

so wounded, knotty, and deformed that the fruit is worthless.

And here let us pause for a moment to notice one of those curious paradoxes, with which the student in the works of nature is so frequently meeting.

A person, on being informed that of the two stone fruits, the plum and the cherry, the one perishes and the other lives—of the two pomaceous fruits, the apple and the thorn-apple, the one perishes and the other lives, when invaded by this worm—I say, a person, on being informed of these facts, would at once say: it is the smaller of these fruits, it is the cherry and thorn-apple, that wither and die when attacked by this worm, whilst the larger fruits, the plum and apple, will feel the same injury less, and will survive the wounds that kill the smaller fruits. But lo! exactly the reverse of this is the fact. It is the small cherry and thorn-apple that live and ripen on their stems; it is the large plum and apple, and also the peach and pear, that wither and fall from the tree! And on coming to consider this anomaly more fully, we clearly perceive that it is necessary that these things should be ordered and arranged just as we find them to be. The quantity of pulpy substance in the larger fruits is sufficient to feed the worm within them till it reaches maturity; whereas, should the smaller fruits wither in the same manner, the worm within them would die. It is, therefore, necessary that they should continue to grow, to elaborate the amount of sustenance which the worm requires to bring it to maturity.

But why it is that in these several fruits effects so dissimilar result from the same cause,—these effects, too, exactly the reverse of what we should expect,—we are wholly unable to explain. I can only resolve it into this, that in each of these cases the Author of nature has decreed that it shall be so, and therefore it is so.

Even though in a more advanced state of science the vegetable pathologist should be able to show certain peculiarities in the physical constitution of these trees, whereby it will be explained why it is that the irritation produced by the gnawing of this worm is speedily fatal to the one fruit, and not at all so to the other, it will only carry us one step further back and lead to the inquiry—How came these trees to possess their respective constitutions? Why did not the peculiarities of the cherry happen to be given to the plum, and thus produce a discord instead of that harmony which we now see?

And thus, wherever we fix our look in the wide domain of nature, whatever page we open in her "book of wondrous secrecy," we perceive unmistakable evidence that, even in all its minutest details, the vast framework of creation has been arranged by a hand that was omnipotent, that hand guided by an intelligence that was infinite.

But to return from this digression. Any person on inspecting a large, thrifty plum tree at

the commencement of June, on seeing the fusion of small young fruit which is every interspersed among the leaves, would deem all but impossible for an insect to devastate fruit to the extent that the *Curculio* does. I would think that, here and there, at least, plum hid among the foliage, or projecting out upon the ends of the slender twigs, exclude the search of this insect, and thus to ripen upon the tree. But I judge from counts it is the same all over the country. It is within the sphere of my own observation although the trees are perfectly healthy, vigorous, richly clothed with verdure year after year, we never see a ripened plum upon it except where special care is taken to exclude this intruder.

And not only this fruit, but (what many persons are wholly unaware of) a large portion of our apples are also blighted by this same insect. I am persuaded it is one of the principal reasons why our orchards as this day are so much less productive than they were half a century ago. To obtain a correct idea of the intolerable damage which this insect is in our country, I hope one who now hears me, if he has not already particularly noticed the sad spectacle, will go in mind next 4th of July, or within a few days of that time, to walk to the plum trees and orchards in his neighbourhood. You will find the ground under many, if not all, of the trees literally covered with the wilted young fruit that has fallen from its having been blighted by this insect. Could but a fourth part of what is now on the ground have remained upon the tree to ripen, it would be such a yield from them as would make a cycle of years we have never had and ceased to expect.

On cutting open these withered plum apples you will find the same worm in it as in the other, or, if this worm has left the fruit, its track will still be therein, demonstrating that the falling of the whole of the fruit, from both kinds of trees, has been occasioned by the same cause.

It is during the early part of July the worms are leaving the fruit and entering the ground. But some are found still quite after others have got their growth and entered the fruit. Hence a considerable time, two or three weeks probably, during which one and another of these larvæ in the fruit are entering to maturity and entering the ground.

They remain in the ground reposing in the pupa state, about three weeks. Hence, during the latter part of July that the most complete their transformations, and again in their perfect state.

Thus, in from six to eight weeks from the time the egg is deposited, this insect has completed its growth, and becomes a beetle of the same size as its parent.

We thus have these insects completing their transformations and all coming abroad in their perfect state the latter part of Ju-