23d Congress, 1st Session. [Doc. No. 323.] Ho. of Reps. War Dept.

SCHOOLCRAFT AND ALLEN—EXPEDITION TO NORTH-WEST INDIANS.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING

A Map and Report of Lieut. Allen and H. B. Schoolcraft's visit to the Northwest Indians in 1832.

APRIL 12, 1834.
Read, and laid upon the table.

WAR DEPARTMENT,
April 11, 1834.

SIR: In obedience to a resolution of the House of Representatives of the 28th of March, 1834, I have the honor to transmit a copy of the map and report furnished this department by Lieutenant Allen, who accompanied H. B. Schoolcraft, Esq. to, and beyond, the sources of the Mississippi river, on a visit to the Northwestern Indians, in the year 1832.

Very respectfully,
Your most obedient servant,
LEW. CASS.

Hon. A. STEVENSON,
Speaker of the House of Representatives.

HEAD QUARTERS OF THE ARMY,
Washington, May 9, 1832.

SIR: I have been informed that Mr. Schoolcraft intends making an expedition into the Indian country, under the authority of the War Department.

You will detail an officer and ten or twelve men, to make a part of that expedition. The officer will be directed to keep a journal of the expedition; to describe the country through which it may pass; to delineate, topographically, the route and several points of importance; to ascertain the manners and characters of the various Indian tribes, their numbers, strength in warriors, condition, mode of living, of obtaining subsistence, whether at peace with their neighbors or not, their places of resort for foreign supplies, how supplied, and by whom. He will also be directed to note the nature of the soil; the geology, mineralogy, and natural his-

Gales & Seaton, print.]

tory; he will remark upon the game and fishes, as to quantity, qu and facilities of procuring them.

The officer will transmit his report to Head Quarters, for the infc tion of the General in chief, and to be laid before the Secretary of He will be considered as on topographical duty during the time he be absent from his post, and engaged in the expedition. The men have the extra allowances accorded to soldiers on fatigue duty. officer will report to Mr. Schoolcraft, and take his directions.

I am, sir, with respect,
Your obedient servant,
A. MACOMB,
Major General commanding the Army.

To Capt. WILCOX,
Or officer commanding Fort Brady.

Copy from the records of Fort Brady.

J. ALLEN,
Lieut. and P. Adj't.

SPECIAL ORDER, No. 2.

HEAD QUARTERS, FORT BRADY, *June* 6, 1832.

In obedience to general order, dated 9th May, 1832, Lieutenant Allen, Corporal Wibru, of K, Privates Briscoe, Beemis, Burke, Dutton, Ingram, and Riley, of B, Privates Copp, Lentz, and Wade, of K companies, are detailed to accompany Mr. Schoolcraft on his expedition into the Indian country. Lieutenant Allen will be furnished with a copy of the order, by which he will be governed.

The acting assistant quartermaster will furnish a boat to transport the party.

D. WILCOX,
Captain 5th Regiment commanding.

Copy from the records of Fort Brady.

J. ALLEN,
Lieut. and P. Adj't.

FORT DEARBORN, *November* 25, 1833.

SIR: In obedience to the foregoing orders and instructions, I have prepared the accompanying map and journal, which are now most respectfully submitted, as embracing my *report* on the several subjects to which you have directed my attention.

I have been induced to report in this form, because, from the circumstances of my position on the expedition, I was not able to collect sufficient facts on which to base a full and separate report, under each of the various heads mentioned in your instructions; and I have thought this the best method of *combining* the observations which I was enabled to make, so as best to comply with your views, and to acquit myself of a responsible duty; and because, in this way, I could present all my remarks in the most concise shape.

The route of the expedition was up Lake Superior, to Fond du Lac; thence, up the Fond du Lac river, ninety-one miles, to the mouth of the East Savanne river, and across by the latter river, the Savanne portage, and the West Savanne river, to Sandy lake and the Mississippi; thence, up the Missisippi, through Lake Winnipeg, Upper Red Cedar or Cass lake, and Lac Traverse, to *Lac La Biche, or Elk lake, the source of the river;* thence, returning, back to Cass Lake, and across the country, by small lakes and portages, to Leech lake; and thence across again, by little lakes and portages, to the source of Crow Wing river, and down this to the Mississippi again; down the Mississippi, fifty-nine miles below the falls of St. Anthony, to the St. Croix river, up the latter to its source, in upper Lake St. Croix; and thence, down the Bois Brulé river, to Lake Superior; again, twenty miles from Fond du Lac river, by which we had left the lake, on our way up; and thence back to the Saut de Ste. Marie, the point from which we started.

We were absent eighty days, between the 6th of June and 26th of August, and travelled in that time two thousand eight hundred miles.

The facts and observations collected on this route, and herewith presented, are all that my time and means would allow me to collect; and I have endeavored, in the following pages, to lay them before you, as they were brought under my notice, by the journey and operations of each day; and wherever they are not as full and satisfactory as your instructions would seem to require, the reasons for the deficiency are to be found in the limitation as to time and means, which necessarily and unavoidably applied from my subordinate situation to the principal and conductor of the expedition, and my duty as commander of the detachment of troops constituting the escort.

The primary objects of the expedition, and consequently of Mr. Schoolcraft, being to vaccinate the Chippewa Indians, our movements between points, for this purpose, were generally rapid, scarcely allowing a mere passenger to make many useful observations on subjects of science, connected with the country; and when, in connexion with this, it is considered that I had solely the charge and care of the transportation and subsistence of a detachment of soldiers, under circumstances of great difficulty, it will, probably, not be expected of my observations on several subjects made at the same time, that they could be very minute and complete. Hence the subject of botany, and one or two others, could receive but little attention, and are not much noticed beyond such remarks as would occur to a hasty observer. To the former subject, Doctor Houghton, the surgeon, devoted much attention, and will probably give the result to the public.

On the subjects of geology and mineralogy, I have been enabled to collect many useful facts, which are communicated, principally, in my description of the route up Lake Superior, and contained in my journal between the 7th and 25th of June. My observations on this part of the route are more full and in detail than on any other, as I was enabled to make them from travelling it twice, going and returning. We saw but little rock formation elsewhere.

From the source of the Mississippi to the rapids below Crow Wing river, rock in place is seen but once, at the falls of Peckagama, 150 miles above Sandy lake, where the river runs through a formation of granular quartz,

All the formations that did occur, however, are properly noticed in their appropriate place. The poor pine hills about the source of the Mississippi are broken down, primitive rock, showing numerous fragments and pebbles of the quartz gems, and of hornblende, feldspar, mica, &c.

On the subject of Indians, I have endeavored to comply strictly with your instructions, and have given information derived from the most authentic sources, much of it from the Indians themselves but mostly from their particular traders; in obtaining which, particularly the census of the several bands and villages, I was much assisted by the politeness of Mr. Schoolcraft and Doctor Houghton.

The value of the trade in furs, and facts relating to it, were mostly furnished by Messrs Holiday, Warren, Oakes, and Aitkin, of the American Fur Company, who enjoy most of the trade of the country.

It will be perceived that the condition of the Chippewa Indians is rapidly approaching a crisis, when their increased population and decreased resources must bring upon them great calamities, unless a considerable change is previously effected in their means of subsistence and mode of life. Since the humane measures of the Government for the stoppage of whiskey in the Indian trade, they have increased and are increasing rapidly; but the furred and large animals of the country, upon which is their great dependence for their very existence, have diminished in a converse ratio, and are every day becoming more scarce. And yet these Indians, with a characteristic improvidence and blind fatuity, have not made, nor are making, any other provision for their future wants and contingencies, but, on the contrary, manifest, by a continued adherence to their established and peculiar habits of living, an apathy and indifference to their approaching condition of want and misery, altogether inexplicable and astonishing.

Their vast country, though generally poor, has land enough of the richest quality to afford a subsistence, by cultivation, for ten times their present population. But they have not any where sought a living from agriculture; and in parts where the soil is richest, and the Indians most in need, they have been the least attentive to this means of supplying their wants; although some of them, as those about Fond du Lac, and along the shores of Lake Superior, have already experienced, during two or three severe winters, much suffering from starvation, and many of them must have perished but for a scanty relief furnished by their traders.

All the Chippewas, north and west of Lake Superior, entertain unfriendly feelings to the Government of the United States, and would undoubtedly embrace another occasion, similar to that of the last war with Great Britain, to join and assist an English or other powerful enemy: but their hostility amounts to nothing, for they are too poor and weak to attempt to war themselves, and are restrained, by motives of fear and interest, from depredating much upon their traders. Those at Leech lake, and about the sources of the Mississippi, are the least friendly, as my account of them represents.

About the time of the removal of the British traders from this country, it had commenced the decline in Indian resources, which has gone on steadily ever since, until the country is now poor, compared with what it was in the time of the Northwest Company and British trade; and the Indians, contrasting their present condition with their former, and without the

judgment to know and assign the true cause of the difference, attribute their present comparative distress and want to the change of Government and traders, effected at the time referred to. And this will account for much of their present hostile feeling to the American Government and traders.

All the Chippewa Indians have a most inveterate and irreconcilable hatred for their border tribe, and natural enemies, the Sioux; which, being duly reciprocated by the latter, keeps them both, near their borders, in a state of constant insecurity and warfare, and leads to endless aggressions on the part of each. The Chippewas, however, from their poverty and weakness, suffer most from this state of things, and are seldom able to pursue an offensive war, or to carry their operations much beyond their own country. Whereas their enemies, from their superior numerical strength, and abundant resources in means of subsistence, are enabled to push their excursions into the Chippewa territory, until they are resisted by the inaccessible nature of the country.

The Chippewas, remote from their lines, as those along Lake Superior, at Fond du Lac, &c., are seldom engaged in these wars, or much affected by them: but their border brethren at Leech lake, Red lake, and along the Mississippi, are never at peace. The Leech lake band particularly, being the largest single band of the tribe, and occupying a place near the lines, and made secure by the fastnesses of their lake, are in a state of constant excitement, either from the depredations of their enemies, or their own, upon them; and they suffer and resent more than any other band. They also possess more of the qualities of savage warriors than any other Indians whom we visited. For a particular account of them, see journal, July 16.

Our route, excepting a small portion of it, on the Mississippi, above and below Fort Snelling, in the Sioux' lands, was entirely in the country of the Chippewas, and we saw no other Indians excepting a few of the Sioux at Fort Snelling, and on the river below.

The accompanying *map* is a "delineation of the route and several points of importance," and is as correct a representation of the country as my means of observation would allow me to make it. The collection of materials for this object received as great care and attention as was necessary to supply a deficiency of proper means for this purpose.

I was not furnished with, nor could I procure at Fort Brady, any instruments by which to fix, from astronomical observations, the true geographical positions of points necessary to be known for the construction of an accurate map; and, to obviate this inconvenience, I had recourse to a method of tracing the whole route between the few points fixed and given by the observations of former travellers. For this purpose, a compass, the only instrument I had, was placed in my canoe, where it was constantly under my eye, and as the canoe proceeded in the line of a river, I carried my observations from the compass to a field book at every bend or change of direction; thus delineating, on a large scale, in my field book, all the bends of the river precisely as they occurred: and by establishing a scale of proportion, in the lengths of the reaches, I was also in this way enabled to lay down and preserve the general course of a river with surprising accuracy, as was tested, afterwards, in constructing on my map the routes of rivers between known points. The distances were estimated with great pains and care, from the combined judgments of all the

gentlemen of the party, on our rate of travelling, which was very well determined from our travelling much on known distances. Moreover, many of the distances, as the lengths of rivers and diameters of lakes, were long determined by traders and voyageurs, who could judge of them very well from having travelled them much. The portages were well enough measured by pacing them; and their direction was defined in the same way as that of the rivers.

On the portion of the Mississippi above Cass lake, which was the least known of any part of the river and route, I bestowed on the tracing and computing of distances the most unremitted attention; and as I had by this time acquired a great facility in my method, I feel a confidence that the character, course, and length, as represented, of this interesting part, approaches a great degree of accuracy; and the place which I have thus given to Lac La Biche, the source of the great river, may be regarded as being very near its *true position*. This is on the supposition that Cass lake, to which Lac La Biche is thus relatively fixed, has its true geographical position, from the observations of the astronomer, Thompson.

My observations on this part of the route, given on the map, and in my journal, between the 11th and 16th July, may be viewed as settling definitively the question of the true source of the Mississippi, which has excited some interest and curiosity, and upon which map makers have heretofore been seemingly uninformed; as, on all the published maps that I have seen, the river above Cass lake is incorrectly laid down, and Lac La Biche is placed *north* of Cass lake, instead of *south* of it, as it should be.

I have placed Lac La Biche about in latitude 47° 10′, and longitude west of Greenwich 95° 54′. It is 165 miles above Cass lake, and 1,029 above the falls of St. Anthony.

Our route from Leech lake, down the Crow Wing river, has also developed new facts in the topography of the country, in the source, length, and character of that river, which claims an interest from its being the largest branch of the Mississippi above the falls of St. Anthony.

The description of the St. Croix and Bois Brulé rivers, of our route returning from the Mississippi to Lake Superior, is also new.

The country embraced by the map, and which did not come under my immediate observation, is described from Indian maps, drawn by Indians well acquainted with it, and from the maps and descriptions of traders. The number of the rivers, and their length and direction, is not far from truth.

The southern shore of Lake Superior, a part of our route, is omitted in the map, but its topographical features are described in the journal.

In my letter to you of September 13, 1832, I had occasion to mention the separation of Mr. Schoolcraft from the detachment on the St. Croix river. The circumstances of that separation are reported in my journal of the St. Croix, July 29.

I have the honor to be,

With the greatest respect, sir,

Your most obedient servant,

J. ALLEN,

Lieutenant 5th Infantry.

To Major General MACOMB,

General in Chief.

Journal of an "Expedition into the Indian country," to the source of the Mississippi, made under the authority of the War Department, in 1832.

June 7.—The party organized for this expedition consisted of Mr. Schoolcraft, who had the principal conduct of it; Doctor Houghton, the surgeon, to vaccinate the Indians; Mr. George Johnston, interpreter; Mr. Boutwell, a presbyterian missionary; and twenty engagées, or Canadian voyageurs, in the employment of Mr. Schoolcraft, and the military part, consisting of myself and ten soldiers, from the companies at Fort Brady: making an aggregate, of the whole party, of thirty-five souls.

This party may be considered as divided into two parts; that organized by Mr. Schoolcraft, and under his immediate direction and subsistence, and the escort or military part, under my command. I shall therefore designate the former, throughout this journal, as Mr. Schoolcraft's party, or Mr. S. and party, which will be understood to embrace all excepting the escort, the latter being transported and subsisted under my direction.

All our preparations having been completed, we embarked from Saut de Ste. Marie about five o'clock in the afternoon of the 7th of June. Mr. Schoolcraft and party, with their baggage, in one large Mackinac boat and two bark canoes, and the soldiers and myself, with our arms, ammunition, and provisions to last us to Fort Snelling, in a small Mackinac boat. The boats are intended for our journey along Lake Superior, and will be abandoned at Fond du Lac, where, for river navigation, we shall be compelled to use the Indian bark canoes. Our object being, for this day, merely to make a start, we went but six miles, to Point aux Pins, on the Canada side of the St. Mary's river, where we encamped for the night. This is a point of very general encampment for the traders, and is always considered by them, departing from Mackinac, or the Saut de Ste. Marie, as their first point in the Indian country. Here the prices of their goods change, and any article sold at this point, or beyond it, to any of their hands or engagées, is charged at what they denominate the "interior price," which is the same as that placed on their goods at their several trading posts in the Indian country. The St. Mary's river expands greatly above and below this place, and all of it above might be regarded as a bay of Lake Superior, were it not that there is a perceptible current almost to the lake. Point aux Pins is a low, sandy barren, with a few detached pines growing on it. A small stream enters the St. Mary's, a few hundred yards below the extreme point, called Carp river, very remarkable for the great quantities of carp fish it contains, at some seasons of the year. Two hundred yards from its mouth, the stream is eight feet wide, and four or five deep, and, in the spring of the year, is literally filled with these fish. I had visited it on a former occasion, and found them so abundant, that with ten strokes of a spear I killed nine fish, most of them about a foot long, and when the water was so muddy, from their moving in shoals, that I could not see any of them, but judged of their situation only by the motion of the water, occasioned by their moving in such great numbers.

June 8.—Made an early start, and soon passed into Lake Superior between Gros Cap and Point Iroquois, the two points which mark the exit of the lake by the St. Mary's river, which, at this place, is nine miles broad, and seems, from the similarity in appearance of the two capes, at a very remote period, to have forced its way through a continuous mountain that once united them. It has been supposed that an analogy existed

between the rock formation of these points; but, on a former occasion, about a year before our present visit, Doctor Houghton and myself made a careful examination of Point Iroquois, of the American side, and could discover no rock whatever: its character, therefore, in this respect, is still conjectural. The name "Iroquois" is given this point, and a small island of the lake near it, from a massacre at this place of Iroquois Indians, by the Chippewas, a long time ago. Gros Cap, immediately opposite, on the Canada side, is a large granitic bluff, rising at first perpendicularly to a height of 150 feet, and afterwards more gradually to a whole height of near 500 feet. It is a remarkable point in the great chain of granite mountains that confine Lake Superior, to the north.

Turning Point Iroquois, the lake extends westwardly, forming a great bay between this and Whitefish point; the distance across being 24 miles, and the depth of the bay from a line joining the two points, 20 miles. This bay receives the Tequamenon and Shelldrake rivers. I made its direct traverse in a direction N. W., by which I reached Whitefish point before the canoes and the other boat, which coasted the bay, but all turned the point near a mile, and encamped together at sunset, on a sandy beach.

Whitefish point is a low, long, narrow tongue of land, running, in an easterly direction, very far into the lake, and dips so gradually under the water as to form a shoal far beyond its extremity. About a mile and a half of the end of the point is composed of shifting sand and gravel, but a few feet elevated above the surface of the lake, and is perfectly barren of vegetation; the part back of this is low and very sandy, but a stinted growth of white and pitch pine, and a few small birch and white cedars, with some shrubs, have rendered the soil more fixed.

On the north side of the point the sand is very fine, (siliceous,) and about a hundred yards from the shore is blown into numerous insulated hillocks, or steep mounds, from 20 to 50 feet high, partially covered with a small vegetation, which prevents their being destroyed by the same cause that formed them. The extreme point is made entirely of small pebbles of granite, quartz, hornblende, &c., very round and smooth.

This point is remarkable and important as a fishery of whitefish—as affording more, and a better quality, of that excellent fish, than any other fishery of the southern shore of the lake yet explored. It has been long known as a point where this fish could be taken in gill nets at certain seasons of the year; but no use was made of it, more than is at present of several other fisheries of the lake, where a few Indians, or an individual trader, procure only what is necessary for their immediate subsistence. But within the last two years, the enterprise of two gentlemen, Mr. Ashman and Mr. Roussin, who had retired from the fur trade of the American Fur Company, has developed many facts, in relation to this fishery, tending to show its importance as a source of business and profitable trade.

These gentlemen commenced the business of fishing at this place, two years ago, without any particular knowledge or experience, with regard to the seasons, localities, or the best means of taking the fish, and, notwithstanding these disadvantages, have made it a source of considerable profit, and are encouraged to continue it more extensively.

The fishery, as at present developed, commences at Shelldrake river, nine miles from the end of the point, on its eastern shore, and extends round the point and along the southern shore of the lake, as far as the

Grand Marais, or the commencement of the Grand Sable, a distance of fifty-four miles. The bottom along this part of the coast is sandy, and falls off gradually into deep water, and the shore is a sandy beach—circumstances favorable to the safety and easy working of the nets. The fish occur in equal numbers in every part of its whole extent, but the point is the most desirable locality, from its generally affording, on one or the other side, a lee, and smooth water, where the nets may be used during winds. The fish are taken by means of the gill net alone; the meshes of which are of a size adapted to the fish's head, so as to fasten in the gills when the fish attempts to withdraw its head, after having inserted it in an attempt to force its way in the direction of its movement. The nets are generally eighty fathoms long, and from five to ten feet broad, according to the depth of the water; and are set in a vertical position by leads or sinkers that rest on the bottom, and floats of sufficient buoyancy to support the weight of the net and hold it up. They are tended by fishermen employed for the purpose, two of whom can tend and manage, in fair weather, ten nets; which will yield, every morning, from one to six barrels of fish. The management of nets consists in merely raising them, relieving them of their fish, and dropping in the same place, once each day; which is done by running a canoe along their course, and raising and dropping as the canoe progresses. These nets cost about six dollars each.

The fishing season commences here in the spring, (when the largest and best fish are taken,) about the last of April, and ends about the last of June; and in the fall, occurs in October and part of November; making the whole season a little more than three months. The rest of the year, the whitefish remain in the deep water of the lake. It is remarkable that at no other known fishery of the lake can the whitefish be taken in quantities in the spring; and equally so, that those of this fishery are larger and better than at any of the others. It is also a peculiarity of this fish that they are fatter and better in proportion as they are larger. Some taken here weigh fourteen or fifteen pounds, but the average weight is, in the spring, twenty-five to thirty fish to the barrel of 200 lbs., and, in the fall, thirty to forty. The superior quality of the Lake Superior and Saut de Ste. Marie whitefish, causes them to bring, in Detroit, from one to two dollars per barrel more than any other whitefish of that market. Much of the resources of this fishery, as also the best means of working it, remain to be discovered, and, consequently, no estimate can be formed of its future value to trade. Messrs. Ashman and Roussin have put up at Whitefish point, within the last two years, 559 barrels; others, in the same time, and at the same place, have put up 313 barrels; making the whole proceeds for the above time, 872 barrels, worth in Detroit six dollars per barrel, or 5,234 dollars.

It is probable that there are many other rich whitefish fisheries along the southern shore of the lake, but they are, as yet, unexplored. The northern or Canada shore is said to afford many, as also superior advantages for fishing, from the coast being more serrated by bays, and protected by numerous islands from the effects of winds and seas, that greatly annoy the fishermen on the southern shore.

June 9.—Mr. Schoolcraft's boat, managed by Frenchmen, and carrying most of his provisions and baggage, did not reach our encampment until late last night: this circumstance determined him to strengthen the crew of the boat, by that of Mr. Johnston's canoe, which was accordingly abandoned, and Mr. Johnston placed in charge of the boat,

with Mr. Boutwell as passenger, Mr. Schoolcraft and Doctor Houghton occupying the light canoe as before; which, being manned with a full crew, was able to travel at a much speedier rate than either of the boats. We left our encampment after breakfast, at six o'clock, and, following the coast, took a direction nearly due west, which changed in the forenoon to 10° south of west, and in the afternoon to S. 30° W. I got to the Grand Marais at 10 P. M., where Mr. S. and party were already encamped, his boat being now able to precede mine, from the superiority of the boat and crew. The whole of the coast passed to-day, presented a very plain bank of fine sand from twenty to a hundred feet high, and a continued forest of pine, generally small, but sometimes large and beautiful. A picturesque grove of white pine (Pinus strobus) of more than a mile extent along the lake, occurs about ten miles from our encampment. The growth is all large, and unmixed with any other trees, the pines straight, tall, without limb, and thickly set together, on level ground, as far back as we could see.

We passed Twin river, twenty-four miles from Whitefish point. It is a small stream, and its mouth is so much filled with sand that it can only be entered by very light craft, and in smooth water. We have travelled to day forty-five miles.

June 10, *(Sunday.)*—This being the Sabbath, by a rule of Mr. Schoolcraft's, we do not travel, though the weather is fine. The rule however is convenient in observance, as it gives the men time to wash, bake, &c., which they have but little time to do when travelling. We are lying in a beautiful little bay, called the Grand Marais, from its having once been a marsh, which, within the recollection of some old voyageurs, now present, has been washed away to its present state. It is a safe harbor for boats, and is important from its being the only one between Shelldrake river and Grand island, a distance of near one hundred miles. It is half a mile in depth, opens to the west, and is difficult to enter with a strong west wind and heavy sea, which drive right into it. Traders have met with serious accidents in attempting to run into it under such circumstances. The country about here has nothing peculiar in its appearance—hills are seen to the S. S. W. covered with thick forests of birch and pine.

The Grand Sable, or Great Sand, commences from the west of the entrance to this harbor.

June 11.—Left our encampment at Grand Marais at 2 o'clock in the morning, and passed the Grand Sable before daylight. This is a great deposite of loose, fine, siliceous sand, which forms a plain coast for about nine miles, rising abruptly from the lake at an angle of near 45°, and to a height of about three hundred feet. It is sustained at so great an angle by its moisture; for it is otherwise uncemented, and gives way under the feet, making its ascent almost impracticable. It is deposited in three layers or beds which are distinguishable by a slight difference of color, and rests on a flat rock of variegated sandstone, which is seen a few feet under the surface of the water, near the shore. The summit is in a plain of the same loose drifting sand, which extends back for some miles, and is perfectly barren, containing embedded trunks of trees. In this plain, about a mile and a half back, there is a small lake, of more than a mile and a half in circumference, of clear, transparent water, and of apparently great depth, enclosed by a beautiful low bank of clear sand, and a beach of small pebbles. This lake is the source of a branch of the Tequamenon river, that

empties into Tequamenon bay, between Point Iroquois and Whitefish point, and is remarkable from its occurring in the middle of a sandy plain.

As we progressed, the Grand Sable gradually fell off into a low sandy bank, thirty or forty feet high, covered with a small growth of pine, birch, sugar-maple, and beech, (Fagus ferruginea,) which continues for about twelve miles, and terminates in the grand sandstone formation, called the "Pictured Rocks," which constitutes twelve miles more of the coast to Grand island. This is the most beautiful and picturesque part of the whole southern coast of Lake Superior.

The formation is the "red sandstone," which rises gradually to the height of three hundred feet, in strata nearly horizontal, and from one to eight feet thickness, forming a perpendicular and projecting wall, with but one or two interruptions, from the point where it is first seen, to the entrance of the harbor of Grand island, where it leaves the lake, and, turning to the south, disappears in wooded hills. This wall rises perpendicularly out of the water, which is apparently of great depth immediately at the base; and in places where the falling down of upper portions of the rock has been recent, it is perfectly vertical, with the regularity of masonry from the base to the summit. But generally the rock is projecting, the undermining operations of the water and frost at the base not having progressed far enough to allow the whole entablature above to split, and tumble over from its own weight.

The effect of the long action of the lake on this rock is here curiously exemplified, and can be distinctly observed to a height of more than a hundred and fifty feet above the present level of the water, proving conclusively that at some remote period the water of the lake stood at nearly that height above where it now is. The surface of the rock is not regular, presenting many angular and rounded points and notches, or little coves and bays; and where parts were softer than the general rock, and where water oozed from between the strata near the base, the action of the frost internally, and of the waves externally, has worn out caverns, domes, and arched ways, of great extent and singularity. In some places, water, containing vegetable and mineral matter, has run from the strata near the top, and striped the surface down to the bottom in all varieties of colors. The general surface is almost continuous for about twelve miles, in a direction a little south of west. It is only broken in one or two places by small streams and their little valleys, the largest of which is Miner's river. This stream, which was too small to admit our boat, has its mouth in a little sandy bay, to the east of which the bluff terminates in a remarkable feature, called the "Dorick Rock." This is a large slab or tabular rock, of about fifty feet diameter, and eight feet thickness; supported on the side next to the bay by four columns, the largest of which is about seven feet through, and the smallest about three feet; the other side being supported by the main rock, of which it is a part. This whole structure presents four regular and distinct arches, two of which, being perpendicular to the shore, may be seen from the lake; the other two are radiant to the great arch, and nearly parallel to the shore. The large arch has a span of about thirty-five feet, and a rise of one-fourth the span. Its floor is inclined to the lake, making the height of the soffit at the entrance forty feet, and at the egress eighteen feet, the soffit or interior surface of the arch being horizontal. The lesser arches have a span of from five to eight feet, in the same plane with that of the large arch, but their floors are higher. The columns are round, and have almost the regularity of masonry.

This structure is elevated at its base forty feet, and at its summit one hundred feet above the lake, and is the extreme point of the bluff, which it terminates perpendicularly. The top of the rock is covered with a vegetable soil, and a growth of timber, among which are three pines of from two to three feet diameter.

The Dorick rock is but one of the features of this part of the coast; there are many others equally curious and beautiful, and the whole presents a scenery of grandeur and beauty not surpassed, perhaps, by any other scenery of our country.

From the Pictured rocks we entered the eastern channel to the harbors of Grand island, and, passing round the island, encamped on the southern shore of the western channel, at a trading house. Grand island is a large and elevated island, of about twenty miles circumference, and stands very little out into the lake, beyond the line of the coast, with a broad channel running round it. Back of the island the channel expands into large deep bays, that run into it and the main land, forming commodious and safe harbors for vessels. Next to the lake, it presents high sandstone bluffs, but its other side falls off into a low shore. On a low sandy point of the south side of the island, there is an Indian village, with a present population of fifty-nine souls; thirty-five males and twenty-four females; warriors twelve.

These Indians are well clothed, and look healthy. They derive their subsistence from the fish of the bays of Grand island: herring, trout, and small whitefish, which they take with the spear and in gill nets, and from some game, principally the common red deer, which they kill between this and Lake Michigan; and from their trader, who supplies a part of their provisions in winter. The present trader is Mr. Nolan, a clerk to Mr. Holiday, of Keewaywenon bay. He made last year three packs, worth $900, principally beaver, martens, and muskrats.

Twenty of the Indians now of this village belong rather to Presque Isle, forty miles above, where they live and hunt most of the year. We have travelled to-day forty-three miles. The soil about the trading house is rich and heavily timbered, mostly sugar-maple and birch, and the land is said to be of good quality from here south to Lake Michigan.

June 12.—We were detained at our encampment by a head wind, until 10 o'clock A. M., when, the wind falling, we got out of the western channel, and attempted to make the traverse of a deep bay, twelve miles across in a due west course, but the old sea ran so high that most of my men became sea-sick, and Mr. Schoolcraft, unable to proceed in his canoe, ran into the bay, and made a harbor in the mouth of a small river, where we encamped, having come but about eight miles. This little river has its channel at the mouth through a flat sandstone rock, and is hence called "La Rivière au Galet." It is small, barely admitting our boats. The land here is sandy and poor. Two miles farther, in the bottom of the bay, is the river Aux Trains, and near it an island of the same name.

June 13.—On leaving this bay, we passed a low, rocky shore, four or five miles, and taking a direction due west, which left the shore some distance to our left, we reached Presque Isle at 2 o'clock P. M., a distance of thirty-two miles. I could only see the shore sufficiently to notice its indentations by little bays, and that the land was low, with a sandy beach all the way. Nine miles from the river Aux Trains, we passed Laughing-fish river; fifteen miles farther, Chocolate river; and six miles farther, Dead river, in Presque Isle bay—all small.

Presque Isle is geologically interesting. It is a mass of serpentine rock, about two miles in circumference, rising gradually on all sides, to a height of two hundred feet. The peninsula extends far into the lake, and is connected with the main land by a low, narrow, sandy isthmus, fifty to one hundred yards broad, covered with pine. The rock is the common serpentine, but does not exactly answer to any description of that rock that I have seen, and in some of its characters it resembles chlorite. Its texture is compact, and its grain fine; it is harder than the usual varieties of serpentine, is difficult to cut with a chisel, or to scrape with a knife; its fracture is earthy and uneven, and has a dark dull color, with very small, whitish veins, traversing it in different directions; when polished it exhibits a beautiful, clear, smooth surface, very prettily variegated with different shades of dark green. The mass of the rock is traversed with numerous veins of the precious serpentine, running apparently through it, in different directions, and with different inclinations. These veins may be distinctly traced on the surface, exhibiting the precious serpentine in many varieties of color. They vary from one-fourth to three or four inches in breadth, and each vein is composed throughout of the same variety. Some exhibit it compact, opaque, and almost white, with a light tinge of yellow and green; in others it is seen of a dark, clear, leek green, beautifully translucent. But the finest variety occurs in the broader veins, and in the asbestus form, of a beautiful deep green color, transparent, and polishes well. Its fracture, in the direction of its fibre, exhibits the structure of compact asbestus, and is lustrous, but occasionally shows very small fibres of asbestus; a fracture perpendicular to the fibres shows a very close, compact texture. Another very curious variety was discovered in a small vein; it was of a light green color, opaque, and veined in the manner of the agate.

The great mass of the rock rises gradually from the lake, and on the north side; it was not too steep for us to land on it and walk up its surface, which is generally smooth and regular, and of a very dark, glossy appearance, somewhat resembling hornblende rock. It presents large fissures or openings, however, in one of which I ran my boat three or four times its length, into a little cove with a gravel beach and perpendicular walls all round it, where pyrites of iron were found among the pebbles. On the top and north side, the rock is covered with a small growth of trees and bushes: on the east side, for perhaps one hundred feet at the base, it is overlayed with rotten red sandstone, which being broken off perpendicularly toward the lake, shows the line of coincidence of the two rocks as it emerges from the water.

Having procured some specimens of the rock and veins, and made this imperfect examination, which is all that my time would allow, we passed a bay of five miles traverse, in a N. W. course, and touched Granite point, a high bluff peninsula, very like in appearance to Presque Isle, and connected with the shore in a similar manner. The rock however is granite, heaved up in a very irregular and confused mass, presenting numerous irregular fissures, and overlayed with red sandstone for ten or fifteen feet above the surface of the lake, in the same manner as the serpentine rock of Presque Isle. Seven miles farther, in the same direction, brought us across another bay, and to a very rough shore of granite bluffs, where we ran into a small stream which came apparently through a fissure of the

rock, and encamped, placing our tents on the rock, sixty feet above our boats, but not more than ten feet from them horizontally.

We have come to-day forty-four miles, and have had high peaked, granitic looking mountains on our left nearly all day. The rock about our encampment shows many large veins of green stone. Mr. Schoolcraft and Dr. Houghton, with the canoe, have their encampment ahead.

June 14.—Leaving our rough harbor, we passed a low sandstone shore of seven or eight miles. A high range of hills was seen off to the south, running N. W. and S. E., probably a part of the chain observed yesterday back of Presque Isle. About ten miles from our encampment, the shore shows a very irregular black rock for two or three miles, which on examination proved to be hornblende rock and hornblende slate. This rock projects into the lake in many points, which present, for some distance from the water, a bare, black, glossy surface. Leaving this, the red sandstone shows itself again, in high, prominent bluff points, embracing deep regular bays, nearly all of which have low sandy shores and beaches in the bottom of their circuit. Six of these bluff points occur nearly in the same N. W. line, in a distance of twenty miles, before we reach Keewaywenon bay; some of them seventy feet high, and all presenting mural precipices to the lake. This sandstone, of which we have seen so much, has a dull, dark red color, occurs in thin strata, and has a very rough, ugly appearance. It contains no organic remains, and is in no way interesting; a thin sandy soil rests upon it, and supports a growth of cedar and pine.

Back of this formation, the chains of granite mountains rise to great heights, and occasionally display the base surfaces of their rugged peaks. They come down to within a mile of the lake, at the entrance to the Keewaywenon bay, where another chain farther back runs off to the south, in the direction of the length of the bay.

From the last of the high sandstone bluff points, described above, the two boats commence the traverse of the great bay Keewaywenon, steering N. 60° W., to a cluster of little rocky islands which are situated in the bay, about eight miles from the shore, and off the mouth of Huron river called the "Huron Islands." These islands, four or five in number, are great masses of granite, grouped near together, of very rugged aspect, and irregular shape. The largest is about a mile in length, one hundred and fifty feet high, and has some little bushes and trees growing in its fissures. The others are bare rock, and served thousands of gulls for nesting places. Some fissures of the large island, on which we landed, are remarkable. One running entirely through the island in a narrow part of it, allows the water to flow through, though at the top, forty or fifty feet above the water, a person may leap over it. South of the Huron islands is the mouth of Huron river, and six miles west of the latter is a long narrow point, called Point Abbaye, which is the western cape of Huron bay, and divides it from Keewaywenon bay. Huron bay opens into Keewaywenon bay between Huron river and Point Abbaye, and runs back to the south and southwest, to a distance of more than twenty miles, almost as far as the great bay of which it is a subordinate branch. It is deep water throughout, but becomes very narrow towards the end, and is used as a fishery by the Indians, affording trout, herring, and whitefish.

Keewaywenon bay is the largest and most remarkable of the whole lake. It is thirty-two miles deep from Point Abbaye, in a southwest direc-

tion, and its whole depth, from the extreme point of the peninsula of Keewaywenon, is about seventy miles. This peninsula runs far into the lake, in a northeasterly direction, and seems to approach Granite point in such a manner as to make the great bay of Keewaywenon to commence properly between Granite point and the east end of the peninsula. The distance between these two points is between forty and fifty miles. The voyageurs, however, going up the lake, do not consider themselves in Keewaywenon bay until they get within six or seven miles of Huron river, or the Huron islands. The breadth of the bay from Huron river is thirty miles, and from the islands to the nearest point of the peninsula is twenty-two miles; this is the usual boat traverse in fair weather, and was ours on the present occasion. We left the islands at 3 o'clock P. M., and crossed the bay in a direction a little N. of N. W., in five hours and a half, encamping at half past 8, behind a sandstone bluff point, in a little sandy bay opening to the northeast. All the traders and voyageurs consider this a dangerous traverse, and boats are frequently detained for several days on one or the other sides of the bay, waiting for favorable weather to cross. We were fortunate in having a perfect calm all the way, and crossed without difficulty or apprehension. The view from the middle of the bay is one of the most beautiful and picturesque of the lake. A high mountain chain that runs along the middle of the peninsula Keewaywenon, is seen, in front, running far out into the lake, till its tops seem just emerging above the surface. Behind, to the S. and S. E. the granite mountains that come down to the lake at Huron river, show their base surfaces and tops; and the more distant chain which runs off to the south, gives, in the blue distance, a distinct outline of innumerable high peaks, connected by curves made regular, and well defined by the distance. To the right and left, in the direction of the length of the bay, nothing is to be seen but the beautiful expanse of clear water.

Mr. Schoolcraft, in his canoe, left the boats near the Huron islands, and took the usual canoe route down the bay, intending to visit Mr. Holiday's trading house, and an Indian village, near the bottom of the bay, and then make the traverse to Portage river, in a narrow part, and cross the great peninsula by a portage to the lake on the other side, where he was to remain encamped till the boats made the tour round. The usual route for canoes that make the portage, is, from Point Abbaye down the southeastern shore about nine miles, and thence across, in an oblique direction, about twelve miles, to the mouth of Portage river; up this river six miles, to a lake twelve miles long and two or three broad, and through this lake to a little river at its head, which is ascended six miles to its source in a wet savanna; from which, by a portage of one mile, they reach the lake on the north side of the peninsula, which here, and by this route, is twenty-five miles broad.

A distance of ninety miles round the point Keewaywenon is saved by this route across by the portage. Boats, however, must always coast round the point, and, from the great prevalence of winds and seas so far out in the lake, this part of the route is frequently tedious, difficult, and dangerous.

The number of Indians about Huron and Keewaywenon bays is one hundred and thirty, about half of them males, and about twenty-five of these warriors. They subsist in summer principally on fish, which they take in sufficient quantities in the bays by gill nets and the spear. Whitefish, herring, and trout, are abundant in these bays. In winter they hunt the marten, otter, muskrat, and beaver, and during their hunts are mainly sub-

sisted by their trader, with provisions taken from Mackinac. In this season they depend much on him for their subsistence, and it is questionable if they could now, in the present state of their country, live without the partial supply that he annually distributes to them. Their country is exhausted of the game, deer, bears, &c., that once furnished them food; their fisheries are impracticable at times, from the rigors of winter, and many of them would undoubtedly suffer from starvation, were it not for the relief alluded to, which is given them for their furs. They get provisions and goods from their trader, when he first returns from Mackinac, in the fall, and disperse to their several hunting grounds for the winter; from which the men frequently return to bring in their furs, and get fresh supplies. The present trader at this post is Mr. Holiday, of the American Fur Company, who makes this his head quarters for two other posts, at which he has subordinate traders or clerks; one at Grand island, and one at the mouth of the Ontonagon river. This gentleman has lived and traded at this post for about twenty-four years, only coming out every summer to Mackinac to sell his furs, and get new goods. The Indians of his district now depend on him for their annual supply of clothing, ammunition, &c., for which he usually gets all their furs; but the exhausted condition of their country, requiring, in addition to the usual wants of Indians, a great quantity of provisions, the trade of late years has not been profitable, and his whole returns in furs in the spring seldom exceed by more than one thousand dollars the expenses of his three posts. More than half of his annual stock in trade is provisions. He makes usually at Grand island, three packs; at his own post, on the bay, ten packs; and at the Ontonagon river, two packs; in all, fifteen packs, worth $300 a pack, or $4,500. The furs are principally beaver, martens, rats, otters, and a few bears.

Mr. Holiday is frequently opposed at his several posts by other traders, not of the American Fur Company, but generally with loss to those opposing; for his superior influence over the Indians, acquired from a long residence among them, secures for him all the furs.

June 15.—Started at half past 3 A. M., and commenced the coasting of the peninsula, along its southern shore, in a general direction a little east of northeast, eight miles took us across a sandy bay of no great depth, and to the mouth of a small river, supposed to be "Tobacco river." It runs out in a mouth about ten yards broad, and eighteen inches deep, with a strong current over a flat, sandstone rock, and has three perpendicular falls over the same rock, all of which can be seen at one view from its mouth. The first, 50 yards from the mouth, is five feet; the second, 20 yards farther, seven feet, and the third, 10 yards farther, eight or nine feet. It is remarkable that so large a river should flow from the peninsula, which is in no part more than thirty or forty miles broad, and has a chain of mountains dividing it in the centre.

A few miles from Tobacco river we met Mr. Oakes, a trader of the American Fur Company, from Lac du Flambeau, his post. He was on his way to Mackinac, with two Mackinac boats, carrying out the furs of his trade the previous winter. Mr. Oakes is the principal trader for the district or department of Lac du Flambeau, between Lake Superior and Green Bay and the Ouisconsin river. He has four posts under his charge, Lac du Flambeau, his head quarters; Lac Sable; Chippewa river, and Ouisconsin river; which yield, severally, about the same quantity of furs, but

varying, in different years, between 1,500 and $2,000 for each post, and making his whole trade worth between six and eight thousand dollars a year. The Indians of his department get nearly all their goods and necessaries from him, and subsist on the resources of the country, game and fish. In the fall and winter they kill great numbers of the common red deer, which are very plenty about Chippewa river. In the spring and summer, their subsistence is principally fish and berries, and a few furred animals. They sometimes make excursions against the Sioux, but they are not, at present, at war with any other tribe. They are represented as entertaining, generally, a very unfriendly feeling towards the Government of the United States, and are only restrained by fear from depredations on their traders.

Leaving Mr. Oakes, we crossed a large deep bay that ran eight or ten miles inland, with a sandy bank and beach for about half its circuit, where the mountains came abruptly down, and form the northern shore of rugged massive rock. From this bay the shore inclines a little more to the east, and presents numerous rocky points, with little coves and sandy bays between. Near the end of the peninsula, the shore becomes more rocky, rough, and abrupt, and the course is east of northeast till we reach the most easterly point, where it suddenly changes to almost due north, varying but two or three degrees west, for a distance of four miles, when it again suddenly changes to nearly due west, along the north side of the peninsula. That part of the shore that runs north and south is the end of the peninsula Keewaywenon, and the most easterly point of it is called "Point Keewaywenon." There is no projecting or attenuated point, but the peninsula is here abruptly truncated in a north and south direction, presenting a rough rocky end, of near four miles, in this course, with a small island, called "Beaver Island," about five miles directly off it in the lake.

This is a dangerous part of the coast for boat navigation. The peninsula offers no safe harbor for boats on its extremity, or near it, on the south side, and we were anxious to get into a harbor on the north side before dark. My boat, however, was several miles behind Mr. Johnston's, and darkness, a strong head wind, and a thick fog, overtook me soon after I turned the eastern point. I was then obliged to grope my way for several miles along a high rocky shore, of most forbidding aspect, against which I was in continual danger of being dashed to pieces, but which I could not leave farther than the length of the oars, lest I should lose sight of it, and get lost and be blown off into the lake. In this situation I continued to hug the shore, and contend with the wind and sea, though not without great apprehension, until half past nine at night, when I ran the boat into a dark opening in the rock, which proved to be a little cove about fifteen feet broad, formed between the main rock and a projecting crag about thirty feet high, and of sufficient length to conceal the boat and protect it from the wind then blowing. The bottom of the cove had been filled in with pebbles for a distance of twenty feet, and on this I encamped, securing the boat by means of cold chisels driven into the rock, to make fast to. My experience to-night proves the necessity, in coasting this lake, of always having a guide in the boat well acquainted with the coast and the situation of its harbors. The severe winds and sudden storms on Lake Superior are proverbial, and it is never considered safe to encamp over night out of a harbor.

This peninsula is the most marked topographical feature of the southern shore of the lake, and is one of the most interesting in its geology and mineralogy. Estimating its length from the bottom of Keewaywenon bay, it is about eighty miles long. It is four miles broad at its extremity, twenty-five or thirty miles in its middle part, twenty miles at the portage, and between thirty and forty at the base, across from the bottom of the bay. A chain of round topped rocky mountains, from 500 to 800 feet high, rise near the end of the point, and extend back, along its centre, to a distance of near forty miles, occupying, for this distance, nearly the whole breadth of the peninsula, and sometimes coming down, at the bottoms of bays, till their bases are washed by the lake. Wherever these mountains have been examined, they are trap rock, and this is undoubtedly the formation of all of them. Several varieties of trap are seen along the shore, and, in fact, constitute all the rock of the shore from Tobacco river. Basalt, amygdaloid, hornblende, greenstone, and rubblestone, are among the varieties. The rock of the extreme point, and of the shore, for seven or eight miles beyond, is a coarse crag. It is composed of pebbles, of a dark brown color, showing the same color in their fracture, varying in size from the smallest to more than one foot in diameter, and united by a calcareous cement, which exhibits calcareous spar, in crystals and little veins, in many parts. It does not seem to extend far from the shore towards the mountains, for in many places, where it is worn out to form little coves, the shore, at the bottom of the cove, shows only sand and pebbles that have been worn from the main rock. From its exposed situation so far out in the lake, this rock is much subjected to abrasion from ice, &c., and presents to the lake an irregular, ugly, dark colored surface, generally vertical, and from eight to thirty feet high. Many large portions are detached, and stand out one or two hundred yards in the lake, in huge shapeless masses.

Travelled this day 45 miles.

June 16.—Left my rough encampment, between the crags, at half past four in the morning, in a dense fog, and coasting along the rock in a direction about west; a mile and a half brought us to the "Little Marais" harbor, where Mr. Johnston had preceded us with his boat, and encamped the previous evening, and was now waiting for us to come up with him, under some apprehension that we had met with accident during the night. This harbor is much used by the voyageurs of Lake Superior, and is the first secure one that occurs after leaving Tobacco river. It is a little basin one hundred and fifty yards across, nearly circular, with a low sandy beach all round, excepting on the side next to the lake, where it is separated by the crag rock spoken of, which forms the shore. The entrance is a narrow gap in the rock; and this again is locked and protected from the lake by a long mass of the same, fifteen feet high, and twenty or thirty broad, placed directly before the entrance, and extending thirty or forty yards on each side of it, parallel to the main rock, leaving a channel open at both ends, and just broad enough to admit boats without oars. The banks of this harbor are much lower than the rocks in front: and there is a small marsh a short distance back; hence, the name of "Marais" for the harbor. Two miles farther brought us to the "Green Rock," a detached block of the crag rock, eight or nine feet high, and as many through the base, to which the voyageurs have given this name, from the color it has acquired from copper green disseminated through it. It is intersected by a vein of calcareous spar, that is also impregnated with the

ore, and lies in the water but a few feet from the main rock of the shore, which also presents traces of copper green and copper black.*

From the Green rock, the shore has a general direction southwest; and the same rock continues five or six miles, intersected by numerous veins of calcareous spar, all running perpendicular to the shore. Some of them were two feet broad, and could be traced up the rock, and into the lake, as far as we could see. Numerous rocky islands occur along this part a short distance from the main land: some of them bare, and others covered with vegetation. We landed again, twelve miles from the Green rock, at some *copper veins*, discovered by Mr. George Johnston last year. The crag rock had disappeared some miles back, and we now struck upon the amygdaloid, which formed the whole shore, and the base of mountains that rose gradually back. These veins of copper are four or five in number, very near together, and all run perpendicular to the shore. They can be traced by their color many yards into the water, but they soon disappear on the shore, running under the rock. The largest of the veins is about three inches broad at the surface, but it has been excavated for specimens, about two feet in depth, where it is near six inches broad. All the veins are composed alike of the green carbonate of copper and metallic copper mixed. In excavating for specimens in the largest vein, I took out pieces of metallic copper of several ounces weight; and the men picked several pieces from the smaller veins, that occupied their whole breadth, and projected above the general surface of the rock. It would require much time and labor to make such an examination of these veins as would definitely develop their extent and resources, but the inducements their present appearance offers to such an investigation are certainly very strong and flattering.

The rock here is the amygdaloid variety of trap, and presents, all over its surface, innumerable little geodes of quartz gems, agate, cornelian, chalcedony, &c. I knocked many from it, and picked up others that were loose on the shore. And near the *veins* I discovered a large agatized cornelian of more than ten pounds weight, embedded in the rock about a foot under the water; but its surface, having been long exposed to the action of the frost and waves, was very much fractured, and in splitting the rock to obtain it, it was broken into many pieces, most of which rolled into the deep water and were lost. I, however, brought away large geological specimens of the rock, to which much of it is still attached.

After passing four miles more of the same rock, I crossed a beautifully curved bay, about nine miles across and six deep, with a sandy beach, and sand banks sometimes fifty feet high. Leaving the bay, the shore continued regular and less rocky, presenting, alternately, dark sandy beaches and rocky points; and some little bays, with a beach of white sand, and banks of the same. In one of the latter, I encamped at sunset, having travelled this day thirty-two miles.

One of my men caught a trout to-day of more than forty pounds weight,

* On my return, Doctor Houghton and myself put a blast in the main rock, at this place, which raised off about two feet thickness of it, and developed a vein of pure copper black, from which we obtained many specimens of the richest quality, containing no impurity whatever. The vein was about six inches broad, and ran vertically into the rock, increasing in breadth as it descended. It is probable that the vein descends into the trap rock, to which it belongs, and that the crag rock has been formed round it, by the deposition and cementation of its pebbles. The copper black is one of the richest ores of copper; and this locality of it is worthy of further investigation, which our time would not permit us to make.

with a trowling line : these fish may be caught in this way along almost any part of the lake, when the boat is sailing.

June 17, (*Sunday.*)—The last rocky point of this part of the coast was near our encampment, and on examination proved to be amygdaloid, very compact and hard, resembling massive basalt. It showed on its surface many large crystals of amethystine spar, but with their crystals much injured by attrition, the rock being low and subject to be washed by the waves. From the same rock I got a few specimens of the smoky quartz crystals, a very rare mineral. From this point our course was across a bay of fifteen miles traverse, with high banks of light yellow sand and a gravel beach; the shore gently curved, and of no great depth from the line of traverse, which was in direction S. 35° W. When we had made about twelve miles across the bay, we discovered, on the shore, the tents of Mr. Schoolcraft and party, denoting the end of the portage where Mr. S. had promised to wait for us, on parting, three days before, in Keewaywenon bay. This being Sunday, we stopped here for the rest of the day. Mr. S. had come over the portage, from Mr. Holiday's house, the previous afternoon, and Mr. Johnston, who had left me at the copper veins, had arrived at ten o'clock last night.

We have now made the circuit of this great peninsula of the lake, which is, generally, the most difficult part of the whole coast. Running out as it does to near the middle of the lake, at this part it is greatly exposed to winds and rough seas, insomuch that boats are frequently detained seven or eight days at the end of the point, before they can get a calm and smooth water long enough to get round it.

I have been particular in describing this part of our route, because it is the least known of any part of the lake. Its rocks and minerals are nowhere accurately described, and its topography is falsely represented on all the maps of it that I have seen. The most common error in respect to the latter, is the running of the peninsula out too much to the north, and not enough to the east. The true direction of its length is a little (say 4°) east of northeast; and this, as well as I could determine, is also the direction of the chain of hills or mountains that run along its middle. Another error is, the making of two prominent points at the end of the pennisula, and calling one the "East Point" and the other "West Point." These points are not prominent; the shore between them has scarcely any indentation: and, as the line joining them is nearly due north and south, it were fitter to call one end of it North point and the other South point. Such a distinction, however, is not necessary, for the north point is rounded and indeterminate, and the south point is sufficiently protuberant to retain the name of Point Keewaywenon, which is now given to it by the voyageurs and traders, and which is often applied to the whole peninsula.

The mountains run back from the point near thirty miles, but not so far as the portage, which is over level ground, and dry three-fourths of a mile from the swamp to the north end of it, where we are encamped. These mountains show in a few places a bare surface of rock near their summit, but are mostly covered with vegetation, which looks, from the lake, green, and in some parts tall and heavy; it is principally aspen poplar, (populus tremulordes,) birch, (betula papyracea,) cedar, and pine. The forest on the portage and about our encampment is very heavy and strong: birch, sugar-maple, large pine, and hemlock, (pinus canadensis.) The vegetable soil however is but two or three inches thick, and rests on white sand, nearly pure, which forbids the idea of profitable cultivation.

The bank of the lake, at our encampment, is sixty feet high, with a beach of pebbles drifted half way up it. There is no harbor here against northern winds, and our boats were unloaded and drawn out on the beach.

June 18.—A strong northwest wind, which made the lake very rough, forbade the embarkation of Mr. S.'s canoe, and under the prospect of the canoes being detained a considerable time, Doctor Houghton and myself determined to embark in my boat, and run on, with the wind then blowing, to the Ontonagon river, with a view, if the wind still continued, to make a trip to the "Copper Rock," on that river, before Mr. S. could come up, and without detaining the party for that purpose. I accordingly, about noon, loaded my boat, and launched her from timbers into a heavy sea, without accident; but I had scarcely got out when the wind lulled to a calm; and Mr. Schoolcraft, having embarked his boat and canoe, overtook us in a few hours, and we proceeded to La Rivière à Misère, and encamped 27 miles from the portage. In this distance we passed several bluff points of sandstone rock, from twenty to fifty feet high, with the shore gently curved between them, into sandy bays, presenting high banks of fine yellow sand, and rich green forests back. We passed, successively, the mouths of Salmon Trout, Graverod's, and Elm rivers—distant from the portage nine, fifteen, and twenty-two miles—all small, and much filled with sand at the mouths. Our course was, at first, S. 60° W., but, in the latter part, curved in gently to S. 10° W., forming a gradual indentation, at the bottom of which is the little river of our encampment.

There is a range of hills a mile or two back, parallel to the shore of the lake, the sides of which show forests of pine, birch, and sugar-maple; but the country is exceedingly poor in game; and the river has its name, La Rivière à Misère, or Misery river, from the circumstance of traders having greatly suffered here, in former times, from starvation. There has not been a trader here for many years.

The shore, about the mouth of the river, is pure marine sand, with little ridges of pure iron sand—the paper sand of commerce—running near and parallel to the edge of the water. When this sand is washed up by a gentle wave, it arranges itself in little rows or ridges, entirely separate and distinct from the siliceous sand which is held in suspension and brought up by the same wave. This is explained by the difference of specific gravities of the two sands, and the magnetic affinity of the particles of the iron sand. The process of the separation may be witnessed at most of the sandy beaches of Lake Superior, which afford this sand in great quantities. The best time for collecting it is immediately after the waves have subsided, when it may be taken in many places perfectly pure, before wind, or other accident, has mixed it again with the other sand.

This evening was chilly—42° in the air, and 52° in the water. Fahrenheit.

June 19.—Left the Rivière à Misère at three o'clock in the morning. The sandy shore continued for about twelve miles, and terminated in a perpendicular bank of sandstone, eight or ten feet high, which is the southwest point in the traverse of the great bend of the shore that we had just coasted. Turning this, our direction changed to S. 35° W.; the shore was slightly curved, and presented the same bank and beach as the preceding bay, with the same green forest back. We reached the Ontonagon river at eleven o'clock A. M., distant from our encampment twenty-four miles. The bank, for some distance before we reached the river, was very low, and the beach showed more of the iron sand than we had seen at any other part of the lake. The water for the same distance was shoal and tur-

bid, and of a dark brown color, which became more deeply tinted as we approached the mouth of the river. The river is about seventy yards broad at its mouth, and nearly on a level with the low banks and plains of barren sand which extend in an area of fifteen or twenty acres, on each side of the mouth. It is deep, and has a gentle current, excepting at the very mouth, where it is discharged into the lake, over a shoal sand bar, in a strong current.

Of all the numerous little streams of the lake, which are, not very properly, dignified with the name of "rivers," this is the most considerable of the southern shore, to Fond du Lac river; and yet it is only navigable for canoes 38 miles, and in that distance has many difficult rapids. It has been noticed by all the travellers of the lake, from Baron La Hontan's to the present time, for the remarkable mass of native copper found lying on its shore about forty miles from its mouth, and for the supposed mines of copper which this mass seemed to indicate in its vicinity. This mass, or "copper rock," as it has been called, has been so often visited and described, that it has lost a great part of the interest and curiosity which it at first excited; and the many unsuccessful searches for copper mines, in its vicinity, have nearly exploded the theory of their existence, the mass referred to being the only trace of copper that has been discovered on the river. Doctor Houghton and myself were induced to abandon the project of an excursion to the "rock" at this time, as it would have had the effect of detaining the whole party, at least, two days.*

This river is also interesting, and has been frequently noticed for its sturgeon fishery. A band of Chippewa Indians have made it their principal dependence for subsistence, as far back as the observations of travellers have extended, and, probably, for a much longer time. The Indians now here, and who still subsist, principally, on these fish, are about seventy-six in number. Their weir or sturgeon dam is in the same place that Henry found it, about seven miles from the mouth of the river, and is built with poles stuck in the mud of the bottom, so close together as to prevent the sturgeon's passing between them, inclined a little down stream, and kept in place at top by transverse poles, to which they are bound with bark, the transverse poles being supported by forked braces, placed below, and inclined up stream. The Indians stand upon supports attached to the weir, and catch the fish with hooks, fastened to long poles, which they move about in the water, at the base of the weir, till they feel the fish against them, when the fish is hooked up by a sudden jerk of the pole. The weir is placed at the foot of the first rapid, and, when the fish are ascending, has an opening made in it to allow them to go up, but which is closed when the fish are descending, and it is at this season that most of them are taken. The water of the river is turbid and of a dark brown color, which prevents fishermen from seeing the fish, or being seen by them. The fish taken here are from two to four feet in length, and are as abundant now as they ever were: and the Indians rely so exclusively on this fishery, that they hunt but little, and make no effort to cultivate the soil beyond the raising of a few potatoes, which are consumed almost as soon as grown. The river presents narrow alluvial bottoms for some miles up, very rich and favorable for the growing of corn, but they are

* On our return, Doctor H. and myself made this trip; for an account of which, see my journal from August 13 to August 16.

entirely neglected. When the Indians were asked why they did not raise corn, they replied that they had no seed; but this was only eluding the question, for if they had ever manifested a disposition to cultivate it, their trader would soon have supplied the seed, as its successful cultivation there would save him the transportation of a quantity of it from Mackinac for their subsistence and his own.

These Indians looked strong and healthy, but they had a dirty, greasy appearance, and exhaled a fœtid odor, from the oil of the sturgeon. They had their village at the mouth of the river where Mr. Schoolcraft held a council with them, in his tent, soon after our arrival; gave them some tobacco, and had them all vaccinated. He told them, if they would follow him to La Pointe, where he would open some goods, he would give them presents, but they objected to this mode of receiving them, and thought it more consonant with a proper pride and self-respect to have the presents distributed on their own grounds; seeing, however, their objections of no avail, they sacrificed their pride to their cupidity, and agreed to send a canoe with us, for the promised articles. We also met a chief here from Lac du Flambeau, to whom Mr. Schoolcraft had given a medal last year, who made a speech to Mr. S. in council, and stated, among other things, that he was then on his way to the Saut de Ste. Marie, to deliver himself up to Mr. S. for a murder that had been committed by one of his band on a Frenchman, and to get advice in the matter from the agent; he expressed great regret that the murder had occurred, and represented the difficulty of governing and restraining his young men. He said the other chiefs would not assist him to take the murderer, and bring him out, and he was unable to do it alone. Mr. S., in reply, represented that the President would be very angry when he should learn of this murder, and advised that every effort should be made to bring the murderer to the Saut, and give him up to the agent; and for the present his best course would be to return to his band, and use his influence and power to secure this murderer, and prevent further aggressions.

This chief, also, consented to follow us to La Pointe to get some presents, and promised to pursue the advice of Mr. Schoolcraft.

The Ontonagon band numbers *twenty warriors;* they are too remote from the frontiers of their tribe to engage in the border warfare of the Chippewas and Sioux, and may be considered as *at peace.* They are supplied by their trader, one of Mr. Holiday's clerks, with blankets, ammunition, &c., and provisions when they hunt. They never get many furs, but had taken more the previous winter than usual: principally otter, martens, muskrats, and beaver. Their principal chief had died a short time before, and was universally regretted. The trading house stood on an eminence on the east side of the river; the trader had gone with his furs to Keewaywenon bay, to Mr. Holiday.

From the Ontonagon, our course, S. 70° W., traversed a deep indentation of the shore, and struck it again at a distance of 18 miles, after passing the mouth of Iron river, 15 miles from the former. We then coasted, in the dark, a low rocky shore of sand rock, for 12 miles more, and reached the mouth of Carp river at 2 o'clock in the morning, where Mr. S. with his canoe had preceded the boats in the evening, and encamped. I could find no harbor in the dark shore, nor a place among the rocks where the boat would have been an instant secure, if a wind should have arisen, and was forced to continue travelling till I reached the encampment of Mr. S.

But this is not the first time, during the voyage, that I have felt the want of a guide in my boat, whose knowledge of harbors and distances might save such unnecessary exposures.

Carp river is quite a small stream, barely admitting boats in its rocky mouth, and drains a part of the Porcupine mountains that rise a few miles back. We saw the tops of these mountains before we reached the Ontonagon, at a distance of more than 40 miles, when they appeared like a long high point, running far out into the lake. On approaching them, however, the appearance of a projecting point was found to be an illusion, produced by the lowness of the land between us and them, which prevents its being seen at the same time; by their oblique direction to the shore and our course, and, perhaps, by those nearest the lake being higher than those back, which would have the effect, at a distance, of making the range seemingly more perpendicular to the shore than it really is. These mountains are near two thousand feet high, and are granite. The sandstone of the shore rises towards them more and more as we approach their bases, and is the same red sandstone that has been noticed on many parts of the coast that we have passed. They come down to the lake a few miles beyond Carp river, and form several miles of the coast, frequently showing a bare surface, but generally covered with a luxuriant heavy forest, similar to that of the country about their base, which is maple, birch, pine, and aspen poplar. Notwithstanding a detention of three hours at the Ontonagon river, we have travelled to-day a distance of 54 miles.

June 20.—Left Carp river at 6 A. M. and in direction S. 30°. W. crossed a little sandy bay, with high banks, to Presque Isle river, a distance of six miles. This is one of the largest rivers of the lake, and has its channel from its mouth in a deep ravine of the Porcupine mountains, which here rise immediately from the lake. I went up the river a mile to see two perpendicular falls that occur in this distance; the first, half a mile from the mouth, is 20 feet, and the other, about half a mile further, is 40 feet. The ravine is very deep and narrow, and the sides of it are so thickly covered with a vegetation of large and small trees and bushes, that I could not without difficulty find a point on the acclivity below the greater fall, from which I could get a distinct view of it; it is exceedingly picturesque; the stream above is much contracted between high ledges of rock, and seems to issue out of the mountain; from which, after running a few feet, it is pitched from a shelving sandstone rock into a deep abyss; the water is there deep, and the current gentle for about one hundred yards below, when it is urged with great violence over successive broken ledges of the same rock, until it reaches the next fall of twenty feet; from which it continues in a rapid current over broken rocks almost to its mouth. The quantity of water discharged over these falls is as great as that of the Trenton falls in New York, and the scenery is equally beautiful and interesting. Between the two falls the river has another channel, to the east, now dry, but which discharges a portion of its waters, in time of floods, by another mouth; and hence the name "Presque Isle river."

Six miles from this river is Black river, a small stream that drains the south side of the Porcupine mountains. We passed this river two or three miles to the left of our course, (S. 60° W.) and struck the shore at a distance of ten or twelve miles from Presque Isle river, where the sandstone rock is again seen, seven or eight feet above the surface of the water, and

inclined up towards the mountains at angles of 30 or 40 degrees; a bank of sand rests on it, and in a few miles the rock disappears entirely; and the sand bank, attaining an elevation of 80 or 90 feet, encloses the Montreal bay, at the bottom of which is Montreal river, twenty-one miles from Black river. We left the shore at the eastern cape of this bay, and made a traverse of twenty-one or twenty-two miles, in a direction due west, to the island of La Pointe; thus leaving Montreal river and Mauvaise river of the same bay very far to the left. Montreal river is one of the largest of the lake, but, from its numerous falls and rapids, its navigation is not practicable, excepting near its source; and the route of the traders of Lac du Flambeau, up this river, starts from its mouth, in a portage of near 50 miles 120 pauses. Seven or eight hundred yards from its mouth, it has a perpendicular fall of 14 feet, below which the Indians have a sturgeon weir, like that at the Ontonagon.

Twelve miles further round the bay is Mauvaise river, navigable for canoes 100 miles, which formed a part of Mr. Schoolcraft's route last year.

We reached La Pointe island at 10 o'clock at night, having travelled to-day a distance of 54 miles by the shore, but which was much shortened by our great traverse of Montreal bay.

June 21.—Mr. Schoolcraft, having some business to transact with the Indians of this place, and those that followed us from the Ontonagon, we did not leave until the afternoon. The island of La Pointe, on which we encamped, is the first and largest of a group of about twenty others, which extend about thirty miles farther towards Fond du Lac, and nearly lock the coast for this distance, lying at distances between one and five miles from the main land. This island has some three or four names on the maps; as, Montreal, St. Michael's, Middle island, &c., but is called the "Island of La Pointe" by all the traders and voyageurs, and any change from this name would only lead to confusion, and is improper; the name is taken from La Pointe Chegoimegon, a long point that runs out from the main land, from the south, to within about a mile of the island, the name of which is abbreviated, and called "La Pointe." Point Chegoimegon separates Chegoimegon bay from Montreal bay, which we crossed to reach the island, the former being a bay of 10 or 12 miles depth, and lying south of the island.

This island was, in former times, a place of rendezvous for the Chippewa tribe, where they held great councils on matters which concerned the whole nation. It was also the residence of a large and powerful band. But a change of national policy, by which the several bands act less in concert, and a general impoverishment of the country in their peculiar means of subsistence, has destroyed its importance as a place of general council, and reduced its particular band to about one hundred and eighty-four souls, who are dispersed about the bays and islands in the vicinity, and subsist almost entirely on fish, excepting at the time of their winter hunts, when their trader furnishes them with corn and flour. They take sturgeon from Montreal river, and small fish from this and Mauvaise river, and whitefish and trout from the lake, which latter they take in gill nets. They have at present between thirty and forty warriors, and are *at peace*, the Sioux, their natural enemies, being too remote for their excursions. They are supplied with all the articles of Indian trade, by American traders, who also get all their furs.

Their present trader is Mr. Warren, a gentleman of the American Fur Company, who makes this his residence, and the head quarters of an extensive department and district, embracing the extent of country S. W. of La Pointe, between Snake and St. Croix rivers, and Lac Courte Oseille and Chippewa river. The value of his trade, annually, is as follows: At the post of La Pointe $2,000, or 250 beaver skins, 500 martens, 50 bears, 1,000 to 1,500 rats, and 20 or 30 otters, all of excellent quality. At the posts on the St. Croix, $4,000, principally rats, bears, and otters, with a few martens, raccoons, deer skins, foxes, fishers, and beaver. At Snake river post $1,000, same furs as at St. Croix river. At Lac Courte Oseille and Lac Chetac $1,500, principally bears, otter, martens, rats, fishers, and minks. At Chippewa river and Lac Vassale $2,500, same furs as the last, but more beaver. The furs of Chippewa river and Lac Courte Oseille are of a better quality than those farther towards the Mississippi, as of the St. Croix and Snake rivers. The whole seven posts under Mr. Warren yield annually about eleven thousand dollars worth of furs; but each post requires a clerk and some men, and consequent expense, insomuch that the trade is by no means as profitable as it would at first seem to be

The Indians of this department, excepting those about Lake Superior, subsist chiefly on wild rice and game, such as deer, bears, &c., and generally also supply their particular trader with these articles of provisions.

Mr. Warren has lived for a number of years at his present residence on the island of La Pointe, and has given to this little spot an appearance of civilization. He has built a large, comfortable dwelling, a storehouse, and eight or ten outhouses, which, with the houses of a Mr. Cadotte and family, and those of the subagent, formerly at La Pointe, make almost a village. All the buildings are handsomely situated, on a rise of ground, about two hundred yards from the lake, and immediately back of them are cultivated and enclosed fields, in which oats, peas, beans, potatoes, &c. were growing finely. Wheat would grow here, but the want of means to make it into flour prevents its cultivation. The season is too short, and the soil too light, to grow corn with any success. The soil of the island is nearly as good as any that I have seen on the lake, but it is light and sandy, and would be thought poor land in Ohio or Indiana. It, however, produces a good luxuriant grass, (genus alopecurus,) which, I observed, Mr. Warren had appropriated in the raising of horses and cows. The timber is sugar-maple, birch, and pine.

There was a mission established on the island last summer, by the Presbyterian Board of Foreign Missions, and Mr. Hall, the minister then sent out, was here now with his lady. The plan and object of this mission is to convert the Indians to the doctrines of Christianity, by preaching; and to teach a school for their children, at which the latter are to be clothed, and subsisted, and educated, at the expense of the Mission Board and other charities. It is purposed to teach them the rudiments of the English language, and to read and write in their own.

Mr. Hall's progress, however, in the accomplishment of these benevolent ends, has not hitherto been very flattering. The Indians have manifested rather an aversion for his doctrines, and a disposition not to listen to his advice. All that lived on the island left it soon after he arrived, and they had learned his motives; and a fear for their own peculiar institutions, or some other cause, still keeps them in a great measure aloof from him.

They refuse to come to church, or to attend divine worship, and the only direct means now left him of operating on their minds to his purpose, is to visit them at their villages and in their lodges, where, by making their hospitality subserve, he is kindly received, and listened to with seeming attention, but still with little or no apparent effect: none of the Indians having as yet shown any willingness to embrace his doctrines, excepting one Indian man, who has been for some time laboring under a severe disease of the lungs. Mr. Hall is not however discouraged, but hopes, by means of his school, and other efforts, to effect many beneficial results. His school at present contains twelve scholars, all quite young and mostly half breeds, the Indians having shown also an unwillingness to give him their children to instruct.

This mission at La Pointe, and Mr. Bingham's at Sant de Ste. Marie, are the only missions that I know of in the Chippewa country. The former has been established several years. The means and efforts at each have been similar, and like unproductive. And, until more successful methods can be adopted by both to accomplish the benevolent designs of those contributing to their support, the propriety of sustaining them at such great expense may well be questioned.

These northern Indians are generally wild, untamed, and unsubdued; they have none of the arts, institutions, or manners of the whites; and their prejudices in favor of their own peculiar habits and institutions, which have descended to them from their forefathers, are engrafted and rooted in their very nature, insomuch that their removal, by the ordinary means of teaching, preaching, and advice, is rather a speculative theory than a result that experience teaches us to expect. The good and humane motives of the missionaries to these Indians cannot be doubted, but the propriety and efficacy of their *method* of proceeding in their work of conversion, may be fairly judged of and estimated by the effects actually produced; and these, so far as my observation and experience extend, are by no means proportionate to the expense and labor employed.

The present condition of most of the Chippewa Indians is deplorable. They are mostly very poor. Their country is becoming every day more exhausted of the means of subsistence hitherto used, and they are making no preparations to provide any others. Something seems necessary to be done by humanity, to prepare them for the approaching condition of their country, and to protect them from its threatened calamities. The first thing that a view of their actual condition suggests, is to teach them to *cultivate the soil*, and obtain in this way *a subsistence*, which their impoverished woods and forests must very soon refuse to their increased population. This would lead them gradually from their wild pursuits and precarious mode of living, and lay the foundation for the adoption of other customs of civilized life, and among them perhaps Christianity. The Indians cannot be induced to make a change in their habits and manners, unless the advantage be immediate and tangible, and is made evident to their senses. Their prejudices in favor of their own way of thinking and acting, are too strong to be easily eradicated; and to expect to effect an entire change of their opinions and habits, by appeals to their understanding, in the manner of preaching Christianity, is to expect more than a knowledge of Indian character will justify. And as long as the missionaries pursue their present method with the Chippewa Indians, so long will their exertions be, in a measure, useless; and until an entirely new system

is adopted and pursued, no extensive or permanent change in this people need be expected.

Near the present mission, on the island of La Pointe, are the traces of an old missionary establishment, occupied by the Jesuit missionaries, at a very early period of the settlement of Canada. Very few vestiges of the principles there taught, however, are now to be discovered in the manners or characters of the Indians at present in the vicinity.

Mr. Hall has not yet constructed any buildings for his establishment, but at present occupies houses of Mr. Warren, for a school and dwelling. Notwithstanding their remote situation, he and Mrs. Hall seem contented, cheerful, and happy; although, with regard to Mrs. Hall, there is not a single white woman or female that speaks her language, within hundreds of miles of her. Mr. Boutwell, the reverend gentleman who is travelling with us, is to stop and remain with this mission, on our return.

We left the island at 6 o'clock P. M. The channel between the island and the main land, to the west, is from three to five miles broad. Our course through it was due north, to a point of the main land, ten miles ahead, where the shore begins to bend off to the northwest. But, seeing that I could not reach the main land before dark, I turned a little to the east of the proper course, and encamped on a small island about eight miles from La Pointe. Mr. Schoolcraft, with the other boat, crossed the channel, and encamped on the main land. The island of my encampment is called Spirit island, and is held in sacred veneration by the Indians, insomuch that they never hunt or encamp on it. It is about two miles long; its banks rise steeply from the lake, and it is covered all over with a thick, heavy forest of yellow pine. Doctor Houghton, who had gone in the morning in Mr. Schoolcraft's canoe, to vaccinate the Indians of a village at the bottom of Chegoimegon bay, overtook me about 11 o'clock at night, and went on to Mr. S.

June 22.—Left our encampment at 3 o'clock A. M. and in about six miles came up with Mr. Schoolcraft and party, encamped in a sandy bay that they had reached the night before. In a few miles more, we passed all of the group of islands, called sometimes the Twelve Apostles. They are beautifully situated with respect to each other, are all high, and covered with a luxuriant growth of vegetation, and form the most interesting feature of this part of the lake. Twenty-five miles from La Pointe, we passed a rocky bluff point of sandstone rock, called the Detour, from which the Great Fond du Lac bay may be considered as commencing. Our course here changed to south 80° west, and we could see distinctly the mountains on the opposite side of the bay and lake. Here we met a Mackinac boat, with Mr. Abbott, a trader from Leech lake, who said the returns from that quarter were principally bears this year; and that the Leech lake Indians had lately gone on a war excursion against the Sioux. At 1 o'clock passed Birch Bark point, a flat, prominent point, that is midway between La Pointe and Fond du Lac river, and hence, frequently, called Middle point. It has steep, sandy banks, ten or fifteen feet high, resting on sand rock, and is covered with a small growth of birch, aspen, and some large dead timber. The whole shore to-day is much serrated, forming deep, sandy bays, with regularly curved shores and high banks of sand. The prominent points showed mostly an imperfect red sandstone, sometimes in perpendicular bluffs twenty or thirty feet high. High hills are seen to the left, but the forest does not present the rich verdure of the mountains

round La Pointe, and of the lake generally. Our course from Birch Bark point was S. 60° W. and we encamped at sunset, on a beach of dark sandstone gravel, having come to-day fifty-eight miles. Mr. Schoolcraft and party encamped ahead. We passed to-day Raspberry river, Cranberry creek, and Sandy river.

June 23.—Following a plain shore about three miles, I came to an Indian village, at the mouth of Bois Brulé river, where Mr. Schoolcraft had encamped the previous evening. From this river the shore is sandy, very regular, and falls off to the south, but our course to Fond du Lac river was more to the west, and left the shore many miles. The beach and bank round the end of the bay are very low and flat, and the entrance to Fond du Lac river is not discernible a short distance from the shore. I was near missing the entrance, by being in some degree guided by Farmer's map of Michigan, on which this bay and the entrance, like most of the coast, are very inaccurately delineated. I had approached very near, and was sailing past it, when Mr. Schoolcraft, who was there waiting for me, attracted me to it by making signals with flags. We entered the river about 10 o'clock A. M. having come from our encampment of last night twenty-four miles; and, exposed as we have been on the lake, for the last sixteen days, we were glad to leave it. My boat being slower than the other, and both slower than Mr. Schoolcraft's canoe, the whole party had seldom travelled together, and as in my boat I had no guide, or even a map of the coast that I could depend on, I was often, in the course of the trip, exposed to danger and inconvenience. The difficulties of travelling in the night, after I had once or twice experienced them, determined me to encamp alone, rather than attempt to overtake Mr. Schoolcraft after dark; and I have, accordingly, been several nights separated from the rest of the party. There is very little danger in coasting the south of Lake Superior in boats, if there is a person to guide who is well acquainted with the shore, and particularly the position and distances of the harbors. The harbors for boats are numerous and good, and notwithstanding the suddenness of the rising of storms on the lake, it is easy for a person acquainted with the coast, to make a harbor before the lake gets too rough for a good boat. An accurate map or chart of the coast would also subserve an excellent purpose, to avoid accidents and inconvenience, but none such has yet been made. The one I have with me (Farmer's) is, perhaps, the most so of any yet published, but is far from being a proper guide, and it would be dangerous to depend on it for any thing like an accurate delineation of the shore, or the relative positions of the numerous bays that must be known to enable one to travel in security and safety. The heavy fogs of the lake are great annoyances to the voyageur; they are frequently so thick and heavy, as to obscure all objects at a distance of twenty or thirty yards, and in such cases compel the traveller to hug closely all the sinuosities of the shore, which are so numerous, deep, and irregular, as to make the distance more than twice what it would be to cross from point to point. I have often, in a fog, run to all points of the compass in less than an hour, and have sometimes, on the clearing up, found myself so far in a deep bay, that I had twice as far to row, to get out of it, as the distance across it. The fogs, too, are often brought up by a wind so suddenly as to leave a boat in the traverse of a bay, far from land, and without any point to direct the steering. In such cases, if the boat has a compass, the proper direction may be preserved; but, without one, there is danger of going out

into the lake. The remedy, then, of the practised voyageur is to observe the direction of the wind that brings the fog with respect to the land, and to steer accordingly; and it is remarkable, that scarcely any of the traders' boats carry a compass, when the inconvenience and danger often resulting from such neglect must be experienced on every trip.

The mouth of Fond du Lac river, or "The Entrance," as it is called by the traders and voyageurs, is about eighty yards broad, but is shallow, and would not admit a vessel of three or four feet draught. It expands immediately into two bays, to the right and left, separated from each other by a small island near and directly in front of the entrance. The mouth seems to be in the very end of the lake, and hence it is properly called *Fond du Lac* river. A river that enters the left bay of The Entrance, is also as aptly called "*La Rivière à Gauche.*" The bays to the right and left lie in their length parallel to the shores of the lake, from which they are only separated by low sandy tongues of land, very much attenuated, and sustaining a few little scattering pines. The point to the right, entering, is near fifty yards broad near the end, but it afterwards narrows, and runs back for about two miles, with a breadth of from twenty to forty yards. Our course was through the right hand bay, N. 60° W. for four miles, to a strait one hundred yards broad, by which, in a distance of two hundred yards, we entered another bay, long and narrow, and which contracted gradually to the very narrow, crooked channel of the river.

There was, formerly, a trading house near the entrance, but it has been abandoned and destroyed, and the present house for all the Fond du Lac country is twenty miles above.

The river for this distance is very crooked and winding, but its general course up is southwest: the channel is of variable breadth, and generally deep; the shore is irregular, and presents alternately, on either hand, marshes, bluff sand banks and hills, and is cut up by numerous channels, or "pockets," from ten to one hundred yards broad, which run out straight and generally perpendicular to the river, frequently extending as far inland as we could see. These are separated by long tongues or promontories, of semi-cylindrical shape, rounded on either side up to the summit, fifty or sixty feet, and covered with a thick growth of small trees, aspen, birch, tamrack, (pinus pendulus,) and other species of pine. Several of these singular promontories occur in many places in succession, parallel to each other, with channels between, and present a formation and appearance altogether peculiar.

We arrived at the trading house at 4 o'clock P. M. The river is here penetrating a chain of mountains, is more regular in its course, and has its channel more confined. The trading house is situated at the base of the mountain, on a narrow piece of bottom, three or four hundred yards broad, which is rich, and excepting the gardens, where the trader raises abundance of potatoes, is covered with a very tall, green, luxuriant grass, principally poa compressa.) We met here Mr. Aitkin, the chief of the department of the country beyond Fond du Lac, and all his clerks, to the number of fifteen or twenty, and their engagées, all just ready to start for Mackinac on their regular summer trip.

This is called the "Fond du Lac Post," and was formerly the head quarters of an extensive district, called "The Fond du Lac Department." The department is still the same, but Mr. Aitkin, of the American Fur Company, the principal of it, has removed his head quarters to the Mis-

sissippi, at Sandy lake, which is more central in respect to his several subordinate posts. (See my map.) This is still, however, a place of rendezvous for all his clerks, preparatory to their embarking in boats, with their annual stock of furs, for Mackinac. Here, too, on their return in the fall, a partial distribution of the goods is made; the boats are left, and the navigation in all directions begins *in bark canoes*. The buildings here consist of a dwelling, three or four stores, a large house for the accommodation of the clerks, and some other buildings for the engagées, or Frenchmen. They are handsomely situated on the bank of the river, and directly in front is an island, of about two miles circuit, of very rich soil, and a forest of large elm, and on which the Indians now assembled have their lodges.

Mr. Aitkin very politely gave me the following information in relation to his trade, the Indians, &c.

His department embraces an extent of country from Fond du Lac, north to the boundary line, west to Red river, and south to near the falls of St. Anthony, on the Mississippi, and contains nine permanent posts, from which returns are made every year, viz. Fond du Lac, Lake Superior, on the north side, at Grand Portage, Rainy lake, Vermillion lake, at the head of Fond du Lac river, Red lake, Pembina settlement on Red river, Red Cedar lake, Leech lake, and Sandy lake, Mr. Aitkin's residence. For facilities of the trade there are several other smaller posts, as at Lake Winnipeg, Lake Travers, mouth of Crow Wing river, and others; but these are subordinate, severally, to some one of the larger posts named, which is considered as making the whole "return" for its particular district.

Mr. Aitkin's returns of this year are less than usual, and are as follows: From Fond du Lac post $2,000, Grand Portage $1,000, Rainy lake $4,000, Vermillion lake $2,000, Red lake $2,000, Pembina $2,500, Red Cedar lake $1,500, Leech lake $5,000, Sandy lake $5,000. The furs from all the posts are of nearly the same kind, and principally martens, muskrats, beaver, otter, foxes, and bears; the proportion of bear skins this year being very great at most of the posts west of Fond du Lac. The whole value of his furs is $25,000; and his expenses in procuring them have been $31,000, leaving a balance against the trade of $6,000.

The trade of this department is perhaps more precarious than that of any other district of the American Fur Company to the north. Here the country, and, consequently, the "hunts," are most affected by dry and wet seasons; and here the British trader comes in direct competition with the American. All along the lines, at Grand Portage, Rainy lake, Lake of the Woods, and Pembina, the British traders get the greater part of the furs of the American Indians; and it is represented that even in the interior as far as Leech lake, Winnipeg lake, Red lake, and Vermillion lake, they secure a great part of the trade by inducing the Indians to carry their furs to them across the line. This is done by paying more for them than American traders can afford to pay; by a free use of whiskey, which is a most potent article in Indian trade, and which is prohibited to American traders, except in small quantities, at a few frontier posts; and by a skilful fostering and management of a strong feeling of attachment which all the Indians of this district are represented to entertain for the British Government and the Hudson Bay Company.

The Indians at Fond du Lac, Grand Portage, Vermillion lake, and

Sandy lake, are chiefly subsisted by the traders. At the other posts of this department they have abundance of fish and large animals of the forest, and live comfortably. At Red lake they sell great quantities of corn to their trader, which is sent off to other posts.

The population of the Fond du Lac band is 193, of whom about 45 are warriors. They are, however, at peace, as they are too far from the Sioux to go against them. Their country is very poor in all animals for food, and their particular trader furnishes most of their living; the rest they get from the fish of the lake; whitefish and trout, which they take in gill nets, and from the few furred animals they kill. Since the stoppage of whiskey in the trade, they are increasing very rapidly; there being more children born, and fewer deaths among them, from neglect of drunken mothers. They are miserably poor; and although their country is, in a measure, exhausted, and must soon refuse a supply to their increasing wants, they have not reflection, or foresight, or providence enough to save themselves from starvation, by cultivating the soil; which, in many parts, is rich, and would, with little labor, afford them abundance.

There are about 150 Indians encamped on the island here at present; some of them belong to Sandy lake, and some came with us from Bois Brulé river. Among the latter is an Indian of some distinction, *Yellow Head*, from Red Cedar lake, who was on his way to visit the agent at Fort Brady, but is now returning with us.

The Indians of other posts of Mr. Aitkin's department, through which we are to pass, will be more particularly spoken of when we reach them. This being Sunday, Mr. Boutwell preached to the Indians through the interpreter.

June 25.—The Indians assembled early in the morning, and regaled us with their usual dance, after which Mr. Schoolcraft held a council and talk with them, and distributed a few presents. Mr. Aitkin embarked all his furs in seven large Mackinac boats, all well manned, and each under the command of a clerk, and started them down the lake. Many of his Frenchmen have Indian wives and families, who are left here till they return.

Mr. Schoolcraft made an arrangement with Mr. Aitkin for bark canoes for the transportation of our whole party above, which we will receive at the head of the Portage, and, as my men are entirely ignorant of their management, he has employed three Indians to go with me to Sandy lake. We embarked in our boats, and ascended the river, over several rapids, two miles farther, to the foot of the grand portage of Fond du Lac river, the head of boat navigation. From here Mr. S. sent his boat back to the Saut, by Canadians, whom he had brought along for the purpose; and I employed an Indian to take mine back to the mouth of the Bois Brulé river, where we purpose to strike the lake again, returning. Here a new scene commenced. Our baggage and provisions for sixty days were to be transported by carrying over a rough portage of nine miles. This was a familiar business with Mr. Schoolcraft's Canadians, but entirely new to the soldiers; the manner of the carrying being altogether different from any thing they had ever experienced. For this purpose the pork had previously been put up in kegs, containing about 75 lbs. each, and the flour in bags of about 80 lbs. The mode of carrying is by a leather strap called a "portage collar," composed of a broad piece that is applied to the forehead, and two long tags, which attach to the piece to be carried. "*A load*"

for a Frenchman consists of two "pieces," when the pieces are of convenient shape, as a keg of pork and a bag of flour, (from 160 to 200 lbs.) The first to which the portage collar is fastened, is adjusted to rest on the lumbar vertebræ, or small of the back; and the second when practicable, as in case of the bag, is placed longitudinally, one end resting on the keg, and the other along the back of the head, so that when the body is stooped, in the manner of carrying, the weight of the bag is between the shoulders, near the back of the neck; the second piece is also frequently placed transversely on the shoulders, but always, if practicable, in such a manner as to rest its weight very far up towards the neck; when the load is not so adjusted as to sustain the head against the force of the portage collar to draw it back, it is supported by the hands clasped behind it.

The experience of traders, and observation of the manner of the Indians, have proved this to be the most convenient way of carrying, in this country. It is accordingly practised by all; and every thing to be transported over portages, is put up with a view to this method of the portage collar. All the portage roads, too, are selected with the same view.

The portage was commenced by ascending a hill 100 feet high, with an acclivity of about 45°. No pains have ever been bestowed to make a road up it; and the ascent is by means of little imperfect steps, just large enough for the toes, that wind up the hill without any regularity as to direction or relative position. The Frenchmen commenced with full loads, but the soldiers, excepting one or two, were permitted to carry only half loads, or one piece, and even this was found to be more than some of them were equal to. One of them, a very strong man, fell on the hill with a keg of pork, and was disabled.*

The portage road, after the hill, was rough, narrow and crooked—a mere uncut path through bad woods, but we got over three pauses, or a mile and a half of it, and encamped on the bank of the river, at a place called the "Roche Galet," from the flat sandstone rock over which the river here runs. A number of Indians followed us from Fond du Lac house, and encamped with us.

June 26.—We commenced carrying at four o'clock in the morning, and continued it until near sunset, or eight o'clock in the afternoon, and passed over twelve pauses, of near half a mile each. The portage road continued a little, narrow, crooked path, with bushes crowding it on either side, winding round trees, through marshes, over ridges, and across ravines, and presenting all the irregularities and inconveniences of a rude trail through difficult woods. There has been little or no cutting to clear it out, and all the bridging consists of a few small poles, laid in the length of the path, which serve rather to annoy than to assist the passenger. No idea can be formed of the difficulty of this portage without witnessing it. The men, with heavy loads, are sometimes forced to wade through a swamp of half a mile, full of roots and bushes, and over their knees in mire at every step. And where the road is dry, it is generally over a hill, or across a gulley, the steep banks of which are worse to pass than the swamps.

When we stopped at night, my men, and even the Canadians, were literally fagged out. Two of the soldiers had snagged their feet, and were

* This man, Beemis, was kept in hospital more than a year after his return, in consequence of this fall, and was subsequently discharged, at Fort Dearborn, on a surgeon's certificate of disability.

disabled, and all of them were galled in the back, by the kegs, in such a degree as to make their loads very painful; and yet they have carried only half loads all the day; whereas the Frenchmen and some of the Indians have carried full loads each time. It requires an experience of years to habituate men to carrying in this way; and the life and habits of soldiers by no means fit them for such labor.

I had four or five Indian women, and as many Indian men, carrying for me, and without these I would not have made half the distance. The Indian women carry better than the men, being less indolent, and more accustomed to it. I saw a small young Indian woman, at the close of the day, carry a keg of one thousand musket ball cartridges, for a distance of one mile, without resting, and most of the distance through swamp that was frequently over her knees; this too after having carried heavy loads all day, and when, with less exertion than she had made, my strongest men were exhausted.

We encamped on the portage near a creek, which enabled us to wash off a little of the mud of the swamps, which we had carried with us all the day. Doctor Houghton had many cases of strains, bruises, and snagged feet, this evening.

June 27.—Owing to the excessive fatigues of yesterday, we did not recommence the carrying till six o'clock, though the sun rose at four. We had four regular pauses to make yet, to the end of the portage, which, for greater ease, were divided into six; there was more mud and mire on the three first than on those of yesterday; the last, only, was dry and good. We accomplished the whole, and arrived at the end of the portage by twelve o'clock, where we encamped, and employed the rest of the day in getting out our canoes, and making arrangements to travel in them.

The general direction of this portage has been a little west of northwest; leaving the river in some parts four or five miles, and touching it but once, at La Roche Galet, from the commencement. It is on the north side of the river, and the land about it is rich, excepting the swamps. In some places we passed groves of sugar-maple, but the general growth is birch and pine; some of the latter being very large and beautiful, measuring eighteen feet in circumference at the base. The length of the portage is nine miles, which is divided into nineteen pauses; the term "pause" being applied to the distance between two resting places, and hence the *pause* is the unit of measure for all portages. We have passed by, in this distance, many rapids and falls of the river; and a perpendicular fall, said to be thirty feet. The river is still rapid at the head of the portage, and shows in its banks and bed a coarse, hard, argillite rock, in place.

June 28.—The necessary arrangements for travelling in our *bark canoes* having been completed the previous evening, we embarked in them at seven in the morning. I have two canoes, in which I have distributed, equally, my men and their provisions and baggage, with two Indians in one, in the bow and stern, and one Indian in the other, in which I go myself.

The river for three miles, to Portage à Couteaux, is a series of difficult rapids; and my men, totally unaccustomed to canoes, had great difficulty in ascending them, being obliged for this purpose to wade in the rapids, and drag or push them along. The river, in this distance, runs over argillite rock, which rises on both sides of the channel, with strata nearly vertical, in high broken and precipitous banks, presenting a scenery

altogether peculiar to this kind of rock. The Portage à Couteaux, or knife portage, commences on the west side of the river, at the foot of a rapid, too strong to be ascended in canoes, and in which the channel of the river is divided by a small island, of the argellite; rising, abruptly, to a height of about 100 feet, from a base of but little greater diameter; which, piled up, as it is, in the utmost confusion and irregularity, with many small cedars and pines, that have taken feeble tenure between the vertical strata of the rock, projecting from its rugged sides, in all directions, is remarkable and picturesque.

The portage begins by a steep ascent of the argillite rock, which is seen bare along the greater part of the path, making it broken and difficult; but, being dry nearly all the way, it is much preferable to any part of the grand portage below. It is but three pauses, or a mile and a half in length, and has been aptly called "Portage à Couteaux," from the knife-like effect of the slates on the shoes and moccasins of the voyageurs. It runs along a ridge, and the land on each side is low, swampy, and good for nothing.

The rapids were strong for two or three miles above the portage, and filled with boulders of hornblende rock which made their ascent, by the method of wading, very difficult, the men frequently slipping from the rocks, and plunging over their heads in the water—in great danger of drowning, but much to the amusement of my Indian guides. After the rapids, was a broad, smooth river of gentle current, and banks of the richest soil, supporting a fine growth of maple, elm, ash, poplar, &c. which denoted the rich character of the country. The Indians gave us to understand that this kind of land extended some distance back, and was a bear hunting ground.

We encamped this night nine and a half miles from Portage à Couteaux at the foot of another series of rapids, having travelled this day about 13 miles.

June 29.—Started at half past four in the morning, and continued in rapids through argillite rock again, for about four miles, which occupied us until 11 o'clock. Mr. Schoolcraft and party got ahead of me very fast, as they were always enabled to do in rapids, by the superior skill of their Canadian voyageurs, who could stand up in the canoes, and pole them along; whereas I, for fear of upsetting, could not allow my men to attempt this method, but continued the comparatively slow and secure one that I at first adopted. My canoes, too, were frequently broken, by the awkwardness of the men, allowing them to drive against the rocks; and delay was thus occasioned in making repairs.

From the narrow rocky channel and steep broken banks of the rapids, the river suddenly expanded to three or four hundred yards breadth, with a gentle current; the rocks entirely disappeared; the banks were twelve or fourteen feet high, and exhibited a character, as to soil and timber, similar to that of the smooth part of the river, passed yesterday, and not unlike that of some of the Western rivers, with their extensive rich bottoms and heavy native forests. It is probable, however, that this land is swampy, back, as indicated by the swarms of moschetoes that infested us.

Mr. Schoolcraft and party kept ahead, and I encamped alone, having come about 35 miles.

June 30.—Passed several rapids, and a country much the same as yesterday, (23 miles,) until we reached the mouth of East Savanne river,

where our route left Fond du Lac river. Mr. S. had encamped here the previous night, but had gone on without waiting for me.

The East Savanne river is a little, narrow, and very crooked stream, having its source in wet meadows and swamps, about 30 miles from its mouth, and running in a general direction northeast, in a very direct line from Fond du Lac river to Sandy lake, on the Mississippi, where we are going; we accordingly ascended it twenty-four miles to the *Savanne Portage.* The country at first was low and rich, afterwards more elevated, and some pine ridges, and the last ten or twelve miles was through a wet savanne, from a half to two and three miles broad, bordered by tamrack and cedar swamps. The river was from ten to thirty feet broad, and very crooked all the way, but particularly so through the savanne, where canoes might be a mile or more apart in the actual length of the river, and only a few yards, in a direct line. The channel was generally seven or eight feet deep; and part of the savanne was so much overflowed that canoes could pass over it, through the grass. About a mile below the portage the river forks, and the channel, though still deep, is so very narrow and crooked that canoes can scarcely turn the shorter bends. The meadow here is dry, and is grown over with a most beautiful, luxuriant, and heavy growth of grass—a species of carex, or sedge. I landed at the portage near the end of this meadow, at 6 P. M., where I found, by a note left for me by Doctor Houghton, that Mr. S. having preceded me about six hours, had gone through four pauses of the portage to encamp. I got part of the baggage through the first pause, and encamped where we landed, in an atmosphere of moschetoes.—Journey this day 47 miles.

July 1, (*Sunday.*)—It rained constantly, and in torrents, without a prospect of cessation; but the unpleasant situation of our encampment, and my anxiety to overtake Mr. S., who I knew would not travel to-day, determined me to proceed. At the end of the first pause, which was a perfect mud hole throughout, the swamp had water enough to float our loaded canoes, and we accordingly embarked them in a little canal or channel which had been slightly worn through the swamp by the travelling of the traders, and in which the mud was thin enough to allow the canoes, loaded only with our baggage, to be dragged along without much difficulty, more than that of wading through the mire. But this was at every step over the knees, and in many places up to the waist. We worked our canoes and baggage, in this way, through two pauses, or about a mile, as far as we could, and carried the canoes and baggage one pause farther, the greater part of which was a continuation of the swamp, to Mr. Schoolcraft's encampment, on a dry ridge. It rained on us all the way, and my men were much exhausted, from the difficulty of transporting the baggage in the manner described.

July 2.—The ridge of high land, on which we were encamped, was but little elevated above the swamps, but was rich and dry, sustaining a heavy forest of sugar-maple, birch, and linn. It is the dividing ridge of the waters of Lake Superior and the Mississippi. We crossed it in a southwest direction, perpendicular to its general range; but it was not broad, and, in less than half a mile from our encampment, we met with deep, ugly swamps, almost as troublesome as that we had passed yesterday. We had four miles of the portage before us this morning, and Mr. S. made great efforts to accomplish the whole of it this day; and my men, in emulation of his voyageurs to travel at the same rate, completely ex-

hausted themselves long before night. The route was of the worst character, being mostly through swamp of tough deep, mud, which it was difficult to walk through unencumbered; and that could scarcely be deemed practicable, with the loads that the men were obliged to carry. They frequently stuck fast in the mud until they abandoned their load, or were assisted out; and before night some of my best and strongest men fell down by the road side, unable to proceed farther. I collected them and the baggage on a dry spot, half a mile from the end of the portage, and encamped before sunset. Mr. S. had his tents taken entirely through, and encamped on the bank of the West Savanne river; his men encamped back with mine. Our journey to-day was three and a half miles, and much the most fatiguing of all our journey since we let home.

July 3.—Although it was late in the morning when the men were required to resume the carrying, they still showed, by a tardy, sluggish manner, that they were poorly recovered from the great fatigues of yesterday. We however get through the remaining pause of this horrible portage by twelve o'clock, and embarked in the West Savanne river, near its source, where it was but a few feet broad, and with only water enough to float our canoes.

The Savanne portage, that we had now crossed, is six miles in length; the first two through a swamp, such as I have described, and the remaining four over land more elevated, and some little hills and ridges, but with deep, ugly swamps intervening, making this much the most troublesome and difficult of any part of our route. The highest point crossed by the portage, is about one hundred and fifty feet above the Savanne rivers.

From the place of our embarkation to Sandy lake, was eighteen miles. The river, in this distance, has a devious course through narrow, low meadows, of a little valley between pine hills. Its direction is about 20° west of south, and about a mile from Sandy lake it receives a small river from the east, after which it is thirty yards broad. We passed through the length of Sandy lake, which is about five miles, and descended its outlet, or Sandy lake river, a mile and a half, to its junction with the Mississippi, at Mr. Aitkin's trading post, where we arrived at 4 P. M. and encamped. The trading house is situated on a long, narrow tongue or point, which separates the two rivers just before their junction.

It was purposed to remain here a day or two, to make some repairs and alterations in our canoes, to change our Indian guides, and make other necessary arrangements preparatory to our ascending the Mississippi. We found Mr. Boudoin, one of Mr. A.'s clerks, in charge, who received us with great kindness and hospitality, and proffered all the assistance and information in his power.

This situation has long been regarded as an important one for the Indian trade. It was occupied by the old Northwest Company, and subsequently by the American Fur Company to the present time. Mr. Aitkin, the present agent of the company, makes this his residence, and central depot for the great district over which he has charge; the posts and trade of which have been described in another part of this journal. His establishment, at present, consists of a large comfortable dwelling, several storehouses, and barns, stables, &c.; he raises corn and potatoes in fields near the house, and has a good stock of cattle. The soil about the lake and rivers is rich, but, with the exception of a small portion about the house,

is subject to inundation during the early spring freshets, when Sandy lake overflows with the Mississippi, and the great flood covers the country for many miles around. The water was now, however, fifteen feet within the banks of the river and lake; the latter, in its confines, presenting the very irregular figure that I have drawn of it on the map. The lake is within less than half a mile of the Mississippi, and the length of its outlet, Sandy lake river, is only a mile and a half. Just above the junction, the latter is fifty yards broad, and the Mississippi seventy-five yards. Just below, the Mississippi is one hundred and ten yards. Our journey to-day was twenty-five miles. The moschetoes at night were more numerous than I had ever seen then.

July 4.—We found but few Indians here, those belonging to the post being mostly at their hunting grounds and fisheries. Mr. S. however held a council with those present, and distributed some goods, leaving word for the other Indians of the band to meet him at the mouth of Crow Wing river, three hundred miles below, where we expect to strike the Mississippi, after leaving Leech lake, on our return. I took the opportunity of Mr. Aitkin's workshop and workmen to have four oars put to each of my canoes, which, when the canoes and streams will admit of them, are much better than paddles, particularly for soldiers, who can be much easier taught to use the former. In fact, my men continued very awkward in the use of the paddle; and had it not been for my Indian steersmen, I could not have continued thus far with the expedition. I discharged here the three Indians who had come with me from Fond du Lac, and Mr. S. procured me two others, to go as far as Leech lake.

We embarked in the Mississippi at 6 P. M. and ascended it twenty miles, in which distance it winds, deviously, through a valley of low, rich, alluvial bottom, of the best quality of soil, and beautifully timbered; but all subject to inundation.

July 5.—The river this day was of the same character as the part ascended yesterday, crooking through a low, rich bottom, from one to two miles broad, bordered by pine hills and swamps; the shores covered with a rich vegetation of soft maple, elm, walnut, linn, ash, &c. and a luxuriant grass, which clothed the banks in rich verdure down to the water's edge. The river, though considered high, was generally eight or ten feet within its banks; the current was gentle, about two miles per hour, excepting round the points of bends, where it was frequently quite strong. We encamped on the east bank, above the mouth of Swan river; journey 56 miles. General course a little east of north.

July 6.—The valley of the river was narrower than yesterday, but of the same character. In its turns, the river frequently washed the bases of the pine hills, which there rose in high sand banks. The whole country back was pine, pitch and yellow pine; but in many parts the growth had been killed and destroyed by fire, and scarcely any vegetation was to be seen. We encamped on a burnt pine plain, of apparently great extent, (on the east side,) and 100 feet above the river. Mr. S. encamped ahead. Journey 52 miles.

July 7.—Started at half past 3 A. M., and passing the mouths of Trout and Prairie rivers, (see my map,) reached the falls of Pacagama at half past 12 M., where we had to make a portage of 250 yards, on the east side of the river. The falls of Pacagama are the most considerable of the Mississippi, from the falls of St. Anthony, 750 miles below. The whole

fall is between 20 and 30 feet in a distance of a hundred yards, and is nowhere perpendicular; but the channel is much contracted, and in one place the whole water runs down the surface of a smooth, plain rock for a distance of 40 feet, with a pitch of about 12°. The river here breaks through a low ridge that traverses its course, perpendicularly, in a northeast and southwest direction; and the rock is granular quartz, and the first rock of any kind that we have seen in place on the river. About a mile above the falls, Pacagama river, a small stream, comes in from the west, and from this commence the great swamps and savannes (savannas) or wet meadows, which border the Mississippi, on one or both sides, for a great distance above. We were winding through these until 10 o'clock at night, seeking vainly for a dry spot on which to encamp, when we overtook Mr. S. and party, who had been separated from us all this day and yesterday, encamped on a little dry point of oak woods, a kind of island in the vast marshes that he had found before dark. We were detained to-day repairing canoes, but have travelled fifty miles.

July 8, (*Sunday.*)—We remained encamped, washing, cooking, and repairing canoes.

July 9.—The whole party set off together as soon as it was light, and entered immediately a great grass savanne, of eight or ten miles breadth, such as I have represented on the map, through which the Mississippi wound, more crooked than any part we had passed.

Pointe au Chêne, a long dry point of oak land, noted by traders and Indians as a place of encampment, runs prominently into the vast fields of grass, about two miles above our encampment. One Indian family were located on it, and subsisted on ducks, which are remarkably abundant along this part of the river. The channel of the river, through the savanne, was sometimes three hundred yards broad, and again branched into many smaller channels, which ran a short distance and expanded into little lakes, bordered only with grass growing in the water, and from which other little channels, through the tall grass, ran on to unite again with the main one. The whole country seemed covered with water, from one to three feet deep, but the grass rose several feet above the surface in the deepest parts, growing very thick; and possessing a strength so great that in many places, as in short bends, the current washed against it with great velocity and force, it stood as erect, as green, and as healthy, as that remote from the river.

Having an Indian guide, who knew the general course of the river, we were enabled to cut off many of its great bends, by running directly through the peninsulas of grass; but although the water was two or three times more than deep enough to float our canoes, such was the nature and growth of the grass that it required the united strength of the whole crew to force a canoe through it.

The grasses observed were several species of carex, or sedge, the bulrush, the joint rush, and the Indian reed, (*Cinna arundinacea.*) These occurred sometimes separately, in areas of great extent, and sometimes altogether. Where the Indian reed grew alone, it was so tall, and straight, and close, that, although in four feet water, we could not penetrate it with our canoes.

Its great deviation from straightness makes it very annoying to follow the course of the river through one of these savannes; for, after pulling near an hour against a strong current, and turning an abrupt point where

it is stronger, the voyageur finds himself at once going directly back for the same length of time. After winding through the savanne in this way for several hours, we left the Mississippi on our left, to take a nearer route to Lake Winnipeg, known to our guide, which is laid down on the map, and runs through a long and narrow, but very deep little lake, Lac La Cross, remarkable as affording large, fine whitefish in abundance. From this we ascended a very small river three or four miles, to another little lake, from which we made a portage of 800 yards, into Little Lake Winnipeg, through which the Mississippi runs. By this route we cut off a great bend of the river, where it receives Leech Lake river, and saved thirty or forty miles travelling. A few miles farther brought us to Big Lake Winnipeg, and to the trading house, on the north side of it, where we encamped at 5 P. M.; having come to-day fifty miles by our route, and by the Mississippi near ninety miles.

This trading house is occupied by a trader of Mr. Aitkin, Mr. Belanger, now present, who has lived here for several years, without once going below. His dwelling and store were situated four or five hundred yards from the lake on a little rise of ground, where he had a fine large garden, in which were growing beautifully vines, potatoes, and other vegetables, and among them *tobacco*, which was particularly remarkable, this being the most northerly point of all the Mississippi; the plant was now small, but looked well, and Mr. Belanger said it grew large and fine before the time for cutting it. He had also a stock of cows, in the finest order, fattened on the grass which grew in luxuriant abundance all around him. The grass is of the *genus alopecurus*, which, the soil being very rich, grows tall and thick, affording, for the mere labor of cutting it, a plenty of the best of hay. Great herds of cattle might be raised about this lake on the grass alone. The forest here is light, and principally oak. A small river which runs past the house and empties into the lake, has its source in a little lake, not a mile above, in which an excellent quality of whitefish are taken. Lake Winnipeg also affords this fish, and a small fish resembling it, called *tullibee* by the French.

This post is of some importance to the Indian trade, eight packs having been made here last winter, but they were mostly bear skins, and on that account not so valuable as packs are generally. It is but a short portage from here to a river of Rainy lake, and this is the route of our traders to that place, which is distant five days' journey. We obtained from Mr. Belanger much valuable information of the country above, and of our proposed route through it. There were but few Indians here present, but about one hundred trade at this post.

July 10.—Started at 4, A. M., and crossing Lake Winnipeg in the direction of its length, which is about fifteen miles, we again got into the Mississippi, from the southwest end of the lake. This lake is nearly round, is without islands, and is deep and clear, excepting near the shores, where, for a great part of its circumference, the grass is grown out one or two hundred yards into the water. Pine hills are seen all round the lake, a short distance back.

From Lake Winnipeg to Cass lake, a distance of twenty miles, the Mississippi is very sensibly diminished in breadth and quantity of water, and runs all the way through a savanne of the same character as that described yesterday, but narrow, from one to three miles broad, and bounded on both sides by high pine ridges and plains, on which, in many places,

the pine is large, forming thick heavy forests of yellow and pitch pine. At the entrance to Cass lake, by the site of an old village, we were met by a number of Indians, who fired their usual salute, and conducted us to their village, which is at present situated on the large island of the lake, Grand island, ten miles from the entrance. We encamped near the village, on a long, narrow point of the island, running out to the north, and elevated about 150 feet above the lake.

Grand island occupies a large part of the southwestern half of this lake; it is about eight miles in its greatest length, and has three long, attenuated points, at nearly equal distances from each other, which give its contour a singular shape; that on which we encamped is the most elevated, and has the richest soil, and is, hence, appropriated for the village and gardens; the remainder of the island being mostly pine ridges, and poor. The top of this point is three hundred yards broad, and is slightly undulated by little hills and valleys, and sinkings, wherein, the soil being the richest, the gardens are planted. The whole quantity under cultivation is about eight acres, producing potatoes, corn, and vines, now growing beautifully; and the great extent and abundance of the crops, in proportion to the number of Indians, conveyed an idea of providence and comfort that had not been excited by like evidences of industry any where else among the Chippewas.

The prospect from this high point was beautiful. The lake is twenty miles in length, and nearly round; and from our elevated situation, near the middle of it, we could see much the greater part of its circumference. The water was remarkably clear, deep, and beautiful; the shore was sandy and high, and showed thick heavy forests of pine on hills and plains, immediately back. The immediate shores of the island were boulders of primitive rock. Five or six miles southeast of this is a little high island called "Red Cedar Island," from which the lake took its former name, "Red Cedar Lake."

The Cass lake band of Indians numbers one hundred and forty-eight, of whom about twenty are warriors. Their country or hunting grounds is rich in large game, deer, and bears, which, with their garden vegetables, and the fish of the lake, afford them a plentiful subsistence. Their trader is one of Mr. Aitkin's clerks, who was not now present, to whom they give annually a good quantity of furs, beaver, marten, otter, and bears; and he, in return, seems to supply them well with the usual Indian goods. They are not much at war in the field, but from their vicinity to their natural enemies, the Sioux, it can never be said of them that they are at peace. Some of the young men were now absent, at Leech lake, where they had just returned from an excursion against the Sioux, with the Leech lake Indians, under the Leech lake chiefs. Two or three that went from here, had got home, bringing news of their success, and of the loss in battle of one of the Cass lake Indians, the only Chippewa killed in the excursion. They gave us also information of the whole proceeding of the war party, their battle, &c. The party was one hundred strong, consisting almost entirely of the Leech lake band, and was led by Flat Mouth, their principal chief, by whom it had been raised to chastise the Sioux for numerous aggressions on this band, on their hunting grounds west of Crow Wing river. They met a war party of the Sioux of inferior strength, on these grounds, near their western boundary, and defeated them, killing three, and wounding two or three more, but lost one of their own men, as

before stated. The Sioux fled, and the Chippewas returned immediately, but so much elated with their success, that one would have supposed, from their manner of relating the story, and the character of their rejoicing, that they had defeated the whole Sioux tribe, and killed half of them. The party had been got up, after the Indian manner, with so much pomp, preparation, and ceremony, that the whole country had been excited; and in their great anxiety and solicitude for the result of the campaign, a single victory and paltry success, as it was all they had done, was viewed as a monstrous achievement. The party had returned after the first little fight apparently satisfied, and without stopping to inquire what more they could do, or how much they had gained for all their trouble.

A portion of one of the Sioux scalps, now taken, had been brought to Cass lake, and the Indians here regaled us with a *scalp dance*, soon after our arrival. They had two other scalps, taken at former periods, and all were exhibited on this occasion, stretched by means of thongs, in the centre of wooden hoops, a foot in diameter, profusely ornamented with feathers; staves or handles, four or five feet long, were attached to the hoops, and in the dance each was carried above her head by an Indian woman, who sang and danced incessantly. The other Indians around, men, women, and children, all engaged in the singing, and kept time on the Indian drum, and by beating any thing, but the dancing was done entirely by the women who carried the scalps. Two of them were young, but such was their excitement on this occasion, that they seemed to have forgotten the peculiar modesty of Indian women of their age; holding their heads erect, casting fierce and wild glances on all around, and showing an expression of countenance, at times, almost fiendish. A like enthusiasm seemed to animate the aged and the children; and an observer of these ceremonies, when he reflects on their frequent occurrence, will not be at a loss to account for the irreconcilable hatred which exists in the breasts of these Indians for their enemies. They had been dancing here for many days previous to our arrival, and they continued now, without the least cessation, until after twelve at night. They expect during this dance, when strangers are present, to receive presents for the benefit of the widows or families of their warriors who may have perished in battle, and our men and voyageurs were liberal in the observance of this custom.

We were busied, from our arrival till night, in making preparations to continue our journey to the source of the Mississippi; and it was arranged to leave our large canoes and most of our men here, and proceed in small canoes, borrowed from the Indians. Five of these were provided for the five gentlemen of our party, and the provisions and necessaries for the trip, each to carry a passenger, a share of baggage, and two voyageurs; this being a full load for canoes of their very diminutive size. But a *branch* of the river which we were to ascend, was represented to be so very small, as to be only navigated with canoes of this size. Yellow Head, an intelligent Indian, who belongs to this village, and who came with us from Lake Superior, continues as our guide.

July 11.—All proper arrangements for our further journey being completed the previous evening, we made an early start. I left my men and baggage in charge of my corporal, and took one of Mr. Schoolcraft's voyageurs and an Indian to conduct my canoe, as I could not entrust the management of so small and delicate a craft to any of my men. These very small canoes require a care and skill to conduct them safely, only known

to those long accustomed to the use of them. They are used by the Indians of this country, because the streams are all small; and because, in many of their routes, there are numerous portages, where it is a great object to make the carrying as light as possible. These reasons have determined us to adopt them on this occasion; for we expect to ascend a small branch of the Mississippi, and to make a long portage from its head to the source of the larger branch.

We entered the Mississippi from a bay on the west side of Cass lake, and passed, in a short distance, through two small lakes and a savanne, above all which we still found a large river forty or fifty yards broad, and from two to six feet deep, which wound its way through a narrow valley of low, alluvial bottom, confined by pine hills, up to Lac Travers, forty miles above Cass lake. In this distance there are many rapids running over boulders of primitive rock, but there is no fall, and no rock is seen in place.

Lac Travers may well be arranged among the sources of the Mississippi. It is a beautiful lake, about ten miles long from north to south, and about half as broad, surrounded by pine woods, which rise into high hills on the north and northwest, forming a part of the chain dividing the waters of the Mississippi from those of Red river. The western shore is much indented with bays, but the east and southeast is beautifully regular and plain, with a sandy bank, and beach of pure white sand. The river empties into the south end of the lake, and runs out at the east side, not far from its entrance, leaving the great body of the lake to the north of our passage through it. There is a trading house on the west bank, near the mouth of the river, which is occupied, in winter, by a clerk of Mr. Aitkin. From Lake Travers we passed by a broad channel one hundred yards long, into another small lake, and, half a mile above this, came to the forks of the river. The branches are of nearly the same breadth, about forty feet, but the stronger current of the right hand branch denoted it much the larger. We ascended the left or east branch, as we had intended, which soon narrowed to twenty feet breadth, and, in a distance of ten or twelve miles, brought us to Lake Rahbahkanna, or Resting lake, a pretty little lake, four miles in diameter, and nearly round, with a low beach of smooth pebbles all round it. We encamped a few miles above this lake at 7 P. M., having come this day, by my estimate, fifty-five miles. Our course to Lac Travers was northwest; from the latter, nearly south.

July 12.—This was a rainy, disagreeable day, and the moschetoes were numerous, hungry, and extremely annoying, but we travelled, notwithstanding, at our usual speedy rate. Our course has been south, and the valley of the river was savanne and tamrack and cedar swamp, but generally narrow, about half a mile broad, with low ridges and a miserable growth of pine bordering it on both sides. The river has become very small and somewhat rapid; and we have encamped after making a portage of two miles round a chain of rapids. One of our Indians killed a deer this morning, and we saw many more during the day. This country is so very remote and dreary, that the Indians seldom visit it, and the deer are more abundant than about the river below; ducks are also very numerous in the savannes where there is wild rice. Journey 52 miles.

July 13.—We ascended the river in our canoes ten miles farther, to a little lake, (Usaw-way, or Perch lake,) about two miles long and half a mile broad; the river was very narrow and crooked, through a low, narrow meadow, and a little above this lake we left it; *seeing that we had*

now traced this smaller branch of the Mississippi into the very swamps and meadows, from the drainage of which it takes it rise.

From here we set off, over land, in a southwest direction, to reach Lac La Biche, represented as the source of the larger branch. Our canoes and baggage being very light, all was transported at one load, one man carrying the canoe, and the other the baggage of each of the party. In this way we made a portage of six miles in four hours, and struck the lake, the object of our search, near the end of its southeastern bay. The first mile of the portage was through a tamrack swamp, and the remainder, excepting a little lake of 300 yards diameter, was over pine ridges of the poorest character imaginable. The soil was almost pure sand, and the pine was stinted and mostly of the *scrub* species, (pinus banksianus,) which, hung as it was with lichens, and no other growth, not even a bush or shrub, mixed with it, presented a picture of landscape more dismal and gloomy than any other part of this miserably poor country that we had seen. Not a bird or animal, scarce even a fly, was to be seen in the whole distance of this portage, and it would seem that no kind of animal life was adapted to so gloomy a region.

From these hills, which were seldom more than two or three hundred feet high, we came suddenly down to the lake, and we embarked and passed nearly through it to an island, near its west end, where we remained one or two hours.

We were now sure that we had reached the *true source* of the great river, and a feeling of great satisfaction was manifested by all the party; Mr. Schoolcraft hoisted a flag on a high staff, on the island, and left it flying.

Lac La Biche is about seven miles long, and from one to three broad, but is of an irregular shape, conforming to the bases of pine hills, which, for a great part of its circumference, rise abruptly from its shore. It is deep, and very clear and cold, and seemed to be well stocked with fish. Its shores show some boulders of primitive rock, but no rock in place, and are generally skirted near the water with bushes. The island, the only one of the lake, and which I have called Schoolcraft island, is one hundred and fifty yards long, fifty yards broad, and twenty or thirty feet elevated in its highest part; a little rocky in boulders, and grown over with pine, spruce, wild cherry, and elm.

There can be no doubt but that this is the *true source and fountain of the longest and largest branch of the Mississippi.* All our information that we had been able to collect on the way, from traders and Indians, pointed to it as such; and our principal Indian guide, Yellow Head, who has proved to us his close intelligence of the country, represents the same. He has formerly hunted all around it, and says there is a little creek, too small for even our little canoes to ascend, emptying into the south bay of the lake, and having its source at the base of a chain of high hills, which we could see, not two miles off, and that this is the only stream of any description running into it. In fact, the whole country showed that there was no stream beyond, for the lake was shut in on all sides by pine hills, and the only opening through them was that by which it discharged itself. To the west we could see distinctly a range of almost mountains, covered with pine, which was undoubtedly the chain dividing us from the waters of Red river.

It will be seen, from my map, that Lac La Biche is but little west of *south* from Cass lake, and almost due south from Lac Travers, which is a

different position from that assigned to it on published maps, where it is invariably represented north of Cass lake. There is, however, a little stream, Turtle river, entering Cass lake from the north, in the route of traders to Turtle lake and Red lake, but it is a very small and insignificant stream, and is only forty-five miles in length.

We left Lac La Biche, from its northern bay, having coasted nearly its whole circumference, and found the Mississippi, at its very egress from the lake, a respectable stream; its channel being twenty feet broad and two feet deep, and current two miles per hour. Its course was northwest and soon ran through a chain of high pine hills, where the channel contracted very much, and numerous rapids occurred of very great fall over boulders of primitive rock; the river running, for the distance, in a deep ravine. We descended twenty-five miles, and encamped.

July 14.—The course of the river was nearly north all day, passing several miles of rapids in the morning, in one of which my canoe was upset, and I lost my compass, and, with every thing else, my notes were wet and much injured. Mr. Schoolcraft, however, furnished me with another compass, and I proceeded, securing my notes as well as I could until night, when I would have an opportunity to dry them. After the rapids, the river was of gentle current, and ran mostly through savannes of wild rice, and tamrack and cedar swamps, but the valley of the swamps and savannes was generally narrow and bounded by hills of inferior pine, and sometimes a small thick growth of aspen poplar, where the pine had been destroyed by fire.

We travelled very rapidly all day, and, when we stopped at night, had made seventy-five miles. After supper, Mr. Schoolcraft and the other gentlemen continued on, being anxious to reach Cass lake; but I remained encamped till morning, that I might, in daylight, continue the tracing of the river, and my observations of the country.

The moschetoes were thick and very troublesome all day, as has invariably been the case in our route through swamps and savannes.

July 15, (*Sunday.*)—Left my lonely encampment as soon as I could see to trace the river, and ran down with a gentle current, most of the way through savannes and rice meadows, to Lac Travers, a distance of twenty miles. The junction with the branch we ascended is just above this lake, and the lake and river below are described in our route ascending, (July 11.) I travelled very rapidly in consequence of the numerous rapids below Lac Travers, and reached Cass lake and the encampment at 6 P. M., having travelled this day a distance of sixty-five miles. Mr. Schoolcraft and party had gone all night, and arrived at 9 A. M.

Thus the journey to the source of the Mississippi and back has been accomplished in five days, a distance of 290 miles, it being 125 miles to Lac La Biche, by the route ascended, and 165 by that descended, or by the longer and larger branch, which runs from Lac La Biche; this latter being the true length of the river above Cass lake. This makes the length of the Mississippi, above the falls of St. Anthony, 1,029 miles, or 1,038 miles above the St. Peter's river and Fort Snelling. The true character of the river above Sandy lake is represented on my map, which is also, in a measure, descriptive of this part of the country.

My men, being left here during this trip, have had a very useful and necessary rest from the excessive fatigues of the former part of the journey, and, excepting the man who was hurt on the portage of Fond du Lac

river, are well recovered. The Indians are represented to have danced the scalp dance every night of our absence, and they are still dancing.

July 16.—Mr. Schoolcraft held a council with the Indians of this band, and constituted the Indian, Yellow Head, a chief, by presenting him with a large medal, the emblem of his authority. Yellow Head, who had travelled with us, and been our principal guide from Fond du Lac, had proved himself, in the course of our journey, to be industrious and intelligent: he had also character and influence with his band, and it is probable he will make a good chief. He seemed fully aware of the responsibility of the new relation in which this placed him to his band; and when he received the medal, and during the speech and advice of Mr. Schoolcraft to him, he manifested, by his manner and countenance, the strongest interest and concern.

The council, and the distribution of the few presents Mr. Schoolcraft had to give, and the vaccination, kept us till 10 o'clock A. M., when we started for Leech lake, parting here with Mr. Dufour, the trader who had accompanied us from Fond du Lac, and who was going from here to Red lake, his post. Our direction to Leech lake was south, the route leading from a deep bay of the south of Cass lake over a short portage to a little lake, and thence over another portage of two miles on a pine plain to another little lake, from which, by a very small river, we entered a western bay of Leech lake, and got to the chief's village at 10 o'clock at night, having, notwithstanding the portages, travelled this day a distance of near forty miles.

July 17.—The village of our encampment was Flat Mouth's, (Aish-ka-bug-a-kosh,) who is the principal chief of his band, and perhaps one of the most powerful and influential men of his whole nation. He is also their principal orator, and on all occasions like the present, when councils are held on their general interests, he is looked up to with great confidence and respect, and depended upon to say and do whatever is necessary for the benefit of the whole. He had heard of our coming by a message sent from Lake Winnipeg, on our way up, and seemed to have prepared himself for the occasion. I visited his house, which is built of squared timber, and like the trader's house, early in the morning, and found it in a neat condition, and the walls hung round with his flags, war clubs, spears, pipes, medals, and wampum; all arranged with a peculiar taste. His medals, wampum, and flags were spotted with red paint, a circumstance which he afterwards explained in his speech in council. He invited Mr. Schoolcraft and the interpreter to breakfast with him, his assumed dignity on this occasion, as we understood it, not allowing him to invite any but the principal of the party.

The Indians of this band, who were living at different parts of the lake, in several villages, began to assemble at the chief's village as soon as they heard of our arrival, and Doctor Houghton commenced vaccinating immediately. Flat Month dined with Mr. Schoolcraft by invitation, and in the afternoon the council was held, at which most of the band were present. The few presents which Mr. S. had to give them were soon distributed by two or three of the subordinate chiefs; after which Mr. S. held a "talk," wherein he advised the chiefs and warriors to endeavor to put a stop to their feuds with the Sioux; to cultivate peace, and to take care of their women and children; to hunt their rich forests for game, cultivate the soil, raise corn, and endeavor to procure and enjoy some of the comforts of the whites, and to learn to live like them. He told them they

ought not to *make* war with their neighbors, but it was not expected of them to sit still and be "struck;" that they might properly carry on a defensive war, but that they should not *go to war* without cause; that their great father, the President, loved them, and was ever watchful of all their actions, and it was his wish that the Sioux and Chippewas should live happily, and at peace with each other.

Flat Mouth spoke in reply. That he considered Mr. Schoolcraft as appointed and sent to listen to the Indians, and he wished him to listen attentively to what he had to say. He intended to speak fearlessly; his young men and warriors expected him to do so, and would think lightly of him if he did not. He had long listened to the admonitions of his great father to maintain peace with the Sioux; but his great father had not fulfilled the promises of protection made to the Chippewas at the treaties of Prairie du Chien and Fond du Lac; and the unchecked aggressions of the Sioux had now become so intolerable that it was necessary for the Chippewas to punish the Sioux themselves, and it was their fixed determination to do so. That it had been promised them, at these treaties, that the "long arm" of the President should be constantly extended over them to protect them; and if the Sioux made further aggressions upon their territory, the arm of the President would reach them, and draw them back and chastise them. This had not been done. The Sioux had, since that time, made frequent inroads, and had killed great numbers of their young men, and, among them, his own son; but the long arm of the President had not yet reached the aggressors, to inflict the promised punishment. He had, therefore, resolved to listen no longer to advice to keep peace, but to revenge his numerous injuries by fighting and killing his enemies; too many of their warriors and relatives had been murdered, for his people to think of any other course. [Here he gave a bunch of short reeds, about 50, to represent the number of his young men killed by the Sioux, since the treaty of Prairie du Chien.] The blood of so many had stained every thing around him, and must, in some way, be washed away; it covered every thing he had received from the Government, his medals, his flags, the letters of advice which had been sent to him from the agent, through the traders; the wampum sent him by the President, and the very ribbons that now suspended the medals and wampum from his hand; all were dyed deep with the blood of his murdered young men. He wished the Government of the United States to wash it off, and make his medals as bright as when he received them; and until this would be done, he could not consent to remain at peace. If Mr. S. could do this, he wished him to do it now, and at once, for he regarded it as a stain upon the Government, and his tribe; and he now threw down his medals before Mr. S. that he might make them again bright, [throwing them down at Mr. Schoolcraft's feet.] His warriors had but now returned from an excursion against the Sioux, in which they had killed three of their enemies, but they were by no means satisfied; and he had sent messages to different bands, inviting to another campaign, and expected before the snow fell to be again in the field. He deplored the poverty and weakness of his tribe; the very trees of the forest were dropping tears of pity over them, and he thought it a duty of the Government of the United States now to give them assistance to chastise their enemies, as had been promised them. If it did not, he would go beyond the Americans, to men wearing hats, (meaning British,) to seek help. He wished to say a great deal to Mr.

Schoolcraft, and if he would wait till the next day, he would be prepared to make a better speech, and to say many things more.

During this speech he was surrounded by most of the warriors of his band, who, by their ready and general response, seemed to be well pleased with it. His manner was bold and vehement, particularly when he spoke of the Sioux; and, from the glow of excitement in the eyes and countenances of his warriors, I could see that they fully entered into his feelings.

Mr. Schoolcraft said a few words in reply to parts of the speech, and the council broke up a little before sunset, when we immediately embarked, and went about three miles down one of the bays of the lake to encamp.

This was altogether the most interesting band that we had met with among all the Chippewas whom we had visited. Their lake is the largest of all the lakes which contribute to the waters of the Mississippi, being more than one hundred miles in circumference, and most curiously formed of deep and narrow bays, which afford abundance of wild rice, while their immediate shores are of a character of soil, very rich, and suitable for their gardens. The Leech lake band is too large to live comfortably in one or two villages, and is therefore dispersed in little villages all around the lake, and on two of its islands. The number of the band is put down, from the most accurate information we could obtain, at 836, 806 of whom live about Leech lake, and 30 on Peckagama river.

Their country abounds in furred animals and game, and the lake affords abundance of fish; whitefish, herring, and tullibee, which they take in gill nets at all seasons. Deer and bears are the principal animals of the forest which are hunted for their meat; and beavers, otters, martens, and muskrats are the chief furred animals, which are taken in such great numbers as to make this one of the most valuable posts of the north for the American trade. About seven thousand dollars worth of furs are annually sold to American traders, and great quantities are taken from here across the lines to the British trader at Rainy lake, and sold there for whiskey and some British goods. These Indians have a partiality for the British, which they take no pains to conceal, and, as far as is in their power, they obtain their supplies from the British traders. Mr. Aitkin is of opinion that four or five thousand dollars worth of furs are annually traded by this band across the lines to the Hudson Bay Company. From their remoteness from white settlements, they still retain much of their native character. They have not been debased or enfeebled with whiskey, from the difficulty of obtaining it in great quantities; and, unlike most of their tribe, they are strong, athletic, muscular men, of large stature, and fine appearance, looking proud, haughty, and unsubdued; and carrying an independence and fearlessness with their manner, that indicates a full estimate of their own strength. They have sometimes robbed their traders of a part of their goods, and have hence acquired the name of "The Pillagers," or "The Robbers;" but, of late years, they have been less troublesome to their traders, and are not much complained of except for their impudence, and a total disregard of, and disrespect for the power and Government of the United States. They are undoubtedly inimical to our Government, and friendly to the British; and such is their ignorance and arrogance, that they have threatened to drive away the American trader, and bring a British one, whom they would maintain and protect among them.

The strength of the band in warriors may be estimated at about two hundred, which is much greater than that of any other single band of the

nation ; the Chippewas being, in consequence of the great poverty of their country, divided into numerous bands and villages, and scattered over their vast territory.

The Leech lake band, being nearest to the Sioux, are in a state of continual war with them ; and their hatred for this enemy of their tribe is perhaps the strongest feeling of their nature, which has grown and strengthened with them from their very infancy. As Flat Mouth remarked to us, "it was decreed by the Great Spirit that hatred and war should ever exist between the Sioux and themselves ; that this decree could never be changed ; and the Chippewas must ever act accordingly." In the wars of this band with the Sioux, however, they associate with other bands, as those of Lake Winnipeg, Cass lake, and Red lake, as they had done on their recent excursion, when they had sent out a hundred warriors.

The nature of their country protects them from inroads of their enemies to their villages ; and they feel inaccessible and secure from any power whatever, even that of the United States. The traders have, in vain, to threaten with the power of the Government to check their excesses ; their reply is, that they have not yet seen that power, and that it cannot reach them.

It is probable, however, that our visiting them with such apparent ease, may have the effect of lowering their ideas of their inaccessible position.

They have several war chiefs who are much superior, in appearance, to Flat Mouth, and who have a much better character for warlike qualities. But the latter is the great chief in council, where his oratory sustains his authority ; and he is acknowledged, by all, their principal chief.

The excitement of their recent success against their enemies was still prevailing to a great extent, and it was one object of our leaving their village, to escape from the noise of their dancing.

Mr. S. had engaged, for me, two guides and steersmen, in place of the two from Sandy lake, who now left me to return home ; but we started so soon after the council, that they were displeased, and did not join us, at night, at our encampment, as they were requested.

July 18.—We waited for our guides to join us until six in the morning, but they did not come, and we embarked without them. Our route was, now, to the head of Crow Wing river, which we were to descend to the Mississippi, and our only guide was a map or sketch of it, drawn by a Leech lake Indian. We ran several miles down a deep bay, to the south of the lake, and, after much coasting and searching, found the portage leading from it, which we crossed in a direction a little west of south, over a pine ridge, to a small lake ; and passing through this and four other small lakes, with sandy shores, and clear, beautiful water, filled with fish, and connected together by very short and narrow channels, as described on the map, we came to another portage of 700 yards, to another lake, which, with three more little lakes, and as many more portages, brought us to *Long lake, the source of Crow Wing river.* These portages were all short and over pine ridges, with pine forests of yellow and pitch pine ; and the lakes were deep, clear, and beautiful, with the pine hills coming down to the water. This whole country is pine, and is filled with hundreds of these little lakes ; all of the same character, and without outlet or inlet : three or four may be seen from a single point, on an elevated hill. It was night when we got through the last portage, and we encamped at the end of it on the shores of Long lake, which, though also

small, has an outlet, which is Crow Wing river, or the great western branch of the Upper Mississippi.

Flat Mouth and another chief had overtaken us, but no guides had yet come, and I felt apprehensive of danger, in descending the river, without other steersmen than the soldiers, with whom I had not yet dared to trust the management of my canoes in rapids; and who in fact were unpractised and unskilled as steersmen, my having had Indians in that capacity all the way till now. In consequence of the portages, we made but thirty miles to-day.

July 19.—We took leave of the old chief, Flatmouth, and his companion, Major Gaw-bo-way, and, starting early, passed through Long Lake in its length, which was about four miles. This is the first of a singular chain of eleven pretty little lakes, from two to five miles in length, and near together, from which Crow Wing river takes its rise. The channel, or river connecting them, is at first very narrow, shallow, and crooked, but increases a little in size in passing through each, until, where it leaves the last of the series, it is thirty yards broad, from two to five feet deep, and running three miles per hour. We had no other guide through these lakes than our rude Indian map, and in one of the last of the chain, being then three or four miles ahead of the other canoes, I was misled in my search for the outlet, and ran several miles in a wrong direction, into a bay of the lake, where I found a small river coming into it, and in the mean time Mr. Schoolcraft's canoes passed me, unobserved. When I had found the right way, I did not know if Mr. Schoolcraft were in front or rear, and waited some time for him to come up, and then proceeded, still ignorant of his situation, until late in the afternoon, when a tremendous storm and rain drove me to encamp, at half past four o'clock, on a pine plain.

The country passed to-day has no other novelty than that of its total destitution of Indian habitations; being too near the borders of their respective territories, to be used by either the Sioux or Chippewas, excepting as a route for their war parties, and as an occasional hunting ground for some of the daring young men of the Leech lake band, who are sometimes led hither to hunt, by a scarcity in their immediate grounds, and by the abundance of this, the game here being abundant, from its not being *much* hunted.

It is here that the Chippewas, and particularly the band at Leech lake, have lost so many of their braves, who, in these daring hunts, have been cut off by lurking Sioux. Hence the bitter complaints of the Chippewas against the Sioux, this land being properly a part of the territory of the former, and valuable for game and furs. Journey to-day fifty miles.

July 20.—Started from my encampment as soon as I could see, and in a short time passed the last lake of the eleven sources of the river, and to which the river is merely tangent, running only one or two hundred yards through the wild rice and grass of one end of it.

Ten miles below this lake, I passed the mouth of Leaf river, which comes in from the N. W., and is almost as large at its mouth as Crow Wing river, and is navigable for canoes fifty miles, to its source in Leaf lake. Ten miles below this river, I passed Mr. Schoolcraft's encampment of the previous night, thirty miles from mine. Supposing me to be ahead of him, he had gone on till late at night, to overtake me, and had consequently got this distance ahead of me. As we were in the hourly expectation of meeting on this river a war party of Sioux, coming out against the

Chippewas, I felt anxious to be up with Mr. Schoolcraft, and continued with all possible speed, which was now near ten miles per hour, assisted as we were by a strong current. Passing a willow swamp, through which the river ran, for a distance of twelve or fourteen miles, we came suddenly to a most interminable chain of strong rapids, twenty-four of which occurred in a distance of thirty miles, and some of them a mile or more in length. From the ignorance of my men in steering canoes, the passage of these rapids was dangerous, but, by directing the first canoe myself, and requiring the other to follow her closely, and in the same track, we got down the whole with but slight injury. It is the method of Canadians and Indians, in descending rapids in canoes, to allow them to float, and to check them continually, by poles, at the bow and stern, to avoid the rocks; but as my men had not the skill for this, I caused them to row with all their might, and steered the canoes with paddles, by means of their headway over the current. By this means, my speed was so much increased, over that of Mr. Schoolcraft, that I overtook him in the afternoon, about 2 o'clock. Below the rapids, the river attained a breadth of more than one hundred yards, and twenty miles below, Shell river comes in from the west, through an immense willow marsh, and discharges itself in a mouth forty yards broad. This is called a large river by the traders, and is navigable for large canoes sixty miles, to its source in Shell lake.

Below this river, the Crow Wing has much of the character of the Upper Mississippi—broad, shallow, muddy, and sandy bottom, with long sand bars running out from the points; it runs through several willow swamps, but is generally confined by high banks, falling from pine hills and plains. We encamped on an elevated pine plain, after sunset, my distance, travelled to-day, being 120 miles, and Mr Schoolcraft's 90—both greater than usual, in consequence of the rapidity of the general current, and my increased exertion, in the forepart of the day, to overtake Mr. Schoolcraft.

July 21.—The river continued to increase in breadth to its mouth, where it divides into two channels; but just above which it is between two and three hundred yards broad, but shallow, not more than five or six feet deep. About twenty miles from the mouth, it receives Long Prairie river, from the west, navigable for canoes thirty miles, to a lake which is its source. We reached the Mississippi, 40 miles from our encampment, at 12 o'clock.

The Crow Wing river is discharged by two mouths nearly equal, and near a mile apart, separated by Crow island, in one side of which the Mississippi makes its curve. The island is about three miles in circumference, of rich, alluvial, vegetable soil, supporting a rich heavy forest of elm, ash, linn, walnut, soft maple, &c., but like all the little alluvial bottoms of the Crow Wing and Upper Mississippi rivers, it is inundated every spring. The river has its mouth three hundred miles above the falls of St. Anthony, and three hundred below Sandy lake,* and is the largest river that empties into the Mississippi above the falls of St. Anthony. It is two hundred and ten miles in length to its source in Long lake, from which its general course is nearly south to the Mississippi. It is navigable for canoes all the way, and for boats, in low stages of water, to the rapids, about 80 miles. In very high stages, the rapids may be passed by Mackinac boats, which might then ascend nearly to its source. It is by far the nearest route by water, from Fort Snelling to Leech lake, and presents

*According to the estimate of the traders, which is probably too great.

no greater difficulties to navigation than the Mississippi does above the falls of St. Anthony. It runs, all its length, through a country of pine plains and gentle hills, so regular, smooth and free from undergrowth, that, as I was informed, a cart might be driven, near its banks, almost to Leech lake. If troops were to be sent against the upper bands of Chippewa Indians at any future time, this would be a proper route for them to take, whether in boats or marching: and from the tone and manner of the Leech lake Indians, observed during our visits, and the unfriendly character given of them by their traders, it is probable that such a measure may become necessary.

The Crow Wing river country, and that of all its tributaries, Prairie, Shell, and Leaf rivers, and two or three little streams coming in from the east, is rich in furs and game, such as beaver, marten, rats, bears, &c., and deer; but much of it is not hunted, because of its border character to the Sioux territory.

The east bank of the Mississippi, opposite Crow island, is near one hundred feet high, and the country back is an immense rolling prairie, which is here poor, the soil being dry and sandy. Here we found the whole of the Sandy lake band of Indians encamped, awaiting our arrival; Mr. Schoolcraft having given notice, as we passed Sandy lake on our way up, that we would meet them here on our return. This band consists of about 280 souls, of whom 60 are warriors. Their principal chief is Gros Gueule, or Big Mouth, who in his youth was a man of energy and influence; but he is now old and imbecile, and his authority has declined with his vigor, until his band are not much prone to take his advice. His policy has been peace; and it is many years since his band have fought the Sioux. But he remarked to Mr. S. that he was fearful this state of things would not continue, as the excitement of the recent successful war excursion of their brethren, the Leech lake Indians, had spread to his band, and he might not be able to restrain his young men from taking part in any other expedition against the Sioux that might be got up. This band, however, is poor, and their country exhausted; and these circumstances will, undoubtedly, restrain them more than the influence and advice of their declining chief.

Their hunting grounds are about Sandy lake, and along both banks of this Mississippi as far as this place; but the game of the country, deer and bears, is scarce, and does not, with the fish they get from Sandy lake, and some other small lakes, afford them a sufficient subsistence; and much of their food, in winter, is supplied by Mr. Aitkin, their trader at Sandy lake. Since the prohibition of whiskey in the Indian trade, these Indians, like those of Fond du Lac, have increased more rapidly than the poor state of the country will admit of; and it is now only their trade in furs that saves many of them from starvation. They were, however, pretty well clothed, and looked healthy and comfortable.

Mr. Schoolcraft held a council with them, in which Gros Gueule complained much of the treachery of the Sioux, who, he said, had often, under the appearance and assurance of friendship, invited some of the Chippewas to their lands and villages, to share the abundance of their forests, and when the latter had gone with this prospect, and to escape the poverty of their own hunting grounds, their entertainers had suddenly risen upon them and murdered them all. He hoped the Government would interpose

to check the Sioux, and protect the Chippewas from their aggressions, as was promised at the treaties of Prairie du Chien and Fond du Lac.

After vaccinating them, and giving them some presents and advice, we embarked, and proceeded ten miles below to Mr. Baker's trading house, where we encamped.

July 22, (*Sunday.*)—We remained at the house of Mr. Baker, who politely gave us much valuable information respecting the country, above and below. I am indebted to him for the topography of the country east and west of the Mississippi, from Sandy lake to St. Peter's; which I have given on my map, in the character, course, and length of the streams which enter the Crow Wing and Mississippi rivers. The following is also derived from him: The prairie, where he lives, east of the Mississippi, extends from about one hundred miles below Sandy lake down below Prairie du Chien, and back from the river to the pine country intervening the waters of the Mississippi and Lake Superior. Its soil is generally poor, but affords abundance of grass; and, in some places, where the prairie is low and level, as near rivers, it is rich. Timber occurs over it in numerous little groves and clusters and isolated trees, but it is, generally, an inferior species of the oak. Pine grows on some of the highest parts, and near some of the rivers—mostly white pine, (pinus strobus.) Mr. Baker has driven a cart from Fort Snelling to his house, in summer; and he says the prairie is practicable for carts as far as Sandy lake, excepting a few obstructions of narrow rivers. Beaver, otter, and rats, are taken about the rivers; and deer and bears are tolerably abundant about Mr. Baker's and below, but above, and more remote from the Sioux and Chippewa boundary line, they have been so much hunted by the Sandy lake Indians that they are now scarce.

On the west side, opposite Mr. Baker's, is a thick green forest of oak, poplar, sugar-maple, and pine, which extends up to the pine plains about Crow Wing river; down, about a hundred and fifty miles, to where it terminates in prairie; and back from the river to what is called "The Plains," a part of the great prairie of the Sioux, where they hunt the buffalo.

The buffalo are frequently driven by severe winters to take refuge in this forest; and they sometimes penetrate it to the Mississippi in search of water, in winter; but, in summer, they roam continually over their boundless prairies, and are nowhere seen near the Mississippi, and east of it they are not now to be found, any where, at any season of the year. The western side of the river abounds in deer, elk, and bears, much more at this place than the eastern.

Mr. Baker's house is prettily situated on a point in a bend of the river, at the foot of a moderate rapid, just above which the river expands, and three small islands, heavily wooded, of about equal size, lie parallel to each other in its breadth, separated from themselves and the main land by four equal and parallel channels, and presenting from the house a very pretty view. This is the commencement of the thousands of islands of the Mississippi, which occur from here to its mouth. Mr. Baker is a trader of Mr. Aitkin—he has been here only one year, and has made but little improvement; but, the land about him being rich, it his intention to raise cattle and hogs, and to make this a permanent trading post. Being near their lines, he will trade with both Sioux and Chippewas, though there is no village of either near him at present.

July 23.—I abandoned one of my canoes, which was worn out, and borrowed one of Mr. Baker, to take me to Fort Snelling. He also gave me two of his Canadians, whom he was sending to the fort for supplies, to act as steersmen and pilots over the numerous rapids below. I had now four oars and two paddles in each of my canoes; which being also light of baggage, and my men fresh after the rest of yesterday, we were enabled to course the rapid current with incredible speed. At a distance of ten miles we passed the "Little Falls"—a chute, where the river is contracted from three hundred yards to fifty yards, and falls about ten feet in sixty, through a formation of talcous slate rock; the first rock we had seen in place, since leaving the falls of Pacagama. A little further down we passed Pike's rapids, and the site of Pike's blockhouse, where Lieut. Pike wintered his command in 1805-'6; and, a little farther, a chain of rapids called the "Grand Rapids," where the river runs over an extensive rock formation of granular quartz.

We also passed, during the day, another rapid at the mouth of Elk river, and the "Big Falls," at the mouth of Sac river; and, a short distance above the latter, the mouth of Little Sac or Wattah river, where the boundary line of the Sioux and Chippewas, established by the treaty of 1825, crosses the Mississippi; Wattah river making, in its whole length, a part of the line, and entering the Mississippi about one hundred and twenty miles above the falls of St. Anthony. We encamped at night near the last of six other rapids, called the "Six Prairie Rapids," which occur at nearly equal distances apart, in a distance of fifteen miles, having travelled, during fourteen hours, a distance of 160 miles.

The river was broad, (three or four hundred yards,) excepting at the rapids; and islands occurred at the point of every bend. The fall in the rapids was nowhere so great as in the chute passed in the morning. The banks were high: sometimes coming down in a gentle slope, which was covered with luxuriant grass (poa compressa) to the edge of the water; and sometimes abrupt sand to a height of one hundred feet. Before night the forest had disappeared on our right, and beautiful green prairies were seen on both sides.

July 24.—A short distance below our encampent, we passed the mouth of St. Francis, or Parallel river, a considerable stream, running parallel to the Mississippi, and navigable for canoes one hundred miles. And farther down, on the same side, the mouth of Rum river, which is sixty yards broad at its mouth, and is navigable for canoes one hundred and fifty miles, to Mil lac, a lake almost as large as Cass lake, where the American Fur Company have a trading house, and where there is a village of one hundred and twenty Indians. Another branch of Rum river, called Kettle river, has its source near Fond du Lac river, one hundred miles north of Mil lac.

Several smaller tributaries of the Mississippi are delineated, in their appropriate place, on the map of this day's journey.

We arrived at the falls of St. Anthony at 1 P. M., and at Fort Snelling at 3 P. M., a distance of ninety miles* from our encampment. The river and country passed to-day have the same character as yesterday, the country being uneven prairie on both sides, and the river filled with islands, but becoming wider continually, from its numerous tributa-

*This diminishes the distance from Crow Wing river to the falls fifty miles beneath the estimate of the traders, who make it 300 miles. My estimate is 250.

ries, until it has a breadth of four hundred yards. The falls have been described by Mr. Schoolcraft, and other former travellers, who had more time to observe them than was allotted to me. I have only to correct an error in the height of the perpendicular fall. It was estimated by Lieut. Pike sixteen feet, and by Mr. Schoolcraft forty feet. I was told by an officer at Fort Snelling, that, by actual measurement, it was eighteen feet precisely. Below the falls there is a considerable rapid, and the whole descent at this place, including also the rapid above, may be estimated at eighty feet. Between the falls and Fort Snelling, a distance of nine miles, the channel is contracted, in a deep ravine, between bluff rocky banks of great height, and the river runs in a torrent all the way. The house and mill belonging to the United States at the falls seemed to be in a good state of preservation, though not used.

On my arrival at Fort Snelling, I reported to the commanding officer, Capt. Jouett, and made requisition for provisions to take my detachment home; the provisions I had started with, from Fort Brady, being now nearly exhausted. We expected to hear, at the fort, something definitely of the Sac war, but did not, no news having come from it of any consequence.

July 25.—Was occupied at Fort Snelling in preparing the provisions for transportation, in canoes, and over portages: and in making necessary repairs to my tents, canoes, &c., for the remainder of the journey. Capt. Jouett gave me every assistance in his power, but the kegs for my pork could not be completed this day; and although Mr. Schoolcraft had completed his business with the Indians here in the afternoon, we were obliged to remain over night. I purchased a canoe, to replace the one abandoned at Mr. Baker's, the best I could get, but it was a very bad one. I got another man here also, one who had deserted from Lieut. Clary the preceding summer, at La Pointe, and was taken by Mr. Warren, the trader at La Pointe, to Fort Snelling, and delivered to the commanding officer. This increased my party to eleven men.

July 26.—I completed the packing of my provisions this morning: the pork in kegs, and the flour in bags, and embarked from Fort Snelling at half past 8 A. M. Mr. Schoolcraft started earlier, but was detained at a Sioux village, Little Crow's, below, and I overtook him at breakfast; after which we all proceeded together until one of my canoes was broken on a snag, and I had to put ashore at a Sioux village, to repair, which detained me half an hour, and, in the mean time, Mr. Schoolcraft's canoes got so far ahead that I could not overtake them. This occasioned me some trouble and perplexity; for our route was to leave the Mississippi, at the St. Croix river, forty or fifty miles below Fort Snelling, and I had neither guide, map, nor directions, to enable me to distinguish the mouth of the St. Croix from the hundreds of channels into which the Mississippi is divided by its numerous islands. I was misled by two or three of these channels which came in with every appearance of separate rivers, and was, consequently, detained; but at 5 o'clock I got really into the St. Croix, which I soon recognised after I had entered it, by the long lake near its mouth. I proceeded up this lake fifteen miles, and encamped alone, Mr. Schoolcraft and party being somewhere ahead.

The country about the Mississippi, below the falls, is the same as that above, but the river itself is broader, and its banks are higher, the country having preserved its general level, whilst the river has dropped eighty

feet at the falls. The valley is from a half to two miles broad, of a low bottom land, or vegetable deposite, and is cut up by channels into numerous little islands, covered with fine rich land-timber, but all subject to inundation.

The St. Croix enters the Mississippi by a mouth seventy-five yards broad, opposite an island of the latter, and fifty miles below Fort Snelling. Its right bank, at the mouth, is a perpendicular rock, eight or ten feet high, (calcareous sand rock,) and the left is a low, acute point. A few hundred yards from the mouth, it opens into a long, narrow lake, Lake St. Croix, which seems to fill or lie in a valley, the hills rising to form its banks, on each side, in green gentle slopes. Journey to-day 65 miles.

July 27.—The Lake St. Croix continued twenty-one miles beyond our encampment, making its whole length thirty-six miles, in a north and south direction. It is clear and deep, and seldom more than three or four miles in breadth. The country on each side is the same prairie that borders the Mississippi. The lake gradually contracts at its upper end, to the breadth of the river, and is filled, at this part, with low, little, willow islands, above which the river has a uniform breadth of about seventy yards, and current of two miles per hour. The immediate shores of the river are skirted with a low, narrow, rich bottom, like the Mississippi, but the land about it is higher, poorer, and more hilly, as we ascend. The canoe I got at Fort Snelling proved to be bad and troublesome, and has detained me much in repairing it; in consequence, I have made but forty miles. I have seen nothing of Mr. Schoolcraft, though his encampment of last night was but seven or eight miles above mine.

My encampment to-night is a few miles above a cedar bluff on the east side of the St. Croix, called by the Indians the Standing Cedars, where the Sioux and Chippewa boundary line crosses the river.

July 28.—At my encampment last night, I met a trader, Mr. Brown, of the American Fur Company, who had been trading a year or two on the St. Croix, a few miles above, at a post which he had now abandoned, to establish another at the mouth of the river. He represented the rapids above to be so numerous, and so frightfully bad, that I was almost determined to turn about, and go home by the way of Prairie du Chien and Green Bay. But I learned that Mr. Schoolcraft was only seven or eight miles ahead, and I supposed he would wait at the rapids for me to come up, to render me whatever assistance circumstances might require; and, after purchasing a canoe from Mr. Brown, the best he had of three, I abandoned the one I had got at Fort Snelling, now almost a wreck, and proceeded.

A few miles above where I encamped, the river is traversed by a primitive rock, which, for a distance of one or two hundred yards, confines the channel within perpendicular walls, fifty feet high, and rises in a high abrupt little island in the middle of the stream, but occasions no rapid. Above this the banks are high and steep, but not rocky, till within a mile of the falls, when the channel becomes suddenly contracted to from fifteen to thirty yards, by rocks forming mural precipices on each side, fifty and one hundred feet high, between which the river, though very deep, is urged with great velocity. This rock and the narrow channel continues, with a few interruptions of coves and fissures, one mile up, to the *falls*, where the river is but forty feet broad, and rushes with great force and violence down a fall of fifty feet in three hundred yards. The whole of this rock is

greenstone trap, and its surface presented to the river in high cliffs is exceedingly rugged and broken, prismatic fragments being continually detached from it and tumbled down.

It had not been possible to teach my men the whole science of canoe management, and I had the greatest difficulty in getting through this rocky, rapid, and difficult pass, to the foot of the falls and portage, my canoes being frequently in the most imminent peril of being driven on the rocks, and dashed to pieces by the force of the current. These falls are twenty-four miles above Lake St. Croix. The portage round them is six hundred yards, which we made, and embarked from the head of it at 3 P. M., having been occupied from early morning till this time, steadily and laboriously, in getting eight miles from our encampment.

Above the falls, the river is a continued rapid for five miles: running, for this distance, in a broad channel, over an entire bed of boulders and fragments of rock. But being generally shallow, it was not so difficult or dangerous to ascend, as the rapids below; and my men, by wading by the side of the canoes, could push them along, and in some measure protect them from the rocks. It, however, required five hours to get over this rapid, and we encamped at the head of it, at 8 P. M. on the west bank of the river, near the site of Mr. Brown's late trading house, having, with the utmost exertion, made this day but 13 miles. The land about our encampment is level and very rich, supporting a heavy luxuriant forest of ash, oak, walnut, sugar-maple, &c., but it is the first really good land that we have seen on the river, and does not appear to be extensive. Mr. Schoolcraft encamped last night at the foot of the falls, but did not wait for me this morning, as I had expected he would, and I have not seen him since we left the Mississippi.

July 29, (*Sunday.*)—Mr. Schoolcraft had made it a rule not to travel with his party, on this expedition, on Sunday, and, supposing he would observe the same on this day, I confidently expected to overtake him before night. I was particularly anxious to do so, inasmuch as I had now no *gum** for the repair of my canoes, and I knew he had an abundance: and I wished, moreover, to get, through his means, at the first Indian village, two Indians to steer my canoes; by which my men could be saved from much of the wading and consequent hardship and exposure, of the method of ascending rapids that the want of competent steersmen had forced me to adopt; and by which they were now so much exhausted, and bruised in their feet and legs, as scarce to be equal to the exertions still necessary, and required of them. I accordingly urged forward as much as possible, and got to the site of Mr. Schoolcraft's encampment in the afternoon, where I learned, by a note left for me by Dr. Houghton, that the whole party had left, two and a half hours before, with an intention on the part of Mr. S. not to wait for me any where on the route, but to proceed home with all possible speed, giving as a reason for this measure, that the river was falling, and any delay but increased the difficulty of ascending it. I was dissatisfied with this proceeding of Mr. S., and deemed it unwarrantable by the official relations in which we stood to each other, inasmuch as I was thereby deprived of the services of the surgeon and interpreter, to which I considered myself rightfully entitled within the intention of the department, so far as such services might be necessary for the safety of the de-

* A resinous exudation from pine, used in the construction and repair of bark canoes, to close the seams and holes in the birch bark.

tachment, and to enable me to execute my instructions. These gentlemen had been employed for the purposes of the expedition, and as the execution of certain of those purposes had been separately assigned to me, I had a right to expect that the means provided for their execution should not be withheld from me by the power to whom they were entrusted by the department to control; but by this sudden and unadvised withdrawal of those means out of my reach, I was not only embarrassed in the performance of an appropriate duty, but placed in a situation of extreme inconvenience, and even danger, which could not have been anticipated or intended by the department in the project of the expedition. It is not to be supposed that the department would require soldiers to travel through such a country as this, and encounter the extraordinary exposure and danger incident to their transporting themselves, without some provision of medical aid; and still less could it be deemed practicable for a detachment of troops to effect a journey through an unknown, wild, inhospitable Indian country, without guides of any kind to direct, or an interpreter, through whose means to obtain guides or necessary geographical information. But such was my situation now; I had this route to travel, of which I neither knew the length or direction, the quantity or character of its difficulties, or the time and means that would be required to overcome them. For supposing that I was to travel it with Mr. Schoolcraft, who had *guides*, I had not made any useful inquiries respecting it. In this embarrassment, I would have turned back and sought another route home; but, from the number of rapids which I had already ascended, I supposed there could not be many more to the summit of the river; and that, consequently, it was as easy to go forward as back, and particularly as, with my present means, it was less difficult to ascend than descend rapids. Moreover, by the route of Prairie du Chien, I could not now hope to reach Fort Brady for a long time, in which apprehensions, with the commanding officer there, for my safety, as he could not hear of me after the return of Mr. S., might, I supposed, lead to measures which a more speedy return by this route might avert. And again, Dr. Houghton informed me in his note that he would wait for me at La Pointe, in Lake Superior; that we might pursue a previous arrangement, by which he was to travel home with me, that we might make some further examinations along the lake; and, unless I called there for him, he could not, probably, get home this fall. These considerations induced me to continue the route, bad as the prospect was of finding it.

But of Mr. Schoolcraft, it is a subject of just complaint that he has separated himself from me at a time when I most depended on him, and when, knowing, as he did, the unfitness of my men for the sole management of canoes on this difficult route, he must have been fully aware of the great exposure and fatigue which I must encounter in the accomplishment of this journey without *his assistance*, which he had now withdrawn, but which it was in his power and was his duty to afford.

Had Mr. Schoolcraft told me at Fort Snelling that it would be for me to perform the remainder of the trip alone, and on my own resources, I might there have secured sufficient resources, or, being relieved from the escort duty of protection to his party, I might have returned home by another and less difficult route, which I probably would have done. But by a strange interpretation or disregard of his official relation to the escort, he has led it, ignorant of such a contingency, into a situation of difficulty

not compatible with its separate means of resistance, and there left it to encounter the difficulty as it best might.*

I continued a few miles above Mr. Schoolcraft's encampment, and stopped for the night, having given up all hope and prospect of overtaking him. My men having been in rapids most of this day also, were much worn out and discouraged; and my canoes leaked badly, and could not be repaired for want of gum.

The country passed to-day is hilly and poor, with a scattered growth of pine and scrub oak.

July 30.—The rapids to-day were numerous and bad, and, with the exhausted condition of my men, I made but little progress, not more than 14 or 15 miles, and stopped at night, at an Indian village at the mouth of Snake river, 37 miles above the falls.

About three miles below the village, I met three Indians in a very small canoe, with a note for me from Mr. Schoolcraft, by which it appeared that they were sent to "guide and assist me up the rapids," for which service I was to pay them in provisions. They returned with me to this their village, and signified that they would go no further, this being as far as their father (Mr. Schoolcraft) had asked or employed them to go. I gave them to understand, by signs or whatever means I could, that I wished two of them, at least, to guide me to the source of the river, and that I would reward them liberally with provisions for such service, but none of the village would consent to go, excepting one young Indian, the chief's son, who, taking a fancy for a calico shirt I was wearing, agreed to go two days' journey with me, on condition of my adding this to my former liberal offer of provisions. But I could offer nothing to induce any of the others to accompany me, even for two days, because, perhaps, they were not in need of provisions; and I had little else to give them. Undoubtedly, if I had had some articles of Indian goods, I could have succeeded better.

This village is of the Snake river band, the chief of which is Pe-gheekee, who had been to Washington, as appeared by a paper he showed me, signed by Mr. Calhoun. There were sixty or seventy Indians present, ten or twelve of whom were men. Their trader is Mr. Warren, who sends goods to them every winter, from his establishment at La Pointe. Their country affords abundance of deer, bears, and fish, and they seemed to be comfortably clothed. They seldom war with the Sioux, being too near the post of Fort Snelling, and they look skulking and mean, and are thieving, as I experienced.

July 31.—It was 9 o'clock this morning when I had completed the repairing of my canoes. I purchased all the gum I could get of these Indians, for which I paid enormously, but could not procure near so much as I wanted; my canoes consuming much of it for the frequent repairs required on this

* The uniform and obliging politeness which I experienced with Mr. Schoolcraft during the whole previous journey on this expedition, makes me regret to have to record this exception.

It is also due to him to remark in this place, that he did send three Chippewa Indians from the mouth of Snake river, "to guide and assist me up the rapids," but they met me only three miles below their village, and would not accompany me above it, giving me to understand that this was all Mr. Schoolcraft had required of them. They were consequently of no use to me. He also, subsequently, when he had reached Lake Superior, sent me two Indians in a canoe, who met me on the Bois Brulé river, (which I was descending,) about 45 miles from its mouth, and were of much service to me from there down to the lake.

river. We passed rapids again nearly all day, and made but 17 or 18 miles. The river, losing its tributaries as we ascend, is getting lower continually, making the rapids, where the water is shoal, more destructive to the canoes. The country to-day and yesterday is poor, and pine; none of it fit for cultivation. All the way from the falls, the bed of the river is filled with boulders of primitive rock.

August 1.—The river was less rapid to-day, is filled in this part with sand bars, and skirted with low lands and swamps, with pine hills back. We reached the mouth of Yellow river at 4 P. M., a distance of 30 miles. Here is a large Indian village and a trading house, which Mr. Warren occupies in winter, by one of his clerks. Most of the Indians and their chief, however, were absent.

Yellow river comes into the St. Croix from the southeast, and is one of its principal tributaries; it is navigable for canoes 60 miles to its source, near Ottowa lake, and runs through several little rice lakes. My Indian guide from Snake river refused to go further, and I could not induce any of the Indians here to take his place, but I succeeded in making one of them understand that I wished him to sketch me a map of the river above, which he did, though very badly. We encamped a few miles above the village, where some of the Indians followed us unperceived, and, with a most daring theft, stole the bread which was baking at the fire, before which the men were sleeping.

August 2.—Ten miles above Yellow river, we passed the mouth of the Nam-a-kwa-gon river, another large branch of the St. Croix, coming in from the east, where we found an Indian encampment of two lodges; and I was again unsuccessful in an application, as well as I could make it, for a guide, but they sold me some gum and birch bark for provisions. The St. Croix above was very sensibly less, and its numerous rapids broke my canoes, and detained me as usual; one of them was repaired in the bottom this afternoon, with about six square feet of bark.

In the course of the day, I met a hungry Indian and his wife descending the river in a good little new canoe, which I purchased for an injured bag of flour, of about 80 lbs. weight. The canoe was worth about ten dollars; but the flour, according to traders' prices for it, was worth twenty dollars; and this would appear cheap to any one who should witness its transportation to this place. By means of this canoe I lightened the other two, and passed the rapids much easier. I met, also, the Indian chief of this country, Keppameppa, with a note from Mr. Johnston, the enterpreter, enclosing a sketch of the Bois Brulé river, which I was to descend to Lake Superior. Journey to-day 16 miles.

August 3.—The river has become so low that we have to wade over all the rapids, *which seem to be interminable.* Many of them, to-day, were over shelving sandstone rock; the fragments of which, broken and strewed in the channel, have cut up my men's feet, and the bottoms of the canoes, horribly. Made about the same distance as yesterday.

August 4.—Passed a long expansion of the river, grown over with wild rice, on the east side of which is an Indian village, of seven or eight lodges, with gardens of potatoes, squashes, and corn, adjacent. This is Keppameppa's permanent village; but all the Indians were now absent, hunting or fishing. Twelve or fifteen miles above this village, we came to another expansion, or narrow rice lake, five or six miles long, the upper end of which receives Ox river; the St. Croix coming in below Ox river, on the

west side. From my ignorance of the route, I was near getting lost at this place, by following up the wrong river. A broad, plain channel, with a current all the way, leads up, through the rice, to the mouth of Ox river; but the St. Croix, which is here the smaller of the two rivers, comes in, as it were, on one side of the rice pond, and has its mouth, in a measure, concealed by the grass growing in it. Each canoe passed in succession to the mouth of the former river, without noticing the latter; but I had remarked, as I passed, an opening in the woods, as though a stream came in; and after entering the mouth of the wrong river, I went back, to be satisfied as to this appearance, and found the stream; but, from its being smaller than the other, I was still in doubt which to take, till I had followed it up a short distance, to a rapid, where I observed, on a rock in the bottom, a little red spot, which, on examination, proved to be red lead paint rubbed from Mr. S.'s canoe, which had touched the rock. This little circumstance determined this to be the proper route, and saved me from the error of taking the other; which, if I had done, might have led to further error, and been attended with serious consequences: for, if I had been lost for many days in this poor country, till my provisions were exhausted, starvation would have been almost inevitable.

From here the St. Croix, now very small, crooked a few miles through a tamrack and cedar swamp, and brought us to its source, in a beautiful, clear, deep lake, (Upper Lake St. Croix,) twelve miles long, and from one to three wide, with a pretty little island near its southern end, on which were two Indian lodges, but no Indians.

We passed through the length of the lake, which lies north and south, to the portage, leading from its northern extremity to the Bois Brulé river. It is surrounded by pine hills, at the base of which, on its western side, there is a little good land, where the Indians have gardens. The lake is forty-six miles above the Namakwagon river, and two hundred and one miles from the mouth of the St. Croix.

We have now been nearly ten days ascending this river, though, on leaving Fort Snelling, we expected to reach Lake Superior in eight days; but this has been, for me, a most difficult route, and my progress has consequently been very slow.

Excepting twenty or thirty miles at its head, this river is filled with rapids from its source to the falls; and, in a distance of one hundred and twenty miles, its descent cannot be less than seven hundred feet. Our course up the river was, for the first sixty miles, north; afterwards, northeast, to its source. Above Snake river, the country is poor, showing cedar and pine hills next to the river, and pine hills back; mostly yellow and pitch pine.

The country bordering the St. Croix and its tributaries, is called the "Folle Avoine," or Wild Rice country, from its many rice ponds and lakes. I could not ascertain the number of Indians in this country, but they are not numerous. They subsist on wild rice, fish, and game, of which they have abundance, and to spare to their traders, who depend principally on these Indians for their meat. They furnish, annually, about five thousand dollars worth of furs, composed of otter, martens, rats, bears, raccoons, and deer skins, with some beavers and foxes. They looked meaner, and were more thieving than any of the Chippewas I had met with. They hate the Sioux, but seldom war with them.

The portage, from St. Croix lake, runs over a high pine ridge, of six

or seven hundred feet elevation above the lake; from the summit of which, looking to the westward, across the valley of the Bois Brulé, high conical peaks, and regular hills, closely covered with only pine, may be seen rising one above another, as far as the eye can discern. The length of the portage is two miles.

About a mile from the head of the lake, and west of the portage, the Bois Brulé has its source in a large spring or little lake, twenty yards across, of clear, cold water, from which the Bois Brulé runs on one side, and a small stream to the lake on the other; one to Lake Superior, and the other to the Mississippi. But in seasons of floods and high waters. the Bois Brulé runs from the larger lake, and through the smaller. Where the portage struck the river, the latter was very small, about eight feet broad, five or six inches deep, of very clear and cold water, running swiftly over a sandy bottom. I got part of the baggage through, and encamped on the portage.

August 5.—The men's feet and legs were so very sore, from the effects of their previous wading in the rapids of the St. Croix, that the carrying on this portage distressed them much; and although the baggage was now comparatively light, it occupied them till twelve o'clock to get over what had been left the previous evening.

We embarked, and descended the river 18 miles to encamp. At first, the stream was very narrow and shoal, barely floating the canoes without the men; but after winding through a wet meadow and a tamrack swamp, in which it received several little streams, in a distance of ten or twelve miles, it had increased to a width of thirty feet, and a depth of one or two feet, with a current of one mile per hour. Its shores were very much clustered with a species of alder, (alnus serrulata,) which in narrow parts interlocked over the stream so thick and close, that it was hard to force the canoes through it.

August 6.—Two or three miles from our encampment brought us to the "Little Falls," where the river, from being thirty yards broad above, is contracted to fifteen *feet*, and falls through a rocky channel, fifteen feet in fifty yards. It may be passed in light canoes, skilfully managed, but I had mine carried over the portage 150 yards, on the west side. Below the falls, the river was mostly rapids, which were of so bad a character, from the shallowness of the water, the strength of the current, and the rocks with which they were *filled*, that, to pass them with any degree of safety, we were obliged again to wade by the side of the canoes, and conduct them down; and even by this means we could not save the canoes from great injury. We had to stop frequently to repair, and before night had exhausted all our gum, after which it required one man to bail constantly in each canoe, to keep her free, and when we stopped at night they were all in a sinking condition. The muskets, boxes, all our baggage, excepting the flour, which was piled above every thing else to save it, was wet thoroughly. But it is our greatest misfortune to be out of gum, for without it the canoes cannot be repaired, and without great repairs my canoes will not be in a condition to carry us much farther. I have procured all the gum I could from all the Indians I have met with on the St. Croix, but my canoes have been so often broken as to have required it all. From the wreck of an old canoe found in the river this evening, we have procured a little, with which we have repaired, as well as we could, for to-morrow.

We have come to-day twenty-two miles, in which distance the river is

very crooked, winding through a low, narrow valley, which is bordered by cedar and pine hills of the most forbidding aspect.

I made an attempt to walk down the shore, with three of the men, but, from the numerous ridges, ravines, and swamps, we found it much easier to wade in the bed of the river.

The river is exceedingly cold and clear, and is filled with thousands of the real mountain brook trout.

August 7.—This has been a most disastrous day. For the whole distance that we have come, which is about twelve miles, there is scarcely a part of the river that is not rapid, and much of it of the worst character that it is practicable to descend. On starting this morning, I required all the men, but one disabled, to wade, and lead the canoes with the utmost care; but the rapids were so strong, and the rocks so slippery, that it was not possible for them to keep their feet, or to save the canoes from striking often: and, before 8 o'clock in the morning, all my canoes were leaking badly; they had been so often repaired that their bottoms were nearly gummed over, and every touch on a stone knocked some of it off, and opened a leak. At 8 o'clock, however, I met two Indians, in a very little canoe, whom Mr. Schoolcraft had sent from the mouth of the river, to bring me gum, and to pilot me down. The gum was of great service, in enabling me to proceed with my canoes; but their little canoe was too small to carry any thing of consequence, and neither of the Indians would consent to leave it, to take charge of mine; and their piloting was of no use, for my men had not the skill to follow them, or to steer a canoe as they did, by means of poles. In the afternoon, after I had used up all the gum again, in repairs, my largest canoe had her bottom literally torn off in a rapid, and sunk, and her baggage had to be taken by the others, already loaded too much. A little after I met two canoes, with two Indian families, going up, and after failing in an endeavor to purchase one of them with any thing I could offer, I hired the two men to leave their families here, and with one of their canoes to take a portion of my baggage down to the lake, for which I gave them two soldiers' blankets, provisions, and some other articles; but they refused, for additional compensation, to allow a soldier to take the place of either in their canoes, that the other might steer one of mine: fearful, no doubt, from observing the condition of my canoes, that the skill of a soldier was not a good guaranty for the safety of theirs. After this arrangement, we reached the first portage below the falls, where the baggage was carried over a very ugly road, one mile, and the canoes, lighted, passed by the river, and I encamped at the lower end of it. But when my canoes were taken out, one of them proved to be a wreck, and irreparable, which reduced me to one small Indian canoe of my own, and the two still smaller ones of the Indians. These were insufficient to transport my baggage and men, and there was no resource left but to walk, which, from the nature of the country, seemed to be impracticable without a guide, who could lead by some route over the hills, and far back from the river. One of the Indians whom I had hired above, seemed to know the country, and by offer of liberal compensation I induced him, though not without difficulty, to consent to allow a soldier to take his place in the canoe, while he would guide us through the country to the lake; a distance, as I understood him, of one day's journey. I made my arrangements accordingly: seven of the men and myself were

to walk, with the guide, and the remainder, including him who was lame, to go with the canoes.

August 8.—When we rose this morning, my guide and his companion had disappeared. I and my men had slept soundly from the fatigues of the previous day, and the rascals had stolen away with their canoe in the night, unperceived, taking with them the articles they had received for their hire, and a quantity of bread that had been left to bake at the fire. I was not in a situation to pursue them, and as they could ascend the river much faster than me, pursuit was useless. I had now but two little canoes left for all my baggage. The soldier who was lame, and a few articles of loading, all it would safely carry, were embarked in the lesser one of the Indians, and the remainder in the other, giving it in charge to two of my best men, with instructions, as it was overloaded, to wade, wherever they could, and lead it down slowly. The remaining seven of the men and myself set out to make our way over land, taking with us provisions for two days, a few blankets, a musket, and a fowling piece. All set off at 6 A. M. I attempted at first to follow the valley of the river, but it was so thickly grown over with brushwood and cedar, and presented so much swamp, as to be utterly impracticable, and I was forced to leave it, and take to the hills, which presented difficulties but little less forbidding: their ascent being six or seven hundred feet, steep, and covered, all the way up, with a growth of tamrack, cedar, and thick undergrowth, which appeared to be impenetrable. Their summits were generally covered with pine, but were irregular, and made a very bad route, which was often, too, intersected by deep ravines, running to the river, and presenting sides as steep and as closely covered with cedar, &c. as the valley itself. Swamps also occurred in the depths of the ravines, and had to be crossed. By means of a compass, I kept, as well as I could judge of it, the general direction of the river, and during the day descended quite to the river several times, to be sure of not getting lost. The men followed me very badly, their feet and legs being bruised and cut, and much swollen, from the effects of the rapids. Most of them found it troublesome to walk at all, and one was so far overcome by sprained and bruised ankles, as to ask to be left in the woods. But as I had only two days' provisions, and knew neither the distance nor difficulty between me and the lake, I felt a strong necessity to urge them on as fast as they could bear. Towards sunset, however, after we had come about thirty miles, we ascended a high peak of a pine hill, where one of the men ascended a tree and got a view of the lake before us; and descending then to the valley of the river, a few miles more brought us to its mouth, and an Indian village. We had walked about thirty-five miles, over an inconceivably bad route, and were all much fatigued; the distance by the river, to the point we left this morning, is forty miles, and our route over the hills has been almost as devious. The Indian canoe, which had started in the morning, arrived about an hour after us; but the other did not, being too much loaded to keep up with the Indians.

August 9.—My canoe had not arrived at eight this morning, and fearing some accident had befallen it, I borrowed a canoe from Mongarid, the chief of the village, and taking one of my men in the bow, and a supply of gum, I set off to meet it. I had applied myself much, necessarily, to the conduct of my canoes, and could now steer one as well as any of my men. We proceeded up the river eighteen miles, over very many rapids, and

found the canoe and baggage on the shore; the men in charge of it having come thus far with great trouble, when their gum was exhausted, and the canoe so much injured as to be unfit to proceed farther without repairs. We had met one of the men a few miles below, on his way to the mouth of the river for gum.

I repaired the canoe with nearly all the gum I had, and taking half the loading into mine, I embarked again, but had proceeded only a little way when the broken canoe required further repair. It had been so much thumped on the rocks that its bottom was almost destroyed, and was so loose now, on the distending bars, that every knock it got jarred the whole bottom, and cracked off the gum from every part of it. But I could not dispense with this canoe, as the other would not carry the baggage, and had recourse to another, and novel method to keep it afloat. Finding a tough, marly, red clay, in the bank of the river, I took the canoe out, and had its bottom rubbed all over with it, till it was forced into the seams and leaks, so as to stop them completely. I then embarked the canoe, and urged her on, as fast as possible, till the clay dissolved out, and the leaks again opened, when a similar process, hastily repeated, was alike effectual. In this way, applying the clay about every half hour, I reached the mouth of the river, with both canoes, and all the baggage, about ten o'clock at night.

The journey down the Bois Brulé has thus required five days, and has been a scene of trouble, difficulty, and danger, nearly all the way. The river is ninety-four miles long, and from the Little Falls (twenty-two miles from its source) to its mouth, in a distance of about seventy miles, it has a descent of more than seven hundred feet, without a perpendicular fall of more than eighteen inches or two feet in the whole distance; hence some idea may be formed of the great quantity and strength of rapid which must necessarily occur in this short river.

From the falls, the river winds through a deep ravine, between high pine-topped hills, the sides of which, next to the river, were thickly grown over with cedar, pine, tamrack, and brushwood; near the mouth of the river, the hills rose very steeply, and the growth was mostly cedar, (cupressus thyoides,) and in some places the whole forest had slid off, exposing a bare bank of red clay, of considerable height. Where rock occurs in the bed of the river, *in place*, it is sandstone; but in most of the rapids the bottom is sandstone fragments, and primitive boulders. The channel, in some of the rapids, is broad and shallow; in others narrow, with a very powerful current, or chute. The source and mouth of the river are nearly on the same meridian, but in its course it curves considerably to the east.

My men have suffered more on this river than on any other part of the expedition. Their fatigues and exposures have been greater than men ought to be subjected to without strong necessity; but, under the circumstances, such fatigue and exposure could not be avoided. For, at Fort Snelling, I had only estimated for flour to take me to La Pointe, in Lake Superior, where I had a supply, estimating the probable time till I would reach the lake, at seven or eight days; but I soon found that a much longer time would be required to accomplish the journey of the St. Croix and Bois Brulé rivers, and that, although I had an excess beyond what was necessary for the computed time, I was still in danger of not having enough; and, particularly, as much of the flour was, unavoidably, injured by the constant sinking of my canoes. The greatest exertions were, there-

fore, necessary to avoid the inconvenience of *falling short of provisions*, and the men were required to do all they could, from the time of our leaving the Mississippi. But with all the diligence we could use, this is made the fifteenth instead of the seventh or eighth day that we have been on the way, and one day more would have exhausted our flour. Mr. Schoolcraft, anticipating such a contingency, has left a bag of flour here for me, which will take me to La Pointe.

The distance from the Mississippi to Lake Superior, by the route we have come, is two hundred and ninety-five miles, and is very direct, but very bad for canoe navigation—both of the rivers being very rapid, and, at low stages of water, like the present, almost impracticable. In accomplishing it now, my men have been, some of them, badly injured, and all so much exhausted and overworn, that they could not have continued much farther in the same way.

I might, however, have avoided many of the difficulties of this route if I had previously known its character; for, with a small supply of Indian goods, I might have purchased several small Indian canoes, on the St. Croix river, where the river became too small for my larger ones; and by this arrangement alone, most of the trouble might have been saved. Two men only can work in a canoe to advantage in ascending rapids, and, consequently, the smaller the canoe is, the more *effectual* will be their exertions; and, in descending, the small canoe is easier turned from the rocks; and when it does strike, it is with less force than the larger one; and it is, consequently, less injured, and easier repaired. Very small canoes, however, are objectionable with awkward men, as they are then more liable to be upset than the larger ones.

But the management of bark canoes, of *any* size, in rapid rivers, is an art which it takes years to acquire; and, in this country, it is only possessed by Canadians and Indians, whose habits of life have taught them but little else. The common soldiers of the army have no experience of this kind, and, consequently, are not generally competent to transport themselves in this way; and whenever it is required to transport troops, by means of bark canoes, two Canadian voyageurs ought to be assigned to each canoe, one in the bow, and another in the stern: it will then be the safest and most expeditious method that can be adopted in this country.

Mongarid, the chief of this village, has brought my boat here from Fond du Lac river, where I gave it to him in charge on my way up, and has kept it safely; he has also shown more willingness to oblige me, on this occasion, than any Indian I have met with, though he is aware that I have nothing wherewith to compensate him.

Mr. Schoolcraft had left the mouth of the Bois Brulé on the morning of the 6th; he was, therefore, four days ahead of me.

August 10 *and* 11.—Embarked again in my boat on the lake, early on the morning of the 10th, and reached La Pointe in the afternoon of the second day. Here I found Dr. Houghton waiting for me, agreeably to promise, and our arrangement for a better examination of some parts of the lake shore; and Mr. Boutwell, the missionary gentleman, who had made the route of the expedition with us, and was now to remain with the mission here, to pursue his pious efforts for christianizing the Indians. The country along the lake is described in a former part of this journal, and need not be spoken of again.

August 12 *and* 13.—Leaving La Pointe on the 12th, with Dr. Hough-

ton, we reached the mouth of Ontonagon river on the 13th, at 3 P. M., where we were much disappointed in not finding Indians, expecting, as we did, to get some of them to conduct us to the "Copper Rock," on this river, which it was our purpose to visit. The village which we found here, on our way up, had been broken up, and the Indians dispersed to their gardens and hunting grounds in the country back. After some search, however, we found a little Indian canoe laid away in the bushes, and Dr. Houghton and myself, with two of my men, set off in it, after I had drawn out my boat, and set the men to repairing her in my absence; the Doctor, who had made a hasty visit to the Copper the previous summer, undertaking the office of guide.

August 14.—We reached the forks of the Ontonagon, 38 miles from the mouth, at 1 P. M. Here the river branches into two equal streams, both of which being too rapid to ascend farther, we left our canoe, and followed the ravine of the right branch two and a half miles, when we ascended a bare bank of red clay five hundred feet high, which, although very steep, was of easier ascent than any other part, from its being free of timber. From the summit of this, our course was west, corresponding with that of the river, and led for seven or eight miles through a tall, heavy forest, and over the best land by far that I had any where seen on the lake, or near it—it being elevated, rolling in parts, well watered with beautiful springs, and very rich in soil and timber—large sugar-maple, birch, hemlock, oak, &c.; and in several places I saw little patches of leatherwood (dirca) which grows only on the richest of land. On a little hill here we found trap rock, in place; from which it may be inferred that this rock forms a part of the Porcupine mountains, which are seen from the lake, between La Pointe and the Ontonagon, and which have, heretofore, been thought to be entirely granite. We finally, to-day, lost the proper route, and got lost, and struck the river six or eight miles above the Copper, where it was broad and deep, with but little current, and abrupt high cedar hills rising immediately from the water on both sides; and, turning back from this point, we encamped on a high hill, in a forest of heavy pine timber.

August 15.—From the great elevation of our encampment we followed down a deep ravine to the river, and after a few hours of troublesome search found the "Copper Rock," the object of this annoying and difficult journey. It lies in the edge of the river, resting on small boulders of primitive rock, and near the foot of a red clay bank, twenty or thirty feet high: it is bright on the surface, from the washing and abrasion of sand during freshets, which makes it very conspicuous, and easily distinguished from the numerous boulders of primitive and sand rock, which form the bed of the river in this part; but it is also much disfigured by the cutting with cold chisels, by travellers, at different times, for specimens; and in one place is mixed with particles of serpentine rock, which seem to affect the solidity of the mass: the copper, however, is continuous throughout, and a specimen, cut from any part of the mass, will contain twice as much native copper as rock. The mass rings, when struck with a hammer, as though it were solid metal, and it is probable that the imperfection of solidity, observed on its surface, does not extend far into it.

Its early visiters, among whom is Henry, have estimated its weight at about *five tons;* subsequently it has been stated at *one ton.* My estimate is, of its mass or solid content, *twenty cubic feet;* and of its weight, consequently, *between four and five tons.* It is probable there are four tons of

pure metal in it, after deducting foreign matter: and this, I believe, makes it *the largest mass of native copper ever found.*

We made an attempt to cut through a part of it four inches thick, to get off a specimen of about thirty pounds weight; but when we had cut in about one inch and a half, further effort only broke our chisels, and we did not succeed. Large specimens might be taken from it by means of saws, but its edges and thinner parts, where chisels were effectual, have already been taken away. We however cut off about twelve pounds in little pieces, from different parts of the mass, and left it at 2 P. M.

It was one of the objects of our visit to ascertain if there were any other native copper, or ores of copper, in the vicinity of this extraordinary mass; and after careful search we did not discover a particle or trace of either.

Returning we followed down the bed of the river, which was filled with large and small boulders, and the water being low and rapid, we could wade it without difficulty. About two miles below the Copper we came to the falls, where the river is contracted, between mural precipices of sandstone rock, from fifty to two hundred feet high, and falls about two hundred feet in two miles. The first and greatest perpendicular fall is fifteen feet, after which the river tumbles over successive strata of the rock, and has several perpendicular descents of from one to three or four feet. We could not pass this part without ascending to the top of the precipice; and the rock, on top, was covered with soil and a growth of timber. The strata of the sandstone dip to the south, rising northerly towards the Porcupine mountains. It is six miles from the Copper to the forks of the river, and, excepting at the falls, we found the channel practicable for walking all the way, and much the best route in low stages of water, but not practicable when the river is high. We encamped fifteen miles below the forks.

August 16.—We reached the lake at 10 A. M. and continued our way home.

August 17.—Met Mr. Aitkin, Mr. Warren, and Mr. Oakes, all with their clerks, voyageurs, boats, and goods, on their way back from Mackinac to their several trading posts.

August 18 *to* 25.—The observations on the coast of Lake Superior, made on my return, are embodied in the journal of the route up the lake.

We were detained by head winds at several points; one whole day at Grand island, and another at Shelldrake river, thirty miles from Saut de Ste. Marie.

A severe northwest wind overtook us off the Pictured rocks on the morning of the 23d, which soon increased to a gale, and made such a sea by the time we reached the first harbor, the Grand Marais, that we could not enter it; for the same reason we could not, safely, run the boat ashore or beach her, and were forced to run on, with the most tremendous seas of this lake, till we found a lee behind Whitefish point, a little before sunset. We could only keep up a light foresail from the morning, but ran, notwithstanding, a distance of ninety miles before night. But ours being a *small* Mackinac boat, we were in great danger, in the afternoon, of being overwhelmed by the seas.

We reached Fort Brady, safely, on the 25th of August, in the afternoon, having been absent eighty days, and travelled, in that time, a distance of two thousand eight hundred miles.

J. ALLEN, *Lieut. 5th Inf.*