

CHAPTER IX

Bad Weather -- The Hydraulic Lift -- Manufacture of
Glass-ware -- The Bread-tree -- Frequent Visits to the Corral
-- Increase of the Flock -- The Reporter's Question -- Exact
Position of Lincoln Island -- Pencroft's Proposal.

The weather changed during the first week of March. There had been a full moon at the commencement of the month, and the heat was still excessive. The atmosphere was felt to be full of electricity, and a period of some length of tempestuous weather was to be feared.

Indeed, on the 2nd, peals of thunder were heard, the wind blew from the east, and hail rattled against the façade of Granite House like volleys of grape-shot. The door and windows were immediately closed, or everything in the rooms would have been drenched. On seeing these hailstones, some of which were the size of a pigeon's egg, Pencroft's first thought was that his cornfield was in serious danger.

He directly rushed to his field, where little green heads were already appearing, and, by means of a great cloth, he managed to protect his crop.

This bad weather lasted a week, during which time the thunder rolled without cessation in the depths of the sky.

The colonists, not having any pressing work out of doors, profited by the bad weather to work at the interior of Granite House, the arrangement of which was becoming more complete from day to day. The engineer made a turning-lathe, with which he turned several articles both for the toilet and the kitchen, particularly buttons, the want of which was greatly felt. A gun-rack had been made for the firearms, which were kept with extreme care, and neither tables nor cupboards were left incomplete. They sawed, they planed, they filed, they turned: and during the whole of this bad season, nothing was heard but the grinding of tools or the humming of the turning-lathe which responded to the growling of the thunder.

Master Jup had not been forgotten, and he occupied a room at the back, near the storeroom, a sort of cabin with a cot always full of good litter, which perfectly suited his taste.

"With good old Jup there is never any quarrelling," often repeated Pencroft, "never any improper reply! What a servant, Neb, what a servant!"

Of course Jup was now well used to service. He brushed their clothes, he turned the spit, he waited at table, he swept the rooms, he gathered wood, and he performed another admirable piece of service which delighted Pencroft--he never went to sleep without first coming to tuck up the worthy sailor in his bed.

As to the health of the members of the colony, bipeds or bimana,

quadrumana or quadrupeds, it left nothing to be desired. With their life in the open air, on this salubrious soil, under that temperate zone, working both with head and hands, they could not suppose that illness would ever attack them.

All were indeed wonderfully well. Herbert had already grown two inches in the year. His figure was forming and becoming more manly, and he promised to be an accomplished man, physically as well as morally. Besides, he improved himself during the leisure hours which manual occupations left to him; he read the books found in the case; and after the practical lessons which were taught by the very necessity of their position, he found in the engineer for science, and the reporter for languages, masters who were delighted to complete his education.

The tempest ended about the 9th of March, but the sky remained covered with clouds during the whole of this last summer month. The atmosphere, violently agitated by the electric commotions, could not recover its former purity, and there was almost invariably rain and fog, except for three or four fine days on which several excursions were made. About this time the female onaga gave birth to a young one which belonged to the same sex as its mother, and which thrived capitally. In the corral, the flock of musmons had also increased, and several lambs already bleated in the sheds, to the great delight of Neb and Herbert, who had each their favourite among these new-comers. An attempt was also made for the domestication of the peccaries, which succeeded well. A sty was constructed near the poultry-yard, and soon contained several young ones in the way to become civilised, that is

to say, to become fat under Neb's care. Master Jup, entrusted with carrying them their daily nourishment, leavings from the kitchen, etc., acquitted himself conscientiously of his task. He sometimes amused himself at the expense of his little pensioners by tweaking their tails; but this was mischief, and not wickedness, for these little twisted tails amused him like a plaything, and his instinct was that of a child. One day in this month of March, Pencroft, talking to the engineer, reminded Cyrus Harding of a promise which the latter had not as yet had time to fulfil.

"You once spoke of an apparatus which would take the place of the long ladders at Granite House, captain," said he; "won't you make it some day?"

"Nothing will be easier; but is this a really useful thing?"

"Certainly, captain. After we have given ourselves necessaries, let us think a little of luxury. For us it may be luxury, if you like, but for things it is necessary. It isn't very convenient to climb up a long ladder when one is heavily loaded."

"Well, Pencroft, we will try to please you," replied Cyrus Harding.

"But you have no machine at your disposal."

"We will make one."

"A steam machine?"

"No, a water machine."

And, indeed, to work his apparatus there was already a natural force at the disposal of the engineer which could be used without great difficulty. For this, it was enough to augment the flow of the little stream which supplied the interior of Granite House with water. The opening among the stones and grass was then increased, thus producing a strong fall at the bottom of the passage, the overflow from which escaped by the inner well. Below this fall the engineer fixed a cylinder with paddles, which was joined on the exterior with a strong cable rolled on a wheel, supporting a basket. In this way, by means of a long rope reaching to the ground, which enabled them to regulate the motive power, they could rise in the basket to the door of Granite House.

It was on the 17th of March that the lift acted for the first time, and gave universal satisfaction. Henceforward all the loads, wood, coal, provisions, and even the settlers themselves, were hoisted by this simple system, which replaced the primitive ladder, and, as may be supposed, no one thought of regretting the change. Top particularly was enchanted with this improvement, for he had not, and never could have possessed Master Jup's skill in climbing ladders, and often it was on Neb's back, or even on that of the orang, that he had been obliged to make the ascent to Granite House. About this time, too, Cyrus Harding attempted to manufacture glass and he at first put the

old pottery-kiln to this new use. There were some difficulties to be encountered, but after several fruitless attempts, he succeeded in setting up a glass manufactory, which Gideon Spilett and Herbert, his usual assistants did not leave for several days. As to the substances used in the composition of glass, they are simply sand, chalk and soda, either carbonate or sulphate. Now the beach supplied sand, lime supplied chalk, sea weeds supplied soda, pyrites supplied sulphuric acid and the ground supplied coal to heat the kiln to the wished-for temperature. Cyrus Harding thus soon had every thing ready for setting to work.

The tool, the manufacture of which presented the most difficulty, was the pipe of the glass maker, an iron tube, five or six feet long, which collects on one end the material in a state of fusion. But by means of a long, thin piece of iron rolled up like the barrel of a gun, Pencroft succeeded in making a tube soon ready for use.

On the 28th of March the tube was heated. A hundred parts of sand thirty-five of chalk, forty of sulphate of soda, mixed with two or three parts of powdered coal, composed the substance which was placed in crucibles. When the high temperature of the oven had reduced it to a liquid, or rather a pasty state, Cyrus Harding collected with the tube a quantity of the paste, he turned it about on a metal plate previously arranged so as to give it a form suitable for blowing, then he passed the tube to Herbert, telling him to blow at the other extremity.

And Herbert, swelling out his cheeks, blew so much and so well into the tube--taking care to twirl it round at the same time--that his breath dilated the glassy mass. Other quantities of the substance in a state of fusion were added to the first, and in a short time the result was a bubble which measured a foot in diameter. Harding then took the tube out of Herbert's hands, and, giving to it a pendulous motion, he ended by lengthening the malleable bubble so as to give it a cylindro-conic shape.

The blowing operation had given a cylinder of glass terminated by two hemispheric caps, which were easily detached by means of a sharp iron dipped in cold water; then, by the same proceeding, this cylinder was cut lengthways, and after having been rendered malleable by a second heating, it was extended on a plate and spread out with a wooden roller.

The first pane was thus manufactured, and they had only to perform this operation fifty times to have fifty panes. The windows at Granite House were soon furnished with panes; not very white, perhaps, but still sufficiently transparent.

As to bottles and tumblers, that was only play. They were satisfied with them, besides, just as they came from the end of the tube.

Pencroft had asked to be allowed to "blow" in his turn, and it was great fun for him; but he blew so hard that his productions took the most ridiculous shapes, which he admired immensely.

Cyrus Harding and Herbert, whilst hunting one day, had entered the forest of the Far West, on the left bank of the Mercy, and, as usual, the lad was asking a thousand questions of the engineer, who answered them heartily. Now, as Harding was not a sportsman, and as, on the other side, Herbert was talking chemistry and natural philosophy, numbers of kangaroos, capybaras, and agoutis came within range, which, however, escaped the lad's gun; the consequence was that the day was already advanced, and the two hunters were in danger of having made a useless excursion, when Herbert, stopping, and uttering a cry of joy, exclaimed,--

"Oh, Captain Harding, do you see that tree?" and he pointed to a shrub, rather than a tree, for it was composed of a single stem, covered with a scaly bark, which bore leaves streaked with little parallel veins.

"And what is this tree which resembles a little palm?" asked Harding.

"It is a 'cycas revoluta,' of which I have a picture in our dictionary of Natural History!" said Herbert.

"But I can't see any fruit on this shrub!" observed his companion.

"No, captain," replied Herbert; "but its stem contains a flour with which nature has provided us all ready ground."

"It is, then, the bread-tree?"

"Yes, the bread-tree."

"Well, my boy," replied the engineer, "this is a valuable discovery, since our wheat harvest is not yet ripe; I hope that you are not mistaken!"

Herbert was not mistaken: he broke the stem of a cycas, which was composed of a glandulous tissue, containing a quantity of floury pith, traversed with woody fibre, separated by rings of the same substance, arranged concentrically. With this fecula was mingled a mucilaginous juice of disagreeable flavour, but which it would be easy to get rid of by pressure. This cellular substance was regular flour of a superior quality, extremely nourishing; its exportation was formerly forbidden by the Japanese laws.

Cyrus Harding and Herbert, after having examined that part of the Far West where the cycas grew, took their bearings, and returned to Granite House, where they made known their discovery.

The next day the settlers went to collect some and returned to Granite House with an ample supply of cycas stems. The engineer constructed a press, with which to extract the mucilaginous juice mingled with the fecula, and he obtained a large quantity of flour, which Neb soon transformed into cakes and puddings. This was not quite real wheaten bread, but it was very like it.

Now, too, the onaga, the goats, and the sheep in the corral furnished daily the milk necessary to the colony. The cart, or rather a sort of light carriole which had replaced it, made frequent journeys to the corral, and when it was Pencroft's turn to go he took Jup, and let him drive, and Jup, cracking his whip, acquitted himself with his customary intelligence.

Everything prospered, as well in the corral as in Granite House and certainly the settlers, if it had not been that they were so far from their native land, had no reason to complain. They were so well suited to this life, and were, besides, so accustomed to the island, that they could not have left its hospitable soil without regret!

And yet so deeply is the love of his country implanted in the heart of man, that if a ship had unexpectedly come in sight of the island, the colonists would have made signals, would have attracted her attention, and would have departed!

It was the 1st of April, a Sunday, Easter Day, which Harding and his companions sanctified by rest and prayer. The day was fine, such as an October day in the northern hemisphere might be.

All, towards the evening after dinner, were seated under the verandah on the edge of Prospect Heights, and they were watching the darkness creeping up from the horizon. Some cups of the infusion of elder berries, which took the place of coffee, had been served by Neb. They were speaking of the island and of its isolated situation in the

Pacific, which led Gideon Spilett to say,--

"My dear Cyrus, have you ever, since you possessed the sextant found in the case, again taken the position of our island?"

"No," replied the engineer

"But it would perhaps be a good thing to do it with this instrument, which is more perfect than that which you before used."

"What is the good?" said Pencroft. "The island is quite comfortable where it is!"

"Well, who knows," returned the reporter, "who knows but that we may be much nearer inhabited land than we think?"

"We shall know to morrow," replied Cyrus Harding, "and if it had not been for the occupations which left me no leisure, we should have known it already."

"Good!" said Pencroft. "The captain is too good an observer to be mistaken, and, if it has not moved from its place, the island is just where he put it."

"We shall see."

On the next day, therefore, by means of the sextant, the engineer made

the necessary observations to verify the position which he had already obtained, and this was the result of his operation. His first observation had given him for the situation of Lincoln Island,--

In west longitude: from 150° to 155° ;

In south latitude: from 30° to 35° .

The second gave exactly:

In longitude: $150^{\circ} 30'$;

In south latitude: $34^{\circ} 57'$.

So then, notwithstanding the imperfection of his apparatus, Cyrus Harding had operated with so much skill that his error did not exceed five degrees.

"Now," said Gideon Spilett, "since we possess an atlas as well as a sextant, let us see, my dear Cyrus, the exact position which Lincoln Island occupies in the Pacific."

Herbert fetched the atlas, and the map of the Pacific was opened, and the engineer, compass in hand, prepared to determine their position.

Suddenly the compasses stopped, and he exclaimed,--

"But an island exists in this part of the Pacific already!"

"An island?" cried Pencroft.

"Tabor Island."

"An important island?"

"No, an islet lost in the Pacific, and which perhaps has never been visited."

"Well, we will visit it," said Pencroft.

"We?"

"Yes, captain. We will build a decked boat, and I will undertake to steer her. At what distance are we from this Tabor Island?"

"About a hundred and fifty miles to the north-east," replied Harding.

"A hundred and fifty miles! And what's that?" returned Pencroft. "In forty-eight hours, with a good wind, we should sight it!"

And, on this reply, it was decided that a vessel should be constructed in time to be launched towards the month of next October, on the return of the fine season.