he said: "Annuals, biennials, and perennials. The annuals live but one season. They come from the seed each spring, and when they have grown and bloomed and made seed for another year they die. Sweet-pease and sunflowers and Davy's corn are annuals."

"And radishes and beets," said Davy.

"No, Davy. That is where you are mistaken."

"But we have to plant them every spring," said Davy.

"We do so to get good vegetables for our table. But if we were planting only for seed we would [293] leave the roots in the ground, or take them up and reset them in the spring. Then they would send up long stalks to bloom and bear seed. Beets and radishes and turnips and most such things are biennials, which means that they bloom the second year and then die. They spend all the first year in laying up strength in the roots, to use in making seed the second summer. Some biennials, like the cabbage, lay up this strength in the thick stalk. The strength which they take up from the earth and from the air, through their leaves, they do not spend in flowers and show, but turn it into food for themselves, and the food is so good that men gather it for their own use."

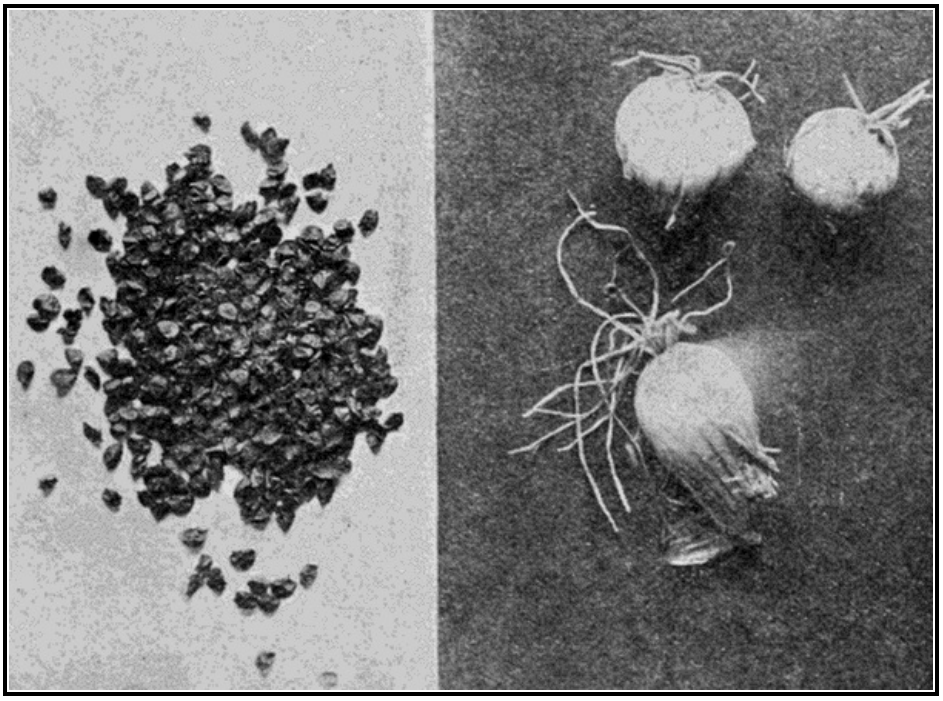
"I don't think that is quite right," said Prue, "after the poor thing has worked so hard all summer to be ready to bloom next year, for us to take it and eat it."

The Chief Gardener smiled and shook his head.

"I'm afraid we do not think much about the plant's rights," he said, "unless they happen to be [294] the same as our own. And after all there are plenty of seeds saved every year—more than are ever planted."

"And are potatoes biennials, too?" asked Davy.

"No, potatoes are perennials. In the right climate they would live on year after year, laying up new strength each year for the next season's growth. Dahlias are perennials, too, and most of the grasses, and, of course, all trees, and shrubs. Your pinks, Prue, and sweet-williams, and the hollyhocks, are perennial, and live through the winter, though they bear a great deal of seed, which shows how determined they are to live on. These chrysanthemums also bear seed, and most plants have at least two ways, and some as many as four ways of producing others like them. Your onions, Davy, can be produced in four different ways. They can be grown from seed, from sets—which are little seed-onions taken out of the ground and kept through the winter— [295] from bulblets—which are the little onions you saw growing on the top of the stalk last summer—and from multipliers—which are large bulbs broken into several small parts."



THE SEED AND SETS OF THE ONION

"I should think an onion was surely perennial enough," said Davy, "with four ways of keeping alive."

"Can you name the three kinds of plants now?" asked the Chief Gardener, turning to little Prue. [296]

"Yes," said Prue, putting out three fingers. "Annuals that have to die every fall, like my sweet-pease. Bi-yennials, that have to die every other fall, like Davy's turnips. Only we don't let 'em die—we kill 'em and eat 'em just when they are ready for their best time. Perennials, that have a lot of ways to live and never die at all."

The Chief Gardener laughed.

"Well, that's pretty good for a little girl. I think we might almost make a poem out of it.

"The annuals we plant each spring—
They perish in the fall;
Biennials die the second year,
Perennials not at all."

"I've made a rhyme, too," said Prue. "It's about the kinds of plants in a different way. This is it:

"The kinds of plants are these—
Herbs, shrubs, and trees."

"Why, I think we shall have to make up some more," said the Chief Gardener. "It will help us to remember." [297]

II

PLANTS KNOW HOW TO SPREAD

It was not many days after this that the Chief Gardener was digging among his vines, and he called to the children, who came running.

"We were talking the other day," he said, "about the many ways that old plants have of making new ones. See how this black raspberry vine is spreading."

The Chief Gardener pointed to a long branch that had bent over until the end touched the earth. This end had taken root, and now a new little plant was there all formed and ready to grow the coming year.

"There is another just like it," said Davy, "and another—why, there are lots of them!"

"Yes, the vine sends out many of those long slender branches with a heavy little bud at the end of each to weigh it down. Such branches are called stolons, and when the bud touches the earth it sends out roots. Strawberries have runners which do the same thing. You will find plenty of them if you look in the patch." [298]

Davy and Prue went over to the strawberries and found that the vines, now red and brown from frost, had sent out runners, and made little new plants, like the black raspberries.

"You see," said the Chief Gardener, "we pick the berries, which are the seeds, so all berry vines must have some other way of spreading. The red raspberries do it in a different way. They send out runners, too, but they are from the roots, and when the sprouts come up, we call them

suckers. Many kinds of plants have suckers, and there are some kinds of trees sprout so badly that they cannot be used for shade."

"What a lot of ways there are for plants to start!" said Davy.

"Suppose we try to think of as many as we can," said the Chief Gardener. "You begin, Prue." [299]

"Seeds and roots and bend-overs and stuck-ins," said Prue. "That's four."

A BLACK RASPBERRY VINE PREPARING TO SPREAD

Davy and the Chief Gardener laughed.

"Well, that is a good start, but there are a good many kinds of roots and 'bend-overs,' and what are 'stuck-ins?'"

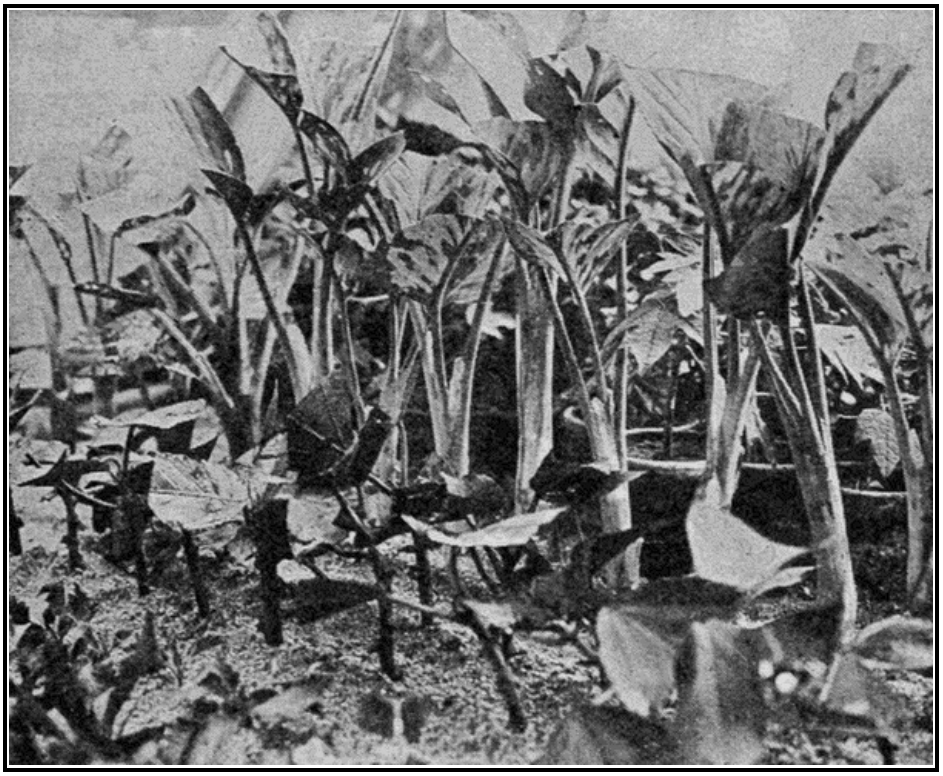
"Why, pieces stuck in the ground to grow. Mamma does it with her geraniums." [300]

"Oh, slips! I see. Why, Prue, your answer covers about everything, after all. Now, Davy, suppose we hear from you."

"Well, seeds—that's one. Bulbs, all the kinds, like the three onion kinds, and maybe other kinds, roots like the red raspberries, that make suckers and other kinds of roots, like potatoes, and then all the runners and suckers that Prue calls 'bend-overs,' and slips and grafts and buds."

"Stuck-ins," nodded the Chief Gardener. "Prue was about right after all, for there are so many kinds of each different thing, and so many ways, that I am afraid we should never remember all the kinds and ways. 'Seeds and roots and bend-overs and stuck-ins' take in about all of them, and we are not apt to forget it. If you'll come now, we'll look at some of the kinds of roots."

They went down into the garden, and the Chief Gardener opened a hill of potatoes which had not been dug. Then he picked up one of the potatoes and showed it to Davy and Prue. [301]



"WHAT ARE STUCK-INS?—OH, SLIPS!"

"That kind of a root is called a tuber," he said. "Those little spots on it are eyes, and make the sprouts. You remember we cut the potatoes we planted into little pieces, with one eye on each."

"I remember," said Prue, "and I asked if they had eyes so they could see which way to grow." [302]

"The pieces we planted sprouted, and kept the sprout growing until it could send out roots. Besides the roots, there were little underground branches, and a potato formed on the end of each branch. When the soil and the season are both good there will be a great many of these branches and new tubers, but when the soil is poor and the season bad there will be very little besides roots."

The children followed the Chief Gardener, and dug up a bunch of thick dahlia roots, and he told them how these were really roots, and not tubers, like the potatoes. Then he dug up some sweet-flag, and they saw how the rough root-pieces were joined one to the other, in a sort of chain of roots, and these he told them were root-stalks, and that they kept a store of nourishment for the new plants, in the spring.

"There is a grass," he said, "which has such a root, and every time it is cut it sends up a new [303] plant, so that every time the farmer tries to get it out of his grain-field he only makes more plants, unless he pulls up every piece and destroys it. You see, that grass has to fight to live, and it makes one of the very best fights of any plant I know, except the Canada thistle, which does very much the same thing. And that is what all plant life is. It is the struggle to live and grow and spread. The struggle with men and animals and heat and cold and with other plants. And in the struggle the plants, and especially the weeds, which have to fight hardest, have grown strong and persevering, and have learned a thousand ways to multiply their roots and to scatter their seed."

III

ALL THANKS FOR THE PLANTS

THANKSGIVING brought the usual good dinner, and upon the table and the sideboard there were [304] many things to remind the little family of their garden and their summer-time. There was a large plate of red apples and a dish of nuts, and there was a pot of pinks, which Prue had saved for her window-garden. Then there was a fine little jar of pickles, made from Davy's tomatoes, besides dishes of tomatoes and turnips, all from the little garden that had come and gone, leaving these good things and many pleasant memories behind.

And after the dinner was over, and the pudding eaten and the nuts passed, the little family sat around the table to talk, as they often did.

"I am sure we have a great deal to be thankful for this year," said big Prue. "Two such nice healthy children, with plenty to eat and wear, and a fire to keep us warm, and a good roof over our heads."

"And all from the plants," said the Chief Gardener. "If we are thankful for the plants, we are thankful for almost everything we have."

Davy sat thinking silently about this, but little Prue did not quite understand. [305]

"I suppose you mean that the plants made us healthy to work in them," she said.

"I mean that, and I mean a great many other things. In the first place, plants furnish all the food in the world. Not only the vegetables, but the animal-food. Our turkey would not have been here to-day if he had not been fed on grain, and even the oysters must live from a sort of plant-food in the sea. Every creature that walks or flies or swims lives either on plants themselves or from some creature that does live on them."

"Do sharks live on plants, too?" asked Prue.

"Of course!" said Davy. "Sharks eat men, and men eat plants."

"I don't suppose sharks live altogether on men," laughed big Prue, "and the little fish they eat may live on other little fish, but if you go far enough you will find that somewhere the beginning is plant-life."

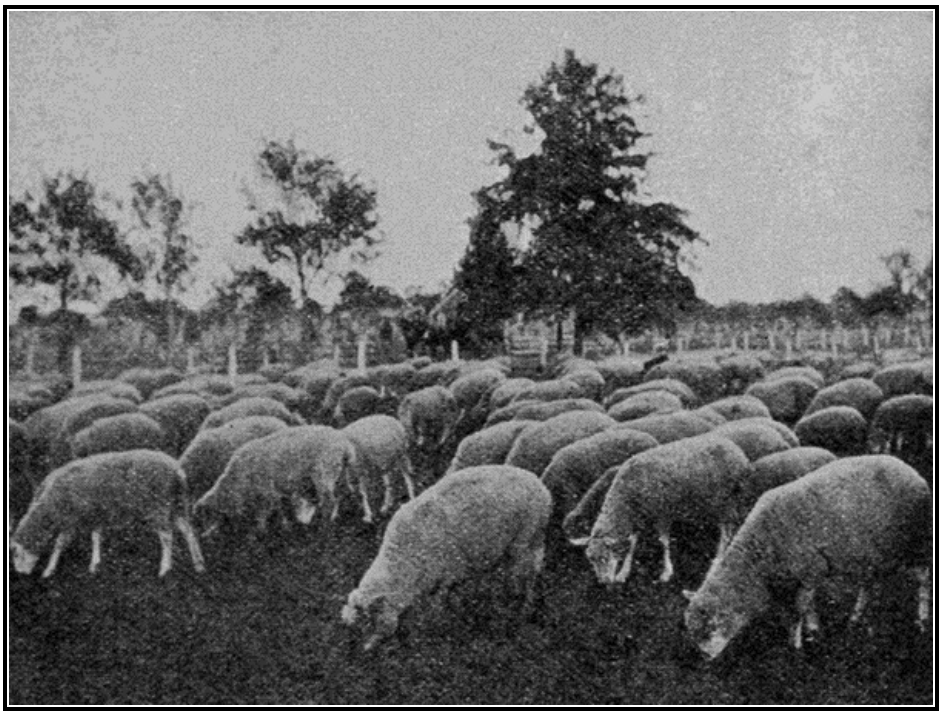
"Plants also warm and light us," went on the Chief Gardener. "Every stick of wood, or bit of [306] coal, or drop of oil we burn, comes from plant-life. The coal was vegetation long ago—very long ago—and the heat and light that come from it were stored there in that far-away time by the green leaves that drew in life and light from the sunbeams."

"Do the leaves really take up light?" asked Davy.

"They really do. With every particle of vegetable matter that is made, a portion of the sun's heat and light is laid up in it. The light is still in the coal, though it looks so black. We have only to burn it, to get back the sunlight."

That was a very wonderful thought to the children, and they had to talk about it a great deal before the Chief Gardener went on.

"Every bit of clothing we wear comes from the plants," he said at last. "The cotton grows like the down about the thistle seed, and the wool that grows on the sheep's back is there because the [307] sheep feeds on the green grass in summer and upon hay and grain in the winter-time. Silk is made by worms from mulberry leaves, linen is from the flax plant, and leather from the cattle that grow in the same way that the sheep grows.



THE WOOL THAT GROWS ON THE SHEEP'S BACK IS THERE BECAUSE THE SHEEP FEEDS ON THE GREEN GRASS IN SUMMER

"Then there is our house. A great deal of it is made from wood, and even the bricks have [308] vegetable matter in them, while the stones are shaped by tools that have wooden handles, and the bricks and stones are hauled in wooden carts."

"But the iron doesn't grow, Papa," said little Prue.

"No, but without heat to forge it—heat that comes from wood and coal—it would be of no use."

"But there is one other thing that is more to us than all the rest. Plants purify the air we breathe. Air that we have breathed once is not fit for us again. We have used the oxygen from it, and turned it into carbonic acid gas. But carbonic acid gas is just what the plants need, so they take our breathed air and turn it into oxygen again and give it back to us fresh and pure, so that we can keep our life and health."

"Don't forget the flowers, Papa," said little Prue.

"I haven't forgotten them. If it were not for the flowers many of the plants would die out, and [309] besides being so useful, the flowers feed the bees and make the world beautiful, and our lives happier and sweeter, by filling them with color and perfume and loveliness. No, I could hardly

forget the flowers, Prue. They are the crowning glory of the plants that feed and clothe and warm and shelter us. So let us be thankful for the plants, every part of them, and especially for the flowers."

"We ought to be thankful for the sun that makes them grow, too," said Davy.

"And we must not forget the One to whom all thanks are due," added his mother.

And as the November day closed in they gathered around the big open fire, and were happy and cheerful in the blaze of the same sunbeams that had shone on the great forests which had perished so many ages ago.

[310]
[311]

DECEMBER

[312]
[313]

DECEMBER

I

NEW GARDENS IN THE WINDOWS

DECEMBER was a month for putting things away. The envelopes of seeds which Davy and Prue and the Chief Gardener had gathered were all put into separate tin boxes, and these boxes were put in a dry place on the top cupboard shelf, where they would not be disturbed. The bulbs and roots were also put into dry boxes in the basement, and the different kinds labelled in large plain letters by Davy, who could print very nicely indeed.

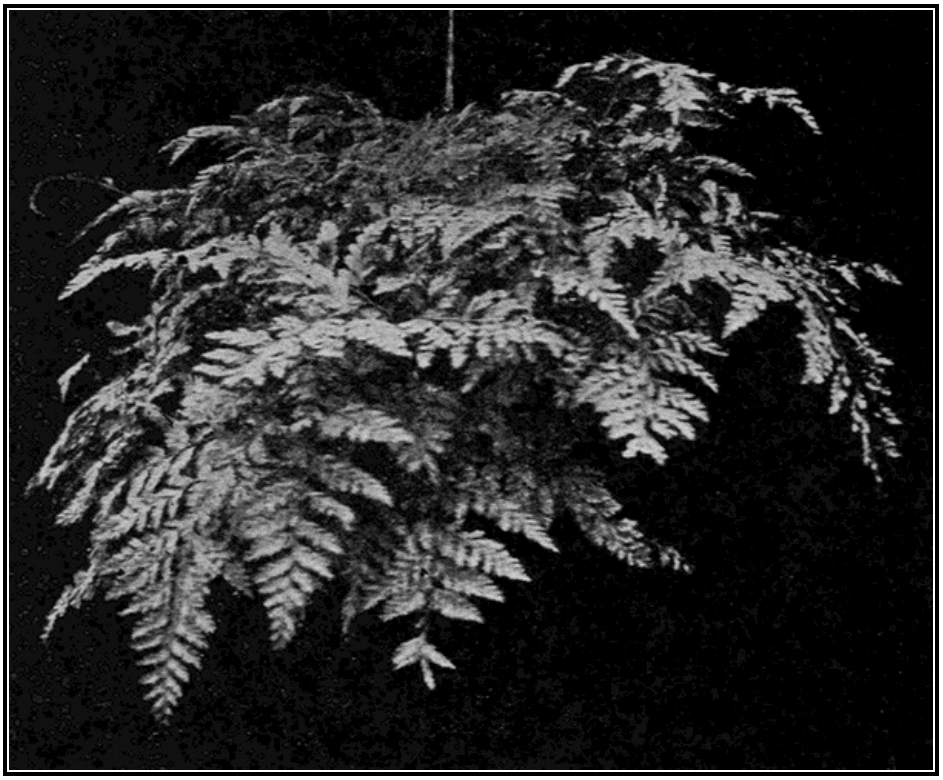
The bulbs were quite interesting. Some, like those of the Easter lily, had small bulbs formed inside of them. Others, like the crocus, had tiny bulbs formed on the outside, and then there were [314] bulblets which had formed above the ground, just where the leaf joins the stalk. These were little lily bulbs.

So all the seeds and bulbs and roots were put away for the winter, except a few that Davy and Prue planted in some pots for their window-gardens.

They decided to have different things this year. Instead of scarlet runners to climb on the sides of his window, Davy had decided to have melon vines. His cantaloupes had not done very well in the garden, for the reason that the pumpkin had sent its long tendrils across the cantaloupe bed, and the pollen had been carried from the flowers of one to the other by the busy bees, and this caused all his cantaloupes to have a flavor of pumpkin. Davy had eaten them, though, and even little Prue had said they were not so *very* bad, and had really eaten nearly all of one piece. Now, Davy was going to have two cantaloupe vines, and let them climb on each side of his window, and [315] see if he couldn't raise some melons that folks would be glad to get a piece of.

In the middle of his window he was going to have an eggplant, which he very much wanted to try, and in the little pots at the sides, there were to be a peanut, which he wanted to try, too, and a special little red pepper which had looked very nice in the seed-catalogue. Then there were two little pots, one holding a small turnip and the other a radish, which Davy wanted to see bloom and go to seed.

So, you see, Davy's garden was going to be quite different this year, and Prue's was different, too. For Prue did not have morning-glories to climb, this winter. Not because she did not like them, but because she wanted her window, like Davy's, to be different from the window of the winter before. She had a cypress vine planted this year, on one side, and a moon vine on the other. And in the center of her window, she was to have a cosmos flower, with a fuchsia and a [316] hyacinth and a tulip at the sides, and one of her precious pinks brought in from the summer garden. Of course, the tulip and the hyacinth were to grow from little bulbs, while the fuchsia was a small plant which she had bought at the greenhouse. And in this way both the windows were to be very different from the winter before, and many new things were to be learned in [317] seeing the seeds and the bulbs and the roots sprout and grow and bloom.



A JAPANESE FERN-BALL

And there was one thing more which was to be different, for Prue and Davy had put their money together and bought a Japanese fern-ball to hang between the windows, and a hook to hang it on. The ball they soaked in warm water, as the directions had said, and then hung it on the hook. As often as it seemed dry they soaked it again, and one day it was sending out little green points, and soon, even before the rest of their window-garden was fairly started, there were feathery little fern leaves all over the ball, and before Christmas it was very beautiful indeed.

II

TO THE GARDEN OF SLEEP

December was not a very bright month for Davy and Prue. Very little snow fell, so they could not use their sleds. If it had not been for their gardens and their lessons, which took several [318] hours each day, they would have been rather lonely, looking out on brown woods and meadows.

But there was the joy of Christmas coming, and this thought made them happier, as each day brought it nearer. They counted the weeks first, then the days, and at last the hours. And then they had secrets. Secrets from big Prue and the Chief Gardener, and secrets from each other. Sometimes little Prue whispered to big Prue, and did not want Davy to hear. Sometimes Davy whispered to the Chief Gardener, and stopped very quick and began to whistle, if Prue came into the room. Packages began to be brought in after dark, or when everybody else was upstairs, and then, one afternoon—the afternoon of that wonderful eve when stillness and mystery seem to gather on the fields—there was a row of stockings along the mantel, hanging ready for somebody to fill. Santa Claus, of course, must do that, but there were packages hidden here and there for [319] the good old Saint to find and put where they belonged. And Prue and Davy were in bed almost before dark, because you see the time passes quicker if you are asleep, and the sooner to bed the sooner to sleep. But when big Prue came in to kiss them good-night she told them a story—the old sweet story of the Little Child who was born so long ago, and to whom the first gifts were brought by the wise men. And then she told how that little baby boy in the manger had become a sweet child, with games and playmates like other children, with toys and, perhaps, a little garden of his own, something as they had made during the summer-time. And she told also a little story which, perhaps, is only a story, but it is what it would seem might have happened to the Little Child of Bethlehem.

"Once," she said, "when he was playing he grew very tired and thirsty, and his playmate was very thirsty, too. So Jesus ran to the well for a cup of water, and hurried back with it without [320] stopping to drink. But his playmate was greedy, for he seized the cup and drank it all, except a few drops at the bottom. Then he gave the empty cup to Jesus, who took it and let the last few drops fall on the grass, when suddenly from where they fell there flowed a little clear stream of water, with lilies-of-the-valley blooming along its banks."

"Please sing the verse about the story of old," said Davy, when she had finished.

So his mother sang:

"I think, when I read that sweet story of old,

How Jesus was here among men,
How he called little children as lambs to his fold,
I should like to have been with them then."

And it was only a moment longer that the Christmas Saint had to wait on the sand-man, for presently the door closed softly on the singer. Davy and Prue had entered the fair garden of sleep.

[321]

III

IN THE GARDENS OF CHRISTMAS

I CANNOT tell you all the wonders of that Christmas. I can only tell you that the presents which the little family had bought for one another were all in their proper places next morning, and that there were ever so many things that nobody but Santa Claus could possibly have brought. There was a Christmas tree, for one thing, the kind of a tree that nobody but Santa Claus ever raises, or brings, and there was everything upon it and about it that a little boy and girl could want, unless they wanted a great deal more than a little boy and girl ought to have, at one time.

But the very finest Christmas gift of all was a splendid great big snow-storm, which had begun in the night and was still going on, as fast and as thick as the big, soft, fleecy flakes could fall. Every few minutes the children left the beautiful tree to look at the beautiful snow. They could [322] hardly wait until breakfast was over, and the Chief Gardener had made a photograph of the tree with them in it, before they wanted to rush out with their sleds.

All at once Davy called Prue to the window.

"Look," he said, "some of these flakes on the window-sash are like little white flowers!"

Then every one came to see, and, sure enough, some of the snowflakes that had fallen next to the glass were wonderfully shaped, and did look like tiny blossoms. The Chief Gardener got a magnifying-glass and they looked at them through it, when they saw how really beautiful they were.

"I have heard them called 'the flowers of winter,'" said big Prue. "There is a little story about how the flowers complained that they must all die when cold weather came, and never see the winter. So then their spirits were allowed to come back as snowflakes."

THE KIND OF A TREE THAT NOBODY BUT SANTA CLAUS EVER RAISES

That was a glorious Christmas. All day the snow came down outside, and all day the big fire [323]
blazed and the Christmas tree gleamed and shimmered and sparkled inside. And then, in the [324]
afternoon, there was a Christmas dinner which was quite as good as any of the rest of the things, even to the snow. And after the dinner was over, and they sat around the fire, the Chief Gardener said:

"We have had a happy year. I know it has been happy, for the time has gone so fast. It seems not more than a few weeks ago that we were keeping last Christmas, and almost no time at all since Prue and Davy started their first little gardens in the window. Yet, a week from to-day, and that will be a year ago, too. Now, I have a plan. It was Prue who made me think of it. She said something not long ago that I made into a little verse, about annuals, biennials, and perennials. Then Prue made one, too, about herbs and shrubs and trees. Now I propose that we each make some rhymes for New Year's day to celebrate the starting of the window-garden, and also the little garden which Prue and Davy had outside. The rhymes must tell something that has been learned during the year, and they must be short, and easy to remember. Of course, we won't [325]
expect very much, but Prue has done so well, that I am sure the rest of us can do something, too."

"I never made any rhymes," said Davy.

"I'll help you," said Prue. "It's just as easy."

So they all agreed, and during the holidays, when the children were not busy with their sleds or books or gardens, they were making rhymes.

IV

SOME VERSES AND THEN GOOD-BY

And these are the rhymes that were read and recited after dinner on New Year's day, just a year after the first little window-garden was started. I shall not tell you whose they were.

Of course, you will all remember little Prue's:

"The kinds of plants are these,
 Herbs and shrubs, and trees,"

and the Chief Gardener's: [326]

"The annuals we plant each spring—
  They perish in the fall;
Biennials die the second year,
  Perennials not at all,"

but the writers of the others you will have to guess.

THE PLANT

The parts of every plant are three—
The root, and stem, and leaf they be.
The flowers are only leaves more fair,
Which nature makes, to bloom and bear.

THE ROOT

Most roots are hidden in the ground,
  As they should *always* be, by rights,
But some in other plants are found,
  And these belong to parasites.

THE STEM

The stem may be a stalk or vine
To stand erect, or creep, or twine—
For frailest plant, or firmest oak
That's ne'er by storm of winter broke.

THE LEAF

  A leaf has a stem, and of stipules a pair,
Though the stipules are often quite small, or not there.
A leaf has a blade, and of ribs one or more; [327]
While of veins and of veinlets it has many score.
A leaf may be simple, or it may be compound,
And a million small pores for its breathing are found.

THE FLOWER

The blossom has a calyx
  That is very often green,

And just above the sepals
The corolla bright is seen.
And above the pretty petals
May be stamens eight or nine—
Slender filaments, and anthers,
To hold the pollen fine.
While in the blossom's center
Doth the sturdy pistil grow,
With stigma and with style that lead
To seed-cups just below.

HOW PLANTS INCREASE

From seed and from runner, from stolon bent low—
From sucker and slip and from layer they grow—
From bulb and from bulblet—from tuber and root,
They give us the flower and the grain and the fruit.

All thanks to the plants for the clothes that we wear—
The food that we eat and the home that we share—
For the air that we breathe and the fuel we burn—
All thanks to the plants, 'tis our only return.

Davy rather objected to the last line of these verses. He said that it was some return to take good care of plants, especially in the hot summer-time, when it was ever so much nicer to sit in the shade. So another little rhyme was made, like this: [328]

A plant should have the sun and air
And water, and the proper care.
If it has these, and doesn't die,
We'll reap the harvest, by and by.

Then to end the day they all sang a little song about the snowflakes, that Jack Frost sends out of his gardens of winter-time:

THE SNOWFLAKES

Jack Frost, he makes the snowflakes,
He paints the snowflakes white.
He sent them Christmas morning
To make our landscape bright.

For in the deepest winter
The world is bleak and bare—
Jack Frost, he sends the snowflakes
To make our winter fair.

And so ends the story of a year, and of its little gardens. Also of Prue and Davy, who owned the little gardens, and of her who was called big Prue and of him who was called the Chief Gardener. Other years will bring other gardens, and other summers. Prue and Davy will grow older, and learn more and more with each year that passes. But no year will ever be happier and no gardens ever brighter than those to which we are now saying good-by. [329]

Transcriber's Notes

Minor punctuation errors corrected on pages 16, 68, 104, 105, 214, 219, 276, 285, 294, 297, 328.

Slight discrepancies in some of the titles given in the Table of Contents and those given at the beginning of each section have been retained here.

Original spellings and hyphenation have been retained except in the cases of these apparent typographical errors:

Page 23, "lovelly" changed to "lovely." (I never saw anything so lovely...)

Page 60, "no" changed to "not." (...not to look at their garden...)

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