

HOW THE LEAVES COME DOWN

I'll tell you how the leaves came down,
The great Tree to his children said :
" You're getting sleepy, Yellow and Brown,
Yes, very sleepy, little Red ;
It is quite time you went to bed."

" Ah !" begged each silly, pouting leaf ;
" Let us a little longer stay ;
Dear Father Tree, behold our grief,
'Tis such a very pleasant day
We do not want to go away."

So just for one more merry day,
To the great Tree the leaflets clung,
Frolicked and danced and had their way ;
Upon the autumn breezes swung,
Whispering all their sports among.

" Perhaps the great Tree will forget
And let us stay until the spring,
If we all beg and coax and fret."
But the big Tree did no such thing ;
He smiled to hear their whispering.

" Come, children, all to bed !" he cried ;
And ere the leaves could urge their prayer
He shook his head, and far and wide,
Fluttering and rustling everywhere,
Down sped the leaflets through the air.

I saw them ; on the ground they lay,
Golden and red, a huddled swarm,
Waiting till one from far away,
White bed-clothes heaped upon her arm,
Should come to wrap them safe and warm.

The great bare Tree looked down and smiled,
" Good night, dear little leaves," he said ;
And from below each sleepy child
Replied, " Good night !" and murmured,
" It is so nice to go to bed."

MAPPING THE HEAVENS.

It was coincident with, if not the result of, the invention of the telescope that the world learned that it was not the centre of the universe but dependent upon the sun, which itself was a most insignificant member of an infinite celestial world. In our own day two wonderful additions have been made to our means of knowledge of the universe outside our own little planet. The first was by means of the spectroscope which, when attached to the telescope, reveals the chemical composition of the sun and stars. It has been found that light from the incandescence of the various chemical elements produces

distinct effects upon the spectrum, and that thus the chemical composition of an incandescent body can be distinguished by the sort of rainbow which falls from its rays. This discovery, applied to the most distant heavenly bodies, furnishes us with the knowledge that they are made of the same chemical elements with which we are familiar in our own world, but differ individually in revealing different prominent elements. The other great stride which astronomy is making in our day is accomplished by the means of attaching the photographic sensitive plate to the telescope. As anyone who has ever looked through a telescope at the heavens knows the motion of the earth causes the heavenly bodies to move rapidly across the plane of vision. This has to be corrected by causing the axis of the telescope to be moved by clockwork at such a rate, and in such a direction as exactly to counteract this motion of the earth and to keep each heavenly body in exactly the same portion of the field from the beginning to the end of the observation. For photographic purposes this is done by having two parallel telescopes, one of which casts the image of a given star upon the crossing of two threads of spider's web where it can be seen by the observer and where any failure to retain its exact position can be noted and corrected at once. The other telescope is all the while photographing what it sees upon a photographic plate, and strange to say, the photographic plate can take down a great deal which the eye itself never sees. As the exposure continues, more and more vivid becomes its record, and stars before unseen are every few minutes added to those which were before seen. With the naked eye the ordinary observer has seen in the Pleiades a group of six stars. Some see seven ; to them the legend of the lost pleiad is meaningless. Some are said to see a dozen ; most people can if they are a little dazzled. A three-inch telescope will reveal three hundred. Studying the group with the eye by the