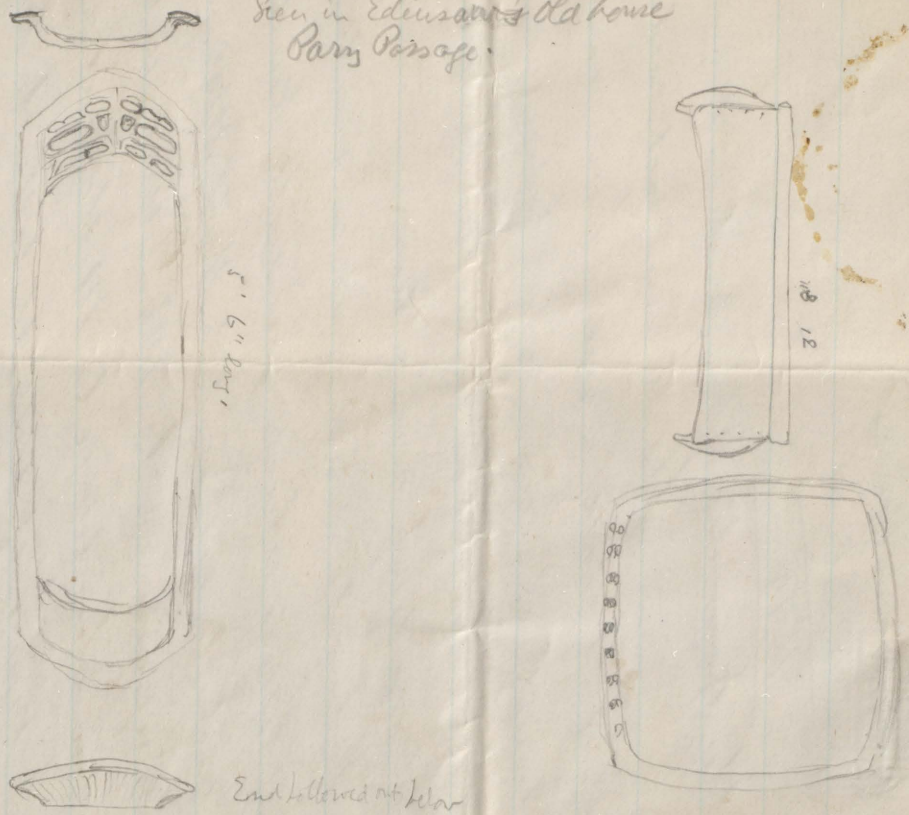
1878.

Large dishes for food at feasts
Seen in Edwards's old house
Parry Passage.



Cut covers out roughly in bay a Sepstarka & found in spring
August got down back for weeks.

10

Indian Dikes
Edensaw's House
Near N. Island
1878

Massett
Aug. 22nd. 78

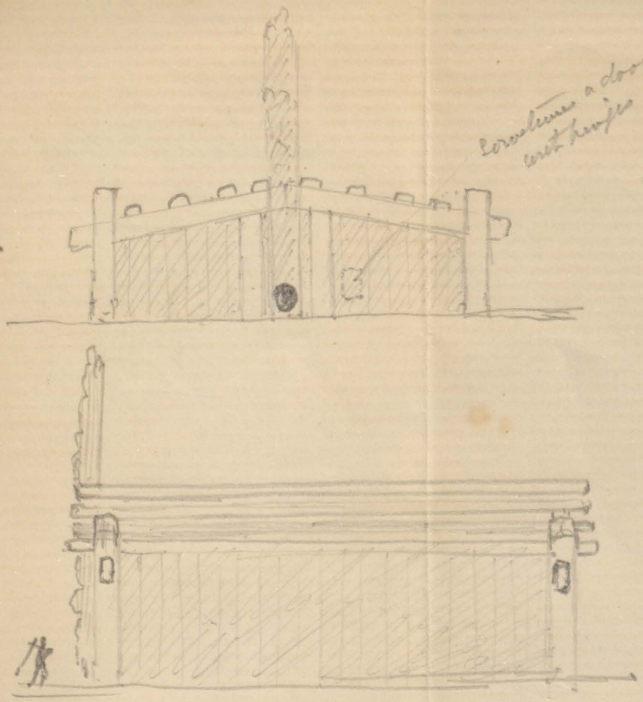
My ~~Dear Sir~~,

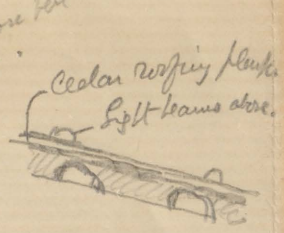
As I am not certain that I will again have an opportunity of seeing you before you leave the Islands I take the precaution of writing you a line.

I beg to send you a small packet of letters which you will kindly give to either Mr. Hall, H.B.C. Fort Simpson or to Mr. Duncan if you should go to Metlakahtla.

I think it will be better to leave them thus at either of the two places mentd. above as they will reach Victoria by the Steamer "Otter" probably before you can.

I was anxious about your safety last night as it blew quite a gale but I trust you were in some sheltered harbour.





Indian house, Massset.

Wtele = beams. Shaded planks.

Sketch of
Indian Home
Masset
Queen Charlotte Is
1878

0/

Queen Charlotte Islands Cruise

George M. Dawson

1878

In small note book pr. Apr. 30 – May 25 & Oct 18 – Nov 9th

May 27. 1878. After two weeks of preparation & vexatious delays, get off at 7 A.M. this evening on our Northern Cruise. Morning spent in packing up & stowing away things not again required till return to civilization & getting stuff put on board Schooner. The sails, which took up the chief part of the delay, ready at last – the mainsail & jib put on in the morning, the foresail after securing its last stitch brought down & put in the afternoon. Paid bills & said good bye for the second & third time to acquaintances in the streets, & now almost myself surprised to find that we are really off.

Beat out of Victoria harbour as the light fades from the hills touching with a rosy tint the summits of the Olympian mountains long after the last glow has gone from the hills about Victoria itself. Pass outside Ogden Pt with a freshening South Easterly breeze, & round Trial Island with the last of daylight. Pile away the miscellaneous mass of luggage with which our little cabin is filled & turn in, tired enough & ready for a good sleep.

May 28. Wind through the night unsteady & light & that ~~[illegible]~~ on coming on deck about 7 A.M. find

we were not much beyond Sydney Island. About 9.15 - while engaged stowing away, ~~it~~ a shock, followed by a grating sound brought us to the deck, to find that by trying to steer too close to Portland Island we had got on the reefs running off it. The tide fortunately making, so that we got off again at 11 A.M. uninjured & only sorry for the delay. Collected a few star fish & shells while ashore, the former with many rays like the Solaster off the British Coast but larger. The "tangle" now beginning to reach a considerable length, & floating out with the tide in dense masses from all the reefs & shoal patches. Each stalk tapering downward to its attachment, leading on the surface of the water in a buoy form which a tuft of brown streamers depend. Warm light, with showers of rain till evening when a fresh breeze, with occasional spitting rain carried us against the tide through the False Narrows & into remaining Harbour, where, though without any important business of my own I had promised to call to enquire of Sabeson.

The vessels lying at the wharves, with the occasional rattle of a truck of coal descending into their holds as they are loaded makes us realize that we are in a coal-bearing region, where one of nature's old store houses is being ransacked for the benefit of the present generation.

The beautiful little islands among which we have been sailing all day, are peculiar in the well like (mural) cliffs which the outcropping edges of the Coal bearing Sandstones present on one side, while the other slopes more gradually down to the water & is generally covered with an open growth of pine ~~[illegible]~~ trees with occasional little patches of prairie & grass-grown points. There is brownish, and all very little soil on these islands & few of them are tenable for anything but the maintenance of a few sheep or cattle. Here & there a settlers house may be seen on some spot of good land, also an occasional little establishment for the trying of dog-fish & may a little steady & potato patch of the Indian, whose canoe may be seen with a little bright sail standing before the wind from one island to another.
The general outlines of these islands show singularly well the dependence of physical feature on geology or rather on those arrangements of the rocks which it is the province of geology to study. The sandstones & conglomerates may be traced in long chains or islands following the strike while from the shales & softer beds the channels have been followed, as they have been worked out in detail by Dr Richardson. In what extent the Strait of Georgia glacier may have existed in the stepping of the surface & how far the action of the other eliminating agents may have been active it is impossible now to say.

May 29. Obliged much against my wish to remain at Tamarino till Sobster had got through business & &c. this being his home. Got away at 12.30 P.m. Crept round with a very gentle air by the Channel to Departure bay, & getting outside ran more briskly up the open Gulf going East of the Ballinaco. Sky overcast at Sunset but a clear spot & bright glow in the north-west.

May 30. Fair wind hazy died away during the night, find ourselves at 7 A.m. off Cape Lazo nearly becalmed. Get the tow net hoisted & catch a number of little Crustaceans &c. Fair wind gradually springing up carried us in good style past Little Quatsino Island & to Cape Bridge, but left us off the Collins place again nearly becalmed. Towed by a light air & the tidal current drift past the village of the formerly piratical Nootkas — There appear now to be about 18 houses in all & a large number of canoes — & we enter Seymour narrows, Get through safely with the latter part of the ebb but there being no wind find it difficult to get the vessel out of the stream into Plumper Bay where it was wished to anchor to wait for the next ebb. Try to buy the Stormer Cloy with sweeps & then more successfully by the boat towing ahead. Get at last into a fair eddy & drift into the bay, anchoring at 9.30 P.m.

went ashore in the boat to a spring the sound of which could be heard from the shore as it trickled out from the roots of the Cedar trees on the beach. Wales beautifully phosphorescent when touched by the oars.

May 31 ~~June 1~~. Having rather overslept ourselves did not get anchor up till 7 a.m. Weather quite calm & in endeavouring to get out of Plumper Bay into the force of the ebb stream got involved in eddys & whorls which carried us back into the bay. Finally by aid of sweeps got out & continued slowly moving along main channel with the stream, they caught hold now & then an eddy & turned round & round several times. Go up in boat to shore nearly opposite deep Water Bay, for fresh water, having heard a stream running in there. Get at length a little wind & creep on with pushing breeze first with the tide & then against it. Finally, finding that no progress could be made against the current anchored in the lee of an island beyond the mouth of Nodales Channel, for an hour. Went ashore to examine rocks & collected a few plants. Off again but soon in a perfect calm & moving only with the tide

Scenery very fine in all directions, the mountains rocky & generally with scarcely any soil yet supporting great trees, & in some instances thickly wooded

from base to summit. Mountains of Vancouver Shore higher & increasing in height, the Prince of Wales & Newcastle ranges with much snow. Other & still higher mountains of the mainland seen from time to time over the tops of the islands & vast fields of ~~ice~~ rising snow, which in some cases is seen to form immense drifts behind crags & summits. Passed a couple of Indian Canoes today the first contains besides a number of Indians, women & men, a white man. The Indians pass some one of the northern inlets & would not even now dare to pass the robbers of Cape Mudge but for the presence of a white. One man ~~paddling~~ using a sort pair oars, the others, men & women, paddling in the old style. Idols in heaps in bottom of canoe & faces daubed with ochre & other pigments giving them a peculiarly repulsive appearance. One woman with a broad mark in red ochre on her upper lip, in the place where a moustache ought to be, looked very comical & deficient.

As I write a breeze springs up ahead giving us at least a chance to tack, which with the ebb tide will push us along — slowly.

At about 10 P.M. a steamer going north passed us — probably the Otter.

June 1. Anchored early this morning in a cove N. of Helmken Island to wait for the Ebb tide, the wind having died away. Off again at 5 a.m. & beating all day to windward, part of the time against the flood tide which scarcely allowed us to make anything. Wind strong westerly & cold, though cloudy no rain & high barometer. Little to do but read, eat, & walk the deck working round get colder a little faster. Remarkable absence of life, scarcely a gull or other water bird, no seals, porpoises or whales. The great depth of the water may in part account for this. The Vancouver Shore still steep-too & very mountainous tree-clad mountains rising in many places at once from the water's edge to a great elevation, & still bearing some snow. Extensive valleys or rather deep fissures between valleys, but narrow, run in from Salmon River, Adams's River, & Robson Bight of the Chart. These appear to take a general South Easterly direction, which is also that in all probability of the axes of the mountain Ranges.

June 2. Fairly calm early this morning & the tide turning against us, anchored in a little rocky bight just East of Beaver Cove. Got off again after a few hours, about 6 a.m. Almost a dead calm but floated on past Alert Bay, where ~~West Hanson~~ West Hanson one of the well known traders of this coast lives. He has a few houses, & a wharf, & near him is a sawmill with a number of Indian houses

of the usual build. Most of the habitants now up Knights Inlet Cannery fishing & potlatching. The Nimpkish Indians here moved over to Hanson's place on Cormorant Island, from their old ~~the~~ ground near the mouth of the Nimpkish River.
Became calm & tide setting against us just west of Cormorant Island. Followed out by a canoe from Alert Bay, which proves to contain a white man & an Indian, the former has just arrived at the bay from his place of abode some fifteen miles further Eastward. Brings a letter left for me by the otter at Alert Bay, one from G. Hamilton of Stuart Lake which has been to Montreal & back again. Two fine deer in the canoe, one of which I purchased at the moderate price of $1.50. They are hunted by dogs on the small islands, being run off into the water & shot swimming.
Anchor for some hours in the afternoon off point west of Nimpkish, waiting for the tide. Land & take a couple of photographs & spend the rest of the time fretting at our slow progress. Off again at 4.30 rowing up against a strong head wind which has blown up since noon.
The Islands now generally low & the land along shores of Vancouver also much lower than before though not so regularly flat & worn as that about Comox for instance. High mountain ranges seen up the Nimpkish Valley beyond the large lake still bearing much snow & probably always carrying some.

Some fine Douglas firs on Carmorant Island & elsewhere about here but prevalent trees the Menzies Spruce & Hemlock, with some Cedars &c. These attain a fine growth but their dimensions are by no means appreciated till they can be compared with some object of human construction, such as a house or vessel.

June 3. Up early & floated westward with the tide, there being no wind – beyond the end of Malaspina Island. Entering becalmed at about 5 miles from the Vancouver shore till nearly 1 P.M. when a light air began to spring up. Had the large dredge over & brought up some sticky green sand & two or three little white stars. Tried the small dredge but did not get to bottom owing to the current. The light wind coming up, stopped dredging & tried to get on our way. Wind freshened in the afternoon but as always, dead ahead & tacking against it – past Fort Rupert, & into Goletas Channel. When up Fort Rupert the wind was quite strong. Passed an Indian Canoe sculling before it with a little sail & strong pitching her ends clear of the water, apparently making good weather. The occupants in high spirits, laughed on us & took in their sail apparently just to have a look at the craft, then hoisted & flew away again.

The country from Nanaimo up to North end of Island is all moderately low along shore & for a considerable way back. The hills nowhere of great height. Coal rocks may not improbably occupy a considerable area. Feel almost tempted to stay our slow progress here & set to work studying them out. After the interruption of the masses of crystalline rocks about Thurlow Straits &c, the channel between Vancouver & the mainland appears to open out for 30 southwards in the Gulf of Georgia. The islands are low & the whole appearance like a repetition of the Cool basin in the south-east.

Calms & head winds are our luck it would appear & the barometer gives no promise of a change.

June 4. Beating up Sutlej's Channel all night with very light head winds. Stopped soon after daylight about 5 miles east of Stuckartes Bay to get water. R. went ashore & got specimen of the rock. A fair wind & short duration carried us to mouth of Bute Passage. Boarded by a canoe with a couple of Indians, & a boy, which came off from a little cove, where an Indian House. One of the Indians a chief & calls himself Chief he is said to have saved the lives of several white men in a little vessel near Fitzhugh Sound. The Indians were about to massacre the crew when he warned them. 8 number Indians were killed in the fray which followed.

appear to have no other object in visiting us than to talk & beg a little tobacco.
The tide carrying us through Bate Passage, we got a fair wind which after taking us a couple of miles off shore leaves us becalmed till after 2 P.M. Then gently in the long ground swell of the Pacific against which there is now no barrier. Porpoises, sea birds, & a sea-lion sporting about in the calm water with patches of kelp & tangle & floating frayed logs & stumps dipping about in the swell & appearing & disappearing alternately among the long rollers. Drizzly rain for some hours & then a westerly breeze which gradually turned to north, heading us off & died nearly away about dark, while we were yet many miles from Cape Colbert & directly off Cape Caution.
At sunset dark neutral clouds in the west & north west. Cape Colbert showed in wisps of fog blue & dark, while southward & eastward the serried peaks of the Coast Range & Sounds of Vancouver Island, snow covered, grew with a magnificent rosy hue.
Sand & clay stone all round the point of the promontory of Cape Caution, quite low.

June 5th. Light breezes all night & fog from about 7 a.m. On coming on deck this morning nearly calm with dense fog & position uncertain. Sight Egg Island during a break in the fog

after a time, & also when the mist began partly to clear away about noon saw some of the dangerous rocks of the Sea Otter Group breaking heavily. A long low swell setting in from the Open Pacific causes a perpetual roar along the exposed shore to leeward, & from the outlying rocks great sheets of foam may from time to time be seen to rise. Getting at last a good side wind, ran into entrance of Fitzhugh Sound, where then totally becalmed & remain so till about dark when a light head wind coming down the Sound enables us to get under way again. The long swell setting in rendered our position most uncomfortable during the delay. The little craft rolling & tossing to & fro with all her sails loose & rolling & flapping in a most irritating manner. The weather has been throughout most adverse to our prospects.

Saw a few seal today. R. had the line out at 60 fathoms for Halibut but unsuccessfully.

The land near the shore about Cape Caution is low as also is that of the island between the two entrances to Rivi's Inlet, & the southern end & west of western margin of Calvert I. The southernmost towers pretty evidently crystal: & all the rest may not improbably be the same.

A Sea lion is said to have come up quite close to the vessel last night, & "bellowed".

June 6. Nearly becalmed all night, but early in the morning got a light breeze in the right direction. This soon died away left us again becalmed & drifting out of Fitzhugh Sound with the tide, which at present seems to have a permanent set outward. Got the boat ahead towing toward Safety Cove, when a good breeze from the North coming on, cleared towing & began sailing in. Breeze died away about sundown to a light air, leaving us again drifting outward with the tide. Ran back with the last of the breeze, then towed for anchorage along the shore, to Safety Cove & anchored at ten P.M., thus tossing again nearly all our day's work – a couple of miles at so.

A very fine day, warm & bright.

Two canoes full of Indians from Kitimat en route to Metlakatla passed us while the northerly breeze was blowing strong. Each canoe with one of the peculiar sails, careering along before the wind in good style.

Saw a number of porpoises in the distance this evening breaching repeatedly.

June 7. Morning Calm & cloudy. While waiting for wind got a supply of fresh water & had a glance at the Crystalline pools of Safety Cove. The tide nearly low & the most beautiful natural aquaria formed by the sides of the Cove, which dip steeply down in

Descript.

the clear water. Sea anemonies of remarkable size & beauty. One variety bright green, a second, with plumose tentacles milk white. Star fishes barnacles & shells of different kinds covering the rocks. A light South Eastery wind springing up got anchor up & beat out of cove. Ran for a while with a light fair wind, & then met a strong head breeze, against which beating for some time, let it veered westward & made a good side wind for running up the passage. Kept on all the afternoon making excellent time, & to some extent making up for the terrible delays of the early part of the week.

Fitzhugh Sound & its continuation northward in Fisters Channel, constitute a magnificent water way; wide & free from dangers & straight as an arrow. The land immediately bordering it though hilly, or even in places mountainous is low compared with that at the sides of the higher parts of the inlets penetrating the Coast Range. No high snowy mountains are in sight except at a great distance. Hill & valley alike are densely tree-clad, with cedar, hemlock, & spruce, spruce hemlock & cedar in one monotonous spread. The trees do not attain a very great size, & there are many dead trees in the woods, even where no fire has passed. No appearance of any land fit for agriculture, nor of any rocks other than the old crystalline series.

Discrept.

June 8. Worked up a few miles during the night & this morning in entrance of Fitzhugh Sound drifting in with the tide, anchoring light-all morning but continued to progress slowly, aided by the tide. At noon got a south-eastery breeze with rain which carried us into Bella Bella (McLoughlin Bay of Charts) Found Mr McKay had gone on to Fort Simpson, so unable to present my letters of introduction or see the lock Col Hughes was anxious I should visit. Schooner did not anchor but after I had completed a short visit to the H.B. Post, & given the gentleman in charge a couple of letters for the others on her down trip, filled & stood on with a light but fair breeze, anchoring in Kynumpt Harbour Milbank Sound.

The H.B. post at Bella Bella prettily situated on a sloping hillside. A small stream coming from a lake behind the Post, falls into the bay near it. A little sloping patch of garden for which most of the soil was, I am told, carried from some distance. A number of Indian houses & shanties, & a little population of canoes anchored off. A remarkable target-like white erection on one side of the harbour started to be (on a pumpkin board below it) to be in memory of "Boston a Bella Bella Chief" Partly the design on the target a couple of the curious Coppers of the Fort Rupert or indians.

A very large canoe here, now lately finished. Said to be 60 feet long & much better finished than that sent to the Centennial. Valued at from $150 to 200 & the Indian who made it expects to be able to sell it to the Fort Rupert Indians for that sum. A little real use but imposing on State occasions.
Bought a basket of Clams from one of the Bella Bella Indians. Cleaned out some for specimens & had part of the rest in chowder for supper.
Visited by a canoe full of Haida Indians on their way to Bella Bella, & three days from Skidegate. They have besides dried fish & fish oil for trade with their kilicums when they get to Victoria, some gulls eggs from rocks outside & a young deer. Bought from one of them some fossils which he had been taking to Victoria on chance of seeing Mr Richardson there. He had worked for Mr R. when he was on the island. There were canoe loads of Haidas as they say also on their way to Victoria but far behind.

Hard the line over tonight in about 6 fms then anchored. On hauling up found a large ray raged & flat fish which dropped off at surface disclosing the head & shoulders of a silver dog fish — a parrot beaked little dasmobranch of remarkable appearance. The fellow had taken the hook & then been snapped off behind by some larger fish, probably

a shark. The star fish promptly appropriated what was left. There would seem to be much activity in the struggle for existence down below.

June 9. Off from Symmonsfort Harbour early, first with a very light breeze, which freshening carried us at last round the rocky islands off Cape Day, & out into the wide Pacific. The long swell breaking furious on the rocks as we pass them. Six or eight miles off the land the wind going down left us rolling & making a little progress at intervals, westward during the night.
When inside Cape Day saw something moving on the surface of the water which at first taken for a shark's fin but proved to be a deer swimming from the south to the north shore of the sound. Williams & R. jumping into the boat started after it & succeeded in turning it before it reached the south shore - to which it endeavoured to return - drove it off the beach down on it with the schooner, & shot it from the deck. A young doe not fully grown but in fair condition.

June 10 rolling miserably in the swell without wind for some time, wind then rising got off

westward & ~~made~~ saw the land near Cape St James before night. Wind freshening went on the other tack to get to windward of the Cape. Blew hard all night rising to a fole with a very heavy sea before morning. Found us about thirty miles northward. Up during rest of the night scaring the Chard & trying to persuade Thompson cabin from coming to grief as the flew from side to side.

June 11. Went round on the other tack ~~about~~ early this morning expecting to make Cape St James. Weather very heavy, but wind gradually fanded till land well in sight ahead it left us. Rolling & tossing without any wind all the afternoon, in a heavy pitching sea. Had the Halibut line over but could get no bottom with 90 fms. Breeze from northward springing up about 8 P.m. got under way toward the land.

Illesright

June 12. Up early this morning to see Cape St James & the Southern end of the Queen Charlotte Islands. Took a sketch with bearings. Wind fell very light before we made the point at the Southern side of the bay leading in to Houston Stuart Channel. Beating slowly in the morning. Afternoon about 3 P.M. Anchored in snug bight behind Ellen Ia of the plan. Took a couple of photographs & made cursory examination of rocks of vicinity.

Weather remarkably fine, warm & summer-like but provokingly little wind for sailing.

Where we are anchored in a snug little bay, rocky islets thickly wooded clad down to the shore, with the wooded mountains of the N side of the Channel make a picturesque scene. An Indian house on the shore looks evidently well inhabited for some time. See no sign of Indians. Rowed round to bay in which village marked on the plan, in the morning, but found only the marks of some old houses.

The appearance of the land about Cape St James very remarkable. Mountainous, falling southward toward the cape, & often ending the sea in bold cliffs. The little chain of islets off the cape are vertical faced, with rounded tops, bare of trees & apparently the same results of sea work. Even the smaller rocks of this group have the same remarkable perpendicular form. Noted a natural archway in

the rocks of a promontory in short distance South of Hamilton Island entrance. Another small group of bare wheelers sea washed rocks lie some miles off shore South of the entrance — the Danger rocks of the Chart.

June 13. Breakfast at 6 a.m. & off with Williams Charley & R. in the boat. Explored the sunken shore of the channel & Bay as far as Outer Rt. Rain set in shortly after we got away & continued with little intermission throughout the day, soaking us & making it disagreeable. Landed at & core a short distance inside outer Rt. & returned in heavy rain. Shot at several gull frequented rocks & dispersed them of their eggs, which — those of them which were not killed — made an agreeable addition to our supper. Saw many seals, a few porpoises, some eagles & innumerable little black & white Guillemottes (?) & a few pairs of a black bird with long bright red bill. No Indians appear, nor here we find with any recent signs of their habitation, which is at least odd. The very abundancy of gulls eggs on rocks easily accessible, would seem to argue their prolonged absence.
The rocks everywhere about this passage are encrusted with acorn shells & the large mussels, between tide marks, with occasional patches of limpets (?) &c. Below high water mark in some places the large urchins are very thickly strewn beneath

V

bottom. Sea anemones, star-fish &c are everywhere abundant.
The mountains 2 miles somewhere rise sheer from the shore & there appears to be no arable land. Scarcely indeed any soil properly so called anywhere. The trees — among which there appears much dead wood — grow to the almost naked rocks.

June 14. Off early. Rowed westward up the channel against a strong tide. Examined the shores of Roe Harbour, stopping for lunch on its western entrance pt. Continued out to Fanny Bay without seeing any Indians, but when sailing back, saw a smoke as if made to attract notice, on Anthony I. Shortly after dropper a canoe full of Indians came along side, they having observed our sail, & as we had supposed made the smoke. All young men, several of them just returned from Victoria with their earnings, & as they informed us "lots of whiskey". They are having a grand dance today over at the Ranch. The Indian lads look dressed, mostly in civilized costume, & brought with them in their canoe a couple of telescopes! Informed us that they have plenty halibut & plenty fur seal skins, the latter they wish to trade. Tried to get all the information I could about the country from them but did very unsuccessfully.
Send parcels in the lemonstore today. Day cool & showery throughout with South-westerly wind.

June 15th. Off dredging all morning in the Strait opposite our harbour. Drift down with the tide which runs strongly, with the dredge rope over the bow. Bottom chiefly shelly & very clean. Got a number of interesting things though much dead stuff. Many beautiful bryozoons, some Corals, & one species of brachiopod. (Terebratella?) After lunch set out to look for birds about two miles westward, opposite the mouth of Bear Harbour. Efforts crowned with unexpected success, finding Belemnitis australis & sufficient at least to fix the age of the series of rocks which have been examining as Mesozoic & enable them to be correlated with those of other localities.

Waning very fine, but becoming overcast & finally cloudy over with occasional showers & becoming cold. Got sextant ready to take latitude at noon but no chance, & must now look without getting it. A canoe with two men & a boy came in tonight. They are Indians from Gold Harbour. They offered to catch us some fish, but on returning the line which they had borrowed for the purpose brought only three skulpins, & three other very small fish. They are going tonight to make a fire in some woods resorted to by sea-birds & club them as they fly past, disturbed in their slumbers.

June 16. Got underways & schooner under weigh & then followed the shore, examining it & making running survey round into next inlet. The schooner

had come to an anchor in a snug cove on the south side before we caught up to her, shortly after noon. Being Sunday, decided not to do any more work today, this especially as I have a headache owing to loss of sleep from mosquitoes last night. Day fine & the swell on the outer stone not too much to prevent easy landing.

June 17. Heavy rain in the night, & southerly wind. Morning still threatening & showery. Made a rather late start, & occupied till after 4 P.M. in making a running survey & examination of the stores of this as yet to me nameless inlet. Rocks uninteresting, & the day on the whole not pleasant, a steep rolling in making landing on the outer points difficult. Saw great numbers of seals today playing in the water & lying on the rocks. Some mothers carrying their young on their backs, the two heads coming up out of the water together in a most amusing way.

June 18. A dull threatening morning which soon fulfilled its promise by beginning to rain. Rain & wind in squalls, with low clouds & flying scud on the mountains all day, the monotonous patter still continuing as we swing to & fro with the wind uneasily at anchor. Worked down the coast from last anchorage to Harriet Harbour of Pool, in Skincuttle Inlet. Some difficulty in landing on the exposed outer points. The shower finally cleared in the meantime but we at 1 P.M. & after being per

Descript

Safely into the harbour returned to punch work up to mouth of harbour & Channel Dran are depicted marked on Poole's Map.

The general aspect of the inlet & its, which we have just left, & the County surrounding it is much like that about Houlton & Stewart Channel. Thickly wooded mountains rise everywhere from the water's edge to height frequently rending 1000 feet but rarely of less than 2000 (eye est.) The shore is generally rocky & the water very bold. Beaches are infrequent & not attractive. "~~Sabiston~~" South Cove of the plan is a good anchorage for small schooners. Depth for considerable part of its bight varies about 10 fath. & anchorage at 6 fathoms with good holding ground. The upper end of the inlet is well sheltered, & receives two large streams, but is encumbered with rocky islands & many rocks, rendering access difficult. The limits in the region bring of small stature is not of any great prospective value, & ~~the~~ agricultural land does not exist.

As we felt our way from point to point round the coast today, in the rain & drizzling mist we continually looked anxiously for the new round the "last point". When the gravel bay was rounded which gave us a view of the magnificent steep of water at the entrance to this inlet, the mountains magnificent of the mist appeared grand. We knew not where to look for a harbour but by good luck got into this one

June 19. Heavy rain during the night, & warmer opened with a steady downpour & light southerly wind. Delayed starting out for work, for some time, but at last tempted to go by an appearance of clearing up. Worked along for nine miles of coast under great difficulties, the rain recommencing almost immediately after our departure & coming very heavy, with waves of mist which prevented anything but the land in the immediate vicinity from being seen. Decided to give up survey for today, & pull back to Stormer. Chilled & wet through, for very little. Wind which began to rise about noon soon increased to a gale, which has since continued coming in very heavy squalls over the mountains which rise in our little harbour. Rain leaking through the cabin roof renders our abode far from comfortable. Reading & attending to other "home" work during afternoon.

The Schooner has gradually dragged from her first position, under the influence of the gale, to a place nearer in the throat of the harbour, & though both anchors are now out, with plenty cable, she swings uneasily as the squalls strike her, & leaves us not without fear that ~~she~~ she may drag outside altogether & force us to take to the open. Some of the squalls actually carry the crests from the little waves in this harbour & scatter them before in a cloud of spray. The holding ground cannot be good, & is probably a fine sandy gravel of granitic fragments, like that composing the little beach near us.

June 20. Continued examination & running survey of coast westward up the Inlet. Finding the entrance of a large bay, as it proved — though it looked at first a possible passage — obliged to go far enough to prove its character, which took up much time. Came upon a rock around which the tide was roaring, quite covered with seals. These on our approach, to the number of 200 or so slipped off topsail into the water. Soon they appeared again, heads bobbing up in all directions to get a look at us & then sinking again.
A showery disagreeable day.

June 21. Ran west the mouth to the outer Islands at the mouth of the inlet & examined the group inwards. Then sailed across to point at N entrance of bay & continued examination of coast westward. Found the abandoned copper mine which Poole superintended years ago. Little sign to show that human beings ever inhabited the spot.
Fished a couple of rocks en route to bay from which a few gulls eggs — very acceptable at supper — here obtained. Wilkinson caught on a rock a young seal just born, until the placenta little big near it. The little fellow is quite active & seems well able to take care of himself though I fear we have no food suitable for him.
Got back to Schooner after a very rough pull against a head wind across the bay, at 6.15 p.m. A day of rain & cold wind, heavy breeze blowing the

three categories of the former. The climate indeed seems to be a wet one. For long as I write it still rains, the drops flying in columns before a strong Southerly wind.

June 22. Heavy rain & wind during the night, & when called at 6 a.m. for breakfast rain descending in sheets. This continued without intermission till 3.30 in the afternoon. No prospect of being able to do any out door work so plotted yesterday's survey & attended to other little matters. About 3.30 the weather suddenly cleared, blue sky appearing. Set to work to make a plan of the harbour, which before 7.30 P.M. almost completed. Intended to get a photograph, but clouds & mist hanging about the mountains prevented. Showers are again falling this evening, but not without long intervals.
The seal brought in yesterday has been squawking about the deck all day, uttering from time to time its peculiar cry of wak & mwak (a sort of gurgling watery ma) in a plaintive tone. At times it becomes quite voiceless for a moment or two & then relapses into silence. At first it shrunk from being handled, but is now becoming quite used to it & seems to enjoy being carressed. It already has its likes & dislikes, showing when it finds a warm sheltered corner & how to crawl to it. Williams tied a halibut line to it this morning & threw it over for a swim. It did not like the operation, & when it

was about to be repeated in the afternoon, & the rope was brought out it immediately seemed to realize the position & set up a great noise. Thrown into the water it swam well but tried always to regain the deck by attempting to climb the side & continued ~~[illegible]~~ bellowing & mewawing till again hauled in, when it was quite content. For an animal but one day old it certainly shows great intelligence. It scrambles up to ones legs & purrs, its nose about on ones boots as turners seems to smell them carefully. It then appears to follow one when one goes away. Its cry reminds one of that which a half drowned baby of fondly size might utter. Charley is trying to feed it on oatmeal & water rice & water &c. We have no means of weighing it but it must be over 30 pounds, or at least up to that figure.

The red billed oystercatcher ~~[illegible]~~ haunts the coast here everywhere & one seldom approaches a rocky point without hearing their cries of alarm as they ~~[illegible]~~ see one approaching their nests. They are most grotesque birds with their black plumage, heavy bills & clumsy feet, & withal silly, for the anxious noise they make is a certain means of attracting one to their nests. These are built on bare rocks or rocky points, or gravelly spots of islands &c. They are sometimes on the edge of grassy patches, but never among the grass & no attempt at concealment is made. The eggs in number are deposited either on some crumbling portion of the rock where they cannot roll off,

& in a hollow nest, if such it may be called, formed of some small rocky fragments collected together, & of broken & rounded pieces of shell from the beach. In some cases the nest is conspicuous from being entirely composed of shelly fragments. The birds themselves, though evidently paired generally go in little flocks feeding together on the stones at low tide. When disturbed they set up a sharp chirruping which they continue not only when on the ground, but when on the wing. Even at night when near their citadels one can hear & then hear several utter in conversation, as though they had been disturbed by some disturbance. Their flight is rapid & undulating & when at rest on a rock they frequently sit closely down on the tangle, doubling their legs under them.

June 23. Up at usual time & after breakfast got anchor up & schooner away for a little bight about 6 miles off near the entrance to Barnaby Strait. Set to work in boat finishing plan of Harriet Harbour. Next went across to point of Bolkus Is. & made examination & note survey of there. Showers prevailing in the morning continued to occur with greater frequency & the day soon became an unquestionably wet one drenching showers with squalls following each other up out of the south-west with scarcely any intermission. Soon thoroughly soaked, chilled, & disgusted & glad to reach the schooner, which we did about 130 P.m. Afternoon terribly wet & showers still frequent & very hazy. Mountains all swathed in mist & the wind very low & then rising in force, begins to look

in the rigging. A good fire makes the cabin endurable, but soon now difficult to get clothes dry or keep up a sufficient sequence of dry boots & socks. The continuance of this wet weather now begins to become very irksome, interfering as it does so much with our work.

July 24. Heavy clouds as usual, but with high barometer & appearance of clearing, & promise of a better day. Set off with a strong light shower, to explore Beaman's Strait, & found it opening through into a wide expanse with many deep bays & islands. Got out far enough before turning to satisfy ourselves that an opening probably exists through to the west, & another round to the east, & that it will be safe & desirable to bring the schooner through tomorrow to save anchorage as a base for the exploration of the new region. About 1 P.M. the showers which for some time had been increasing in frequency & duration coalesced into steady rain which continued, growing heavier all the time with strong south westerly wind during the rest of the day. About ten miles from the schooner when we turned & had a hard tussle against the wind & driving rain all the way back, falling in after 7 P.M. Cold & wet to the skin. Scarcely possible often to see one point from another in taking bearings, & almost impossible to form any correct estimate of distance, or to examine the rocks properly with a view of opening all day.

Descript

In passing through Dolomite narrows afterwards found the channel both narrow & crooked with only six to eight feet of water at low tide, probably less at Springs. Tidal current not very strong.

July 25. Heavy rain continues nearly all night & on awaking this morning finds the potter still continuous on the deck. Rain continues discendy in an uninterrupted deluge all day with heavy squalls of wind, rendering out doors work impossible & rendering it advisable to keep the stormer from her present stellen in "Jangle Cove"
Tried fishing, but with poor success, getting only a couple of sculpins & two crabs the latter however an edible sort.
Jangle Cove. Is a good anchorage for a small schooner, well sheltered from winds & not too deep. The center of the channel between the islands is however occupied by a rock which dries at low water, & must be carefully avoided.
Harriet Harbour is good, even for large vessels, which should enter at the west entrance, keeping nearer to the west shore than to that of Harriet Island, from which shoal water & rocks run out some distance.
The narrows of Burnaby Strait off Poole may be called Dolomite Narrows. They are partly blocked by rocks but may probably be passed with safety by small schooners. The openings running westward to the South & both sides of the narrows are probably both good harbours, though no soundings were made. The latter especially is very roomy & well sheltered, & might accomodate a large fleet.
All the waters about this end of Burnaby I. should however be navigated with great caution as there are many rocks scattered about, a large proportion of them covered at H.W.

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High land & steep slopes of mountains here as elsewhere are almost always from the shores. The surface is generally covered with trees, a considerable proportion of which are dead at the tops & many scrubby & ill grown. Where a little flat land exists, as at the heads of some of the bays, along the E. side of Barnaby Strait - north of the Harrison R. timber of good growth occurs, & does not appear to hold much dead wood. The trees are chiefly Spruce (A. menziesii) & hemlock, with some cedar, & older in groves, especially in the immediate vicinity of the shores. After climate admits of agriculture these slopes of flat land (including probably also some flat islands like Bolkiss I.) are only suitable & these could only be cleared at great expense of labour. In the narrow passages the trees seem almost rooted in the beach & then meander away down thickly nearly to the high-water line. Verdant green moss also spreads down laterally in some places to meet the tangle growing on the sea washed part of the shore, & indeed judging from our experience so far there is really no reason why the tangle if it can grow without salt should not grow in the woods & on the mountains. Ferns, - the common polypodium - grow abundantly on the trunks & even the forks of trees both living & dead, & green moss forms great cloak like masses here & there. Some large trunks overthrown & dead, though scarcely sheltered by other trees bear a perfect garden of moss young trees & bushes through far above the ground.

The mountains near the head of Tangle Cove, & many northward & westward point - are the highest we have seen. Some probably reaching 3000'. Parts of their slopes are bare of trees & apparently barren.

June 26. Rainy threatening with heavy showers & violent squalls. Got away with shower after breakfast & sailed down to narrows, hoping to pass without any difficulty. Anchored just before the narrowest part & went ashore in the boat to examine it. Found water very shoal & many rocks & as tide falling & current against ~~the~~ we judged prudent to wait till the water deeper & on the rise. Afternoon did have dredging but did not find any very productive bottom. Caught a great number of crabs with a hoop rigged with nettles baited & put overboard. Got a photo. of the narrows between showers about 5 Pm. Tried to take latitude at noon, but clouds intervening many & heavy showers with squalls all day but some patches of blue sky now & then & better appearance of clearing than for some time back.

June 27. Heavy rain in the night & early morning, rendering the character of the day so doubtful that breakfast was not ready till 7 O'C. Showers still continue, but barometer rising, & appearance of clearing. Take provisions for two days & blankets, thinking it probable we may get too far from the schooner that it may be hot not to return. Measure a base with M.T. & carry running survey & triangulation down the passage. Day broken with occasional hazy showers, but on the whole a great improvement on any for a long time. Camp at 6 Pm on a contracted little gravelly beach between rocks. Boat anchored out in front.

Descript
Climate

Try to get obsn. on Polaris, but thought seen at first, by time instrument ready concealed. Turn in at 11 p.m. a fair night but cloudy & with plenty mosquitoes about.

Passages & channels seem to open out in all directions with innumerable islands, forming a puzzling maze, especially when only half seen through misty clouds & rain.

June 28. Up early & off after breakfast. Spend much of morning coasting a great bay which unexpectedly opened out. Stopped at 11.30 & made arrangements to get obsn. on Sun, which fortunately successful. Got also two photographs looking up the Channel. Came back to schooner in the afternoon, went off to the bay under sail making good time. Looked out a place for the schooner to go to at next move, with a view for the boat along the north side of the inlet.

Day almost all together fine, only a few stray drops falling on us at one time. Sun out for considerable intervals. The higher mountains towards the continuous state between continuous mist or less shrouded, & showers of rain are evidently falling among them from time to time. Looking out on the open sea to the West, the sky is evidently quite fine, with scattered Cirro Stratus clouds & not a drop of rain falling. The area of great precipitation appears to be pretty local & to centre in the western range of hills of the islands.

June 29. Examined & paced a section formerly seen on the N.W. part of Burnaby I, occupying the noon. Lunch, & took a couple of photographs, & then examined North shore of the island, pausing at the outer North East point, from which the Skidegate Islands trouble to the south. A desolate "world's end" looking spot. Low land spreading out from the bases of the hills covered with open growth of large, but gnarled trees, the trunks naked point upwards. Gravel beaches clean washed & with evidence of heavy surf filling the crevices between the rough rocky substratum of the shore. The rocks low, but much broken & giving a wide zone between the border of the woods & low tide mark. Stood & rocky skele further out as evidenced by the wide lamination zone. A strong south-easterly wind blowing & over half the horizon a limitless view across the ocean. In a cove just behind the point an old Indian house. The beach rolling & cannot imagine what a time Strolaten built in such a place for unless as a sleeping place when in rounding the Cape winds fond adverse.

June 30. Got large dredge put in order this morning, & after filling supply of water — a serious but difficult matter as the stream flowing into the right bank are enclosed in eddies into a lagoon & flows out salt water only at low tide — got off for the North side of the great inlet into which Burnaby Strait opens. Met an Indian canoe with three

men, two women, & three dogs, the first we have seen since leaving Hamilton Stewart. They are going to gather eggs on some of the outlying rocks & have come from Clue's to the north. They had a dead seal on board, which was apparently supplying food for the crowd.
Got a cast of the dredge in 70 fathoms, bringing up a few good shells. Intended getting more dredging on the long arms, but sounding in the middle got 94 fathoms, no bottom. Having a bad headache & day not being specially suitable postponed further dredging. Spent some time looking for an anchorage but finally found a good one between some islands, though reaching it with some difficulty owing to adverse tide & wind.
A beautiful little collins sp. a new kind brought up on the hook here, but minus its body, a voracious dog fish having bitten it off as it was drawn up through the water.
No heavy rain today, though several showers, & weather on the whole cloudy.

Wanderer Bight. Anchorage for small craft in 8 fathoms pretty well sheltered. Wide tide flats which drop off suddenly at edge of low water mark into deep water. Entrance of the cove inside wanderer bight would probably be better anchorages for schooners though the channel one much less easily accessible.

Mercur. Telescope. Feb. 1. reads by observation
on Sun. 18" too little. This probably approximates
Correct.

Descriptet

July 1. A fine day with much clear sky & scarcely a drop of rain. Off at usual hour & occupied till near 7 p.m. in examining the shores & islands of the opening next north of that to which the name of Juan Perez applied. Got two photos. at noon stop. At work till midnight on plotting & notes.

July 2. Off at usual time, taking blankets & food for two days. Worked along coast of inlet to opposite "Observation Point" when crossed over & continued on outside islet. Turned up into a deep inlet which presented some appearance of running through to the coast but found it to terminate. Could find no place to camp but a little rough beach in the inlet, a triangular patch of depression in a shore-line generally of solid rock plunging into deep water. Mountains rising well-like above it to a height of some 3000' as steep as trees can grow on, but well covered with vegetation. Looking across the inlet scarce half a mile wide bare granite mountains rise to a height of probably between 4000 & 5000 feet, with their upper gorges & shady hollows full of dripping snow fields. Found scarcely room to spread our blankets down among the fallen boulders of the shore, & slept upon them above.

The main inlet which we been pulling (Juan Perez) went a remarkably direct general course from off a number of great bays & long arms to the east. There run up among the mountains of a range

Hot Spring

The rock of vicinity of hot Spring shows no more recent or recent volcanic origin than that of other neighboring islands. All there is part of partly bedded green rocks, but old & dipping at high angles, associated with argillites. Near the hot spring the predominant material is a whitish intrusive rock (See Specimen) in which associated with and & caught up in it blackish hard argillites. In some places argillites intercalated by dykes of the material. Many other places among islands where similar arrangements occur. No reason to argue recent volcanic action.

which follows nearly parallel to the coast. Soon at first gradually increases in height & appears to culminate near the head of the inlet of tonights camp in perfect massive mountains, bare & rocky, & even with some on their summits — by far the highest we have yet seen. This range is no doubt the central one of this part of the Qu. Islands. A fine day.

July 3. Much pestered by the mosquitoes in the night & breakfasted & got off this morning in a perfect storm of black flies. Coasted out of the inlet on the north side & then continued northward to Island No 19, where landed & got down for lat. A long row home, partly rowing against a strong wind. Got back to steamer at 1.30 & found a canoe alongside with the natives we had seen a day or two since on their way to collect eggs. My letters that the boat & spring goods we took hand for Dixon is on the island near which we are anchored. Visit the locality, & find a number of sources all perhaps issuing from one place, but flowing out among broken rocks at some distance probably from point of issue. Temperature very varies accordingly probably to distance from source &c, but moment too hot to bear comfortably with the hand. Altogether a considerable body of water. Slight smell of S & a band of scraplitte below tide. Full of green confervoid growth. Large patches of mossy sempervirens sources, & Megarrhiza with bal-bal & holes like mouse holes. Heat prevents their growth. On slightly off the waters the ground warm everywhere. Very slight altitude incrustation on stones. Indicates bottom a reduced, muddy manner.

Echo 42

July 4. Went round to the hot spring & took photo. of the mossy patch beneath which it rises. Could not get near enough to the geyser & this also. Got sand photo looking up the inlet. Returned to Shower & set sail, proceeding up the inlet with a fair wind. Carried down of sketches by Barnes as went along. Took several soundings & found the dredge was in 43 fathoms but nearly but it on a rough rocky bottom in a tideway. Got photo taken up to date. The inlet seems to open out in various directions as we advance. Then bore now from spring to large bays or branch inlets or channels in sight from near here. Anchored in a snug little harbour (Sta 42) on the S.W. shore. Entrance narrow & bold, within expands. Grassy beach at head, & little passage runs off to north which opens into a wonderfully secluded inner basin, which proves for the most part shallow. This receives a large stream from the valley & in part snow clad mountains which are piled at the head of the harbour.
Took photo of harbour after anchoring.

July 5. Off in good time, & worked northward down one side of the inlet to connect with previous position, then eastward back on the other. Turned into opening nearly opposite Sta 42 harbour, which at first supposed to be a large bay, but proved to open out in two directions, the main passage trending north & then eastward, & all clear to the open sea! A strong breeze drawing in, & head tide made it difficult to get far. Turned & explored opening the inlet well out & then beat under sail.

Dosiejt

Saw two Indians fishing at a distance today, & continue to observe many signs of recent chopping, & habitation. We must now be near the Klue village.

Sebo Harbour. Least depth near mouth about 11 fathoms at H.W. Width entrance about 15 fathoms, shoaling gradually near the head at first, & then more steeply up to a flat nearly dry at low water. Well sheltered from all winds & good soft holding ground.

The main passage outside Sebo Harbour continues to carry the flood from the S.E., the Ebb from the N.W. The tides thus draw through & do not run out from both ends at the same. The current must be one 2 knots at times.

A little fine timber on flats here & there, but very little flat ground. Spruce, hemlock, & Cedar. Yellow Cedar fairly abundant in small trees.

July 6. Took blankets this morning, intending to stay out two days. Rounded the point beyond Sebo Harbour to the westward & found a large bay, the inlet at the upper end of which runs up among the rocks for miles of high rugged & heavily snow clad mountains, probably the highest yet seen. The next opening beyond this large bay is ~~that~~ called Crescent Inlet as a provisional name. It is a fiord, some miles in length, but quite narrow & hemmed in by steep well sided mountains something like those of the Inlet up July 2. At its head this

times round towards the mountains of the bay but returned to, but without reaching them. The mountains on the north side are the highest. One pleasant peak when viewed from the entrance looks like a somewhat prolonged ridge running parallel to the inlet, with several peaks. A second & considerably higher has a triple summit, & slopes very steeply down to the waters edge. This & person of a coloured patch on it was called Primary Red Top. Probably strongly the flat sided character of the inlet-there is a good deal of beach around its sides.
Got observation for lat. at noon, & a photo of the Red top mountain.
On working to camp, after being anchored some miles north of mouth of first inlet, could find no water, then across the channel, about 2 m. to a bay in a large island, where found a little spring, plenty wood, a good beach, no flies, & altogether a charming camping place. Put tents up under some pollen & holy pollentree of gigantic size, which gives complete shade around.

July 7. Looked along the west shore of the channel to the open sea, which when opened out displayed a perplexing lot of little islands, some lying far off the coast. Set up marks & ran across a large bay southward, but the sun by behind the marks could not be seen distinctly enough to read on them, could therefore not fix positions of outlying islands. At point where marks to be read from, came on unexpectedly suddenly on the Indian village, called Klue's village

Klue's village

Position of Indian villages in Rocky mountains looked for.

There are about 32 upright totem poles in the village, all ages, heights, & styles. Of houses about sixteen, including two unfinished, though evidently some time under way. Indians appear very comfortable, & moderately clean. The Skidegates down looking a great gambling game in progress, a number of little polished sticks being stuffed up in soft cedar bark. A grand dance in prospect for the morning.

boat ashore & had a talk with the Indians. Obtained some information from them. Asked for the Chief Capt. Clive so called & latter cap to his name & introduced him. The village consists of perhaps twenty or thirty of the large houses usual on the coast, & bristles with totem poles carved into grotesque figures. Some of the houses entered through holes in the backs of the poles, but Chief's by an ordinary door. Descending some steps one is in a rectangular area depressed somewhat below the level of the ground outside, with tiered wood steps round it, on which the personal goods, bedding &c placed. In the centre a square area not boarded in which a bright fire of small logs burns, the smoke passing off through openings in the roof above. Clive met some of his friends occupied positions on the further side of the fire from the door. Equally on Clive's mats, several women who however kept in the background. A couple of votes brought out an old educated Indian who asked Capt. R in tolerable English, to sit down. These placed near Clive, & the Indian very first asked who was Tyee according the meaning of Clive to me. Had a short conversation & then pleading the late hour for my again on our way to the schooner. Our reception by Clive quite a ceremonial one, for which occasion appeared as he was evidently waiting in some state, & all in order to receive a large party of Skidegate Indians who are expected, & are to join in a bee or potlatch the occasion of which the erection of a new house

into a canoe on the way met Jack Tolchat & got a few large fish for a chillar. Got back to dinner after 8 P.m. Long made a prodigious long round today, but without doing a great deal of solid work.

July 8. Got anchor up & schooner out of harbour, & then set out in boat with Williams & R for the S. Stern of the islands to the channel. Got work all day & back at night to the schooner at her new anchorage. Pelly work till late.

July 9. Crossed the inlet & work outwards along the stern of the large island opposite. Pelly to the Indian village for a raster bogsteered call with the object of getting such fish as I can about possible cool &c. Heard confirmation of the story of a spot on one of the islands outside that of the hot spring, from which hot water, & something like it oozes. Present chief blue with a pound of tobacco, & finding no objection made later a photo. of the village. Another boat taken second but the rain threatening all the morning now began. Lunched near the village & then ran across to the outer island on the outer part of which a very good section of great thickness of the dark argillites & flaggy limestones then & there partly pinched out. Came back amid rain & wind with heavy breaking sea, round the eastend of the island & got on board schooner at six P.m. Heavy rain ~~still~~ continued at 11 P.m. At work plotting ~~work~~ notes &c. till late.

July 10. A very wet night & heavy rain early this morning, rendering us uncertain whether to start along the open coast for Cumshewas, as had intended, or not. This especially as barometer very low & not showing any inclination to rise. All appearances of clearing up after breakfast got anchor up & away. Called at the Indian village to try & engage an Indian Kwakiutl to Charley, one of the Skidegates who are visiting here. Found that old left early this morning. Got some information from Indians who came off in canoe, by which it appeared that a large inlet between this & Cumshewas with a large island in its entrance. Wind light & did not get to end of point until late so near room that thought it best to stay on board. Set off shortly afterwards, instructing the Schooner to go round the other side of the island & join us at anchorage. Rowed about 8 miles up a long inlet which finally became very narrow & though still running on, took such direction that seemed very improbable it would turn seaward again. In much doubt what to do, as getting late, but finally decided to sail back down the inlet & look for the Schooner on the other side of the supposed island. Did so, but on rounding the point found a second great inlet, wind again blowing out. Caught sight of the sail far up the inlet & rowed laboriously down to a prodigious in which Schooner at anchor, a distance of probably eight miles. Arrived on board after 9 p.m. Finished by pg very a

Klui Tillyd

lantern. R. turned out towards & self, cold & tired also.
Williams worked overboard by the boom near the point had a wet & cold row to the Schooner. Fortunately in falling caught side of boat, or might have been more serious.
Very heavy swell pour seaward today & strong winds from the land. — unlucky winds.
Passing the Indian vil. this morning in bright sunshine all alive like an anthill with Indians in blue, red green & white blankets. Hard at work holding the "fee" for the Indian gen. New house for Chief Klue. Cedar planks of great size been out long since in anticipation, towed ashore some days ago, now being dragged up the beach by the united efforts of the motley gathering, hawsers in clusters to ropes as we seen in old Egyptian pictures of the movement of mummies yet tons though numbers engaged new feature swellers. Hearing & hauling or yo-heaving strange tones to encourage themselves as they strain at the drawing. The large cedar beam lying on the beach is being elaborately carved as a door pillar for Klue's new house.

July 11. Up as usual though warning threatening to warm the image yesterday which has opened up between Lookeek & Cumshewas. Drizzly showers in the morning, followed in the afternoon by almost continuous rain with squalls of wind. These seem concentrating out as blow from the

South East

On our return, after going with yesterday's work at bottom of port inlet, had a heavy wind & sea rolling in which forces us a hard tussle to weather the spare, with its numerous points & get into our harbour. Crept slowly round among sharp chopping seas, & finally, having opened the sea, tilted into the mouth of the harbour on grand rollers too large to be dangerous to the boat, but with sufficient scraping on the rocks of the entrance surrounded them with a seething mass of spray & foam.
Weather state wet, barometer going down & the mood of the breakers outside constant.

July 12. Raining nearly all night & this morning state raining with wind & heavy swell & low barometer. Judged it best not to attempt out door work & consequently devoted time to reading &c. Schooner hauled at high tide & bottom scraped in afternoon. Also only showery. Took a short walk along the beach & went for an hour fishing, catching a few rock cod. Evening barometer rising & some appearance of clearing though light showers still continue.

July 13. Very appearance of clearing this morn with high barometer but showers beginning soon became almost continuous & continued very wet till after noon. Later cleared up partially & ceased raining. Later returned to start the boat having grounded away to the extreme low state of the tide. Did a good day's work finishing, getting light of the extremities of the three remaining branches of this great inlet. After completing

Pédaus

work got a good breeze to carry us nearly all way back to Schooner, & hove around early at the mouth of the harbour put a line over to try for a fish. Found the fishing very good & caught about 3 dozen good sized "rock cod" of which four specimens. Very fairly coloured & spring to a degree. Just note taking Forenoon. Let work till late plotting & writing up notes. Got observation on Polaris after 11 Pm.

July 14. A rather late start again owing to Charley who overslept himself. Worked round the Stern in the boat nearly to the Indian village (Skedan) at the S entrance to Cumshewa's Harbour. Then boarded the Schooner which had just hoisted & run on with very light wind ahead on N side of Bay at about 10 Pm. Morning very bright & fine but afternoon cloudy & rainy showery & calm. A couple of canoes came out from the Indian village to meet us, principal with Indians who brought a quantity of wooden bowls &c to trade as curiosities. The Chief Skedan in the larger canoe, dressed in a good suit of black, a middle aged man of less power than blue apparently & commonplace mind. Presented his "papers" which simply said that he was a good sort of Indian or so, with the exception of one which written by one of a number of people who were shipwrecked in 1852-53 on the coast, in the Schooner Olympia. The writer said he had no doubt their lives due to the man & another who objected to the other Indians carrying out the intention of murdering them at once. Got the Chief a swell present of tobacco

& proceeded to bargain for some of the Indian curios. Skedan says very few Indians reside permanently, living all in "Vic-toi" The village occupied can expand attached as a grocery store at the point South of Cumshewa Hr. The unsightly "pots" & mouth were carefully examined.

July 15. Rainy with thick mist & strong wind this morning, a state of affairs which continued with little abatement during day. A very sea running in the bay & breaking on the Shore. Remained about Skedans all day making only a short excursion to the Shore to see the rocks, which diorites. The little cove on the north side of Cumshewa Hr, in which we are anchored is that in which Mr Coy built a house some years since for trading purposes. Hoped to induce the Indians to catch dog-fish & make oil but found it did not pay, the Indians constantly going to Victoria a thing without habits of steady industry. House still standing. The Cumshewa Indian village about 1½ miles further up the bay on the same side. Clearly visible from here, with its row of "pots" & houses. Very few Indians said to be there at present.
Chief Skedan finding it a profitable business yesterday came across today with a lot more works, skins &c &c to sell & succeeded in inducing me to purchase good many at rather exorbitant rates.
Told by the Indians that only three kinds of mammals in the Haida illipie, viz: Black bears,

General character of Austria
Dependence between high & low courts
Social character of Austrians

now in the mountains but Lawson along shore when the tide killed Solomon began to run; Marten (as far as I can make out) & otter. There is also a mouse, however, or small mouse-like animal but I did not see him myself as along the track, but yesterday which my Indian informant did not seem to be aware. Says there are plenty frogs, but no snakes on the Islands.

July 16 Being unable to learn from the Indians exactly how far it was to the head of Cumshewa's Harbour, or Porter Inlet, took our blankets out as this morning. Took three photographs of the Indian village en route, with special reference to the curious totem poles. In crossing the Island found very interesting sections of the coal bearing rocks, with abundant fossils. Died in consequence only a comparatively small stretch of coast, camping in a little well sheltered cove with good water & plenty dry wood. Altogether a charming camp. Up late fetching Mrs. of Adams for lat. Fine & very warm day.

July 17. Boat afloat this morning but off again without much trouble & proceeded in our way, crossing the head of the Inlet. Pulled along south shore, finally back to Stormer at 7.30 after a long pull. Took one photo of snowy mountains near head of inlet. Tried to get Sun. Lat. at noon but cloudy. — A fine day though more overcast, & not so warm as yesterday. On return on board

found three Indian women with little things for sale among which two large spoons made from horns of the Mountain Sheep very ingeniously. Bought one for $1.00 though $2.00 at first asked for it.

July 18. Besieged by Indians with various things to sell this morning, Curiosities new potatoes about the size of walnuts &c. Got away at last & pulling across the harbour carried work on to Skedan's village, arriving there about noon. Took pro. photographs of the village & totem posts, which here appear very interesting. Had lunch, & then examined the large bay S. of the village connecting satisfactorily with the other work. Had hoped to have a fair wind back but this dying away, a wind sprang up out of the inlet, giving us a long pull back against wind & tide. Arrived on board at 8 P.M. Soon after dark Capt Klue & three of his people arrived, disputed that they had not been allowing enough to offer relics for sale when we were in their country, & very heard that Skedan was working a big thing out of us. Brought with them the remarkable work with a rose about 8 feet long, a dancing pole highly prized & finely painted & a head ornament composed of cedar bark int a ring, of which a good number of miniature arrows, in wood & feathers, were stuck all round they declared wind & had evidently brought them first things to let out Skedan & his friends, mistaking our taste for lowly illustrative articles for their family & food & the unsolicited favors.

S/Kedaus tilly

Descript.

after a deal of talking felt almost obliged to buy one & fell the work for $200. Had also to give them permission to sleep on deck as they showed signs of staying in the cabin all nightly rot.

Skidan's village shows signs of having passed its best days. Some time since thought not quite so deserted as Chemainus. It has always been a larger village & many of the houses are still inhabited. Wind, however, took da & moss grown & the totem poles have the same aspect. Of houses there are about sixteen, of totem poles about 44. The last seem to be perhaps not merely as hereditary family crests, but in memory of the dead. An old woman is getting one put up now, of which most of the tube is away at work, in memory of a daughter who died in Victoria lately. The flat topped, boarded totems are more frequent in this village than elsewhere seen. One of them shows a carnivorous figure leaning forward & holding in its jaws a genuine copper like those described to be by Mr Huffel as in great request & much worth carrying the old Roberts indians at Lorton other coppers in view on the posts here, but the sound decided not in evident relation to any of the carved figures

The village selected as usual in a wild stony & sea-washed place, on a strongly rock-bound coming in broken little rocky peninsula out the shore. On the peninsula two remarkable symmetrical, conical hillocks, which form a good landmark when coming from the South.

July 19. Examined rocks between anchorage & Indian village, including the metalliferous veinlets pointed out by the Indians. At the village found the old Chief Kunnely, Cumsteewa. He had heard that I wanted to see the reported coal & was ready to come with us & show it, on the understanding that he should be paid. This I promised provided he really showed us some coal. A rather pleasant & quiet old Indian, speaking very little Chinook but by signs he made himself as agreeable & useful as possible. Found the coal in small fragments in sandstone. Examined locality & collected specimens. After lunch paced several miles of beach for section, & examined collecting fossils, which occur in great abundance in some places — so long that did not get back on board Shiner again till 8.0 p.m. At work till late on notes &c. Found a canoe alongside on return, with a number of Habitat Indians, appeared considerably disappointed that I should buy only one, which I did for half a dollar.

July 20. Anchor up early this morning, & spent greater part of bay dredging outside the harbour. Could find only stiff bottom, which though yielding a good variety, gave some things of interest. Every visitor the Indian village, photo work & notes till late.
About sundown two large canoes with two masts each, & the forward one with a large flat twisted, tore in sight round the point. Turn out to be Kit-Katla Chimseyan Indians with loads of oolachen grease for sale. They have slept one two nights on the way from Kit-Katla

arrival yl Chinsey

They came here on a regular trading expedition, & expect to carry back chiefly blankets in place of their oil. Only a few of the Haidas seem to understand Chinnegans so that for the curious spectacle of Indians communicating with each other by the vehicle. Quite a picturesque scene when the canoes pranded & the Fort Kottons assisted by the Haidas carry up blankets and as bedding, miscellaneous little things & the Cedar bark boxes which hold the fruits oil.

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Arrival of Chinnegans to sell Oolachan grease to Haidas. Coming they just leaving Skeena of sunset. Two canoes appear round point. Sails cleed up to masts, gaited each canoe has two. A bright red piece of bunting flying from the canoe ahead. Who are there. Haida looking attentively pronounced Chinnegans & proved correct. Soon in good turn. Greeted party occupants women. All fairly well dressed & wearing clean blankets to make a good appearance on arrival. Faces of some painted black or dull red giving a wild appearance, which rendered comical by the loop pieces which cumbered titles of various patterns but all intended for the whole sex. Slips paddles with a slow monotonous persistency after a long day's work. Tell us that here only slept two nights since leaving Fort-Kotlla. Come in to beach at Haida village & received by its inhabitants who appear anxious to assist in every way. Bark boxes holding the grease set out the water beside the canoes. Other things carried carefully ashore. Canoes hauled up, & then the grease boxes carried carefully up beyond high-water mark, the villagers assisting. A large but an inconvenient load

Descript

for one man. Regular system of merchandise. Expect to get blankets from the Haidas for the grease and bit bag with from 6 to 10 blankets or say from $12 to $20. The grease resembles stinking oil, its offensive odour a very prominent article of diet with the Indians. Remember that also packed into the interior by the Grease trail, & in fact radiates in all directions from the great Olachen fisheries of the northern part of the coast. Indians in Victoria value very much, but there very dear.

Cameron's Harbour of map really a long inlet & should be called Cameron's Inlet. It differs in its secondary feature in all the characters of the land on its northern shore from the other inlets to the south, & in fact marks the junction of the mountainous & flat country in the part coast of the island. There is no beach along its shores now only to sandy inlets & wider tide flats. These only indication of shoaler water, what no doubt in the inlet itself but now extends far off the coast probably marking the submarine extension of the soft coal bearing formation in an unmetamorphosed state. The heads of some parts of the inlet, however, appear deep & bold shores, this only on a smaller scale what found on grand scale in many of larger fjords. The mountains to south far seen in abundance which without doubt contain coal seams. They are as high as any yet seen & the mountains rarely does not therefore die away but suddenly breaks down in this direction.

The southern head of the inlet almost (quite?) meets ~~[illegible]~~ an arm of that explored last. From the southern

no such trail.

Descript.

or South Western extremity an Indian trail leads over to the head of Tasso or Jasoo Harbour, which can be traversed in half a day, & is not infrequently used by the Indians, who do not permanently reside in Jasoo. Jasoo described as very steep sided. From the mouth of the stream near Mr Coy's Home, & opposite our anchorage, another trail starts for Gold Harbour. This is further up, the journey occupying two ordinary days to cycle. Trail said to go through uncomfortably low country & to pass by one or more lakes. As perhaps fruitlessly traversed or Indians would go round by skiff or by water.

The two symmetrical little islands near Skidans village form good landmark from South or Southern extremity of harbour. Cousins Island on the north bristles like a porcupine with dead trees. Must be dangerous to run into harbour or bolt in thick or dark weather for besides several shoal patches & stones in this vicinity an extension reefy ledge lies a little to north of centre of opening well outside. Beyond this perhaps half a mile further out is a second reef bare at low water. Other not seen may exist besides these, & the low islands to the south are probably well fenced with reefs also.

At Southern side of mouth of harbour very regular depth occupied by patches with stiff bottom composition. The bar at the entrance to the harbour is not a spit or shoal in Chart but a wide bank or flat stretching from the South shore. Comparatively little of it dries, but at this season all thickly covered with kelp, which buoys it well.

Vessels should be very careful in approaching the shore anywhere in this vicinity either outside or inside the wall as it runs

stool a long way. The bay in which McCoy's house is built offers fair anchorage for small schooners off the edge of the tide flat which wides. The anchorage marked, abt soundings, inside Island on North shore marks a mistake, for at high tide can see bottom nearly all way across the supposed anchorage & kelp abundant off its mouth. The best anchorage for large vessels probably on S shore opposite the bay head which points the low grass gorlency of a large stream. This probably one of the places marked on the chart.

July 21. A fine day on the whole though generally overcast, & showery in the morning, wind variable. Got off in good time & carefully examined & passed the section along shore N. shore of harbour. Chief object to get an approximate thickness for the shaly argillites &c. Outcrops probably fairly numerous yet. In return called at Indian village & engaged a young Indian to whom I had spoken before, to go with me to Skidegate & perhaps further. A rather heavy-looking fellow, whose chief peculiarities appear to be a long back & short legs. Speaks Chinook & some English & is too proficient in swearing a habit no doubt contracted in former cruises on schooners. Going writing up notes, early & specimens &c. till late.

July 22. A dull morning with dropping rain & thick fog. Barometer high however, & as the Indian

Descript

From the mouth of Cumbrew's Inlet to Skidegate Inlet the coast is all low, rising in a few places at the shore to a height of 200' to 300' only, & generally very much less than this, though facing some such elevation at no very great distance back. A series of wide open bays, separated by low spit-like points is formed. The points are generally elevated about 20 feet above high water & are composed of gravel &c, by accidents rough spots formed by wash in opposing directions when the sea stood somewhat higher than at present. In some places there now bear fir woods. Inside the low shore — so disposed to that we have been accustomed to further south — the beach becomes flat & by steal water elevation great way off shore. Near Cumbrew's the beaches are almost altogether pure of pebbles, but towards Skidegate they become more, though still plentifully strewn with erratics, which occasionally become very thick about the projecting points. Large boulders appear far from shore at low tide. The erratics probably derived from the rocks of the interior of the Island. Spit Point at South entrance to Skidegate particularly flat, & runs off into the long bar which shuts in Cumbrew's Inlet. Goes by steal seaward, but falls off suddenly inward into deep water. The land

Level

Erratics

boy employed yesterday has turned up, & otherwise all ready. Decide to set out for Skidegate, leaving the Schooner to follow as soon as she can. The sky gradually cleared up, but heavy rain soon began & continued without intermission almost all the morning, soaking us completely. After lunch became fair, though still cloudy. Sea moderately calm, & so made good progress along the coast, camping at about 3.30 P.M. in a wide bay. Hauled up boat on skids.

July 23. Off early, with fair weather & calm sea soon made Spit Point at entrance to Skidegate & then examined along South Shore of inlet for some distance, stopping at the point Entry Cellpora Bay, in a pretty little cove with sandy beach. The Schooner not long yet appeared, decide to stay here where we have a good view of the entrance to the harbour in preference to going across to the rendezvous near the Indian Village. Get a fowl for frying & soon very comfortable

July 24. Rainy in the morning, but caught sight of Schooner beating into the Inlet soon after daylight. Got breakfast & then put things on board & started across towards the. Got on board & soon anchored in sight of point Woodcocks Fishery, Mr Cunly a man called Smith & his partner Macfarlane?. Found a small sloop belonging to Collins lying at anchor, but just waiting for a wind to set off, & going direct to Victoria. Wrote letters to forward &

about the entrance to the inlet on the north side is also quite low & flat & from a little height can be seen stretching a great way, the foreign land being in the end broken only by scattered clumps of trees projecting above its surface in the hills begun to rise on both sides of the inlet, & towards its head ranges of snowy mountains appear, probably equalling in height any we have yet seen.

Indian dance

Indian Dance. Landing from our boat after dark at the south end of the fine sandy beach opposite Skidegate village, find this part of the town apparently quite deserted, but see some dim light at a distance & hear the monotonous sound of the drum ~~at some distance~~. Scrambling as best we may along the path which winds along the front of the row of houses & narrowly escaping falls on the various obstructions in it, we reach the front of the house in which the dance is going on. The door is to one side of the middle & not through the bottom of the totem post as in the older fashioned buildings. Pushing it open a flare of light flashes out, & entering, we find ourselves behind & among the dancers, who stand inside the house with their backs to the front wall. Passing through them we cross the open space in which the fire - well supplied with various logs is burning, & seat ourselves on the floor among a crowd of onlookers at the further end, being just taken off our feet by the requests of some Indians near us. The house is long & rectangular in shape, but not excavated in the centre as is often the case. The floor boarded with the exception of a square space of earth in the middle for the fire. The chattels of the people piled here & there in heaps along the walls, leaving the greater part

this chance, & after early lunch examined the point outward for a considerable distance. Collected fossils & wandered down with lands of rocks. Went round in the evening to the village to see the Indians dance, returned late & went to bed at once quite tired out.

July 25 Heavy rain this morning, weather was rather late in starting. Crossed the inlet & worked slowly round Allison Bay & E. end of Mandi Island. Collecting a number of fossils. Our place often particularly good near the Indian village (Gold Harbour tribe) & often some time & soon surrounded by nearly all the inhabitants of the place, men women & children. The latter were specially troublesome as they set to work pounding out, & begin to pound out the fossils with stones &c. & no doubt ruined many. Told them on leaving that if they would collect a number & bring to Johnson trading Company Bay them: Back for supper a little before 7 P.M.
A long visit from Smith & his partner.
The climate is said to be exceedingly wet here in winter — only those fair days last winter — for two last winters no snow, but sometimes a good depth. This summer said to be more southerly wind clouds & rain than usual, indeed quite exceptionally so according to Smith.

July 26. Up in good time. A remarkably fine bright morning. Went round to Indian village & photographed it. Then examined rocks at next point outward, but pretty beyond rocky hut sand & beach, returned, lunching

of the interior clear. The dancers as already described occupy the front end, the audience the sides & further end of the house. The smoke from the fire, which the only light escaping by wide openings in the roof. The audience nearly fill the building squatting in various attitudes on the floor, & consisting of men women & children of all ages. Their faces all painted, pencil & appearance of various kinds

Skidegate village about 25 houses & some 53 totem posts.

lit up by the fire. The performers in this instance about twenty in number, dressed according to no uniform plan but got up in their best clothes, Sat. Lord - their most fancy ones, with the addition of certain ornaments as appropriate to the occasion. All or nearly all wore head dresses, variously constructed of cedar bark rope ornamented with feathers & or as in the case with a bushy circle of the whiskers of the Sea-lion. Shoulder girdles made of Cedar-bark rope, variously ornamented & coloured, with tassels of common. One man wore gaiters covered with fringes of shiny puffin bills which rattled as he moved. Many of the old Hell Springs of pink spruce & were covered about the head with shiny feathers which also filled the warm atmosphere of the house. Rattles were also in order. Different from the Nass Indians, the women who stood in front, dressed with more uniformity, showed being the peculiarly beautiful Mountain goat Shawls which are purchased from the mainland Indians

at Bear & Tree Islands en route & moved on to where left off work yesterday. Anchored on mud beach at Tree Islands 88. Fully back to Schooner with fair tide about 6.30 P.m. Showers during day varied towards the fine

Descrip

appearance of the morning. After supper went ashore & walked to see some fine & prime lines behind the factory. These have been used to some extent for making barrels for oil, & a quantity of wood lies ready split-up for that purpose. The timber is fine, tall & straight, they tell of some great discoveries occasionally obtained.

Jy 22 Away in good time, crossing to the Gold Harbour indian village to find a Mr Cox acquainted with the locality of the coal said to exist further up the inlet than the river, & who would for will me to the place when I ~~can~~ read. Found the Cat has 20 Alaska lawyers just leaving for Gold Harbour, where the whole tribe is now en route to make a factory of wreckers for oil, as I understand it. Found two old men who displayed as well as they could to John where the coal was. Worked along West South of Grande Island, wait for weather for a stiff head wind, which delayed us much. Found one remarkably good locality for pinels on South Island & stayed a while to collect. Got back to Schooner, & now moved up to anchor core — by 6.15 P.m.
A fine day & evening with rain in the western hills but none inward.

The headdresses of the women were also pretty nearly the same consisting of small mask faces carved in wood & inlaid with holothurian shell, these attached to cedar bark & bull-rushes with fowl feathers & stood above the forehead. The faces of the women as of all engaged in the dance — finely painted, vermilion being the favourite colour. Another important feature the wearer of the ceremonies, who stood in the middle of the back row, slightly higher than the rest, not particularly finely dressed, but holding a long thin stick with which he kept time & lead of the singing. The second man in the dance also held a stick, somewhat different from the first, being white & with a split & trimmed feather in the top. We did not know whether this was any part of the ceremony. The women, had a prominent place on the seats in front of the row of dancers.

The performer on the drum — a flat tambourine-looking article formed of hide stretched on a hoop — sat opposite the dancers & near the fire, so that they could mutually see each others movements. The drum beaten very regularly in "double knocks", thus — tum tum — tum tum — tum tum — &c. Whilst the dancers kept time in a sort of chant or song to which words appeared set, & which rose to a loud pitch & fell lower according to the motions of the master of the ceremonies, who besides keeping up the time now & then steps in a few words of direction or exhortation. To the drum the dancing also keeps time following it closely. At every beat a spasmodic twitch passes through the crowd of dancers, who scarcely move

July 28. Breakfast at 7 am. Then sailed to Farmer Islands visiting the rocks & returned along shore examining the sections from Lewis Island. Got back to Schooner at 1.30. Dinner. Did not go out again in afternoon. Weather, fairly warm, light winds, hazy, fine, gradually cloudy & persistent heavy rain in the afternoon.

Indian grave

Found an Indian grave on Reef Island, what my Indian informs me is that of a doctor, who died about ten years ago. A square box like structure about 5 feet high, made of cedar boards split out, & roofed with the same, but with the addition of a pile of stones to keep the whole in place. A board having fallen out, looked in to the last home. The back of the home covered entirely a neat cedar bark mat. The body in a sitting posture, the knees being originally been near the chin, but the whole now slipped down somewhat. A large red blanket wrapped round the shoulders. The hair, still in situ black & fuzzy, done up in a knot on top of the head & secured by a couple of carved bone pins. A carved dancing stick leaning up in one corner, in front of the knees a square cedar box, no doubt containing other necessary properties for the next world. The tomb under some spreading spruce trees near the rocky edge of the island overlooking the water. Do not know why in this instance they have departed from the usual custom of placing the dead in similar little homes behind the homes of the living in the village.

double

their feet from the floor but more by jerks, shuffling their feet a little at the same time. The women dance best, especially the women already alluded to turn about half round in three or four jerks, & then turn back again in the next three or four. The heads of the women also moved as though loose & set on pivots, jerking ridiculously as they moved. When the charms seemed to fade, the rattles are plied with tenfold vigour & the noise becomes very great. After a performance of ten minutes or so the mystery becomes prone as a sign & all stop, ending with a loud Hugh! After a few minutes repose the movement begins again with the drum.

The crowd of people dressed, scanty, primitive savages by the red light of the fire present a rather brave & imposing appearance, & when in the heat of the dance I suppose the Indians may get almost imagine the old pre-my days when hundreds crowded the village & vainly had admired the grandeur of their ceremonies & doings, to remain.

The occasion of the dance as far as I could learn, was the passing of a young man one degree toward being a "chief", or head of a family. They gradually later dance passing a stage when they set a tree erected, and be carry of some importance when the totem post has been erected a potlatch of blankets occurs on such occasion.

Blankets

2½ point blankets the recognised currency among the lower Indians, now equal to about $1.50 ~~[illegible]~~ to work for many blankets, from a large blanket such as a 4 point, is said to be worth for many blankets per alliance. The H.B.Co & traders even take blankets from the Indians as money when in good condition & sell them out again as required.

July 29. Examining the rocks along the shores of the Long Arm all day today, Jelly took about 6.30 after punting into a couple of hours fossiling. Scrambled through the gigantic & dense woods of the County, in search of "No. 2. Coal Mines" — a search which proved unsuccessful. Day cloudy & wet showers succeeded shower in almost uninterrupted succession, the mountains being constantly veiled with mist. Found the Selinosparax abundant in the woods today for the first time.

July 30. Had boat put on beach, & Williams set to work to make some repairs on her, & Indian to cut wood for fires, & then set out with R. & Charles for the Coal Mines. Worked up the track, which broad & well laid, but has five bridges, one of which has now fallen. Trees have also fallen across the track in many places, & thickets of bushes & weeds grow upon it. The buckets seems old & all the arrangements for shipment have been very complete. The broad gauge line leads from the seams to the wharf, about a mile. The seams at foot of an incline, which worked by full & empty buckets, double track drum with friction brake at top. From this tramway leads up a pretty steep incline to the Hoopers Creek Tunnel, & cut it. Some parts alone on the towards that opens Tunnel, but rails probably never laid. A dense growth is rapidly covering everything, chiefly Salmon berry bushes, with fire-weed etc. In two years it will scarcely be possible to trace anything. Tunnels beginning to fall in, & some parts full growth from blocking of mouth

Skidegate vil.

near the Skidegate village on a piece of flat ground behind a gravelly beach are two totem poles, which were erected last summer. This was done to signify the ~~[illegible]~~ conclusion of a perpetual peace between the Skidegate & Gold Harbour Indians, between whom, owing to some complicated intermarriages — there had been a dispute as to the ownership of the land, & at various times much blood shed. Slaves buried on the poles blew away last winter, but the poles themselves "are there till this day"

Between this place & the village a log set in the ground, about twelve feet high, & carved like the totem posts, marks the grave of a person Tyee Skidegate, who is said to have died very long ago — perhaps pre-Gearge — to have been a delicate high man, Skookumtyee, & to have had curly hair.

On Ban Island off the Chart, opposite the village, the Indians formerly had a fortified or palisaded camp to which they might retreat in time of danger. No trace appears now to remain.

Mr Smith says he believes now about 250 Indians in all centre at Skidegate village, though the greater number generally in Victoria. About the same number probably live at the Gold Harbour village on Moresby Island, though the houses much smaller, being quite new, & all the houses occupied. The land on which it stands was purchased by the Gold Harbour Indians from the Skidegates as being in a better place than that formerly occupied on the west coast. A great number of Indians must have lived about the coast at one time. Smith says 12,000??

Had a paltry day yet, scrambling through the woods & up the terribly tangled & encumbered stream beds. Rain falling steadily, holes & trees completely saturated, sand gravels almost spongy & full of water. Returned about 3 P.M. wet to the skin, cold & tired. Plotted some of back work, wrote up notes &c.

Perhaps sufficient certainty may not very unnecessarily be seen supposed for the coal seams, but by obtaining through knowledge of their position & tracing by pits from surface might have fully proved the area at comparatively small cost, & before completing such elaborate arrangements for mining & shipment.

July 31. Start for exploration of Skidegate Inlet. Camp beyond the second narrows in a very bad place for wood, which unfortunate as all very wet from almost continuous rain. Few good camping places about here the present spring tides rising quite to the edge of the woods, in fact often covering the lower branches of the trees in sheltered situations. All the dead wood wet & much of it rotten, & owing to the heavy & continuous rains a gentle ooze of water trickling out all day the beaches just about high water mark.

Aug. 1. Continued exploration, turning southward by a channel used by the Indians when en route for Gold Harbour, but soon stopped by a clay beach about 1/4 m. across, which cannot have more than 4 feet on it at high

some estimate of their number at certain dates can be formed by ascertaining ~~[illegible]~~ in how many canoes the tribe travelled.

Cod fish & Mackerell. Saw both taken in cove where factory established. Skidegate. The cod not very large, but apparently quite the same as in the East. The mackerell about the same size but a rounder & slenderer fish. The caudal fin not so deeply notched. Colour paler & not so steely & the spotting not so distinct. Evidently a mackerell but a distinct species from the eastern. As far as I can ascertain these fish are now abundant on the west coast of Gold Harbour, & from them the Indians make a grease which serves them instead of Olachen oil.

Indian villages

Indian villages. Beyond the third narrows, or place where is dry little tide water, on the channel followed by the Indians when going to Gold Harbour, is a large village called Chaatl. Further on, at the mouth of the North arm to Gold Harbour or, as shown on maps, a smaller village called Kai-shun. Both these villages are now practically abandoned, the Indians living on the E. end of Moresby Island as before stated. They are, however, really the former chief places of the so-called "Gold Harbour Indians" & are still visited in at certain seasons.

Turned back & continued out to West Coast by passage to West, which wide & deep, and the swell of the open Pacific turning in at its mouth. Can this be Cook's Sound of the maps? Very elevated distance to mountain point & assured ourselves of the open character of the passage, returned, getting on the Sound various just in time before the change of tide. Camped in a large bay on East side of inlet. Heavy & almost continuous showers during day.
The trail marked on Chart as about 3 miles to the West Coast from the Bay arm, leaves out to the head of this bay. The valley from this end looks quite low. Trail old and, perhaps never, now used.

Aug 2. Continued track survey on opposite side of strait, getting to the E. end of the first or East narrows about 11 Am. Found here the Indians who had agreed to come to show us the Coal. Thus they did, but the deposit was very promising size, & involved hard scrambling about through the wet woods to get at & examine it. Very handicapped the Indians for their trouble continued survey, getting back by way of channel S. of South Island, to Shower at Foley about 6.30 Pm. Set by clothes & at work on notes &c.
Many showers today with strong S.E. winds but not continuous rain.

Sea otters

Sea Otters. Are said to have been abundant on both sides of the Islands, & almost everywhere. None here now for on the inside, the animal has very been completely exterminated. A few are still obtained on the West Coast, especially outside Hunter & Stewart Channel about the so called Nimstance illaghie. It seems known that the Haidas do not themselves often take them but Chimesyan Canoes coming in the Fall pay a tribute or tole to the Nimstance Indians for the privilege. So ~~[illegible]~~ disputed is the idea of property in certain bounds of Indians in certain parts of the country & their right to all the products thereof.

Chiefs

Succession of Chiefs. A chief dying his next eldest brother succeeds to the rank, or should he have no brothers his sister's eldest boy. Should neither of these relations exist, the Chieftainship ceases, & either the unanimous opinion creates another Chief, or the most opulent of the unbelieving Indians attains the rank by making a bigger potlatch than any of the others. The chief takes a hereditary name on assuming office, names Skidegate, Cumshewa, Skedans &c partaking rather of the nature of a Christ

New potatoes. Well grown, mealy & nearly ripe on Aug. 2. Skidegate. The potatoes planted by the Indians are of late varieties or they might be ready even before this. They are also planted in little irregular patches, the stalks crowded much too thickly together.

Aug 3. Rowed round this afn. to Indian village to find an Indian to accompany us to Market. One named Mills, recommended by Smith, found immediately, but the latter appearing intermittently asked him to come round to Schooner Venus politely & talk it out. Bought some Indian ictas & then setting sail cleared the Inlet. Encountered junction of agunus & effluents of rocks E. of Allyard Bay, & then stood across to Mandel I. completed track survey of S. side of Mandel I. & returned on board about 7 p.m. Edmd Mills waiting, with a number of other Indians, some wanting to sell curiosities &c & others only prompted by curiosity to boost about the Schooner. Had an almost intolerable wa-wa with Mr Mills & finally consented to pay him the dollar & a half a day while on the trip, & give him a potlatch of three dollars in consideration of his trouble in returning to the Store on foot. Glad to get the decks cleared at last, the cabin fumigated, & quiet restored. One very friendly Swiash with a square peaked cap, proved a little English, marched down into the cabin, espied a chart, unfolded it, & began turning his head to one side, pointing plans with his finger, & pretending to look very knowing, but really appearing very monkeyish.

Today almost quite fine, with occasional spells of active sunshine & spots of blue sky among the clouds, giving altogether a more cheerful appearance.

Descriptn

Skidegate passage, a strait all narrow beyond Maude Island, but has especially narrow places which may be called the first & second "narrows"
The first is there about three miles long, & occupies not over quarter of a mile wide. In one place probably not over 200 feet. At high tide appears deep open channel with only a few rocky islets & rocks, but at low water almost dry for long stretches, with a narrow & crooked channel winding between gravel banks. The second narrows named Skidegate & probably not less than 0.29 of a mile where least, but very shoal, with several rocks near the channel in the middle. Through both these channels the tide runs with great violence, probably attaining 5 knots. Tides from W & E meet about the first narrows. A small schooner might be brought through the strait by passing the narrows at slack water, high tide, but probably could not get through the narrows above tide as the slack water lasts scarcely any time. One small steamer has passed through, but unless for some particular purpose probably not advisable to use the passage. Another "narrows", occurs on the channel turning S toward Sola Harbour & the Indian towns. Probably not over 4 feet of water on this at high tide, & dries for a width of at least quarter of a mile. Passageway for canoes or boats at H.W.
A wide valley runs through to the second narrows, the water only occupying a gutter in the bottom. The land densely wooded thus fringes the strait on each side, slopes gradually up to the foot of the mountains, which then rise

Aug 4. Remained on board nearly all day, working up notes, plotting &c. Mr Woodcock arrived from Gold Harbour this afn. Very has delayed for nearly a week waiting for a fine day to make the outside sketch between the two inlets. Says he cannot remember a summer with so much broken weather in this region.

Gold Hr Rocks

Rocks about Gold Harbour & adjacent inlets accordg to him nearly all volcanic. Specimens shown to be altered volcanic volcanics felspathic & chiefly like those from Queen Charlotte Sounds. In one place in Douglas Harbour "slaty" rocks. The quartz lead worked formerly occurred as a little irregular point, was quite thin, & ran out in all directions to a feather edge. The whole of the visible lead blasted away. The gold obtained by the W.S. Co. & shipped to England, nearly free from quartz filled three shot kegs (each originally holding 112 lbs of shot) Mr W. did some prospecting on the old ledge, going down several feet but no trace of vein could be found. Formed favorable opinion of the deposit if large Company to take up & by driving transversal levels the ~~[illegible]~~ ground thoroughly. Other inlets totally gold chewed but all very small & not at all continuous.

Description

Yellow Cedar A magnificent grove with trees over four feet through & rising up 80 feet ~~[illegible]~~ on clear, open ground at the head of a lake above Gold Harbour. Might profitably be brought out.

Gold Hr tribe

Indian name of Gold Hr. Skai-to

Skatz-sai, or angry waters. Name of Gold Hr. tribe & of the chief always as usual

steeply. This is also the case with the arm projecting to the West, on which scarcely any rock exposures occur along the beach. From this a low valley leads through to the long arm, which is followed by the trail. Beyond the second narrows the Passage takes on the character of the West Coast Inlets generally, steep rocky sides but little or no beach & bold water. The timber at the same time becomes extremely scrubby on the mountains, with many dead trees in the woods. Scarcely any soil clothes some of the slopes, among the places on which much bare rock can be seen. The summits are also frequently bare, & show the pleasant characteristic of holes or as distinguished from the non usual conifers. These upper slopes look to be formed from a distance but not really so. If originally as thickly covered with soil as the mountains elsewhere the wind soon wore out this covering from the slides which in this presumably damp country seem to occur constantly, from water trickling along the surface of the rocks. The yellow cedar begins to abound in small trees after entering the narrow part of the passage.
The axial mountains of the Islands, having snow still in extensive patches, cross the passage north of the Slate Creek & Coal Creek. The peaks of these are not very remarkably rugged. The mountains on the West Coast more rounded & lower, without volcanic form. Here E. of the axis of parallel longitudinal beds of the coal-bearing series in great part & show long slopes & abrupt escarpments, often the frames of mountains formed of tilted sedimentary beds. This elevated portion of the area seen in crossing the Islands by this channel.

Aug. 5. Weather threatening & showery with low barometer probably indicating wind. Almost decide not to leave, but appearance of clearing & light wind induce us to get up notwithstanding the low Barometer. Start about 9 A.M. for round to the Indian Village & pick up Indian "Mills" who is to assist in the boat & act as guide. Find a head wind, pretty strong, but continue rowing on against it till after 2 P.M. Boat proved to leak very badly, so camp early, not far past Lawn Hill, to repair her.

Aug. 6. Weather this morning still rough & showery an Easterly wind causing a heavy sea. Decide to get up. but on sailing outside the little harbour in which we have been, find the water so rough, that with the tool slow teach it is nearly impossible, or at least very risky to land at points, & tearing cannot be got out of boat. Run on for a few miles under sail & then rounding a little point land in the lee, & camp about 9 A.M. About camp abundance of dry wood, so make large fires & sit down in shelter from wind & rain. In the afternoon, still for appearance of abatement, pitch tents. Sand in everything, eyes, blankets, food & tools.

Aug. 7. Similar S.E. wind with rain continues, heavy sea piling on the beach, & the water outside covered with white-caps. Remain in camp all day, for though might have probably run on safely under sail, could not land, & attend to sawing. Get mills at

Perforated Nose

all the Indians, or nearly all, about ten bore a perforation through the septum of the nose. When asking "Quills" what the one got he explained by saying Spode Lilo Cormowy Sewash hi-yon hé-hé. This like other marked events in life marked by a potlatch. The nose is perforated at from two to four years old, according to my informant, the father on the occasion Hi-yon mache ictus, — or gives away in a potlatch much property.

Descript.

The Coast between Skidegate & Masset in some respects resembles that between Cumshewa & Skidegate, a bare open stretch with no harbour & scarcely even a creek or protected bay for canoes or boats, for long distances. The beach is gravel & sometimes coarse stony to a point near Windbound Camp & Tracy Bay. Beyond this it becomes sandy, & though obstructed good cultivation generally of sand, all the way to Masset. Lawn Hill is evidently caused by the outcrop of pleasant rock described in field book, which is probably Tertiary. Beyond this for some distance, & including the region about Cape Ball, cliffs, or low banks of drift clay & sands characterize. They are generally wearing away under the action of the waves, & here & there in various stages of descent to the beach. In some places dense woods of fine upright clear trees, are there separated into section, & therefore much prize Spruce lumber back from the sea compulsive. They frequently the timber seen in the immediate rear of the cliffs, & there is of an inferior quality, rather scrubby & full of knots.

work giving words for vocabulary, & explaining various manners & customs of the Indians.

Aug. 8. A fine morning at last. Up early, & almost immediately get good sailing breeze, from S.E., without a too heavy sea. Keep on all day under sail, landing only at one place for lunch, bearings, & to examine Clay Cliffs. On landing obliged to haul the boat up & reverse all the things from her, launching her out afterwards through the ~~[illegible]~~ breakers not without some trouble. Stops at the mouth of a large lagoon, which must be near Cape Fife of the maps. The entrance forms a good harbour for boats, & can be entered at high tide. A very strong current, like a rapid river, flows in & out, & at low w. the channel is choked & shoal, to the sea, but good enough for canoes.
Mills' three dogs, which have followed us till today along the beach — though faring rather scantily — have given up under the quick travelling & long distance of today. When last seen, about noon, were travelling on along the shore, the two larger ones apparently quite understanding the matter & taking the easiest way, the smaller keeping as near to the boat & edge of the sea as possible & looking wistfully towards us. They have probably gone back to Skidegate.
Mills tells me some strange stories of the superstitious notions of the Indians with regard to Rose Spit — round the Cape just this side. Though usual above to engage in intelligence he evidently quite believes them.

Stories of Rose Pt

The soil is generally very sandy, when shown in the cliffs, or peaty in hollow places where water has collected. Sand hills or sand, dunes resembling such, are seen in some places on the cliffs, in Satun, & there is nothing to show that the soil away from the coast is universally sandy, but the fact that the upper deposits of the cliff spread very unpromising & are of this character. Further north the shore is almost everywhere bordered by higher or lower sand hills, covered with rank coarse grass, head pieces &c &c. Behind these are woods, generally very thick but in some places. The trees are of various degrees of excellence, but most generally rather under-sized & scrubby. This part of the coast is also characterized by lagoons, & is evidently marking, under the ~~constant~~ frequent action of the very South East sea.

level

Here point & spit is a most remarkable promontory, dependent apparently on no geological feature, but caused wholly by the meeting of the sea from the S & SE, with that from the West, which comes in from the open ocean round the North end of the Island. The ~~[illegible]~~ protruded portion of Rod point, near Cape Hife of the map does not differ in any respect from the low wooded coast to the South, but back from the shore line are ~~[illegible]~~ with lagoons, & lakes, which appear from the Indian account to be very numerous, & neither more nor less than ancient lagoons now filled with fresh water. Further on, the point becomes more expanded & narrower is clothed with stunted small woods, which in turn give place to a tract composed of

Aug. 9. Off early, with very fine calm weather, & little sea. Row round the much dreaded spit without any difficulty & find the sea on the west side not heavy. Continued on to mouth of River at Fort Hill where landed. Then went about a mile further to sheltered bay where Indians are living making dog-fish oil & drying halibut. Mills says this is the only place to stop this side of Massett & must take some further. Got some photos. yesterday tells us. Examined rocks at west point, where Tertiary Sandstones, with fragments of lignite occur.

Aug. 10. A magnificent day, clear & warm, & almost perfect calm. Continue on along shore for some miles when land to examine rocks. Find fossils abundant stop to collect them & get observation for lat. Determine index error of instrument. Arrive at Massett about 4 P.M. finding a heavy tide running out of the inlet. Find Schooner at anchor. Send & take photo. of Indian vil. to use up last plate of set. Interview gentleman in charge of H.B. Co post. Pay off Mills & Billy. Engaged all evening putting fossils to away, working up notes &c. Take observation on Polaris for lat, & another for time. To bed at 12.30.
The "Otter" has been here. Left Port Simpson Monday for Victoria. My mails are at Fort Simpson, as they did not know where I was, or what plans might be, did not like to bring them here.

rolling sand-hills, covered with rank vegetation of grass.
Beyond these, the narrow gravelly point is covered in
tops and heaps of decaying seaweed, & great quantities of
bleached timber, logs & stumps, piled promiscuously
together. When the point is covered at high tide, this
ends, & the line runs on with a slightly flexuous
course as a narrow steep-sided gravelly ridge. This
slopes away under water & at the other is joined (tide
about 3/4 in) there are two islands of gravel lying off
on the same general course. The sea from two directions
rolling together on the shallow water off the spit with a
tidal current running against, which indeed when
wind is added makes a very unpleasant surf for
canoes & boats. Two vessels have been lost on the spit,
? when. one a H.B. vessel
From here pt to Morset the minor indentations of the
shore are so slight, that it may be described as forming
one gravel crescentic bay of — miles in diameter.
And the receding on either side of small rocky points the
beach is somewhat regular, almost altogether sand in
some of the bays, coarse gravel, showing evidence in its
steep slope of an ordinary high of very heavy sea at some
times. Low sand-hills bordered from a border of the
woods which densely cover the land & from thick &
scrubby towards the shore, whatever they may be further
in. The lines are chiefly Alnus Menziesii. The water
for off the shore is very shoal, especially on approaching
Morset, when kelp is found growing great fields far out
to sea.

Sunday Aug. 11. Writing up notes & attending to various home duties in morning. Went to Church at 11 A.m. ~~xxxx~~ summoned by the bell which has just arrived for the mission here, under Mr Collinson, a pillar, under Mr Duncan. The congregation besides ourselves consisted of his Highness Samuel Chinnegans, & Mr Offutt of the H.B. Company. Heard all the Indians of the place are now busy at house raising & potlatch in Virgo Sd. Dined with Mr Collinson. Got some newspapers in the afternoon & cleaned very dirty & litter. Returned to Mr Collinsons for tea, at his invitation, & spent a pleasant evening chatting about things in general. Made preparations for tomorrow, wrote up notes, & turned in.

Aug 12. All prepared early this morning to set out for the exploration of the reported great shell mounds above here. Waited some time for the tide to slacken, as it was running out like a mill race. Got away at slack water, & soon had a good current with us. Kept distance partly by time, & partly by eye estimate, though difficult to get it exactly owing to the uncertain but varying strength of the current, & numerous eddies. Stopped for lunch at the mouth of a small river where first genuine shells were seen, not far from the water's edge. Deposit in many respects comparable with the Saxicava sand of the East. Reached the head of the narrow passage just as the tide began to run out. Kept on a couple of miles, camping in little bay where a nice stream & remnants of former Indian camps. Night being clear, felt

Potlatch

Potlatch. Mr Collison gives us some additional light on this custom.

When a man is about to make a potlatch, for any reason, such as raising a house or.or. he first, sends invitations before hand, gives out property, wrongs, so much to each man, in proportion to their rank & standing. Some time before the potlatch, this is all returned, with interest. Thus a man receiving four dollars, gives back six, & so on. All the property & funds thus collected are then given away at the potlatch. The more times a man potlatches, the more important he becomes in the eyes of his tribe, & the more is owing to him when next some one distributes property & potlatches.

The blankets, iches or are not torn up & destroyed except on certain special occasions. If for instance a contest is to be carried on between two men & there is to be a chief, one may tear up ten blankets, scattering the fragments, the other matches the same, or more, & so on till one has matched the other. It really amounts to voting in ten votes, for in such trial a man's personal property becomes expended, but then an under-current of supply from his friends who ranged with him to be chief, & he in most popular forms is likely to be the chosen one.

At Nootka last winter, a young ~~man~~ man made some improper advances to a young woman, whose father having got wetter, was very angry, & immediately tore up twenty blankets. This does not mean to

good set of observations for latitude & time.
Saw great numbers of wild geese today, on the tide flats, & strips of green grass & weeds which run along the shore just above high water.

Aug. 13. Travelled on, skirting the eastern shore of the first great "lake" passing the mouth of a large river, which opens in an extensive bay with very wide flats dry at low tide, passed several canoes full of Indians looking out for salmon. On one of these canoes the old "Doctor" of the Market village, with his assistant. The old man distinguished by an immense & dirty mass of frizzled hair rolled up behind his head. This is never cut, & in it his medicine is supposed to lie. On our approach he shouted "good day" which soon proved, however, to be all the English he knew. Inquired whether all "King George men" & on answer being given in affirmative said "very good" "Ankook Illaghie King George Illaghie, Ankutty Bostons tike kapswallow pe mika kloosh-nanaich." He then immediately turned up with the broad hint "Hilo tobacco?" The old Indian pilot informed us that there were no salmon today, but would be very many tomorrow. Just as he spoke the ripple of one going on the flat was seen & he & his assistant leaped off like an arrow in the canoe, which was managed with great dexterity & turned about in an incredibly short space. On overtaking the fish, the assistant hurled a spear, which however missed it—marks, falling harmlessly into the water.

Descript.

Stopped for lunch at the mouth of the second "lake" a narrow passage blocked by a large island, & through which the tide runs

fair not to his feelings. In the gay man had to follow suit, & in this case not having the requisite amount of property, the others of his tribe had to subscribe & pronounce it a lasting disgrace on the tribe. Their feelings towards the gay man were not naturally, of the kindest, they bitterly did not turn him out of the tribe as they might have done after having allowed for his fault.

Totems

Totems are found among the Indians here as elsewhere. The chief ones about Nisqual are the Bears & the Eagle. None of one totem must marry in the other.

Indian Stories

Aug 17. The Indians for some stories of their simplicity when first brought in contact with the whites. "Jim" says the first white man they ever saw came to North Island arriving at the season (Aug. or September.) When the Indians all away at their various rivers catching Salmon, One Man (?) in the village at North Island saw them & their vessel.

Childish stories of surprise on seeing various unknown articles, as one of my Indians pick it "Antlatty Siwash dam-fool" Indian given a biscuit, thinks it wood, encouraged to eat it. In water, finds it very dry. Molasses, tastes with finger, pronounces very bad & tells friends so. Axe, admires fancy as being so bright "like a beautiful salmon skin". Use unknown. Takes handle out & hangs it round his neck. Gun, similarly misunderstood. Takes flint off & hangs it round his neck.

with great velocity especially at ebb. Started round part of Stone of upper lake, & camped near the mouth of the Ma-min River, near an Indian Camp. Went some distance up the river, on which coal reported to occur, but could find nothing nearer to coal than a few pieces of obsidian. Got through cut struggling through the woods in heavy rain, & in coming back got bewildered among small creeks & lagoons of the delta.

Aug. 14. Had made arrangements last night with a broker of an Indian (Jim) to go up the river & show R. the coal, while I went on with running survey of upper lake. Very heavy rain in the early morning. No Indian appeared, & breakfast also late. After some time, the Indian arriving, & assuring us the stile feasible to get coal & return before night, decided to carry out old plan. Day continued overcast, with heavy showers, rendering out-door work far from pleasant. Got back to camp about 7 P.m. & found R. & Indians back before us warming themselves at a fine fire, when we were glad to join them. R. had ascended the river in canoe some distance to upper log-jam, & then walked some miles. The "coal" proves lignite.

Aug. 15. Very early. Crossed the upper "lake" making some soundings by the way, descended the rapid — for such the outflow now is, with a strong ebb tide. The water breaks white in several places & the speed must be nearly ten knots. Continued along S.W. shore of main lake, camping at the head of a long inlet with an unpronounceable Indian name. Tent pitched on a rather quaking bed of grass where

Descript.

Tides at Masset. Aug 12. Day of full moon.

Descript

H.Water at 30 minutes past noon.

Aug 13. H.Water at 1h 15m. Afn.

The current runs in up the channel 2 1/2 hours after falling by the shore. Ebb runs about 3 hours after water begins rising on the beach.

Rise & fall about 14 feet springs. (Est. only)

Aug. 13. Passage to inner, or upper lake. Tide turned to run in at 20 m. past noon.

The rise & fall of the tide in the first lake 8 to 10 feet in the second or upper, less, probably averaging about 6 feet.

Descript

The north shore of Graham Island about Masset, generally low with shoal water extending far off. At Masset, instead of wide open bays generally met with find a funnel shaped entrance, leading to a narrow passage. Entrance holds some shoal water, & two bars, but navigable passage. Where passage begins to narrow, find three Indian villages, one on E. shore not far in from outer pt. Here principal village at present. H.B. Store & mission (the latter now established two years since last November) Anchorage opposite here, but strong tide. The second village, about a mile South of this on same shore, the third, on the west shore. Land all low, no hills, lagoons in places along shore. Generally densely timbered, but reports of "prairies" here & there in the interior

intersected by numerous little creeks into which the tide flows for a considerable distance in latitude which must make here, & then turned in. Day overcast with showers.
Came unexpectedly today on an old Indian & his wife camped on a small Island on the lake, the old man engaged in making a canoe, & a temporary bark house put up near a trickle of water. He actually presented me with a couple of small salmon, in exchange for which compliment I gave him a small piece of tobacco all I had. He was very polite, & gave a good example of the better class of old-time unimproved Indians, different as daylight from dark, from those who have been working on Schooners, or in Victoria & have learnt various "White" ways, including the use of oaths & slang.

Aug. 16. Started in heavy this morning by the tide, which beginning to run out, threatened to leave our boat dry. Made the round of one more great inlet & then worked along the north shore till nearly 6 P.M. Camping a few miles west of the main outlet. Day fine on the whole though with occasional showers & S.E. wind. Sky, however, continually overcast, as usual! Our Camp a little north of the mouth of the River called Ain, on a fine regular beach, with abundance of drift-wood at hand. A trail leads over from the beach about 300 yards to the river, passing through woods in which some fine Spruce trees. The stream a large one, navigable by canoes, though said to be impeded by sticks. Said to flow at no great distance out of a great fresh water lake, on which the Indians use a canoe, or

Descript

The timber does not attain a very great growth along the shore, but our dunnt is of good growth where sheltered inland. In proceeding up the Inlet, just near the entrance to a lagoon which runs back on the E. side to nearly abreast the Indian villages, the land pretty suddenly attains a greater elevation, giving a flat or gently undulating surface at a height of about 100 feet above the water. This proved of drift deposits, Clays & gravels below, hard bedded sands above. This in many extensive areas becomes broken down to lower country. Inlet slightly contracts, with average width of 1 mile (?) (say 1½ to ¾ mile) Through the whole length (– miles) the tide runs with a rapid current, especially at ebb, & there is no harbour capable of sheltering vessels from the tide. Mazzet or Midast island (which has given its name to the region) appears to offer protection, but the water behind it all very shoal (mud just not over 1 fm. at H.W.) & great area dry at low water. At the point just inside the island a fair anchorage might perhaps be found, sheltered completely from the sea, but exposed to most of force of current. The "Otter" said to have anchored here on one occasion.
At its south end, the passage expands suddenly & a great sheet of inland water is seen, bordered by continuous low wooded land northward & southward, by hills, rising to mountains in the distance on the west & south & studded with islands. The lake lies at the junction of the hilly with the low country. Where bordered by low land the

Canoes. The lake is described as very large, even comparable with Athabasca in size but very full of islands. It is usually frozen in winter, & is a healthy period & very - fishing region. When the trail strikes the river, are two Indian houses & a fence & salmon trap arranged across the river. A neat stage slopes for landing on, little steps cut out in the bank to the door of the principal house, & other signs of care. No Indians here at present, the salmon fishing not being begun in earnest by the natives.

Aug. 17. Off early, knowing that must catch as much as possible of the ebb in the long channel leading down to Massett. Worked along shore to entrance & then down the west shore of channel, reaching Schooner just before 6 P.M. in heavy rain, which has continued most of afternoon, though fine in morning.
A bad headache today rendered work a drag. Dr. wrote up part of Westward Ho for Sordy behind.

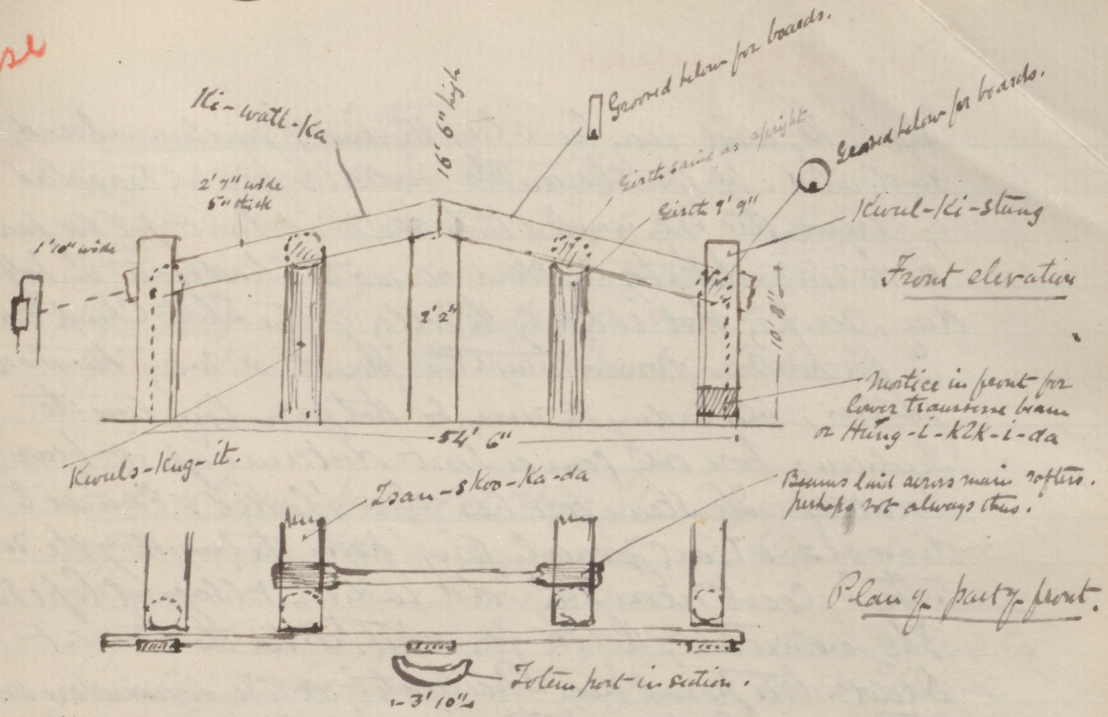
Aug. 18. Sunday. At church & spent most of day with Mr Collinson. Also visited Mr Offutt of the H.B. Co, Mrs Young & Miss Jones &c. Took photo of Indian pictures, & another of Massett Inlet, in the afternoon.

shores are flat, with wide boulder beaches, bare at low tide, or sandy flats, stretching far out. Where the mature branches terminate, & the fiord like projections run up among the mountains, the shores become much bolder with deep water close to them, & narrow rocky or boulder beaches dipping steeply away. At the head of the inlets & about the mouths of some brooks, only are wide flats found. The water in the fiords does not appear, however, to be very deep, differing much in this respect from the inlets of the mainland. On the south side of this "lake" nearly opposite its entrance, is a narrow passage, with many small wooded islands, leading into the second or upper lake, the Indian name of which means the "belly of the rapid". The tide runs through here with great velocity, especially at ebb, when it forms a genuine rapid, with much white water. Kelp grows abundantly nearly across the channels on both sides of the island, showing that the channel be very deep. The second lake is much smaller than the first, & separated from it probably by a rocky barrier. Its northern edge is formed as in the former case by low country, while its south margin is long & fiord-like, with steep banks. It lies in the same line of junction of hilly & low country as the first lake.

Many streams enter the lakes, as might be from the wet character of the country. Of these the largest are probably as follows & will doubtless be called rivers.

1. Stream flowing into the S.E. corner of the first lake, with large sandy flats about its mouth. This was formerly navigable for canoes a long way up, & is reported to head in a

House



Home 47' 8" from front to back

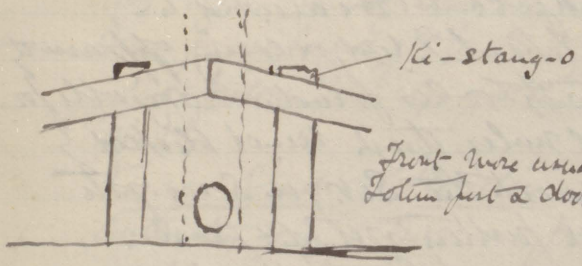


Diagram with measurements of Indian home at Virago Sound B.C.I. Type of many, but rather larger than now usual. The upright boarding of the ends & sides, with the roofing, is omitted for greater clearness.

large lake, which may lie along the line of junction already indicated. Up this stream the Indians formerly travelled by canoe till they reached the lake, or at least got so far on the river, that they walked across to Skidegate in half a day, reaching that inlet by the valley of the Slate Creek Creek. A fire has now passed through the forest, & many trees have fallen, blockading the river, so that for a long time the Indians have only gone a short distance up it to bear hunting. The same fire has also blocked & caused to be disused, a trail formerly going from the mouth of the river to the R. Coast near the old Indian village at Cape Ball. The Indians say that the fire which killed the trees at Dead-tree point near Skidegate, arose somewhere on the Masset lake & this fire at may probably have been which caused the windfall above alluded to.

2. River going the upper lake at S. end, & coming apparently from the South. On this the Cole is proved. Horizolle for Swell canoes several miles, though much blocked by logs. It probably rises to the S.W. in some gth valleys like those which partition Masset plain.

3. A stream (rin) from the Lower lake not many miles north of its outlet, on the North Shore. This has its mouth on an alluvial gravelly flat, for the most part densely wooded, & provided with fine & very regular beach. Several Indian homes are at the mouth, & a couple at about half a mile up it. It is said to rise in a very large lake (Anthowlee) known not at perhaps three miles from the shore. This lake probably lies between the Masset expansion, & Virago Sound & may occupy an analogous

names of villages

Names of Indian towns.

Kung village at Virago Sd. (Rough K)
Gā-tzā. Near village beyond Virago Sd. = Knife.
Ilt-te-was. Village near H.B.Co st. Masset
Ka-yung. Village above last on same side.
Gān. Village on W. side Masset harbour.

Coast between Masset & Virago Sd. Everywhere low & differs from that East of Masset, in being rocky, or covered with boulders along the shore line. No wide sandy bays occur. The points are chiefly of low dark rocks, which protrude all along to the Tertiary Greens series. The timber seen along the shore, not of great size, but pretty interspersed with open grassy spaces, which often border the sea, but do not reach far inland. Water very shoal a long way off shore, & great fields of Kelp filling the bays & extending far off the points.

Virago Sound or Ne-din. Wide funnel shaped mouth, contracting soon to narrow passage — only ½ m wide in one place, & then expanding again to large & magnificent land-locked harbour. Low land, densely wooded, borders the whole inlet, though hills & mountains are not far off to the south & west. Rocks seen along shore, only near bottom of harbour, & at anchorage cove ~~opposite~~ at Indian village. E. shore flat & long flats with boulders at L. water. W. shore comparatively bold. Many small streams, & several of some size. The Ne-din River, probably the largest in the islands enters at S.E. angle. Mouth upwards about 2 m. in the

position to those just described.
Often & many other streams are marked as "Salmon rivers" the fork-bills in addition running up them all as far as they can.
The exposures of rock on the borders of the lochs are strictly confined to the western & south-western sides, the opposite shores being composed of drift material. The drift of the western shores is much more marked in origin than that of the narrower western lochs, where the rock projects are almost altogether local in origin. At several places a terrace, pretty well marked, & apparently about the level of that formerly recognised at Shadegate, seen.
Seems in some respects not improbable that the lochs along the western borders of the hills mark the river courses of the glaciers from the mountains, at the time the drift-deposits, clays, boulder-clays, sands &c were being deposited. They may thus occupy original hollows, formed partly by glacial erosion no doubt but more from the absence of drift material elsewhere thrown down. For very evident moraines, & most therefore suppose the force of waters sufficient to bear any material of this kind as it was deposited.
The rocks appear to be all Tertiary volcanic, in many places & over great areas nearly flat, or gently undulating, & seen in nearly horizontal beds for up in the mountains & lopped at the heads of some of the fiords. In other places the beds are locally remarkably disturbed, as perhaps to be expected in a volcanic region. Much siliceous infiltration & many localities where chalcedony & agates abundant. Considerable proportion of trachytic acidic rocks. A remarkable

boat, its course being moderately straight, & trending a little westerly from south. It flows out from a large lake, — probably ten miles or more in larger diameter — after considerable distance. The lake channel marked by stakes in about half a day from the mouth, but Indians say that many trees have fallen across the river last winter. The hollow occupied by the lake channel seems among the mountains, when the range viewed from a distance.

Aug 19. Did not get away very early, going to buy several little things at H.B. Company's store, & make other arrangements. Followed boat round from Market to Nisagga Sound, camping in entrance of Letter Opposite the Indian village. Day nearly calm, warm & hunt very overcast, but very few showers. A heavy sea setting in from the west, permitting easily on the passage the boat setting in that direction. Saw a very large shark, off the outer point. It followed the boat for a little while & frightened Indian "Jim", who said that sort of fish often bothers Indian canoes & eats the Indians.

Aug 20. Coasted round the greater part of Nisagga Sound, camping near its S.W. extremity. Boat about two miles up the Ne-din River, just at the S.W. extremity. This a large stream, filled with the annual brown water. Oh day windy, blowing almost a gale from the west outside, the harbour showing many white caps. Entered in the river for cover, warm sun & apparently different climate altogether. Camped near

absence of exposures of ordinary bedded Tertiary deposits which may be supposed to underlie the igneous, but seen only in the one locality where "coal" reported, about six miles up the Ma-mit River. Perhaps wherever exposed deeply hollowed away & inlets now occupy the valleys.
The hills do not form the boundary South westward of the Tertiary area, but are above, as above described, proper of Tertiary volcanic rocks which, for aught known may extend far in that direction. The centres of volcanic activity would appear probably to have been around these ranges.

Gl. The drift deposits on the whole resemble those of the coast above Bella Coola, very clayey below, with frequent gravel beds; sandy above, & all very hard. In the boulder clay recognized unless that of Eskimos point may represent. Many glacial striae on beaches, especially towards heads of fiords. Glaciation fine in a few places. The Sciccoras are probably the drift gravels, of which from the Ma-mit R. some detail may obtain as to whether not later. Bedding well marked in both clay & sand deposits false-bedding common in latter. Differs from drift deposits near Victoria in greater regularity & prominence of bedding of clays, & comparative absence of large stones & boulders in these.
The Swallow, fulmar, Eskimos very abundant in all parts of both lakes, & the inlet below. Salmon the only fish caught in any numbers. Kelp in many places. The ordinary bladder weed very abundant along shores, also ~~all~~ grass. Practicable that oysters would succeed well if introduced, as water

Some Indians, who stole tea while we were pitching the tents. Tried to ascertain from the Indians, particulars as to distance of lake &c, with probable wish to steal. Indians spoke known of many fallen sticks across the upper part of the stream. Could scarcely get to lake in help a day from the mouth upwards of the river.

Aug 21. Crossed remainder of inlet, & pitched road early to the Indian village — now quite deserted for the potlatch at the next (new) town. Schooner appeared in the afternoon & anchored about 5 pm. in lee of Indian village. Arrived late late on notes 22.

Aug 22. Decided day to dredging in Verago Sound & harbour, at same time ascertaining depth of the harbour in several places. No very striking specimens procured, a general great paucity of life. Left per party harbour all mud, with many dead & broken shells, frequently of chiton & but few living specimens. Re-pitched tent to Schooner found several Indian canoes about, with various things for sale. Bought some tom fish from one man, also some salmon.
Southerly wind all day, falling to calm at times. Frequent showers of rain, uniformly overcast.

Descript. Finding few spruce timber found a little way back from the shore, probably covering where mud this harbour. The Pre-dim River probably large enough to allow logs to be floated down from the lake above.

probably warmer, & must fresh water, wet Bride Flats.

Fox

Fox & Fox's brother. A hill resembling that called Fox on the coast between Manset & Rose Spit, occurring on upper arm of upper lake, called Fox's brother. Story that on some occasion Fox's brother devoured the whole of some dog-fish, which in dispute between them, & that Fox having much angered went away to the open coast where plenty dog-fish, leaving his greedy brother.

Indian food

Indian food. Indians eat the Cambium layer of Abies mengiesii, & the hemlock & red that of pinus Contorta which also occurs in some places. Many thickets of Crab apple fringing the shores on the Manset "lakes" must fruit on them but not ripe. Told that next month ripen. Then collected, boiled, allowed to remain covered with water till mid winter when some over, skimmed off removed & the whole mixed with codfish grease Quantum suff. forming a delicious potpourri according to Indian notions.

Canoes

Canoes. The Haidas great Canoe-makers. At this season many occupied carrying them out in the woods on the Manset lakes & rivers here & there. Bring them down to villages later on & work away by lamp light in winter. They frequently letter canoes over from here to St Simpson for sale, getting the coarse codfish grease, & other things in exchange, together with an old Canoe to return in. Afraid to venture across the Sluice from Rose Spit to Coast road & Sound of Clarke. Run across sometimes when fine weather

Aug 23. Leave Virago Sound in the boat, for North Island.
A fine morning, though fog banks hanging about.
Sea not very heavy though sufficiently so to prevent landing except in sheltered situations. See a very large shark, which followed the boat for some distance, occasionally showing its back fin above water. Length estimated at over 20 feet. Get round to the new Indian Village shortly after 10 Am. land & proceed to make arrangements about selling a new Indian who knows the coast west of this, & dispensing with him.
There is quite a collection of Indians at the new town at present, on the occasion of the erection of the first totem post, & potlatch consequent thereon. The Kaisani Indians from the S. end of Alaska are daily expected. It is intended to abandon the Village in Virago Sd. as it is found that this place is more in the way of traffic & better suited to the wants of the Indians.
Edinsaw says Indians from the north are continually coming over here, but not to Virago Sd. This may be, as this is the furthest northern pt, & is besides marked by a low but conspicuous hill which may serve as a landmark to canoes making the traverse.
Edinsaw, the Virago Sound Chief, & the Masset Chief are both here. The former a decent looking & well dressed old man — though suspected of complicity in the robbing of a schooner in former years — the latter a stout Indian, remarkable from his grey hair & beard. Took photo. of the two Chiefs, & of as many of the

Village.

a contrary wind. Old Klemsaw says that young men starting for Victoria he frequently had 40 men in a canoe, besides various articles of property.

Number of Indians

Number of Indians. Mr Collison estimates the population of the whole West Coast, Nootka, Virago Sound &c. at about 700. A considerable percentage of these Indians are at Victoria, a few at Wrangel &c. Villages on outer West Coast & near North Island now abandoned.

A considerable population of Haidas on S. islands of Alaska. Not the case known that then the original stock from which islands peopled. Indians say that the Haidas there till comparatively lately (Mr Collison thinks about 150 years ago) intermission crossing then occurring drove some of the northern bands from the islands & found a home across Dixons Passage, & these still speaking distinct in language from any indians of Queen Island, connected with those of Queen Island, & speaking now the Skidegate dialect. Now disperses between the Nootka & the Skidegate Indians there intermediate & thus still further north.

Fur seals

Fur seals begin to appear in fair abundance about the first of April, & the season lasts for about six weeks. About 800 skins purchased here each year for the last two years, before that as many as 2600, 2300, 1800 purchased in a single season. Some years many young fur seals shot in the inlet opposite the village.

Aug. 86 (see that date)

ment of the people as would come. Most, however, disliked the idea, & especially the women, 10 or 12 of whom appeared.

Edensaw's country

Edensaws great village was formerly on the shore S. of North Island. It was abandoned finally about ten years ago for Virago Sd, & now another more is to be made. Forty ago Edensaw says his country was at Rose Point, & ten his people as he says landed originally when the flood went down.

Got away from the Indian Village at last, & rowed round the Cape against heavy sea & writing wind. Continued on for some miles in heavy breaking sea, & then ran into the mouth of a small river, known to my new Indian pilot, & moored the boat in still water. Camped on a sandy point, with trees shielding from the wind & plenty drift-wood. Night fine. Got good observations for lat & time, though had to readjust my sextant, the horizon glass having by some means got a little out.

Aug 24. Tide far out this morning, but managed to get boat down the now shoal river, & out to sea.

A fine morning but frequent fog banks drifting past coast along, landing without difficulty where wish, as now sheltered from force of westerly swell by West Island. Stopped to take photo. of very remarkable pillar like rock in a bay. Rock quite isolated, over 80 feet high sloping top covered with bushes. Formed of coarse conglomerate. The Indians have some story about the rock which I cannot exactly understand, but it

Furs

Sea Otters. Now very scarce. Excellent number purchased in any one season for last ten years about 24, some often coming from the Alaska side. Shot at all seasons. Hunters follows. A number of Indians in canoes scattered over the water. Otter seen, shot at by one canoe, but not with any intention of hitting, dives. All canoes concentrate & await. Otter keeps long under water, but at last comes up. Shot at again, & so on till at last weak & breathless can keep down very short time. All canoes now in narrow space, & at last, when the otter can scarcely keep down at all, some man kills it. He & his follows in the same canoe. Canoe get the whole opts money given for the skin. If any Indian shoots at & wounds the otter, & he is afterwards killed by another, the first has to pay to the second the damage done to the skin by his clumsy shot. Thus very careful when & how they fire, & so general & dangerous provide as might be expected.

Bear Skins 50 to 100 purchased annually. The Hunters not very good hunters. Do not kill the bear at the best season. Necessary to follow into woods to do so. In Spring attracted to shores by the abundance of succulent young grass &c. Indians often kill many. In fall, when salmon running, come down in droves to get fish. Again many killed.

Forty to fifty Sand otter skins purchased at Massett, & 100 to 150 marten skins annually.

would seem that according to them it was small privacy, & that some Chimsyan Indians wished to remove it, probably thus accounting for the hollow taken in the base on one side. Since then it has grown very much. The Indian name is Hla-tad-zo-wōh

Make party passage & stop at Indian Village on S. Shore of North Island for lunch. See on end of Lacy Island of map the decayed remains of a shark which has been 25' long. It came ashore dead, or nearly so, & much grease was tried out of it by the Indians. Afternoon coasted up E. Shore of North Island to Northern point. A strong westerly or north westerly wind blowing but did not experience its force, or that of the waves till we reached the north point, when glad to turn back, & return under sail to the Indian Village, where Camped.

Sky clouded during early part of evening but got a couple of observations on the pole star later on.

Aug. 25. Left tent & nasty things at Camp. Crossed the passage, examined rocks along the S. Shore. Then rowed out to Lacy Island of the map across a wide bay with a ~~low~~ high clippy Island in it. The swell raised by the prevalent westerly winds & intensified by the stray breezes of the past few days rolling in about a hundred feet from Crest to Crest & breaking very heavily on the beach, when it would be impossible to land in a boat. Got back to Camp against very strong tide about 2 P.m. Spent part of afternoon fitting Indian

Elk (wapiti) are certainly known to exist about the north west point of the Island, but very seldom killed, as not followed inland.

Salmon, according to Mr Offutt (Squire) of H.B.Co. two runs of salmon. First a small fish with bright red flesh very good. Begins to run about middle of July & lasts about a month. Not in very great numbers, & not much sought after by Indians as they are then occupied at other things. ~~[illegible]~~ These seem to answer to the "Suckeyes" of the Fraser. About the middle of August the run of large "Silver Salmon" begins. They are red fleshed & good while yet in salt water, caught about the mouth of inlets &c, but become dark billed, dog-headed, lean, & pale-fleshed when up the rivers. The run into all the streams, even the small brooks, are large, & eagerly caught, & constitute the great Indian Salmon harvest. The Indians follow them up the inlets. Run lasts till about January. These probably correspond to the hook billed salmon of the Fraser, but seem from all accounts to be a much better fish.

Trout. Speckled, good fish, to be found in some streams at all seasons.

Potatoes grow admirably and marvellous in the sand, viz. Barley has been tried experimentally, proved to grow to great height & ripen well.

words from "Harry". Schooner in sight heating up toward Passage. Hailed her for Clue at about 6 P.M. that put things in boat & started out towards her. Got into a tide rip which threatened to carry us out to sea, & wind at same time dying away, came to conclusion that Schooner would be gone in the morning, & might be so far off as to interpose with lawsuits unless if we were on board. Put back & slept at old Camp. Rain in the night

Aug. 26. Found the Schooner at anchor in Bruin Bay. Put things on board, & then set out for the abandoned Indian village from which trail to the west coast starts. Took Harry as guide & crossed by the trail which little more than 3/4 mile to bay S. of Cape Foxe. The trail a very devious one, over & under fallen trees & through thickets, all soaking wet from the frequent showers. Came out at the mouth of a little Creek on a fine sandy beach on which the waves are breaking with a regular steady roll, from end to end. Walked along shore to next point South, from which got bearings & sketch of Coast as far as in sight. The shore remarkably rugged, here & southward. Broken rocky cliffs & rocky pinnacled islands, with reefs still farther out. On all these a great ocean swell never breaking & the water greasy with foam & a mist hanging along the whole Coast-line from the spray of the breakers. Ate our lunch in a shower of rain at the mouth of the Creek, & then returned by the trail. Found in boat, & after waiting some time set out along the shore toward the

Trees

Trees. The spruce often attains a good size, & is at times very large. Carcum longiflorum, & well from away from coast. Yellow Cedar not, as far as I can learn, found angulum in large forms of great trees. Scottiana longiflorum in hilly district in small numbers. Alder attains fine forest frequently, growing the shore mixed with the more formal evergreens in many places. Crab apples abundant. Hemlock abundant & well grown. Cedar, fine trees on the flats in some places.

First Whites

First White men. Edensaw says the name of the first white men known to him, or handed down to the present time as having been communicated with by the Indians is Douglas Captain of some vessel. This was at North Island. Edensaw thinks, however, that white men seen before Douglas, & that to the very first, the story now relates. It was near winter when a ship under sail appeared near North Island. The Indians very much afraid. The chief also very much afraid, but thinking no doubt that the duty of finding out about the new apparition devolved on him, put on all his dancing clothes, & going out to sea in his canoe danced. The Indians say the men dressed in dark clothes were supposed to be sheep, (which look somewhat human as they sit upon the rocks) & that the unintelligible character & general sound of their talk confirmed the idea. One man would say something & then all would go off. Say something else & all would come down. A feat the Indians thought almost like flying.

bay in which Schooner lies. Found the boat high & dry on the beach, having been carelessly allowed to become so by the men cutting wood. Got off on board the Schooner by an Indian Canoe which fortunately there. Boat brought back by men after 9 Pm. when the tide rose again.
An unpleasant anchorage, as so open that the swell from the Eastward & caused by the tide rips keeps the Schooner in a state of perpetual roll.

Aug. 27. By time water casks had been filled, so wind in harbour waited some time with sails up, then got off with light airs but carried away by the eddy. Had to get boat out to keep Schooner off rocks. Sailing out by eddy against main tide, which breeze not sufficient to overcome to steer. Made the round of Lucy I. & after an unfortunate attempt to get out against the tide in the half Passage, came to anchor opposite old Camp, & new Indian Village. Got off at slack water after a few hours, though again nearly carried down on rocks by tide. Proceeded Eastward with light wind & strong tidal current. Got a couple of soundings in the evening.

Aug 28. About opposite Verago Sd. this morning & continued on several tacks Eastward against light Easterly winds all day. Got two Cod hooked at 111 & 130 fathoms in places pretty well peopled by bamboos though weather thick. Also tried the dredge down for about half an hour at the former locality, & brought it up full

Tow Hd

Seen from a distance, the hill Tow does not look so abrupt as when seen from near the shore on either side. It appears to be separated by a small gap from a second low broad hill, which is probably that seen south of Rose Spit on the E. shore, but then appears in line with Tow on the spit, or nearly so. This appearance has caused the tales to be drawn as they are on the map.

Coast between Virago Sd & North Island. Generally low land with occasional rocky cliffs of 10 feet high along shore, but generally alternating low broken rocks & gravelly beaches. Few sandy beaches occur. Some rocks seen at a little distance off shore, but no sign of wide shoal belt like that E. of Masset. Rocks along shore of the usual character, generally scarcely, running to the tide line. Green grassy patches along the edges of the forest & on sandy & gravelly spits of old formation. The remarkable rock pillar occurring in one bay has been described elsewhere.

North Island is all composed of low land, probably in no place rising over 300 feet. The country to the south similar, though higher hills appear about adjacent to Frederick Island on the West Coast.

of sand & brittle stars, and a few shells. Attended to some duties about outfit. Died a white fluttering or. Orbigbatipes spicy star fish. Carmine-coloured body nearly breathless in gently rolling swell.
Throughout thrust out mud of dredge went down to 47°

Aug 29. In sight of Zayas Island early this morning. Under sail all day, getting inside Port Simpson about 8 P.M. Light westerly winds & fair weather with occasional glimpses of the sun. Views of the southern promontory & islands of Alaska through mist & clouds which seem constantly to envelop them. Passed pretty close to Zayes Island to the north, also to N. Shore of Dundas Island. These outer islands, as hope remarked further south, generally low & seem to show slope of surface of golden crypt. rocks outward. Landed on an island of the "Gnarled group" & got specimen of the rock, also labels rain with some copper pyrites, & evidence of glaciation seaward. Rocks of all these islands appear to be granitic or at least hydrolley-crystalline.

Descript

A very fine rain looking up Portland Inlet as we came ~~up~~ this evening the mountains on its E. side singularly bold & abrupt. A fine peaked snow-clad mountain seen behind Port Simpson, the same on which a bearing yesterday obtained from near Rose Spit. Like the rest shrouded in grey clouds & seen only partially & occasionally.

The rock pointed out made on the chart this morning off Zayas Island, is probably the "Devils ridge" of which the position is doubtfully indicated on the chart.

Origin of Chinseyans &c

The Chinseyan Indians are closely related to the Tsimshian & have in fact come down from the interior onto the Coast by the Skeena River. The Skeena is not the real Indian name of the river, which is difficult pronounced, & the name Chinseyan means simply people from the Skeena. Mr Hall here at the H.B. Post, who knows the Carrier language well finds many collateral or similar words between it & the Chinseyan. The migration did not take place within the traditional memory of any Indians now living, but may not have occurred more than about 100 years ago. The Chinseyans displaced the Haryas Indians who now occupy the Coast from the W. side of Portland Inlet to the Stickeen. Their country by right of that by the Kaigani or migrated Haidah Indians. The Haidas have always been in the habit of resorting to the house to pick the Wlachen, the Chinseyans allowing them to do so, or rather fearing, or being unable to prevent them.

Haidas. Mr Hall of H.B. Co. letters that a custom among them that when a girl arrives at puberty, she goes about for a time in a peculiar Cedar bark cloak, which conceals the face. Afterwards a feast or time rejoicing occurs

Level

Ptolas borings. North I. In the large bay west of Parry Passage on E. shore, on S. shore of bay. Found distinct ptolas borings in Calcareous shales about present H.W. mark, & altogether above the position in which these shells would now live.

at the time seen, breaking heavily occasionally, but not often. The sea moderate, & the tide nearly full. It would be a dangerous rock for vessels entering the channel for Port Simpson, from Dixon's Strait. For is it alone, for with the generally low character of Langas & other islands, the bottom does not appear to deepen ~~quick~~ fast or regularly. Breakers observed far out from Langas Island in several directions & little rocky islets near shore.

Got a large mail here, the first for four weeks since leaving Victoria. Up late writing letters & looking over papers.

Aug. 30. Spent most of day with Mr McKay of the H.B. Company looking at his specimens, & talking items of interest about the coast. Got a photo. of the village of Port Simpson, R. afterwards getting another of the palisade from a hill. Visited Mr McKay's "Chinsegan Lodge" The H.B. fort or post now used in the usual style, in good repair, Building painted white & red facing on a quadrangle, surrounded by a palisade which once had bastions. One of these still standing ~~but~~ used as a hay barn. A party of Chilcat Indians from the country bordering on the Bryanmare in Alaska arrived & traded today all day, claiming goods & haggling over them. Brought down a valuable lot of furs which they have themselves bought from the interior Indians.

Oolachans on the Nasse. The first & fresh run occurs about the middle of March a second smaller run is said to occur in June.

Coal. An indistinct report of Coal on Work's Canal, but appears unlikely to be true.

Distribution of Cervidae.

Moose. Are found to within about ten miles North of Ft St. James, Stuart Lake down to Ft. George, & in the whole country North East of the chain of lakes of which Stuart L. is one.

Caribou very abundant E. of Ft George, also on hills West of the Quesnel & Blackwater trail. Extend to the 49th parallel near Okanagan in winter. Abund about the head & N. side of Francois Lake. The small red deer formerly was found northward only to Ft George & not common there, now abundant about Ft Fraser, & found also on Stuart Lake near the fort (Ft. St. James)

Grizzly bear, said to be two distinct kinds large & small, but not uncertainty about specific lines among bears the hide of much value.

Copper shown five specimens of copper pyrites & bornite by an Indian. Said to come from a place a little below the Forks of the Skeena, & to exist, of course, in great quantity. Indian believes the locality unknown to whites.

Aug. 31. Had intended leaving today, but a strong South-Eastly gale, with squalls & rain in progress, & judged it better to remain. Went ashore & made arrangements about some additional supplies — Corned beef & butter — Afternoon went round harbour in boat examining rocks, though the strong squally wind, with rain, rendered it very unpleasant, & quite a disagreeable sea had got up towards the north, or outer end. Shot few snipe plover on the way back. Went up some miles. Eng. paid a visit to Mr McKay of the H.B. Co, getting on board rather late, & sitting up reading till nearly twelve.

Sept. 1. Weather appearing more moderate, got away this morning, but found a very strong head wind blowing. Beat southward slowly, arriving after dark opposite Mutta Katta. Weather thick & afraid to run in. Beating about outside all night, with lighter wind.

Sept. 2. Found ourselves early this morning back, about abreast of Pt Simpson. Got more favourable wind & reached Mutta-Katta about 10 A.M. Visited Mr Duncan, who received us cordially. Afternoon went round the harbour, examining the rocks & got photo. of part of the town. Eng. spent with Messrs Duncan & Tomlinson. R. decides to stay here to catch first steamer, which Mr Tomlinson also waiting. Up late getting things packed & arranged.

Gold Capt Madden has a few small quartz specimens with large specks of gold scattered through them. He says the lode is well defined, & he hopes to be able to do something with it. Locality about 60 m. up the Skeena on the left or south bank. The gold "free" & little pyrites visible.

Descriptn

The several blocks of land separating the mouths of the Skeena & adjacent channels with the exception (only?) of Digby Island, are generally high & mountainous, rising steeply, or with a very narrow sloping foot from the water's edge. Kennedy Id. is also of this character, exceedingly bold land, sloping down into Grenville Passage at a very steep angle. On its face two great bare "slides", showing solid rock from base to summit (strips seemingly apparently) one of them terminated with a knoll. These slides precisely like those seen frequently on the Queen Charlotte Islands.
Grenville Channel opens rather widely at first, but gradually contracts, the hills immediately bounding it are at first not very high, are densely wooded, further back, bluffer, both on the Mainland & Pitt Island mountains state holding extensive patches of last winter's snow, in deep drifts; occur. The summits of these are bare & treeless, & here where they show no snow, whitish, from the almost continuous exposures of granitic rocks. The trees up some of the valleys & glens which lead streams from these down into the Channel, singularly wild & beautiful.

Sept. 3. Intended to leave this morning but weather turning bad, notwithstanding very high barometer, decided to wait. Weather continued to grow worse, gale period with very heavy rain showers from the South East. Mr Tomlinson came on board & remained talking till about 4 P.M. Had a visit from a Capt. Madden & a man called Jones, the latter claiming to be an old acquaintance, having been on the Boundary Commission in Ashe's party. Told that the "Grappler" stopped at Sivemers (Woodcock's landing) early this morning, & promised to be back on her way to Victoria in three days. Took tea at the Mansion & spent part of Evg. then, leaving R. in hope that we may too early start in morning.
Engaged an Indian boy this morning for extra helping boat &c. Wages to be $20.00 per month, not less than one month paid, & $10. return fare from Victoria in steamer.

Sept. 4. Morning promising fine weather, & South easterly gale having ceased, decide to get away. Land to see about barrel of potatoes which I had agreed to purchase, & find R. with Messrs Duncan & Tomlinson at breakfast. Get the fish, & shortly afterwards get away, though after leaving the harbour almost continually in sight of the Village till nightfall, as we beat against wind & tide, making very little. The current appears at present to set out Chatham Str. northward at both flow & ebb. This may be owing to the

Volume of water discharged by the Skeena, or to the present prevalent South-Easterly winds.
Had the dredge over opposite Metlakatla in about 50 fathoms, & brought it up full of slimy mud, & stones, some several inches in diameter, mostly more or less water rounded, but with occasional angular fragments. In the mud found one living & several dead Rhynchonellas, a few Ledas, a brittle star, & one or two other shells. Life very scantily represented. Such a deposit as this might almost form a "boulder clay". We have not before struck similar bottom, & judge it not improbable that the stones may be brought down by floe ice from the Skeena in Spring.
Wrote up notes, did some plotting & attended to several other little matters which have got behind.

Sept 5. Found ourselves this morning off the Skeena, with Lowmans in full view, though at a considerable distance. Light baffling winds all day, with heavy tide running out against us most of time. Getting abreast of White-Cliff Island, where some men are trying to open a marble quarry, went ashore for a few minutes to inspect it. Toward evening got a little puff of fair wind, with rain & distant thunder. This pushed us on nearly to South end of Kennedy Island when again became calmed. Did a little plotting, reading &c.
Sept 6. Drifted back last night with the tide, which appears to flow in by Ogden Channel at the flood, set into Chalmers anchorage, abreast North end of

Descript

Most of the land about Knight Sound rises at once steeply & without beach from the water to mountains of considerable altitude. Some of these especially that on Gill Island, & on South End of ~~[illegible]~~ Hardy Island, are peculiarly picturesque in form. The latter range ~~called the Grantlecar Ists. on the Chart~~ slopes to the South West, breaking up in a series of abrupt steps like escarpments in the other direction, almost as though dependent on for form, on bedding of massive strata.

These mountains of the up lying Islands, are however pygmies to the serried & seven hundred ranges which form the axial summits of the Coast Range. Looking up Douglas Arm, from Knight Sound tier upon tier of these, showing in the pale rosy light of a rather cold sunset, appear. Fields of dirty snow of great size, or widdly in some places of immense depth, shroud these summits, while here & there a long ridge, or sharp crag stands above the white surface. It would almost appear that some new snow has already fallen this autumn on these unnamed & unmeasured giants.

Mc Kay Reach, Fraser Reach & Graham Reach.

The first named, wide, & transverse to the general course of the wind and waters about here. Some pine mountains, which the peaks still hold a little snow, on S. side (See sketch) Mr Mc Ka informed me that schistose rocks occurred here, but these I have seen from the schooner for the most part

Kennedy Island. Waiting Calm, went ashore for water, & got additional supply of wood. Light breeze springing up from North & North West between 10 & 11 Am, got away, & tore had moderate to light fair wind & light intermittent since making a fair afternoon's run. Did some plotting, wrote up notes, read, & attempted to colour my sketch of Portland Channel. A very fine day with much sunshine, & the moon & Jupiter now shining brightly ahead.

Sept. 7. Nearly out of South end of Grenville Channel this morning at breakfast time, having been forced during the nightly breeze & tide. A light head wind springing up, however, setting to beating & remained beating about mouth of channel most of day. Even when tide running out strong below a surface current, probably impelled by the wind & only in few yards deep, kept dragging us back into the strait. Landed, & got a photo. of Channel from Yolk Point. Anchored for a time in a cove as we continued to drift back, but finally in the afternoon, getting a fair wind, set off & now (8 Pm) have crossed Wright Sound & are fairly in ~~Johnson Channel~~. McKay Reach. The "California" passed us close, on the way up today. Still no news of the "Grappler" or "Otter".

Sept 8. Beating about with light baffling winds in McKay's Reach all night & a considerable portion of this morning. Could see ahead yes all the time a fine breeze drawing into & down Fraser Reach. Finally, by aid of the sweeps, got into the wind, &

Gneissic granite, gneiss, & diorite (= Nimrim & White). Fraser & Grafton reaches are only parts of one long narrow passage, which in its character is more rugged than any of those we have yet been in, in coming from the north. The mountains surrounding the channel, are not very high, but some still hold masses of snow on steep aspirants. Except the exception of the less height of the mountains, this channel resembles the upper reaches of some of the fiords. Many of the mountains are almost bare massive blocks of grey granite. When they are covered with timber it is small (except occasionally along the water's edge) & scrubby. Cascades fall in on every side, & the roar of a large waterfall fills the quiet mountain-fenced passage opposite Wark Island. This waterfall is the overflow of a lake, which by the apparent size of the hollow in the mountains must be large. A little further on a second stream of considerable size flows tumultuously out, (also on the W. side) & here a party of Indians were camped salmon fishing. They called to us, but did not come off.

Rocks almost everywhere in higher nts. appear massive granitic. Only slow rotted strat. rocks, gneisses or quica schists, in several places, but did not think it worth while to stop to look at them from their monotonous character. On North West side of Wark Island, rocks apparently schistose, & seem to include a bed of brown-weathering limestone.

Glaciation noted as rock rounding & striation &

here ever since been making good progress southward, being now, 8 P.M. not far from entrance of Folmie Channel. Did a little sketching & some reading today though generally lazily inclined. Weather remarkably fine, & the scenery wild & magnificent.
"Grappler" passed us on the way down at 9 P.M.
Sept. 9. Floating slowly along without wind in Klemtoo Passage this morning. Sun bright & perfectly calm. Went ashore on a small island & took a photo. looking north up the passage; which if it developes should show curious effect of kelp & reflexion of trees in water. Seems however rather an act of faith to expose an "Extra Sensitive" plate ten or fifteen seconds & expect to carry away a picture! Getting a little wind, at length beat out, & now floating about, again becalmed, in the centre of Milbank Sound. Ocean all open to the S.W. but scarcely any swell.
A lovely night, full moon & waning stars, as last rosy light faded from sky the clamorous din of sea-fowl on the water & distant rocks, with the occasional sharp snort of a whale blowing at the surface, or the distant sound of one breaking — combined to give a peculiarly weird effect. A distant uninvited haunt of the creatures who congregate where man is not. Sketched out plan of report. Reading 82.

Sept. 10. Nearly becalmed all night, & calm continued with scarcely a breath till noon. Bright sun & smooth water. Drifted a little this way with the tide & that way with the

heavy grooving in many places, in the Channels traversed today. This both at the water's edge, & a thousand feet or more up the mountain sides. Direction as might be expected always parallel to Channel, though frequently grooves slope up, or down, on nearly vertical surfaces.
The point between McKay Reach & Fraser Reach, is heavily glaciated as though by ice coming out of passage to North.

Bella Bella Indians

Bella Bella names of Stars &c. Stars Ko-toa
Moon No-si. Sun Klik-si-walla
Orion's belt, Ll-i-wha. Pleides Ll-i-wha-so
Great Bear Klak-tsoo-wis. North Star Paice
(They are unacquainted with the fact that the north star does not move) Kwa-Kum probably the Dog Star. (Sirius)
Milky Way Kum-e-e

When asked as to origin of Indians Ham-chit gave me the following. Very long ago there was a great flood, the sea rose above everything, with the exception of three mountains. Two of them are very high, one near Bella Bella, & the other apparently N.E. of it. The third is a low but prominent hill on Don Island called by the Indians Ko-Kwus. This they say rose so as to remain above the water. Nearly all the Indians floated away on logs & trees to various places, thus the Kit-Katla's floated to Fort Rupert, & the Fort Rupert's to Kit-Katla. Some Indians however appear to have had small canoes, though the making of canoes did not be well understood in these days

wind, but made no real progress. Afternoon a nice little wind rising, sailed into Seaforth Channel, & just about Sundown anchored at the Kil-Kite Indian Village of the Chart, behind Grey Island. The Indian name of the village is Kā-Ja according to Charley Hum-Chit (the latter being the Indian name. This means the Chief, & came off to us on our arrival with a neat wreath of red-stained cedar bark about his head. He seems very intelligent & had a long conversation with me after supper.

Sent a couple of young Indians off to Bella Bella with a note to H.B. Chart asking them to keep any letters which may come up in the "otter". Promised them a pound of tobacco for their trouble.

Got the boat on the beach to try to find out where she leaked, but could not found in discovering any large break. She begins to be rather frail & strained throughout, by much contact with rocks & hard usage.

Sept. 11. Made an early start in the boats, with the Indian above mentioned, & his wife, in a small canoe. The Indian to act as guide to Mr McKays "Hebrew" mine. Rowed up Ellerslie Channel off the Chart a long way getting to the mine about ten o'clock. Examined the little tunnel which has been driven, the ore at its mouth &c. Had lunch, & at noon, set out on return. Strong head wind causing us to have a long & heavy row back, getting to the Schooner about 6 P.m. A fine day, with a good sailing wind in the afternoon, had we been travelling. Found the Indians who had carried my letter to Bella Bella last night waiting to be paid, also an Indian wishing to

There embarking their canoes, came down when the water subsided near home (the story a little confused here & the precise use of the mountains not evident) At any rate, there remained at last of Bella Bellas just three, two men, a young woman, & a dog. One of the men came down at the village where we are now anchored, another at a village site near Bella Bella & the young woman & dog at Bella Bella. The young woman slept & the dog married her, giving rise to a being half man half dog. Similar creatures soon multiplied, & these eventually turned into the Bella Bella Indians.

Fire, first given to the Indians by the deer. This animal it would appear showed them how to use the fire drill.

When the flood went down, there was no fresh water, & the Indians did not know what to do. The crow however showed them how, after eating to chew fragments of cedar wood, when water came into the mouth. He also it would seem, by signs showed them where to get a little water by digging, & soon a great rain came on, very heavy & very long, which filled all the lakes & water courses, so that they have never been dry since. The water however is still in some way connected with the cedar, & the Indians say if no cedar no water in the country. The reverse at least would certainly hold good

Hamchit says the Indians are always talking among themselves about their decrease in number. Long ago he says they were like the trees, in great numbers everywhere. The fancy it among themselves (as he said) the white men

Sell a deer — for which he got a dollar — another with some halibut &c. Our guide last night asked me for some old Illustrated News. Today he wants a cup of flour to make paste to stick them up in his house!! Probably should we want here tomorrow he will be along asking a brush.

Sept. 12. No wind in the early morning, & very light air for some time after it began to come in. Beat about the entrance to Ellerslie Channel, but did not get fairly out of it till noon. Then got a good breeze, which passed us up Seaforth Channel, bringing us to Bella Bella about 5 P.M. Went ashore in boat to leave a few letters & found a note from R. with a few papers & late dates he had picked up. Looked at some specimens of ore Mr Leighton had, & then returned after the steamer. Light variable winds during early night, & very fine day, quite summer like

Sept. 13. Got a good fair wind after getting through Lama passage, sailed down Fitzhugh Sound, finding ourselves in the morning off Port of Safety Cove. Wind falling & then coming ahead, kept us beating most of day. Well outside the point of Sandown, & shortly afterwards a good breeze coming up, made fine progress for a couple of hours, when again becalmed. A magnificent day. Saw at a distance six large canoes of Nelootti & Ukultaw Indians on their way to Bella Coola to trade blankets for potatoes. Wrote just past Haidas.

Sept. 14. Becalmed, & rolling about in the open ~~[illegible]~~ off Cape Caution, most of day. Light air in the afternoon enabled us to make the land, but strong tide

men fight among themselves) Some were killed, but always more were born & the whole country teemed with them. Now he says the white men have come & the Indians Chaco mamaloose, Chaco mamaloos, & soon there will be none. He persuaded out to see the primer cultivated by his village & contrasted its present shrunken size. Yet he says there is plenty food, plenty fish, & we have various things from the white man which we did not know before. The Indians do not fight among themselves or with the whites, only for a few years back whiskey introduced among them not long enough to do much harm & yet they die. The Indians he says do not know how to explain it, but as he says – Klunas Sagalie tyee Mamook.

Nawitti Indian Village. The houses not built on the old ponderous style, whether that may ever have been in vogue before or not. No carving indulged in though rude painting of the flat fronts of the houses has been practised, but very dim. The best marked design represents two 'heraldic' birds, in black & red fighting, one on each side of the door. One small carved "totem post" in front of the Chief's (Cheaps) house. Also one other pole with a cross stick & two men upon it, intended apparently to represent a mast & yard with two sailors aloft.

running out obliged us to anchor in Shadwell Passage. A fine & warm day, enjoyable enough but for the sound of the booms & sails lashing about as the rollers passed under us. Saw several sea-lions & a couple of large whales playing about. Boarded this evg. by some Nanaimo Indians, hands enquiries about coal reported by the Chief Chief, who is now off work at Bella Coola parts. A magnificent night, bright moon & stars, nearly calm.

Sept 15. Interviewed a couple of Indians about the coal reported near Cape Commerell, but as the story indefinite & distance great, — at least twelve miles — & the locality on a very open coast where it might be difficult to effect a landing, decided not to visit it. Waited till about 11 Am. for tide to turn, got some wood & water on board, & eventually got away, beating up the strait against a westerly wind. Now at 8 P.m. Rolling about a little beyond Cape Commerell & some miles off shore. The wind has brought us so far but left us in the lurch.

We worked gradually away on the turning of the tide, from our exposed anchorage in Goletas Channel to a snug cove at the Nanaimo Indian Village. For several hours this morning the most doleful crying & wailing was kept up by some women in one of the houses. Learned that this the ceremonial mourning for a little child who died a few days ago, & has been some days, buried — or housed — The women were relatives & went on with their work ~~while~~ more or less steadily while uttering these heard-rending cries. A sort of wailing, mingled with interjections, & sentences probably referring to the deceased.

Kwakiutl Inds.

Sea-otter food. Said by the Indians to consist chiefly of sea urchins, clams, & fish. The sea-eggs — probably the large kind — are eaten without breaking the shell. The clams are broken, & our guide at Quatsino told me a story, which I could not quite understand, about the otter carrying a "stone" under his shoulder — below the arm — with which he breaks the clams. This "stone" the otter does not lose when he dives, nor even when shot & killed. Some of the Indians he says have many of these stones, & if I understood him aright, the "stone" sinks in fresh, but floats in salt-water

Kō-ske-mo The name of the tribe & region including the upper part of Quatsino Inlet on the chart. The name is the same as that of these Indians for the Sal-lal bush.

Tobacco the Kiskinoos use the roasted leaves of the Sal-lal to mix with tobacco, but also know the Arctostaphylos & would probably avail of peyote where it could be found.

Stone-hammer. Found one of the dumb-bell shaped ones in actual use among the Kiskinoo Indians.

Yew wedges. Employed in splitting up dead wood for fire-wood, & apparently very effective, especially when applied to half-decayed dry Cedar which is often used by Indians. The head of the wedge bound round with withes to prevent it splitting or bushing out when being driven.

Sept. 16. Rolling about all day, drifting a little one way & a little the other with the tide, but not enough wind to fill the sails. Dull gloomy weather. Begin to repent that I ever set out on this Quatsino expedition, which seems about to involve such loss of time, discomfort, & possibly bad weather. Towards evening a good breeze springing up got away again, but no certainty of its continuing. Decide if not much further advanced tomorrow morning to give up the Quatsino expedition

Had the dredge over twice, in about 15 fathoms, but got little or nothing. The water shelves away very gradually here, & the rapid tidal currents appear to keep it quite clean. Composed of gravel & rounded & smooth stones, with little bryozoon or incrustation. A few shells, mostly dead — & many small brown Littorinas, sea-eggs, & star fish of common beach varieties

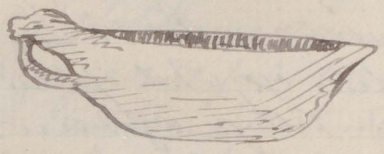
Sept 17. Got round Cape Scott at 2 Am. & at 7 Am. not far from entrance to Quatsino, though some distance off coast. Steered in on recognising the opening, but land dying away, & then coming ahead it occupied till 4.30 P.M. beating up into North Harbour. When anchored down, went ashore & examined rocks, delighted to find old friends in the "flaggy argillites". Hope now to find out more about their relations with other series. One Indian canoe came up to us, with a man, woman & small boy, but quite unversed in Chinook, & satisfactory communication impossible. A fine day, though probably blowy hard outside. A pretty flow of pink over the purple mountains at sunset.

Burial Cave

Sept. 23. Visited Cave which on W. side of Quatsino Narrows of Chart, near their Southern entrance, & only a short distance round point from Indian Village. Cave 40 or 50 feet up a steep clayey bank from water's edge. In limestone. A rather symmetrical broad low entrance as seen from a distance. On entering, the floor at first slopes steeply outwards, but soon becomes nearly level, & runs back for 35 or 40 feet. The average ~~[illegible]~~ width of the cave about 20 feet & the height 8 feet. The roof is hung with stalactites, which are all brownish blunt, old-looking & dirty. Stalagmitic potholes or bosses also appear in places on floor, but no sign of recent drip. The cave used as a burial vault by the Indians, but as I understand my guide some ten ten years for a long time, & only men of importance are accorded a place here. My guide had never seen into the cave, & would not come up to look at it. In the innermost recess a mass of rough boxes — coffins — of various proportions, but all suited for doubling up the body in the usual Indian style. These made of split cedar planks, & tied together with cedar bark ropes. Some on the ground, some on top of others, & some sheltered on boards supported by a plank or two. On the left side — on entering — several smaller boxes piled together, & on the right, a few broad boards braced up against a niche, probably holding a single body. All the boxes look moderately ~~[illegible]~~ new & strong, though in this dry place there is no reason why they might not remain so for an indefinite period. Noticed one small square box probably holding some property of the dead, & one

Sept. 18. Early breakfast, & off in boat up Forward Inlet, examining rocks. Found a locality rich in fossils, very attractive appearance, but gathered a number. These belong to the Coal measures, of which specimens are which appear toward head of Inlet. Found Indian Village & got an Indian as guide to the Coal locality, who could speak a little Chinook, but very little. On landing at the village found all the people collected in front of one of the houses & as I came up all joined in repeated chorus of Cla-hoya tyee & Klooshe, the two Chinook terms they seemed to understand. These they repeated over & over again together with much in their own language that I could not understand. They evidently very seldom see strangers & appeared in their manner quite as though apprehension that I had all the power, & might want to use it, by which they might be annihilated in a moment. The women all have their heads deformed in the manner peculiar to this tribe, being bandaged up in infancy so as to assume a conical shape. They appear all very poor, wretched, & dirty & are about the most miserable & degraded looking Indians I have seen. Nearly the men appeared to be away, allowing for them in proportion to the females there should be 35 or 40 people in all belonging to this village. On way back stopped to take a photo. of the natives, but had troubles difficulty in getting them to understand what was wanted, to go to the right place, & finally to sit still. The photo. if it turns out tolerable at all I fear will be a very poor one. For some reason won them at last by offering them a biscuit all round if they would sit. Two men came

large wooden dish of peculiar shape. Something like this, & rudely carved. At the mouth of the cave a few poles, to one of which is still attached a ~~[illegible]~~ piece of white cotton cloth. If the last interment of same date with this, cannot be very ancient, but not improbable that ornaments erected in honour of dead here, long after death as elsewhere practised.



The floor of the cave, besides the stalagmite already mentioned, is deeply covered with reddish dry earthy material, on which a few scattered bones apparently form evidence of interments still earlier than those above mentioned. The cave really a "rock shelter" & would be interesting to explore with pick & shovel, though this must wait for some future day, as at present the Indians would doubtless not only object, but forcibly interpose with any such ~~[illegible]~~ process.

down to the Schooner afterwards for the biscuits. Found the Coal without difficulty, thanks to our guide, had lunch on the spot, & examined it as carefully as possible. Got back to Schooner near night fall with plenty work to be allotted to in the way of notes & specimens.

Sept. 19. Off in good time with Charley & Indian Johnny in the boat. Morning dull, overcast, calm & rather foggy. Examined north shore nearly to Hecate Cove, when camped on a narrow & rocky gravelly beach, being overtaken by darkness. The Schooner, which was to follow us as soon as possible, got out & having a fair wind got abreast of Camp about 9 P.M. Jerking the horn, under impression that fire might be ours, but did not answer, thinking tenty Schooner had wind that she should go on to Hecate Cove. Soon, however wind dying away, Schooner drifted back with tide, & tearing them out work with the sweeps. I called out & Schooner soon anchored in bight opposite Camp. Struck tent packed up & went on board. Visited by a Canoe full of Indians at Kopreno Harbour. Nearly the tribe now at mouth of river there Salmon fishing. The Indians a little forward, but appear good humoured & some of them can talk good Chinook.

Sept. 20. Awakened this morning by the sound of paddling, then the rubbing of Canoes against the sides of the Schooner, the clambering of Indians on deck, & the hub-hub of their talk as they coolly proceeded to examine everything, & look down into the Cabin, quite blocking up the hatch with their heads. Men women & children. We are it seems only a short distance

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Tribes of Indians speaking closely allied languages, & which may be grouped together under the name of the Kwā-Kuhl Nation.

Name of tribe	Present chief	Country.
Kō-skē-mo	Kwa-hī-la	Quatsino party Native Int. of Chart.
Kwat-zi-no	Ow-it	Forward Inlet
Nī-wittai	Kow-mād-a-kwa (or "Cheap")	Hope Is. Islands & extreme North of Vancouver I.
Kwā-Kuhl	Ō-ut	Fort Rupert
Kim-kish	Kla-sho-ti-awl-ish	Nimpkish of Charts.
Lī-kwil-tah (= Ukulta)	Yai-ko-tl-is (or wa-mish)	Cape Mudge entrance to Knight's Inlet near Rumsey Island (on mainland.)
Mam-il-i-li-a-ka	Ni-kē-dzi	~~near about Bay on~~ Sonora end of Gio Channel ~~Mainland~~ Sumner I.
Kla-wi-tsuch	Hum-tzi-ti-kum-a	

also these villages there

Nuk-wal-tah. mouth of Seymour Inlet	Tsa-wutti-ē-mih Bay Waterman Sd.
Tam-uh-tah Head of Knight's Inlet	Met-ul-pai. Havanna Channel

Douglas fir. In coming from the North find this tree about the extremity of Vancouver I, but not in great abundance. About entrance to Quatsino Inlet, very few, but abundant, forming extensive groves on upper reaches of the Inlet. Similar distribution obtains, I believe, elsewhere along west coast of Island.

Kwi-ha on or near Valdezt.

" " "

Wī-wē-kum. Inlet of Rodolesch Channel.

from the main village, which situated on the E. side of Entrance to Hecate Cove of Chart, & counts of about 15 houses. Not built in the same substantial style as those of the Haidas, but large & roomy enough. The Indians here know very little Chinook & are quite unsophisticated. Schooners seldom come into this inlet, probably never so far up as we now are. Wd trading is done is at Fort Rupert, the trail leading across in about half a day. Went back on work this morning to examine rocks passed over after dark. Then crossed to Limestone I. & on a small islet near it found some fossil corals, silicified, but in a poor state of preservation. Returned on board schooner, got specimens packed up & other preparations made, though much annoyed by the inquisitiveness & many wants of the Indians, who seem to take nothing better than rooting all over the schooner. One old woman especially troublesome, knowing a little Chinook she presumed on this to come down into Cabin, had a great deal to say, & wanted to see everything.

Got off after lunch with Williams, Charley, & an Indian guide, who knows how to row pretty well. Called in at Indian village to let our gentleman get his pipe. Then rowed up through the narrows & to Coal Harbour, where camped a little before dark, near a small camp of Indians. One of these offered to show we some coal up a small stream at the head of the harbour. Took we in his canoe, the boat going on to Camp. — & showed me some drift coal in the brook, & some also packed out on a trolley drift, but not in situ. Could speak very little Chinook, but his wife, who sat in the bow of the canoe & was rather

Fort Rupert Indians

Indians here at Fort Rupert, or Colling it have probably do not exceed 200 in number, according to Messrs Hunt (HBCo) & Rev. Hall. They appear to be a dirty, ugly, & degraded lot, not better than those of Kiskino, & infinitely worse looking than the Haidas, Chimseans, or any other Northern Indians I have seen.

Coal

Coal. Indians reported to Mr Hunt. (HBCo. Fort Rupert) that he had seen seam of coal about 2 feet thick on a river running into Hardy Bay. The locality can be reached in a long summer day when the river low, at present season (Oct.) would take two days travel to reach the place. Indians says about as near Kiskino as here.

pleasing in appearance but for the peculiarly elongated head, caused him to employ all the Chinook he knew in asking in succession for every imaginable article, as a kallus pollekh — fish-hooks, needles, thread, pipes, soap, tobacco &c &c. He was also requested we not to fire off our guns as it would frighten the salmon, which are now in great numbers in all parts of the inlet & can be seen jumping alongside & almost ripples the water. Also requested that we would not have fires on the beach at night, as the glare would frighten away the fish! Could hardly comply with the last request, as our Camp on the Stone pot Needle was fires as small as possible. Our Guide is a peculiar looking indian, perhaps twenty years old, with a cross eye & a Chinese complexion & expression, which is carried out by a pig-tail or queue which he wears tied round his head, having given over cutting his hair in the hope of becoming a "doctor" His costume is simple, consisting (1) of an old woolen scarf bound turban fashion round his head (2) a Cotton shirt (3) half of an old & dirty blanket originally white. This latter is either worn round the shoulders with a sharp piece of wood fixing it together in front, or bound skirt fashion so as to hang down from the waist. It also serves as bed & bed covering at night, & as waterproof cloak during showers. He is rather a dunder-headed individual, not fluent in Chinook, of which his pronunciation is bad. He is heavy on Nowit-ka, but gives it as Nowitti. Willing enough to work, collects wood for fires & appears from time to time in the night to stoke up, especially when it becomes so wet that he cannot sleep comfortably.

Sept. 21. The Indian camp arrives at daybreak & all off in canoes to fish for salmon. This is now done by trolling with a fruit. The streams are so low that the fish have not begun to run up them & the fish traps have to partake of no use. Examined coal on W. side of harbour, & then proceeded westward with examination of coast, camping on North Shore a few miles from head of arm. Heavy showers & squalls of head wind render work today very unpleasant & irritating. See many Indians camped about here & there, all at their salmon-fishing grounds. Hear some Indians on the water after dark, but cannot tell what they are about

Sept. 22. Crossed this morning to S. side of inlet, & finding no more coal rocks, returned along S. Shore, examining from point to point. Camped on N. Shore a little east of Hanson Pt. of Chart, near a nice little stream, & in the vicinity of plenty good fire-wood, which a desideratum, as we are all wet from the frequent heavy showers.

Sept. 23. Examined coal-rocks which occupy part of North Shore of Rupert Arm, went up the Creek at its N.E. angle far enough to see beginning of trail to Fort Rupert. Started along S. Shore, stopping at noon for lunch. Heavy showers & squall coming on, for the weather a bad 'turn' & it continued raining with short lucid intervals most of afternoon. Got back on board schooner at about 4 P.M. A lot of Indians immediately appeared with things that they want to sell, a wooden pot-catches. Bought a couple of cedar mats, & took sketches of some of the deformed heads peculiar to this region. Every country up notes. &c.

Sept. 24. The stars in their courses seem to fight against progress. Had hoped to get down to mouth of Inlet today, but for the first time since our coming here it has remained perfectly calm, dull, overcast, & showery in the afternoon. Sails up, but canoes never lifted. Reading &c with as much equanimity as the annoyance of the detention allows.

Sept. 25. Off with a good fair wind, which after we got out into the main Inlet became very strong. Travelled along at a good rate, with squalls & showers of rain after us, but found on approaching the mouth of the Inlet that it was blowing a regular gale from the South East with the barometer still rapidly falling. Considering it scarcely prudent to go out, we turned into North Harbour, falling a little tossing by the way from the heavy sea which was rolling in from outside, here broken up by reflexion from the rocky shores into steep choppy waves, several of which nearly came on board. Anchored before noon & remained there about since, with heavy wind & showers. Visited by a couple good Indians & several youngsters in canoes. Had come down from the village on seeing the schooner come in bringing their Credentials ("papers") with them. Could speak scarcely any Chinook but Potlatch Tyee! Chalaya seemed couple repeated for them by paddle by a couple of pieces of tobacco cut off a plug & one or two fish-hooks. Spent reading, & writing up several notes on B.C. Geology.

Sept. 26. Blowing heavily with deluges of rain all night, a state of affairs which continued also the greater part of this morning. In the afternoon the wind moderated, hung round to the S.W., & rain did not fall so continually. A heavy sea still running, however, & the barometer going down. Went up Browning Creek in the map, examining the rocks. Read a little, but have a headache & do not feel particularly well.

Sept. 27. Got away this morning as soon as a little wind came to fill the sails, & found a good S.W. breeze outside, which enabled us to beat out fairly. Off Entrance Pt. at 1 P.M. A.M. wind variable & light, made little headway, though much rolling, a heavy sea coming in apparently with wind behind it. Sabiston wanted to run back into North Pt., & actually turned to do so, but a light wind coming off shore, turned again & kept on our course.

Sept. 28. Morning very fine, light variable winds, but aided by tide made some progress. Afternoon clouded, & then following a slight fall of barometer — which already bore a South westerly, backing round to South Easterly wind began to blow quite fresh. Made good time, notwithstanding a very heavy sea rolling in from the westward. Rounded Cape Scott at 4.30, & hauled up along the North Shore, for Goletas Channel. Barometer going down & wind continually freshening, till eventually blowing half a gale, & obliged to take in the fore sail. Weather dark & thick & all appearance of a regular South-Easter which had it come sooner might have blown us off shore altogether. Aided by a strong tide however beat in a few tacks into the channel coming through a heavy tide-rip on the bar. Made out entrance to Bull Harbour, dropped in & anchored at midnight. Found another Schooner in harbour, here going to Nanaimo with Coals.

Sept. 29. Blowing a gale all night & morning, but calming down considerably, with signs of clearing weather, & a rising barometer, about noon. Wind dead ahead for us, forever, & the ebb tide running all the afternoon so that we let to go out. Working at maps, reading & writing. Afn. went in boat to examine rocks about harbour, & also crossed the narrow neck of land at head of it — about 300 feet — to Roller bay on the exposed outer coast. The country a description of the underbrush consists of a tangled & extremely dense growth of sal-lal, crab-apple &c from six to twelve feet high. On gaining the coast however we were rewarded for trouble in finding a magnificent sea falling in against the upper, or sheltered portion of a shingle beach. The tumultuous advance, rise & tumultuous recede of the great blue seas, as they arched up, fringed with little rainbows as their edges became frilled & misty, truly grand. The impression made of the stones & pebbles along the whole beach roaring as the broken wave retired brought vividly before one the process of the destruction of continents, & the immense sum of work which must be performed by an agent like this eternally busy. The scene almost realized that of a panorama of great waves breaking on a beach, which I remember one to have had. No explanation can be framed of the sentiments called up by the display of such never ceasing force, language fails back on Tennyson's — Break Break Break on thy cold grey stones O sea, & I would that my heart could utter the thoughts which arise in me.

The distant roar of the surf on this island appears to surround us on every side as we lie in this little land-locked harbour in the still night.

Sept. 30. Ran out this morning intending to beat Eastward with the flood tide, but, though calm enough in harbour, found a fresh South easter blowing outside. Obliged at once to take in foresail, & as we prefer by washing anything beating against such a wind, ran back into Harbour. Reading & writing most of day.

Oct. 1. Blew hard from S.E. last night, but this morning moderate. Got away & with fair wind, a fine though showery weather anchored in Beaver Hr, off Fort Rupert before dark. Mr Hunt, in charge here for H.B.Co, came off in canoe with a bag of mail matter, very welcome, containing besides many papers, some letters with good news.

Oct. 2. Morning examined wrecks about harbour, collected specimens. Afternoon took a couple of photos. Had a talk with Mr Hunt, & Mr Hall, the latter a missionary here, but we get well acquainted with the Indians of this locality. A fine day but saw very heavy showers, coming up from the Eastward. The "otter" expected on very South of any moment, wards note to Foster, leaving it in charge of H.B.

Oct. 3. Up before daylight, breakfasted & off early with Charley a Chinaman Johnny in boat. Schooner followed going as if possible in McNeil Harbour. Examined coast, landing at many places. Landed at Sa-quash & finally, no sign of schooner appearing, camped in McNeil Hr. Had very fine warm bright day with light airs only. Several Indian canoes passed us during day. Saw also a couple of whites in a boat, fishing salmon with seine for West Hunter. They caught in one haul today about 100 fish. Got a good fire going & find our camp a comfortable one, though weather chilly.

Oct. 4. Off in good time, intending to coast the South Eastern part of Moresby Island & then return to Alert Bay to meet steamer. Wind a strong head wind blowing. Ran across to Haddington I. with sail. While crossing rocks there saw a young deer on beach, but before rifle obtained it had walked quietly into the woods. Followed it, & catching sight had a shot at it at some distance & in a rather dark place. Missed, as the deer ran away. Followed it again & saw it once more but "on the jump". Ran across from Haddington to Moresby I. but had wind so strong that could not proceed along shore against it, waited remainder of day behind a point, reading several "Witnesses" & dodging the very pungent smoke of a fire, which blew "every-way". Seeing the steamer heading up, made sail & ran down to her. Put into Alert Bay in rain & squally wind, anchored at 8.30 P.M.

Oct. 5. Morning calm. Went in boat to visit bluff at entrance to bay, which turned out to be, not sandstone, but grey well strat. clay. Went through the Indian houses, which built in the style sketched on a former page, not so elaborate as the old Haida style. Some of the ridge-poles, however of great size, & the houses also large, several families (reputed) occupying the different corners. Saw some very large wooden dishes, not unlike those sketched in old Haida home at North Island, but deeper in proportion. Other wooden dishes of various shapes, not precisely like those of Haidas, but similar. The communal

found here & at Quatsino appears to be this  cut from solid block. Saw two large dishes cut from solid & standing nearly 2 feet high; in this design, the figures represent indians clasping the vessel. Another about 4' long was like a large spoon, the end of the handle bent round, & giving a birds head, which holds a frog (bottom also toward the bowl) in its beak.  

Surgeon going on early this morning in connection with a fish catch, given by one of the chiefs. Went afterwards into the house, & saw the gentleman counting over & arranging the distribution of blankets in the presence of several of the elders of the tribe. A number of young women employed kneading up dough for bread, which doubtless to form a part of the young entertainment, which was to be continued, with dancing, in the evening. The story of these people almost exactly in time (?) & in variation like that heard among the Haidas during a dance.

Northerly wind springing up at noon, got away & made some progress before it died away toward sundown.

Oct. 6. A wasted day. Floated about becalmed in the channel, & eventually carried back beyond our noon position. Anchored in a small cove. Shot a couple of ducks as they swam round the schooner. Heavy rain, which came down as snow not very far up, as when the clouds lifted saw snow on the trees less than 200 above us on the mountains

Oct. 7. Got away with noon tide, light fair wind till noon, then light fair wind till sundown. Then nearly calm. Made some progress, being now opposite entrance to Horsemen Channel. Reading & writing.

Oct. 8. Made with the flood, but against a stiff head wind, as far as the west end of Thurlow Island. Got into a little bay there, & remained all night. Reading & writing, though with such slow progress about too much annoyed to settle down to anything solid

Oct. 9. Off with the flood, & beat up as far as Pender Islands, against an easterly wind. The ebb setting in, the wind fell, & after some trouble we managed to get to an anchorage nearly opposite the islands.

Oct. 10. Anchored this morning for a few hours, during the ebb, & got off again with the flood, a stiff south easterly wind blowing up the passage, & raising a tumbling sea. Beat down to Plumper bay, anchoring about 2 P.m., there being too much wind & tide to go through the narrows. Sky cleared, & became fine & calm. Reading & writing.

Oct. 11. Off about 10 A.m. before the ebb had quite finished running, & got through the narrows almost at slack water. Beat down the passage to Cape Mudge against a S.E. wind, which left us, off the Cape, to be tumbled about some hours in a tide rip. Now (7 P.m.) a light N.W. wind pushing us along fairly. A fine bright night.

Arbutus. Saw the first three trees on the rocks in the narrows. Saw a deer in the woods, at the narrows, but before the rifle could be got, it went off, quietly concealing itself.

Oct. 12. A head wind this morning, but beat down to Harwood Island, which I wished to visit in company with request from Mr Sproat for information on it & neighboring islands. Went off in boat, coasting the west shore. Examined

beauties of Jervis Strait. Secured, & procured sample of soil. Ran across to Lennox with a good breeze, lying up at the wharf about 4 P.M. Found no letters, but got hold of a couple of papers with news to Oct. 2, from Victoria. Reading & writing the m. cards for Mr Sproat.

Oct. 13. All day occupied in getting down to Baynes Sound mine wharf, in Fanny Bay, a distance of ten miles. A fine day, but light variable winds. Called in on a Mr Watt, who lives on Denman I., opposite the mine, & is in charge, got, now that all work ~~stop~~ suspended. Arrange with him to accompany me up to mine tomorrow, to show me the various localities. Glimpses of magnificent mountains, heavily snow clad through the lower range near the coast. Some being in range marked as 6000 to 7000 feet on the chart, of which Mt Albert Edward is the western summit. The lower ten. clad mountains already covered with some very snow, Watt says now as far down as it came at any time last winter, which was a remarkably mild one

Oct. 14. Off early & occupied most of day examining rocks along the railway & about the mines at Baynes Sd. On returning to the coast, took a couple of reefs of the wharf, & then, there being a strong fair wind got away. Had expected that two days might be required here, but found one sufficient to see everything essential. A fine clear day, but chilly. No rain! Where the railway to the mine follows parallel to the shore, a cutting has been made in the face of a

Shell heaps

narrow flat between it & the beach. Here for several hundred yards a great thickness of Indian shell heaps has been exposed. From 12 to 15 feet seen in some of excavations, without bottom being shown. Clams, oysters, (small) mussels, sea-eggs &c form alternating layers or are mixed together. Some layers calcined, & many burnt stones scattered through the mass. Appears as though village must have been here, but very long ago, as great trees several hundred years old grow on the upper layers. Now & then earth mixed with the shells in some layers, & occasionally layers of earth & gravel with few shells. At end nearest Otaraf the shelly deposits are interlocked or "spliced" with the more usual clayey gravels. The explanation appears is that the soil has been gradually washing down the slope, in large quantities at certain times, & thus has given the spurious appearance of true subaqueous stratification. The structure diagrammatically is below in front view, conjecturally as shown in cross section —

Front view

Cross section to ~~[illegible]~~ smaller scale.

Oct. 15. Got into Nanaimo early this morning. Went about a little business in the town, & then up to find Mr Bryden, at the Coal mine. Waited long for Mr B, he being underground, but at last finding him, accompanied him to his home, & then walked out to Chase River mine & spent a couple of hours underground examining it. Rode back on the engine & returned to Schooner, to find Westlands but Charley missing. By the time that they were again collected huge cloud & very light, put off departure till morning. Went up to Hospital to call on Mr Lardale for information about Parkers, but found him able to give very little. Reading &c in evening. Had a call from Mr Sutton, who lately carried on assaying in Victoria, now running saw mill at Cowichan.

Without counting extremes, Mr Bryden estimates the Douglas seam in Chase River mine to range from 20' to 2' in thickness, averages about 5' of good coal. Scarcely any shale partings here, though not so infrequent in old workings which in same seam. Slight films of calcite but no visible pyrites. Roof & floor of blackish shale, with coarse sandstone or rather grit conglomerate both above & below. The conglom. forms roof & floor without shale in the old mine. Seam locally variable, but with remarkable general workable constancy. Slopes very variable & deps undulating causing adits to wind. Deps away first at moderate angle (about 15 degrees say) then sudden pitches down without break at ~~300~~ 30° or in places a little more then begins to flatten out again pitches down in dips. Slope now down over 400 yards. Very little water, that below the adit (over 300' below top of mine) being pumped out by force-pumps near bottom of workings supplied with steam from

surface. Ventilation by furnace, at bottom of small shaft higher than above by chimney. Very little gas. No safety lamps used except on lower by inspection by firemen. Coal blasted out with powder. Several faults already determined in workings, but by small throws. Coal usually fairly recovered. Hauling done by wire rope, drum, engine of 90 horse power steam from 4 long round-ended boilers. Roof & floor firm, & comparatively little timbering needed. Double drifts run in along strike, passage & airway, openings between cut intervals, but all filled except a few filled up after passages for about 7 years. Boards opened up to rise, & coal cut out in chambers. Pillars for most part taken away before chambers abandoned. Coal brought down to levels below by hauls below, falls handling up empties. Mr Bryden does not think any evidence of roots in clay below coal, & fossil plants not found in that above. Behind coal did not know what now is, but unless so, almost up & down to account for its regularity & parity.

Above Main Seam

Old opening on same seam (from description)

Oct. 16. A wet disagreeable morning, with strong head wind. Up at 9.30, reaching Dodd Narrows just in time to get through with last of Ebb. Beating down all rest of day making fair progress. Tow (9 Pm.) abreast Narrow Island. Reading, packing Specimens, & writing.

Oct. 17. Made a considerable advance by steady beating during the night against a strong head wind, being this morning nearly abreast the entrance to Scanich Inlet. Continued beating all day, the wind fooling in the afternoon, & leaving us practically becalmed near Trial Island about dark. Drifted on with the Ebb tide, however, & finally got a little air to push us into Victoria Harbour. Came up to the Wharf from Laurel Pt. with the boat towing ahead. Made fast at 11 P.M. Packing my sponge hook & comb I landed & went up to Dicard House, where find all awake. Not Sorry for the moment to conclude the Chapter of my

marine experiences, secure a good room & look with admiration on a bed with clean sheets!

July 2. Gave Rankin 3/4 lb tobacco in payment
Pkgs. given to Charley.

Charley & Williams each		2 lbs tobacco
" " " "		2 " " July 8.
Self	July 14	1 1/4 lb.
"	" 15	1/2 lb.
"	" 18	1/2 lb.
Sobiston	" 18	1/2 lb.
"	" 25	1 lb
Johnny	" 25	1/4
Self	" 26	1/2
~~Sobiston~~	~~Aug 3~~	~~1/4~~
Self	Aug 3	1/4.
Self	Aug 3.	Three Cotton Shirts.
"	" 4	1 " "
Sobiston	Aug 4	2 lbs tobacco
Williams	" "	2 " "
Charley	" "	4 " "
Self		1 Cotton Shirt.
Self tobacco		1/2 lb.
" "		1/4 lb.
" "		1/2
1 Shirt given for wood work		
Sept. 11. Tobacco given for carrying letter		1 lb
" " given for fish		1/4 lb.
" 14	given to Nanette Indian for services	1/4 lb.
" 17	Sobiston	1 lb.
" 17	Williams	1 lb.
" 17	Charley	1 lb.
" 23	Self	1/2 lb.
Oct 2	Sobiston	1 lb.

Acct. of Expenditure

	Advanced Williams at Victoria Aug 27.	$ 10.00
	" Charley " " "	$ 10.00
	" Sebriston " Nanaimo Aug 29	$ 20.00
	Aug 29. Nanaimo Beef 45 lbs.	$ 3.00
	" " Scullers for ladder	$ 0.25
	June 2. Broughton St. Jenison	$ 1.50
	June 8. Indian for Sladegate fowels	50
	July 7. Tobacco	$ 1.00
(a)	Jy 14-15 Exp. spent on Indian canoes. &c. about	$ 12.00
	Jy 19 Paid Cumstown gardener & coal	1.50
	Jy 19 Hotel	0.50
	Advanced Sebriston July 25.	5.00
	Jy 26. advanced Charley	3.00
	" " Paid for Stem Carving (met 2 Kloqs letters)	4.00
	" " Spent on Indian Canoes	2.50
	Aug 2 Paid Indians finding & coal lichens	1.50
	" " advanced Sebriston to buy oar	2.00
	" 3 tobacco (a)	.50
	" " Indian Spoon	3.00
	Aug. 4. Water tank for boat. Woodcock	2.00
	Aug. 10. Paid Indian Billy	14.50
	Aug. 10. Paid Indian Mills	12.00
	Aug. 14. Indian finding & coal on Mill River.	1.00
	" 17. Paid Indian Jim for 6 days services	4.50
	" 19. Paid Indian for money lent as per & schooner. Cook	2.00
	" 19 Coal oil. H.B.Co.	3.00
	" 19 advanced Williams to buy boots	4.00

Aug 21.	Indian for Bear meat. Kiogo Sd.	0.50
" "	Paid for Indian ~~Stick~~. (a)	1.00
" 19	To McCollum (a)	5.00
" 25	Pass Passage Fish	1.00
" 31	Port Simpson. Supplies HBC	22.25
" "	Advanced Sabiston	2.00
Sept. 2.	Cheques to pay transgressions to R.	$ 275.00
" "	For incidental expenses from self to R	$ 20.00
	Cash to R	10.00
		$305
Sept. 4.	Self: Paid for 1 bl. Salt. Ottachens	8.00
Sept. 11.	Paid Indian as guide. Midtrack Sd.	1.50
" "	Venison	1.00
" 18	Quatsino. Paid Indian as guide	0.50
" 20	" " " " "	0.50
" 23.	" Indian for fish	0.50
" 23.	" Indian Ka-Let 3½ days work	3.60
" 23.	" Self. Cedar mat (a)	.50
Oct. 3.	Alert Bay Charly advance	.50
Oct. 12.	Comox Advanced Sabiston	3.00
" "	Potatoes, butter & vegetables	2.00
" "	Tea	.25
" 14	Guide at Baynes Sd	1.50
" 15	Nanaimo Beef	2.00
" 15	Advanced Sabiston	15.00
" 15	Nanaimo Advanced Williams	2.00
" 16	" Johnny	.50

Montreal

See Quantitative Analysis in Alaska & B.C. Dana p. 407
& Am. Jour. Sci & Arts III. V. 473

B.C. formations should not be referred to or classed under Shasta,
which as Whitney confuses means nothing. Preface to Pelican Col. p. XIV.

See analyses of clays & sediments as to presence or absence of alkalies.
Lady to production of feldspar on metamorphism. See Dana, p. 728.

See Dana's very sensible remarks on uncertain character of
metamorphic rocks. p. 772.

See, "Ethnology of North America" J W Powell's Survey
for Dall on Alaska Shell Heaps

See Hunds pottery report.

See. Nature June 20. 78. Gardner on Age of Lignitic,
Revens Lesquereux.

On Geol. Time. See Physical Geology. Hughlett. Nature
Jul 4. 268.