

The Project Gutenberg eBook of The Wonder Island Boys: The Tribesmen

This ebook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this ebook or online at www.gutenberg.org. If you are not located in the United States, you'll have to check the laws of the country where you are located before using this eBook.

Title: The Wonder Island Boys: The Tribesmen

Author: Roger Thompson Finlay

Release date: March 6, 2007 [eBook #20753]

Language: English

Credits: Produced by Joe Longo and the Online Distributed
Proofreading Team at <http://www.pgdp.net>

*** START OF THE PROJECT GUTENBERG EBOOK THE WONDER ISLAND BOYS: THE
TRIBESMEN ***

THE WONDER ISLAND BOYS

By ROGER T. FINLAY

Thrilling adventures by sea and land of two boys and an aged Professor who are cast away on an island with absolutely nothing but their clothing. By gradual and natural stages they succeed in constructing all forms of devices used in the mechanical arts and learn the scientific theories involved in every walk of life. These subjects are all treated in an incidental and natural way in the progress of events, from the most fundamental standpoint without technicalities, and include every department of knowledge. Numerous illustrations accompany the text.

Two thousand things every boy ought to know. Every page
a romance. Every line a fact.

Six titles—60 cents per volume

THE WONDER ISLAND BOYS
The Castaways

THE WONDER ISLAND BOYS
Exploring the Island

THE WONDER ISLAND BOYS
The Mysteries of the Caverns

THE WONDER ISLAND BOYS
The Tribesmen

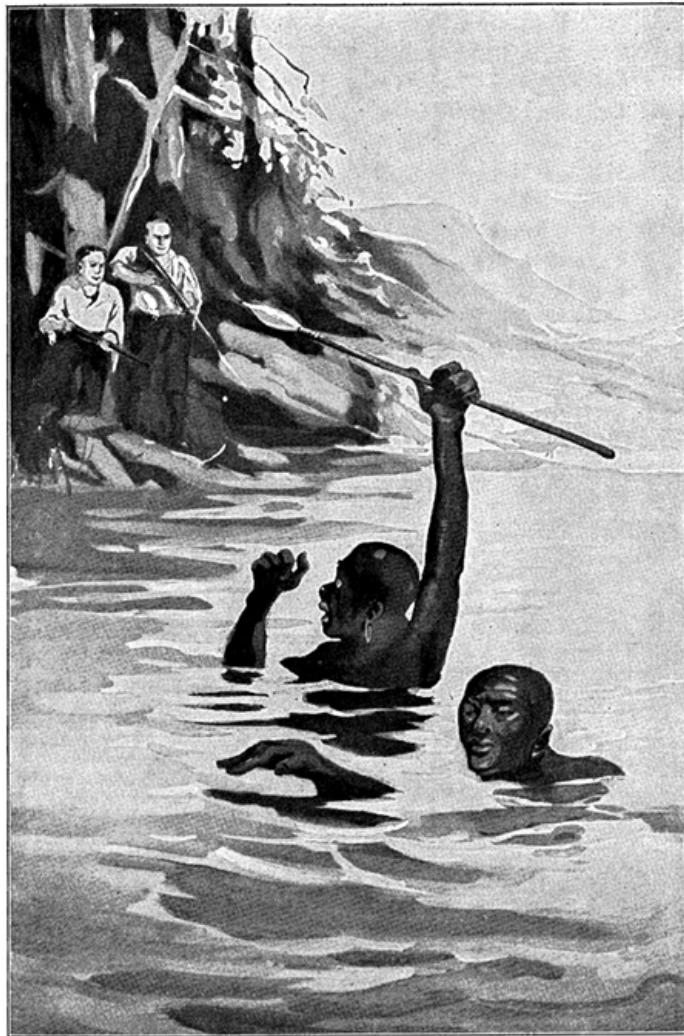
THE WONDER ISLAND BOYS
The Capture and Pursuit

THE WONDER ISLAND BOYS
The Conquest of the Savages

PUBLISHED BY
THE NEW YORK BOOK COMPANY
147 FOURTH AVENUE NEW YORK

THE WONDER ISLAND BOYS

THE TRIBESMEN



"He poised his spear as he raised himself out of the water"

[See p. 144]

"He poised his spear as he raised himself out of the water"

[See p. 144]

THE WONDER ISLAND BOYS
THE TRIBESMEN

BY
ROGER T. FINLAY

ILLUSTRATED



N Y B Co.

COPYRIGHT, 1914, BY
THE NEW YORK BOOK COMPANY

CONTENTS

I. [THE FIRST OF THE TRIBESMEN](#) Page [11](#)

The first view of the savages. Excitement in their camp. The story of the boys. What they had accomplished. Their home at the Cataract. The fifth expedition. In the savages' country. Some of the mysterious events. "Angel" one of the party. The dense forest. The fight between the two tribes. Going closer to the battle ground. The wagon as a means of defense. Taking position on the shore of a stream. The defeated party retreating toward the wagon. Close view of the natives. The defeated tribe taking up position behind the wagon. The victorious party attacking the wagon. Repelling the charge. The fight witnessed by the defeated tribe.

II. [TWO SAVAGE ATTACKS](#) Page [23](#)

Their two foes. Preparing for the night. Poisoned arrows. Clearing away the brush. Angel restless during the night. John's adventure as a scout. The shot in the darkness. The result. John's second scouting expedition. Return of the warriors. The arrow and the cap. The reappearance. The volley. The slain warriors. The trophies. The different headdresses. How tribes are distinguished. Determine to go forward. Trinkets of civilized people found on the battlefield. Camp the second night. Angel discerns the approach of a band. The Professor tries to establish communications. Failure. A position of defense. The attack and repulse. The second volley. Charging the savages. Capture of a wounded chief and a warrior. Treating the wounds. The chief advising his men not to attack.

III. [A THIRD ATTACKING TRIBE](#) Page [35](#)

Difficulty in communicating with the chief. Examining the chief's pockets. Finding a photograph of George and Harry. Hunting the pockets of the slain warriors. The match box. John's startled look. The monogram. Human hair. Its part in ornamentation. Scalps. Customs connected with human hair. Going forward. Surrounded by the warriors. The running fight. The yaks beyond control. The flight. The savages trying to outflank them. Warriors on all sides. The river in sight. A tributary to the West River. Getting the yaks under control. The wounded animals. Heading for a peninsula. The mute captive. The siege. Instilling fear. Learning the chief did not belong to the attacking party. Consternation on discovering that the attacking party did not belong to either of the parties who first attacked them.

IV. [THE ESCAPE. ENCOUNTERING ANOTHER HOSTILE TRIBE](#) Page [48](#)

War among the natives. John's ability with the gun. Cooped up in the peninsula. Recollection in animals. A dual self. Memory. No attack during the night. The savage attempt to starve them out. Planning to escape. Determine to build a raft. John and Harry's night adventure after material. Crossing the tributary to the north. Bringing in logs. The structure to imitate the wagon. Driving the team into the river. Floating the logs under the wagon. Crossing the stream. A safe passage. A good retreat. How the ruse affected the natives. The amused captive chief. Starting northward. The disapproval of the chief. Viewing a fight between tribes. Short of ammunition. An unexpected native village. The startled warriors. Attacked by the natives.

V. [THE RESCUE OF THE CAPTIVE BOYS](#) Page [61](#)

The fight. Defeat of the savages. Charging them through the village. The large hut. A cry from within. American boys captive. Their own companions. Weak and

hungry. Taken to the wagon. Their terrible condition. The return of the savages. Feeding the famished boys. The second attack. The flanking parties. The first volley. Retreating toward the river. Followed by the warriors. Outwitting the enemy. Flight of the wagon to the hill. A peculiar rock formation. Discovery of a cave. Peculiar actions of John and the Professor. Their advice to go on. A hurried trip to the river. Arranging the weapon for defense. Fearing a night attack.

[2]

VI. [THE TALE OF THE RESCUED BOYS](#)

Page [74](#)

Ralph and Tom. Cast ashore in the north of the island. Meeting a band of savages with a captive. Poison berries. Sickness. Hunting food. Captured by a tribe of natives. Peculiarities of the native headdresses. Taken to the mountains. Escaped. Recaptured by another tribe. Sacrificing prisoners. The round silver match box. Savage charms. Kindly treated by the second tribe. The second escape. Hunting food. Starving. Trying to go back to the tribe. The mistake in going to the wrong tribe. How boldness saved them. The watch in possession of the chief. The initials J. L. V. Treated like brothers. Captured by another tribe in a fight. Their last captors.

VII. [THE ESCAPE IN THE NIGHT](#)

Page [85](#)

John's search in the night. Return. Indicating by signs that no savages were in sight. Continuing their flight in the night. The course along the bed of the stream. John in the advance pushes through the underbrush. By motions indicates the possibilities of crossing the river. Finding driftwood. The raft. The launching of the wagon. Camping on the opposite side. Watching the savages. Deep streams. Shallow water courses. Savage strategy. Hunting for food. Coffee and corned beef. Woodchuck and pheasants. Discussing the wounded chief. Conclude to take him to Cataract. Taking up the march for home. Finding the direction of the south pole. The Dog Star Sirius.

VIII. [THE CATARACT AND ITS MARVELS](#)

Page [97](#)

The tramp through the forest. Wonderful effect on the rescued boys. New fruit and vegetables. The rubber tree. Carricature plant. Sighting Observation Hill. The Old Flag. The change in John. Angel happy. The visit of the boys to the shop. The rambles about the place. A wonderful stimulus. Angel turning the grindstone. Appreciation. The Professor's encomium. Rearranging their quarters. Putting up new buildings. The barley thief. Making bread. The chief at Cataract. Crutches. The novelty to him. Learning to walk. His amazement at the workshop. Trying to talk. Threshing barley. The grist mill. The home-made violin. Dancing. A religious ceremony. Different national customs in dancing.

[3]

IX. [THE WORK AT THE CATARACT. MAKING WEAPONS.](#)

Page [110](#)

Dividing the work. Hunting vegetables. Securing game. Cultivating the garden. Making clothing. Footwear. John making lasts. Ramie fiber. Preparing more weapons. Angel's new suit. New ores and minerals. Cinnabar. Quicksilver. Poisons from mercury. The boys' trip to Observation Hill. Angel's gun. The talk of the boys. Desire to survey the island. Telling the rescued boys their story. Savage traits concerning property. Locks. Doing work on holidays. Recreation. The instruments for surveying. The boathouse. Chief and the spear. His dexterity. How the chief held the spear. The chief and the bolo.

X. [UNAWARES IN THE ENEMY'S COUNTRY.](#)

Page [125](#)

Observing the heavens. Degrees and what they mean. Angles. Calculating position by the stars. The moon as a factor by night. The fixed stars in the moon's path. Determine to recover the wrecked boat. The boys inaugurate the trip. A jolly lark. Through the forest. The alarm in the night. The attack of an animal. Missed. Sighting the West River. Miscalculation. Discovering their former tracks. In the savages' country. The chatter of Angel in the trees. The alarm. Savages. Eluding them. Escaping to the north. Discovered by the natives. The pursuit.

XI. [THE RUSE TO ESCAPE THEIR PURSUERS](#)

Page [136](#)

Preparing for defense. Appearance of the savages. The charge. Repelling the attack. Driving the team ahead. Harry and Tom as rear guards. Harry's injunction to force the team on rapidly. The warriors. Turning to the east. Eluding the enemy. The rush for the river. Crossing. The savages at the river. Reinforcement of the pursuing party. The ruse leaving the river. Hiding the wagon. Returning to the river. The two warriors swimming the river. Their surprise. Their effort to escape. Recognizing the savages as the captors of the boys. Consternation in the camp of the enemy. Determining to recross the river. The flight to the north.

[4]

XII. [THE PROBLEM ABOUT THE CAVE](#) Page
[149](#)

Their happy reception at the Cataract. Why their observations of the moon led them astray. Distinguishing fixed stars. How Angel fought the savages. Individuality. The chief an enigma. How he used the grindstone. His interest in machinery. The yardstick of the heavens to measure degrees. The Constellation Orion. The new calf. Milk and butter. The mysterious visit of the chief to the clay banks. Eating clay. Observations by Ralph and Tom. The clay eaters of the world. The cave and the treasure. The Professor refuses to take a share of it. Determination of the boys. Harry and George go to the cave. Go back for Ralph and Tom.

XIII. [THE ACCIDENT TO JOHN AND THE RESTORATION OF MEMORY](#) Page
[160](#)

An island of abundance. Nuts and vegetables. Oils for illumination. Unripe fruit. How nature protects her products. Eggs. How good and bad are determined. Gases formed within the shell. Building an addition to their home. Putting up the new building. The accident to John. A terrible wound in the head. Chief's solicitude for John. Watching the results of the injury. The human traits in the chief. Danger point of the fever. The wonderful difference in his eye. Recovers memory. A deep sleep. His first words. Aphasia. The brain center. His initials J. L. V. on the match safe. Recognizing the chief.

XIV. [JOHN'S WONDERFUL STORY](#) Page
[172](#)

Native of New England. Ran away to sea. Fortunately fell into hands of a humane captain. Became chief clerk. Learned navigation. The captain's interest in him. The return. The meeting with the captain's daughter. The wedding. Sailing east with his wife in the captain's vessel. A plague-infected port. Death of his wife. Leaving the accursed port. Death of the captain. Disposing of the ship. Travels through India. Enlists at Gibraltar. Serves in Matabela campaign. Goes to England. Is tutor to a Lord. Goes to Greece. Serves in two campaigns. Returns to New York. Enlists for campaign against Indians. Five years' service. Goes to Egypt to conduct explorations. Returns fever-ridden. Accepts Professorship. Signs as Professor in the schoolship *Investigator*. Sickness prevents his sailing. Wanders to San Francisco. Engages with friends to search South Sea Islands for treasures. Shipwrecked. Finding a cave. Captured by savages. Escapes. Meets with an accident. Loses all memory.

XV. [CHIEF AND THE POISON PLANT](#) Page
[186](#)

How John's story impressed them. How the boys entertained John with the stories of their adventures. The story of the yaks. John tells them how they could have controlled them with the different knots and hitches. The spectroscope. Light as a medium. The composition of the heavenly bodies. The solar spectrum. The boys remember John's story of the cave. His story confirming their knowledge about the savages. The concert with the flute and violin. Making glass for windows. Silver and mercury. Looking-glasses. Amalgam. Making small glass mirrors for the inhabitants. The chief's surprise at the mirrors. His contribution to the larder. The Amarylla. The poison plant. The boys' suspicions of the chief. Good for food. Stomach or blood poisons.

XVI. [A SURPRISING TRIP TO THE CAVE](#) Page
[198](#)

Completion of the house. Furnishing it. The chief recovers health. Showing John the message from the lifeboat. "Waters" one of his crew. The mystery of the photograph. Information that others of the ill-fated *Investigator* were on the island. Reasons why certain tribes sacrificed white captives. A new expedition planned. Determine to go overland. Making new guns. Ammunition. The boys invite Ralph and Tom to visit the cave. The surprise of the boys at the skeletons and the treasure. Exploring the cave. A terrific roar. Alarmed. Determine to investigate. Finding the Professor and John. The surprise party.

XVII. [THE WONDERFUL PORTABLE FORT](#) Page
[208](#)

The boys ask John about his wonderful cave. The charted treasure caves. Seeing the treasure in the cave on the hill where the boys were rescued. An occupied cave. The medicine men. The two entrances and the cross-shaped interior. How the hoards were acquired. Piracy on the high seas. The gold and silver of the

world. The precious metals taken to Europe by the Spaniards. Rushing work on the preparations. The gun barrels. Chief showing the boys how to make and use the bows. The disappearance of chief. The invention of a portable fort. How it was made. Stocking the wagon. Experimenting with the fort. Necessity as the mother of invention. The improvements in the fort. A new suggestion. Using the fort as a raft.

XVIII. [TRAILING A WARRING PARTY OF NATIVES](#)

Page
[221](#)

Weight and gravity. Acting in all directions. Proving the law of universal gravitation. Drilling with the raft equipment. Grinding barley flour. Making sleeping mattresses. The bustle of final preparations. The good-by to their herd of yaks. The march to the falls. John discovers a log in the drift and a rope. The dense forest. Crossing the river to the south. Finding a camp fire with fresh bones. Numerous traces of inhabitants. A glowing fire. Following the trail. Trying to catch them before night. Efforts to capture one as a means of opening communication. Sighting the camp. Hurried consultation. Surrounding the camp of the natives.

[GLOSSARY OF WORDS USED IN THE TEXTS](#)

Page
[232](#)

LIST OF ILLUSTRATIONS

"He poised his spear as he raised himself out of the water"	Frontispiece
	PAGE
"The main body of the savages broke for cover, but several, more venturesome than the rest, sought to carry away the chief"	22
"Come out into the light,' and Harry and George each put his arms around one of the boys"	70
"He started back in fright as his own image appeared to him"	198
The First Boat	14
The Match Safe	37
Scene of the Fight on the River	44
The Wagon Raft	54
Savage's Hut	58
Deep Stream	89
Shallow Stream	90
Salsify	98
Rubber	99
Carricature Plant	100
Angel, His New Suit and Gun	113
Poising the Spear	122
Northern Hemisphere (Stellar Map)	126
Southern Hemisphere (Stellar Map)	127
Testing Eggs	162
Rope Knots	187
Rope Hitches	188
The Color Spectrum	189
Amarylla, Chief's Poison Vegetable	195
The Portable Fort	214
Gravitational Pull	222
Using the Fort as a Raft	223

THE TRIBESMEN

CHAPTER I

THE FIRST OF THE TRIBESMEN

"They seem to be terribly excited about something, and many of them are running back and forth," said Harry, from his perch on the wagon top.

George made his way back again in time to see a half dozen of the savages dart off into the bush to the left. They were from two to three miles distant when first discovered, so that it was difficult to make out their movements distinctly.

The Professor could not see them clearly, so that he also took a position on the top of the wagon. "Do you see any movement to the left of their camp?"

After gazing a while, Harry answered: "It seems that another party is coming up." In a moment more he continued: "Yes, and they appear to be waiting in ambush for them."

George Mayfield and Harry Crandall, together with an aged Professor, had been wrecked on an island, one year before the opening event in this chapter. They were attached to a ship training school that met with disaster in mid-Pacific, and when cast ashore had nothing whatever except the clothing they wore.

By extraordinary energy they began an investigation of the surroundings and discovered many things which not only excited their intense curiosity, but learned that the island was inhabited by one or more tribes of savages. In this helpless state, with no means of defense, and compelled to depend on nature for a supply of food and clothing, they were truly in a pitiful state.

[11]

The Professor was a man of profound learning, and knowing that such a condition must be met in a manner which would enable them to cope with the situation, gradually turned the attention of the boys to producing things of use, first making the articles most needed in their impoverished condition, and afterwards adding some wonderful things which enabled them to become bold enough to attempt the exploration of the island.

A brief review of the situation was this: The first consideration was food. A number of vegetables were found, some of them well known, but in a wild state, as well as nuts and fruit. Barley was one of the cereals early discovered, and from that bread was made. Then ramie, a well-known fiber, was found in the early days of their occupation, as well as flax, and a wild species of hemp.

They were surprised to find various ores, clay and slate, and with these began a series of experimental work which was wonderful in its character, as every part of the work had to be carried on with the most primitive sort of tools and appliances.

Among the first adventures in the field of making the useful necessities was the construction of a water wheel; the building of a sawmill, from which lumber was turned out to make their dwelling; a loom was put up which enabled them to weave clothing; and, finally, a wagon, which arose from the desire to utilize a herd of yaks, which they succeeded in capturing.

[12]

Before the present adventure a number of useful articles and tools had been made, among which might be mentioned a lathe, a foundry, in which they turned out articles in iron and brass, and this gave them an opportunity to make first a few pistols, and lastly, several guns, with which the present expedition was equipped.

All these things interested the boys, and they took delight in every part of it, and it gave them satisfaction to see the results of their work on every hand. But that which attracted them more intensely were the series of exploits which brought to light the hidden mysteries of the island, and which caused them to name it "Wonder Island."

Four exploring trips had been made by land, and one by sea in a boat which had been specially built for the purpose, and this vessel was wrecked shortly after they had discovered the location of the savages. In the previous expeditions they saw mysterious lights, and had evidences of human beings by the camp fires used by them.

The first crude boat turned out was left at the foot of a high falls in a river to the south of their home, and after the return the boys set out to get the boat. It was missing, and recovered several months afterwards, but to their surprise, when found, it had two oars and rope that were placed there by some one.

[13]

On returning from one of the trips their flagpole and staff, which was put up on a high point, called Observation Hill, was missing. Later on a gruesome skeleton was found on the seashore not far from Observation Hill, and the wrecked portions of a boat, and to this may be added the discovery of a lifeboat, similar to their own, among debris on South river, fully ten miles inland, which must have come from the interior.

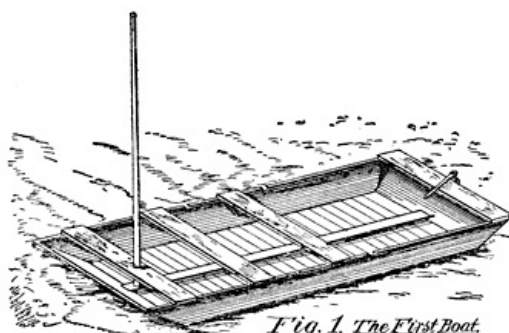


Fig. 1. The First Boat.

Fig. 1. The First Boat.

In this boat was found, accidentally, a note written by a captive in distress, showing that some of the party had been taken by the inhabitants of the island, and this occurrence determined them the more to put themselves in condition to aid the captives.

The last important development grew out of the finding of a cave, or a series of caverns, not far from their home, which contained numerous skeletons and a vast amount of treasure, showing that it was a pirates' cave, but up to this time it had not been fully investigated in view of the more serious need of haste to relieve those who were in the hands of the savages. [14]

Shortly before leaving on the present expedition, and after returning from the expedition by sea, which had wrecked the boat, they were surprised to find a man at their home, who had entirely lost his memory. This happened six weeks before the occurrence in the opening page, and during that time he had not uttered a single word, and seemed to be entirely unconscious of his surroundings.

He was evidently a cultured man, but how he came to the island, or in what manner his faculties were lost, they could get no clue. He had proven himself to be harmless, and in many ways he was of great service to them, and was now with the party, this being the fifth day of the journey, and the distance from their home was from sixty to seventy miles.

It should not be forgotten to mention Red Angel. Over eight months before a baby orang-outan had been captured. He had grown rapidly, and George, the elder of the two boys, had taken a special delight in teaching or training him, and the result was that the imitative quality of the animal made him useful to the party in many ways. Angel was with them also, and was the only amusing element in their days of stress and tension.

The condition before them at this time was one of intense interest. For the first time since their arrival, savages had been seen. From the first view it was apparent that the party sighted were on the point of meeting a hostile tribe, and while it was their intention to journey west to the large stream called by them West River, it was concluded to remain at the present camping place until they could more fully observe the attitude of the natives. [15]

During two days previous the route had been through a dense forest, and they emerged from this only a few hours before, their object being to make their way to the river, as in the vicinity of the stream there was not much wood, and the land was covered with comparatively little underbrush. They felt that with the strongly built wagon, which had been purposely made with a large, thick body, it would be more serviceable to them as a means of defense than the woods, because the forest would serve as places of concealment for their enemies, while adding nothing to their security.

The strange man, who, in the absence of his true name, was called John, noting the different ones climbing to the wagon top, also made his way there, and gazed in the direction pointed out by Harry. He glanced toward the savages, and then looked wonderingly at the boys and the Professor. He did not appear at all disturbed, nor did he venture to indicate by any sign that he understood or comprehended any danger.

And Angel, too, took a hand in the sights. He was beside George, and the latter pointed out the savages, but if he knew what George meant his face and actions did not show it. How little we know of the workings of the human mind, and how should we know more of what passed in the mind of that animal as he listlessly viewed the scene which so much interested the others? We shall see, later on, how Angel profited by the lesson which they tried to teach him. [16]

"They seem to be fighting; at any rate, I can see them going toward each other, and others running wildly about."

"Our better plan would be," said the Professor, "to go up nearer. In that way we may be able to take advantage of their quarrel."

This seemed to appeal to the boys, and they were down instantly. The yaks had been unyoked, prior to this, but they were now hitched up in a hurried manner, and the wagon moved forward.

A word now as to the equipment of the wagon. It had been made with unusually high sides, and was of thick boards, so that they did not fear the arrows which, undoubtedly, were the only form of missiles which would be hurled against them. Within were ten guns, each with a barrel twenty inches long, and a three-eighths of an inch bore. All were muzzle-loaders, as they had no facilities for making breech-loaders, so that it would be impossible to fire rapidly, after the first ten shots; but they counted on being able to hold out against a pretty strong force of savages, armed as they were.

The wagon went forward slowly, and was kept as much as possible within the sheltering range of the underbrush. All were in the vehicle, as its height gave them a better view, and in case of a surprise all would be guarded and safe. [17]

It was somewhat of a relief to note that directly ahead of them was a small stream, one of the tributaries of the West, and before reaching the open area near the river, the Professor directed the wagon toward a clump of brush, behind which the yaks were tethered.

They were thus in a position where they had an ample water supply, and the Professor remarked, that in campaigning two things were essential, one was food and the other water, and of the two water was of most value for a short period, at least. The yaks needed it, and as that was their

means of transportation, every consideration must be given them.

"As we are now campaigning in earnest, we must have some system, and a thorough understanding of what is to be done," said the Professor. "A thorough watch must be kept at all times day and night. We must not separate, but keep closely together, and in watching just as much care must be taken of our rear and our flanks. We do not know from which direction these people are likely to spring up. Remember, from our experiences night before last, this is territory over which they travel."

It should be stated that in the night referred to a band of the savages had passed their camp, going in the direction in which the wagon had taken, and they were of the impression that those discovered to the south of the stream were the ones who had come so near finding them. [18]

"There is also another matter that should be considered. While we do not anticipate any disaster to our party, still we should at all times make provision for any separation, should such a thing take place. I estimate that we are now directly south of the mouth of West River, and that the sea to the north is from fifteen to twenty miles away. Now, let it be understood that in case we are defeated, or by any chance there should be any separation, the place of retreat will be toward the location of the wrecked boat, which is near the mouth of the river."

The great difficulty was to impart this to John. He was interested, in a peculiar sort of way, in the proceedings, and the Professor undertook to make the situation, as just explained, clear to him. For this purpose he made a chart to show the tributary stream on which they were encamped, flowing into the West River, and its course to the sea, and by pointing out the spot to the west of the river mouth, where the wrecked boat was landed, he hoped the course could be fully understood. This explanation seemed to be comprehended by him, but of this there could be no assurance.

Meanwhile they had not for a moment forgotten to keep in sight the warring factions, for now that they were much closer the character of the meeting could not be misunderstood.

"Look at them," cried George; "the other tribe seems to be victorious. They are coming this way." Such seemed to be the case. The retreating forces were coming directly toward the wagon, and the situation now began to take on a very grave aspect. [19]

"What shall we do, Professor, if they come on to us?"

"We are here on a peaceful mission, and should fight only in self-defense," was his reply. This did not exactly suit the spirit of the boys, but they deferred to the wisdom of their friend.

It was plain that the tribe first seen was defeated and was being driven back to the river, and the Professor advised them to prepare for any emergency. The camp was not more than one hundred and fifty feet from the edge of the river, and they had a plain, open view before them.

Beyond the river was a bare shore, the shrubbery did not grow near the water, so that there was an open space of fully three hundred feet or more on the other shore, thus giving them ample time to note and act, whatever the circumstances might be. The Professor hoped that the pursued might deviate from their path and bring them to the river below their camp, but in this he was disappointed, as the first of the savages made his appearance from the brush directly across the river, soon followed by a dozen or more, all in precipitous retreat.

They now had the first close view of the savages. They were almost wholly naked, and had more the appearance of the North American Indians than of the South Sea Islanders, which their fancy had pictured them to be. Each carried a short spear and a bow, and the Professor called attention to the apparent lack of arrows, as the bows were strung on their backs, and they carried the spears as though they depended on them for protection. [20]

"I think they have been beaten because they are out of ammunition. It will not take them long, however, to make up a supply, and it is possible that is what they purpose doing."

The victorious party now came in view. Without waiting the defeated party dashed through the stream not two hundred feet below the wagon, and before they had fairly landed, espied the wagon. The surprise at seeing it was almost paralyzing to them for the instant. They sheered off down the stream, gesticulating wildly.

The pursuers crossed the stream higher up, and, therefore, nearer the wagon. "Watch the party which has just crossed, so we can see what their course will be."

"They are circling around behind us."

As they did so the victors emerged from the stream and made direct toward the location of the Professor and his party. Here was a situation not counted on. The wise savages had calculated on this chance to arrest the pursuers, and they showed wisdom in the move.

"Now, boys, we must stop them, but do not shoot to kill at the first shot. Before anything is done I will try to stop them by peaceful methods."

The Professor, with a gun in his hand, suddenly stepped out from the brush, and held up a hand. It may well be imagined that an apparition was as startling to them as it had been to the others. They stopped for a moment, and then with a whoop, fitted arrows to their bows, and darted forward. The Professor stepped back, and calmly said: "Now, boys, shoot low, and don't get [21]

excited."

At the word, and before the savages had gone twenty feet, the boys and John leveled their pieces, and a volley rang out. Several were seen to fall, but were only wounded, as they were at once taken in charge by their companions. The moment the first round was fired, the Professor ordered the relay guns to be grasped. But the savages, stunned by this change of affairs, did not wait for the second shot, but rushed back to the stream as fast as they could go, with the three wounded men.

But where were the other savages? Had they seen the result of the fight? The Professor hoped that the result would be such as to win them over. They lurked at a distance beyond the wagon, and as the Professor advanced toward them and held up a hand, they continued to retreat. He beckoned to them; but in spite of all efforts they refused to come near.

[22]

CHAPTER II

TWO SAVAGE ATTACKS

To all intents and purposes they had two foes, one in front and the other in the rear. They possessed a fine position, however, due to the Professor's foresight. The river was close enough to get the needed water for themselves and their yaks, and the thick clump of bushes, on the river side of the wagon, afforded protection for the animals, while the wagon itself served as an admirable fort.

They could not believe that the band which had been driven across, and which was now at their rear, would attack them, and it seemed that the present danger of a night attack might be expected from the pursuing party. Indeed, the actions of that tribe, after the attack, led the Professor to believe that they must expect a fight during the night.

The wagon was now brought up close alongside the clump, and with their bolos a considerable space of the densest part of the brush was cut away, so as to form a retreat for the yaks, and thus assure them from harm by any attacks with arrows or spears. Before dark, Harry and John went to the river several times to bring water for the cattle and for their own uses, and with the extra boards which the Professor had wisely brought along, the principal portion of the space below the wagon body was closed up.

[23]

When all had been arranged for defense all felt satisfied they could withstand a hundred savages armed with spears and arrows. One thing had to be considered, and that was, whether or not those people poisoned their arrows, as many races in southern islands do.

As a further precautionary measure, all protecting bushes within two hundred feet of the wagon were cleared away, so as to afford an open view in all directions.

Darkness set in, and the eternal stillness all about was oppressive. Two watched while the other two slept. John appeared in his element. At the least sign of disturbance in any quarter, his hand was up, and to further attract attention his hand would be laid upon the arm of his fellow watcher.

Thus passed away the first half of the night, and then for the first time Angel began to grow restless. George, who was asleep at this time, was awakened, as he interpreted Angel's actions with greater facility than the others.

"I am sure from his actions that something is coming near us. See, he is motioning toward the forest side and not toward the river." It did seem as though his perturbations came whenever George pointed toward the woods.

To the watchers, there was no sound to alarm them, for fully a half hour, when John slowly moved his hand over to George, as he peered out to the north, and as he laid his hand on his arm, arose and silently moved out to the end of the wagon, and slipped to the ground. George tried to restrain him, and immediately woke the Professor, to whom he related the circumstance.

[24]

There was, indeed, a movement in their front, at the margin of the clearing. Forms appeared here and there, but the utmost quiet was observed. Suddenly the report of a gun rang out, and with a shriek, a form was seen to bound upwardly and fall, just as a shower of arrows fell against the wagon.

The shot came from John's gun, and he had fired from a position fully fifty feet away from the wagon, and this is what disconcerted them. They were expecting the defense to come from the wagon, and here was a shot, away from it, and it undoubtedly appeared to them that there must be a number of them defending it, to enable them to put watchers so far from the wagon.

"That was a shrewd action on the part of John, although it was a hazardous one, in case they had determined to rush us. But the die is cast, and we must now fight it out."

John came back to the wagon, and took up the other gun mechanically. The Professor patted him on the back, as he again stole out. This time he boldly marched toward the fringe of the clearing, and the Professor urged Harry to run after and detain him, but he did not heed.

He remained there a full hour before any sign was made by him, but at the end of that time he came back, and by signs indicated that the savages were back again.

[25]

"Which band do you think has attacked us?"

"It looks to me as though the fellows who were pursued are the ones; what is that John has brought back?"

He held something in his hand. It was an arrow and a cap, the latter of which had blood on it. This was determined when a light was struck in the little compartment below the wagon top.

"Do you think it is possible they could have gotten these arrows since we saw them to-day?"

"They undoubtedly manufacture them with great facility, and the lack of them this afternoon would be no indication that they would be without them to-night."

John's intimation was right. They were seen beyond question, and without waiting for the initial shot, as before, they bounded across the open space, and the command was given to fire. The result of the shots was plainly seen. The rush ceased, and before the Professor could give the command for the second shot they reached the brush, and the ammunition was saved.

When morning broke, three forms were recognized lying in the clearing, but there was no sign of the savages beyond. John, without waiting for the word, moved toward them, and taking their weapons and searching their scanty clothing, took something from each, and brought them to the wagon.

The trophies brought by John were two pocket knives of English or American manufacture, and other small trinkets, such as any traveler might carry.

[26]

"This is interesting," said the Professor, as he looked over the articles. "How is it possible they got these articles unless from white people?"

When Harry and John went to the river for water, the first thing that caught Harry's eye was an arrow, which he carried back with him to the wagon and handed to the Professor.

"I think," said he, "there is another body lying over at the edge of the clearing, the one that John shot at the first attack."

The boys went over, after keeping a careful lookout as they advanced. They secured his cap and the bow and arrow. When they returned the Professor looked up, and announced that he had no doubt they had been attacked by both of the parties.

"Why do you think so?" asked George.

"For several reasons: First, the headdress of the two bands differs, as you can see by comparing the one you have just brought in, as well as the peculiar differences shown in the arrows. This is one you found near the river this morning, and was no doubt dropped by one of them at the time they attacked us, and it is exactly similar to the one you have just brought in. You will also notice that the three that were shot in the last attack have the arrows and headdress different from the others."

It thus appeared that by force of circumstances they had been thrown into the paths of these two warring factions, and had become the enemy of both.

But now something must be done to carry out the determination to rescue their fellows. How to reach the savages was the problem. They had shown hostility from the first. It was evident they were far from the usual habitations of the tribes. They must have their villages farther to the south and probably west of the present location.

[27]

The only course was to go forward, in the hope that friendly relations might still be established, notwithstanding the unfortunate circumstances of the night.

During the entire day there was not a sign of either of the parties. The Professor gave his views by stating that if they went forward at once the chances of getting into favorable communication would be improved, and if they could capture one of them it would go far toward putting them on the right track.

They remained another night at the river, and early in the morning the stream was crossed and the course of the wagon directed to the south. In less than half an hour they came upon the scene of the fight between the two tribes which took place the day before.

Here it was made plain that the two tribes had different weapons and dissimilar articles of clothing, and numerous odds and ends were gathered in the hope that some clue might be discovered as to the white people who were, no doubt, on the island.

Nothing of value in this direction was picked up, although there was confirmative evidence that the savages had in their possession trinkets which were taken from captives, and which made the necessity of their journey still more opportune.

[28]

Directly to the front of them was a forest, and to the right an incline, rather free from wood, and the course was changed in order to gain the elevation. This was reached about four in the afternoon, and in another hour they were at the crest of the hill. This gave them an unobstructed view to the south and west, and there, in the distance, was made out what appeared to be huts,

or evidences of human habitations.

The first care was to select a camping spot, which was as much in the open as possible, and the utmost care exercised to guard against surprises.

But what had become of the savages in the rear? It was impossible to obliterate the tracks of the wagon, so they might be easily followed.

"I believe the hostile attitude of the two warring parties is, after all, a factor in our favor, because if both try to follow us they are bound to again come into contact with each other, so we may be free from that worry."

"Isn't it likely that one or the other may send messengers to the village, if what we see beyond is any evidence, and thereby bring all of them against us?" Harry ventured to ask.

"That is a probability I have been considering, and our only course is to resist their attacks, and, as I have stated, endeavor to capture one of them, so we can establish communications."

Camp was made for the night, but there was no disturbance, and there was a visible relief in the minds of all as morning approached and no signs of an enemy in either quarter. [29]

The yaks were hitched up shortly after breakfast, and the long, sloping descent began. Angel was ahead swinging from tree to tree, and before they had proceeded a mile began chattering from the tree top, in his peculiar way betokening alarm. George ran up, called him down, and started forward. Angel followed, chattering more vigorously, and when George turned in another direction he ceased, thus showing conclusively the direction of the alarm, and it was well they profited by it, for now within fifteen minutes the savages were plainly seen.

They came forward, fully fifty or more, working their way cautiously along, and, no doubt, fully aware of the location of the wagon and its occupants. The crucial time had come, and George rushed back to the wagon, but before he had fully reached it a scouting party well in advance of the main body came within hailing distance.

The Professor, as before, walked out from the wagon, and held up his hand as a token of peace, but to this they made no response, but continued their cautious forward movement, creeping from one vantage point to the next, and the wagon was then turned so that its rear end was toward the oncoming savages.

Harry was directed to drive the team toward a cluster of bush at the right, and they were urged forward with all haste. The yak is a fast-moving animal, and started forward on a run, soon gaining the shelter selected. It should be stated that when the team, which had been named Jack and Jill, was first broken in, the animals were taught to be driven by means of lines, and this was now of great service to them. [30]

With their bolos they cut out a space at one side of the undergrowth, into which the yaks were driven and thus afforded protection, and the guns were taken out and arranged in order to enable them to be readily handled.

Before all preparations had been completed the main body came up, and all breathlessly awaited the attack. They halted several hundred feet away, and the Professor sought by means of signs to indicate his peaceful intent, but this did not have the least effect, as arrangement for an assault was manifested by the preparations which were now plainly perceptible.

The Professor retreated to the wagon, and his cautioning words were: "Do not fire excitedly or wildly, and be careful not to fire at too long range. Furthermore, shoot the leaders, or those who appear to take the lead. Another thing, fire and reload. Do not take the loaded guns which are in reserve, because we may need them later on, at a more critical time. These will be very serviceable if they attempt to rush us. In that event we shall have six guns and two pistols to meet them with."

Contrary to expectations no immediate attempt was made to attack, and the Professor again tried to attract them by signs. For a time no further hostile movement was made, and it began to look as though his efforts would win; but suddenly, with a concerted movement, the bows were swung upward, and arrows began to fall dangerously near. [31]

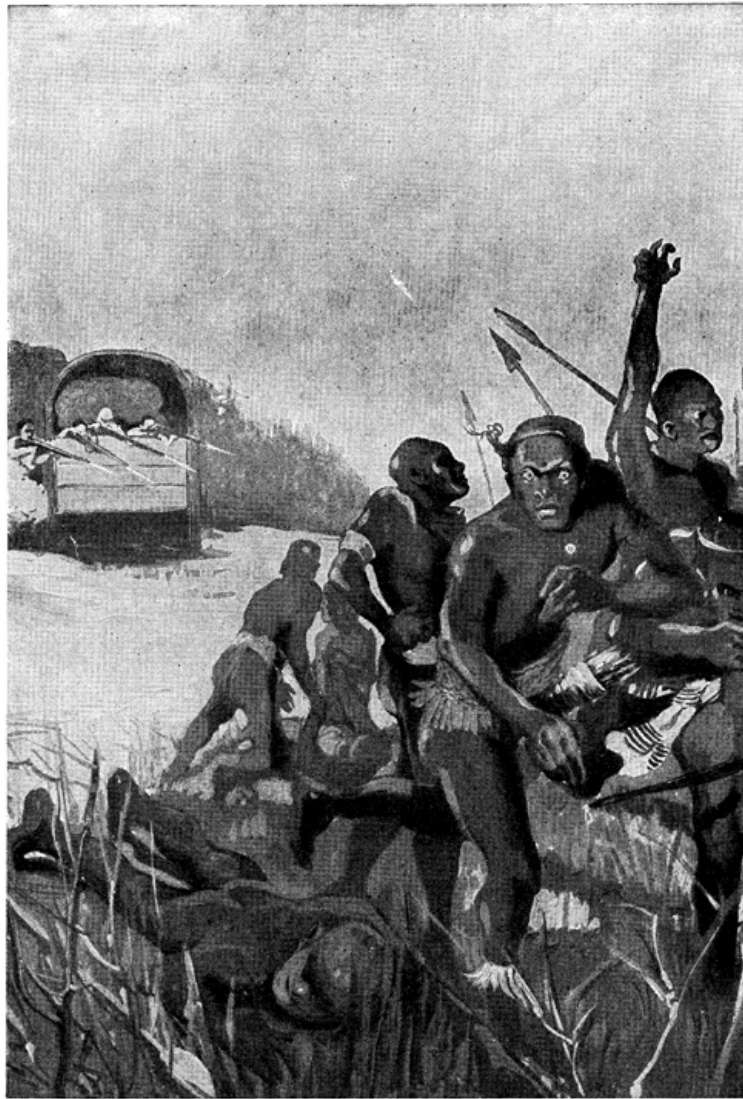
As no movement was made on the part of the Professor and his party, the savages mistook its meaning, and a charge was made. "Now deliberately pick your man and fire." No sooner had the order been given before all fired, and four fell, two of them being, without doubt, the chiefs, as the howling was beyond all description.

A second volley was not necessary. The two wounded men were surrounded and carried off. The others lay where they fell, and after a short pause another rush was made, this time much nearer to the wagon. It was fortunate that the pause was long enough to enable them to reload. On they came, and when within seventy-five feet, the Professor gave the order for another volley. At this distance there was no excuse for a miss. The leader was a powerful specimen, with a distinctive badge, and the Professor announced that he intended to use him as a mark, and he was the first to fall, together with three more.

Thus, at two shots, one-fifth of their fighting force was disabled. "Now let us charge," said the Professor, and John divining the meaning was the first to leap from the wagon. The main body of the savages broke for cover, but several, more venturesome than the rest, sought to carry away

the wounded chief. When one of them turned to discharge his arrow, John raised his gun to his shoulder, as each of them had taken one of the reserve guns, but before he could fire, the native turned and followed his companions, leaving the chief to his fate.

[32]



"The main body of the savages broke for cover, but several, more venturesome than the rest, sought to carry away the chief"

[See p. 32]

"The main body of the savages broke for cover, but several, more venturesome than the rest, sought to carry away the chief"

[See p. 32]

The rush with the newly loaded guns was accompanied by shouts on the part of the boys, who were instructed to do so by the Professor. "Don't go far beyond the chief," was his order; "we need him, and you must not venture into an ambush."

The boys did not dare to go far beyond the wounded man, and the Professor, with the aid of John, had now come up to him, and together forced him to accompany him back to the wagon. He was wounded in both legs, the shot having passed through the kneecap of one leg and through the tendon of the other, thus completely putting him out of action.

When the boys returned from the charge they assisted in conveying him to the wagon, and the Professor at once applied bandages to his limbs. This was getting an opportunity, at close range, to view one of their enemies.

The shot proved to be a glancing one, so that the bullet was still in the tendon of the right leg. When the Professor applied the bandages the savage was surprised at the proceeding. He evidently expected different treatment, and glanced at his captors in amazement. During the first few minutes of these interesting details, the boys had entirely forgotten the savages, and the Professor called out a warning not to rest too securely.

When the natives saw that the pursuit was not kept up they halted and slowly and cautiously, returned. It was evident that they were preparing for another fight. The wagon top was removed at one side, and the chief hoisted up and seated in plain view of his fellows, while the Professor directed the boys how to secure him in that position.

[33]

The entire band now appeared at the edge of the wood, not two hundred feet away, evidently with the view to another attack. All the guns had now been reloaded, and with the chief with them they had no fear of an attack with arrows.

The Professor placed himself before the chief, and by motions endeavored to inform the chief that if his men made any attack on them he would forfeit his life. The chief understood, and in a peculiar guttural tongue informed his men of the danger he was in.

Without further incident they disappeared, and now began the effort to instil and extract information. He was entirely naked except a distinctive headdress and a breech cloth, of very peculiar workmanship. The color of his skin was not black, like the negro, but rather copper-colored, like the Indian, thus confirming the impression which was first obtained the night before.

[34]

CHAPTER III

A THIRD ATTACKING TRIBE

There was no common ground on which to start the mute conversation, and the only replies volunteered by him were occasional grunts. Not a groan escaped his lips when the Professor sought to remove the bullet, but he sat there stoically, and bore it without a sign. The boys could not help but admire his heroic mien throughout the trying hour, and when the bullet was finally cut out and the wound carefully bound up, it looked as though he tried to thank the Professor for the service.

During the remainder of the afternoon the Professor persisted in the effort to gain some information, but not the slightest glimpse of intelligence was extracted.

Finally George said: "I wonder if he has anything in those pouches? We found some things in the others, you remember." This was a hint not to be overlooked. A search was made, and among numerous trinkets was a photograph of a dozen or more young men, and with a shout George recognized it as one which had been taken on shipboard several weeks before the explosion on board the *Investigator*, and which sent her to the bottom.

George and Harry were both in the picture, and were pointed out. Here was the very thing which was needed as a connecting link in their interview with the chief. With the picture before him the chief was requested to look at George and then at the picture, and so in the case of Harry. The chief saw, and recognized the similarity, and his eyes opened in astonishment. This was a most remarkable discovery.

[35]

When the Professor pointed to the others in the picture, and then to the chief, the latter seemed for the first time to comprehend, but he slowly shook his head and grunted, or made use of his own language to indicate that he had no knowledge of them. The boys were fairly wild with delight.

"Why not hunt the pockets of the other fellows?" shouted out Harry, as he scrambled over the tailboard. About a hundred and fifty feet beyond were the two who had fallen at the first fire, and they were searched, but nothing in any way connecting them with their companions was revealed, and later they went over the contents of the chief's pockets with greater care.

An American coin, a matchbox, and several other articles, which were apparently the relics of stickpins, were all that had any appreciable value. There was nothing on any of the articles which had a name or even the initials to give them a clue. As they were returning to the wagon Harry picked up a small silver match safe, and on this were the initials "J L V." "Who is J L V? Did you know of anyone by that name?"

"I don't remember anyone by that name. The name is not an unusual one to begin with a V."

[36]

The Professor did not recall anyone by that name. The box was handed around, and when John saw it, he started as though he had been struck. He reached for it and almost grasped it from the Professor's hand, and turned it over and over, and glanced at the initials, and then looked at the Professor, and then at the boys, and his eyes ceased their wanderings as he gazed at the chief.

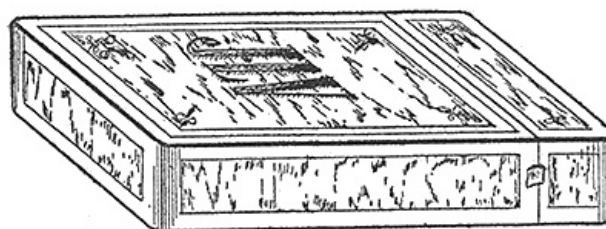


Fig. 2. The Match safe.

Fig. 2. The match safe.

Could it be possible that his name was John L. V.? Was that his match safe? What a wonderful possibility lay in these two happenings which came so close together!

The chief, too, looked at the match safe, and when the Professor pointed to John and then directed the captive's attention to the match safe, he did it with the view of ascertaining whether or not he had ever seen John. But to all these questionings the savage shook his head and grunted a plain negative.

A careful watch had been kept during the entire day, in the hope that the savages would reappear, and that the treatment of the chief would be such as to predispose him in their favor, and thus open the way to obtain such information as would be of service in aiding their companions. [37]

As night approached preparations were made to guard against any night attack, and the prisoner was securely bound to prevent him from obtaining any of the weapons. One singular thing about all of the headgear and other articles of wear was the profusion of human hair, which was worked into many of the garments or formed a prominent decorative feature.

George was the first to notice this peculiarity. "Why is it that most savage tribes take human hair or scalp their victims?"

"The North American Indian was noted for the custom of taking the scalp of his enemies. It probably grew out of the desire to use the locks for the purpose of decorations, just as you see in the case before you. In olden times it was the custom of the vanquished to indicate submission by plucking out a handful of hair and offering it to the victim as a token of submission, but whether this grew out of the custom of scalping, or whether the latter was an outgrowth of the hair token, is not known."

"What interests me is, why they should take a portion of the skin if they wanted the hair simply for decoration?"

"Principally because that was the easiest way to keep the lock intact. Spencer, in his 'Evolution of Ceremonial Forms of Government,' relates some curious things growing out of this custom of taking tribute of hair. Thus, the habit of stroking the mustache, a custom prevalent among Spanish courtiers, arose from this habit. The stroking was done in the presence of ladies and superiors to indicate submission, or as an evidence of inferiority." [38]

"Why is it that these savages pay more attention to their headgear than any other part of their clothing?"

"The savage regards the head as the most important part of the body. It is also the portion which is first seen by an enemy or recognized by a friend, hence he considers it a necessity to properly attire it for the purpose of inculcating fear in one, or admiration in the other. Vanity in the lower order of people leads them to excesses in the matter of dress or ornamentation, just the same as with many civilized people."

Long before morning dawned Angel grew restless, and could not be quieted by George. The latter believed that the savages had returned, if the actions of Angel were any indications; but as the sun came up and a careful scrutiny was made, nothing alarming was in sight.

An early breakfast was prepared, and the yaks yoked up, preliminary to a start for the south. With a chief in their hands they felt safer in their position than before, and were now in a condition to treat with the natives.

Hardly had the wagon started before Harry ran up in haste and excitedly whispered: "I see them coming; look to the south." Not far beyond was a mass of them coming up hurriedly, less than a half mile away, and a stealthy movement among the shrubbery in the immediate vicinity showed the presence of the advance scouts which Angel had undoubtedly scented an hour before. [39]

The yaks were headed to the north, to give them ample opportunity to employ their weapons, and the chief was placed at the tailboard of the wagon, in full view of the pursuers, in the hope that his people would heed the warning given the day before. This seemed to have no effect in the warlike attitude of the attacking party.

"What I fear most is the possible attempt to surround us; to prevent that it is better to drive the team forward at a pretty rapid rate."

The yaks were urged along, and their motion considerably accelerated by the shrieks and howls of the demons, as they brandished their arrows and spears. Thus far not an arrow had been loosened, and the fire of the party in the wagon was reserved.

As the wagon surged forward the din increased, and soon a shower of arrows fell among them, none taking effect, because accurate aim was not possible while they were in motion. And now a concerted movement was apparent to surround the wagon. Over one hundred warriors were counted, and among them certain chiefs, recognized by their distinctive headdress.

"Go for the river, Harry," was the Professor's injunction.

The yaks were now beyond all control. Several of the arrows found their marks in the poor animals, and they were now vying with the foremost savages in making speed. Eventually the flanks of the attacking party outran the team, and the Professor made his way to the front, [40]

leaving George and John to take care of the rear.

When one of the prominent chiefs, who was leading the flanking party, presented a fair target, the Professor shot, and had the satisfaction of seeing him fall, and this temporarily checked the pursuit on that side. Grasping Harry's gun, he fired into the party on the opposite side, with good effect. The opening shot by the Professor was a signal for George and John.

And now began one of the most exciting running duels between the contending forces. The Professor knew that if the river could be reached they would have only one side to defend, but they were fully three miles or more from the crossing point of the stream, and to make matters worse, the team was beyond control, and was traveling to the northwest, whereas the direct course to the river was to the north or northeast.

There was no help for it. They must keep cool, and reserve their fire. After each shot the weapon of each would be reloaded, so that they always had a reserve force of guns. The arrows came spasmodically, and only a few of them from the trailing members of the band came near. The danger was from those who were attempting to encircle the wagon.

John was requested by sign to go to the forward end, and he promptly responded, and at every shot one of the pursuers went down. The main object was to keep them away from the team a sufficient distance to prevent injury to the yaks, and this required the greatest energy and watchfulness. [41]

The attacking party began to have a wholesome fear of the guns, and kept at a distance, which prevented them from effectively using the arrows. This pace was kept up for two miles, and the effect was now apparent on the poor animals. Harry noticed it, but he kept up a brave front, and did his share in the firing.

But now there was increased activity in the ranks of the enemy. Most of the advance party had gathered at a clump of bush ahead, and partly to the right, and Harry made every effort to divert the team to the left; but they were blind to the urging, and too excited to heed the tugging of Harry.

The Professor divined the purpose of the remarkable quiet on the part of the savages, and called to George to come to the forward end in anticipation of a rush, en masse, from the shelter of the brush. By some instinct the yaks turned to the left before the danger point was reached, but the band nevertheless rushed forward in rage, and to the gratification of our party, they were so close together that aiming for the thick of the pursuers was sufficient to assure a mark for each shot.

They did not heed the fallen, or wait to care for them, but rushed on and endeavored to head off the yaks. Those in the wagon did not notice that before them, and close at hand, lay a broad river. Harry was the first to announce it with a shout, when he saw the party in the lead halt, and move to the rear. [42]

"What stream is this?" exclaimed George, excitedly.

"This must be the West River."

"And see, there is another stream to the right."

What a lucky circumstance that the team had made its way to the forks of the two rivers, and that they were now protected by the streams on both flanks. It was also fortunate for them that the team was by this time so completely worn out, that as they were going out along the narrow tongue of land, and the danger from their foes was growing less, that Harry carefully crept along the wagon pole to the heads of the animals and by quieting words soon restored them, and succeeded in bringing them under control before the shores were reached.

Both animals had been wounded, and the first care of the Professor was to relieve them. One of the arrows still hung in the side of Jill, and when the wounds were dressed they did not seem any the worse for their experience, but they were very tired, and inflamed with the excitement.

The peninsula within which they lay was not more than fifty feet wide where the wagon was halted, and two hundred feet away its width was not over one hundred feet, so it will be seen they were in a position which could be easily defended. There was plenty of provision on hand, but the matter of ammunition was the immediate cause of alarm. At least thirty rounds had been fired in the running fight, and the first thing was to take stock of this necessary article. [43]

Only eight rounds were left, for the guns, and twenty for the pistols, but as they were now safe from further attack this was not such a calamity as they expected.

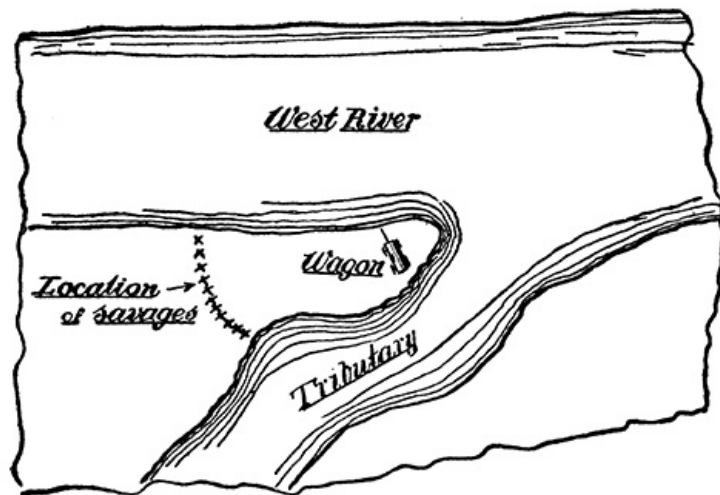


Fig. 3. Scene of the flight at the River

Fig. 3. Scene of the flight at the River.

Their captive was mute during the entire skirmish, and it was a remarkable exhibition of a savage trait for the pursuers to disregard the condition of one of their chiefs, by firing on him while in that condition. How many were killed or disabled they had no means of knowing, but many must have fallen, for when they lined up across the tongue of land behind them the number had considerably diminished.

"It seems as though they intend to make a siege of it," was Harry's comment, as he noticed them preparing a fire.

[44]

The wagon was drawn up so that its broadside was toward the enemy, and the boards which had been carried, let down so as to form a screen for the part below the body. This afforded a safe place for the yaks, if perchance during the night the attacking party should get near enough by stealth to use their arrows.

As night approached there was an evident movement on the part of the besiegers, which could not be understood, until it was noticed that they had taken a much closer position. This was considered most annoying, and with a view to giving them another lesson, a few shots were fired into the thickest groups. This was answered by howls of anger, as they rushed back beyond the line of their former camp fire.

"They will learn a good lesson if they keep after us much longer. They have a wholesome fear of us now, and if our ammunition holds out, we can wipe out the whole lot," was George's grim comment after the last incident.

"Fear is certainly a wonderful thing in this world," commented the Professor; "without it the entire history of the world would have to be changed and rewritten."

"Why do you think so?"

"If you stop to consider the element of fear you will see that it is at the bottom of almost every human aspiration. Why does a man work to lay up a store for a rainy day? Why does he toil day after day, and often lose his life in the effort? What prompts the mother to guard her infant in the face of every danger? You may say it is love, but behind that love is fear which prompts the action."

[45]

During the night, when John and Harry were on guard, John quietly stole from the wagon, and as stealthily as a savage moved out over the ground toward the Indian encampment. Heretofore there had been a protest against his doing so, but in this case Harry did not offer any objections.

On his return Harry noticed several objects which he carried back and was surprised to see they were the peculiar headdresses worn by the attacking party. It was a matter of wonder to him that John should make a prize of these things, but when the Professor was called, and he noticed them, his face lighted up, and nodding his head, said: "Well, this is a wonderful piece of information."

"What is it?"

"How stupid I have been, not to recognize that before."

"What is the matter with the headdresses that John brought in?"

"Look at the topknot of the fellow we have in the wagon."

The moonlight was sufficiently clear to enable Harry to distinguish a pronounced difference.

"So another tribe that our captive does not belong to has been pursuing us?"

This news was of so much importance that Harry waked up George, although it was not his hour for the watch.

[46]

"What do you think, George, the fellow we have does not belong to the attacking party." George was too sleepy to comprehend the intelligence at once.

"How do you know it?"

"John has just brought in several of the headdresses, and they are entirely unlike the one the chief has."

The utter disregard of the savages for the chief was now explained.

When morning came the Professor turned to the boys, and remarked: "I have still further information to impart this morning."

"What is it?" was the query of both.

"Last night when I made an examination of the articles John brought in, I was under the impression that our pursuers were the other tribe that we first met north of the river. On more carefully looking them over I find that our late enemies are an entirely different tribe, so that we must count on three distinct people in our further explorations."

[47]

CHAPTER IV

THE ESCAPE. ENCOUNTERING ANOTHER HOSTILE TRIBE

The boys did not know how to receive this news; whether it complicated the situation or really offered an easier solution. The annoying thing was that the natives were at war with each other, and, apparently, all were at war with them.

The Professor commended John for his intuition, or whatever it may be called, in enabling them to gain this information. In his mute way he made a place for himself in the hearts of all. His wonderful ability with the gun, his caution and prudence, and the remarkable calmness and ease that characterized all his actions in the most trying periods, were such commendable traits that the boys could not help but show him their admiration in every way, and he knew and seemed to appreciate this.

Every day some new phase of his character would present itself, and the Professor, ever alert to note any symptoms, quietly told the boys that there was every evidence that he was now in the making of a dual self.

"What do you mean by that?"

"It is a term applied to one who has lost memory of his past, and in that condition has begun life anew and gone on for years in the new or dual existence, and perhaps ended his life in the dual personality. In many cases, however, returning consciousness, which came just as suddenly as they were deprived of it, caused them to forget all that had taken place during the first period."

[48]

"Under those conditions which is the real man or individual, the memory he first started out with or the memory he got afterwards?"

"You have asked a strong, leading question, George, and it may never be answered satisfactorily. Supposing a man should live a period of thirty years, and then have memory entirely obliterated, and should exist the residue of thirty years more as another person, there would be as much reason in calling one as normal as the other; but on the other hand, if, during the latter period, memory should return, and he would be rehabilitated into his former self, I am of the opinion that the first period would be the normal one."

"You seem to think that is what makes the person?"

"What else is there to man but memory? Is it the flesh, or blood and bones? Animals have those also. Memory is the greatest faculty in man, and it has been argued that what is called the divine spirit is merely the ability to recollect."

"But animals recollect, and would you call them divine for that reason?"

"No; for the reason that the lower orders of living creatures, as we term them, do not remember all things, but only certain features of events, and do not, except within a very limited range, reason from one phase to another. Man is called divine by his own kind because he has done things so far above what the brute has accomplished that it is regarded as a divine attribute. But he has done these things because he was endowed with a memory which enabled him to retain a consciousness of things, and to follow up the stored knowledge, or the accumulated essences of events which materialized in his remarkable works. Would it make any difference if the being which does these wonderful things should be in the form of a dog or a horse? If Red Angel could remember all that is told him, and could thereby do the next day what he had learned the day before, he would compare favorably with many human beings who possess our forms, and are called human beings."

[49]

No attack was made that night, and the next morning all were relieved at the rest afforded them. The savages had too much respect to venture near the camp, and a consultation was held as to a wise course to follow. The captive was of no use to them, but it would have been inhuman to turn

him adrift, so that he should fall into the hands of the besieging party. Eventually he might be of service to them.

The main river to the west of them was fully two hundred feet broad, and the stream which bounded the other side of their position was, at its mouth, over a hundred and fifty feet in width, and it appeared to be entirely too deep to attempt fording.

No doubt the savages knew this, and counted on an easy capture when their provisions should give out. Thus the second day neared its close, and near evening there was an evident addition to the besieging force. A close watch was kept during the night, but no attempt made to force the situation. [50]

This inaction became most monotonous. It was exceedingly trying, and the condition after the third day was now made plain; that they intended to starve them into submission.

During the early part of the evening, the Professor, realizing that something must be done, decided on a novel plan to relieve them of the savages. If, by any possibility, they could get some logs, sufficient to build a raft to help sustain the wagon, he believed the yaks would be able to swim the river and thus take the rafted wagon with them.

The boys, when the idea was broached, were heartily in favor of the scheme. Harry looked at John. "I only wish we could make our desires known to him."

The Professor took John by the hand, and led him to the brink of the river, and then pointing to the stream and to the wagon, and motioning in the direction across the river, he seemed to comprehend the meaning.

When they returned to the wagon, the Professor said to Harry: "Do you think you and John could cross the stream to the north of us, and find sufficient poles and driftwood for the purpose?"

Harry jumped at the opportunity. The moon was shining, but was occasionally hidden by clouds. Motioning to John they took their guns and bolos, and at the instance of the Professor, a quantity of rope. Some driftwood had caught at the shore to their left, and this was recovered, and from that a small raft was built sufficient to carry both across the narrowest stream. [51]

To the north of them, less than a quarter of a mile away, was a quantity of small timber, and the Professor suggested that it would be advisable to go a considerable distance so the cutting of the logs would not be heard by their watchers.

They pushed the raft silently across the water, and drew it up for safety, and then stole down to the water's edge to make their way beyond the sight of the savages on the opposite side. All along the shore advantage was taken of every piece of wood available to serve as a floating structure, and when the wood was reached a few of convenient size were selected and cut up into lengths which would enable them to be readily rolled down to the river.

This work occupied them until midnight, and four large trees were thus prepared and lashed together, and one, wading in the water along the beach, using a pole, the other, with the rope, they held it within poling distance of the shore. In this manner the logs and detached pieces were floated down to the mouth of the stream, and having tied the small raft to the stern, it was finally poled across and landed at the water's edge not far from the wagon.

It was fortunate that the water was shallow and that the beach was shelving at this point, as it materially aided in effecting the launching. The moon went down before four o'clock that morning, and the yaks were yoked up and led to the river.

When Harry returned he was surprised at what he saw in their camp. The Professor and George had been at work also. Several uprights had been put up on the side of the wagon facing the besiegers, and over this had been stretched an old canvas and parts of such goods as could be dispensed with, so as to imitate the wagon, as nearly as possible. [52]

Their ramie fiber top was of a light yellowish color, which looked bright in the moonlight. This had been removed and stored in the wagon, so that when the wagon was driven away the sham arrangement did not disclose the disappearance of the vehicle.

The wagon was driven into the water nearly hub deep, and two of the largest logs were then floated in under the axles, and the smaller ones lashed inside, so that the sustaining power of the combined logs, together with the wooden portion of the wagon and body, would be sufficient to sustain their weights.

Harry worked like a hero, and took personal charge of the handling of the team, which was his especial delight. His presence near the yaks always gave them confidence, and on this occasion he took his position on the pole between them and near the yoke, and thus gently urged them forward.

For twenty-five feet or more the wheels kept on the ground, but soon thereafter the wheels were free, and they were delighted to find that the timbers did not permit the body to go down very low into the water, and this saved their bedding from becoming soaked.

The yaks performed their work nobly. Some months before they had forded the South River, at the time the flagpole for Observation Hill was cut, so they had ample reason to believe that they would be dependable under these circumstances. It did not require much urging on the part of [53]

Harry, and the opposite bank was soon reached, and the cattle scrambled up the beach, but were stopped before the wagon emerged from the water so the logs could be cut adrift.



Fig. 4. The Wagon Raft.
Fig. 4. The Wagon Raft.

The passage was made without a single mishap, and all wondered why this plan had not been thought of before.

"Let us move on into the interior a short distance, so as to deceive them as to our direction. It is conceivable that they may have boats of some kind which they have sent for, and we should, therefore, try to put them off the track."

All were now tired and needed rest. They had not slept a moment during the night, and it was not yet daylight. Beyond was an elevation, toward which the Professor directed them. There the wagon could be concealed, and from that point they would also have a view of the future movements of their enemies. [54]

When the sun arose the savages could be seen standing guard over the sham wagon, at their old camp ground, and the boys enjoyed this bit of humor in the extreme. "I feel so jolly at the trick that I want to go down to the river and laugh at them," exclaimed George.

Up to nine o'clock there was no indication that the ruse had been discovered. The Professor was in his happiest mood at the good imitation, and John had an unmistakable smile, and, as the boys' laughter grew more boisterous, he broke into a laugh that actually startled them.

It was no less amusing to the captive. Beyond question it pleased him, but whether on account of his own safety or because of the ludicrous attitude of the besiegers, was beyond their comprehension. In his short captivity he had taken a fancy to the Professor, on whom he kept his eyes constantly. It was evident that more than the usual interest was displayed in watching his movements. From the first there was no sulkiness in the chief, nor did he exhibit any moroseness, or anything which indicated a spirit of revenge.

The kind and simple act of binding his wounds and making him comfortable seemed to amend for everything. Occasionally the Professor would go to him, and examine the wound, and sometimes pat him on the back—actions which he seemed to understand. No doubt the Professor had a motive in all this, as we shall probably see. The boys knew that he understood human nature in all its aspects, and that in this, as in other things, they felt he was merely preparing the way to utilize him in the future. [55]

They were now on the western shore of West River, and when they had their full share of laughter at the deluded enemies, preparations were made for a start. But where to? Directly to the east were the three hostile tribes, and that direction was impossible. The Professor attempted another conversation with the chief. As all were preparing for the start, he pointed to the north, and at this the chief shook his head to indicate disapproval. When he motioned toward the south it was even a more vigorous negative. Here was a dilemma. What did he mean by such peculiar actions?

The start was delayed to give them an opportunity to discuss the evident meaning of their captive. While this was going on Harry's attention was directed to their old camp. Their late enemies had discovered the ruse, and were now rushing to beat down the pretended wagon.

"See the party on the north side of the river. I suppose that is a scouting party and they found out our little joke," and George again burst into laughter at the scene.

The chief was interested now. The party from the north came into view, and after passing up the river for a quarter of a mile or more, dashed across, and came back on the same side of the stream that the late besiegers occupied. [56]

"See, they are fighting each other. What does it all mean?"

"It simply means," answered the Professor, "that the other tribe, or one of the other tribes on the island, sent for reinforcements, and are now taking a hand."

The chief was consulted and asked by signs whether the attacking party from the north side was his own people, and he shook his head in the negative. This proved, beyond doubt, that at least three different people inhabited the island to the south and southeast.

"What puzzles me," said the Professor, "is the fact that our chief opposes our traveling to the north and to the south as well."

"Do you think there are any tribes on this side of the river?"

"That is the only inference I can draw from his actions."

A battle was in progress in the underbrush beyond the river. The attacking forces were numerically superior, and within an hour had driven their opponents far to the south, and the successful tribe could be plainly seen, as they searched the hills to find the bodies of victims, and to gather the trophies of their victory.

"We might as well go north on our way home, as directly to the east," was the final remark of the Professor.

The boys were actually startled at this sudden announcement. But when he pointed out that their ammunition was very low, owing to the fierce resistance which they had to make, the wisdom of the course appealed to them.

"I am glad to go," was Harry's immediate response, "because when we come back next time we'll have something that will give the whole lot a better argument than we offered them this time."

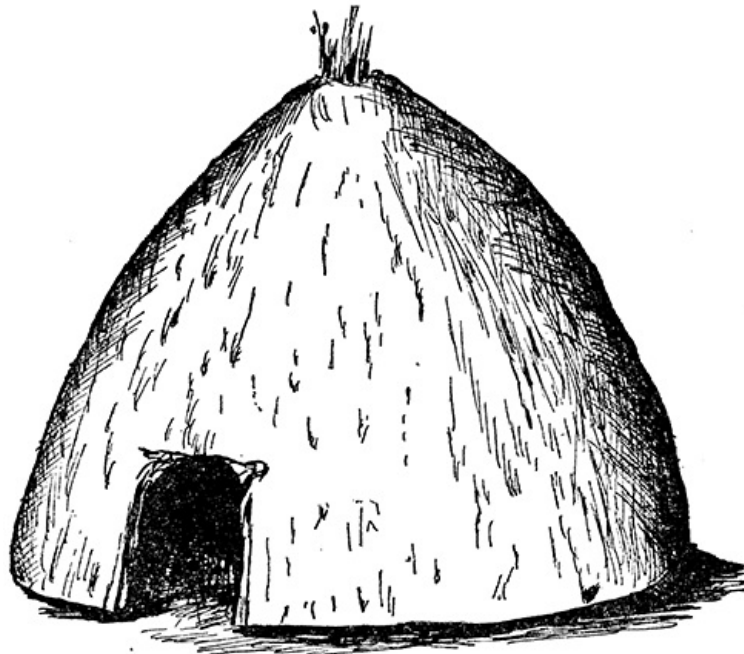


Fig. 5. Savage's Hut.

Fig. 5. Savage's Hut.

The yaks started for the north, and the chief's eyes gave a warning look, which they did not heed at that time. They afterwards remembered how portentous that look was. All that day, over broken ground, and a rough, hilly country, the team laboriously made its way. The best that could be done over such a country was two and a half miles an hour.

Late in the afternoon the party were startled on coming in sight of numerous small huts, and a larger hut at one side of the cluster of smaller ones. The approach was so unexpected that in spite of their efforts, the team could not be turned around before their approach was heralded throughout the tribal village.

Here was the first view of the homes of the natives. The huts were very crude, and were devoid of windows, all of them built round with more or less pointed or conical tops.

"Those huts don't look like the ones we saw to the south on the day we had our first fight," was George's opinion.

"You are correct in that, and if you notice, the people look differently, as well. What is that? I believe they have firearms." The Professor's brow gathered, as he said this, because now, that the alarm had been given, the warriors were running to and fro, and among them were several who carried guns.

The wagon was hurriedly put into a posture of defense, and the cattle protected as best they could. They approached cautiously, and the Professor walked forward and held out his hand in token of friendliness. They withdrew a short distance for consultation. This gave the party an opportunity to study the new people.

The first thing noticed was the entire difference in the clothing worn. The other tribes had nothing but the breech clout, but these had other garments, and their skin was darker in color.

"I am afraid we shall have trouble in a fight with these people, because their guns are first-class make," said Harry.

"You need have no fear of their guns," answered the Professor.

The boys looked at him wonderingly, as he continued: "They may have had ammunition in the past, but it is evident that they have none now. See how the fellows who have the guns carry them. They use them like spears."

They finally turned from their conference, and without a word or sign opened hostilities with a volley of arrows. The gage of battle had been thrown down. It was fortunate that the warriors were few in comparison with their last enemies. Not more than twenty were counted as they were waiting for the result of the consultation.

This challenge could not well be misunderstood, and the Professor gave the word to fire. Every shot took effect, and the result was a startling one for the savages. Without waiting for the second round they broke and fled, rushing down past the large hut and through the village, gathering, as they went, the women and children which had previously grouped together to witness the fight. This was too much for the boys, who rushed down after them, followed by John and the Professor, until the large hut was reached.

[60]

CHAPTER V

THE RESCUE OF THE CAPTIVE BOYS

The boys were chattering and whooping as they ran, to the immense amusement of the Professor. They had converted themselves into regular American Indians for the occasion, and tried to imitate the yells of the savages who had attacked them the previous day.

Passing the large hut which stood in the foreground, the boys imagined they heard a cry from within. Possibly it was a lure, and the Professor advised them not to be too rash.

"Here we are; inside the hut; hurrah for the United States." The boys looked at each other in amazement. The Professor, too, was puzzled. Cautiously approaching the opening, the Professor called out: "Who is there!"

Instantly came the cry from two voices: "We are American boys who were captured by the savages." Nothing more was needed for the impetuosity of George and Harry. With the bolos the enclosure was soon cut away, and they rushed in, but the Professor and John remained outside.

In one corner, and tied to stanchions which had been driven in the ground, were two boys, badly emaciated, and covered with filth and rags. When the ropes that bound them were cut away and assisted to rise they were too weak to stand without support.

[61]

"We are so hungry."

"How long have you been here?" asked Harry, excitedly.

"We don't know, but more than two weeks. We were captured by another tribe and in the last fight were taken from the ones who first captured us."

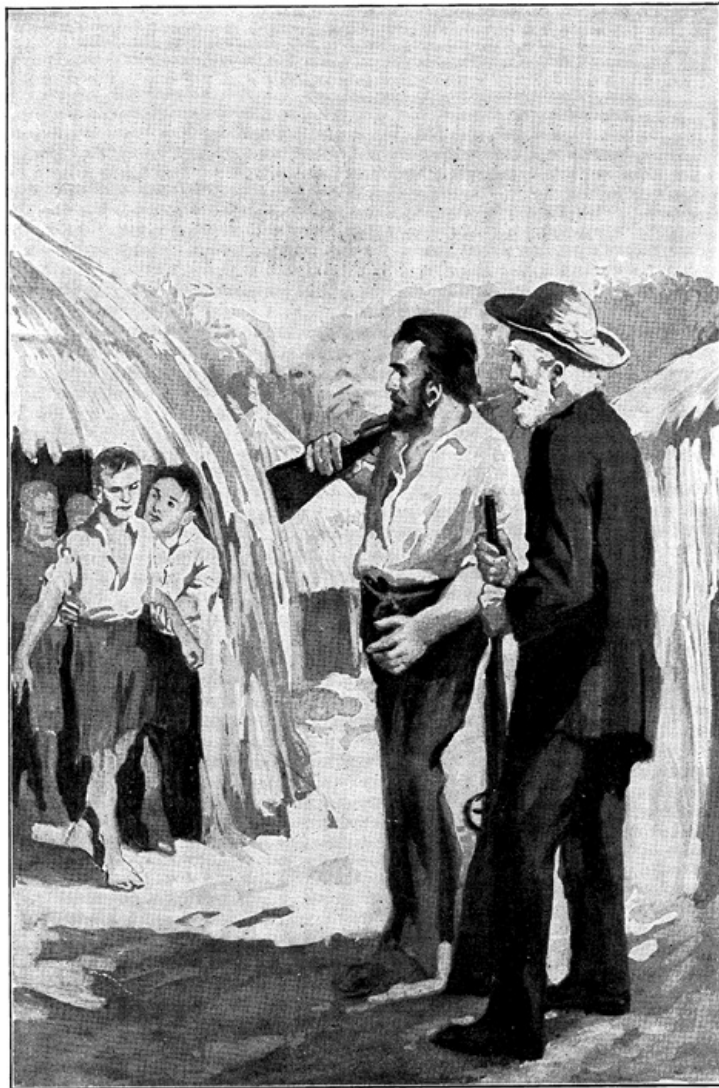
"Come out into the light," and Harry and George each put his arms around one of the boys, and as they came out looked at the Professor and John in astonishment too strong for words.

In the excitement they broke down and wept, and well they might. Our boys were touched beyond description, and John went up to them and put his arms around them, and this act so affected Harry and George that they too joined the boys in tears that could not be kept back.

The Professor was moved, as he turned away to hide his feelings, but he recovered, and with a great show of unconcern, exclaimed: "Back to the wagon, as quickly as possible." This brought them to a realization of their position, and Harry and George almost carried the boys toward the wagon, while John and the Professor lingered behind.

He had anticipated the return of the savages, and surmising that a still larger force might be within calling distance, did not consider it prudent to tarry long at that spot. It was well that they did not remain, as the rescued boys informed the Professor that the main body was beyond the ridge, and not more than several miles away unless they were on the warpath.

[62]



“‘Come out into the light,’ and Harry and George each put his arms around one of the boys”

[See p. 62]

“‘Come out into the light,’ and Harry and George each put his arms around one of the boys”

[See p. 62]

There was no time for many words. When the poor boys reached the wagon another surprise was in store for them, as they gazed on the wounded chief, who was bound in the wagon.

The savages did not go far beyond the village, and this was observed by the Professor, and was the moving cause of his sharp order when the boys were brought out. While Harry and John were engaged in turning the team around, George hurriedly set food before the famished boys, and they were cautioned against taking too much. They were really almost starved, and their appearance plainly showed the treatment they had received.

The Professor called out: "They are coming; have all the guns ready." Before they had fully taken all of the food the boys begged to be allowed to assist in the defense, and George was thoughtful enough to recognize the fact that the guns they had were not like the breech-loaders, and without wasting time told the boys how they were manipulated.

"Where did you get these funny-looking guns?" asked one of the boys.

"We made them," was the reply, and the boys looked at each other and gasped in surprise.

Beyond, the savages were gathering, and moving forwardly, evidently with a view of attacking. The Professor turned to the boys and asked them whether the natives had guns, and they answered that when they were captured they saw a half dozen old weapons, but had never used them, as, apparently, there was no ammunition. Where the savages obtained them was a mystery. They believed the weapons were used as charms, to aid them against their enemies, and that belief gained ground from the fact that thus far the tribes, in whose territory they now were, had been victorious in every battle that had been fought for the past year.

This was indeed interesting news, and probably the actions of the wounded chief, in appearing to discourage the trip to the north, had some relation to this belief.

The gathering warriors could be seen plainly, coming over the hill, beyond the village, and

gathered in a mass near the hut from which the boys had been taken. A conference was in progress, which did not appear to be harmonious, but eventually the party moved forward and divided into three sections, with the view of enveloping the position of the Professor and his party.

"They will attempt to surround us, and we shall now have to attack them by assaulting one party at a time. As suggested in our previous encounters, the five guns must always be kept as a reserve for the last emergency. Fire and then reload, and we should attack one of the parties at a time, so the greatest execution at any one point will be most likely to cause the greatest effect. Fire with the utmost care and deliberation. Three will fire at a time, and then, after an interval, three more can fire, first at one party and then at the next. Such a course will be most likely to throw them into confusion. Furthermore, care should be taken that all do not fire at the same individual. The one on my left should aim at the one in the party to the left, and the one firing on my right should select some one in the group to the right of the center, while the center of our firing squad will aim at the center of their band."

[64]

These precautions were necessary with the new recruits. The two firing squads were arranged in this order: The Professor, with George and one of the boys at his sides, and John with Harry and the other boy assisting him.

The position of the wagon was a strong one, as it was flanked near both ends by large trees, and it was fortunate that no large trees grew near them, the position having been selected with the object of defense in view; but they were liable to attack from all sides, which made the position more difficult.

The two flanking parties made their way carefully around, and at a signal, a rush was made. The Professor ordered the first volley, and three fell. This immediately checked the attacking party on that side, but the other did not stop, and after deliberately holding their fire until they came up much nearer, a fair target was obtained, and the order to fire was repeated.

The Professor had anticipated a rush from the center party, but the terrible effect of the two rounds had demoralized them. The reserve guns were ready had it been necessary, and without waiting for the renewal of an attack the guns were reloaded, and Harry and George took it upon themselves to load the boys' guns during the interim.

[65]

The besieged played a waiting game. With ten shots at their command they felt sure of being able to withstand anything but a rush, and even in that case, they had the bolos and the spears all within reach. It was an extremely hazardous, but not the most dangerous, position, since six fighting men, in a safe position, could not be easily overcome, as the Professor explained, and this gave all the boys the greatest confidence.

The flanking parties withdrew, and joined the others, taking with them the wounded. Two hours of quiet reigned. The night, which was now approaching, was the most dangerous period, and they appreciated the insecurity of the position to withstand a night attack.

The river was to their right, and not more than two miles away, and the boys saw the Professor frequently look in that direction. "I believe," he finally said, "we can better afford to take the risk of a daylight trip to the river, than to remain here another minute. The lesson we gave is rankling within them, and they will attack us with different tactics the next time."

The yokes were still on the yaks, and it was the work of moments only to bring them to the pole and when the ring had been slipped on Harry had them in motion down the hill. The Professor and John dismounted, and stood guard, and Harry was told to move directly toward the river and pass to the right of a hill, which appeared to have a precipitous side, which was not more than a half mile away.

The parting injunction of the Professor was: "Go on without stopping until you reach the clump of trees before you and just beyond the little stream in your path. That will give you a good view of every approach."

[66]

The wagon went down the hill at a rapid pace. The Professor and John kept a vigilant watch on their enemies, and it was not long before the disappearance of the wagon was noted, and then the utmost excitement prevailed. It was evident that there was no concerted movement among them. There was an aimless running to and fro, but the two stood there, guns in hand, and that no doubt disconcerted the natives, who evidently believed that the wagon had been removed to a more advantageous position.

The inaction did not continue long, for it was now noticed that parties of two and three stole out from the shelter of the huts, some going to the north and others to the south, with a view of surrounding and spying the new position. The wagon was beyond the sight of their position on the hill, and after John had looked inquiringly at the Professor several times, both began a forward movement after the wagon, and by proceeding at a rapid pace discerned it in the distance.

After crossing the little stream referred to by the Professor, both halted, in order to scour the country behind them. John clutched the Professor by the sleeve and pointed to several moving figures to their left, cautiously moving up the hill to the position previously occupied by the wagon.

This was a great relief, as it was evident the savages had no idea that the wagon was in full

[67]

retreat toward the river. Moving cautiously from tree to tree the Professor and John traveled as rapidly as possible in the direction of the wagon, and the boys were commended for their forethought in keeping the wagon in a hidden position while awaiting their arrival.

"It looks as though we had outwitted them, at any rate for the time being, and it will keep them back long enough to enable us to get a good start, so hurry on as fast as possible. Make for the side of the hill which I pointed out before. If they discover our absence, and can gather their forces we may be able to use the precipitous side of the hill as a protection. But remember, the river is our objective point."

No urging was needed. On the way the second stream or running brook was crossed. Harry called to one of the boys: "Get some of the copper kettles from the wagon and get some water. If we are held up at the hill the yaks will need it, as well as ourselves." George and the boys recognized the importance of it, and weak as the two rescued boys were, they dragged the filled kettles to the wagon, and George fastened the wooden covers on them.

Within ten minutes more the hill was reached. It was not high nor difficult to mount, and at one point it seemed to spring up into a peak, the southern side of the point presenting a steep outline. The boys saw that on the side facing the river, which was less than a mile away, the precipitous portion was formed by a wall of peculiar brownish-gray rock. [68]

Behind this rocky fortress the wagon was driven, and the first care of Harry was to water the animals, as they had not been allowed to quench their thirst on the way. They waited an hour or more for the appearance of the Professor and John. George went out on a quest back over the trail which they had just made, and almost reached the stream before he caught sight of them lurking through the trees and shrubbery.

They were relieved to know that the wagon was in safety, and after the stream was crossed the three delayed no longer, but hurried rapidly forward and soon reached the wagon, to the great relief of Harry and the boys.

"Let us haste to the river," was the Professor's hurried order, as he came up, and the yaks were at once urged forward, but as he passed the rocky wall, he cried out: "Wait, let us examine this first."

The boys knew that if, in such an emergency, he could call a halt, the appearance of the rock would reveal something that might be of value. The action of the Professor attracted the attention of John at once, and he turned to the wall and glanced along its face in an inquiring manner, and as he did so wandered along the rocky outline in a curious manner.

While the Professor was engaged in examining the formation John came back hurriedly into sight, in considerable agitation, and running up to Harry, grasped him by the arm and led him back. Harry followed, intensely interested, and the other boys also noted the movement and rushed over to the narrow trail which they had taken. [69]

As they rounded a corner John and Harry had disappeared, and George was astounded. In a moment more Harry ran back and cried out: "Tell the Professor to come, quickly."

He appeared, as the unusual sight of the boys running after John had already attracted his attention, and when the boys reached the second turn and saw the Professor coming up, the latter was curious to know what the commotion meant.

"It means," answered Harry, "that we have found another cave."

The entrance was to the left, and was so hidden by shrubbery that only the utmost scrutiny enabled them to distinguish it.

They gazed at each other in astonishment. George was the first to speak: "Why wouldn't this be a good place to hide?"

There was no answer, but John heard, and immediately shook his head, and the Professor, not noticing this motion of John during his intent examination of the entrance, turned around and said: "We must leave this place as quickly as possible."

This startled all of them into activity at once, and they made a rush for the team, with John in the lead. Without a moment's loss of time, the way was made down the hill, and the Professor and John took up their positions as rear guards. [70]

"Drive directly to the open space at the bank to the left, and unhitch the team."

The boys heard and started forward, urging them along as fast as the condition of the ground would permit, and within fifteen minutes had the team ranged behind the wagon in a manner similar to their previous training for the purposes of defense.

"I think one of you boys and George had better go back and assist in case they are pursuing," and Ralph, the stronger of the two, volunteered, and after taking a new supply of ammunition, followed back in time to see a number of lurking savages on the hill beyond the last stream.

The escape had been discovered, and the savages collecting their forces were in full pursuit. In an incredibly short space of time the shelving path along the rocky wall, adjacent the cave, was filled with warriors, who could now plainly see the wagon at the brink of the river, and the Professor and John soon appeared and urged haste back to the wagon.

Ralph ventured the opinion that while there might be fifty or more in the party, he was sure that a still greater number were available, and when Tom, the other boy, was appealed to, replied that there must be considerably more than one hundred, if not a hundred and fifty in the tribe who might be mustered to attack them.

When the wagon was reached all were cautioned not to waste any ammunition, as they had but little to spare. The savages came up and took position far beyond the range of the guns, and the open space afforded them a much better protection than would have been available, even at the hill. [71]

It was evident, however, to George and Harry, that John and the Professor had some other reason for urging the sudden departure from the mouth of the cave. Neither could have seen the savages approaching from that point, and they noticed the two looking at each other when the savages made their appearance in front of the cave.

There was no time for questionings now. Would they attempt an attack? It was past midday, and hunger had been forgotten. While both of the rescued boys had kept within the wagon as much as possible during their flight from the hills, they were very weak, and had been given food in small quantities, so as to accustom their contracted stomachs to the stimulating action of the nutriment.

Within an hour new parties approached from the rear. Reinforcements were coming, and they probably intended to delay the attack until the entire force was available. This looked very serious indeed, but through all the Professor was grave and dignified, and showed no evidences of being unduly disturbed at the gathering clans.

"What we need fear more than anything else now is a night attack," was the Professor's comment, as he watched their movements.

Ralph stepped up to the Professor, and said: "I do not think they will venture to do so, because I do not remember that they have ever attempted to do so at night. The tribe that captured us always made night sorties, but these people never did, and for that reason I do not believe they will attempt it now." [72]

The Professor thanked Ralph for the information. [73]

CHAPTER VI

THE TALE OF THE RESCUED BOYS

Night set in without a sign of attack. The heavens were filled with stars, but there was no moon, and this afforded a cover for both parties.

And now, when they were at last quiet for the first time since the release of the boys from their loathsome captivity, all were eager to hear their history.

Harry and John had both learned during the snatches of conversation that they were able to take advantage of, that Ralph and Tom were companions on the ill-fated *Investigator*, when she went down. They were not remembered at the hut, and neither of the boys recalled the others, because the emaciated condition of the two was such as to make recognition impossible, and Ralph and Tom were too much excited to know or care who had delivered them, but they recognized the Professor before it dawned on them that the two boys were their former companions.

But let us listen to the tale as Ralph told it: "We were on the after part of the ship at the time the explosion took place. It was between nine and ten at night. The explosion seemed to break the ship in two, and an officer, a seaman, and three of my companions, including Tom here, launched one of the boats, and when it was apparent that the vessel was sinking, the officer ordered the boat away. We saw two of the lifeboats, and made for the nearest one, when the wave from the sinking ship nearly overturned us. Soon after a heavy fog covered everything, and when that disappeared a high wind arose, and the sea became choppy and the froth was blown over us so that all became drenched." [74]

"All that tallies exactly with our experience," remarked George.

"Instead of decreasing the wind grew more furious during the following day, and Tom and myself became very ill and helpless. When I recovered consciousness there was only Tom and another companion in sight, and neither of them knew what happened, or how the others disappeared. We were lashed to the boat, and just before I became unconscious I remembered that the seaman gave me some biscuits and canned meat, as well as a flask of water, and those I found beside me when I awoke. During the night Tom also awoke and began to rave, and I tried to quiet him, and after making a number of trials found the locker and gave him some stimulating medicines, which you will remember were put up and in the use of which we were instructed. Our other companion died of exposure the fourth day."

"Weren't the others lashed to the boat?"

"I don't remember. How many days we were washed by the sea I do not know, but it must have

been fully a week, and we were both entirely exhausted, when something happened to our boat, and everything appeared motionless, but still I could hear a terrific roaring sound. When I regained my senses, I recognized Tom bending over me, and the first words I remember were: 'I thought you would never come to again.' I learned that we had been cast ashore the night before, and we could see the wrecked parts of our lifeboat strewn all about, as the winds had died down, but the sea was still running high."

Harry looked at him eagerly: "Didn't you save your boat or any part of it?" And George was almost at the limit of nervous tension as he leaned forward and waited for the reply.

"No; our boat was crushed beyond all hope of recovery. We did not find any of the food stored in it, and when we were able to leave the beach on which we were thrown, we saw that not fifty feet to the left of us was the first of a series of rocky projections running to the west, against which we were no doubt landed when carried up by the immense breaker."

"Have you any idea where you landed—that is, on what part of the island?" was the Professor's first question.

"I haven't the slightest idea, for reasons which you will now learn."

"But," broke in Tom, "don't forget to relate what we saw the first day, before we had gotten a half mile from the shore."

"Yes; I was coming to that. We were both hungry, and we wandered first along the seashore, and then finding nothing that would answer for food, went inland, and noticed all about us different kinds of vegetables, none of which we recognized, and finally some berries. We were so hungry that we ate and ate as fast as we could gather them, and felt much better for a time; but along in the afternoon, we heard voices, and soon a number of savages came in sight. We were paralyzed with fear. They were almost entirely naked, and what gave us the greatest fright was the appearance of a captive they were dragging along, with his hands bound behind him."

"Was it a white man?"

"We did not know it at the time, but we afterwards learned, as I will tell you, that he was a white man, and that he was taken over to the main camp to be offered up as a sacrifice."

"Did you recognize the particular tribe that had the captive?"

"Not at that time, because we did not know that each tribe had its own distinctive dress. But later on we learned which tribe it was."

The Professor drew up the mattress and brought out two different articles of headgear that had been taken four days before. "Do you recognize either of these?"

The boys started. "Yes; this belongs to the tribe that first captured us. See that row of shells, and this colored band. That is the principal distinguishing feature aside from the hair. This hair is a dark brown, and all of the tribe wear that kind because their bitterest enemies have that kind of hair, and they seem to take a delight in slaying an enemy solely for the purpose of getting the hair necessary to make up the head ornament with."

"I noticed that the hair of the people who are around us now is very black and curly."

"Yes; this other headdress is made principally from the hair of our enemies outside. Where did you get it?"

"We captured it," answered the Professor, "in one of the fights we had several days ago."

"At the time you captured the chief here?"

"Yes. And while we are on the subject, I wish you would see if you recognize the headdress of the chief we have here."

Ralph looked it over, and to the surprise of all announced that he had never seen that kind before.

"How many tribes do you think are on the island?" was George's question.

"Probably a half dozen or more. Our means for learning these things were very limited, although we have had a close acquaintance with them for the past six months."

"Before you go on with your story I want to ask a question or two," said the Professor, as he glanced at John. "Did you ever come across a large river, like this one, and which flowed in a different direction, say, to the east?"

Neither of the boys remembered such a stream.

"Have you ever been near the range of mountains which we can see to the east of us?"

"Oh, yes; we were taken way down west of those mountains. After seeing the captors a safe distance away, we started in an opposite direction, and found ourselves on a little stream of water, and picked out a resting place on one shore among the bush where a little overhanging hill offered some shelter. Before night both of us became very ill, and had taken to vomiting, and then imagined that the berries had poisoned us. For two days we lay there, almost too weak to

move, and afraid to venture out, on account of the savages. We found nuts and ate sparingly at first, as our stomachs were too weak to permit us to take much at a time. Then we found some things like sweet potatoes, and Tom had a box of matches which was a great boon to us."

"Well, that is better than we had when we landed," and George laughed at the reminiscence.

"In our wanderings we lost all trace of time, of distance and of direction. We knew that the sun came from the east and set in the west, and we knew that the shadow of the sun was thrown to the north at noon, but it didn't make much difference to us which way we went."

George couldn't help interrupting: "Why, don't you know we are south of the equator, and that at noon the sun throws its shadow to the south?"

"In our condition we didn't stop to consider any of those things. We were mostly hungry, and tired with wandering. We thought the proper thing would be to go north, and so we traveled in that direction. As it now turns out we went to the south, and marched right into the heart of the occupied part of the island. For months we evaded capture. On one occasion we stumbled on the camp of a lot of savages who were sacrificing a victim."

[79]

"Was he a white man?"

"We did not know, and could not stop to inquire, but it is more than probable that it was a captive from some other tribe, as that is a common and universal practice. They never spare a captive. In our own case, we knew what to expect, and our only salvation was that the time for these sacrifices took place only at certain periods, or to commemorate events at which the offering is made to their gods at special seasons of the year. Of course we did not know when that particular period would come in our case, but we knew what captivity meant, and we often wished to be put out of our suspense."

The Professor here interrupted: "The matter of commemorating certain events or circumstances is something which comes down through the history of all peoples from the most ancient periods. In the case of the Israelites, it is said that they brought out the brazen serpent, which Moses commanded to be kept in the ark for a memory, and offered before it. Dixon, in his 'History of the Church of England,' states that it was the universal custom in the early period of the church to demand memories to be celebrated, and Spenser's tales refer to the commemorations by

'Their memories, their singing and their gifts.'

But proceed, Ralph."

"After several months of hunted life we became expert at eluding our enemies, but we were hungry and starving many a time, and once we were so much reduced to the starvation point that we boldly but stealthily entered a village in order to capture food, and escaped. About two months ago we were unfortunate enough to wander between two conflicting forces, and in the attempt to escape, were finally taken by the victors and conducted to their village in grand style. From our appearance it was probably difficult to judge whether we were white or black, but as we had the freedom of a small space adjoining our hut, and were encamped by the running stream, where water was handy, we had an opportunity to take a bath, which so changed our appearance that the natives could hardly believe we were the same captives they had taken two days before. We since learned that this alteration in our appearance is what caused them to postpone the sacrifice. They are intensely superstitious, and could not understand why the transformation had been made. Then the round silver match box which Tom incautiously exhibited, excited their curiosity, and its glitter attracted them, so that everything we had was taken away, particularly the buttons which we had about us."

[80]

"That," remarked the Professor, "is also a trait common with all savages, to regard all articles which have a luster, as a charm. The Druids, in ancient times, used balls of crystal as part of their superstitious worship, and even in the present day, in our own civilized country, we have plenty of people who have an idea that hypnotism can be brought about by gazing at a brightly polished sphere. It can be seen how much these articles are prized by a low order of people, because of the varied colors which are formed at the different parts of the globular surface. It is for the same reason that the eye becomes the most attractive part of the human form, and why some are actually overcome by a piercing glance, or subdued by the genial beams of a kindly eye."

[81]

"But I have little more to add to the tale. We were kindly treated by those people, and given a greater share of liberty as time wore on, and when the watchfulness was not so keen we took the first opportunity offered, to escape, and after wandering about from place to place, often without food, we were almost ready to return and throw ourselves on their mercy. For fully a month we kept out of their way, and when we saw them coming, and knew what a struggle we would have to elude them without food, we boldly marched into the midst of the warriors, only to find that we had been hiding from an entirely different tribe of savages. The knowledge of this made us desperate, but we were hungry, and we had read of instances where men had acted boldly when in great danger from enemies; so that we concealed our fears, and demanded something to eat. Catching sight of a roast fowl we took it from the spit on which it was hanging, and began to eat it without asking leave, and with an air of superiority that simply stunned them. The chief came forward; dangling from a chain on his neck was a watch. Tom went toward him, looked at it and quietly took it in his hand, without a protest. As he pressed the stem the case flew open, and the chief started back in wonder and surprise. This performance so new and startling to him was a fortunate occurrence for us. Tom saw the effect of his action, and then wound the watch. When

[82]

he put the timepiece to the ear of the chief, he became frightened and tore the chain from his neck in terror. The ticking timepiece was then carried around to the assembled warriors, who exhibited the same fear at its 'talking.' An ample supply of food was then instantly set before us, and Tom went up to the chief, and tried to tell him what the instrument was for, and turned the hands to midday to show how it would tell the time of day. He finally put the chain around the savage's neck, which the latter permitted."

"Did the watch have any mark by which it could be identified?"

"Nothing but the initials 'J L V' on the inside of the case."

"J L V," cried Harry and George in unison, as they looked at John. Ralph and Tom in turn stared at the boys in amazement.

"Do you know whose watch it is?" asked Tom.

"Not positively; but we believe it belongs to John here," said Harry, as he delved down in his pocket and brought out the silver match safe he had found after the attack at the river.

When he held it up Ralph glanced at it, and declared that the monogram was a perfect copy of the one on the watch.

This was, indeed, getting interesting to the Professor, as he motioned to Ralph to proceed.

"We were with this tribe nearly two weeks, and were treated like brothers. Bows and arrows were given us, and we became a part of their fighting force, but, unfortunately, they were a small and weak tribe, and when several weeks ago the devils around us pounced down upon us, half of them were killed and we were made prisoners. The others who were captured with us were sacrificed last week, and our turn would undoubtedly have been the next, as we had been captured fighting against them."

This narrative greatly impressed the boys, and it showed what suffering they had undergone, and they could not help but contrast their lot with that of their unfortunate companions.

The story made clear another thing: That there must have been another boatload of their wrecked ship on the island.

[83]

[84]

CHAPTER VII

THE ESCAPE IN THE NIGHT

The waiting savages showed no disposition to attack under cover of darkness. Everything was quiet, and with reinforcements no doubt would resume the aggressive in the morning. It was approaching midnight and no one had retired. All were too busy listening and retailing stories to think of sleep.

But they now had to consider the important things connected with their immediate security. Various plans were suggested, but none seemed to meet the conditions, and the Professor suggested that it might be well to make a careful reconnoiter of the enemy before deciding on a course. Harry and the Professor took up the guns, and John, divining the object, grasped one of the guns and held back both. He disappeared from the wagon on the side facing the river, and then slowly worked his way around toward the encircling band.

When he had gone less than a hundred feet toward a point directly abreast of the wagon, so that he was moving at right angles to the shore line, he disappeared, and they could readily understand how his crouching attitude would enable him to approach closely without being recognized.

He was absent more than a half hour, and although the watchers in the wagon kept up a vigilant guard in every direction, John reappeared, and was almost at the wagon before he was noticed. He had returned by way of the north bank of the stream, and entered the wagon on the same side from which he had left.

As stated previously, the extreme height of the wagon bed enabled them to make a small closet-like enclosure, which would not expose any light, and to this place the Professor drew John, and lighting the lamp the latter showed by signs that no savages were in the immediate vicinity.

The Professor by signs motioned that they should take up their flight along the bed of the stream, and to this John gave his immediate approval. The boys were informed of the decision, and all consented. It would certainly take them nearer home, and delay would mean only waste of ammunition, and if a fight was necessary they were as well able to defend themselves by night as by day.

As silently as possible the yaks were put in marching order, and John, without a word, started off ahead, keeping well to the left, and at a considerable distance from the river bed, and thus acted as a scout for the party.

To their astonishment their progress was not opposed, and for more than an hour the quiet movement was kept up. Before them was a mass of undergrowth, which seemed to come nearer

[85]

the river than at any other place on their route, and John approached the wagon and signaled a halt.

The Professor went forward, and without a word John started for the underbrush, the Professor following. They passed entirely through without any signs of the savages, and as they returned and emerged from the other side, John tried to give the Professor some advice, but the darkness prevented him from grasping his ideas. As a last resort John went up to a small tree and made the motions of cutting it down, and it at once dawned on him that a raft should be built, and this so impressed the Professor as a wise course that they hurriedly returned to the wagon.

[86]

"Boys, get the bolos at once, and drive the wagon forward until I tell you to stop. Harry and George follow John, and cut poles for a raft. We must cross the stream. While you are doing this I will examine the river bank and find the best place to launch our raft."

"What," exclaimed Ralph, "are you going to make a raft large enough to float the wagon on?"

"No," said Harry, "but we intend to make the wagon a part of the raft," and he hurriedly told them how they had forded the stream before.

Before they had an opportunity to cut many of the poles the Professor appeared with the welcome information that he had found an immense pile of driftwood not far below, and this was communicated to John as best they could and the Professor took him by the arm and led him to the river bank and sent Harry up to bring down the team.

The accumulated mass was a fortune to them, as the wood was comparatively dry, and singling out the most available pieces, the material was ready within a half hour, and the shallowest shelving part of the beach selected for the launching.

[87]

It was singular that during all these proceedings not the least sign was heard of their pursuers. It could not be possible that they had given up the chase, but it seemed so. The party now consisted of six, and Harry had doubts of the sufficiency of the floating timbers to sustain them, but this fear was dispelled as the noble yaks slowly drew the wagon forward, and it was found that it floated.

By repeated urging the stream was soon crossed, and when the wagon had been denuded of the logs, they were in as good condition as before to go on. As on the previous occasion, they pushed out from the river, as fast as the darkness would permit, and soon came to gently ascending land, and finally the underbrush appeared, when the Professor called a halt.

"This will take us far enough from the view of the savages, and we must make camp and get some rest for the morrow may be a trying day."

As nearly as could be determined it was two o'clock in the morning and the watches were appointed so that two would be on guard, for an hour at each watch. The morning came too soon for all of them. It had been a strenuous time for all and a particularly joyous one for the two boys.

An early start was not necessary. They were about a quarter of a mile from the river, and as the light broke were surprised to find that the camp was selected at a peculiarly secluded spot. Their first subject of conversation was concerning the natives. They were nowhere in sight, but shortly afterwards John pointed to the right, and there plainly seen were the entire tribe waiting along the shore of a tributary which flowed into the stream from the west.

[88]

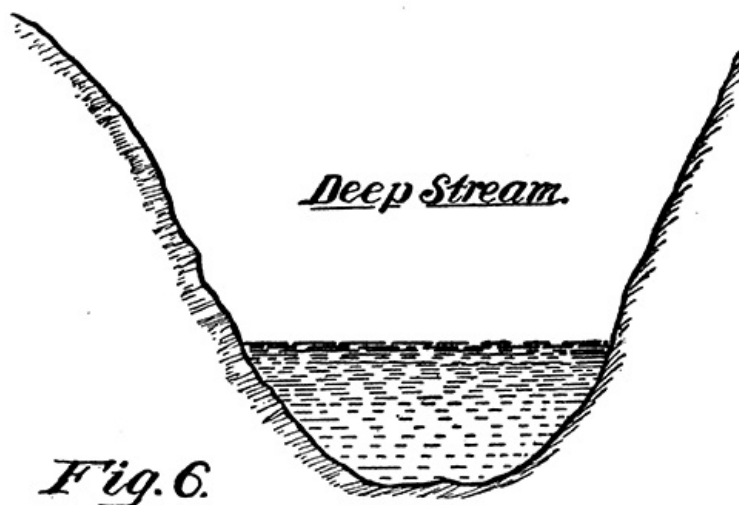


Fig. 6. Deep Stream

"It is now plain to me why they were fooled," and the Professor laughed at the situation. They evidently knew that sooner or later the wagon must make its appearance and attempt to ford the stream, and that would be their opportunity.

"They are certainly smart in some things, and particularly with regard to the character of the streams. That tributary is very deep and they counted on that giving us trouble."

"Why do you know it is a deep and not a shallow stream?"

"The conformation of the shores indicate that. It can generally be determined in this way: If the sides of the ground near the shore are steep, it is pretty sure to make a contracted channel, and that means depth. On the other hand, if the beach is sloping the stream may be wide, but is always shallow at that point. See the steep sides running close down to the mouth?"

[89]

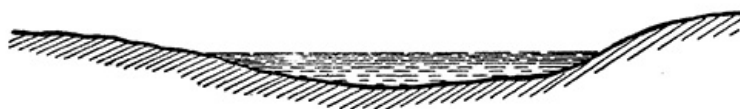


Fig. 7. Shallow Stream.

Fig. 7. Shallow Stream.

The savages did not wait long for the supposed appearance of the wagon, but the scouting parties cautiously spread out and moved up the stream. They passed through the thick undergrowth where John and the Professor had passed the night before and were, apparently, nonplussed at the disappearance.

This recalled the former experience farther up the river, and all had a merry laugh at the discomfiture. They saw the tracks of the wagon, and it ceased at the undergrowth, and this was the puzzling feature to them, but in time the tracks were followed up leading to the river bank, and the evidences of the driftwood all about was sufficient information to them to stop all further pursuit.

"What should we do if they attempt to cross?" was George's inquiry.

"That would be our chance to go for them," responded Harry.

[90]

They remained on the bank for two hours, constantly looking across for signs of the retreating wagon, and then slowly filtered back through the woods beyond.

"Isn't this the place we saw the lights during our first trip to the river?" asked Harry.

"No," answered the Professor; "we were fully six or eight miles north of this point, but it might be some tribes are found that far down the river."

Breakfast had been forgotten in the interesting watching of their enemies, and when they had fully disappeared from view the party had an opportunity for the first time in a whole week to get a sample of cooked food.

"I am sorry to say," said George, "that we haven't any fresh meat, and the best we can do is coffee and corned beef."

Harry and John had their guns in an instant, and started out on the quest for food.

"Where did you get the coffee and corned beef?" asked Ralph.

"We put up the beef ourselves, and there is plenty of this kind of coffee on the island."

"But you have sugar, too."

"Yes; we made that and also have plenty of honey."

This was surprising information for the boys.

"But how did you make the guns? Where did you get the iron?"

"We dug it out of the ground and put up our own foundry, and have a water wheel and a machine shop."

All this was said with a show of pardonable pride; and he continued: "Wait until you see where we live and how we have things fixed up."

[91]

The shots which were plainly heard indicated something good to eat, and before the hunters arrived the stove was removed from the wagon, and George had a good fire started.

A woodchuck and two pheasants were the trophies. What a feast they made. The chief was now inclined to be more communicative. The neat trick of crossing the river was a most enjoyable spectacle for him, and he tried to exhibit his delight. Ralph and Tom didn't have much use for him; as they were no doubt thinking of the miseries that the islanders had given them, and the Professor smiled as he appreciated their feelings.

The disposition of the warrior was a leading subject of discussion, and some favored letting him go, but he was not in a condition to travel, and they were now fully ten miles or more from the point where he was captured. Humanity prompted them to take him with them rather than set him adrift in his condition, which might mean exposure to his enemies, and as a result the subject was dropped.

Red Angel was a source of wonder to the boys. He had so many attractive ways, and it was the

first time that either had been thrown into close association with such an animal, and besides Angel was not an ordinary orang. He had been educated, and it amused the boys to see how much intelligence he exhibited when he was told to do certain things.

[192]

After the meal the march was taken up, and Harry, ever solicitous for his team, as he called them, was anxious to get water for them. He was assured that during the day they would without doubt cross some of the streams which they had previously found in that section of the country.

While thus moving along Ralph and Tom were inexpressively happy at their liberty. Weak as they were they frequently got out of the wagon, trudging along, running races with Angel, and jolly as boys out of school.

And this gives the first opportunity to describe them. Ralph was tall, and strongly built, but his emaciated frame did not show his full strength. Tom, on the other hand, was shorter and bulkier, so that the two boys were really the counterparts physically, of Harry and George, respectively. Both were educated fully up to their years like the average youths who had graduated from the high school.

Tom was the most observant of the two, and in that respect resembled George, and as they moved through the forest and over the table land, he would frequently stop and look around, and finally went to the Professor and said: "This part of the island looks very familiar to me." Then calling to Tom, he continued: "Isn't this the place we traveled through after we were wrecked?"

Tom looked about him, and finally answered: "It does look familiar like. We came from that direction." And he pointed to the north.

"If that is the case you landed on the island fifty miles west of our position, and it is a remarkable thing that we never ran across your tracks," answered the Professor.

[193]

The wagon was driven forward slowly, because there was now no need for haste. The part of the country through which they were passing was free from savages, so there was no anxiety from that source, and the Professor, as well as the boys, took delight in examining the country through which they passed, and in trying to discover new vegetables and fruit, as well as learning all about the mineral resources of the different sections.

Before night they came to a small stream, which was an admirable camping spot, and the yaks fairly reveled in the sweet, fresh water. There was no hesitancy in building a fire for the evening meal, and the hunting bags showed a good supply of game. That evening sitting under the great southern dome, with its glittering stars, the Professor had a most attentive audience when the various questions were brought up for discussion.

To those who are fairly observant, the heavens in southern latitudes cannot fail to attract attention because of the different arrangement of the stars. People living in the northern hemisphere have never seen the southern cross, nor the great fixed stars, Canopus or Achernar; and those below the equator have never viewed the polar star, and do not know the beauty of the brilliant star Vega.

The most intent listener, on all occasions of this kind, was George. "Tell us, Professor, how the mariner knows the direction of the south pole when there is no south polar star to show him?"

"Practically the same method is used as in the northern hemisphere. The north polar star does not in itself indicate which is north, but it is one of the points used in connection with another star which points out the direction.

[194]

"In the northern hemisphere there is a star called Alpheratz and another called Zaph, which are in direct line with the polar star. The two first stars named are exactly on what is called the equinoctial line. But the southern hemisphere of the heavens does not have a polar star to indicate the south, so that if you will now look directly above us you will notice two very bright stars. One of them is the fixed star Sirius, the most brilliant in the heavens; the other is Canopus, and a line along these two stars would go around the celestial sphere and point to the poles."

"But suppose we should be on the sea, and would not have anything else to guide us, what would there be to show which way is north and which direction south?"

"Sirius is easily distinguished, because it is, apparently, the largest of all the fixed stars. It cannot be mistaken. By taking that as a starting point, and following with the eye along past Canopus, you will be looking to the south pole."

"Isn't Sirius called the Dog Star? And hasn't it some connection with the dog days?"

"Yes; in the remote ages of the world, when every man was his own astronomer, the rising and setting of this star was watched with deep solicitude. The astronomers of Egypt determined the length of the year by the number of its risings. It foretold to them the rising of the Nile, which they called Siris, and admonished them when to sow. At that season of the year Sirius rises with the sun, and owing to its intense brilliancy, the ancients supposed that it blended its heat with the sun and thus was the cause of the intense heat; hence during that time were called dog days. At present what are so designated are the days between the 3d of July to the 11th of August."

[195]

[196]

CHAPTER VIII

THE CATARACT AND ITS MARVELS

The tramp through the forest was a leisurely one, as constant stops were made to examine the country. The rescued boys were wonderfully recuperated by the influence of two days of good food and the peace of mind and contentment that had come into their lives after a stormy and hazardous fourteen months' struggle.

Ralph brought in several specimens of fruit and vegetables, of the kind they had seen the natives use, and one specimen which had a long, tapering root. "Here is something they always had on hand," he remarked as he handed it to the Professor.

"That would be a valuable addition to our vegetable diet. It is a species of Salsify, or vegetable oyster, and by some called Goat's beard, on account of the peculiar top."

"I should like to know what this is. It seems to me that we saw plants of the same kind down near the South River." George produced a plant with beautiful large leaves at the end of each stem, which grew in clusters.

The Professor smiled. "You have at last found the real rubber tree. This was taken from one of the small trees, but they grow to considerable height, and many of the trees yield about eight gallons of milk, when first cut, which produces two pounds of rubber." [97]

"But," continued the Professor, "I have something here that is more of a curiosity than anything else." He drew forth a stem with a number of leaves, and peculiarly marked. "Do you notice anything odd about this?"



Fig. 8. Salsify.

Fig. 8. Salsify.

All of them examined it intently, and finally Tom remarked: "Why don't you remember, Ralph, we saw these branches in the savage huts frequently, but I have no idea what they used them for."

"This is the caricature plant. If you will look closely the outline of human faces can be seen. Look at this leaf, the resemblance is plain. Among the savages these leaves are plucked as charms, and the more distinctly they are marked the more potent they consider them. It is something like the ideas of many people about the four-leaved clovers. So civilized people are not so very far above the savages, after all." [98]



Fig. 9. Rubber.

Fig. 9. Rubber.

In the afternoon of the third day they approached the vicinity of the Cataract, and Harry and

George were wild to make their way forward, so the yaks were constantly urged to go on, and it frequently made traveling difficult for those who were walking. Ralph and Tom were kept in the wagon, but insisted that the Professor and John should take their places there, and would not listen to their protestations.

About three o'clock Observation Hill was sighted, and there, proudly floating, was the flag. When the attention of the boys was called to it they almost wept for joy at the sight.

"Oh, how good it feels to see that old flag again," was Tom's comment, as he tried to brush away something that looked like a tear. "How far are we away now?"

[99]

"Not more than two miles from home, but the hill is three-quarters of a mile farther."



Fig. 10. Carricature Plant.

Fig. 10. Carricature Plant.

Angel was in his element now, as the home was sighted, and he danced and capered, just as George did. The Professor and John were in the wagon, and Harry asked the Professor to take the reins, and before any of them knew what he was about was out of the wagon and on a run down the hill, followed by George and Angel.

Ralph and Tom followed suit, and they made a procession that gave great pleasure to the Professor, as he saw their joyous spirits exhibiting themselves.

[100]

John's eyes lighted up, and the Professor noted the look of pleasure on his face. It was so good to see the steady increase in the developing intelligence. When they left two weeks before John was listless, and often entirely without any indications of what was going on all about him. The only characteristics were shown at intervals, where he would, probably, recall something, or instinctively be brought into contact with a former phase of his life; but now those periods seemed to be vanishing, and he became a more normal being at all times, without showing the marked eccentricities.

The boys reached the home, and Harry opened the door, and stood ready to receive and welcome their new companions.

When the wagon came up John and the Professor marched up, and the latter approached with the deference of a courtier, and John, noting the attitude of the Professor, made a like obeisance, and this act, so gracefully performed, was such a wonderful and startling thing that the boys were completely stunned. After making a show of welcome to the Professor, they walked over to John and offered him a welcome that was most touching to him.

The Professor and the boys now felt that they could not, in their future conversations, make any allusion to him, as there was an evident dawning of his intellect, and nothing must be said to attract his attention to it by discussing his condition.

[101]

Angel was in the rafters for a moment only, and then down and darted into the kitchen. Not for a moment did he rest content at any spot until he had investigated every corner. Wasn't that a boyish trait? When the whole house had been exhausted, he was over at the water wheel, and the boys followed, but they did not take in every arm and blade of the wheel, as he did. Then to the shop, and always leading the boys, who were after him with shouts of merriment.

"Oh, isn't this wonderful!" exclaimed Tom. "What a glorious time you must have had in building these things? And just to think of it, we were so near you, and in misery all the time;" and he said it in such a regretful manner that it drew forth the sympathy of all.

Nothing in the world could have hindered John and the Professor from following up and witnessing the scene. Angel didn't try to run the sawmill, or to turn the lathe, but he did the next best thing, he jumped on the grindstone and sent it spinning while running over the top, a trick

he had learned and which was one of the ways he had to help out George and Harry when at work.

If you should argue from now until you get to the end of this book that Angel did not know what he was doing during these exhibitions, and that it was only the act of an animal, it would not have convinced the boys. From the shop they visited the laboratory, and here the boys got their first real shock, as they saw the skeletons which had been taken from the cave. [102]

It was all so remarkable to them that they did not know what to say or think. Here was intelligence directed from the first. How different had they utilized the intervening time. It was a momentous lesson, they were smart enough to appreciate what they saw and learned.

"I am so happy to know that we have been permitted to become a member of your family," said Ralph, as he grasped the Professor's hand. "All this around here is certainly worth seeing, and it makes me long to take a hand and help, and I know that Tom feels that way, too."

Before the Professor could reply George stepped up and put his arm around the Professor. "If you boys only knew how beautiful he has been, and how patiently he has urged us to carry out this work, you would almost wish, as has been our desire many times, never to leave this place; but—of course, we—we want to see home—and," and the tears came, and Ralph and Harry and Tom broke down and wept, and they turned away from each other to hide their emotions.

When they turned and tried to be very brave again, the Professor, who was not ashamed of the tears which fell, smiled through them, and his voice rang out with a cheer that made every face bright, as he said: "The most satisfying thing in life is appreciation. My boys have been heroes. I have done nothing; it is their work. I have felt ashamed, sometimes, to know how little has been the work of my hands. Occasionally they have been directed, but it is because they wanted to know so many things and the reasons for everything they started out to do. You can see, therefore, that if they had not possessed the spirit to accomplish these things, the little that I have tried to impart to them would have been of no use. I merely allude to this to show you that it is not knowledge or information that makes the world move or induces men to progress, but it is the spirit which takes hold of and utilizes the intelligence." [103]

The new additions to the family now necessitated an entire rearrangement of their quarters. The house, which had been built up in sections, so to speak, contained three rooms, one, the original portion, being now the store room, to which was added a living room and a kitchen.

Commenting on this, and with all together, to get some understanding of the plans, the Professor outlined his views: "We have been putting up our structures here in the way usually followed in all rural communities, where there is plenty of room, by first erecting a little shanty, and then adding another room to that, and a little lean-to on the other side, and as the family grows, enclosing the lean-to to make another room, and then adding to that, and so on, until the whole mass makes a more or less picturesque structure, and a fine thing for artists to rave over. But the interior comfort is quite another thing. We should change that in this civilized community, and put up a building that will be not only comfortable and adapted for our necessities, but also artistic, and it will cost us no more than to do it in a slovenly, inartistic way. I imagine we can make good terms with the carpenter and the bricklayer and the decorator so as to reduce the cost as much as possible;" and all enjoyed the Professor's little joke. [104]

It was Harry's turn to offer a few suggestions: "We have about everything we need now, except food. The barley is all gone—"

"What, all that we left in the bin?" asked George.

"Something has gotten into it and carried it all away."

"We shall have to investigate that the first thing," suggested the Professor. "Fortunately we haven't threshed out one of the stacks, and that will give us plenty of exercise for a day."

"What, have you a stack of barley here?" was Tom's eager question.

"Oh, yes," replied George, "and we make the finest kind of bread. I am sorry we can't offer any to-day."

It was so long since they had tasted bread that its name was almost forgotten.

All returned to the house. The Chief was still there, and he looked at the group in a curious way. Everything in sight attracted his curiosity, and the Professor tried to make him feel at home in his new surroundings. His wounds were progressing favorably, and he was now able to stand on one leg without much pain. At the suggestion of the Professor, Harry made a pair of crutches, which were brought in early the next morning, and he took them and imitated the act of walking with one of his legs raised up. This was a novel proceeding for the savage, and after they had been offered to him several times the Professor urged him to try them. [105]

Comprehending what was wanted he struggled to his feet and reached for them. When they were adjusted he leaned forward for the first step, and a look of surprise came over him. It was a revelation to his poor untutored mind. It lighted up into an expression he had never exhibited before, and he thus received the first lesson on the route to civilization.

It was amusing to see him make one attempt after the other, and before night he could travel about fairly well. What must have been his thoughts as he saw the busy workshops and the

surroundings of the home to which he had been so unwillingly brought? At every opportunity the Professor cultivated his acquaintance. As time wore on he became communicative in his way, but it was difficult to bring things to his mind and comprehend the language used.

He was first taught to name certain things, such as the different foods; and it did not take long to learn what "Yes" and "No" meant, and when handed anything particularly appetizing it was finally associated in his mind with "good." Thus step by step he acquired a small vocabulary of words.

The first task in the morning was the threshing out of barley. Chief, as he was called, witnessed the task, and picked up and fondled one of the flails, like a child caressing a new toy, but he did not have the remotest idea what the threshing of the barley meant until the beaten straw had been removed and the golden grain was winnowed out. [106]

And there was another thing that interested him immensely, and that was the grist mill, composed of the two stones, and when the water wheel was set in motion and the upper stone began to whirr, he stood with mouth and eyes open, and watched the meal running from the spout like one entranced. Usually these people are too stolid to pay attention to such things, but his intense interest was so pronounced that it attracted all who witnessed it.

He followed every step in the preparation of the flour and in the making of the bread, and when the loaves were finally deposited on the table, it was some time before he could gain sufficient composure to taste it. When he did so eventually the amount he ate was enough commendation of its quality to satisfy the most egotistic baker.

Tom became the constant companion of Harry in the workshop, as he was a lover of the mechanical arts. Ralph had the spirit of adventure, and was the counterpart of George, who liked to investigate. These two became the animated question marks of the party. On every subject they took a leading part.

The second evening George brought out his home-made violin. This was the occasion for another surprise. Red Angel was at the feet of George in an instant. Tom could not keep his hands still, as he had also learned to play the instrument, and ventured to suggest that he would like to assist in building a bass viol, and not to be outdone Ralph offered to construct a flute. [107]

The violin that evening was another link in the chain which was to eventually convert a savage into an instrument of untold value to the people of that island. At first Chief could not understand it. He tried to see where the wailing noise came from and pressed closer and closer to George as he played. When George played another tune in quick time he became animated, and slow, plaintive music seemed to subdue him.

"Do you know," said the Professor, "that what we call music does not appear as such to savages. Noise and sound are not distinguished by them. The beating of their crude tom toms is the only thing that appeals to their ears. That is simply noise. Rhythm and time are recognized, principally because all their music is associated by some act of dancing."

"I have often wondered why it is that dancing is such a universal custom?" ventured Tom.

"Among all ancient peoples it formed the integral part of religious ceremonies, and is even to-day practiced by many of the eastern Christians in that manner. It was the custom of the Jews from their first historical account, as shown in the account given in Exodus, where Miriam the prophetess, sister of Moses, took a timbrel in her hand and went out with the other women with timbrels and dances. The Hebrews had a regular chorus in the Temple, with dancing performers of women; and the dance was adopted as a fitting close to the feast of the Tabernacle, when the rulers of the synagogues, the doctors of the schools, and even the members of the Sanhedrin, accompanied the sacred music with their voices, and leaped and danced with torches in their hands until morning." [108]

"Do you think the savages even in these western islands use the dance as a religious ceremony?"

"All tribes in the Island of the Pacific, and I might say, over the entire world, associate these dances with religion, with war, and with some festive commemoration of events. I dare say that you boys have witnessed some of those rites."

Ralph responded to this: "We saw that happen on the occasion the victims were sacrificed by the savages who captured us, as I related in my story the other day. The other tribe also had a dance, but it was so entirely different that we both noticed it at the time."

"Your observation was correct. As in clothing, and in the matter of decorations, so different peoples show their dancing characteristics by different traits. This is true of all civilized people as well. Of these, the best known, which I might mention, are the tarantella of the Neapolitans, the bolero and fandango of the Spaniards, the mazurka and cracovienna of Poland, the cosack of Russia, the redowa of Bohemia, the quadrille and cotillion of France, the waltz, polka and gallopade of Germany, the reel and sword dance of Scotland, the minuet and hornpipe of England, the jig of Ireland, and the last to capture America is the tango." [109]

The directing hand of the Professor, assisted by John, who was present everywhere when work was to be done, was manifested when the hour for retiring came. There was an abundance of clean, sweet straw, and the boys temporarily took up their quarters in the shop, while the Professor, John and Chief occupied the living room.

All this had been arranged for by John, so that when they went to bed that night happy and contented, it was to take a rest that was free from troubles and worries, and it was a welcome relief after two weeks of wandering, coupled with the most exciting adventures.

The boys had hardly quieted themselves for the night, when a peculiar scratching and scraping noise appeared at their door. They intently listened for a while, and George quietly slipped to the door. He heard a familiar sound from without. Red Angel was there, and next morning the Professor laughingly said that it is likely he did not relish the company in the house, as he came down to the door after the boys left, and by his peculiar style of talk said he wanted to get out.

In the morning the Professor called the working force together, and suggested that as good living was a necessity, and could also be made a pleasure, they should so divide the different occupations as to make each feel that he had some special responsibility. [110]

He pointed out four things which were essential to their welfare. First to replenish their store of vegetables; second, to secure game or meat of some kind; third, the cultivation of the garden; and fourth, the manufacture of clothing, of which all stood in need.

When John came to their home he was supplied with practically all of the surplus goods on hand, and a new stock of ramie fiber had not been prepared since that. The boys' clothing had been supplemented by the goods taken from the wagon top, and while heavy garments were not required, it was noticed that the articles first made from the ramie were growing threadbare.

Footwear was really of more immediate necessity than clothing. Ralph and Tom had no shoes whatever, as the only ones they had were taken away when first captured. It is singular how hard the feet can become when deprived of protection. Throughout Africa, where the natives never wear them from the cradle to the grave, the soles of the feet become hard and bony, and thus enable them to travel over any kind of surface without injury.

It was fortunate that they had three tanned hides, and when John looked at the denuded feet of the boys, and at his own condition, the sight of the hides was enough to set him to work. The first thing that engaged his attention was the making of a set of lasts, and then the ramie fiber was twisted for threads; after which he sought out the lumber pile to make pegs, and selected some of the dried shellbark hickory for this purpose. Thus he imposed one very needed duty on himself. [111]

At George's suggestion a new stock of the ramie fiber ought to be supplied, and he, with Ralph, took the yaks, and their guns, in order to do double duty, to bring in a new quantity, and at the same time supply the table with game. As they were leaving the Professor called out: "If you go near the ledge of iron ore bring in a few hundred pounds, and also some clay. You ought to take the picks and shovels along."

Harry and Tom went across the river to visit the garden, which was now overrun with weeds, and the entire day was spent in putting that in order, as they hoped within a few weeks more to commence gathering supplies from that source. The garden had been started before they sailed away on the voyage which ended so disastrously to their vessel.

While all this was going on it must not be thought that the determination to again visit the enemy's country had been relaxed. Before going on another trip preparations must be made, and they did not intend to run short of ammunition the second time.

With that object in view, the moment the present need for food and clothing was provided for it was agreed that all efforts should be made in the direction of preparing weapons and ammunition. There was still a good supply of copper at hand, as well as lead, which had been previously extracted. [112]



Fig. 11. Angel, his new suit, and the Gun.

Fig. 11. Angel, his new suit, and the Gun.

Thus the party put in several days of ardent work in the directions indicated. One morning, while the garment-making was in progress, Angel appeared wearing one of George's discarded jackets. He strutted around in the most comical way, admiring himself, and, apparently, enjoying the sensation of being clad. It was amusing to see him hunch his shoulders as he looked at the jacket.

[113]

George laughed, and so did Angel. "Well, we must make you a suit sure." Everyone, even to the Professor, took a part in the proceeding, but John couldn't see a way to fit him with a pair of shoes.

As usual, whenever opportunity offered, the Professor was out prospecting in the hills. When he returned several samples of new minerals were deposited in the laboratory, and when the party gathered there that evening Ralph was the first to notice a reddish ore which had been found during the day.

"What is that, Professor?"

"It is a very fine sample of Cinnabar."

"I never heard of it before. What is it used for?"

"It is the ore from which quicksilver, or mercury, is extracted."

"Wouldn't it be fun to make a looking glass?"

"It is used for that purpose, but we have use for it in making a thermometer, as well as a barometer," answered the Professor.

"Will it be much trouble to take the quicksilver out of the ore?"

"No, it is a very simple process. Metallic mercury is easily volatilized, and separated from the gangue, at temperatures far below redness. Our closed retort would be admirable for the purpose."

"Do you mean by volatilizing that it is put into a steam?"

"Volatilizing means to convert it into a gas, and this gas, on coming into contact with a cooling surface, is converted into a mercury, which we have in a liquid state, and is called the metallic mercury."

[114]

"Are there other kinds besides metallic mercury?"

"Oh, yes; it may be in the form of a nitrate, a sulphate, a chloride or an iodide. The chloride is very poisonous, and is known as corrosive sublimate. It would be just the thing to rid the stable of

the rodents that took the barley."

One morning the Professor called the boys together and informed them that it had been the custom to take a certain day each week for hunting or other recreation, and suggested that they continue the practice.

"I should like to go over to Observation Hill and see the flag you made," said Ralph. All agreed to this heartily, and the merry party set out, after being fully equipped, as was always the custom. Red Angel formed one of the party, of course, and in lieu of a gun, George had made a stick in imitation of one. He was immensely proud of this acquisition, and actually hugged it when it was presented to him. From that time forward it was his constant companion.

When the Hill was reached, Angel made for the pole, and with his gun in hand, scrambled to the top, giving out his peculiar chuckling noise, which indicated delight.

"Why the gun doesn't seem to make any difference in his climbing," exclaimed Tom.

They scanned the broad sea, and who shall say what their thoughts were as they silently stood there. For some reason when they started to go down the hill they were not so jolly as when going up. Their course was directed to the east, but just why no one knew. It seemed as though they were simply drifting, each with his own thoughts; but Harry soon banished their reveries. [115]

"Let us follow the beach down to South River," he suddenly exclaimed, and all were glad that something had been said or suggested. It was so easy to turn them from gravity to cheerfulness, and probably Harry was trying some of the Professor's medicine on the boys.

At every step of the way, and in every action, the boys now realized that the work of the Professor had been imprinted on them. Tom and Ralph went along glancing superficially at the various objects, but it was entirely different with Harry and George. Every depression, and each succeeding elevation, or clump of trees, or any object beyond the ordinary, was closely scrutinized by them.

This course soon became noticeable to the boys, and called forth a comment from Tom. "Yes, we are always hunting for something. That was a trait which the dear old Professor taught us, and it would surprise you to know how many things we found out by that quality. We have always since found it a pleasure in doing so."

Ralph reflected a moment, and he replied: "I can now see where we made many mistakes during the past year by not adopting that plan."

They passed to the east around the bend, and then followed the small bay which indented the shore, and finally moved out along the peninsula, which terminated in a cape east of the mouth of South River. [116]

"I have often thought," observed Harry, "since we have lived here that it would be a good plan to name the different capes and bays, just as we did with the rivers and streams."

"Good idea," answered Tom; "but I think we ought to make a survey of the place. Have you never done that?"

"No; but we talked of it several times. Let us get the Professor to help us with that on our next holiday trip."

From the cape where they now stood an unobstructed view was had to the south. To the southwest were the mountains, beyond which Ralph and Tom had their bitter experiences. An explanation was made of the course of South River, the mouth of which was plainly visible; the story was told of their trip up the stream with the first boat which had been built by them; how, after they left it at the foot of the high Falls, ten miles inland, it had disappeared when they went for it; the recovery of the boat at the beach to their left, some months afterwards, when it contained strange oars and ropes; their second trip to the Falls, and the finding of the *Investigator's* lifeboat; and their hunting experience in the forest below the river, and the discovery of the huts.

All this made a wonderful impression on the boys. The story of the lifeboat was the most remarkable to their minds, because it brought up the first recollections of some inklings which they had heard about other castaways. [117]

"Don't you remember, Tom, when the second tribe got us, we saw some trinkets, and a few pocket knives, and when we tried to find out about them they removed them?"

"Yes, and Illoga, the Chief, I am now sure, tried to tell me about them, because in the effort he held up four fingers, which we couldn't make out. Don't you remember? I think they took the knives away, because they were afraid we would take them. Didn't you ever notice how jealous they always were of their own property?"

The party now went inland, and devoted the rest of the day to hunting, and brought home a splendid lot of game.

That evening the foregoing conversation was related to the Professor, who remarked: "If there is one thing savages and all low orders of people are noted for, it is the tenacity in retaining their property. Of course, that is not an uncommon trait with all people, but it is particularly well developed in the savage. One phase of this came to my attention some years ago, when a

merchant told me that the poor people of India bought more locks than all the rest of the world combined. He further stated that in the principal cities there immense stores could be found which handled nothing but locks. Those statements were so remarkable to me that I inquired the reason, and learned that every native, although he may have trinkets worth less than a dollar, would invariably have a lock, worth half as much or more, to keep it securely."

[118]

"We have been thinking over the plan of surveying this part of the island and giving names to the main points; what do you think of the idea?" asked George.

"The plan has my hearty approval."

"It occurred to us that on our next holiday we could devote the day to that purpose."

The Professor burst into a fit of laughter, to the surprise of all. That didn't seem to be very comical to them, and they looked inquiringly, as they joined in the laughter.

"So you are going to do work on your holidays hereafter." And he laughed again.

"Well, that wouldn't be work; it would be fun;" and, after reflecting a moment, Tom continued: "Probably it wouldn't be fun to do it every day, right along."

"I think you have struck the keynote of the whole subject of recreation. The word comes from re-create. It means the refreshment of the strength and spirits by some diversion. The great difficulty with most people is that the recreation they take is really a burden to them; when, therefore, you can take a holiday, where you accomplish something, and make fun out of that, you have solved the greatest problem of civilized life."

"Well if we are to survey the island we ought to have an instrument for the purpose."

"That is not necessary. It would be much better to have a theodolite, but it will take some time and very careful work to turn out such an instrument."

[119]

"In what way is the instrument so much more useful than without, and how can we do surveying without it?"

"It does two very important things: First, the telescope, which is a part of it, enables the observer to see much farther and with greater accuracy; and, secondly, it has a graduated scale in degrees which shows the angles. Without these two important qualities we should be compelled to run our lines for short distances only at each sighting, and at each observation it would be necessary to provide a means to get the exact angle with reference to the last line projected. Those features, together with the compass, make the instrument an important requisite for correct surveying."

The boat house was one of the places last to visit, because there was so much to do in the various directions that they had little time to devote to the marine end of their various enterprises. Harry suggested that sailing would be a most desirable outing at different periods, and all consented to the task of rigging out the lifeboat.

The Chief was now so interested in everything he saw that he indicated a desire to take a hand. The Professor was delighted at this beyond measure. He was gradually acquiring the language, as a child would, and his troublesome leg was healing rapidly. The one fear was that, as they had no means of confining him, he might take the first opportunity to leave them, and this was an occasion of more than one talk; but all agreed that no serious consequences would result from his desertion, since it was the belief that he would not attempt to bring his tribe against them.

[120]

The only possible danger from his returning was the likelihood that sooner or later his captivity and the knowledge of their location on the island would find its way from tribe to tribe, and in that way at least two of the tribes with which they had come into contact might seek revenge.

Chief went to the boat sheds for the first time, after the events above related, and the one thing which caught his eye was the lifeboat. He started at first, and then made his way toward it, and looked at the Professor, whose eye was quick to note the movement. He was asked if he knew anything about it, and answered affirmatively, but when he was questioned whether his tribe had possession of it at any time, no intelligent response was made, as he evidently misunderstood what was asked.

One of the first weapons which they constructed, after iron had been recovered from the ore, was a bolo, and a number were subsequently manufactured. To this they added several spears. All weapons were kept out of Chief's reach, and the boys were cautioned against permitting him to learn the mechanism and use of the guns. He always looked longingly at the bolos, from the time he had witnessed their dextrous use.

On this occasion the Professor handed him one of the spears, and he was not only pleased but appeared to be extremely gratified at the act. He balanced it in his hand, and held it up in the attitude of throwing it. When they were returning to the shop, Chief balanced the spear, and without the slightest effort threw it fully fifty feet against a tree, striking a light portion of the bark which he had evidently aimed for. This was the signal for applause and clapping of hands.

[121]



Fig. 12. Poising the Spear.

Fig. 12. Poising the Spear.

Harry ran for the spear and returned it to Chief, and all ranged up alongside to witness his performances. The boys secured spears, also, and made the attempt to throw them, but they fell far short. When Harry attempted to make the trial, Chief seized it, and took his hand, and showed how to hold it to make an effective throw.

The trick consisted in grasping the stem tightly between the thumb and edge of the palm, with the little finger below the stem. The boys watched the proceedings with interest, but could not understand why that method of doing it was most effective.

The Professor came to the rescue. "The throwing of the javelin, the proper term for all weapons of this character, was an interesting thing from the earliest times. The lighter weapons are thrown by grasping them between the thumb and the two first fingers; but the heavy ones like this need a firmer grasp, and on account of their weight are not so easily kept in a horizontal position when in the act of impelling it forwardly. When, however, the spear is grasped in the manner shown you, the little finger, and the next finger to it, both act to guide the stem, and by practice they can be thrown with great accuracy."

[122]

This javelin-throwing match was the means of bringing the Chief and the boys nearer together than anything else that had transpired, and it began to make them take an interest in him, which was not the case theretofore. What really affected Chief more than anything else was the confidence imposed in him some days after, when Harry gave him one of the bolos. It was almost touching to see the joy he expressed. The Professor thought it would be a stroke of policy to have the present come from the boys.

Although he was still limping and unable to move around with any celerity he was out using the bolo at every opportunity. Here was an opportunity, as the Professor explained, to show how intelligent direction would not only be serviceable to the Chief himself, but that its possession would turn its use into channels that would be of value to him.

The gift made him particularly grateful, and so several days afterwards Harry and Tom, by a concerted arrangement, took the yaks, and the truck which had been previously made to haul in the flagpole, and, motioning to Chief, set off for the woods. A fair-sized tree was selected, and the boys, without a word to indicate that they wanted him to assist, began to cut down the tree.

[123]

He looked on wistfully for a time, and then edged his way over and made a motion to take Harry's place, to which he assented. It was now impossible for Harry to regain his place at the tree, and when it fell he acted and looked like a conqueror, and Harry patted him on the back as a token of his good work. A section of the butt of the tree was cut off, and loaded on the truck, and dragged to the sawmill. The end had to be squared off, and Chief insisted on doing this, the use of the exceedingly novel tool being the greatest pleasure, evidently, that he had ever enjoyed.

The fixing of it to the reciprocating saw frame was a marvel to him, and when he saw the boards cut off his joy knew no bounds. The proceedings at the sawmill delighted the Professor. "I have always contended, as heretofore expressed, that the same motive which prompts us to do things with pleasure is to know that we are doing things which produce results."

And then Harry did another graceful thing. He turned up a number of brass balls which he gave to Chief. If there is one thing a savage loves better than another, it is something round. That is why beads are so attractive, and buttons, and small trinkets of that kind. They are like children in this respect. Put a cube and a ball, both of the same material, before a child, and he will usually select the ball. It is a psychological phase which has never been explained; and the same test has been made with monkeys.

[124]

CHAPTER X

UNAWARES IN THE ENEMY'S COUNTRY

During the evening, while engaged in their usual discussions the surveying implement was brought up, and it was understood that a crude instrument should be made, so that it would be ready within the next week.

While speaking on the subject of laying off the segments into degrees, the former matter of observing the heavens was alluded to, and Ralph inquired why all calculations of the heavens

were made by degrees.

"Because degrees mean angles and not measurements. Positions or distances are determined by angles and by measurements in miles."

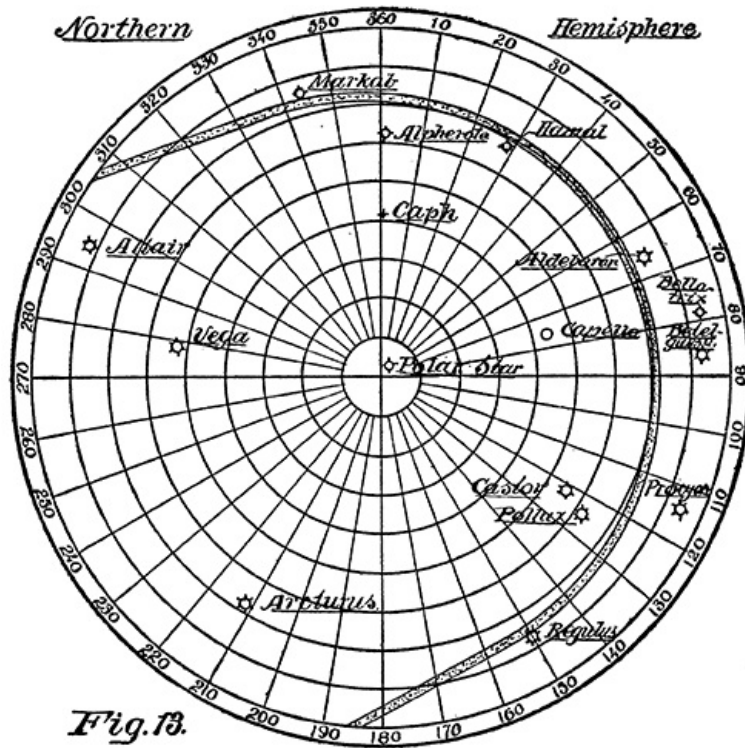
"But in looking at the stars how can mariners tell where they are, simply by getting the angles?"

"That is a matter which can be calculated with such accuracy on the high seas that the distance can be determined with absolute certainty to within three or four miles. Furthermore, when the moon is shining, a mariner, even without an instrument, will be able to make a pretty accurate determination, if the moon is in sight."

"This is interesting information, and I would like to know how it is done."

"Simply by noting how far the moon is from some fixed star. It is difficult to explain this without making a drawing of the heavens or drawing a map which shows the positions of the fixed stars, and the two sketches (Figs. 13 and 14) that I have drawn out will, I hope, make it clear to you. The first figure (13) is a map of the sky for the northern hemisphere, and the second drawing (Fig. 14) of the southern hemisphere, where we are.

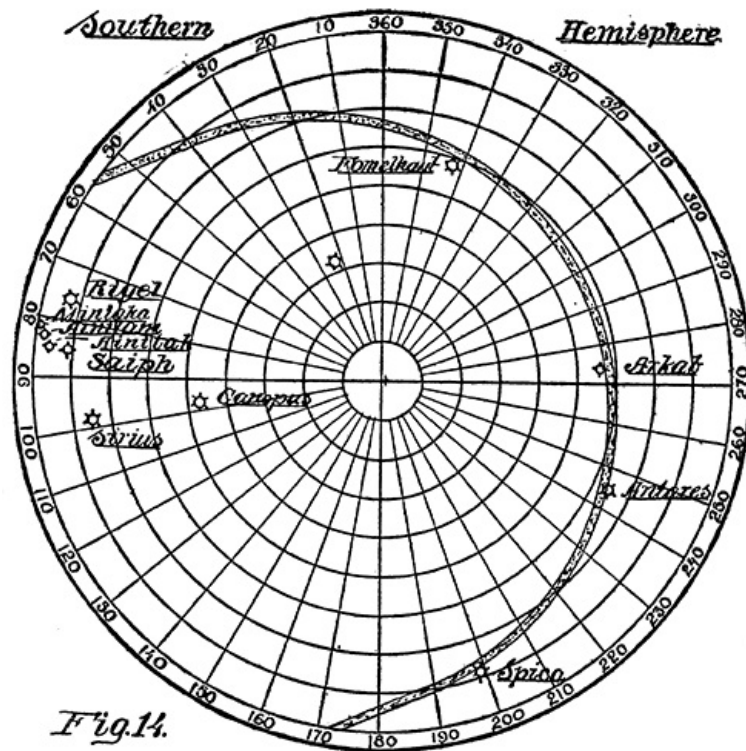
[125]



Northern Hemisphere. Fig. 13.

"On the maps I have shown the fixed stars and named them, those of the first magnitude being the largest, those of the second magnitude a little smaller, and so on, but I have not by any means indicated all of the second and third magnitude owing to their great number."

[126]



Southern Hemisphere. Fig. 14.

There had always been a secret grief in the hearts of Harry and George at the loss of the boat at the mouth of South River, and the Professor joined in their wish to recover it at the first opportunity. Harry again alluded to it on this occasion, and it was decided that such a trip would be a welcome change.

The trip could be made in the wagon, and by consent the four agreed to undertake the journey and bring it back. [127]

"I have often thought it might be done by taking the lifeboat," was George's idea, "and we could fix it up there and sail it back."

"It does not seem to me that would be practical, because it is too much damaged to repair in such a way as to make it safe for such a journey, and if that plan should be adopted all of us should go, and we cannot leave for the length of time necessary to repair it."

"Then we had better take the team. Do you think, Professor, we could haul it back?"

"If you can load it there will be no difficulty in that particular."

It was decided to start the following morning, and a supply of provisions was stored in the wagon, and before starting the Professor made the following suggestions:

"When you get there the top must be removed—that is the bows and covering——"

"Why, we haven't any covering to it now. We had to use it up for clothing."

"I had forgotten all about that. I supposed the top had been taken off when we took it out to haul in the supplies. That being the case the boat, when it is loaded in, upside down, will make a splendid top for you for camping purposes."

"How long will it take to make the trip?" inquired Tom.

"Not to exceed five or six days, because we know every step of the way, and we can push along pretty lively." [128]

The start was not made until about ten o'clock, and Angel was on hand with his inevitable gun. They did not forget the usual accompaniments of such trips, namely, guns and ammunition, together with the spears and bolos.

"This is certainly a jolly lark," sang out Ralph, as they neared the forest. He and Tom had fully recovered from their weakened condition, and were able to take their part in any of the work which was necessary.

"Which way shall we take?" asked George.

"The road directly through the forest, for the reason it is much better than the route near the sea."

The four young spirits made wonderful progress toward the goal, as they had a light load, and every minute seemed to be precious. What hunting was done was on the route itself, and they had mutually agreed that there should not be any wandering on the part of either.

The first night the camp was made on the banks of the Cataract, well within the woods, and not far from the scene of their first exploits with the two bears.

"I wish we could come across more of the same kinds of bears that we met in these woods," said George.

"But the forests south of South River are the places for the animals. Didn't George tell you about our hunting there?"

"No," answered Ralph; "but I want to go there when we get back."

During the first night Angel was restless, as usual in the woods at the merest sound, and George tried to find out the cause of the uneasiness. [129]

"Wasn't it near here that the wildcat attacked us?" asked George.

"I believe you are right. Possibly he has scented another one."

"Suppose we take a peep out," Ralph whispered; and taking their guns, they stole down from the wagon.

They silently stood by the wagon, peering around in the darkness.

"They will be up in the trees," said Harry. "Wait—I see something; look up to the right, a little to the left of the opening through to the sky."

"Two balls of fire could be distinctly noticed.

"That is one of them, if it isn't something larger. What shall we do?"

"Ralph, you and I will aim and fire at it, and if it makes a dive for us George and Tom can take the next shot. Get in the wagon quietly, and prepare."

"Now, ready, aim, fire!" Something came down from the tree faster than an ordinary descent.

"Get into the wagon, quickly," and suiting the action to the word, they leaped up quickly.

"Don't shoot, George, until you see something definite to shoot at."

Something went crashing through the underbrush, and Angel, who was their monitor, increased his alarm.

"I believe it is making for us." [130]

The boys who had shot were now prepared with the newly loaded guns and awaited the attack, but beyond the plain movement of the leaves, and what appeared to be breaking twigs, nothing could be discerned, until George almost screamed, as he saw the object above them, high in the branches.

"Here is a chance for a shot?" And Harry and Ralph both aimed and fired at the same moment, and the animal came down with a crash and landed near the wagon, but was up in an instant, and appeared to spring out through the forest.

Angel quieted down, and this gave George assurance that they were rid of the animal.

The second day was not filled with stirring events, and they went along with considerable speed, and judging from their former estimates the distance traveled during the two days must have brought them fully forty or fifty miles from home, so they counted on being able to reach the location of the boat some time during the following day.

Before noon of the day they sighted the West River, but they reached it at an unfamiliar point.

George and Harry looked at each other in surprise. "It does seem to me," said Harry, "that we must have made some miscalculation in coming from the woods. If I am not mistaken we are miles south of the place we ought to have aimed for."

Beyond question the direction was to the north, and the team was headed for that direction, their route being near the river, as the ground was much smoother, and speed was thus made. [131]

"What is this?" asked Ralph in consternation. "Here are tracks."

The trails were examined, and Harry solved the question by the assertion that it was the tracks made by their own wagon when they escaped from the savages on the other side of the river.

"What idiots we have been to expose ourselves to the savages."

"We must leave the river bed now, or we may be discovered," was George's answer, and the yaks were guided to a higher elevation, and urged forward at a higher speed.

Selecting a secluded spot the noonday halt was made, and a hurried luncheon provided, but before they were ready for a start, Angel, who was in the branches of a tree, began his chatter, which caused George to spring toward the direction of the tree.

"Come down, Angel; come down!" This was always heeded by the animal, and it was plain that the direction of the approaching danger was from the north.

Springing to a small, low-branching tree, he crawled up, and Angel followed and looked to the north, and the sight that greeted him was sufficient to cause a hasty descent, and he ran toward the wagon and met the boys, who were coming toward him.

"What is it?" asked all in excitement.

"Savages."

"And if I am not mistaken, they are the same tribe that had Ralph and Tom."

The two boys almost paled at the words. Ralph made his way back to the wagon on a run. "If they attempt to take me again, I will never surrender." [132]

"Are they coming this way?"

"Yes; and they are not a quarter of a mile away."

The yaks were unyoked, and had not been hitched up, so they were led behind the wagon, following out the plan previously adopted, as it would have been useless to attempt to avoid them.

"Shall we attack them the moment they approach?"

"I believe," answered Ralph "that is our only hope."

"How many could you see in the party?"

"About a dozen."

The wagon had been camped behind a clump of shrubbery, not over twenty feet from the small rivulet, and to the north of them the stream made a slight turn, so that the party appeared in view to the watchers as soon as they reached the wagon, and Ralph was the first to recognize their late enemies.

To the surprise of the boys, the savages stopped, not a thousand feet away, but on the opposite side of the stream, and built a fire preparatory to cooking some game which had fallen into their hands.

"Well, this is interesting. They are going to have some luncheon, too. Wouldn't this be a good time to slip away?"

"I am afraid," answered Tom, "that it would be a dangerous business. The creaking of that rear wheel would put them on our track at once. Couldn't we grease the wheel?" Tom was very much in earnest now. [133]

As quietly as possible the wheel was removed, and some very good butter, the only thing available, was used to ease it up, and the wheel was gotten back in quick time.

Unfortunately the wagon tongue pointed toward the river, the very direction which they dared not go, for fear of exposing their presence, so they had to push the wagon back, by their combined energy, and as noiselessly as it could be done the team was yoked on and slowly moved south, and after traveling a quarter of a mile or more, directed toward the river, and then northwardly, thus making a wide circle in the effort to avoid their camp.

"I'd much rather shoot them than to run away," was Tom's opinion of the situation. "The dirty rascals; they are known to be the meanest set on the island, and we oughtn't show them any mercy."

By this time the boys were worked up into a fighting fever.

"I think we can lick the whole lot of them, and for my part, I am willing to wait here and take a shot at them; what do you say?" Ralph was really mad at the demons, as he called them.

The boys looked at each other. Harry was the only one who seemed to have the situation well in hand from a true hunter's standpoint. "If we stay here you will certainly get an opportunity, or I am very much mistaken."

"Why do you say so?" asked Tom. [134]

"For the plain and simple reason that they will cross our tracks in all probability, and that will mean an easy trail."

"But how will they know which way to go after us? They may go down to the river."

"Well, they wouldn't be such idiots as to go in the opposite direction that the footprints of the yaks plainly show."

The boys had not thought of that.

"And then there is another thing, that just occurred to me. If they follow our tracks from the camping spot they will know we have made the detour in order to avoid them, and that will make them only the more anxious to make our closer acquaintance."

Harry had hardly stopped speaking before the voices of their enemies were discernible. [135]

CHAPTER XI

THE RUSE TO ESCAPE THEIR PURSUERS

The wagon was now driven behind the densest chapparal of trees, unyoked, and tethered behind the wagon, and two of the boys took up a concealed position with a pair of extra guns, at each side.

Harry, who had, by common consent, assumed the command, now made the following observations as to their course: "Remember the Professor's instructions, to keep cool and not to fire until you are perfectly sure the shot will count. And by all means don't use the reserve guns, except as a last extremity. The moment you fire, retire out of sight, and reload, and we should try and fire in separate volleys. Two shots at a time, unless they attempt a rush, will, probably, be more effective, than if all fire at the same time."

In a short time the band appeared, and it was well that they had no idea of the distance the boys had traveled, as they came along rapidly, following the plainly made tracks of the wagon.

"Now, ready boys; Tom and I will give them the first shot, and you may fire the moment I give the command. Ready, Tom; fire."

Both shots took effect, and the astonishment of the savages, was exhilarating to the boys. George and Ralph could hardly restrain themselves. The warriors were in the open, and had little brush to serve as a shield. For a moment they were entirely at a loss to know which way to go. [136]

"Give them a shot," whispered Harry, and as the two guns spoke, two more fell, both wounded. Without waiting for another shot the rest of them broke for the rear, and the boys appeared in the opening.

This was not necessary, as the depletion of the fighting force was a sufficient argument for them to retreat.

"Hitch up the team as quickly as possible," and George and Ralph did not wait to witness the flight. Harry and Tom remained on guard.

"Move the wagon to the north, and stop at every good place of concealment, and we will remain as a rear guard. We have no assurance that they will not follow up the attack."

After the wagon had gone on some distance, the two boys slowly effected a retreat in the trail of the wagon. Only eight savages had been left after the two fires.

During one of the temporary stops Harry observed: "When they retreated we saw eight of them, and there are now only six following. What do you suppose that means?"

"Those people are regular devils, and it is my opinion that there is another force of them near, and the others have gone to bring reinforcements."

"Run to the wagon quickly and tell them to force the yaks forwardly as fast as possible. Wait just a moment." And Harry looked to the north and continued: "Do you see the two large trees in the distance, a little to the left? Tell them to drive for that with the utmost speed, and await our coming." [137]

Tom was off, and imparted the information, and Harry kept on retreating, while the scouting party approached very cautiously, the apparent object being to keep within sight of the trail.

When Tom returned Harry said: "I suppose we had better give them another shot, to hold them off as far as possible. At the next place of concealment, let us wait for them, until they are near enough."

The savages were now very wary, and did not attempt to come within gunshot distance of the place of concealment for some time, but when they had approached sufficiently near both fired, only one being wounded.

Without waiting to determine the results of the last volley, the boys made a rush for the next available place of concealment, and as the wagon was now in sight they selected another object far beyond the present position of the wagon, and Tom was off to inform the boys at the wagon.

Thus, by a succession of marches, the wagon was placed fully a mile beyond the pursuers, and when the last stretch was made Harry made the following suggestion:

"As we have now kept up our course for fully three miles in this direction, tell the boys to turn abruptly to the east, and, if possible, take the wagon over a trail which they cannot follow. Select some object beyond so we will know where the line of retreat is, and I will keep them at bay. In this way we may be able to throw them off the track." [138]

The team had made the last stop at the crossing of one of the little streams, and he had the ingenuity, after Tom imparted the last information to him, to drive the team to the west, for a distance, and then turn it abruptly to the east, and by making his way over the most rugged surfaces he could find, so effaced the tracks that it was hoped they could not find the traces.

When Tom returned, Harry had another ruse: "They are not following the wagon trail now, as they are after us. Now let us direct our course to the west, so that we will not go on the trail which the wagon had made, and occasionally show ourselves, so they will follow, and when we have taken them sufficiently far from the course of the wagon we must depend on our own tricks to evade them."

This plan was put into immediate execution, and by the time the two had gone a quarter of a mile beyond the turn which the wagon had made, they turned eastwardly, in the direction of the wagon, keeping well out of sight, and it was a relief to see them finally pass along the trail far beyond the turning point which they had made, and this was evidence that they had been outwitted.

Harry and Tom now sprinted for the direction of the wagon, and a course was laid for the northeast, as they did not want to go too far from the mouth of the river where the boat lay.

They calculated the distance to travel at about eight miles before reaching the river. The only fear now was, would their pursuers keep up the hunt until the sea came in sight? If they did it meant another fight, or a retreat, with the only hope of securing the boat gone. [139]

"We have a ticklish task before us. We must cross the river before we get to the location of the boat, and if they are anywhere in the neighborhood, our tracks will surely be seen," and Harry was at a loss what suggestion to make in such an emergency.

"It seems to me," ventured George, "that one should take the rear, as a guard, the one front keeping within supporting distance of the wagon at all times. In this way we will not run into the party, and we shall then know whether they are still trailing us."

This seemed the proper thing to do, and it was followed at once, Harry taking the rear guard and Ralph acting as advance scout.

Fully three miles was covered, before the sun admonished them that a camp must be made for the night. The selection of a suitable place was a matter of great concern, as may be imagined.

They went on and on, ever in the search for a suitable place, and it was beginning to grow dusk before their minds could agree as to a safe place. Probably they passed a dozen spots more suitable than the one finally selected, but it was that much nearer the river, and that was some satisfaction.

The utmost care was taken to put the wagon and the yaks in a protected position, and all that night two were on duty. Angel, during the entire time, was quiet, and did not scent the approach of an enemy. [140]

Early in the morning a hurried meal was prepared, and while the preliminary steps were taken for a departure Harry and Tom made a scouting tour to the southwest for nearly a half mile, and returned satisfied that they had temporarily, at least, thrown them off the track.

It was a surprise to find the river within a half mile of their last camping place. If they had known this they would have pushed on and attempted the crossing during the night. But there was no help for it now.

"How far do you think we are from the mouth of the river, Harry?"

"This part is unfamiliar to me, but it is no doubt south of the point where we crossed it on our way home."

"Do you think we ought to cross here or go down still farther?"

Ralph and Tom both urged an immediate crossing, for the reason that as the savages were not in sight, they might as well take advantage of the situation, whereas if they continued down the river, they might again come across the tribe, and which would by this time be materially reinforced.

This seemed the part of wisdom, and the work of getting out the raft timbers was vigorously proceeded with, and within an hour the yaks were driven into the water, and the wagon floated.

The wagon had hardly left the shore before Ralph cried out: "See the devils coming. They reached the clearing, but out of gunshot, and the boys smiled at their discomfiture, and when the opposite bank was reached the boys halted the wagon, removed the logs, and sat down to witness the chagrin of the natives. [141]

"I wonder what they think of themselves by this time," said Ralph as he heartily laughed.

The savages had been reinforced, as was apparent, for more than thirty were plainly visible, and their tactics in following up the wagon was now apparent.

"Let us give them another little shock." All eyes were now on Harry, as he continued: "I suggest that we get into the wagon and move into the interior, hiding the wagon in a safe place beyond, and then return to this mass of brush here, where we will be entirely concealed. As this is not more than thirty feet from shore we will be in good position to watch the crossing and attack them if they attempt to venture across."

The plan was adopted with alacrity, and seating themselves in the vehicle, they waved a salute to

the party and started off as fast as the team could be urged on.

Instantly there was commotion in the ranks of their enemies. They rushed down to the bank, and engaged in an animated conversation.

The boys carefully crawled back to the brush, and witnessed the evident attempt to decide on a course to pursue.

"Do you think they will cross?"

"I wish they would try it," answered Ralph. "Oh, wouldn't that give us a chance at them!"

"I do believe they are going to try it."

[142]

Two of the warriors started for the water, and plunged in, and the boys looked at each other in surprise.

"Ralph, do you think all of those fellows will try it?"

"No, indeed; those fellows don't like water, and if our experience in crossing the river, when they took us back with them, is any indication, they have very few who can swim."

"But the difficulty is that they can raft across."

"That is just the reason why I thought a little surprise of this kind might make them think better of it, and not try it."

"You must remember," answered Tom, "they live on this side of the river, and they are bound to get across some time."

"I know that, but their rafts are no doubt miles up the river."

It was now plain why they determined to follow up our party. Their own territory had been invaded, and this came to all of the boys with a shock. The getting of the boat was now a most hazardous operation.

They saw the two savages swim from the shore, and remained quiet until they came within thirty feet of the shore.

"Now," said Harry, "the moment they start to wade, let us make a rush for the bank, and we will have them at our mercy."

Each of the warriors carried a spear, but no other weapon, but those on the opposite shore had bows, as well.

The surprise and consternation on the faces of the savages, when the party appeared, was too remarkable to describe. Their first action was to turn, but Ralph cried out: "Hola, hola," and Tom laughed as he now remembered the savage word for "stop."

[143]

They did "hola," but for a moment only, and then diving down in the water, attempted to make their escape.

The boys were now on the brink of the stream, and not more than twenty feet away from the struggling men. "Hola, hola," shrieked Ralph and Tom in concert, as they aimed their guns at them.

"That devil in front is the fellow we want to get. He is the meanest of the entire outfit. Oh, yes, you remember me, don't you?" Ralph continued, talking to the savage. "I have a notion to bore a hole through you."

The savage raised himself, and evidently believing his hour had come, did, as all savages do, poised his spear, as he raised himself out of the water, and attempted to throw it. But before he could execute the movement, a shot from Harry threw him back into the water and his spear disappeared.

During this commotion the other savage dived, and he must have been an expert, because the boys shot three times before he showed any evidence of being hit, and then it was only a wound.

The boys ran back to their place of concealment to get the reserve guns, and during that period the wounded one floated out into the stream and the boys made no further effort to reach him.

[144]

The chief, as Ralph called him, was undoubtedly struck in a vital spot, as he disappeared and reappeared, while slowly floating down with the current.

The boys retreated behind their shelter, and sat down to rest and recover from the excitement of the last fifteen minutes.

Meanwhile, what were the savages beyond doing? Consternation seemed to seize them. They ran back and forth, and shouted to their companions in peril, and Ralph and Tom both tried to make out the meaning of the warning cries, but were not sufficiently versed in their jargon to comprehend.

"Well, boys, we have kicked up a pretty serious muss, and we might as well give up the boat."

Tom, who seemed to have some very good ideas, suggested a plan that had considerable merit,

and they were now considering it.

"My scheme is this: Let us now make a show of retreating into the interior to the west, covering our tracks as best we can. Then turn to the north, for a mile or two, and go back to the river and cross, and then make for home as fast as we can travel."

"That is a first-class plan," was Harry's reply; "but I think two of us should remain here in order to keep up a show. We can exhibit ourselves at intervals, while the wagon is proceeding on its way, and the moment the wagon reaches the river, those with it can get the floats ready, so that when the scouts reach the wagon it will be ready to cross."

[145]

Ralph and Harry volunteered to act as the rear guard, and the wagon went forward, making a wide detour to the north and finally veered around to the east, reaching the river fully a mile below. Fortunately, a lot of driftwood was in convenient reach, and the spot was hidden by a bend in the stream, so that it was not at all likely the savages would see them from their low position at the river bank.

The wagon was on the brink of the stream, and the logs ready, still the boys in the rear did not appear.

"Don't you think I had better go back and let the boys know we are ready?"

"Yes, Tom, and tell them to hurry."

The fact was that the providential pile of driftwood made the task an easy one for the boys, and Ralph and Harry were only too much relieved at the news to wait a moment longer than was necessary.

The savages were still on the opposite bank. Was it likely they were inactive? Harry did not think so, as they noted parties disappear at various times, and again others came up, thus indicating there was some movement on foot.

"Before we start now, it would be a capital idea for all of us to show ourselves, and then make a cautious break for the wagon."

Without exposing themselves too ostentatiously, the start was made directly to the rear, and then, as they left the river in the rear, and beyond the sight of their pursuers, turned to the north, and relieved George of the great tension of single-handed guarding the wagon.

[146]

Without waiting for any explanations the yaks were driven in, and the opposite shore reached. Quickly denuding the wagon of the raft timbers, the trail was taken up for home but they were too hungry for words.

"We can't stop to set up the stove and arrange our kitchen now. Let us take such things as we can find, and eat on the way."

Harry's advice was followed. And now they recognized the country through which they were going. It was almost the same trail over which they had traveled twice before, and it went through the roughest part of the island, and when they made the first trip with the team they had to go south to get into a part of the country which was better suited for easy traveling.

"The trouble is we cannot safely go south now, as it will bring us too close to the savages, and we shall have to bear up with this bad ground until to-morrow noon, at least."

By night fully fifteen miles had been covered, but it was a terrible strain on the poor animals, and not any the less wearing on the wagon. The ground was broken up into little hillocks, and studded with vegetable growth in such dense tufts, that constant detours had to be made to get around them.

When evening approached it was with a feeling of the greatest relief, and they certainly craved the rest. A careful watch was kept up during the entire night. They had, of course, no means of knowing whether the savages had discovered the ruse, but there could be no question about the determination to revenge the death of their chief and of the others who had fallen during the day.

[147]

As soon as it was light enough to see, and without waiting for the preparation of a breakfast, in the usual way, the trip was continued, and the western edge of the forest did not come near until near evening. They had eluded their pursuers, and felt happy, and Ralph could not help expressing his satisfaction over and over, at finishing the chief who had treated them so vilely while in captivity.

Shortly after noon of the following day they reached home, and related their adventures.

The Professor was not surprised at their failure to bring the boat back. He was a little disappointed, but they were certainly in a better position to build a boat now than when the old one was undertaken.

[148]

CHAPTER XII

THE PROBLEM ABOUT THE CAVE

That evening they all had a jolly time in the living room, with music and stories, and it was a great contrast to the strenuous times of the past six days of absence.

"We got lost once," said George, "when we struck the river at least eight or nine miles too far south. I tried to make out the direction by the two stars you spoke about, but I am afraid there will be several more lessons necessary before I can get it in my mind."

"Couldn't you see the moon?" asked the Professor.

"Yes, but that didn't help me any."

"Get the map we drew the other night, and we'll try and make it plainer. Now, if you can imagine the moon making a silver streak along the heavens, it would pass along such a route that the following fixed stars would be in its path. Note them carefully, as follows: Hamel, Aldebaran, Pollux, Regulus, Spica, Antares, Arkat, Fomelhaut, and Markab."

"But how can we distinguish one of the fixed stars from the others? That is a matter which has always puzzled me."

"Because of the company it keeps. Isn't that like we judge people?"

"I don't understand what you mean."

[149]

"Each fixed star is set in the heavens with certain others stars arranged about it in such a way that it cannot be mistaken."

Angel's antics now attracted the attention of the company. He had been on the floor while the music was being performed, but disappeared shortly afterwards. He had his gun, and dodged from one chair to the next, and sighted his gun, and bounded away, as though attacking and running from an imaginary enemy.

This exhibition was a perfect mimicry of the boys' attitude during the previous week. The comical manner in which he fought and eluded the enemy brought out roars of laughter, but this did not affect him in the least; he sprang to the rafters, and began to chatter in imitation of the way he had warned the boys, and then sprang down and hid behind a chair.

But the acme of his exhibition was reached when he mounted the table and simulated the rocking motion of the wagon crossing the stream. George simply hugged him, and Angel joined in the laughter.

But the boys wanted to know about John and Chief. John was there to welcome their return, and Chief came up soon after, and held out a welcoming hand, as he had seen the others do. Of course, he had no idea what the party went away for, nor did he comprehend the failure to bring the boat back. His education had not yet advanced to such a state as would have made an explanation of that kind understandable.

But John seemed to realize the story, and his eyes often glistened as they had not done before. On all these occasions the Professor was ever on the alert to notice his symptoms.

[150]

During the following day, in conversation with the boys, he said: "There is every indication that John is beginning to make an individuality entirely apart from his former surroundings."

"But if he does not recall any of his former life, how is it that he goes ahead and does things which he must have learned before he reached his present condition?"

"That is plainly a manual act. For instance, I remember when the saw was put into his hand, the manner of holding it, and his act in starting the saw at the edge of the board, was a physical recollection of the former manner of doing certain things. It was so in the handling of the gun, and the adroit manner in which he stalked the savages, all go to show that certain things which are associated with purely physical acts are just as aptly done now as when in his other state."

"How is Chief getting along?"

"He is often an enigma to me. Each day he learns something new, and really seems to seek the information. Most of the time he has been helping John, but he always looks suspiciously at him. I can account for it in one way only. He has never seen John talk, and this may be a puzzle to him, and accounts for the strange looks he always gives him."

From the day that Chief saw the tree turned into lumber the mysteries of the workshop charmed him. This penchant was taken advantage of by the Professor, and when the day following the departure of the boys, the Professor started up the grindstone and ground one of the tools he edged up to it at once, and when the Professor reached for his bolo and put its edge on the stone, and finally showed him the result, he was as much excited as though he had discovered a lurking enemy.

[151]

He used the grindstone day after day in the same manner, and when it was noticed how he delighted in it, the Professor took one of the tools which had been ground and used it on a fine stone, to show how much keener the edge was made.

The saw was a marvel, and he tried it until he learned its use, and a line was drawn across the board, and when he failed to guide it the Professor smilingly corrected him, and he could not be induced to lay it aside until he had mastered the art of sawing along the line.

In the evening George again brought out the maps of the heavens and asked why he had made the band which was traced in curves on the two hemispheres.

"They show the course of the moon through the heavens, and in order to get the position, the mariner measures the degrees between the moon and the nearest fixed star."

"But if he hasn't any instrument to measure degrees, how can he tell how to make the calculation?"

"In that case he simply takes the yardstick of the heavens out of its box, and uses that as a measure."

[152]

"I never heard of such a thing before. Where is the box?"

"In the constellation Orion, which contains the most beautiful cluster of stars in the heavens, and is visible all over the inhabitable world, are four stars which form a parallelogram. See them on the map? Betelgeuse and Rigel, at the extreme opposite corners, are of the first magnitude, and the others that form the other corners are Bellatrix of the second and Saiph of the third magnitude. Two of the stars are in the northern and two in the southern hemisphere. Within the parallelogram thus formed, you will note three very bright stars in a line. These are exactly one degree apart, and is the yardstick the heavens are measured with."

Harry announced one morning that they had a new calf, and there was a rush of the boys down to the cattle range to welcome the newcomer. They had a fine herd, and seemed to be domesticated. From the time they acquired the first, of these animals there was always an abundance of milk, and that meant butter, a thing which was very welcome to Ralph and Tom.

Chief also enjoyed the luxury, but it was a remarkable thing that the savages had not anywhere in their observations utilized the herds which ranged to the north of them, and undoubtedly existed in the southern portions of the island. There was always plenty of beef on hand, and plenty of game was available whenever they had occasion to go for it, and their larder was well supplied with the wild vegetables, although they had to go considerable distances for them at times; but now that the garden was coming in they did not apprehend so much trouble in that direction.

[153]

There was one thing which none of them could understand in Chief. He would be seen frequently going over toward the forest, in the direction of the clay banks. He never tried to do this by stealth, but the Professor was anxious to ascertain the reason for it.

One day while he was on his way to the same quarter, Harry took his gun, as though on a little hunting trip, and followed him cautiously. Chief made his way directly to the clay bank, and Harry, on the opposite bank, sat down to watch him.

It will be remembered that in making their first experiments a considerable amount of clay had been dug out, for use in making the brick and the retorts required for the metallurgical processes. Chief took out a considerable quantity, and after selecting the amount which suited his fancy, sat down and ate it. Harry was almost disgusted at the sight, and made his way back hurriedly.

The Professor and the others were waiting.

"What do you suppose he was after? Clay! And he ate it!"

This remarkable proceeding could hardly be credited by the boys.

"Ate it!" exclaimed George. "I think you must be mistaken."

Ralph looked at Tom, and immediately answered: "That is just what they did with that stuff we saw that the first savages had; don't you remember, Tom?"

[154]

"I never stopped to inquire; but I know they had something that looked like clay mud. I wonder if that was eaten by them?"

"That is not so remarkable," observed the Professor. "It is a custom in many parts of the world."

"Where?"

"In Eastern Asia, in Java, in the Himalaya Mountains, in northern Europe, particularly the remote regions of Sweden, in Finland, as well as in many parts of South America, particularly in Brazil, Peru and Bolivia, and many instances are known of this habit among the savages of the Pacific islands."

"Can they live on the clay for any length of time?"

"Humboldt, the great geologist, relates cases of tribes in South America which live for at least three months at a time on this substance, without any apparent ill effect, but from all the analyses made there does not seem to be anything nutritious in it. I am not surprised that Chief should have a knowledge of it."

Chief returned after an hour, apparently well satisfied with himself.

Since their return Harry and George had many times thought and talked about the cave. They debated whether or not to advise the boys of its existence, but could not satisfy themselves of the proper course to pursue. They were not selfishly considering the entire possession of the

treasure. In fact they were too generous for that, but the boys would know sooner or later, and it was a question whether to disclose it now or later on. In this dilemma they called on the Professor.

[155]

"I know just how you feel about it," was the Professor's comment, "and I am not competent to advise you. It is your own property, and you may dispose of it as you wish."

"But it isn't our property. Without you it would never have been discovered, and we shall refuse to take it unless you share with us" exclaimed George.

"No, Professor, I can never consent to that disposition of it," was Harry's determined expression, "and for my part nothing shall be done in the matter without you agree with us on the course to follow."

The Professor reflected a while, and then answered: "As for myself I have very little need for it, and there is no one near or dear to me that I would willingly leave it to." With his head bowed, he became silent, and then continued, in a most eager manner: "I had entirely forgotten. I have some who are near and dear to me; I ought to remember them, after all, and as you insist on it, you will pardon me, I know, if I consent to take a portion of it, at least."

"It must be divided into thirds. I am sure there is enough there to make a great many people happy."

"Weren't you boys happy before you acquired this treasure?"

"Yes; as happy as we could be in our condition."

"Do you think the treasure in the cave would make you any happier than you have been?"

[156]

"Well, if we ever get out of here we can use it to good advantage."

"That is the whole secret of happiness with wealth—the knowledge of how to use it."

When they left the Professor the boys wondered why at first he declared that he had no one that he cared to leave the money to, and then suddenly remembered that he did have some whom he cared for. The Professor was as much a mystery to them as many of the things which had come to them during their sojourn on the island. This was, in fact, the only information that they had ever gleaned from him concerning his home, his family, or his friends, and that was very meager at the most.

The boys were anxious to revisit the cave, and the Professor was pleased at their determination, but advised them to make the visit themselves, and to endeavor to find out the full extent of the subterranean windings, and also suggested that they should try to make a working chart of it for their own information.

It was a little difficult now, since the close association had grown up between Harry and Tom, on the one hand, and George and Ralph on the other, to find a suitable excuse for the absence of Harry and George, but the Professor arranged this without creating suspicion on their part.

"I think Ralph is a mighty fine fellow, and we get along splendidly, and I don't think I ever met a pair of more unselfish boys," said George, as they walked up the hill.

"That is my opinion, too. Tom is a most wholesouled fellow, and we find so much that is likeable in each other, that I tell you I do not feel like being so niggardly as to keep the knowledge of the cave and the treasure away from them; and I feel the more about it that way when I think of the terrible suffering they have gone through."

[157]

"Just my idea, exactly. How much do you really think there is in the cave? I mean, what do you think it is worth in money?"

"I am sure the Professor knows. It would be awfully interesting to know. Isn't it funny the Professor never said anything about the worth of it?"

"Yes, he did. Don't you remember, just before we left on the big trip he wanted to know whether we cared to take the risks among the savages, when we had so much treasure in sight?"

"Yes, but that didn't indicate whether there was a thousand or a million there."

When they reached the entrance to the cave, they sat down and talked over the matter again. The lamps were left unlighted, and they made no effort to enter it.

"I have half a notion to go back and talk to the Professor, and bring the boys over." George looked at Harry inquiringly.

"Do you really mean it?" asked Harry.

"I do."

"Look over there; see who is coming," said George, with a laugh.

Red Angel was on the way with his gun. "You little rascal! How did you find out we were over here?" He didn't answer, but he went up to George and looked up into his face, as though he didn't quite understand that kind of a greeting.

[158]

The boys picked up the lamps and went back to the house, and the Professor was surprised at the early return, but he did not make any mention of it to either of the boys, and nothing more was said about it during that day or evening.

CHAPTER XIII

THE ACCIDENT TO JOHN AND THE RESTORATION OF MEMORY

The island yielded an abundance of nuts of various descriptions, the most prolific being the Brazil nut, which grows in the form of a large sphere, from three to four inches in diameter, the shell being very hard, like the cocoanut, and when broken open is found to be filled with the segmentally formed nuts which we all know.

This was gathered in large quantities, and was the principal source of oil which was used for the lamps, as they had no other means of illumination. To people in the habit of using the lighter mineral oils, and electricity, this was certainly primitive enough. The difficulty, however, with the gathering of the nuts was this: Unless gathered at a certain time it is almost impossible to express the oil, and if kept for any length of time, particularly in an unripe state, they would become very rancid.

George pondered over this for some time, and asked the Professor the cause of it. In response, he said: "Nature has a very peculiar way of protecting her products. It is the same with nuts, as it is with potatoes and fruit. Have you ever noticed how unripe fruit withers, when taken from the tree, and that potatoes shrivel up when they are dug up before fully matured?"

"That is the trouble with the whole batch of potatoes we now have."

"Unripe fruit and vegetables have an exterior coating which is porous and pervious to water when it is unripe. But when it fully ripens this coating is chemically changed into a thin, impervious coating of a cork-like structure, through which water cannot pass, and as a result potatoes, and fruit, will keep through an entire winter and become mellow and better as time goes on."

The colony was dependent for its supply of eggs on the numerous flocks of prairie chickens which were found in the abounding fields of grain, particularly barley. It was no trick to bag a half dozen of these birds at a shot, on account of their numbers, and, as before related, while Angel never ate any of them, he was the most persistent gatherer because the beautiful oval eggs attracted him, and George's cakes always appealed to his fancy.

The difficulty with Angel was he did not discriminate between the good and the bad eggs, and George was desirous of knowing how to distinguish between the fresh and spoilt ones.

As usual, the Professor was appealed to and he gave a standard rule for determining this: "As Angel brings in the eggs put them in a pail of water, and select only those which fall to the bottom and rest on the side. An egg several weeks old will remain at the bottom, but the large end will be much higher than the small end. If it is several months old the large end will be uppermost, with the small end pointing down; and if it is thoroughly rotten it will float at the top of the water, with the pointed side down."

"That is a very curious way of finding it out. I would like to know why the egg acts in that manner?"

"After an egg is laid, a chemical change begins to take place, and more or less gas is formed. This gas finds its way to the large end, and as the decomposition increases the egg becomes lighter at the heavy end, and finally enough gas is evolved to bring it to the surface."

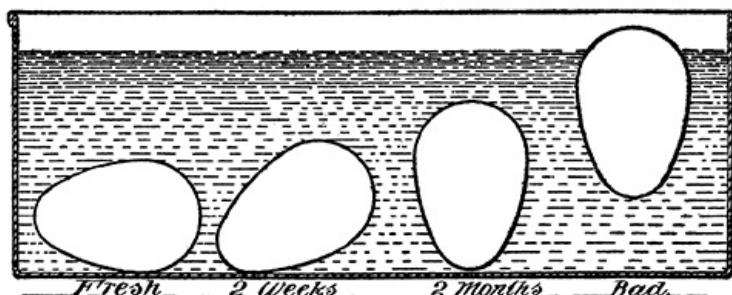


Fig. 15.

TESTING EGGS

Fig. 15. TESTING EGGS

The most important work on hand was the construction of the addition to their home. After considering the matter in all its details, it was concluded to put up a building entirely separate from the other structures, to contain four rooms, one of them to be large and utilized as a common living room, and the others as sleeping apartments.

The material had been taken out for the building, and the Professor, John, George and Ralph were engaged at this work, while Harry and Tom were engaged in the machine shop and were busy in turning out the barrels for new guns, as well as preparing the ammunition.

The tools in the machine shop were not numerous enough to advantageously utilize more of them there, and the building was now very important to them, as the four boys were compelled to sleep in the shop, for want of room in the house.

The joist had all been laid for the lower floor and the studding now being put up and the upper joist laid on preparatory to erecting the rafters. John was an expert in building, and was really the directing hand at the various steps in the operation. While engaged in the drawing up of the rafters, one of the floor pieces gave way, and John was precipitated to the floor below, striking as he fell one of the lower joist, which cut a terrible gash in his head and rendered him unconscious.

The Professor rushed over to the fallen man, and the boys were on the spot to render assistance. Chief, who was also an interested worker, was the first to grasp him with his powerful arms, and disdaining the assistance of the others, carried him to the house and gently laid him down, as the Professor directed.

Without a word he rushed for the jar of water and brought it to the Professor, who bathed his wounds, but the blow was so severe that he exhibited no signs of returning consciousness.

Harry and Tom rushed over to the house in consternation, and exhibited the greatest grief.

[163]

"Do you think he has been badly hurt? Do you think it is fatal?"

"It is still too early to determine that. See this wound? It was a terrible blow. As it is, directly above the ear, it may not be as serious as if he had been struck forward nearer the temples."

During the entire day John lay there, breathing with some degree of regularity, but with a greatly accelerated pulse, and the Professor was constantly watching this phase of the case.

There was little sleep that night. All were too anxious to retire. Chief was on hand without a moment's intermission. George prepared the meals, but the native never left the room even for the purpose of taking refreshment, and it was really pathetic to see this exhibition of sympathy, which was constantly alluded to by the Professor.

"The Chief has in him the making of a man. The surest indication of a real human trait is just what he is showing. The lower man is the less he cares for his fellows."

During the night the fever was close to the danger point, and the Professor never left his side. As the day advanced the fever abated, and his breathing became more normal. Before noon there was a marked change. On the day of the accident, and during the night, John lay there motionless, and, aside from his regular breathing and a few periods of spasmodic twitchings, there was nothing to indicate that he was living.

But he now became restless, and occasionally opened his eyes, and all stood intently watching him. All through this period his face was pale and drawn, but a color began to come, and he turned his head from side to side, and the intervals between the openings of the eyelids became shorter. At first the eyes gave a glassy stare, but now at each recurring stare the eyeballs would turn and search the room, and although he would gaze in the faces of the watchers, the look did not indicate recognition.

[164]

Suddenly he opened his eyes wide, and grasping the covers drew himself forward and upward slowly, turning his head around from side to side. The Professor held out his hand, as a warning not to disturb him. He sat up and gazed first at one and then at the other.

What a wonderful difference was exhibited in the eye. It was bright and lustrous, and every glance betokened a question. Not a word was spoken. It was so tense that the boys appeared to be hypnotized. When he had fully taken in his surrounding, he grasped the Professor's hand, and said: "Where am I? Who are you?" Without another word he sank back on the pillow exhausted, and the Professor leaned over him and quietly said: "You are yourself again; and we are your friends."

"Friends; friends," he muttered to himself. "Yes; yes, I remember," and his eyes closed, his limbs relaxed, and he passed off into a quiet sleep.

The boys filed out of the room, and the Professor, with a smile, despite the tears that fell, walked out without saying a word, nor did the boys ask any more questions. The Chief never moved, but kept his eyes on John, and he did not even heed Angel, who came down from the rafters quietly, and passed out the door, and stood beside George, and leaned his head against him, as the boys began to whisper to each other.

[165]

The boys had witnessed a scene which it falls to the lot of few to experience. The awakening of the faculty of remembrance is one of the greatest mysteries of human existence.

John slept for three hours, and there was no thought of work or play. Barring the occasional visits of the Professor to see the patient, they were together. It was one of the most remarkable events in their lives.

"Isn't it singular," asked George, "that he has never been able to talk since he has been with us?"

"The medical term applied to the loss of that faculty is called aphasia. The function of speech seems to have its seat in a portion of the left side of the brain, and when that portion is diseased or injured, it affects the speech in many ways. Sometimes the sufferer knows what he wants to say, but cannot utter the word; at other times he will say the wrong thing, knowing that he is doing so, but utterly unable to prevent it; it also shows several other phases where the sentences become disjointed, or meaningless, not due to lack of intelligence."

"Has no way been discovered whereby the diseased part can be cured?"

"Operations have been performed with remarkable results, but not with uniform success. In some cases where the speech center is destroyed, a new brain center has been developed, and the lost power of speech recovered." [166]

"I cannot understand Chief's intense interest in John," said Tom.

"That is a peculiar thing. The savage, no doubt, considers him demented, and it is a singular thing that people of low intellectual order among many people, believe the insane person is exalted, and are sometimes treated as deities."

Before noon the patient began to move about uneasily, and soon thereafter awoke. The moment his eyes opened he looked at the Professor, who said: "You are so much better. Are you hungry?"

In anticipation of this event the Professor had asked the boys to prepare some delicacies for him the moment he awoke.

As he had eaten nothing since the morning of the day before he replied affirmatively, and after he had eaten and the wound in his head was dressed, he began a series of questionings on every conceivable subject.

"We are on an island, and there are a number of tribes here, with incessant tribal warfares between them, and it appears that the principal occasion of the wars is due to the possession of the captives which they take from the toll of the sea. I was one of several unfortunates shipwrecked here over a year ago, during one of the worst storms that I ever saw at sea."

"It was undoubtedly the one which we experienced, although we were the occupants of a ship which had an explosion, and we were left adrift when this storm was brewing. But I must advise you to remain quiet for the day, until you regain your strength, and we can then tell our story, and we shall be glad to learn yours." [167]

It was a joy to all to know that John had recovered his memory, and Harry was anxious to present the match box, to see whether it was his, but the Professor advised against exciting him in the least until the following day.

The Professor had not even asked his name, as he wished all to be present when the revelations were made. During the most of the day John slept. It appeared as though nature had exhausted herself in bringing about the cure. The wound, however, was a most serious one, and the Professor knew that the utmost care must be taken with a fractured skull, to prevent the setting in of complications which might injuriously affect the brain.

"Do not feel any alarm about him now," was the Professor's injunction; "he is not at this time in a serious condition, and I believe his remarkable constitution will pull him through without any further trouble. In the meantime, let us proceed with our work, and give him ample time to recover without any sort of harassment."

All returned to their duties with more cheerful hearts. It seemed as though something had been lifted from their minds. The second day after the event following the restoration of his reason, John would not be left in quiet any longer. [168]

He sat up in his couch, and looked over the boys, as he greeted them heartily.

"Do you remember me?" asked Harry, as he held his hand.

"Yes, I remember all of you, but I cannot remember how you came to me, or how I met you, or where. I know that we went together on a journey, and I saw some things that made me think of things in the past. I don't remember ever having been in this place before."

"Don't you remember the shop, and the water wheel, and the building of the house?" asked the Professor.

He looked around in a bewildered way, before answering: "The shop and the building? Where—when was that?"

"At the time you fell from the building, four days ago?"

"Fell from the building—what building?"

"What do you remember about the trip we made?" continued the Professor.

"I remember that we had a glorious fight, yes, several of them, and I remember some brave boys, the noblest fellows I ever saw—and you are the boys—I can remember you well—I never saw braver men in battle; and I also remember seeing something which you gave me," and he searched his pockets, and looked around to try and remember what it was. "Probably, that was a fancy only—let me see," and he stroked his forehead, as if trying to recall it.

Harry reached down in his pocket and drew forth the match safe and held it before him. "Is this what you mean?"

He grasped it, and eagerly exclaimed: "Yes; that is what I mean."

"Are those the initials of your name, and is your first name John?"

"Yes; John Lewis Varney. But who are you, and how did you come here?"

"My name is Harry Crandall, and this is the Professor who was with us on the schoolship *Investigator* when she went to the bottom of the sea, following an explosion."

"The *Investigator* that was to have sailed from New York in September"—and he looked around, "September, last year?" he asked inquiringly.

"Yes," answered the Professor; "and this is George Mayfield, and here are Ralph Wharton and Tom Chambers. Do you remember we rescued them on the trip?"

He looked to the floor for a moment, and then slowly said: "I recall that also, but I do not remember how we got away from the savages."

At that moment his eyes fell on Chief, who had witnessed this remarkable scene, and he started up and leaned forward, and spoke to the Chief in his own language. This effect on the savage was electrical, who rushed up to the couch and clutched John's hand. Then turning to the others, John continued: "Uraso knows me, but I doubt whether he recognized me in this bearded appearance, because when our acquaintance began my face was smoothly shaven, and I had an entirely different attire from what I acquired later on."

"We are all intensely interested in knowing your history, and how you came here; but first tell us what you knew about the *Investigator*. You seemed to know about the sailing date."

"I was booked to sail in her as one of the instructors, but a serious illness, contracted in Africa, from the previous visit there, prevented me from accepting the berth, and she sailed without me."

"Isn't that a singular coincidence," exclaimed Ralph. "My uncle told me that one of his tutors at college, by the name of Varney, would be on the ship, and that is one of the reasons he so strongly urged me to sign for the trip."

"Your name—what was his name?"

"Stratton; James Stratton?"

"Jim Stratton, the big, healthy, jolly boy! Everybody liked him. And you are his nephew?"

Then turning to Chief the Professor asked: "Do you remember when and how we captured him?" John looked and tried to recall the incident. "No, I do not now think of anything which is familiar, nor do I remember seeing him until a moment ago."

"But if you are not too much exhausted, we would be interested in the history."

"I do not suppose that my history, previous to reaching the island, would be very interesting, but as you have asked it I will briefly relate it."

CHAPTER XIV

JOHN'S WONDERFUL STORY

"I was born on the Atlantic seacoast in a small New England town. My parents were the richest people in the community, and it was their ambition, as it was mine, to finish my education at one of the great universities there; but shortly after my entrance as a student the entire fortune of my parents was swept away, and I was compelled to seek employment.

"I was provided with a place in a commercial house in which my guardian was interested, and the only consideration shown me during the six months I remained there was the amount of work they could get out of me. Like many other boys I ran away, and took a position on a sailing vessel. This was the turning point in my career.

"I was fortunate enough to fall into the hands of a captain who was, undoubtedly, an exception to his class, but he had in early years been a pedagogue, and seeing the disposition on my part to make a constant use of his library, of which he had a most wonderful store, he took me from the drudgery, which was my early lot, and made me his assistant.

"I was a good penman, and before long I was entrusted with the position of recording and entry clerk for the ship, and I took charge of the log, and did things of that kind under his supervision during the long trip to Chinese waters.

"The trip among the western islands occupied two years, and I became an expert skipper as time went on, and many, many hours he and I sat up together and perused the wonderful books he had, and discussed a wide range of subjects which the readings suggested. It was a feast for me, and it was such a pleasure to him, which I know was real and unaffected.

"Three years after my sudden disappearance from New Bedford the ship sailed into the harbor, and the first one to greet us was a beautiful girl, the daughter of the captain, and the first most graceful act of his was to bring her over to me, and I was presented to her.

"I do not know how I ever passed the days of the following two weeks. Everything was a dream to me after I saw her, and I often imagined that the captain knew what my symptoms were. One day he called me to the cabin and said: 'John, how do you feel about signing for another term of three years?' My heart was so full that I answered: 'Why for three years? Make it for as long as I live.' The captain smiled and stroked his beard for a while, and then his countenance changed, and he said, 'John, you know I am blunt and open in all my dealings, and you haven't been treating me in that way.'

"That was the only time in the entire three years he had ever upbraided me, or found any fault, and I was so dumbfounded that I did not know how to answer, and when I recovered and inquired in what manner I had offended him, he replied, 'I did not say you had offended me. But you love Harriet, and I know you do, and you have been trying to hide it from me.'

[173]

"How had he learned that she and I loved each other from the moment we first met, and that we saw each other at every opportunity, and made mutual confessions of love? I started to apologize, but he began to smile again, and I knew it was not so serious. 'Yes,' he continued, 'I have charged Harriet with it, and she confessed, so it will not be necessary for you to defend yourself.'

"We were in port for three months, and Harriet told her father that she could not bear to have us both go away, and before the ship sailed we were married, a fine suite of rooms was set aside for our use, and I became the first mate of the ship, as well as the first mate of the most beautiful woman in the world.

"Thus I passed a year of the happiest days that it was ever given man to enjoy. Together we gleaned the library for our recreation, and with music and song, it was one continual revel of bliss. But one day we steamed into a plague-infected port, where quarantine regulations in those days were not the best, and before we could take the proper precautions the captain and my wife were stricken.

"The terrible story that followed, the days of ravings, and finally the death of my wife, are too tragic to repeat in detail. The captain recovered, and, singularly, I escaped, and as soon as he had partially recovered I ordered the ship to sail away from that accursed place.

[174]

"When the captain recovered he was a changed man. His daughter was the only thing to him in the world, and her happiness had been the greatest delight and pleasure. But now he rarely appeared at meals, and the handling of the ship devolved on me. I could not rouse him sufficiently to learn what course to take or what disposition to make of much of the cargo.

"Two months after the sad event he called me to his cabin, and he was lying down, weak and emaciated. 'I have asked you to come because there are some things I want to place in your hands. I have no further use for them, as the effect of the plague has never left me, and I am glad of it.

"'You may break the seal of this when I am dead.' This was most heartrending, coming from a man I loved better than any one in the world excepting my wife. He died that night, in silence, and without a soul near him.

"We were then on the broad sea, west of Australia, and before the funeral services were to take place I opened the sealed package, and I learned that the ship and cargo, together with all securities and funds in the hands of his bankers, were willed to me, and I was enjoined to commit his body to the sea.

"I changed the course of the ship to the nearest port, and sought the United States Consul, in order to register the papers, and to establish, by the record there, the new ownership of the vessel.

"When I returned to the ship something seemed to prevent me from going aboard. It was such a weird and ghastly feeling that I did not rebel against the warning. Indeed, I was relieved that the indescribable something, which men sometimes in that condition feel, turned me away. The only thing that remained close to my heart were the things that my loved one wore, and those things she treasured, and the store of books.

[175]

"All those I had removed, but I could never go aboard that ship again. I advertised the ship for sale, and it soon found a purchaser, and I was a wanderer on the face of the earth. My parents were both dead, and I had no brothers or sisters living.

"Where should I go, or what pursuit should I follow? I went through India, listlessly, and from a Mediterranean port sailed for England—anywhere. But we landed at Gibraltar. There I saw a troop of smart English on the way to Africa. I was imbued with the spirit of adventure, and I offered to join, but was refused, as I was not a subject of the Queen. But later I knew how to correct that, and I sailed with the next detachment to the south, and for two years I took part in the Matabela campaign, where the fighting was more bitter and relentless than in any colonial contest England had ever engaged in. I was severely wounded, and sent to England at the close of my term of service and received an honorable discharge. In the meantime I learned that all the funds from the proceeds of the ship had been swallowed up in a bank disaster, where they had been deposited, and I was left with nothing but the little I had saved.

[176]

"My discharge finally served the purpose of securing me a position as a tutor to a young lord, and through him I later on obtained a berth as instructor in a well-known institution. But this was too tame for me. I went to Greece and entered the army, and fought through two campaigns against the Turks, and when the war ended I took the first ship and sailed for New York.

"Within a day after landing in that city I joined the army and was sent west, where, within six months, it landed me in a campaign under General Crook against the Apaches of the Southwest, and was present at the capture of Geronimo, the most bloodthirsty devil that was ever permitted to live. From there we went to the north, and we had a repetition of the experiences against the most skilled warriors on the American continent, the Siouxs and the Arapahoos.

"When my enlistment expired I had earned a lieutenancy, but I had tired of the turmoil of the past six years, and returned east and then accepted a position as Professor of Philosophy in the college where Jim Stratton was a student.

"I was always fond of tools, and the machine shop on board our vessel was a constant source of enjoyment, and before I sold it I had become so proficient in the use of tools that I could make anything in wood or iron.

"I enjoyed teaching, but the life was not free enough for me, and after five years of that drudging life I sailed for Europe, and again visited India, going to all the great ruins; then to the scenes of the vast exploring fields of the Archeological Societies, in Arabia, on the plains of Babylon, and in Syria. From there I turned to Egypt, the land of the greatest mysteries on earth. I went up the Nile far beyond Khartoum, and tried to interest myself in some of the interesting things that men are constantly bringing to light, and which go to show the great antiquity of men. I joined a caravan to traverse the White and the Blue Nile, and to go over the trails made by Baker and Livingstone and Stanley.

[177]

"Here, at last, seemed to be my work. It had enough of the charm in it on account of the hazard which accompanied us on every step, and this for the first time put me on my mettle to learn to dig out the hidden secrets, which caused it to be called the 'Dark Continent.'

"Am I tiring you? Well, then, in company with another adventurous spirit we traversed the most remote parts of that vast interior and met with adventures which may some time interest you. Thus four years were spent, without seeing civilization, and in a region where men hunted men for the pleasure of it.

"I was hunting them, too, but it was not living men, but those who had died thousands and thousands of years ago. But that terrible sickness, the jungle fever, took hold of us, and when we emerged from the forests, and found our way to the nearest settlement my companion died, and I was again thrown back on the world.

"As soon as I could travel I sailed for New York, and the first man I met was dear Jim Stratton, who insisted that I must take a position as archeologist in the college with which I was formerly connected, but this I declined, and seeing me in an emaciated condition suggested that the position of professor of philosophy in the ship training school would be the very place to give me the benefit of sea air and employment—the latter, particularly, because he knew how I had always been a fiend for work, and that I must be busy at something.

[178]

"I accepted, but a month before the ship sailed I was taken down with another serious attack, with complications of diseases, and recovered a week after the *Investigator* sailed. I took the train for the west, expecting to take advantage of the mild climate of California during the winter, and when I reached San Francisco I was greeted at the hotel by an old acquaintance who invited me to his room for a talk on a very important matter.

"It turned out that he and a friend, who had considerable money, were about to purchase either a good, strong sailing vessel, or a small steamer, which was to go in quest of buried treasure which the chart had indicated, this treasure being the freights of many of the Castilian ships of the seventeenth and eighteenth centuries, and in certain places the hoards of the buccaneers that infested the western seas.

"Here was an opportunity to recuperate, and it had plenty of action in it to suit me, and I joined. We sailed from the port in the latter part of December, about the time you were passing through the Straits of Magellan.

"We had a fast sailer and a staunch boat, but my friend was unwise in the choice of the sailing master, but this did not hamper us much during the ordinary course of sailing, but in a short time he with several others of the crew attacked us and attempted to capture the ship. In the battle which followed my friend was killed, and his friend dangerously wounded. This was the condition of affairs when the terrible monsoon struck the vessel.

[179]

"That terrible sea and the danger to the ship settled all difficulties. The master was too full of drink to take charge of the ship, and the mate was not much better. I took command, and for four days we maneuvered the ship to keep it from foundering; at the end of that time the master recovered momentarily, and, securing possession of a revolver, cleared the deck and prevented us from handling it.

"He resisted every effort to capture him, and as a last resort I was compelled to shoot him. This was a signal, notwithstanding our perilous condition, for the intimate associates of the master to range themselves against us, for we now had only four men against the seven who were in

league.

"I did not want to take human life, and I refrained from this last step, and as the ship was bare of sails and we were in position to control the tiller we passed two days and a night, with only a few crackers for food, and almost exhausted from the strain.

"Night was approaching, and with not a star in sight, and in no condition to take any reckonings, we made up our minds that we must somehow fight our way through one more night before giving up. The mainmast was a wreck; the shrouds on the port side having been torn from the gunwale the second day of the storm, and the entire deck was one mass of debris and wreckage. [180]

"It was a dangerous thing to move along from one part of the deck to the other, as this loose accumulation of material, at each successive lurch, would be tossed first one way and then the other. This was one thing that kept the villains at bay, but it prevented us as well as themselves from getting any food.

"In desperation I took my revolver, and, at the risk of my life, at every step, forced my way to the pantry and found some food. Before I reached the bridge the roar of the breakers fell upon me, but the darkness was now too intense to enable me to see anything, and I knew that our next great catastrophe would be the rocks.

"I never reached the bridge again, for the vessel struck, and with a terrific grating sound it moved toward land, and then a giant hand seemed to lift it upwardly, and I knew no more. When I awoke, which must have been along noon of the following day, I saw one of the sailors dead, not fifty feet away, and the master of the ship was close beside me, with an indescribable mass of wreckage all about.

"When I had recovered sufficiently to judge of my surrounding, I went over to the master and to the sailor, and saw that their pockets had been rifled, and I instinctively put my hand to my pockets, to find that everything, my watch, this match box, which was a present from my wife, my knife and everything in my pockets were gone. [181]

"From this I knew that such of my companions as had been saved had gone off, without making any attempt to ascertain whether I was alive or not, and had taken my things besides.

"I had my clothing, which was still wet, but I was glad to be alive. That seems singular, doesn't it, when I had thrown myself time and again right into the jaws of death! I saw a barren shore, but found plenty to eat as I advanced into the interior. I went to the south and southeast for the first day, and soon saw the first signs of human habitations.

"Then I came across a tribe of savages who were sacrificing some human victims. It dawned on me that it might have been some of my companions, and a spirit of revenge possessed me. But I had no weapons, but relying on my experience in eluding savages, I crawled up to the village, during the height of the orgy, and slew one of the warriors, and took his weapons, as well as his headdress.

"But I was discovered and brought the entire tribe down on me. I avoided them, doubled on my tracks, and ran into another branch of what proved to be the same tribe, as the headdress plainly showed me. I again avoided capture, and in going through the hills discovered a cave, in which I took refuge.

"To my surprise the cave was tenanted by a certain class of savages, and I had reason to believe that it was the abode of the medicine men of the tribe, or the Hoodoos, because the warriors avoided it as they would a pestilence. I found some wonderful things in that cave, in which I secluded myself as best I could to avoid detection from those within. [182]

"But I needed food, and one night stole out, only to learn that they had known of my entrance into the cave, and was driven back again, and making my way into the interior, how far I do not know, lay down exhausted, and, on awakening, not knowing which way to go, heard the voices of the savages, and in going in the opposite direction was surprised to see a streak of light ahead.

"Approaching near the entrance, waiting there for hours, and not seeing or hearing them, cautiously crept out, and found that the sun had risen several hours before, but that the opening was to the western side of the hill and I had entered it on the eastern side."

"Won't you tell us, John, how you knew it was to the west, and that it was morning?" The boys looked at George a little queerly, and so did the Professor, and he quickly divined the reason, and continued: "Pardon me, Mr. Varney, but we have been in habit of calling you John so long that I forgot myself."

"You have been calling me John? How did you find out my name?"

"We simply took that as the most convenient name; but please go on and forgive me for interrupting."

"No apology is necessary. I hope you will know me as John only. But you asked me a question. I examined the moss, which in the southern hemisphere grows more abundantly on the south side of the tree; just as in the north it grows only on the north side. As to the sun, if it had been afternoon it would have been to the west of the hill and not to east of it. [183]

"Having emerged from the cave in the vicinity of the last village another flight was necessary,

and I turned to the south, reaching a large stream in my wanderings, and, in order to avoid capture, swam it in the night. I still had the bows and a dozen arrows, together with a crude hatchet, which was taken from the warrior.

"The flight was continued to the south, and thus I lived from day to day for over three months, occasionally seeing the various tribes. Then for a period of two months more I was hunted over the entire southern portion of the island, and finally driven into the mountain. Between six and seven months after the shipwreck, in a moment of carelessness, I was taken by a tribe in the south, and held in confinement for over a month, when I was to be offered up as a sacrifice.

"On the day appointed there was a terrible uproar in camp, and I could see that a neighboring tribe had attacked, and escaped, only to be captured by the successful invaders. This was the tribe that Osaga, here, was a member of. Again escaping I secured one of their spears and a bow with some arrows, and fought my first captors with such determination that Osaga's people became my friends and I was given limited liberty, and began to learn the language. [184]

"Before long the two most powerful tribes united and attacked us, and defeated Osaga's people, and I escaped to the mountains. This was fully eleven or twelve months after being cast ashore, and on the last day they were in sight I can remember going down a steep precipice. The only recollection of my former self came day before yesterday when I awoke from a refreshing sleep." [185]

CHAPTER XV

CHIEF AND THE POISON PLANT

John was visibly exhausted from the effort he had made, and soon passed off into a quiet sleep. During the evening the Professor suggested that they might retire to the shop, so that he would not be disturbed, but John insisted that it was so good to hear their voices again, and would like to have them all present.

Harry and George kept them interested a great portion of the time with stories of their adventures. They told about the bear fight for the possession of the honey; the shooting of the wild animals in South Forest, the making of the flag, the capture of the yaks, the flagpole incident, the fight between the bulls, and the amusing affair connected with the removal of the yaks to their new home.

This latter occurrence is what amused John the most, and suggested that probably if they had adopted some of the hitches which sailors used the yaks could have been controlled more easily. This interested George.

"Won't you please tell us something about the hitches and knots which the sailors make?"

"They have a great many forms, each designed for some particular purpose, and if you get a rope I will try and give you some of the principal ones. Get a piece long enough so that the knots and hitches can be kept for future reference." [186]

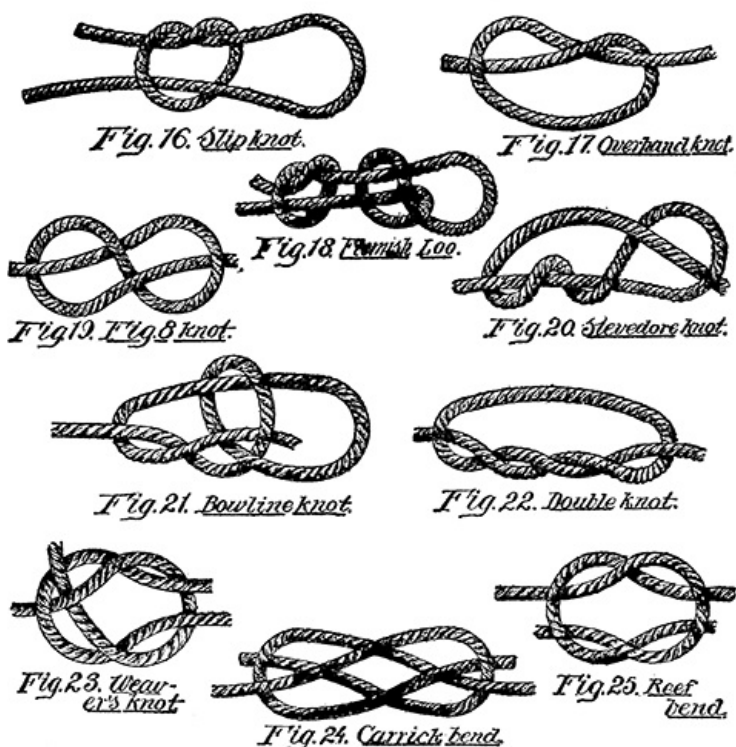


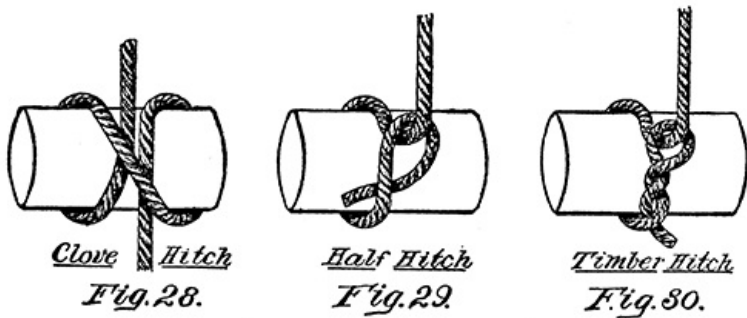
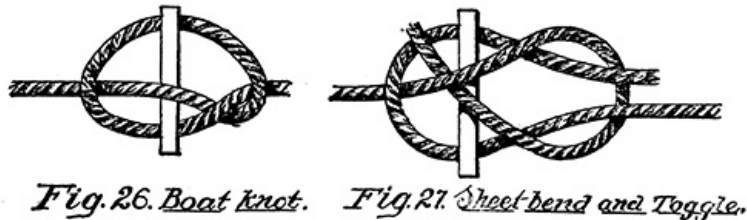
Fig. 16. Slip knot. Fig. 17. Overhand knot. Fig. 18. Flemish Loo. Fig. 20. Stevedore knot. Fig. 21. Bowline

*knot. Fig. 22. Double knot. Fig. 23. Weaver's knot.
Fig. 24. Carrick bend. Fig. 25. Reef bend.*

He then proceeded to make the knots, and continued: "The seven knots (Figs. 16 to 22, inclusive) are made at the ends of the rope, as you will notice, and are the forms used to attach the rope to an object. In the next three forms two ropes are attached to each other, and are usually called 'bends' (Figs. 23, 24, 25).

"Then, in addition to that, the sailor has several ways of attaching the rope by a hitch around a standard, or other object. Look at these two forms (Figs. 26, 27). Look at the boat knot, where the hitch is made in the rope itself; and the sheet bend toggle, where the ends of two ropes are attached together to a standard or cleat. And now I am making what are called hitches, and the three forms (Figs. 28, 29, 30) are the best examples."

[187]



*Fig. 26. Boat Knot. Fig. 27. Sheet bend and Toggle.
Clove Hitch Fig. 28. Half Hitch Fig. 29. Timber Hitch
Fig. 30.*

Thus the conversation drifted from one subject to another, covering a variety of interesting topics. George reminded the Professor that he had not yet explained to them what the spectroscope was, and its uses. He laughingly responded:

"That instrument is one of the most wonderful in all the ranges of human discoveries. By its means the elements of substances are determined, and the composition of the heavenly bodies are ascertained."

[188]

"In what way is it done?"

"Simply by using light as the agency."

"Is it like a telescope?"

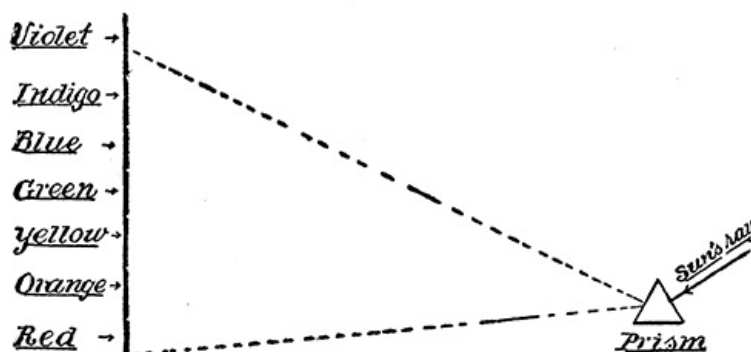


Fig. 31. The color spectrum.

Fig. 31. The color Spectrum.

"No; entirely different. It depends wholly on one thing, and that is the breaking up or dividing the light that comes from an object. Let me make this a little plainer. If a ray of sunlight is allowed to pass through an orifice into a darkened room, and in the transit through the opening it goes through a prism, or three-sided piece of glass, the light produced on the opposite wall will show the seven colors of which sunlight is composed. The drawing (Fig. 31) shows how this is arranged. Now iron shows these colors differently arranged, aluminum in another way, and so on with all different substances, and the light projected from each is called its spectrum, its

particular analysis."

John's recital during the day had produced a powerful impression on all, as well it might. It shows what wonderful trials men can endure. Ralph and Tom were frequently affected by it, and at times could not prevent tears from coming. They recalled their own sufferings.

[189]

The Professor thanked John that evening for his story, and said: "We must not tax the patient with any more talk to-night. We have learned a lesson of perseverance and trials. The history of man is always profitable, and we are thankful for the news it gives us of the people here but you must be patient and wait a more opportune time to hear our story, and then we can advise with each other as to our future course."

The boys were early in conference with each other after they left John, because there were some interesting things to them in John's story, which needed clearing up.

"Did you hear what he said about that cave?" was Ralph's first question.

"Yes; and I think I know where that cave is?" answered Harry.

"Where?" asked Tom and George in a breath.

"Right at the camp where we found you."

"Oh, you mean that cave we found at the hillside after we started for the river?"

"Don't you recall that John took me around to the mouth of the cave, and when we said that we might use that to hide in, he shook his head, and moved away?"

"I thought the Professor acted queerly about it, too, because he urged us away from the place."

All remembered the circumstance, and they also recalled that the Professor gave a vague reply when they asked him the reason why.

[190]

George cast a scrutinizing glance at Harry, who waited for him to speak. "Harry, do you think he found any treasure in that cave?"

Ralph and Tom now opened their eyes in wonder. Was that what he meant when he said there was something wonderful there? Harry looked at the boys for a moment, in the intensity of the situation, and said: "And we have also found a cave." But the eyes of George caught Harry, who suddenly stopped, because he recalled their agreement not to divulge it to the boys until the matter was mentioned to him.

"Where is it?" exclaimed Tom, eagerly.

"Not far from here."

"Will it be much trouble to visit it?"

"No; and we shall probably do so some day."

An island full of bitter and vindictive savages, and a handful of men to meet them. It looked, indeed, like a hopeless task. John's story left many things unsaid; many things that they longed to know. Who were Wright and Walters, whose names were in the note found in the *Investigator's* lifeboat, and who was Will, the writer of the note?

The Professor was just as anxious as the boys to have those matters cleared up, but he knew it would be unwise to tax his strength with a further recital, and the inevitable questions which would be propounded, and it was well that his injunctions were followed, because he was not yet well by any means, and the further news which they awaited was postponed.

[191]

In the evening Ralph had the flute, but the bass viol was not yet ready, so that the two instruments gave a little diversion to the day of excitement and wonder.

John's illness did not now interfere with the work on the house. It was pushed forward with the greatest energy, the roof and sides enclosed, and they were now nearly ready for occupying it, by the time John was again able to be about.

Shortly after they had made the first samples of glass, some months before, the trip to the west had postponed the work in that direction, and the Professor, with the aid of George, turned out the first samples of glass, which they intended to use in the new building.

"Why can't we have a looking-glass? It would be such fun to set up several of them."

"I think we have sufficient mercury for the purpose," answered the Professor; so calling in Ralph they set to work, under the Professor's direction, to make some mirrors.

"The principal thing in mirrors is to get a white reflecting surface. Silver and mercury are metals which lend themselves to that use. If you polish anything bright enough it will serve as a mirror, but the whiter the surface is the better."

"Then why wouldn't white paper be the best?"

"It would if you could get a fine polish on its surface, but the finest surface on the densest paper is not as smooth as the polished surface of the metals."

[192]

"What is the best way to make the mirror?"

"The most available plan for us to follow is to make an amalgam of tin and mercury."

"But what do you mean by an amalgam?"

"It means the combination of mercury, or quicksilver, with any other metal."

"Will it be difficult to combine tin and mercury, so as to make an amalgam?"

"That is one of the simplest things in the arts. Tin and mercury unite by merely rubbing them together; see how easily they combine to form just such a surface as you want."

"Isn't that fine? But as that shines so nicely, what is the need of putting a glass over it?"

"Simply to protect the amalgamated surface."

The largest piece of glass thus far made was sixteen by twenty-four inches, and the boys selected the most perfect pane, and in a short time a very good mirror had been turned out.

"It has occurred to me that it would be good policy to make a number of small mirrors, say six inches square. They would be a valuable asset to us in our next expedition."

This opened the eyes of the boys to the commercial utility of the work they were engaged in for the first time. George rushed over and brought Tom and Harry to the laboratory, and exhibited the mirrors, and explained that they intended to make a number of small ones to take with them.

"That is a capital idea. Won't the natives go wild over them?"

They were at work at once, first cutting up some of the glass the requisite size, and before the afternoon closed they had several small ones in addition to the large one.

[193]

The large one was carried over to the living room, and when it was brought in and hung against the wall John's face lighted up, when they told him of the work required to turn out the glass, and to make the amalgam.

"What a glorious opportunity you boys are having. How anxious I am to get up and help you. What a splendid mirror that is. You surprise me with the character of your work."

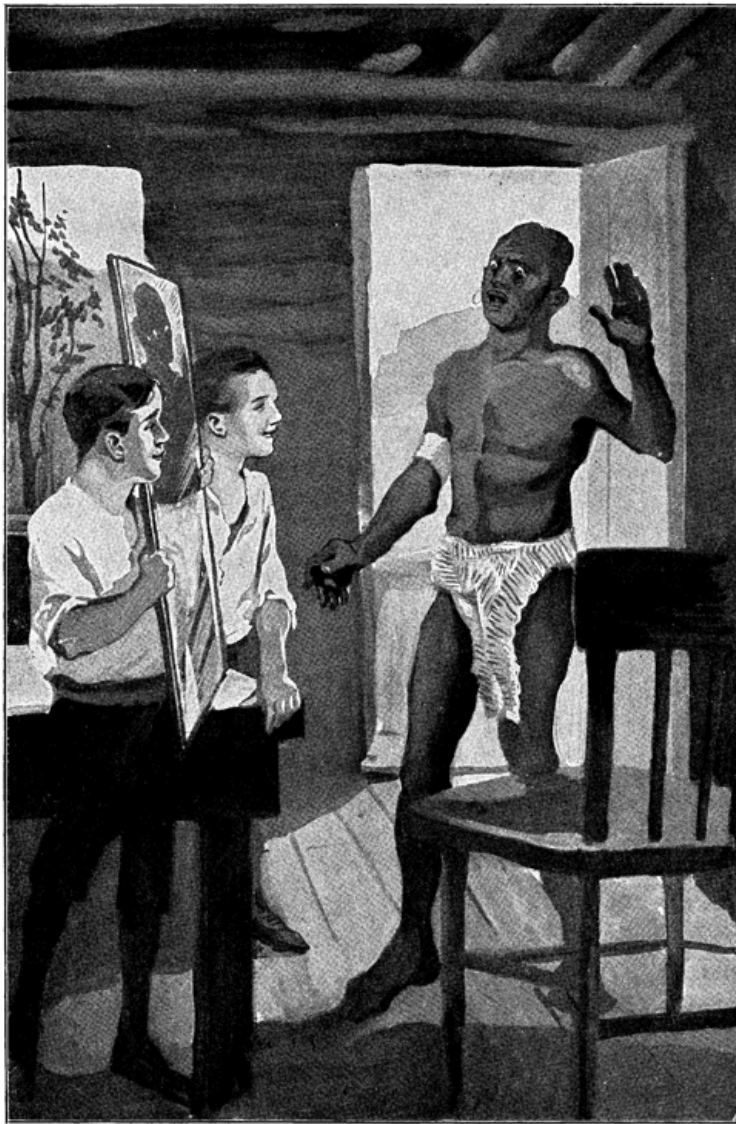
"We are going to have real windows in the new house."

At this instant Chief appeared at the door, and as he moved forward in front of the glass he started back in fright as his own image appeared to him. All of them laughed, and as he was now at one side of the mirror he could not see himself. But Harry mischievously turned it, and then it dawned on the Chief that it was simply a perfect representation of himself.

All savages know of the glistening qualities of surfaces, but few of them, as was the case with Chief, had ever seen any made with the white amalgam, which, of course, made a perfect counterfeit resemblance.

But Harry delighted him beyond measure when he presented one of the small mirrors, and George took a piece of the ramie cloth and folded it around the mirror, a proceeding Chief could not understand until John showed him it was for the purpose of preserving it.

[194]



"He started back in fright as his own image appeared to him"

[See p. 194]

"He started back in fright as his own image appeared to him"

[See p. 194]

He kept it in the cover religiously from that day forward, except at such times as he was employed in examining it.

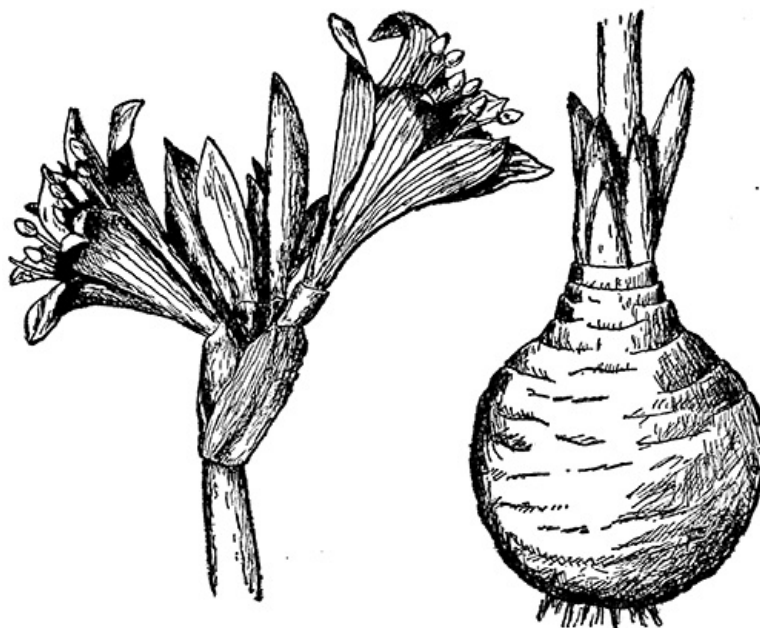


Fig. 52. Amaryllis. Chief's Poison Vegetable.

Fig. 32. Amarylla. Chief's Poison Vegetable.

When Chief appeared it was not noticed that he carried a curious looking bulb, and when he sat down to experiment the mirror several of them fell from the pouch or pocket which was put in the garment which had been provided for him.

The Professor saw the bulbs and picked up one of them and glanced about the room, and then looked at John in a questioning way. The boys noted this. Nothing was said at the time, but as the Professor passed out George followed him.

[195]

"What was that bulb you picked up?"

"It is the root of the plant called Amarylla, and it is in the juice of this plant that certain savages dip their arrow-heads for poisoning them."

This information was not a little startling and disquieting to George, who rushed back and quietly called out the boys. "Do you know what Chief has been doing? Did you see the peculiar bulbs he had? The Professor picked up one of them, and what do you suppose it is? It is the root from which they make the poisons for arrow-heads."

Harry could not believe that the savage had any designs on them. "I suppose he will bear watching, so let us see what he intends to do with them!"

When Chief had admired himself sufficiently he took the bulbs to the kitchen and placed them in the oven, as the boys called it, and when George came in he was smiling, as he thought, in a very peculiar way. George did not disturb the bulbs, and when the meal was brought in Chief was on hand and went to the kitchen. He soon returned with the roasted bulbs and deposited them at the table.

The boys looked at the Professor, and he and John exchanged smiling glances, and both of them took the bulbs and began the meal with them in the most nonchalant manner. The boys could not understand the Professor's defiant manner in eating a poisonous bulb, and George cried out: "Didn't you say that the bulb was poisonous?"

"Yes, it is, for some things."

[196]

"Well, how can it be poisonous for some things and not for others. Don't the savages use the poisons of the arrows to kill people with?"

"Certainly; but it is used in that case as a blood poison. A blood poison is not necessarily a stomach poison. In truth, there are few poisons that are fatal to both the blood and stomach."

Chief had been slyly preparing this treat for them, as savages like the root, and all regarded it a welcome change, and it was that peculiar look which George wrongly interpreted. How often the motives of people are misjudged in the same manner, and without a more pronounced reason than Chief had!

When the meal was announced Angel, as usual, was the first to appear, and when he caught sight of his reflection in the mirror he thought one of his friends had come to visit him. It did not seem to startle him in the least, but like all children tried to look behind it.

The wall prevented that, so when George handed him one of the small ones, and he put his hand behind the mirror, the vacancy there is what alarmed him. When he did finally comprehend what it was, it so attracted him that he could not partake of the meal, but sat entranced before it.

After the meal he took the mirror to the rafters, and found a hiding place for it, and they would often notice him with it, but from that time forward he never brought it down into the room.

[197]

CHAPTER XVI

A SURPRISING TRIP TO THE CAVE

The house was completed and partly furnished. New bedding was prepared for the bedrooms, the Chief installed in one, and the other two reserved for John and the Professor. The new living room, which was commodious, served as a dining room, and a door was cut through from the old kitchen to the new dining parlor.

The other rooms in the original building were reserved for the boys. John was now fully recovered, and felt like beginning his task anew, although he did not recall any of the previous work which he was engaged in. Chief was progressing well in his education, and the constant source of wonder to all was that he did not take the advantage his liberty gave him to leave them.

One day John had a long conversation with him on the subject, and afterwards the boys were curious to know the result of the interview; but the result of the talk was not, apparently, satisfactory to John, and the subject was not pressed. He was entirely well, and took a keen interest in everything around him, and participated in the work. Each new phase had some special attraction, and as the days passed less anxiety was felt on this score.

In one of the evening conferences it was finally decided to make the preparations for a trip to the

[198]

portion of the island where the savages had their homes. This meant a good supply of weapons and ammunition.

The following circumstances determined them on this course:

The Professor, addressing John, on this occasion, said: "We were intensely interested in the review of your experiences on the island; but there are several things which we are anxious to know about, and in some particulars you may be able to supply the missing links. We have not yet shown you the message which we found in the *Investigator's* lifeboat, so that if you will get it, Harry, you may be able to tell us something about it."

This was the little slip of paper which had on it the following inscription: "We cannot hold out much longer. Wright and Walters were captured yesterday. Will."

Harry handed it to him, and he looked at it for some time. "I do not know who Wright and Will are, but Walters was one of the crew of the sailing vessel that we took from San Francisco."

"Had you any knowledge of any of the boats of the *Investigator* being on the west side of the mountains during the time you were in that neighborhood?"

"No; during my stay with the tribe to which Chief belonged I tried in every way to ascertain something about the fate of my companions. Only once during that time did I get any sort of knowledge on that point. When I tried to describe the men, all denied any knowledge of them; but pointed to the youths of the village, and I could not understand what they meant. That is now made plain to me, as, undoubtedly, they meant the ones referred to were boys."

[199]

"And, now, there is another thing I want to know from Ralph and Tom. Did either of you have a photograph of some of the boys on the ship?"

George found the photograph which they had taken from one of the warriors in the second day's fight.

Ralph and Tom both declared that it was the first time they had ever seen the photograph, and on closer examination it was seen that while Harry and George were shown on the picture, neither of the other boys' features were there.

"Did either of you boys know of any of those mentioned in the message?"

"I knew a Will, but I do not remember his last name. I do not think Wright was the name of anyone on shipboard. I am sure he was not one of the boys," was Ralph's answer.

This information pointed to two things clearly: That there were other boys, belonging to their ship, castaway on the island, and that at least one of the crew of John's vessel might be found. It also assured them of the certain knowledge that there were others, either wandering about, or sharing the captivity mentioned in the message.

"I should state here," continued John, "I was informed by one of the chiefs that their disposition to the shipwrecked mariners had been, in the past, a friendly one, but that some time previously, how far back I do not know, a crew had been saved, and instead of rewarding them for the service, had murdered one of the chiefs and committed such excesses, that in self-protection they slaughtered them, and, thereafter, took prisoners only in order to use them for their sacrifices."

[200]

The plans for the forthcoming expedition were now fully discussed in every detail. The first proposal was to build a vessel of sufficient size to accommodate the party, but to this John offered the same objection which they had theretofore found so potent when the last trip was undertaken. It would take too long, and when they reached the savages it would be necessary to make a trip or trips inland.

The situation now was entirely different. There was no longer a question in their minds as to the existence of savages, and, furthermore, they knew the location, and the knowledge of John was positive on another point: They were not located near the sea, and the most powerful tribes were far inland.

All these facts compelled them to undertake the journey overland. The wagon was the only means to transport their supplies, and as all except the Professor, were vigorous, they would be far better able to cope with the savages in that way than by the sea route.

Now let us see what was necessary for the purposes of defense. They had a force of six men, as Chief was not considered one of the force, notwithstanding his friendly attitude. They had ten guns, and Ralph and Tom had been engaged for weeks in turning out additional gun barrels, for which the stocks had not yet been prepared.

[201]

John suggested that twenty-five of the guns would be ample for almost any force that might be brought against them, and that provision should be made so that while in defense, each could carry two guns, by having one of them strapped on the back.

Ammunition was of more importance, really, than guns. They had learned this at the last encounter, and it was lack of this that eventually forced them to retreat.

On that basis, namely, of twenty-five guns, ten rounds would mean two hundred and fifty shells, and it was then considered that the most important thing would be to utilize the time of two for the purpose of making the shells. This was the most laborious process, as every step had to be

done by hand, the dies being in the form of separate punches, held and driven by hand, as they had no such thing as a press for manipulating the dies.

One morning Harry said: "I know it isn't the proper thing to suggest it while we are all so busy making the preparations for the expedition, but I think we ought to make a trip to the cave before we start."

Neither of them objected to the proposal, and George went to the Professor, and told him that he and Harry had conferred on the subject of the cave, and with his permission they would take the boys there.

The Professor's assent was given with a smile of pleasure, and several lamps were put into condition for the event. All was excitement now with the young spirits, and the Professor assisted them in the preparations. [202]

It did not take long to reach the mouth of the cavern, and lighting the lamps, descended slowly. Neither George nor Harry had informed the boys of the treasure within the cave, nor of the skeletons which were discovered, although, when the boys had asked the source of the skeletons in the laboratory enough of an evasive answer was given to make them suspect the source, and this was confirmed when Harry told them, days before, that they had also discovered a cave.

They descended the steps, and made their way along the passage leading to the first recess. As the chamber came into view the boys were entranced at the sight. It was a novelty to them. It was the first time they had ever witnessed such a thing.

To Harry and George it was no longer a thing to marvel at. They were veterans in the exploring field.

"This makes a fellow feel queer in here," exclaimed Tom, as he glanced around at the magnificent stalactites.

"Did we tell you," replied George, "about the mysterious thing that happened to us the second time we came in?"

"No; what was it?"

"We entered from the other opening by the sea."

"Another opening? Do you mean that this cave has two openings just like the one John spoke about?" [203]

"Yes; but this is a mighty long one, and it had a lot of water in it twice when we visited it, but I don't think we shall find any here now."

"Why not?"

"Because we have not had much rain for the past month."

"But you forgot about the mystery."

"That's so; we went in from the other end and had gone up nearly to where the water began, when we put one of the lights on a ledge, and went forward with the other, and when we had gone about a hundred feet, it disappeared, and we have never found it to this day."

"That does seem odd. Do you think it was taken by some one?"

"Well, we could not possibly account for it in any other way but that it fell off the ledge by some accident. How that could be possible I don't know, as George declared he had placed it in a secure position."

By this time they had reached the recess, and George suggested that the entire cave should be examined, and Ralph was somewhat in the lead. Everywhere was the universal whiteness of the calcareous deposit. As they reached the vicinity of the chests, where the copper vessels were, they formed a striking contrast to the whiteness all around.

"What are those things there?" asked Tom, stepping back in surprise, pointing to the vessels. [204]

Ralph peered forward, to get a better view. "It looks like kettles of some kind."

Harry passed the boys and walking up to one of the kettles, overturned it, and as a shower of the coins slid out, and rolled about, they were amazed beyond all description.

Ralph was the first to recover, and he picked up some of the coins: "Didn't you know about these? I believe they are gold; look, Tom. Did you ever see anything like this?"

Tom was stupefied. "I don't wonder that men will risk their lives to get treasure like this. Here we didn't hunt for it and we found it."

"Yes, but Harry and George knew all about it; didn't you?"

And the boys laughed an assent.

"Why don't you take it out of here?"

"Well, it seems to be pretty safe in this place; and if we should have been attacked by the natives,

we should have a place of retreat and have our treasure with us."

After putting the coins carefully back, Harry said: "Probably we may be able to discover something else." And he moved forwardly to the right, with Tom following close, and the boys pressing up to see what else might be found. There, at the place where the Professor had deposited them in a row were the five skeletons, and they presented such a ghastly sight that they shrank back in horror.

"We found these in a little different position when we first arrived."

"In what way?"

[205]

"They were in all sorts of positions in front of the recess, and some of them had the knives still sticking in their ribs, and one or two, one of which the Professor has, had a big bullet in the skull, which we took out and can show you."

"Where did you find these?"

"Right in front of the place where the treasure was found."

"Well, did they have a fight, do you think, for the possession of the treasure?"

"Undoubtedly."

"Now, let us go around to the other side of the cave."

It will be remembered that in the other portion of the cave the skeletons and the treasure, as well as the weapons, were left just as they were found by the boys, because they had never informed the Professor of their secret visit to the cave, when they discovered the chained captives and the skeletons about them.

The party passed around the first projecting wall which separated the two large chambers, and as they were moving along something sounded in the second chamber ahead. The boys stopped suddenly. In a moment more the same peculiar dull and ominous sound was continued, and it seemed to be very near.

The boys looked at each other in amazement. During all of the previous visits there had never been the slightest sound within the cavern.

"Possibly," said Harry, "it may be running water."

"It doesn't sound like water to me. I will—" but Harry did not have an opportunity to say anything more, as a terrific roar, like a cannon shot, rang out, and the boys were simply petrified.

[206]

"What do you think that was?" whispered George. They drew close together, and spoke in whispers.

"This will never do," declared Harry. "If there is anything in this place we might as well know it now as later. Will you join me in the hunt?"

And the boys responded with one assent. "Let us go to the second chamber. Come on, boys." And they bravely stalked down the corridor.

When the chamber was reached a hollow laugh greeted them, followed by two hearty laughs. The Professor and John had entered the opening at the sea end, and hurriedly made their way to the second chamber, where they awaited the coming of the boys.

The boys were intensely relieved, and the Professor was so happy to see the determined and resolute spirit they manifested, that he complimented them highly.

John was no less profuse in his commendations. "I want to say, that men can be brave when they know what they have to fight, and who their enemies are; but it takes the stoutest heart to go forth and defend yourself, or assume the offensive against an unseen and an unknown enemy."

[207]

CHAPTER XVII

THE WONDERFUL PORTABLE FORT

On the return of the party to their home that evening the events of the day were discussed to the exclusion of everything else, and now was the opportunity for the boys to learn something about the other cave, of which John had given a meager account.

"Would you object to telling us what the wonderful things were which you saw in the cave at the western part of the island?" was Tom's inquiry.

"Not in the least. The ship on which we sailed from San Francisco contained the charts of several caves, one of which was that of the cave I referred to. I saw the treasure there with my own eyes, and I can direct you to it, because, notwithstanding the stress of my surroundings, I took the bearings, on the following day, and it will not be difficult to locate it."

"Did you remember the circumstances of the visit to the place where we were being pursued by

the savages?"

John looked at the Professor, and then at the boys. "I do not remember such an occurrence," he answered.

"But I would like to ask the Professor a question," exclaimed George. "What was it that made you give us that quick advice to leave the mouth of the cave when we wanted it as a hiding place?" [208]

"I saw from the carefully hidden, but trodden, path, that some one must have used it as a place of refuge, and concluded that as it was so near the village it might have been some of the clans of the tribe, either as a place of concealment from their enemies, in case of attack, or by some of the so-called religious communities which many of the tribes have."

"In what way did you discover that this cave had been charted?"

"First by the peculiarity, that it had two entrances, on opposite sides of a hill, and secondly, by the singular internal arrangement, which stated that within the corridors and the chambers constituted a cross, and the treasures were to be found at the extremities of the cross limbs, within the two large chambers."

"Then you knew of the existence of this island, before you sailed?"

"No; the chart merely described the characteristics of the caverns, but stated they were located on islands in the South Seas."

"Do you think our cave here is one of them?"

"I do not think so, as I do not recall any description which would fit this cave, except the two entrances, and that is not uncommon."

"The chart stated that there was another cave fifteen leagues to the southeast of that cave, which also contained treasure, and that was the principal reason why I traveled in that direction, and thus found myself in the savage-inhabited part of the island." [209]

"Fifteen leagues? How far would that be?"

"Forty-five miles."

Nothing more was needed as a stimulus for the boys. They had truly been thrown on an island of wonder.

"Why is it," asked Ralph, "that so much of the treasure of the world was hidden in these out-of-the-way places by the pirates?"

"I imagine," replied John, "that they didn't have much confidence in the rest of the world. The manner in which they got most of the money was by acts of piracy on the high seas, and it was necessary to hide the proceeds of the robberies as fast as acquired, because if they should be captured, its possession would at once seal their doom. These hidden treasures are distributed over every part of the world. As to the other part of your question, the vast hoards of gold and silver so distributed, formed a very small part of the wealth of the old world. It is not known how vast a sum Pizarro took from the Inca in Peru, but it is estimated variously at from twelve to twenty tons."

The boys opened their eyes in astonishment.

"How much would that be worth in money?"

"Counting it at the present value of gold, every pennyweight would be worth a dollar."

"Let me see; twenty pennyweights in an ounce, and twelve ounces in a pound; that would be two hundred and forty dollars in a pound."

"That is right."

"And then twenty tons would be 40,000 pounds. And multiplying that by 240 would make \$9,600,000. My, what a lot of money!" [210]

"Cortez, at about the same time, conquered Mexico, and secured a much greater amount. All over the western hemisphere, from northern Mexico down to Peru, untold millions of gold and silver were looted by the Spanish and Portuguese navigators, and taken to Europe, and it is estimated that as much more was disposed of in these hidden recesses, and those who deposited them were swept off the seas, and all knowledge of the caches were lost."

"During what times was most of this money deposited?"

"The pirates which infested the coasts of Spanish America and the West Indies, flourished in the seventeenth and eighteenth centuries. Originally the French and English during the wars against Spain used the expedition against her ships, as acts of war, but later on, after peace was established in Europe, the buccaneers continued in their depredations, and it was made unlawful by all the great nations."

From that day there was no cessation on the part of the entire working force to prepare the necessary ammunition required for a campaign against the savages. It should be stated that by this time Chief had learned many things, and John took particular pains to teach him daily, until

he could pronounce many words very distinctly, and understood the meaning of them.

It was surprising to see how quickly his mind grasped the association of a verb with some name, and the simplest and most common verbs of action were taught. In this way it became apparent that all should be cautious about talking of the proposed expedition in his presence. Nevertheless all were anxious to enlist him in the enterprise. [211]

He never inquired about the gun barrels, and curiously enough seemed to take no interest in any of the weapons but the spears and arrows. He was a fine archer. This was demonstrated on several occasions, the only difficulty being that the bows which the boys had were too small.

Chief selected his own branches, for the bows, and showed the boys how to hold the arrows, and the distance he could propel them was marvelous. They were not by any manner of means a match, by comparison, with the guns, but they would be dangerous missiles if attacked in the open, and of this fact the boys had learned several lessons.

The wagon, which was constructed before the first trip across the island, had been through some tough places, and the wheels and axles were in bad condition. These needed replacing, and that was a task which would occupy some time.

One day, at the evening meal, the boys asked about Chief. He had not been noticed by anyone since noon.

He was usually at work with Harry, who was asked concerning him.

"The last I saw of him was right after lunch, and he was going in the direction of the clay bank. As he was in the habit of going there quite frequently I paid no attention to him." [212]

"Did he have anything with him, that you noticed?"

"Nothing but the bolo and the bow and arrows that he always took."

"Possibly he is on some mission," replied the Professor. "It does not seem likely that he has determined to desert us; but it may be he has grown tired of this existence. It is a curious phase of these matters, however, which, I believe, will apply in his case, that when he goes back he will find his old life a very disquieting one to him, and I predict he will be here again within a month."

"By that time we will be on our way toward his section, and I hope we shall have the opportunity of meeting him," responded John.

What required more attention than any part of the equipment, aside from the ammunition, was the structure of the wagon. This had to be a fort for them, and so arranged that it could be put up to meet an attack from any quarter.

But this, unfortunately, left the yaks exposed to the assaults of the spears and arrows, and John suggested a novel addition to the wagon equipment.

"My idea is this: As we are all pretty strong, excepting the Professor, to stand the march on foot, I would convert our wagon into a vehicle which would carry the fort with us, and this fort, whenever we camped, could be set up so that the yaks would be inside, and thus protected as well as ourselves.

"To effect this the more readily, my plan would be to make three sections of boards, in the form of a fence, each section to be six feet high and ten feet long. These should be either folded together in the middle lengthwise, so they could be nested together and swung below the axles between the wheels, and set up to form a square at one side of the wagon. [213]

"One side of the wagon body could be made to be let down, so as to form a protection below the body of the wagon. Within that enclosure the yaks could be stationed, if we should be attacked, and for the purpose of defense, four of us would be within the enclosure and two in the wagon to protect it from that side.

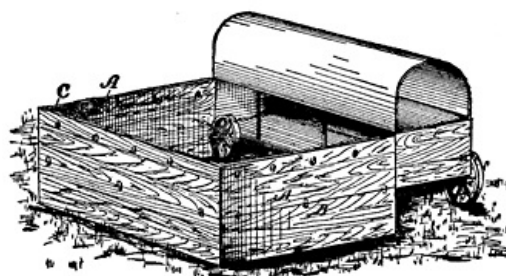


Fig. 33. The Portable Fort.

Fig. 33. The Portable Fort.

"The sketch which I have made shows these features, in which you will see (Fig. 33), the side boards (A) hinged along the middle line, as at B. These would be held at the outer corners by posts C. In the sketch the side board of the wagon body has been let down, so access can be had to the wagon." [214]

The plan, so ingeniously contrived, pleased the fancy of the boys.

"I imagine," said Harry, "this will be the first time people ever carried their fort with them. It will be fun to meet the savages with that kind of an outfit."

"You must not think, however," continued John, "that this is all we shall need. We must take in the wagon sufficient food for the yaks to withstand a siege, so that with our own provisions, guns and ammunition, we shall have a pretty good load."

"How heavy will the three sections of fence weigh?"

"I estimate that, as we shall want the boards made of good wood, the weight will be thirty pounds per cubic foot, and as all the boards will take fourteen cubic feet of lumber, the total weight, including the posts, can be brought within 450 pounds, and I do not think our other material will weigh much over 500 more."

"That would not be a hard load," observed the Professor, "as we have often hauled a ton, but it would be well to make a new set of wheels, and we can then take with us an extra wheel for the front and rear."

"I think we should take tools along also," said Tom, "because we can always make our own repairs, in that event."

"I am glad you referred to that. It is certainly a suggestion in the right direction. Are there any more observations from any of the other army engineers?"

[215]

"I may be wrong," answered Harry, "but it seems to me that one of the folding fences should be put on each side of the wagon body, and the third under the wagon."

"What is your reason for that?" asked Tom.

"Because we may want to put up the fort in a big hurry some time, and by having them at the three places, and have it understood who are to take out each section, it would be the work of a few moments only to set it up, because each set of workers could handle his section without interference from the others."

"That is really a stroke of genius. Certainly, that is the sensible way," responded John.

"It is simply another illustration," added the Professor, "how men, looking at things from different standpoints, will see the defects in each other's work. That is the story of every great invention."

These conferences were of the greatest value to the boys. It pointed out how men, through force of circumstances, were compelled to devise things for their need.

George had been an intent listener during these discussions. "It does seem that the old statement, 'that necessity is the mother of invention,' is true."

The Professor turned to him smilingly, as he replied: "That may be so in very many cases, it is true, but I imagine that in the vast majority of instances the necessity was in the mind of the inventor to get some money. The thought of that requirement was a more vivid thing to him than the real need of the article as an economic necessity."

[216]

"Do you really think that is the case?"

"If my memory is not at fault, the people of England howled with derision when the first locomotive was built; the men who put out the first sewing machine had their stores broken into and the machines smashed; and the telephone when first installed was considered simply as a plaything and curiosity, and not as a useful improvement. It has been the history of every age and of most of the great inventions. After the inventions were completed, and their value shown, the merchant and the manufacturer created the demand, and then the articles became a necessity, and not before. For this reason I think the proverb should be amended to say that 'the necessity of the inventor is the mother of invention.'"

Before starting on the trip the matter of clothing had to be attended to. A quantity of ramie had been cut, and put in water, for the purpose of rotting the woody fiber, and this was taken out of the water as fast as it was ready, and cleaned and combed, and at times worked up into threads, which were placed in the loom, and a coarse cloth thus woven.

This was, necessarily, a slow process, and consumed considerable time. This, together with the making of the percussion caps, was the tedious part of all the preparations. Every energy was put forth to get the different things required. Harry and Tom had made up the fort, and John suggested the idea of having a drill exercise in setting it up, so that the work could be performed without interference.

[217]

During the day, when the posts and the fastenings were all ready, the wagon was brought out and the yaks yoked up. The elements of the fort were attached to the wagon, in the manner that they were to be transported. As there were three sections of the fort, one on each side of the wagon body and one below the axles, it was provided that the six should form three divisions; the Professor and Ralph, John and Tom, and Harry and George the couples for setting up the fort.

As Harry and George were the most familiar with the animals, and knew better than the others how to handle them, it was made a part of their duty, when the signal was given, to unyoke and turn the yaks to the proper place at the side of the wagon.

While this was being done, the Professor and Ralph were to detach the section on the side of the wagon where the fort was to be set up, and carry it out at right angles and at the forward end of the wagon. At the same time John and Tom would take the section on the opposite side of the wagon and carry it around to form the end of the fort.

This would then give Harry and George the opportunity to take the part below the wagon and erect it at the rear angle of the wagon, while Tom and Ralph were getting the posts for the outer ends of the fort. [218]

When all was ready, the signal was given, and the various divisions sprang to their allotted work. They marveled at the celerity with which the fort was put up.

"I see a serious defect in the arrangement at one point," said Tom.

"What is that?" was the question from all.

"You see we have the fort ready, but it is adapted for one side of the wagon only. It may be most important to have it arranged so that either side of the wagon can be used for the fort."

"A fine suggestion," answered John. "That change can be made by having both sides of the body so they can be let down."

George also had a good suggestion to make. "According to the calculations we have fourteen cubic feet of material, and it is light wood, at that. Why couldn't the fort be utilized as a raft, so as to save the cutting of green timber, which is so heavy?"

"Well," said the Professor, smiling, "we are developing this at an immense rate. The new idea is the starting point for an invention to so arrange the sections as to make them act as floats. Here is a great opportunity for the genius."

Tom and Harry conferred on this subject for some time, and after luncheon, announced the plan: "It is fortunate that the axles of our wheels project. It will be an easy matter to take the sections from the sides of the body and attach one edge of each section to the projecting ends of the axles, and then the two posts can be used as braces to run up from the outer edges on the sections to the upper edges of the body. The third section can be left under the axles where it now is." [219]

John was delighted at the simple solution of this problem.

"I really believe," said Tom, "that we can adjust the sections in that way while the wagon is moving, as it can be attached without any difficulty."

It is wonderful how one improvement marks the advance stride for the next. Invention is really nothing but a step by step movement; a little addition here, another accretion there, and so on, so that invention has been shown to be, not a matter of quantity, but of quality. The mere bending of a wire, if it produces a new and useful result, is just as much entitled to the dignity of an invention, as a room full of intricate mechanism. [220]

CHAPTER XVIII

TRAILING A WARRING PARTY OF NATIVES

"Professor, won't you tell us what the difference is between weight and gravity? We have been discussing that matter this afternoon."

"Gravity is a force by virtue of which all bodies tend to approach each other constantly; and weight is the measure of the effect of gravity acting upon a body. The two are often confounded."

"Now, the next thing we want to know is, does gravity act in all directions?"

"Yes; and the attraction of one body for another is in proportion to its mass—that is to say, if two bodies, one weighing one and the other two pounds, should be hung near each other, the heavy object would pull the lighter one twice the distance it would itself move."

"Do you mean to say that everything on earth attracts everything else? I thought it was only the earth that had the power to attract."

"The earth is no different from any other object in that particular, but on account of its immense size everything goes toward it and its motion toward the small object is not noticed."

"Is there any way that such a statement could be proved?"

"I suggest one plan: select two walls, close together, or two tall trees, and run a wire across, as I show in the sketch (Fig. 32). From that cross wire, A, suspend three objects by cords, B, C, D. The cord B is exactly midway between the two walls, and the other cords C, D, and so attached that the objects at their lower ends hang close to the walls. It will be found that the cords C, D are farther apart at their lower ends than at the upper ends, and that the cord B is exactly plumb, as it is affected equally by the attraction of the opposite walls." [221]

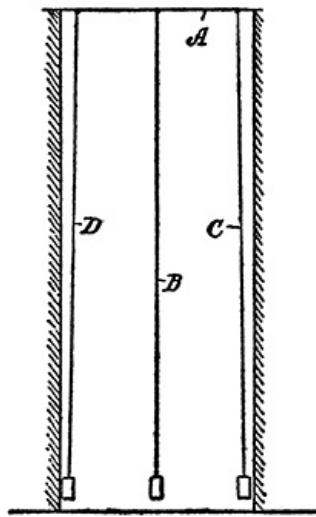


Fig. 34. Gravitational mill.

Fig. 34. Gravitational pull.

The new raft attachment was completed, and Harry made the suggestion that it ought to be put to a practical test, and that a good place to do this would be below the cataract, where it was wide and deep enough to float.

The drill was affected for attaching the sections, as shown in the drawing (Fig. 35), in which A represents the section under the axles, and B, C the two side sections, attached at their inner edges to the ends of the axles, and with the posts D serving as braces. [222]

The yaks seemed to know their business instinctively, and moved down into the water slowly, and the improvised raft not only prevented the body from sinking into the water very low, but it had a wonderful steadying effect, because the side sections served as wings to prevent lateral swaying.

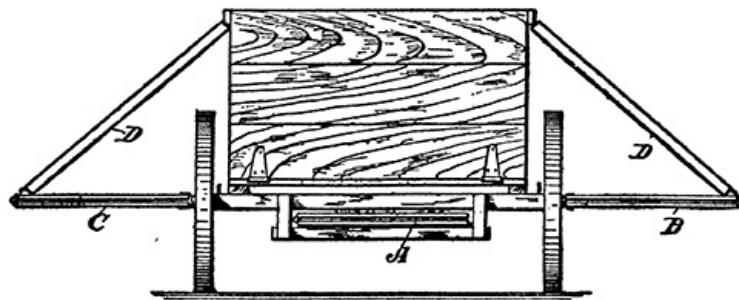


Fig. 35. Using the Fort as a Raft.

Fig. 35. Using the Fort as a Raft.

The crossing and the return were made without accident, and the sections returned and fixed in place, and the wagon was now completed for the journey.

A considerable quantity of the barley flour was ground, and both honey and cane sugar taken in the vessels which had been recovered from the cave. The ammunition was stored in four boxes at convenient places within the body, and the little metal stove, with the cooking utensils, located near the rear end, where they could be conveniently taken out and returned. [223]

The three sleeping mattresses were stored in the bottom of the body, near the forward end, and as the sides of the body were three feet high, it can be understood that there was an abundance of room for them, and for the other things which were carried along for their convenience and comfort.

Everything was bustle and rush. Angel was as busy as the rest. It was his joy to carry things to the wagon, at George's behest, and when the hour for starting came, and the house was about to be locked, he rushed into the room, before George could close it, and mount to the rafters.

George followed his movements without a word. He was back in an instant with the little mirror which George had given him some weeks before. It was the only time he had taken it down or brought it within sight of those around him.

With this treasure in his hand he scrambled to the wagon, and found a secure place in the top bows of the wagon, and then hung on the rear bow and waited for the start. He loved these jaunts in the wagon, and they had been frequently made during the past four weeks, but he had never taken the mirror. How did he know that they were going for a journey?

With a good-by to their herd, the jolly party of boys began the trail through the forests, this time not for the love of adventure, or to learn what they had about them, but to relieve their fellows

and to be of service to the benighted people who were their neighbors.

As in former times, the Professor cautioned them against haste during the initial portion of the journey, and until they became accustomed to the rough part of the work. Much of the time during the first few days could be devoted to hunting, so as to get a good supply of food, which, later on, might be of great service to them.

The course decided on was to go directly west, and after entering the forest to move southwardly until the South River was reached, and thus pass the falls. Ralph and George had never been in that section of the island, and all were desirous of again visiting the spot where so many of their experiences had taken place, and in a region that gave them the most startling surprises and mysteries, some of which were not yet unraveled.

Shortly after the noonday hour the roaring of the falling water was distinctly heard, and the boys hurried forward to see it, followed by the wagon.

"Here is the place we found the lifeboat—the one we have at Cataract—right across the river, near that tree. A little farther up we'll show you where we put our boat—that is the one we started out with to explore the river, and the one which disappeared."

While passing up toward the falls, John stopped suddenly at a mass of the driftwood, and called to Tom, who was nearest, "Pull that log over; I want to see what this is."

Tom obeyed at once, and while he held up the log indicated, John, after considerable exertion, drew forth a smaller log, which had evidently been cut off with some dull tool, and when Harry came to the rescue the entire log was extricated, and all saw a piece of rope attached, and the indication at two places where evidently it had been in scraping contact with some other timbers.

[225]

"Did you see the rope?" asked the Professor, "before the log attracted you?"

"No; the end of the log could not have been broken off in that manner, and when it was drawn out the rope followed."

"It is the same kind of rope we found on our boat at the beach. The boat, as you remember, was left by us a little above this place."

"I do not remember ever having been here before," answered John.

They had forgotten that John visited the place before he had recovered his memory.

The log was evidence that some one above the falls used it as a raft, and from its position could not have been there many months, and probably was washed there at the time of the last severe rains about ten weeks previously.

John removed the rope, and put it in the wagon, and the boys noted the approving manner of the Professor as he did this.

They passed up around the falls, and camped for the night on the bank of the river. In the morning the stream was followed for ten miles, and the Professor stated that, owing to the rough character of the country adjacent to the stream, it would be advisable to leave the valley and pass to the right.

During one of the previous trips they were compelled to do this, but that brought them to a dense forest, which was almost impenetrable in many places, and they had to avoid this also.

[226]

Before evening this forest appeared in view, and a halt was called for the purpose of reconnoitering the position, and to ascertain if it could not be avoided. John and Ralph made a long trip to the north, and it was found that it extended in that direction too far to make the long detour.

"As the forest will be a very trying course to take, I suggest that we turn directly south and either cross the river or investigate the country on the other side in the direction of the mountains. We have never gone there, and it is likely the country is not as rough, and what little wood is in that neighborhood may not impede us much."

The suggestion was followed, and before night they again encamped on the shore of South River.

"Before taking the team across let us make an investigation for several miles, at least to see the traveling conditions, and if Ralph will accompany me, it will be no difficulty to get back in time for a fairly early start."

Ralph was only too willing to accompany John, and a raft was improvised for the occasion, and they plunged into the rising ground beyond. As they advanced it was apparent that the surface was much better than at any part of the journey from the falls, and the return journey was made as quickly as possible.

After crossing, the river was followed for a time, and then the rising ground was considered more favorable, and good time was made during the day. At the end of the second day the encampment was made for the night by the side of a little stream which flowed from the mountains to the left of their course.

[227]

During the previous nights Angel was quiet, but as darkness set in his uneasiness gave George sufficient information to indicate some trouble, and the boys attributed it to the presence of the

wild animals, which they knew abounded on the south side of the stream.

Two were delegated to watch during the night, and at recurring intervals Angel manifested alarm. From midnight until the break of day he was constantly awake, and showed his alarm, but when it was daylight a hurried survey of the immediate locality betrayed no signs of an enemy.

Within a mile of their camp they came across a camp fire, around which was strewn the bones which were left from the feast. The Professor and John were up in an instant and carefully examined the litter surrounding the fire, as well as the indications of footprints. The latter were unmistakable at many places, and both announced that the savages had been there, beyond question.

This meant the appointment of a scouting party for the advance of the team, and John took this duty on himself, stipulating that the different boys should alternately accompany him, and thus adapt themselves to the serious work that scouting meant.

Harry was the first detailed to go with him, and at intervals he would go back and signal the team to follow, so that they made fair time along the immediate vicinity of the stream, and thus progressed with some speed, in what now appeared to be the country where the savages lurked. [228]

In the march John found numerous marks of the savages, and before noon was halted at the remains of a fire still glowing, that the savages had quitted not an hour before.

"How many do you think are in the party?"

"Not more than a half dozen."

"It seems to me we ought to stop a day, so they could get ahead of us, or we might run into them."

"I am making every effort to catch up with them. We are out to meet the savages, and the sooner we get a chance at them the better it will be."

Harry had not taken that view of it, and concluded John's plan was the proper thing to follow out.

"I think myself it would be better to meet a half dozen than the whole tribe." But that, even, was not John's purpose.

When they reached the wagon, after the glowing camp fire had been discovered, John hurriedly gave his views: "The band is in our immediate vicinity. If we hurry up we can catch up with them before night. I have trailed them now for three hours. I will continue the pursuit as fast as possible, and it would be well to follow me as fast as the yaks can be driven through the brush. We must meet them and capture them before they reach their main band, so that we can get such information as they may have for our guidance."

John, Harry and Ralph now plunged forward, so that the two boys would enable him to make a chain of information back to the wagon, and it was understood that the moment they were sighted, the wagon was to be hurried forward to the spot selected by John. [229]

It was not anticipated that the band would be numerous enough to require them to establish their traveling fort, and the sole object was to capture one or more of the savages in the first engagement.

For some reason John did not report sighting them during the entire afternoon, and they were again compelled to camp without getting a sight of the enemy. On this occasion the fort was put up, but no attempt was made to light a fire.

As soon as darkness set in, John motioned to Tom to follow him, and together they quietly made their way to the southwest, in the direction of the trail they had followed during the day.

Within an hour both returned, and announced that the camp had been discovered to the front and right of their position, and George and Tom went in that direction, after being cautioned by John to observe the strictest care not to disturb them by approaching too close.

The Professor and John had a long conference as to the wisest course under the circumstances. "I am of the opinion that we should never allow them to leave that camp," was John's observation, "because we are in a much better position to dictate to them during the hours of darkness, if we surround them."

"My only doubts about that plan maybe summed up as follows: We can easily defeat them in a hand-to-hand fight; but we do not want to slaughter them. If we can make them captives we shall have a strong lever to work with in treating with the main band. In the night time it is always a hazardous enterprise, and we cannot afford to risk the lives of the boys." [230]

"Then," John responded, "let us wait until morning, and before the sun is up we can surround their position, and when it is light enough to see approach them from the six quarters and demand surrender."

"I like that suggestion better than the other. It looks like a safe plan, and it will prevent needless bloodshed, without risking the lives of any, unless they show a bitter fight."

When the two boys returned the decision to surround the camp before daybreak was announced, and the night was a long, long period of anxiety to them. They had no fear of the results, nor

would either hesitate for a moment to engage in it, because all had become seasoned with the perils of the past year.

It was the unexpected, the exhilaration of knowing that they had the strength to attack the savages, that made them restless and to long for the morning hours.

The first appearance of the slightest gray in the east was the signal for preparation.

John led the way. As they were starting, John said: "This is a most important step, because if we succeed we may be able to dictate to at least one tribe, and that tribe the most powerful and vindictive on the island. When we approach within a certain distance the Professor, Harry and Tom will remain at the spot selected, and you, Ralph and George must follow me. In order that you may know the plans fully, I will state that together we three will turn to the left and make a detour through the woods around their position, and I will leave Ralph at one point in the circle, and with George follow around to a point exactly opposite this place, when he will go on around the camp toward your direction.

[231]

"When you think we have about reached the positions indicated, Harry will take up his position to the left of the Professor, in the circle, and Tom to the right, so that our respective positions will be in this order: First, the Professor, then in order to the left, Harry, Ralph, myself, George and Tom.

"Each has two guns, and I have also the pistol. The signal will be the firing of the pistol. The moment you hear that all must rush forward in the direction of the camp, and I will endeavor to reach the open so as to attract them first and demand their surrender. After you have shown yourselves, do not advance until I give the word, but have your guns ready in case they attempt to make any resistance."

The party stole forward carefully, and the Professor with the two boys waited a sufficient time to be sure they had selected the proper places in the circle, when Ralph appeared, and held up his hand in token of silence, and all he said was: "Back to the wagon as quickly as possible."

The "Capture and Pursuit" will relate some of the most thrilling scenes in the entire history of Wonder Island, following the adventure here related.

[232]

GLOSSARY OF WORDS

USED IN TEXT

Archeological. Pertaining to the study of man, or of relics.

Attributed. To describe as belonging to; to refer, as an effect to a cause.

Amalgam. The unity of any metal with mercury.

Accretion. To add to; an addition.

Antiquity. Ancient. In olden times.

Anticipation. The looking forward to the future.

Analysis. To separate; to find out the principal parts.

Aphasia. The term used to define the loss of memory.

Abruptly. To cut off short; at once; speedily.

Admonished. Warned; advised beforehand.

Alacrity. Quickly; without delay.

Animated. Lively, or quickened action.

Attribute. A quality; as a kind act.

Aspiration. A desire; a wish for another condition or state.

Benighted. Not advanced, or civilized.

Bolero. A Spanish dance illustrative of the passion of love.

Brandished. A motion of the arms or body; the menacing motion of a weapon.

Caches. A hidden or concealed spot.

Castilian. Pertaining to the Spanish.

Calcareous. Lime formation.

Celerity. With speed.

Celestial. Pertaining to the heavens.

Cereal. Any edible grass, seed or grain.

Chaparral. A thick tangle of shrubbery or brush.

Cotillion. A square dance for four couples.

Cosack. A Russian dance.

Contracted. Made smaller; reduced, compass.

Conformation. In the same form; in the like manner.

Concerted. By agreement; all together.

Confirmation. A proven fact or thing.

Consternation. Awe inspiring; fearful.

Constellation. An arbitrary assemblage or group of stars, or a portion of the heavens occupied by such group.

Complication. Mixed up; without an intelligent or designed arrangement.

Coincidence. One thing happening with another.

Commodious. Ample in size. Very large.

Contend. To argue in favor of.

Corrosive sublimate. A deadly poison; sulphid of mercury.

Crouching. A low-bending attitude.

Cracovienna. A graceful Polish dance.

Crucial. The test; trying; decisive.

Derision. To make the object of mockery or ridicule.

Devolved. To throw the burden on. To assume the responsibility.

Decomposition. To change; to put into its original form.

Depletion. To take away from. To lessen.

Denuded. To uncover.

Disposition. To make the arrangements for.

Discerned. Discovered; noticed.

Discomfiture. Being beaten.

Discarded. Thrown away; to dispense with.

Diversion. To do something different; otherwise.

Disclose. To show; to inform concerning.

Disseminated. To spread broadcast.

Disdain. To look down upon.

Disjointed. Not in good condition; all awry.

Divined. Understood; having knowledge of.

Disquieting. Not at ease.

Domesticated. Tamed; not wild, or in a wild state.

Economic. Pertaining to the means or methods of living well.

Effective. Well organized. Strong.

Egotistic. Having a good opinion of one's self.

Exhilarating. Joyful; brightening; happy condition.

Elude. To evade; to circumvent.

Enigma. Concealed; difficult to comprehend.

Emaciated. Thin from want of food.

Emergency. The appointed time for a difficult matter.

Equinoctial. Referring to the time when the sun passes the celestial equator.

Eventually. Finally; when a certain time has arrived.

Extricated. To rescue from.

Factions. Parties; tribes; clans.

Faculty. That quality or attribute of the mind or body, like intelligence or strength.

Fandango. A Spanish dance in triple time.

Facility. Ease; without difficulty.

Fixed star. A heavenly body, supposedly like our sun, around which certain planets revolve.

Flanking. Going around; at the sides.

Foundering. To sink, or to plunge downwardly.

Gangue. The dross matter in ore.

Gallopade. A brisk German dance in rapid measure.

Geologist. One who studies the structure of the earth.

Genial. A pleasant disposition.

Gravity. The attraction of mass for mass.

[234]

Guttural. A sound issuing forth from the lower part of the throat.

Guardian. An individual appointed to care for the person of a minor.

Harassment. To cause difficulties, troubles or worries.

Hemisphere. One half of a globe.

Heralded. To advertise; to notify; to inform.

Hornpipe. A very lively English country dance for one person.

Horizontal. A line at right angles to the center of the earth. The surface of water is horizontal.

Hoodoos. Coined from the cry "hoo" of a child, and the Scotch word "doo," meaning the cry of the dove. The general meaning now being low characters.

Hypnotism. That quality which enables certain persons from influencing others by some power of the mind.

Impervious. Of such a character that water will not go through.

Imbued. To instill in; to convince.

Impenetrable. So that it cannot be passed through or into.

Intricate. Not easily solved. Difficult to understand.

Installed. Set up; put into order. Built up.

Interpreted. Made plain. To decipher a foreign tongue.

Inevitable. Bound to come to pass; the natural course of events.

Incessant. Continually; without stopping.

Indescribable. Difficult to explain or set forth.

Inflamed. To become heated; usually applied to a wound in the process of healing.

Intuition. The condition of the mind where conditions are easily understood without explanations.

Inaction. Not active; not disposed to take part.

Integral. The principal element. A part of. Constituting a completed whole.

Impetuosity. Being prompt; quick.

Iodide. A compound or salt in which iodine is used.

Jungle fever. A malarial or intermittent fever, well known in Africa and India.

Jig. A light gay dance with a very lively music.

Lashed. Beaten with a whip.

Loathsome. Exciting extreme aversion or disgust.

Matured. Complete in the mind; a perfect plant, flower, fruit.

Magnitude. Largeness; immensity.

Mazurka. A lively round dance resembling the polka, intended for four or eight couples, based on the Polish national dance.

Merge. To assimilate; to go into; to come together.

Mechanically. Done with precision; partaking of mechanism.

Metallurgical. Pertaining to the study of minerals.

Minuet. A stately dance in triple measure, dating from the 17th century.

Mimicry. To imitate in a comical way.

Morose. Not a happy or bright disposition.

[235]

Monotonous. Without change; in one tone; a continual similarity.

Momentarily. For the instant; immediately.

Monsoon. A terrible wind that blows in the southern hemisphere at regular intervals.

Negative. No; the opposite of yes; not decisive.

Nitrate. A salt of nitric acid.

Nonchalant. A state of mind indicating lack of interest.

Nonplussed. Confused or disconcerted.

Numerically. Considered from the standpoint of numbers.

Nutritious. Anything that has the quality of sustaining life, as a food.

Obeisance. An act of courtesy.

Obliterate. To wipe out; to destroy.

Orgy. Wild or wanton revelry.

Ostentatiously. Open; to be readily seen.

Quadrille. A square dance for four couples, dating from the 18th century.

Quarantine. A system of police and medical regulations, established at frontiers and ports.

Pathetic. Arousing tender emotions.

Parallelogram. A figure longer than its width, with the two opposite sides parallel with each other.

Petrified. Turned into stone, literally; seemingly rigid.

Ostentatiously. Having the appearance of doing certain things.

Perturbations. Disturbances. Worried.

Perchance. By the way; a chance happening.

Piracy. On the high seas an act of robbery, or unlawful taking of goods.

Physics. The science of energy. That which treats of the phenomena of all matter.

Posture. Position; condition.

Portentous. Important; making a show; greater than ordinary.

Propounded. An offer; a question.

Proficient. Ability; well equipped.

Precipitated. Thrown down; settlings; coming from above.

Primitive. The first; original way of doing a thing.

Prolific. Many; a great variety.

Providential. Very fortunate; a happening of great value or importance at the right time.

Protestations. To assert earnestly.

Precipitous. Quick action; doing without waiting.

Predisposed. Having the desire beforehand; a set opinion.

Precautionary. Acting slowly and wisely; taking advantage of something ahead of the time to act.

Psychological. Pertaining to the science of the human soul and its operations.

Ramie. A fibrous plant, used in making fabrics of various kinds.

Rankling. A feeling of resentment.

Restrain. To hold back; trying to prevent action.

[236]

Reminiscence. Recalling matters; remembrance of things in the past.

Recuperated. Physically better; recovery from illness.

Redowa. A round dance that originated in Bohemia; the music of which is in quick, triple time.

Reciprocating. Going back and forth. The piston rod of an engine reciprocates.

Remote. Far away; a long time ago.

Relentless. Determination which cannot be stayed.

Restoration. To bring back; to recover health.

Rodent. Animals of the rat variety.

Sanhedrin. A Jewish council and tribunal, in existence until about A. D. 425. The Great Sanhedrin had 71 priests, scribes and elders.

Scrutiny. Examination; visual investigation; glance.

Segmental. Pertaining to a three-sided body; or one portion of an orange, as an illustration, wherein one of the split-up parts is called a segment.

Secluded. Hidden; carefully kept out of sight.

Shrouds. One of the stout ropes, often made of wire, that are stretched from the mast-head of a vessel to the sides or to the rims of a top, serving as a means of ascent and as lateral stays for the mast.

Spasmodic. Not regular; in fits.

Sortie. A term applied to rushing tactics in battle.

Spectrum. The term applied to the scientific division of the light rays projected from an object.

Stoically. A brave exhibition during pain, or when unfortunate; bearing up bravely.

Strenuous. Vigorous; working diligently.

Stipulate. Making an arrangement; a contract, or parts of an agreement.

Stupefied. Rendered dumb or speechless for a time.

Stanchion. A standard, post, or other upright.

Sulphate. A metal having sulphur as its principal element in combination.

Superficially. On the surface; not well considered.

Tarantella. A lively Neapolitan dance in triplets for one couple.

Tension. Stretched; a mind under stress.

Tendon. The strong band or cord of connective tissue forming the connections of the fleshy portions of the muscle.

Temporary. For the time being only; for a little while.

Terminated. Ended; the stopping of a certain thing.

Tenacity. Strong; fixed in purpose.

Theodolite. A portable instrument for measuring horizontal and vertical lines. It comprises a telescope and a graduated circle, showing degrees.

Toggle. A pin or short rod, properly attached in the middle as to a chain or rope, and designed to hold something by being passed through a hole or eye.

[237]

Traversed. Gone over; traveled over that area.

Transit. Passed; going by.

Trophy. Something captured; usually applied to spoils in war.

Tribute. A compliment; a reward.

Tributary. Something which applies as a smaller to a greater; as a small stream which flows into a greater.

Veered. Changed in direction; going aside.

Vindictive. Bitter; hostile; with a desire for revenge.

Volatilized. Changed from a solid into a gas.

THE "HOW-TO-DO-IT" BOOKS

CARPENTRY FOR BOYS

A book which treats, in a most practical and fascinating manner all subjects pertaining to the "King of Trades"; showing the care and use of tools; drawing; designing, and the laying out of work; the principles involved in the building of various kinds of structures, and the rudiments of architecture. It contains over two hundred and fifty illustrations made especially for this work, and includes also a complete glossary of the technical terms used in the art. The most comprehensive volume on this subject ever published for boys.

ELECTRICITY FOR BOYS

The author has adopted the unique plan of setting forth the fundamental principles in each phase of the science, and practically applying the work in the successive stages. It shows how the knowledge has been developed, and the reasons for the various phenomena, without using technical words so as to bring it within the compass of every boy. It has a complete glossary of terms, and is illustrated with two hundred original drawings.

PRACTICAL MECHANICS FOR BOYS

This book takes the beginner through a comprehensive series of practical shop work, in which the uses of tools, and the structure and handling of shop machinery are set forth; how they are utilized to perform the work, and the manner in which all dimensional work is carried out. Every subject is illustrated, and model building explained. It contains a glossary which comprises a new system of cross references, a feature that will prove a welcome departure in explaining subjects. Fully illustrated.

Price 60 cents per volume

THE NEW YORK BOOK COMPANY
147 FOURTH AVENUE NEW YORK

THE HICKORY RIDGE BOY SCOUTS

A SERIES OF BOOKS FOR BOYS

Which, in addition to the interesting boy scout stories by CAPTAIN ALAN DOUGLAS, Scoutmaster, contain articles on nature lore, native animals and a fund of other information pertaining to out-of-door life, that will appeal to the boy's love of the open

I. The Campfires of the Wolf Patrol

Their first camping experience affords the scouts splendid opportunities to use their recently acquired knowledge in a practical way. Elmer Chenoweth, a lad from the northwest woods, astonishes everyone by his familiarity with camp life. A clean, wholesome story every boy should read.

II. Woodcraft; or, How a Patrol Leader Made Good

This tale presents many stirring situations in which some of the boys are called upon to exercise all their ingenuity and unselfishness. A story filled with healthful excitement.

III. Pathfinder; or, The Missing Tenderfoot

Some mysteries are cleared up in a most unexpected way, greatly to the credit of our young friends. A variety of incidents follow fast, one after the other.

IV. Fast Nine; or, a Challenge From Fairfield

They show the same team-work here as when in camp. The description of the final game with the team of a rival town, and the outcome thereof, form a stirring narrative. One of the best baseball stories of recent years.

V. Great Hike; or, The Pride of The Khaki Troop

After weeks of preparation the scouts start out on their greatest undertaking. Their march takes them far from home, and the good-natured rivalry of the different patrols furnishes many interesting and amusing situations.

VI. Endurance Test; or, How Clear Grit Won the Day

Few stories "get" us more than illustrations of pluck in the face of apparent failure. Our heroes show the stuff they are made of and surprise their most ardent admirers. One of the best stories Captain Douglas has written.

Boy Scout Nature Lore to be Found in The Hickory Ridge Boy Scout Series

Wild Animals of the United States—Tracking—in Number I.

Trees and Wild Flowers of the United States in Number II.

Reptiles of the United States in Number III.

Fishes of the United States in Number IV.

Insects of the United States in Number V.

Birds of the United States in Number VI.

Cloth Binding Cover Illustrations in Four Colors 40c. Per Volume

THE NEW YORK BOOK COMPANY
147 FOURTH AVENUE (near 14th St.) NEW YORK

THE Campfire and Trail Series

1. In Camp on the Big Sunflower.
2. The Rivals of the Trail.
3. The Strange Cabin on Catamount Island.
4. Lost in the Great Dismal Swamp.
5. With Trapper Jim in the North Woods.
6. Caught in a Forest Fire.

By LAWRENCE J. LESLIE

A series of wholesome stories for boys told in an interesting way and appealing to their love of the open.

Each, 12mo. Cloth. 40 cents per volume

THE NEW YORK BOOK COMPANY
147 FOURTH AVENUE
NEW YORK

Christy Mathewson's Book

A Ripping Good Baseball Story by One Who Knows the Game

This book has attained a larger sale than any baseball story ever published.

The narrative deals with the students of a large university and their baseball team, the members of which have names which enable the reader to recognize them as some of the foremost baseball stars of the day before their entrance into the major leagues.

One gains a very clear idea of "inside baseball" stripped of wearisome technicalities. The book is profusely illustrated throughout and contains also a number of plates showing the manner in which Mathewson throws his deceptive curves, together with brief description of each.

Cloth bound 5-1/2 x 7-5/8

Price 50c. per volume

Transcriber's Notes

Obvious printing errors, both spelling and punctuation, were repaired. Errors other than punctuation are noted with a dashed underline in the text. Scrolling the mouse over said text displays the error and any changes.

Chapter VII Original text: would would

Correction: which would

Chapter XI Original text: chapparal

No correction.

Glossary Collation order in glossary not fully alphabetized

No correction: original collation order in glossary retained.

*** END OF THE PROJECT GUTENBERG EBOOK THE WONDER ISLAND BOYS: THE
TRIBESMEN ***

Updated editions will replace the previous one—the old editions will be renamed.

Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg™ electronic works to protect the PROJECT GUTENBERG™ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away—you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the trademark license, especially commercial redistribution.

START: FULL LICENSE THE FULL PROJECT GUTENBERG LICENSE PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg™ mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase “Project Gutenberg”), you agree to comply with all the terms of the Full Project Gutenberg™ License available with this file or online at www.gutenberg.org/license.

Section 1. General Terms of Use and Redistributing Project Gutenberg™ electronic works

1.A. By reading or using any part of this Project Gutenberg™ electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg™ electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg™ electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B. “Project Gutenberg” is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg™ electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg™ electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg™ electronic works. See paragraph 1.E below.

1.C. The Project Gutenberg Literary Archive Foundation (“the Foundation” or PGLAF), owns a compilation copyright in the collection of Project Gutenberg™ electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg™ mission of promoting free access to electronic works by freely sharing Project Gutenberg™ works in compliance with the terms of this agreement for keeping the Project Gutenberg™ name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg™ License when you share it without charge with others.

1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg™ work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.

1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg™ License must appear prominently whenever any copy of a Project Gutenberg™ work (any work on which the phrase “Project Gutenberg” appears, or with which the phrase “Project Gutenberg” is associated) is accessed, displayed, performed, viewed, copied or distributed:

This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at www.gutenberg.org. If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

1.E.2. If an individual Project Gutenberg™ electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase “Project Gutenberg” associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project Gutenberg™ trademark as set forth in paragraphs 1.E.8 or 1.E.9.

1.E.3. If an individual Project Gutenberg™ electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg™ License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4. Do not unlink or detach or remove the full Project Gutenberg™ License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg™.

1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg™ License.

1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg™ work in a format other than “Plain Vanilla ASCII” or other format used in the official version posted on the official Project Gutenberg™ website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original “Plain Vanilla ASCII” or other form. Any alternate format must include the full Project Gutenberg™ License as specified in paragraph 1.E.1.

1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg™ works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg™ electronic works provided that:

- You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg™ works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg™ trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, "Information about donations to the Project Gutenberg Literary Archive Foundation."
- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg™ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg™ works.
- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.
- You comply with all other terms of this agreement for free distribution of Project Gutenberg™ works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg™ electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg™ trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg™ collection. Despite these efforts, Project Gutenberg™ electronic works, and the medium on which they may be stored, may contain "Defects," such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the "Right of Replacement or Refund" described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS', WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg™

electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg™ electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg™ work, (b) alteration, modification, or additions or deletions to any Project Gutenberg™ work, and (c) any Defect you cause.

Section 2. Information about the Mission of Project Gutenberg™

Project Gutenberg™ is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg™'s goals and ensuring that the Project Gutenberg™ collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg™ and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at www.gutenberg.org.

Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887. Email contact links and up to date contact information can be found at the Foundation's website and official page at www.gutenberg.org/contact

Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg™ depends upon and cannot survive without widespread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations (\$1 to \$5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit www.gutenberg.org/donate.

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: www.gutenberg.org/donate

Section 5. General Information About Project Gutenberg™ electronic works

Professor Michael S. Hart was the originator of the Project Gutenberg™ concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg™ eBooks with only a loose network of volunteer support.

Project Gutenberg™ eBooks are often created from several printed editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Most people start at our website which has the main PG search facility: www.gutenberg.org.

This website includes information about Project Gutenberg™, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.