

are still going on as actively as ever. think there is little to be gained in the tempts to get up a panic by silly falseh

In connection with the above panic bug, the *Tribune* gives another of the character, which is "that forty wrong makers in Albany have been thrown employment." in consequence of the of the aforesaid Tariff law. The *Evening Journal*, a Whig paper, contra the *Tribune's* statement, and upsets its dish in the following manner. It says individuals sometimes *talk* about discha laborers, but they *never do it.*"—*Troy Banner.*

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*Another Roorback.*—It has been sta the Danvers Courier, and copied by papers, says the Newburyport Adve that Mr. Eben Sutton's new factory dover would not be put in operation a ent, on account of the passage of the tariff act. This, like a hundred othe ilar stories, is untrue, but it will run th euit of the country, and pass for truth thousands, who will require no bette dence of the "rascality of the democrat ministration, in passing an act so destr to American industry," as the new ta said to be

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STORY  
OF  
LITTLE LINNÆUS.



NO. 2.

BY J. LAMB.

BURLINGTON:  
CHAUNCEY GOODRICH.

1830.

*Presented by America Society*

*From the collection*

2

“ Ere in the northern gale,  
The summer tresses of the trees are gone,  
The woods of autumn, all around our vale,  
Have put their glory on.

“ I roam the woods that crown  
The upland, where the mingled splendors  
glow,  
Where the gay company of trees look  
down  
On the green fields below.”

STORY  
OF  
LITTLE LINNÆUS.



—:O:—

IN another little book, I have told my little readers, how that young Linnæus inquired of his father, and how his father told him much about how trees grow. In this little book, you will learn the

names and functions of the different parts of trees; you must try to remember what you here read. One morning his father said to Linnæus, 'Linnæus, if you will lay by your book and come to me, I will tell you more, respecting trees.'

Little Linnæus laid by his book, and came directly to his father. His father took a very fine saw, and sawed off a branch of a tree. He then sawed off several very thin plates, from the branch, and pared one of them so thin, that he could almost see through it. He then gave his magnifying glass to Linnæus, and told him to look at the plate of wood through the glass. He did so, and saw a great many little holes in the wood. In the parts of the wood next to the bark, he saw them very distinctly. He asked his father how these holes

came to be in the wood; and his father told him that they were the little vessels he had told him of; and that the juices of the tree passed up through them to the leaves.

I will tell you now, said his father, the names of the various parts of the tree, and their uses, or functions. The outside layer of bark is called the *epidermis*. It protects the inside bark from the action of the air. It serves as a skin to the tree, and extends over every part of it. It has pores, like those you can see in the skin on your hand, when you look at it with a magnifying glass.

It perspires, that is, it exhales or sends out moisture and vapor. It also absorbs or sucks in moisture from the air. Those are the functions of the *epidermis*. You will

now know what is meant by the word *function*.

Perspiring is nearly the same thing as sweating. We always perspire, but we sweat only when we are very warm, or when we exercise to excess.

The *epidermis* has no color, but appears sometimes green and sometimes of some other color. But that is caused by the color of the *cutis*, which lies next to the *epidermis*.

The *cutis* is the second layer of bark. Next to the *cutis* is what is called the *cellular integument*. This is green, and is quite the thickest part of the bark in most trees, and is filled with juices that come from the leaves.

The *liber*, or inside bark lies next to the wood. It is in the *liber* that most of the juices from the



leaves descend, that form the new layers of wood every year. The liber also contains the juices that become gums and resins.

From some trees we may take off all the bark below the branches, in the longest days in June, and there will be new bark formed again in a very short time. This does not injure the tree, if we do not cut into the wood. I have already told you some things respecting the *alburnum*, or sap-wood, which lies next to the bark. It is composed mostly of little vessels or tubes, which conduct the juices or sap, of the tree, to the leaves. These vessels, or tubes, change the juices taken up by the spongelets, into other juices of a very different quality. If you were to wind a very small wire round a rod, so closely as to cover it, and then pull

out the rod, the wire would be like the sides of these vessels or tubes. But they are so very small that you cannot see them without the help of a magnifying glass. These vessels are not so formed in all trees and plants. In some trees their formation is different. New layers of this part of the tree are added every year.

Little Linnæus looked through the magnifying glass, very attentively, at the part of the wood next to the bark, and saw a great many little rings, which resembled a honey comb, in that part of the wood. He told his father that he now understood what he had been telling him. He said he saw how much wood had been formed on that branch the past year.

His father told Linnæus that he had described to him the part of

the tree called the *cortex* or bark, and the *alburnum* or sap-wood. He then showed him the heart-wood, which is that part of the wood next to the pith. He told him that the pith is sometimes called the *medulla*, and sometimes it is called the *panenchyma*.

The heart-wood is the permanent part of the tree, and is what chiefly supports the vast weight of the branches and leaves. I cannot tell you the use of the pith but it probably affords moisture to the leaves when they cannot get enough from the earth to supply them.

His father said to Linnæus, I will now show you something that will be very interesting to you. His father then sawed off a green branch of a tree, and put the sawed end of it into a vessel of water which he had colored with Peru

an bark. In a short time, the wood of the branch had the color of the water in the vessel. Oh! papa, cried Linnæus, I am now convinced that water can ascend up in those little vessels in the *alburnum*, for I can see that the color of the wood is changed by means of having the colored water pass up it.

I will now repeat, said his father, some things, which I have already told you, and tell you some things that will please you very much. I have already told you about the spongelets. They are on the ends of the rootlets which grow on every part of the roots of trees. The rootlets conduct the juices that are taken up to the roots. That is their *function*. The roots hold the tree fast in the ground and prevent it from being blown down by

the wind. The trunk of the tree supports the branches, and is, in many respects, like our bodies. It perspires, it exhales and inhales air. It seems almost to breathe as we do. [You must ask some one to tell you what *exhale* and *inhale* mean.]

The branches of trees are parts by themselves. When a tree first begins to grow, it contains all the little germs from which the branches spring out. These germs are contained in a little *cuticle* or skin, which is filled with a little green juice, and a mealy substance, and the whole of it together, is a *germ*. These germs come out through the bark, and are first buds, and then grow to be branches, and are firmly attached to the tree, and contain a great many more little germs, which

afterwards become branches of this branch.

The next thing I have to tell you of, is the leaves. Some trees retain their leaves during the year, and are called evergreens; but most trees shed their leaves in autumn. A new bud is formed as soon as the leaf falls. This bud is



sometimes called the *germ*, and contains several leaves folded up in such a manner as to take up the least room possible. The covering of the *germ* is called the *hybernacles*, meaning a winter habitation

This bud is the real offspring of the tree. It has all the properties of the tree, and if you were to plant it in the earth and take care of it, it would grow and become a tree like the one from which it was taken; or if you were to graft it into another tree, it would grow and become a part of that tree.

My little readers, when you read these stories of Linnæus, you must ask some person to show you how a tree is grafted.

These buds or germs, of which we have been speaking, sometimes contain both leaves and flowers, and sometimes they contain only flowers. In the spring, when the warm sun shines upon them, they attract the moisture and the nourishing juice of the tree from the cells near them, and the sap that comes up from the roots of the

tree, pours into them, and causes them to unfold and grow, and, in a few days, they appear in full bloom and beauty.

Leaves are of great use to trees. They could not live long if deprived of them. The leaves seem to breathe, and do really exhale that part of the sap which cannot be changed into the proper juices of the tree. The juices, that make it grow and produce fruit.

The sap comes up, and is spread out all over the leaf, and is acted upon by the air, and is returned into the bark, and goes to form wood, and fruit, and the various gums and resins which trees produce.

His father told Linnæus that he must remember all he had told him. He wrote down all the hard names, he had used, in a little book and their meaning; and little Li



næus read them over until he knew the meaning of all of them. He was a very studious little boy. When he became a man, he was admired and beloved by all who knew him.

You, my little readers, may be like little Linnæus, if you will try to learn as he did, and remember all that is told you about trees, and plants, and animals, and such things.



How pleasant it is at the end of the day,  
No follies to have to repent ;  
But reflect on the past and be able to say  
My time has been properly spent.

of gentlemen to say, what he  
encouragement should be ext. S  
not blend her interests with on  
of pins and brass keels. I ha  
fied that it, instead of lending  
a false principle and unthin  
with those of minor imo

have given me show, also I  
ene is not show, also I  
than a specimen, while I  
nd valorem duties on iron. I  
duty on iron. I  
on the amount that

several varieties. It, however, is  
interest within the range of Amos-  
ductions, in favor of which the principle  
restrictive duties can be tolerated, I  
claim iron is that interest. It stands  
higher and more national grounds than  
other.

It is the great element of offensive  
defensive warfare. Large capital, machinery  
and labor are required in its production,  
cannot be established to meet the  
of the country in the hour of threaten-  
ing. It is urged that iron being a  
of life, those who oppose duties on  
coffee because they are such, cannot  
sensibly support a tariff on iron. I  
I see an obvious distinction between  
article of national and individual necessity.  
I agree that the ordinary necessities  
should be left as free as is consistent  
the wants of the revenue; but an  
national necessity—one absolutely  
to the defence and safety of the whole  
country, if such there be—ought to be  
in the country. An imposition in  
for such a purpose, would not be for  
fit of a class, (though it might operate  
advantage,) but the protection and  
the State. I would place the iron  
of Pennsylvania upon these high,  
national grounds, and leave it to the