1875

r ducing itself in fields of grain and

Z

1875

Left - Montreal Jy 19 - via San Francisco to Victoria - see small note Book

Left - Sagle Creek Aug 19th
Returned Victoria Oct. 29th
Journal ends. May 9th 1876

{small blk note bk marked
Jy 19-Ay 60-1875 1

×1875 - No. II

+See small note book for
notes previous to this date

August 19. 1875. Leave Soda Creek in Steamer for Quesnelle Mouth with the intention of seeing what I can there during the delay unavoidable in getting party prepared for trip Westward. Had come on board Steamer the night before. Steamer started about daybreak. Steamed up against a strong current all day & arrived at Quesnelle about 6 P.M. The total distance is only about 60 miles, but the current very strong. Scenery pretty, but not remarkable there being no mountains very large in sight. Day very warm & towards night fall a few drops of rain fall. Evening took a stroll down to the ferry on the Quesnelle with Dr Jones who had been fellow passenger from Victoria. Ferry a swinging one operated by the force of the current of the river.

The river valley at Soda Creek & onward to Quesnelle has not the character of that seen elsewhere on the Stage road from Yale. The 'bluffs' are in general some distance from the stream, leaving a stretch of flat land on one or both sides of the river. This in some places has been occupied for farming, & I am told crops mature much earlier than in some of the more southern, but higher, regions passed through on the Stage road.

There has been much washing for gold carried on formerly on the bars & lower benches of this part of the Fraser, but is now abandoned with the exception of perhaps a few claims held by Chinese

Terraces

Terraces are very well marked & distinct at many places. At Alexandria there are four distinct levels counting that which is now about 20 feet above the river & forms the flat land along it. Alexandria so called, is opposite the old H.B. Fort Alexander, now abandoned. The whole place wears a deserted aspect. Quesnel is a little village of one row of houses facing a street which runs along the river. Like many other mining towns it sprung up almost in a single year, but has ever since been going to decay.

described by Sir A. Mackenzie

Drift along river.

The Drift does not differ materially from that described already on other parts of the Fraser. It does not show signs of glacial action, but consists of sand & gravel beds, generally well stratified though often false bedded. These have apparently at one time filled the valley to the level of the highest terrace, & have since, during the recession of the water, been gradually cut away & formed into steps.

Lignite & Soda Cr. to Quesnel

At the Great Bend, say 30 m. above Soda Cr. Lignite bearing rocks appear on the edge of the river. They are overlaid by about 100 feet of the stratified sands & gravels of the drift. Either two or three seams of lignite are seen the doubt arising from the possible bending of No. 2 so as to make it appear twice. The seams separated by some feet of well stratified sands or soft sandstones & clays; & crop out near the water level. The upper seam appears to be about 2 ft 6 inches thick the next a little thicker, & the thickness of the lower is not well shown. They all appear to be well defined & clearly bounded seams. & dip S.Westward at a low angle — say 12°. They are

Seam & have been on fire at one time, & to appear on both banks of the stream when the water is low. At present only seen on the East bank.

About ½ mile higher up on the West bank a cliff occurs which is apparently formed of volcanic rocks, including conglomerate or breccia; but perhaps include some sedimentary beds as well. They dips South westward at a high angle, & are traversed by dykes. One of these stands out separate from the cliff.

A short distance further on when the steamer stopped for wood, observed the drift a few feet above the water line to be filled with large & small fragments of lignite, more or less rusty & decomposed, & breaking up into horizontal laminae.

About forty miles above Soda Creek a seam of lignite several feet thick appears in the river bank on the East side, & is associated with rocks similar to those here described, but with a layer of large spheroidal boulders. Dips Eastward at a moderate angle.

17 miles from Quesnel high massive hills apparently of trap border the river for some distance on the West side.

8. miles from Quesnel on the East bank. The cliff composed of drift material, but a mass of older rocks, — no doubt of series associated with lignite — suddenly come up & form the cliff for a short distance. The are remarkable for their pea green colour, the material being probably clay, but hard enough to form pebbles. Brown stones resembling ironstone concretions occur in some abundance & strew the shore below. These resisting the action of the weather have enabled some

parts of the clay to stand up while the rest has been washed away, giving the whole bank an extraordinary pinnacled appearance.
1/3 mile further up the stream, brownish & grey carbonaceous clays occur on both sides of the river. They are overlaid by drift, & dip north eastward at say 20°
Next appear heavy earthy conglomerates apparently of the same formation.
About 7 miles from Zurmelle compact greenish clay like that already described, is brought in contact with conglomerates by a fault nearly vertical. The conglomerates being to the north, & so hard as to form a vertical cliff to the waters edge without talus. At least 30 feet of the conglomerates seen. They are false bedded, but not very roughly so, & the component pebbles are small.
5 miles from Zurmelle pale greenish & brownish beds appear, dip N.N.W. at low angles.
4 3/4 m. from Zurmelle. Similar beds with conglomerate, dip. E.S.E. 10° to 12°
Next a gentle synclinal of greyish & pale yellowish sands & clays with thin carbonaceous bands. axis about East & West.
About 1 mile below Zurmelle a rock appears in the centre of the river. It is dark coloured, hard, much jointed, & probably trap-spean. The river bank is here very high on the E. side, composed of drift of the ordinary character, but showing here & there large lumps of lignite.

Bar at noon 28.20 Temp. of water of Stream 64°

Distribution of lig.-formation.

If the volcanic & lignite bearing rocks comparable & belong to same series, seems little doubt that the rocks of this series underlie the whole river valley from Soda Cr. to Pensnel, also that lignites are found in the series throughout. If any difference of age between volcanic & lignite bearing they must then be here folded together. The strike of the rocks is generally transverse to the river.

Aug 20. Morning walked northward up the East side of the Fraser, examining the sections in the bank. Afternoon examined the bank opposite the town & finding a plant & insect bed, spent the remainder of the afternoon & evening till dark working at it.

Lignite formation at Pensnel.

Sections appear in the bank for about a mile above here, & almost everywhere show more or less lignite. The beds appear to dip in some places pretty steeply, but it is not clear how much of this may be due to slips. The bank facing West section shows about 25 feet of beds, nearly or quite horizontal. Beds chiefly of greyish sandy clay, but with more or less lignite throughout. The lignite forms two or three pretty persistent zones, which vary but slightly in thickness, but include more or less shale & carbonaceous clay throughout

In one place measured 5 feet of lignite moderately pure, but with some shale partings. The whole bank however contains scattered flattened masses of lignite which have evidently been individual trees drifted to their present positions. There are also in some places layers of nodular ironstone & ferruginous sandstones by small thickness. The indefinite character of the section renders it hardly worth while attempting measurement. Amber in large & small drops is abundant in the lignite & carbonaceous clays.

The beds immediately opposite the town are somewhat different in character from those above described, being more compressed, & finer material. Found fossil leaves in one layer which exceedingly fine, & shows alternations of greenish & brownish material about 1/16 inch in diameter. In looking for leaves found the wing of a dipterous insect in position, & much resembling those of a common house fly, but smaller. This remarkable fine layer overlies a thin carbonaceous clay or impure lignite, about 1 inch. Various seed-like bodies as well as leaves, & among them one pretty common which exactly resembles the winged seed of a birch.

Day very warm.

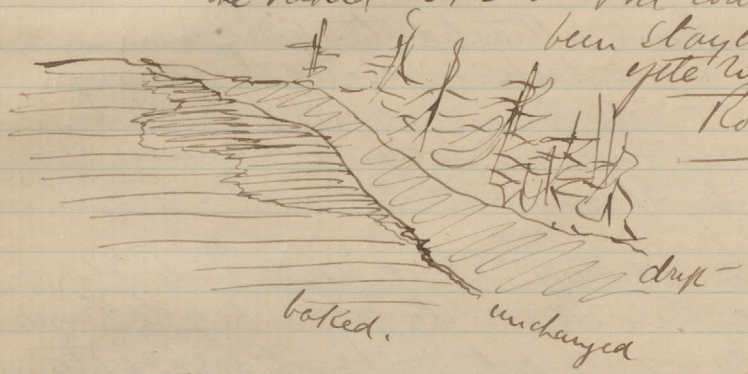
Aug. 21. Saturday Crossed the Quesnel River to examine Fossils there. Returned about 1 P.M. to the bank, & after calling about half an hour attracted the ferryman's attention & got back. Devoted the afternoon & evening to collecting insects & plants in beds opposite the hotel, & got quite a number of fragmentary specimens.

Burnt-Bluff Quesnel

Visited the red bluff about half a mile below the Quesnel mouth on the E. bank of the Fraser. It stands over 100 feet in height above the water, & is coloured bright red & yellowish red, from top to base. It has been altered by the combustion of lignite, & the beds where a portion of them remain unchanged seem to be built up much like the section described yesterday. Lignite & carbonaceous clays being intercalated throughout, without ever attaining great thickness of pure lignite. The cliff has been undermined by the stream & has fallen from time to time forming mounds of broken material & rubble which conceal the base. I am told that smoke was seen issuing near the water level about ten years ago, but a large fall taking place covered the bank up so deeply as to put it out. The lignite bearing rocks have stood up as a little hill or mound at this place, at the time of deposition of the drift, & the combustion seems to have taken place from within outwards, or from the centre toward

the sides as there is an edge of strata unchanged intervening between the drift & the baked rocks. The combustion has probably been stayed by the wet state of the rocks near the surface

Roughly thus:



The strata now present all the varieties of altered rock described in my report of the Lignite formation on Boundary Line.
Large crystalline balls, in some cases more than three feet in diameter occur in one part of the section, their centres appear to have been radially crystalline carbonate of iron, but are now changed into oxide by the heat; & where exposed are breaking up into long splinters which give out a ringing sound when struck, & look when lying about like heaps of nails.
Amber occurs very abundantly in the unaltered parts of the section.
Looked very carefully for fossil plants, but almost unsuccessfully. Many impressions but all obscure or like roots or branches, & could not find any leaf beds. The state of the material singularly favourable for the collection of plants if only a good

locality could be found. It would appear that most of the clays have been 'root clays' as the cylindrical or flattened impressions in a large proportion of cases ~~[illegible]~~ run more or less across the planes of stratification. They may of course have been drift-branches, but the appearance more that of roots. I made a small collection of the rocks arising from combustion.

The beds above described appear to be underlaid by earthy conglomerates & sandstones (see section when passing in steamer.)

Next examined a section in the S. bank of the Tweed just above the ferry. Here I saw a bank exactly resembling that described yesterday. Shows about three pretty persistent lignite zones, but flattened masses throughout, & perhaps 1/8 of the entire bank composed of lignite. This bank is being rapidly washed away, as is the whole of the South Side of the Tweed at this place. The North Side at the same time gradually advancing, & the mouth of the river thus gradually passing further South.

The insects obtained today include probably 2 diptera one much like a gnat or mosquito. 1 Coleoptera. & perhaps one or two other forms in a preservatory & tube.
Day warm but pleasant, somewhat overcast.

The general resemblance between this lignite bearing formation & the Lignite Tertiary of the plains is very striking, though it may of course only be a resemblance due to similarity of conditions of deposit, & like absence of metamorphism. The resemblance holds even to the colours of the beds, including the remarkable greenish tint elsewhere mentioned. The only real difference is in the fact that the lignites are much more clearly of drift-material, than those of the plains. Even those which are there almost certainly of that character. Also the occurrence of earthy conglomerates, which otherwise depends on more disturbed waters of deposition. The fossil plants so far as I can recollect do not correspond closely. but it must be remembered that there vary much even in contiguous localities; & that these form this place are from a single thin layer.

Drift found at Lussvale

Drift. The pebbles & boulders in the drift of banks of the Frazer & Greenville are of rather mixed aspect, but show a great many which exactly resemble those of the Quartzite drift of the plains. They include however more greenish & blackish slaty or compact rocks. Also fragments of conglomerates apparently serpentinic or epidotic & also many varieties of volcanic rocks, amygdaloids, diorites, porphyries &c.

Aug 22. Sunday. Morning made a slight examination of the neighbourhood of the cused bed & measured the Section of which it is a part. Started about 3 P.M. in steamer to return to Soda Creek. Mr Glassey has got me a second indian, who goes down with us, & is broken to the one already engaged. Train expected not having come in cannot get another horse. Found horses & traps ready on the bank at Soda Creek, got all on board the steamer & crossed them to the west bank. Left the two indians in charge, promising to return with Rivers early on Monday morning. Paid hotel bill & did other little matters of business. Mr Dewdney showed me samples of Quartz, said to be Auriferous & argentiferous from a vein near Cariboo. Left the samples with Mr D. (proprietor of the hotel) intending to get them on return journey.

Cused Section at Quesnel.

Section including Cused bed at Quesnel. (The bank at this place is traversed by two faults. The lowest beds seen are furthest up the river – North – The measured section begins at the lowest seen, measures thence to the top of the bank, then crosses the fault & takes the next bed in ascending order, disregarding those below it which have before been measured, but which must appear in a diagram showing the structure. The Section not only shows the association of the cused bed, but serves as an example of the numerous small faults with which this formation is traversed.)

1	Greyish clay	4	– 0
2 *	Yellowish Clay	2	– 6
3	Coarse gravel & Sand (Rusty irregular layer) say		– 6

4	Coarse grey Sand with occasional flattened masses of lignite near the top	6 in to 1 ft
5	Grey Sandy Clay	2 — 0
6 +	Grey Sandy Clay with pebbles	1 — 6
7	Coarse yellowish grey Sandy clay	4 — 0

Fault. Downthrow to S. of 3 ft 6 in measured at right angles to Hd.

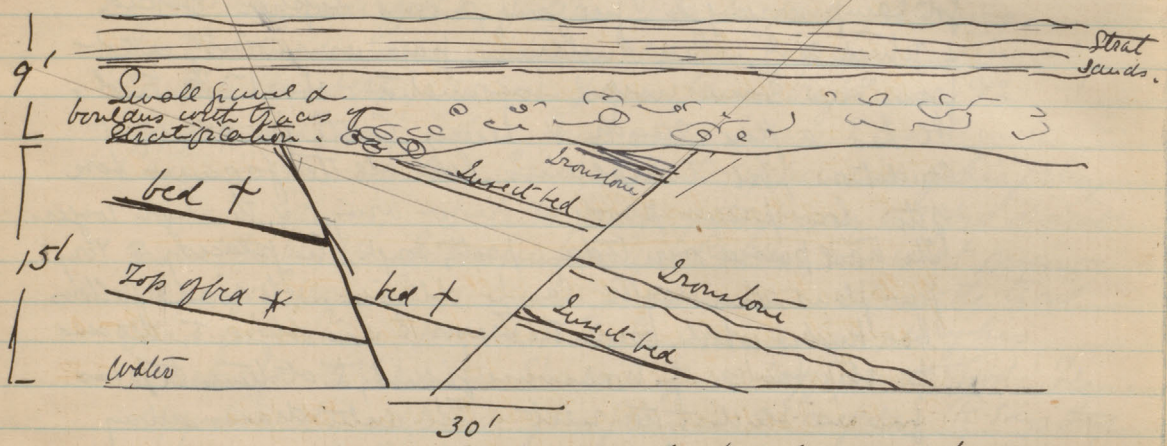
8	Yellowish grey Sandy clay full of joints or pretty distinctly bedded but in thick layers	13 — 0
9	Carb. Clay or impure lignite	0 — 2
10	Plant & insect-bed, very finely laminated fine greyish & greenish grey clay	0 — 6½
11	Yellowish clay	0 — 2½
12	Grey clay — distinctly bedded	2 — 0
13	Ferrug. Sandstone, nodular & irregular about	1 — 0

Fault — reversed with a downthrow of about 6 ft. to the South.

14	Rather thin bedded fine grey Sandy Clays	11 — 9
15	Grey Sand	1 — 0
16	Sands & Sandy clays, whitish, regularly bedded	20 — 0

Dip of the beds 285° ∠ 22° The bank being somewhat oblique to the direction of dips.

Diagram of the Section.



The vertical scale much exaggerated but the dips quite correct about as they appear in the bank.

Aug 23 Breakfast at 4 Am. & then crossed the Frazer in a canoe Mr Glessey accompanying us. Got horses packed & saddled & start made about 6 Am. Had only some part of the way up the steep sloping trail which zig zags to the top of the high bench, when one of the horses missed its footing & went rolling & crashing down the bank among sapling spruces. Found the animal somewhat off all not much hurt, though when brought to the top of the bank & load readjusted not able to stand under its pack, one leg being lame. While this trouble in progress heavy rain came on, & we were soon nearly wet through. Decided to pack one of the riding animals & let the lame horse go light, but at all hazards to make at least a part of a day's journey. Got away finally at 8 Am. & worked on through the wet till about 3.30. Weather improved considerably in the afternoon & before reaching

Muldrums flat — about 20 miles from Soda Creek — we were nearly dry again, though very tired & hungry. Got Camp arranged, fire going, & some supper cooked & stored away. Mr Muldrum came as a visit & got from him some useful information about the trail. He has a fine ranch & many cattle in excellent condition, but complains like all the farmers here of the low prices produce now brings & the high wages. The trail passed over today pretty rough in places, & very few places where water can be obtained. The road follows the benches which border the Fraser R & is obliged to descend the steep banks of transverse gullies, & at times to pass from one bench to the next. The water drains away rapidly through the porous drift material, causing at this season of little rainfall the scarcity of water mentioned.

Aug 24. Start away from Camp at Muldrums Flat 6.35 A.M. & travel all day along the higher benches of the Fraser, the surface of which is generally more or less rolling either from the irregularity of formation, or subsequent denudation. A fine park like country with belts of timber alternating with large open patches of prairie, covered with luxurient grass. The trees forming the woods, which are rather open, are chiefly Abies Douglasii (not attaining a great height) & Pinus contorta, usually small & often slender & growing in thick clumps. Populus tremuloides, various willows, roses, & Shepherdia Canadensis form the underwrowth. Solidagoes & Asters of several species abound; Castilleja (probably the same sp. as that got near Waterton Lake, but representing only

the red variety) occurs. Also Spiræa betulifolia, now nearly post-flowering, Gentiana acuta, or a species very like it, a delicate Astragalus, Salicum barcale, post flowering. In the meadows in addition appear Geranium Fremonti, a white Heuchera, in some places Fenum trifolium, &c. Stoppea help very where some water occurs, & had lunch. Camped on Riskie's Creek, at the upper end of his farm, marking during the latter part of the journey a rapid descent from the bench. Interviewed Mr Riskie, who is at present ill, & got from him much information about the trail. Also got him to promise to send down a sample of his wheat for the Exhibition Should it prove sufficiently good. The approximate altitude of his farm is 2400 feet. He says though other places in the neighbourhood troubled occasionally with frost, that he has never suffered at all in that way. His crops are raised by the help of irrigation, water being tapped off at some distance up the Creek & led away in distributing ditches. These lower benches & valleys seem drier than the high level plateau, for in coming down to them Artemisias (A frigida? & A Canadensis) increase in abundance. Lomatopis appears, also here & there a Stunted Cactus

Aug 25. Left Camp 6.20 A.m. & travelled on till 1.50 P.m. when arrived at place described by Mr Riskie as camping ground, & where also many poles cut for tents & other signs of former occupation. The country passed over is chiefly open & of the nature of arid land, clothed with fine grass (bunch grass) Saw several large herds of cattle in the morning, running about almost wild. All this plateau region, both that passed over from Soda Cr. to ~~[illegible]~~

Ruskies, & that of today; splendid grazing & stock raising country, though probably too high for successful culture of most crops. The resemblance of the rolling surface of the plateau to the country of the foot hills on Sot. 49° remarkable, & extends also to the flora, which as already remarked almost the same. Seems to be about the same stage of same time of year, & it would appear that the foot hill country must enjoy a climate not dissimilar.

On crossing the point of highland between the vallies of the Fraser & Chilacotin, a magnificent view appears across the bench or plateau in the foreground, & at a great depth below, the valley of the Chilacotin; across it a continuation of the same plateau, rising slightly from the river, & partly prairie, partly wooded land. Then a bounding range of hills with gentle slopes, & wooded to the summit, & through the lower parts of these the serried & snow-clad peaks of the distant Cascades to the south-west, glittering in the sun.

Where evening Camp made within about a hundred yards of the precipitous edge of the great Chilacotin valley. The rim of the valley at both sides formed of basalt, or Scoriaceous trap, with some distinct horizontal lines, & in many places largely columnar. The cliffs show in some places more probably than 200 feet of these rocks & are extremely ruinous, & show evidence of the yearly fall of great masses to add to the talus below.

The small stream by which we are camped falls suddenly over the edge & passes down into a great amphitheatrical hollow in the edge of the valley.

In the valley of Ruskies Cr, several terrace levels

Terrace levels.

very distinct, & besides those exist broad terraces, the slip grass covered bank sloping down from the level of the highest bench on the S. side of the brook, shows in favourable conditions of light, at least 8 (eight) perfect horizontal marks, or small ridges. These would seem certainly to mark different stages in elevation, & to show that it was not sudden, as by breaking of a barrier. Also that in favourable circumstances may expect to find benches at almost any elevation.

Aug 26. Started 6.40 AM. Passed for some time through openly wooded country with P. contorta, & a. Douglasi. Trail running along top of N Bank of Chilacotin. Then made descent into Valley & travelled the rest of the way along lower benches, sometimes lightly wooded, sometimes prairie like. The Valley bottom partakes of character of that of Peskies Creek, shows the same plants.
Arrived in Camp 2 PM. Wrote out notes, Collected a few plants &c.
In descending into the Valley passed over curious region of rock-strewn hummocky mounds, which at this place projects from the north bank. Probably moraine mounds, or at least remarkably like them.

Aug 27. Morning Cold, & a sharp frost in the night. Leave Camp 6.40 AM. & after travelling some miles find the genuine Alexis' Creek, & that we had camped short of the proper place. Pass several indian gardens with potatoes, carrots, & turnips, the former now all killed down with the frost. Stop for lunch at a

place where remarkable section of volcanic breccias (See notes) Camp near a large band of indians. They are Alexis, & his men, & say they are now going down to the Fraser to work. On Alexis' Creek there are a number of log shanties erected, which belong to them. Sky has been cloudy up since noon, now rain setting steadily in. Had a crowd of the indians round the camp this & during supper. They had caught today the first Salmon of the season which they presented to us. Gave them some tobacco & pork. After supper presented them with the remainder of the grouse stew, & a cup of tea all round &c. Being good Catholics & this Friday they would not touch the grouse, but took it away to keep till the morning, when it might be left untouched. The gurgling sound in the valley bottom this morning, now ~~more~~ narrower & more canon like.

Aug 28.

Morning very wet, & has been raining steadily all night. Showed signs of improvement about 9 A.M. & Barometer rising, decided to move on a short days journey to the crossing of the Chilacotin R. Got packed up & off at 10.30, & got to camping place on S. bank of R at 3 P.M. The indians hanging round the camp from daybreak till we left camp, & prying into everything. Brought us another small Salmon, & a trout, for both of which they received exchange.

Valley of the Chilacotin where seen today pretty wide, but the bottom sound swampy, & instead of being a grassy prairie as usual, covered with willows & other bushes. The stream shelf is not large, & at the ford scarcely comes up to the stirrups. Water dark coloured but clear

Current rapid, & bottom stony.
Camped in a fine meadow with grass 3 feet high in places, & abundance of vetches in the hollows.

Aug 29. Start 7.30 Am. & travel on till 2.25 Pm.
The trail following the N. bank of the Chilanco, which is struck by the trail immediately after leaving the crossing of the Chilcotin. For about 13 miles the character of the valley is forbidding, the trail passing for the most part over flats of gravel & sand, covered with a more or less dense growth of Pinus contorta, the ground beneath the trees being often nearly bare, & covered with kearberry &c. The latter part of the way the valley is more open & has somewhat extensive grassy bottoms. The grass however not very thick. Camped at spot where trail crosses the Chilanco & go S.W. eastward. Spot designated as Depôt Camp, & also as Jenning's Camp No 1. Two well built wooden shanties, now deserted, mark the site of the depôt. Passed two pretty little lakes by the way today. The Chilanco R. at first a large swift-flowing brook now much smaller, & forming long weedy lagoons with short stretches of swift water between. Many ducks but have no dog.
Sketched the view looking up the stream. Pressed a few plants, wrote up notes &c.

Aug 30. Steady & heavy rain during the night, but ceased about daylight. Morning calm & overcast. Left Camp 8.5 Am. & travelled on through thick woods & brush

Aug 30. Leave Camp 7.20 & travel on till 4 P.M. reaching the N.E. end of Eagle Lake. Day wet since noon & still raining. Saw very ducks in pools this morning. One flock of geese, & a Spruce partridge, the latter shot. Loon Lake a pretty little sheet of clear water, & true to its name inhabited by loons. Eagle Lake a fine body of water. Clear & blue, with mountainous banks, & brought a gentle sound of surf beating on the shore. Trail today very bad, & horses tired on arriving at Camp. All very tired & hungry & glad to get something to eat & turn in. Crossed & recrossed the located line of the C P Ry several times today. Clear line cut through the woods & chaining marked by posts. Seems an act of great folly to locate a Railway through this wild country.

Aug 31 - Steady & heavy rain during the night, but clearing about dawn. Morning calm & overcast with great swathes of mist rolling up on the mountains. Left Camp 8.5 A.M. & travelled on through woods & brush loaded with moisture, which more wetting even than rain as shaken off. Crossed the outlet of the lake 11.40 A.M. Passed White Water L. & camped at S.E. end of Cochin L, where site of Indian village marked on maps. Really only a camp, & now abandoned. A newly made indian grave on the east of a little knoll logs piled in square form on the ground, & a pole standing up with an old tin pan spiked upon it, & bearing a red rag for a flag. Found cached

in the bushes several fish traps which had been used in the Lake. Made of long round wooden wattes or rods, neatly smoothed down & bound together. Cylindrical, with a conical entrance at one end after the fashion of a rat-trap.
The country of much the same character. Soil gravelly or sandy. Timber A. Douglasii, & P. Contorta, with aspen & E. but more thickly & uniformly than did them before.
Saw a hummingbird today, unable to tell exactly what species, but no doubt Trochilus Colubris (?no)
Eleagnus Argentea growing abundantly near the Camp to night.
Ranunculus Cymbalaria occurs wherever a suspicion of saline water in the soil all through this country, & the Crotallaria is common.

The western edge of the basaltic region probably lies near the junction of the Chilcotin & Chilanco, a few miles East of that place, in going westward from it toward the Cascades the character of the country obliquely changes, & instead of the uniform plateau, have rounded or irregular hills.

Hornathco Waterstreu gorge.

The waterstreu between the Fraser & Hornathco lies between Eagle & Cochin Lakes, & is not a feature of any importance, being easily crossed. Remarkable that small streams like the Hornathco should rise E. of the Cascades & flow through them, through of course the same thing on a greater scale with the Fraser

Rolled appearance of moraine matter

The rolled appearance of much of the moraine matter, referred to in notes, cannot be accounted for on the supposition of water action subsequent to formation of mounds, as the sufficient to wear these hard rocks it must have been more than sufficient to obliterate the moraines. It would therefore appear possible or probable that the glaciers

ploughed their way through previously rounded material, which they heaped up, with some yet angular character, immediately derived from the cliffs overlooking them. It would seem then possible that the terraces of the valleys are of origin antecedent to this glaciation, while the glaciation observed at the summit of the basaltic plateau, & overlaid by gravels which apparently belong to the terraces, may be of earlier date?

terraces antecedent to moraines (?)

The Chilcotin valley including the basaltic plateau overlooking it, & all the better parts of the neighboring country, though in many places excellently adapted for grazing & cattle raising cannot be called in any sense an agricultural country. For the most part it is too high for wheat raising, & even the potatoes in indian gardens West of Alexis Creek were observed to be frost-killed. Some spots may of course be found, where, (as at Riskie's) wheat & all other crops can be grown

Sept. 1. 1875. Left Camp 6 A.M. & travelled on to Cambies Camp 17. arriving at the Blaze 4.30 P.M. after a very long & fatiguing day. Found an indian Camp on the Trail near the N. end of Tellyoos L. but the men all away. The women came out, but as they could speak but little Chinook, could not learn much from them, beyond the fact that the Camp of White men was Si-yah or far away. One hideous old hag among them, & all ugly enough. The trail very bad along the E. side of the lake ascending & descending constantly, & crossing deep & muddy ravines & brook channels.

the mountain sides thickly wooded. A Douglasi now preponderating. The lake seems to occupy nearly all the flat bottom of the valley, & is long & river-like; but leaves a sloping bank on the E. side along which a good line may be run for the Ry. Views of the lake, & snow-clad mountains towering above it magnificent. Did not actually go down to Cambie's camp, finding Bartlett camped on the branch trail about half way, & learning that the descent state about 600 feet & the road very bad, decided to remain for the night & let the animals come up, the packs now being a long way behind. Hearty supper, talk, & turn in.

A large glacier with moraine lines running down it visible in mountains at S.W. end of lake

Sept 2. Came down the lake to Mr Cambie's Camp early, but found him already gone out on the line. Selected place for Camp near his & got the things packed down, & Camp arranged. Wrote up notes. Changed paper of plants in press, & in the afternoon walked northward a short distance on the location line, which runs just past the tent door. Saw no rock in place. Saw Mr C & party in the evening, & talked matters over with him.

Sept 3. Breakfasted with Cambie 5.30 A.M. & started at 7 to ride back to the fossil Creek, about 3½ miles from here, with the purpose of ascending it & getting a section. Took both the indians along, one to take care of the horses, the other to come with me up the Creek & carry specimens &c. Got back to Camp at 2 P.M. after a fatiguing scramble, most of the way wading

in the water gite brook or climbing over or between tangled masses ylop in its bed. & attained a point about 1000 feet above the trail, & though unable to measure the section, formed a good idea yits general character & collected some interesting fossils &c.
The most abundant form appears to be an Ostrea in which case the formation is probably Cretaceous, or at least mesozoic. It almost undoubtedly represents Selwyn's Jackass Mt. Conglomerate series &c. & I think probably also the Coal bearing rocks of Vancouver Isl.
(This on the supposition yits Cretaceous age being borne out)

Sept 4. Cambie moving Camp about 3 miles S. westward along the Lake shore to keep upwith his work decided to go with him to same place. Horses had strayed far, & before they had been brought into Camp, packed, & the new place reached, nearly 2 P.m. Afternoon walked back to the glacier stream & up it to some rock exposures, which examined. Dry Showery.

Sept 5. (Sunday) Morning opened with heavy rain which continued till about noon. Afternoon clearing but raw & cold. Evening fine. Wrote letters to go in to Soda Cr. by mail carrier tomorrow. Read &c. Mr C. read prayers shortly after dark to such of the men as chose to attend.

Sept 6. Started at 7 a.m. & rode down by the trail to the S end of the Lake, examining the rocks &c. & to see where Mr Hartley's mill might be, & when I might

Corral on getting his horses back, to go on to Blackwater. Found him across the stream at the foot of the lake. Having crossed his stuff on a raft, & the horses by the hollow bar on which they scarcely need to swim at all. Time of return of horses appears uncertain, & Mr H. in no particular hurry. Mr Cauby Cindy offers to let me have the only spare horse he has, his own riding one, to make up my complement. Decide to accept the offer & start tomorrow morning, though ~~still~~ one horse short. Find I cannot do much more here without plenty time, & anxious to get northward while season lasts.

Sept 7. Waiting for the new horse to be brought in, & did not get off till 8.30. Travelled on till 5 P.M. & then only reached a small stream not far north of the end of the lake. Trail very difficult & devious.
Day undecided & threatening. Fine cloud effects on the mountains, & just at sunset a beautiful burst of crimson light on the snowy mountain tops north end of the lake.
Viburnum pauciflorum opulus grows abundantly in one place on the trail passed over today. Bunch grass comes to the N.E. end of the lake.
(Journey so far made on former trade)

Sept 8. Left Camp 6 A.M. riding ahead of the packs to examine rock exposures. Overcast & showery.
Back on the old trail to ~~Pend~~ Cochin L. then round the north end of it & by another trail northward to

Peterson L. Had some difficulty in finding the lying ofte new trail, & obliged to make a long day, not meeting water for camping till arrival at old Depot at Peterson L. Camp 4 P.M. Horses all very tired & some quite sore already. Heavy fall of rain about 3.30 wetting everything. Horse rolled on his saddle on arriving at Camp, breaking among other things in the saddle bags my only thermometer. Evening clearing.

Sept 9 Left Camp 7 A.M. & travelled on till 1 P.M. Camping early on the N Shore of Tatla L. to let the horses have a rest. Some of them weak & backs very sore. Wrote up notes &c.
Observed Cactus growing sparingly at N.E. end Tatla L.

Tatla L. lies opposite the Scarp in the rift through which the W. branch of the Homathco now flows S westward, & evidently a part of the same valley. Peterson L. lies in the same hollow & is probably only separated from Tatla by moraine matter. Evident that East flow of ice from the Cascades Eastward, & no doubt westward also, though it may be a question whether at some former period ice flowed from the Central table-land through the passes of the Cascades. One ice stream must have come from the W. Homathco hollow & flowed nearly in the direction of Tatla L. Another from the E. Homathco. Must I think have flowed down Tattayaco L & the valley including Cochin, Whitewater, & Eagle Lakes. Probably unitedly.

Tatla L. part of old Homathco main valley!

Flow of ice Eastward.

with the Tatta L. stream near Loon L. just before. Some of this ice may have passed over into the Chaudiquoite Lake valley, but I do not think there is any low gap

Sept. 10. Sept. Camp 7.15 & travelled on along N. Shore Tatta L. Many grouse chickens. Shot 30 on the wing but owing to light charges, got one only. Lost about an hour looking for trail, having missed it, & supposing that I would cross the Tatta L. Creek sooner than turned out correct. Got the right trail at last, & came back to former camp at Crossing gate Chilanco.
Sketched Tatta L. & Cascades while packs arranging in the morning.
A magnificent day. Almost cloudless, & warm.

Tatta L. valley rather seems to become narrower & more abrupt toward its western end, but proportions water whole.

Tatta narrows & abrupt towards W.

The Indians pull this district. Seem to bury their dead & then place over the spot a pile of logs, with a covering of bark &c. Above the whole a pole set up with some rags, in some cases a tin pan or hat, & in one instance a musket observed. Many such graves along S. side Tatta L.
Observed in some places horse like holes in the ground, quite symmetrical, & apparently the trans grandsprond winter houses of the Indians. (or fish caches)

Sept 11. Start 7 A.M. & travel on till 1 P.M. Camping near the lower end of Pentagoet L. where the trail leaves it for Chesuncook L. Afternoon fishing. The lake full of small fish which appear to be a species of white-fish. They are about to spawn & may be seen springing from the surface quite close in all directions. Came this morning on a small camp of indians near the lake shore. Paterfamilias clad lightly in a hat, & rather short shirt.
Some of the horses very sore, & Tommy laid up with a sore leg. Intend to remain here all day tomorrow to rest & recruit.
Shot 2 ducks & a pracum hen en route.

Sept 12 Sunday did not shift camp. Rode back to examine rock exposures about 2 m. S.E. on the trail. Made sketch of lake, punched on of Lettyocca L, effected some repairs. Collected a few shells &c. Day fine & very hot in the sun.

Sept 13. From Pentagoet L. Camp about 20 m. in a general N.Eastern direction. Did not intend to make quite such a long day, especially as start late on account of Tommy being unable to assist in the packing; but found no water for a long way. Shot 5 spruce partridges today & could have had more if thought any use. After killing the first two an indian attracted by the reports appeared, with his old flint-lock in his hand. An old man & rather bent, probably out looking for a deer. Followed us

Leave Camp 8.10. Camp 4.30. Crossing about 20 miles

Some rubs to Chinigat L. Crossing, where found his Camp, & Several Squaws & children. They are now catching great numbers of whitefish. Like those seen in Sentry L, & are engaged drying them in the sun. Fish string in long lines on poles, & smoke kept up below, probably to prevent the flies settling on them. A little boy from the Camp followed us to our Camp about 12 m., gave him some supper, & he evidently intends to stay all night, having ~~taken~~ picketed out his horse.
The poplars, willows, dwarf birches, & other undershrubs & herbs are now tropically champagne colour.

Drift

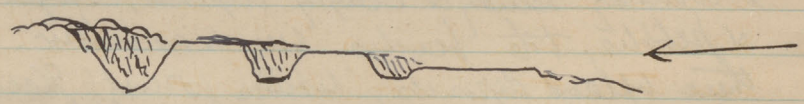
Would be inclined to represent the relations of the uneven & rounded Sandy & Clayey deposits, charged with boulders & pebbles, to the beaches, much as below. Seems that these upland deposits, whether formed by Glaciers or floating ice, stand in place of the boulder clay of other regions

Sept 14 Delayed in starting as yesterday, but made a moderately good days journey. Travelling from 7.50 to 3.40 with the loss of about 1/2 hour. The country undulating & rolling, with some very fine displays of Moraine mounds. Pinus Contorta woods, with fine areas of windfall & burnt. Camped at Camp 13 of C.P.R.S. left by them Aug 8. Fine spring of cold water.

submerged moraines

Evidence of moraines seen today appears conclusive that country partially submerged at time of deposit, & rising gradually above water as ice receded. Suspected similar means action of iced water already in vicinity of

Eagle & Tatta Lakes. The moraines seen today show some well rounded stones, with many not much rounded, or nearly angular, but observed more glaciated. The semicircular ridges are evidently glacial work, but are flat-topped like terraces, but differ from terraces by being seperated from one another by deep narrow valleys, now often occupied by lakes or swamps, & flat bottomed. The top gyte, later formed, moraine mounds are also lower than the earlier, & less subsequently modified. In a rough diagrammatic way thus.



These moraines evidence great extension yice from Cascades, & probably belong to the same series as those gyte lower parts of the Tatta Eagle & Soon L. valley.

Moraines

Have now little doubt, that basin of Pentzyo L. also formerly occupied by tongue of glacier excavating over via the Chilcanco valley. Abrupt mounds 30 or 40 feet high near the show gyte lower end, which can scarcely have had other origin. (See sketch for part-gone gyteses)

Sept 15. Horses finding poor feed showed tendency to stray away, & required attention several times in the night. Mony two gone, & only recovered some miles back on the trail after considerable detention. Did not get away

till 8.20 & then unfortunately took a wrong trail, following nearly parallel with the location line, & finally disappearing. Lost nearly two hours hunting for trail & by the rolling down a bank gave the pack animals. 6 m. to Jim Falls Camp of Jennings, where a pretty little cascade coming down over step like ledges of basalt, N.E. of Camp 15 (C.P.R.S.) on the opposite bank of the river a fine cascade. The Nazareo rapidly increasing in size. Came only about 13 miles though 8 h 40 m altogether on the road. Trail very bad & rocky, just before coming to Camp Reeves fell saddle & all from the horse going up a steep hill, & had a narrow escape, though getting off unhurt. My Saddle-bags however kicked away from their fastenings in the struggle. Camped somewhere near Jennings Camp 15. Very warm in the sun today, though frost last night.

Sept 16. Start 7.30 & travel on down the valley. Trail much improved, valley somewhat opened out with small meadows, & ponds. Day very warm & cloudless. Camped near picket 3788 & almost opposite every prominent bluff. Passed a camp of Indian women who said their husbands had all gone to over hunting & left them no meat-a-made. Many ducks & geese, & much old beaver work, most of the lakes in the valley being probably thus caused. Gathered a number of Sphaeriums in the river bed near camp, & found a fragment of Unio like U. radius.

Heard shots this evening, & also sound of distant chopping. These no doubt proceed from the Jennings Camp which must be near.

Sept 17. Found men at work on the Cone soon after leaving Camp, & Mr Jennings' Camp about 4 miles on. Camped. Hammered rocks in bellcrank near Camp. Reading, writing up notes &c. Find no mail here for me. It is probably at Blackwater. The Chelaco R enters the valley of the Nazko about 2 miles below this point. The stream of the former is almost as large as the latter, but the valley rises much more rapidly as followed upward.

Sept 18. Started west one of Mr Jennings' indians named 'Charley' & walked down the Chelaco & then several miles up the valley to see rock exposures there. No trail up the Chelaco, & so consequently a scramble through woods all the way. Afternoon made search for fossils in rocks behind Camp. Collected 3 species of Juniper. Charley told us a story in broken Chinook, thus coming, about the Cliff on the Chelacolan R mentioned in notes of July 27. Says long ago, three generations at least, bad Siwashes from the Salt-Chuck came there & camped on top of the bluff. Thence they used to watch the Chelacolan indians & shoot them as they passed along the valley, with arrows, & no one knew how it was done. At last a Chelacolan Siwash passing saw a foe on the bluff, & went & told the others, who sent a man up, who while the bad indians were asleep found out how many there were. Then the other indians surrounded the bluff, & while they sent a Chotickman to

walk along in the valley below, thus attracting the attention of the Warranders; came up behind them & made a sudden onslaught, killing them all, except one Indian supposed to be the medicine man who flew away in the air from the edge of the cliff "All same wind Klattawa, all same chicken." This at least is what the Indian wa-wa.

Sept 19. Sunday. About Camp at writing odd jobs &c

Sept 20. Morning walked up the river about two miles to collect specs &c. Noticed drift lignite in the river bed. Afternoon rode about four miles back, to cliff beyond Cinderella Int. to see of lignite formation cropping the cliffs. Found only weathered basalt.

Sept 21. Moved Camp with Mr Jennings party about six miles down the River. Walked down with him observing rocks &c day warm. but strong wind from S. Three of the horses still very sore, & two weak also. Jennie still ill & able to do next to nothing. Hardly in condition to move on, though feel that wasting time to stay here much longer.

Sept 22. Rode out with Mr McKay at 8.50, & returned at 4.30 after having made a reconnaissance some 7½ miles down the Kettle trail, & ridden altogether about 24 miles. Day showery, after a night of heavy rain. The valley from below the Chisholm R. opens out considerably, & shows a good deal of meadow land at a somewhat higher level above the river, & which is probably not often flooded

Sept 23. Walked down the west side of the valley examining some rock exposures, but found nothing of particular interest.

Sept 24. Started from Camp about 7.15 & rode Northward with Mr Jennings & the beginning of the trail to Cluscus Lake. There separated & went on on the Cluscus trail with Jimmy, till 11.40. Then turned & got back to Camp about 4 P.M. having got out on the Cluscus trail between 7 & 8 miles. The trail from Quesnelle to the South end of the long lake, thence up the Nazco to & round the N end of the lake, & from there Northward to Cluscus L; is the main trail & has evidently been considerably used. Little or no trail exists N of this down the Nazco toward the Blackwater. Killed five grouse by the way.

Sept 25. Near camp all day. Tried washing gravel of river for gold, but without success. Tried fishing also unsuccessfully, the river being too shallow about here.
Tommy Stile finds useless, & the three packed animals very sore. The plows skinned in packing have for the most part festered & are now discharging matter. The brown horse especially very weak.
The packs & ~~trail~~ mail now since some days expected from Quesnelle have not yet turned up, & tile they do Mr Jennings can hardly spare a man & ~~horses~~ animals to take my

stuff through to Blackwater. Delay very provoking as now nothing much remains to do here.
The foliage here is now just about the stage at which it was last October during my trip through Turtle Mt., showing the earlier onset of winter here.

Sept 26. Sunday. Morning engaged collating the Chilacotin vocabularies obtained by Mr Jenning's & myself from the Indian Charlie. Considerable difficulty in getting the right answers from him when here, & great trouble in spelling some of the words obtained, from their nasal & guttural sound.
Afternoon climbed the hillside to the west, & followed up the bank of a small creek westward; then descended into the valley bottom & followed the brook back to the river. Found a curious rocky gorge, with much calcareous deposit, & a waterfall of about 30 feet in height. Many deer track through much of some age.

Sept 27. Collected specimens of P. contorta, & an Abies which seems to be very near the ordinary black spruce but agrees exactly with the description of A. Engelmannii & is probably that species. It has been abundant from about Eagle Lake on the route travelled to here, but also occurs further east. It forms dense woods along trees in wet or clayey bottoms of the plateau about here, & also fringes streams & swamps.
Revisited the ravine mentioned yesterday. The calcareous sinter clings in honeycombed arch openings, many of which are the moulds of sticks & logs formerly

All packed up & ready to start south in jumps to ride through light to Mrs Bell's camp; but found her estate unable to work from lack of last night & therefore obliged to stay & run the levels.

imbedded. These are now inhabited by some small animals, probably a species of marmot. They have dragged a great quantity of sticks, leaves, &c. to the mouths of their holes. Set fire to one of the largest of these, & the smoke soon began to ooze out of holes in various parts of the cliff. Caught a momentary glimpse of some of the animals, but most probably escaped by holes above.
Mr Marcus Smith, & the very expected train from Zanesville arrived this P.M. Got all arrangements made for start tomorrow, Mr Jennings furnishing mules to take me to Blackwater Depot, & sending on some of his spare stuff at the same time. Leave the three sick horses, & two of the apparejoes, getting receipt for them by mail said to be at Blackwater.

Sept. 28. Up early making preparations for start, but did not get away till about Noon. Got letters from Mr Smith to Depot man at Blackwater & to Mr Bell.
Party has now added one other Jennings packers (Joe) & an Indian aide & guide brought from the Blackwater by Mr Smith, & called Fanny. Made about ten miles down the Navajo & camped at the last grass for a long distance. Tried fishing but unsuccessfully.

Sept 29. Start 7.30 A.M. & travel on towards the Blackwater. Trail poor & in some places needing a good deal of cutting out. Mule overturned & mired in getting up the river bank at one of the fords, but no serious consequences. Travelled on till 3.40 P.M. When Camped about 2 miles E. of the mouth of the Nazco on the N. side of the Blackwater R. Fishing very successful tonight the stream being full of fine trout & white-fish.
Camp situated near one of Grant & Sesson's C.P.R.S. Camps, on the Blackwater line.

Sept 30. Leave Camp 7.50 Travel on old Survey trail till noon, eastward & northward nearly parallel to the Blackwater. Then travel southward on branch trail to Jim Bells Camp 20 in Blackwater Canon. An indian family camped at the branch trail, cleaner, better looking & apparently more comfortable; than any yet seen. Their winter houses are near Chuscus L.
Spent the remainder of the afternoon examining the rocks of the Canon, & in the evening dined with Jim B. & party. Got much information & from him, also a pack horse & appareyo which he does not need.

Blueberries observed today for the first time. In some abundance

Blackwater Upper Canon

The rocks of the Canon probably represent the Lower Cache Creek Series though no limestones like the typical ones, appear, nor are the flinty slates of that group well represented. The igneous dykes parallel to the stratification mentioned there seem in the L.C.C. on the Waggon road.
The rocks of the Canon, with a few exceptions, are not such as to offer great resistance to blasting or rock work. most of the slates would be pretty easy to bore, & the shattered state of the rock would cause it to break into small pieces on blasting.

Oct. 1. Left Camp 8 A.M. & travelled on without stopping till about 4 P.M.; reaching Blackwater Depot. Find the Pack train now due for Ft George, & with which Mr Smith had arranged that I should travel, not yet on hand. Appearance of break up in the weather. Barometer falling, wind rising. Clouds collecting all day. Geese flying South. Find a large mail waiting here, though no date later than Aug 20. from Montreal. Nothing yet heard from Mr Selwyn.

Oct. 2. Drizzling rain & occasional showers of sleet all day. Overcast, windy, & cold. Examined the river banks near the depot but did not go far on account of the weather. Mail Carrier arrived from Quesnelle, having left this morning & ridden through. No mail for me. Pack train for Ft George had not left this morning, is waiting for goods & may not leave for some days to come, which is very provoking. Pack train arrived 2 or with oats. Part of the animals returning to Quesnelle & part going on to Mr Bell. Mr Foster (Bell's partner) also arrived on business connected with the train.

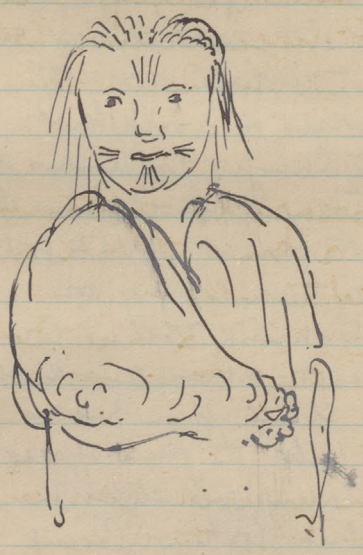
Oct. 3. Sunday. Snow on the ground about 2 inches deep, & still falling a little. Wasting hours, reading & keeping warm

Oct. 4. Walked down the river about 3 miles examining the rocks. Afternoon washing gravel from bank & land-pan from below the bridge, but without finding colour in either. Day cold & raw with snow still

remaining on the shady sides of hills & in the woods where thick. The Canon below the bridge though not so large as the rest Grand — very picturesque.

Oct 5. Had arranged with Mr Sterrett in charge of Depot here to start early & ride up Bell's Trail about 14 miles, thence follow Indian trail to mth. of Blackwater where indian houses. Stay there all night & get Indian to guide us back again up the valley of the Blackwater. Morning very threatening overcast & foggy. Did not start till 10 am. Rode out to place where Indian trail begins, at an Indian graveyard, & there found some Indians camped, who told us that no Indians now at mth. of Blackwater. Tried to induce one of them to go as guide, but they had no horses & would not. Engaged a lad to come back with me to Camp, who knows the trail & may also be useful in tending horses &c. now that the other men sent off. Started back at 2.15 & got in to Camp just before dark, with heavy rain coming on.
The Indians were rather surprised to see us come into their camp. Engaged in curing fish &c. & have considerable quantity of trout, white fish, & suckers strung up in process of drying. Also several beavers lately killed, the flesh spread out flat with the tail still attached & hung over sticks near the fire. Smoky, brown, oily, & repulsive looking. Camp consisted of one very old man, very sick, & as they said "All same as tired all over" probably rheumatic. The day raw & chilly & the old fellow coiled up under a rabbit skin blanket beside a little fire, hardly took any notice of us. His long grey hair standing up in shocks on his head. Half thought they had brought him here to be near the graveyard when he died. One came man besides, & a young lad. Two young klutchomen & 3 old squaws wrinkled & black.

The young women evidently thought themselves very attractive & put-on airs accordingly. Arranged with the young lad to come back with us after a considerable amount of wa-wa had been got through among the Indians in their own language. He put-on his moccasins, unscrapped a little old dirty Rob-Roy Shawl – which seems to be quite the thing here – round his shoulders & started off. Keeping up with the horses all the way back to the Depôt. Some of the women tattooed, as is the case in nearly every lot of Indians seen. The colour employed blue, & the device usually adopted (in whole or in part) like this.



Oct 6. Raining heavily all night, & has continued overcast, foggy, & raining with slight intermission all day. Walked up the river about 1½ m. examining the rocks. Shot 3 prairie chickens.

Oct 7. Working. Sketching &c. Afternoon walked up the river about 2 miles examining the rocks, & got into a mass of windfall & brush very unpleasant to travel through. The river banks have supported very extensive alluvium from land slips, which in some cases have extended from the top of the highest terrace, or summit of the plateau, to the water level.

The Upressman from Beaver R. passed the Depôt today & some Indians with two packs of furs from Stony Cr.

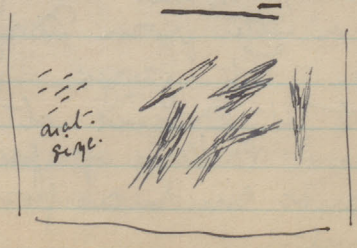
Camped here tonight. Nothing yet of the train either two or from Ft. George. Sky fine & weather apparently about to improve.

Oct 8. Rode down the valley about ten miles west thru Sherrill, following an Indian trail which runs to the mouth of the Blackwater. Trail in some places very faint, but becoming better beaten forward. The river valley becoming thickly timbered, it leaves it about two miles below the bridge & follows along the edge of the high land. Back to Camp 5.30. Macdroy's train from Ft. George arrived today & goes out tomorrow morning for Quesnelle. Wrote M.

Oct 9. Morning variously occupied. Afternoon walked up the river about 2½ m. to look for fossils in the lignite formation beds, with poor success however. Day fine & quite hot, & no frost now for some nights.

Oct 10. Sunday. Mail man arrived from Quesnelle with letters &c & with him the Cariboo Prospector & an Indian packer turned back (having left here yesterday) by a letter from Mr Gerrey: telling him to go with me to Ft. George. Freight for McLeans train not yet arrived at Quesnelle. Day fine & warm. Packing up fossils &c & cutting weighing down as much as possible to economise transport.

Oct 11. Up early, got all packed, provisions drawn from depôt &c & started by 8.35. Have now besides Reeves, the Mexican Parker Perfecto & one Indian. The two last sent back by Mr Glassey. Discharged the Indian lad who has been working round camp for the last few days. Camped near the Indian graveyard beside a rather large lake called by the Indians Pun-chaw. Lake full of fish which the Indians are now catching in nets & drying for winter use. Tried fishing from a raft which the Indians have, as well as a bark canoe for setting their nets; but met poor success. Fish jumping all about but only hooked one which escaped.
Got some of the Indians round the fire & completed the Blackwater vocabulary.
This lake is covered with a green scum, & is said to be always so characterized. The material as far as I can remember exactly resembles the Ophanizomenon found on the lake of the woods. Colour pale dull green. ~~Form variable~~ The minute threads are arranged in tufts or fascicles, rather irregular in form & size, but resembling fine chopped hay, or more frequently shuttle shaped, & grouped together so as to resemble a grain of oats with the husks attached & partly opened (see specimens) The Indians call it Ta-tsa



Oct 12. Up early & ready to start, but horses had gone back on the trail toward Blackwater, & did not get away till 11 a.m. Morning fine, but soon clouded over with upper current of air from the west. Several showers fell. Cleared about 11. Clouded gradually again. Heavy local shower with some hail at 2 p.m. Evening partly clouded nearly calm. Camp at 4.10 near a nice little brook, & got dined by a large fire

Oct 13. Start 8 a.m. & after travelling along the N. trail till 9.30 turned off to ascend a prominent mountain which the trail passes to the East. Perpetto acting as guide, he having been on the top previously. Got up most of way on horseback, & had a magnificent view of all the surrounding country. Got bearings on many lakes hills &c. Followed along the crest of the ridge which runs northward from the mountain, & finally got back to the trail. Expected to have about 7 miles to go to camp, but the indian had mistaken the directions & gone 10 m. further. Got to camp about 4 p.m. Found some Indians just arrived from St. George & learned from them that a party resembling Mr Selwyn's had arrived. Indians call the Mt. Isa whus.

Oct 14. Left Camp 7.50 Am. Arrived at Depot C.P.R.S. at Noon & at Ft George Proper at the Junction of the Fraser & Stewart at 12.45. Near the trail on todays journey two dead Indians, of whom the bones now only remain. They have only lately been partly buried, but have been dead some months. No one knows how they died, & the Indians about here seem not to know who they are.

The Depot is situated on the abrupt terrace edge of the higher level, from which a descent is made to the lower level flat, a triangular area at the junction of the two rivers. The upper level is gravelly & clayey, but the lower seems to be fine fertile soil, & though mostly covered with small trees shows fine meadows. The Fort a tumbled down looking place like Hudson Bay Posts generally, & surrounded by a number of shanties belonging to Indians, who are now nearly all absent hunting at the various small lakes & creeks over the country. They will not return here again till about Christmas, & then disposing of their furs & having a short holiday, start out again for the rest of the winter.

Find Campred here Mr McLehan & the remainder of Mr Selwyn's party. Met S. Hinsley with Mr Webster having started at Noon on Monday down the Chilacotin R trail with the hope of meeting me or Mr Bell, having been misinformed here as to our movements.

The waters of the Fraser & Stewart mingle here opposite the fort, the former being turbid & whitish, the latter clear. The opposite bank of the Fraser is high & steep, while a

wide stretch of gravel bars & islands marks the junction of the rivers.

Oct 15. Hourly expecting Mr Selwyn's return, & as in case of his arrival he would probably wish to start at once to catch Sundays boat from Dawsonville; cannot go far from Camp. Writing up notes, reading &c.

Oct. 16. Morning about Camp. Afternoon walked some miles up the Stewart R & (Pichaco) Shortly after return to Camp about 5 P.M. Mr Selwyn & Mr Webster appeared, having gone through to Blackwater Depôt by the Chellaco R & then leaving grey wheelabouts returned by Mr Bell's straight trail.

Oct 17. Sunday. Reading &c. Afternoon washed out some sand & gravel on the bars of the river above the Fort & got a good many colours of gold. Weather gradually clouding up since morning & about dark rain commenced to fall & now falling heavily.

Oct 18. Leave Ft. George at 8.20 with Mr Selwyn & party in boat & dugout canoe, for Dawsonville. Morning cold & foggy but soon clearing. None of party know the river, but have directions for running through the two Cañons (Ft George & Cottonwood) which are the only dangerous places.

Got through the St George Canon safely today. The river is swift & runs between rocky walls, with a couple of rocky islands in the middle. The stream generally is rapid & riffles frequent & often requiring some judgement in the steersman to pass them safely. Rain commenced in the afternoon, & continued to fall during the evening while we camped on the W. bank.

Oct 19. Leave Camp 7.55 & proceed down stream, but against a very strong South wind. Stop for lunch 11.50 Am. at Indian village at Mouth of Blackwater R. Start again 1.20 Pm. the wind now very violent & continued noise of trees crashing down in the woods. Had a rough time coming down a heavy rapid above the mouth of the Blackwater, the wind very strong & squally & raising a heavy short sea. Air full of flying spray, & while coasting along a cliff a large tree blown over above & only prevented by some smaller trees from coming down on top of us in the Canon. Camp 4.35 on the E. bank.

Oct 20. Start 7.50 Am. in steady rain which began at daylight. Camp just above the Cottonwood Canon which I ran through the first ~~thing~~ this morning & not found very rough, though the cliffs at the sides of the river are more abrupt, & the valley more Canon like than the St George Canon. Found a large party of Chinamen 'prospecting' just below the Canon. Distance from Canon to Dawsville said to be 18 m. but seems to be considerably less, as we arrived at

Quesnelle at 10 5-8 Am. Find all letters for me have been sent on to Blackwater Depôt, & must wait till they come back from there. Got dinner at the Hotel, & camped in Mr Robertson's Garden.

Oct 21. Packing fossils & arranging Camp equipage &c. All not necessary to be left here in charge of the C.P.R.S. Walked down to Quesnelle R. & showed Mr Selwyn the plant & insect bed found here last Summer.

Oct 22. at Quesnelle

Oct. 23 " "

Oct. 24. Morning went with Mr Selwyn to see exposures of gravel about a mile up the Quesnelle R. Took photographs of the Quesnelle Bridge. Started about 1 P.M. in Steamer for Soda Creek, reaching the latter place after dark. R

Oct. 25. Left Soda Creek in Stage before dawn & reached Bridge Creek long after dark. Had an upset on the way, but without much damage.
In going Southward Artemisia fact appears in any quantity not far from Soda Creek, near Deep Cr. Lycoderis a few miles S. of Bates'.

Oct. 26. To Clinton, arriving in good time.

Pinus Ponderosa first observed near the Chasm not far from the Southern edge of the "Green timber"

Oct. 27. Wednesday - To Lytton, a Cloy day

Oct. 28. Lytton to Yale, arriving just at dark
The roads were very bad & showing evidence of Cloy continued rain

Oct. 29. Started early on Str. Royal City & arrived at New Westminster before dark. Day overcast, with masses of mist among the mountains. The higher peaks heavily covered with fresh fallen snow.
Saw plants of a fine Rhododendron at Hope in gardens. It is found only in one place in the mountains about 20 miles from Hope & is said to be hard to transplant.
Saw Mr W. Fisher about collecting specimens of produce &c for the Exhibition.

Oct. 30.
Left at 8 Am. & arrived in Victoria about 3 Pm.
Stopping at Driard House

Oct. 31. Victoria. Dined with Dr Helmcken

Nov 1 "
" 2 "
" 3 "
" 4 Spent afternoon & evening at Mrs Crease's

Nov 5. Called on Dr Powell & saw Correspondence referring to Exhibition matters. Went with Mr S. to see Cowley's Collections of Shells Sea-weeds &c. Very heavy rain all day.

Nov 6. Interviewing Drs Carroll & Powell on exhibition matters, & looking up things for exhibition. Afternoon looking for fruit &, called at Mrs Cross'. Evening dined at Mrs Cross'.

Nov 7. Sunday Reading. Afternoon walked out beyond Beacon Hill with Mr Wheeler, Evening talking to Mr Jennings, making out list for exhibition &c.

Nov 8. Afternoon drove round with Dr Carroll collecting specimens of fruit. News of the loss of the Pacific off Cape Flattery received & causing great agitation in town, many Victorians being on board, besides a large number of Miners from Cassiar.

Nov 9. Went with Mr Selwyn to meet Dr Carroll & Mr Armstrong at fort buildings to make arrangements for exhibition. Afternoon, made some calls about fruit, but without getting anything more. Evening dined at Mrs Cross'

Nov 10. Mr S & Webster opt in tender for Sltr. Salvador at 2 Pm. Afterwards walked round to Beacon Hill where races going on. Evening reading.

Nov 11, 12, 13. Engaged chiefly making enquiries & arranging about articles for exhibition sent Dr Carroll.

Nov. 14. Sunday. Wet & bleak all day. Reading writing &c. First few flakes of snow seen today. Steamers Los. Angeles & Dakota arrive from San Francisco & bring news that Crew of Steep orpheus, which it appears was deserted in collision with the Pacific, landed at Barclay Sound.

Nov 15th. Snowy all morning. Met Dr Carroll & made arrangements for various exhibits. Every tested some specimens of ore, reading.

Nov 16. Heavy snow & storm. Engaged with exhibition matters. Passed evening at Walkem's.

Nov 17. Exhibition business. Called on Mr Armstrong. Evening at Mr Deporto's, getting back to hotel quite late.

Nov 18. Exhibition business. Interview with Dr Powell & Jelly. P.M. Engaged making tracing of Zaltzgaw S. country in C.P.R.S. office. Wrote Mr Selbergen giving account of work. Evening revising plant list in report. Snowing.

Nov 19. Packing & moving from Briard House to Mrs Bowmans.

Nov 20. Called on Dr Carroll. Working at tracing in C.P.R.S. Offices.

Nov 21. Sunday Reading &c. Rain during the night has cleared nearly all the snow away. The ground having been covered for about a week.

Gold discovered on Fraser 1858. Negroes in California much persecuted & talk of passage of law excluding them from the State. Combined & chartered ship to come to Vancouver Isd. to form a settlement. Capt — gets ship on arriving at Victoria hears of discovery of gold on the Fraser, & purchased the specimen brought down & a small one — added a quantity of gold dust already in his possession, & put the whole in a bottle. On return to San Francisco took measures to spread reports of discovery in every way, to produce a rush. Posted placards &c. stating that gold could be seen on board the ship, & showed the bottle & specimen. Great furore arose, all sorts of people packed up for Victoria, sold property & cleared out. Landed property in S.F. greatly declined. Ship after ship sailed for Victoria crowded. Discovery early in Spring, & by midsummer estimated that 10,000 people camped on site of Victoria, where had been formerly only one or 2 hundred & the H.B. Post. Dismay of H.B. Coy. Miners congregated at Victoria & could not get over to Fraser. Hundreds of skiffs being built along the shore. In Aug. reaction set in & most returned to S.F. without getting further than Victoria. Many got up the Fraser too late, while others got good pay.

Nov 22. Working at tracing in C.P.R. Office. Called on Mr Armstrong on business connected with Exhibition. Wrote home M.P.

Nov 23. Saw Dr Carroll & called on a number of people about exhibits. Working some time at maps in C.P.R. Offices. Walked round by Beacon Hill & mouth of Harbour. Evening reading. Sky clear with hard frost tonight.

Nov 24 Finished maps at C.P.R. Offices. Saw a number of specimens from W. Bonathes which Mr Ziddlemann had brought away. Besides granites &c the rocks like those bearing fossils on Tathayoco I. seem to be represented. Mr Z. is confident existence of Tin on Bonathes, though I did not see the specimens.

Nov 25. On business connected with Exhibition. Writing home &c. Posted corrected plant list to J.W.D. & photos. of Indians to Selwyn. Specimens of Hops &c received from Anderson at Saanich.
Went on board steamer Enterprise, which starts at 7 Am. for New Westminster.

Nov 26. Sailed at 7 Am. for New Westminster. Air cold & clear though sky overcast. Islands snow-clad & a splendid view of the distant mountains of the Cascade Range in the vicinity of Burrards Inlet & Howe Sound. Captain afraid that the Fraser R. froze, but found it all clear. Arrived at Westminster about 3 PM. Find about 6 inches

of wet snow on the ground, & good sleighing.
Called on Fisher & arranged about exhibits.

27. Started by Stage for Burrards Inlet at 9 Am.
Stage an open three seated sleigh, with a pair of horses.
Occupants besides self & driver, two Chinamen &
a Klootchman. Sky lowering & heavy with occasionally
a few flakes of snow. Woods full of snow & every
branch & twig heavy with soft flakes. After leaving
New Westminster a few miles get beyond area
denuded for firewood or by fires, & enter the primaeval
woods. Country between Fraser R & Burrard's
Inlet undulating or even hilly but not high.
Soil yellowish, Sandy & gravelly, though open
probably pretty rich, though the great size & thickness
of trees renders clearing well nigh impossible.
Arrive at Max's about 11. A sort of tavern with a
few outbuildings. Here embarked on a diminutive
ferry steamer & soon got across to Moodyville
the site of Moody & Nelsons Mill, on the N. side
Water perfectly calm, sky cloudy, & the woods &
hills soft pearly grey.
"The Mill" is of course the centre & raison d'etre
of the village which is a straggling little place.
The houses perched on the front of a steep bank &
forming a broken line along it. Here as everywhere in
this country a very mixed assemblage of people.
White Europeans or at least whites fill the
responsible posts, Indians (Squamish) Chinamen,
negroes & mulattoes & half breeds & mongrels of
every pedigree abound. Many of the lumbers were
originally from the lower Provinces.

The mill on a large scale & well appointed.
A pair of large circular saws, & a large gang-saw, besides a small circular saw with long traversing table for cutting up the large planks, & others for cutting boards into lengths &c. Two planing machines, mill driven by steam but water power primarily used & still available often employed to drive planers when other machinery standing. The logs are very large & pine, & run up to about 60 inches. Logs larger than these are not brought to the mill, or are first split by dynamite, as it is not practicable to have circular saws much larger than those in use, the plates being apt to "buckle".
A log hauled up cut of the boom into the mill, is first rolled by means of hooks & chains & friction gearing overhead, onto a travelling cradle. There arranged in position & wedged up, & then run through the saws. outer slab taken off & rejected, then two or three planks, log then turned on the flattened side & again run through & perhaps turned yet again after a few boards have been taken off, so as to manage to get the greatest possible quantity of clean lumber from the outside. Log advanced after each cut by a pair of screws worked each by a man, distance regulated by character of log & sort of lumber required.
"Mary Ann Wilson" Capt. Stoddart loading at wharf. Went on board with Mr N. in the evening & found an hour or two.

Nov 28. Heavy snow during the night & all day, increasing that already on the ground to over 12 inches. Service in the reading room — a very creditable institution kept up by the men — by a Mr Derrick Methodist. Attendance rather scanty. Reading & talking. Snow succeeded by rain about dark.

29. Heavy cold rain all night, & till about 2 PM. turning the snow to slush but scarcely removing any yet. Mill not working. Witnessed the method of killing fish by Dynamite. Cartridge fitted with fuse & often being pried down off wharf. Explosion dull heavy sound but not much commotion of water, immediately followed by the appearance of thousands of herring & other small fish jumping above the surface. Not in the immediate vicinity of the discharge but in a circle surrounding it & as if trying to escape from it. In a few minutes hundreds of dead fish begin slowly to rise to the surface & can be secured from a boat.

See man called Irvine a fisherman. Tells me that Verillia found in great abundance only in Englishtown Bay Bras d'Or Lake, but also seen occasionally in suitable localities in Hours Sound & elsewhere. Affects muddy bottom & the "bulb" firmly rooted in the mud. In fishing for Dog fish a long line with smaller lines depending from it, set out. Dog fish when hooked in trying to escape twists the lines round the Verillia which is thus pulled up. Found in from

ten to forty fathoms & perhaps deeper
Tells me also of existence of beautiful trumpet-shaped sponges for How's Sound, & of a branching hydrozoon? like poculain in texture, near the N. end of Texada Island.

Told that three kinds of bears found in the vicinity of the Inlet. Common black, cinnamon, & black with a white spot on the breast. Latter said to be as large & fierce as the Cinnamon. Grizzly not in this part of the Cascades though said to come to the Coast further north. Puma not found here, though common South of the Fraser & on Vancouver Island. Black-tailed deer very abundant. Mountain goat common on the hills, but only in very severe weather known to come down on the flats. Said to try to keep just at the snow-line, & thus in summer in the highest & most inaccessible parts of the range.

30 Rain & Slush.

31 Rain & Slush. "Blasting for fish" with Capt Stoddart

Decr 1. Morning warm & though still much snow looked more promising. Soon began to rain however & continued with little intermission all day. Took the ferry steamer & crossed to the Hastings Mill. Saw Capt Raymur the manager & inspected the mill, which is not much different from Moody & Sellors, but not quite so well

appointed & having a powerful engine. Houses & offices forming a little village clustered about. Ships spars made more a specialty here & many exported. About half a mile from the mill is the village of Granville or "Gastown" as it is more popularly called. Taverns & Saloons not allowed about the mills, are concentrated here for the convenience of the hands.
Sandstone occurs all along the shore here, & in False Creek lignite in thin seams exists. The sandstone seen by me soft, greenish, coarse, & micaceous with impressions of sticks & traces of carbon. Weather prevented any ~~fuller~~ examination of the Coast.
A boarding several hundred feet deep formerly made at Granville.
Visited Indians near Moody's mills (Squamish) & bought a goat wool blanket, with yarn &c & specimen of diatomaceous earth used in twisting the strand. Wool said to be rolled into yarn on the bare knee with the hand & aid of this earth. Balled up. Frame used in weaving a simple square of four sticks, & the process of weaving might better be called plaiting.

Told that the Indian women not infrequently commit suicide by hanging, or choking by a cord, on slight occasion & often very determined.
Also that though Indians on this coast do not take scalps they are superstitious about letting anyone get a fragment, however small of their hair. Thinking apparently that its possession gives the taker a supernatural power over the loser.
Evening on board the Mary Ann Wilson.

Decr 2. A steady downpour of rain all day. Again gave up intention of going to the logging Camps.

Decr 3. Decided to return to New Westminster today & so obliged to make visit to logging camps. Weather fortunately fines. Started at 8 A.M. with Mr Nelson on the tug "Jerk" & got to Camp about 9.30. "Camps" rather a permanent affair. A large stable erected for the oxen & Mules, & Houses for the men. These on the bank above the shore. Lumbering roads radiating back into the woods in all directions for several miles. Roads well made, & wide, tackles often cut through & rovines bridged to get a level uniformity of grade. Cross pieces imbedded in the road at intervals & notched in the centre. Oxen tackled to log, which rests on the cross pieces. Man going before with brush & smearing them with dog-fish oil to make the logs run easily. Trees when felled ~~&c &c~~ first deprived of bark by chopping. Then sawn up into lengths by hand-saw.

Truly magnificent woods. Chiefly of Douglas fir, but also gigantic cedars & underwood of the fine maple &c. Fichers & moss hanging yards long from the lower branches, & the long straight clean trunks of the Douglas firs stretching up fifty or a hundred feet without a branch. The age of the larger pines is very great often I think over 400 or 500 years. Told ~~that~~ in there

old woods no traces of former fires. Thought however that remains of former forest growths. Increase of trees at first seems very rapid, rings of growth being from 1/3 to 1/2 inch. Afterwards very thin & fine almost like sheets of paper. Seems question as to how far this very rapid growth can be accounted for on by pottering of young trees springing up to replace others fallen by natural decay in old forests. Would be better explained by supposing ~~that~~ all came up together when not overshadowed by larger growth. Seems an interesting question whether trees ~~must~~ may not have sprung up on land recently ~~[illegible]~~ elevated. Might the ages of trees at like elevations along the coast tally?
Saw the tree selected originally to send to the exhibition as a spar, now cut up. Selected a tree for section & plank &c. & arranged with Cotterill, the foreman for specimens of woods &c.
Back to the Mill in a canoe propelled by ourselves & a Cary Indian, arriving just in time to catch the ferry to Mac's. Travelled in to Westminster on wheels through slush & water.
Saw Fisher & Trow &c.

Dec 4. Started at 7 am. in Steamer Enterprise for Victoria. Day fine throughout though rather blustery & giving the old steamer quite a tossing in rounding the point into the harbour. Arrived about 3 P.M. The town in a ferment of excitement about the Memorandum of the Canadian Government virtually abandoning the Island Railway & offering $750,000. &c. in lieu.

Got letters & papers. Worked up &c.

Decr 5. Cloudy & overcast with raw cold wind. Rain commencing about 1 P.M. Saw Dr Carroll. Reading & writing.

Decr 6. Engaged all day calling on promised contributors to exhibition & writing notes to others. Wrote Fisher, Robertson (Quinville) Ewing (Mrs.) &c. Wrote to Selwyn a short note promising particulars on Friday. Weather fine.

Decr 7. Rain all day. On business connected with exhibition all day. Evening perused reading sprout's scenes in Savage life.

Decr 8. Cleared up for an hour or two before dark. Gadding about all day on business connected with exhibition. Evening writing out list of exhibits & estimating space required.

Decr 9. Saw Dr Carroll & as he leaves tomorrow for Ottawa got remaining money on exhibition acct. turned over (790 odd dollars) Got Macoun's plants looked up & taken to Merritsons to be packed. Made several business calls & wrote to Cotterell & Hughes about lumber specimens. Wrote descriptions of P. ponderosa & contorta for Barnard's article in Upper Country & procure the specimens by

Wrote Selwyn. Prof J. Rupert Jones, & a long letter to Foster. Day cloudy & mild but without rain.

Decr 10. Got Macoun's plants packed, addressed, & sent off. Got Consular certificate for them. Saw Dr Carroll off.
Afternoon Began examination of rocks of this neighbourhood at Beacon Hill Park.
Evening reading.

Decr 11. Money. Had agreed to meet Messrs Spence & Nathan to make excursion to Dredger in harbour. Weather however altogether too boisterous. Call at Mechanics Inst. & pay $1.00 as monthly subscription to the library. Afternoon examining the Store N. of Clover Pt. till dark. Evening reading. Day fine!

Decr 12 Reading Lords Naturalist in B.C. all day. Day overcast & showery.

Decr. 13. Got Fosters packages sent over by Str. Enterprise, taken from Wharf up to Muir's heads. Also collected there various other exhibits for packing. Visit from Dr Tolmie. P.M. Examining the coast N.E. of Clover Pt. Day fine

Decr. 14. Met Mr Spence & went out him to the Beaver Rock in the harbour. Descended in his skiff & saw the work P.M. Examining rocks near Foul Bay. Evg. reading. A fine clear & warm day.

Decr. 15. Calls connected with Exhibition. Rsm. at Office plotting geological work &c.

Decr. 16. Morning got boxes from Foster N. West-minster, boxes of specimens from Barnard &c. Took Exhibition goods to Mumfords. Geol. Specimens to Office. Afternoon tracing maps of vicinity of Victoria. Letters from Selwyn, Macoun, & home this evening. Called on Jennys & went with him & Hetters to the Theatre.

Decr. 17. On business connected with exhibition & working up specimens. Packing fruit from Dr Trow N. Westminster & Anderson Saanich. Also other Specimens. Eng. Reading.

Decr 18. Packing boxes of specimens & addressing them. Afternoon writing at office. Saw Capt. Holmes of "Mande" Cost-bringing flag-staff from Horse Shoe Bay.

Decr. 19. Sunday. Took a walk up to the Gorge, the day very fine but roads remarkably muddy. Got the flakes of shells & urchin debris in some places on the shores of this arm. Afternoon & evening writing.

Decr 20 Morning writing & on the exhibition business. Saw Mr Nelson & the Capt. of the "Beaver" big about getting specimens across from Barnard Inlet &c. Afternoon writing at office. Posted letters to Selwyn, Macoun, Meredith in answer to

his communication as to list of friendly Boundary Commission report. Anna, Father, Mrs Reid Russell Esq. Every writing & reading. Day overcast but with little rain.

Decr 21. Called on Mr Charles Good to get information on out put of Gold from Province for Mr Selwyn. Unpacking boxes of specimens at Office & arranging them. Every reading Vancouver's Voyages. Morning warm & overcast. About 1 P.M. heavy fall came on with much rain. Lasted nearly all night.

Decr 22. At Office arranging statistics of Gold produce & labeling specimens. Walked out Fort St. met Judge Crease, Called at Depot but found all out. Every reading. Day moderately fine but Saw Every now rain. Stops & especially butcher's stalls now wear a Christmas aspect.

Decr 23. Day fine though cold & windy. Morning & afternoon continuing examination of rocks along the coast from Ogden Pt inwards.

Decr 24. Morning making calls & inquiries in connection with exhibition. Afternoon labeling specimens & writing at Office. Evening reading Vancouver's Voyages. Day cold & overcast with occasional showers of sleet.

Decr 25 Fine, & frosty for Christmas day, with a thin skim of powder sleet or snow on the ground. Morning reading. Afternoon walked to Esquimault & back. Evening dined at Dr Helmcken's with Marcus Smith, Gennings Landsay, & Mr Nathan. Got home between 21 & 1.

Decr 26 Sunday Morning reading. Afternoon painting some sketches, & for a short walk. Evening reading & writing. Day cold blustry & showery slightly. Very unpleasant. Finished Vancouver.

Decr 27. Made various Calls in Connection with Exhibition & question as to export of gold from Province. Afternoon tracing Map in C.P.R.S. Offices. Evening reading. Showery & showery all the morning. Blowing a gale with heavy rain afternoon & evening.

Decr 28 At office all day labeling & arranging specimens & microscopic examination of some tripoli carts &c. Steady down pour of rain. Eve. reading & writing to William.

Decr 29 Day fine, clear, & for the season warm, but with a strong S.W. wind. Started about 10.30 for Foul Bay, & examined the coast line to Oak Bay, returning at 5.45. Took lunch on the shore. A very heavy sea running in on Foul Point. Evening reading.

Decr 30. At office morning & afternoon. Getting work on maps & writing up notes. Morning overcast, chilly & dark afternoon rain, very rain & heavy storm of wind. Got great mail of papers, periodicals &c & X mas presents from home.

Decr 31. Spar arrived per ~~Panama~~ Horse Shoe Bay Called on Mr Rhodes as to stopping to San Francisco via Sta Panama. He objects to taking the stick. Arrange to see Captain of steamer on Monday morning. Called on Capt Raymer & Mr Arcuntroy as to getting spars out from England. Mr Selwyn having thrown the matter back on our hands. Called on Mr Good & Wells Fargo & Co about gold export of country. Paying other calls connected with Whitehorn & at work tracing a map in the C.P.R.S Offices. Evening reading. Day moderate, torrents of rain varied by sleet & heavy wind. Letters from home.

Jan 1. 1896. Morning packing macomus plants, Mr Jennings Latin Kwaly opened to take them with him to Canada. Tracing maps. Afternoon made a few calls with Mr Jennings. Evening reading & writing. Day moderately fine throughout, & many callers in the street.

Jan 2. Writing letters, reading, & for a short walk. Very overcast but not rainy.

Jan 3. Engaged all day on business connected with exhibition. Writing calls & letters. Various people. Messrs Campbell, Jennings, Harris &c leave by Steamer today. Evening reading. A few showers but on the whole fine. Put cheques for Salary accounts to $582 33/100 to credit in Bank

Jan 4. A fine & warm day. Out from 10.20 till nearly 6 pm. examining the coast from Oak Bay to Cadboro Bay. Evening visited Dr Walkem.

Jan 5. At Office morning & afternoon arranging specimens, writing &c. Evening at library & reading. Wrote to Rennie, Lequerne, & Kelt. Day showery, very blustry but fine.

Jan 6. Unpacking specimens & writing letters. Evening reading, & writing home. Got letter from Water.

Jan 7. Examining minerals & ores with blowpipe, at Office. Evening reading at home & at library. Afterward clear & calm though rather frosty night day.

Jan 8. A fine day. Examining minerals with Blowpipe & arranging specimens including ~~specimen~~ mixed-bed at Museum, for drawing. Evening at library & reading at home.

Jan 9 Sunday. Reading Prescott's hist. of Conq. of Mexico all day save during Pts. when go on a walk. Hunting up a gravel which I suppose to run from Oak Bay westward. Find sign on School ridge in its course. Johnstone St Revine nearly in a line with last & narrows of harbour at Hospital Pt. A very fine day.

Jan 10. Making Calls in connection Tercentenary Exhibition. Afternoon at opening of the Local Legislature, & examining rocks on Promontory S of James Bay. Evening reading. A fine day.

Jan 11. At Office morning & afternoon, drawing section of beds at Quesnel, & writing accompanying descriptions. Eve at Concert in aid of Reformed Episc. Church. A very fine day.

Jan 12. Engaged at office copying sketch of Nazco R terraces, & writing. Evening reading. Sky overcast.

Jan 13. Arranging about landing specimens of trees from Bazard Inlet. Have come over in a scow, & from sign some difficulty as to getting onto my wharf. Mr Rhodes agreed to let them lie in his store till ready for shipment. Got fold statement from Wattage & Co. Photographs from Spencer & Co. Pts. Made several Calls & then attended for a short time at the House. Wrote to Foster & Woody & Nelson, sending them cheques for their accts. Some reading.
Discovered Cedars in clay from Cook near head of James Bay.

Jan 14. Packing fossils &c for Montreal.
reducing sketch of Bayou R diff. mounds.
Eve reading.

Jan 15. Arranging & packing plants & fossils
for Montreal & Ithacans. Drawing Blackwater
R Terraces. A fine & warm day but overcast.
Eve. to opera which proved rather poor. Reading.
Received of express dry-plates. By post Charts of
Coast, & Nicholson's Zoology.

Jan 16. Sunday. Wrote some letters, reading &c.
Afternoon took walk on W side harbour. Eve.
reading & investigating condition of dry
plates received from Montreal. Bot appears to
have been opened, & sawdust also damp.

Jan 17. Packing bots at office. Called on Mr Rhodes Sprout
&c on exhibition business, chiefly with regard to its
play-stuff. Finished drawing of Blackwater Terraces.
Eve. reading. A fine day.

Jan 18. Got boxes hooped up, addressed & taken to
express office. Made arrangements for
shipment of play-stuff, writing note to Prov. Secy.
& getting him to write to Hon. Commissr San
Francisco to get it attended to there. Found unusually

When everything ready that Mr Rhodes declines taking it this trip, I very telegraphed to the Capt of the Panama now on the Sound. Only reason that can be assigned that the steamer a little behind her time. Business delay got last another fortnight, & perhaps the Cos gain opportunity at San Francisco.
Evening reading & writing to Mr Selwyn & home.

Jan 19. At office drawing maps of route up the Chilcotin R.
Very working up Columbia act & reading.
Heavy fall of snow last night, & occasional showers during the day. Ground covered with slush. Lowering & overcast.

Jan 20. At office drawing maps of Chilcotin R.
Eng. reading & wrote notes to Macoun
Port estimate of gold report to Mr Selwyn.
A very fine day but cold & windy. Snow frozen on the ground

Jan 21. A fine clear frosty day. Morning called at bank with pass book to have it made up & found that cheques put to credit on Jan 3 could not be heard of & were not on Bank books. After inquiry they were found that they had been sent to Montreal & were mentioned in the letterbook but had been otherwise forgotten. Made two or three calls on exhibition matters & wrote notes to Burwash & Fos coming.

Afternoon drawing & looking to debate in the House on the railway resolutions. Very ready. Bancroft returns of Pacific States.

Jan 22. At office drawing. Telegraphed to Telegraph asking if spar shall be sent after delay it has experienced. Got letter from home. Day fine & clear, skating going on on ponds. Eng. reading.

Jan 23 Sunday. Morning reading. Afternoon for a walk. Eng reading & writing. Day fine & clear but cold North wind. Noticed many robins & finches (Junco hyemalis?) here still though the most severe weather yet experienced this winter, & several inches snow on the ground. Finches generally grey & dun colour. Heads black. Male? with reddish brown collar on back ground passing round on the front part of shoulders. Bill white.

Jan 24 - At office drawing & plotting maps. Went to hear debate at House for a little while. Eng. writing home & to Ward (Keswick) reading. Day clear & fine, thawing in the sun.

Jan. 25. Morning at office drawing maps. Afn. looking to debate in House on finance. Woolsam minority dispatch by 2 votes. Eng reading & looking over Natures.

Jan 26. Drawing maps money & afternoon
Varity letters Eng. looking over grasshopper
Circulars & reading. A fine day thawing & mild.

Jan 27. At office drawing maps. Packed & sent
specimens to Conifers & Engelmann & drift-
shells to Selwyn. Wrote various letters & made
calls on exhibition business. Got letters from
Selwyn & Burgess.
Very reading & long on grasshopper circulars.

Observe today curious crust or coating on coals & back
bricks of grate at office. Examined it & have I think
proved that volatilized zinc oxide, produced from
some zinc compound which must be present in
small quantities in the coal.
Remember observing similar coating in Pictou caused
coal from New Glasgow mines. Collected sample
of flue dust but did not examine it.

Jan 28. At Carpenters arranging about packing
specimens woods &c at office drawing. Enquiring
about maps at C.P.R. Offices. Very grasshopper
circulars & reading.
Min. Herman this morning marked 12° but
clouds over & temperature rose. Thawing most of day
& now mild & wet.

Jan 29. At Office working at Maps.
Afternoon walk about Beacon Hill.
Evening reading &c.
Day broken & showery with strong wind

Jan 30. Morning reading. Afternoon for a walk & reading. Evening arranging pressed paper specimens & reading. Day cold overcast, & with showers of rain & sleet. Mail steamer arrived this morning but mail not delivered.

Jan 31 At Office mapping geology. Wet yesterday. Cataloguing specimens. Writing letters &c.
Letter from home.

~~Jan~~
Feb. 1. At Office writing & examining rocks &c with microscope
Evg. working on pressed paper. reading.
Day fine but windy.

Feb. 2. Morning at Office writing Report. Also at Custom House filling returns of various exports & imports for Exhibition Catalogue.
Afternoon arranging about packing specimens, & assisting the clerks writing letters for mail &c.
Asked to give a lecture to the Mechanics Inst.
Day fine though rather dark.

Feb. 3. Preparing letters for post. Called on Mr Rhodes to try to get flag staff off, but again met with entire but shuffling. Mr R. referred the matter to Capt Seybury of the Panama who at the same time showed very apparent prejudice against the flag-staff. Capt S. after hurrying & driving Mr R. meanwhile trying to prove that the flag-staff would be late, that it would be broken in taking on board &c — finally said he could not take it. Too heavy for hurricane deck, could not get on main deck because of stanchions &c. Thus after trouble Mr R. on a former occasion had been told that there was no difficulty about taking the spar, & had not made any effort to get some sailing vessel from Panama or elsewhere to take it on board, on that understanding.

Very annoying & met with persistent obstruction when there is every reason why all possible assistance should be given.

Office at Office writing.

Very windy persistent [illegible].

Feb. 4. At Office writing grasshopper robs. Office. Writing Report. Very reading.

Day fine, though blustery & with rain about 5 P.M. Letter from Father.

Feb. 5. At Office writing report. Took short walk. Very reading.

Feb 6. Reading & for a walk. Every reading & writing Anna & William. Day fine.

Feb. 7. Snowy & blowy heavily all day. At office writing report. Every reading & writing. Got letters from Anna & William.

Feb. 8. Fine overhead but cold. Studying & training. At Office writing report. Every studying out lectures on general period & reading.

Feb. 9. Many unpaid working bills & arrangements about exhibits. Afternoon working report at office. Saw Mr Humphreys. Every writing & studying. Read Barnard's lectures on exhibitions & Sed.-tow. pamps.

Feb. 10. At Office writing report morn & afternoon. Every copying out Gerstopper paper, & reading. Day very windy with occasional showers. Wrote letters to J. F. Allison, Anna & Wm &c.

Feb. 11. Writing memo of exhibits for Humphreys. On outside exhibition business. Run-down over specimens & maps with Dr Duncan. Every Gerstopper circulars.

Feb 12. Writing at office am & Pm. Sorting addressing fire stopper circulars.
Ran all day

Feb. 13. Reading & Sorting during at Watkins
Out all day.

Feb. 14. Writing report at office. Calling on various people for Exhibition & back at office writing. Eng reading & closing fire stopper papers. Showery but chiefly fair.
Steamer Panama arrived yesterday but brought no mail even newspapers. Letter forwarded by Mr. Pringle this p.m.

Feb. 16. Went to Jers works about specimen of coke. Sent reports round for this & other articles. Writing report at office. Still writing out Catalogue of exhibits.
Afternoon lost.

Feb 17. Making arrangements for shipment of specimens. Pm. Writing letters, & on other exhibition business
Evening writing letters, finishing Catalogue &c.

Feb 18. Engaged all morning seeing to shipment of specimens. Tender left with them & passengers for SS Panama at noon. Mailed all grasshopper circulars & letters. Run. writing report at office. Evening reading. Day fine & warm.

Feb 19. Writing out fair copy report all day & part of evening. Reading &c.

Feb 20 Sunday. Morning reading &c. Afternoon in a wdek. Found tide & many pools in rocks bare. Observed what appear to be there or four different sponges. 1 bright yellow or green, then currently met scattered named oscula. 2. very similar but pale purple, sometimes faded to white etc, but never appeared yellow or green. Yet shape & habit so similar that may be different stage. 3. yellowish compact & formerly like ordinary chunk of bread sponge. 4 in very thin crusts in sheltered spots bright scarlet. Appearances by day very sewell. Evening writing & reading. do
Many sketches next afternoon fine but overcast & dull.

Feb 21. Sorry over report all day. Going for a walk & reading. Great excitement over the world-election & return of Elliot over Buck by great majority. Result known about 6 p.m. & afterwards grand torchlight procession formed, band & L & all the knights paste town out. Received Telegram from Perrault Partly shower today. Saying that exhibition articles should be sent. Wrote acknowledging

Feb. 22. Overtaxing report. Working afternoon Evening reading. A splendid day almost oppressively warm & bright & fine. General reaction from election excitement in town.

Feb 23. Working on report & E. Wet all day Writing out lecture

Feb 24. A fine day but shower. Writing out lecture on Ice age for next Monday. Mailed Report, & three specimens of ~~[illegible]~~ grain. Wrote Mr Selwyn. Evening at party at Judge Creas' Getting tired at 1.40 A.M. Letters from home.

at work on diagrams for lecture

Feb. 25. Writing lecture. Seeing after Carpenter at work on Slab of Yellow Cypress. Sq. Reading & writing. Day fine but chilly Last two nights frogs croaking noisily. Wild gooseberry beginning to be green. Willows Catkins budding out.

Feb 26. Evening lecture. Looking after packing of things for exhibition. Pm. photography. Completed survey of James Bay Point & round by James' Bay & the coast to Rhodes' Wharf. Found a limestone bed at water edge near the latter place. Very fine.

Feb. 27. Very reading. Afternoon for a walk. Found shells like those already found near James Bay in one fluviatile cliff of yellow clay west of Beacon Hill. Same forms represented. Occur sparsely & irregularly in hard sandy clay with gravel, stones, & occasional large boulders, seldom evidently glaciated. Deposit is that resting on the rounded glaciated rock surface & in some places a hard yellowish clay without stones. In one spot thus noticed the fall of holes like those of Saxicavas or Pholads but above the present high tide line. Some 6 inches deep, others worn away in hard tube bottoms, which layer them apertures, exposed. Cannot suppose that burrowing done before upper clay beds formed. Very reading & writing.

Day very fine.

deep-clay

Feb 28. Exhibition business. Looking over lecture. Reading. Evening delivered lecture at 7.30 to a pretty good audience say 100. Day fine.

Feb 29. Packing up objects for exhibition at Carpenters shop, getting lists of objects made &c. P.m. Continued geological observations round Rock Bay & Esquimault bridge.
Weather very blustery but E. wind

March 1. Many blustery. P.m. Stewart & Stowery. Looking out lists for votes & getting them numbered & closed.
P.m. plotting geol. observations. Evening reading &c. Deposited cheque in bank for $266.66 by Seley to end January.

March 2. Examining rock exposures on all the streets taking them systematically. Morning & afternoon. Mr Jamieson called this evening to say they would take the flag-staff! Now too late. probably moved to this action by outside pressure. Evening writing & reading. Day very fine & warm — letters from home —

March 3. Making arrangements for shipment of specimens. writing letters to Selwyn. Perrault &c. Wet & stormy.

March 4. Closing & mailing letters. Ch. Ms. Geology in neighbourhood of Victoria. Eng. at Mechan Inst. Reading.

March 5. Sunday. Reading, & for a walk in the afternoon. Strengthening fence. Reading & writing.

March 6. At work working out observations, & plotting geol work. Wrote Hughes & Swain & Wise. Indorsing cheque to Calter. Posted letter to Sent Rowe. Very windy day.

March 7. Morning at office getting table &c. Changed to room up stairs. Reading. Ran geologizing, but driven in by weather. Evening reading. About ~~two~~ inches of slush on the ground this morning, & squally with sleet & snow in the afternoon

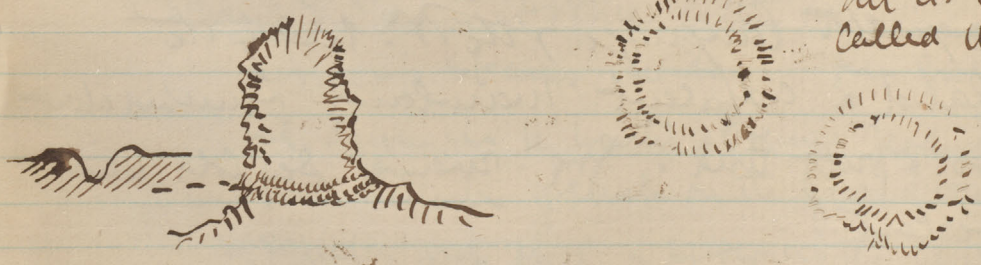
March 8. Very at Office. Dr Tolmie Called &c.
Looking over Anderson's map. Rm. plotting fol.
work. Writing. Very reading.
About two inches of Snow last night. During day
nearly all went. Sky. High wind & frost.

March 9. Writing & reading. Call at Creases.
Wrote. P.W. &c. Sky nearly Day fine but cold
freezing in the Shade.

March 10 Day fine but cold in the Shade & with
shite a little Snow on the ground. Writing &
reading. Sky. occupied up Stairs parlors.

March 11 Dr Tolmie according to engagement
succeeded in procuring an indian & help Brud
with whom set to work, & got 3 dialects of the
Quaymulth language of the N. end of the
Island & adjacent Mainland. Finished about
4.30 & pretty tired. Sky. very. Day cold, windy
& overcast.

March 12. Reading. Afternoon for a walk with Mr Wentworth. Followed the coast line yesterday between Ten & Sycamore. Day unsettled, blustry with some rain. Many Indian shell heaps along this part of the coast. Found in them a deer horn chisel, bone needle or awl, & barbed fish spear. Several many precipitous little points protected by earthwork like that of Beacon Hill point. Also saw where apparently Indian camp or village of some kind had been. Low circular mounds, with depressed centres. Several given near together, & from (say) 15 to 20 feet diameter. (Dangerously formed.) Mr A. Bowman called this eg.



March 13. Called on Mrs O'Reilley & got some specimens of a form of a pure Specimen gate Minnesota Native Silver. At Office for a little while P.M. At Office writing letters &c. Spy. reading Wrote. Selwyn. Pennault. Patrick. Bolleby. Drummond Diggle, & Bryden asking Coal Specimens for museum. Spy reading Darwin. Motley. Bancroft.

March 14. At work with Dr Jolnie getting Indian vocabularies. Evening reading Day overcast & dull.

March 15. Geologising Morning & Afternoon Evening reading. Day very unpleasant sequally with some snow. Partly clear

March 16. Work Dr Jolnie at Office till 4.30 getting Indian Vocabularies. Spy. at Library, & reading at home. Day Partly clear, fine, but chilly.

March 17. Wrote Selwyn. packed & sent
by express specimens of gold & silver. Could
not find Col. Lane that he promised
specimens from Minnesota but have sent him
some by Mr O'Reilly. Reading. Dined at
Mr Fellows to dinner; Dr Volume being there
also.

March 18. Busy posting letters & attending to
various matters of business, Reading
afternoon. Learning most about Indian
Reserve. Eng. Reading.

March 19. Busy reading Bancroft.
afternoon for a walk. Busy reading &
writing. Day gloomy, chilly, & wet throughout.
Said to have been a slight earthquake at
a few minutes before eight this evening, but
must have been very slight as few people
felt it

March 20 Writing & determining minerals with
the blowpipe. Evening reading. Wet day
Letters from home.

March 21. Working with blowpipe. Afternoon collecting shells in clay near entrance of harbour. Eng. reading & working out a ~~[illegible]~~ vocabulary for me with Indians tomorrow, the Sumbawan vocabulary having been apparently lost in some way.

A fine & warm day.

The shells in clay or hard sandy clay are evidently for the most part undisturbed. The Cardiums? having both valves & being often still empty. Ledas in the same state. Some quite pebbles yet show ~~[illegible]~~ bases of attachment of the ~~[illegible]~~ small species of Balanus which is not uncommon.

The matrix in some places a very hard sandy clay with rusty & weather stained cracks traversing it in all directions. Little trace of bedding, with occasional large stones or boulders but there very seldom showing signs of glaciation, though sometimes distinctly. In other places the deposit more sandy & gravelly & bedding (often inclined) quite distinct. The very prog homogeneous yellowish-weathering blue clay seen lowest in the bank in some places, ~~[illegible]~~ evidently only a form of the same deposit. The beds in some places very irregular & almost as though shoved up. The granite fragments are often quite decomposed & soft, & the shells have evidently been

escarpment of Victoria drift

Very like some sections of boulder clay on the plains

partly destroyed by the action of Carbonated waters, & are quite tender. This notwithstanding the hard matrix, & their position only a few feet above high tide mark, showing that they must have been lost to emerge. The same action continued a little longer would have removed all trace of marine life, & so probably already destroyed many paramonical remains that may have been included. Large boulders are scattered throughout, but are more abundant toward the top of the deposit, which is generally capped by a layer of sand, gravel, & boulders much coarser than the rest, & probably in part at least due to rearrangement along a coast line. In some places as in a ditch in Cook Street the characteristic Cardium? occurs almost immediately below the black surface soil & in others, near the shore, the lowest layers of the Indian heaps of shells & burned stones coincide with the lowest of the black earth. Showing apparently (as I have not yet found the shell heaps far from the shore) that the last elevation pretty sudden to about the modern level of the coast. That formation of black soil from vegetable mould began, & that at same time first Indian tribes took possession.

as completely as seen in practice drift, which must have been very long deposited in most places

The drift deposits resting on the perfectly polished & striated rock surfaces, (surfaces striated in such a way as to manifestly glacier action) & yet holding shells, would seem to imply the gradual retreat of a glacier foot which

land pushed into the sea, & that some species of molluscs followed it pretty close as it went.
The ~~Sand~~ mounds from Beacon Hill & those perched on the S.E. side of Spring Ridge, behind the town, & well exposed in an old gravel quarry there (see Geol. notes) are probably ~~[illegible]~~ referable to the coarser re-arranged surface layers already spoken of. They may be in part old terminal & lateral moraines ~~[illegible]~~ left at different stages of retreat, but are more likely the deposit of stranding ice modified by currents. The materials are coarse sand & gravel with many large & small boulders. The largest boulders high up, but filled in between with smaller stuff, & often almost entirely covered up & concealed by it, as though, the sea-incursion still continuing, the supply of ice capable of transporting large blocks had failed.
(For section of drift deposits resting directly on glaciated rocks see Geol. Note Book.)

There does not seem to be any very distinct line between the different characters of deposit, though in hollows tough blue clay seems nearly always to occur on the rock, or separated from it by a thin layer of "dirt" & gravel. The general tendency seems to be to increase in coarseness upwards. Perhaps deepening water till near the last allowing ice of greater bulk to float over the country.

April 22. At Mrs Selly Indian Vocabulary
Afternoon examining rocks about
Golden Point, & collecting marine
animals &c along the beach. Day fine &
warm.

April 23. Heard that steamer had arrived
from Barrard Inlet, & on going to wharf
found that some but not all Specimens
had arrived. Found also letters from
Glassey & specimens of grain from
Kamloops &c. Got all taken up to
Carpenters Shop. Wrote notes. Packed
Silver specimens to send by post. Afternoon
Collected willows & other plants. Willows
now in full bloom. Red flowering
currant begins to come out. Caught a
frog & got various other specimens.
Made inventory of Glassey's Specimens &
sent with note to Selwyn.
Eve. at Concert in aid of St. Andrews
Church.

April 24. Nothing Geological. Afternoon
plotting Geological work; writing &c.
Evening reading & writing.
Day fine.

April 25th. Morning writing & observing eclipse of sun. Afternoon looked for fossils in rocks of Foul Bay — unsuccessfully. Collected a few flowers. Morning reading. Day unpleasant, cold with snow flurries & high wind.

Observed first dandelions in flower today. Not yet very abundant here, & seem to have been introduced about three years ago only.

Received telegram from Surgeon Kelly of local fort, with Hepd cert of gold medal.

April 26. Morning reading. Afternoon walked out to Cedar Hill or Mt Douglas with Mr Kirk, ascended it, & returned by 5.30. Walk about ten miles. View magnificent. Day fine though a few flakes of snow in the morning, & chilly & windy.

Found several specimens of flowering plants all strangers to me, & all very small. Seems to be characteristic of earliest flowers here, & very different from earliest in Canada in this respect.

27. Making up Centennial account & writing letters. Packing grain specimens &c. Occupied some time with Dr Zelmine getting vocabulary from Chilcotin Indian. Day bordy wet & stormy. No mail by North Pacific.

28 Day showery & overcast throughout preventing me from taking the field. Went about town attending to various business matters. Wrote Dr Engelmann Prof Mason. Gavin Hamilton &c. Afternoon writing out geological notes. Evening visitors. Reading. Bought a rather remarkable Indian mask of Egyptian cast of features?

Saw an Indian woman going about the Streets today with a basket of fresh herring spawn for sale. It was attached thickly like small shot (but transparent & colourless) to filaments of sea weed &c. Told by Dr Zelmine that the Indians of some parts of the coast collect great quantities of the spawn at this season. Thus especially the Cowichan Mill bank sound. The practice is lay spruce branches in the bottom (weighted by stones?) & afterwards collect them with spawn attached

at low tide. The spawn then carefully dried, & packed in totes as an article of food. It comes in some quantity to Victoria at the proper season. How does this habit of spawning agree with that of the herring family?

March 29. Day unsettled with occasional showers, some sleet. Morn out pacing & examining rocks on the Cedar Hill Road. Afternoon ~~out~~ paced & examined rocks to Esquimault. Mr Monkith accompanying me. Got back after six. Eve. reading.

March 30. Attending to various business matters about town, making arrangements for packing last specimens &c.
Afternoon Pacing & examining rocks on Saanich Road. Came across country to the Cedar Hill road. Eve. rather tired, reading &c.
Day fine but chilly.

March 31. Morn & afternoon writing up notes &c. Day overcast & chilly with strong wind in morning. Measuring (paced) ~~for~~ base line on Queen's Avenue, examining Cedar Hill & Saanich road work. Partial back of work. Evening reading.

April 1. Wrote lists for cases & got articles numbered & packed up. Went to Dr Fluke's office & engaged Selby in drawing to catalogue. Every reading in house & at library.

April 2 Dr Folsom called according to arrangement at 9.30. Engaged at his house all day with three Indians getting to catalogue. Back again about 9 P.M. a fine day but chilly.

April 3. Got invoices for boxes & arranged for shipment. Wrote Selwyn & Perrault. Also photographing on Hayes near Dr Folsom's & Swan Lake. Every reading & writing a very fine day. Roads dry for first time since last autumn.

Mrs Todd told me yesterday that about four years ago, & at other times, he has distinctly seen flame issuing from Mt Baker at night. Also that about the date above given "a shoulder" of that mt fell in. The flames &c do not come from the top but some way down one side.

April 4. Pacing roads & laying down rock exposures from 10 Am to near 6 Pm. Got road to Burnside Road & Dead Mans River Bridge. Evening reading. A fine day. AD
Saw this evening in passing through the Indian village a large quantity Herring-Spawn in process of drying. The cedar & Spruce branches on which it has been deposited (see former note) are hung up on poles like the herrings themselves.

April 5. Clerking work at Office morning & afternoon. Evening labeling specimens &c & reading day fine but overcast.

April 6. Out all day measuring roads & pacing & examining exposures. Evening reading. Day fine but overcast & windy in afternoon.
Notice Indian burial mounds or Cairns very frequently formed of stones piled together into small round generally approaching rectangular form. Often some distance from the water & generally on some rocky little hill, or near the base of such. Probably position chosen not for any other reason than abundance & proximity of suitable stone.
Little Shell. Traps found scattered through the woods

in all directions about Victoria. Often far from the Store. Found no doubt by parties of Indians hunting, fishing from canoes or digging Camas Root. Do not follow any definite lines as though marking former level of the sea, & are always so far as yet seen very small, implying only limited occupation. Do not begin to compare in size with the large & regular heaps near the present Store. Implements very rare in Shell heaps

Interviewed Mr Dodd at the Gorge about the "humming fish" about which I had heard. He tells me it is a fact, that a humming drumming or booming noise is made by the fish under water, heard plain in a boat. He has caught the fish, & describes it as with a large head tapering rapidly to the tail, & with two conspicuous fins behind the head. No scales, though head hard & body soft. Is sure of identity, as even when out of water if touched on the head emits sound. Hears the noise in summer, & has noticed it only between the Gorge & Craigflower.

April 7. Out all day geologising. Day overcast with a few showers in the afternoon, but mild & pleasant.
Every reading &c.
Saw a Fantailing bird today.

April 8. At work at office all day writing up notes & arranging specimens. Morning overcast very windy & cold afternoon fairly fine.
The "Beaver Rock" in the middle of the Harbour blown up at 4 P.M. in presence of a great crowd of spectators.
Went with Mr Humphreys to see his collection of shells, which very pretty but arranged solely for beauty in a couple of glass cases.

April 9 – Sunday Morning reading. Afternoon walked to Esquimault. Every reading & writing Home & to Ella.
Vegetation now advancing rapidly. Red flowering currant in full bloom everywhere. Pyrus ?? nearly past flowering. Earlier willows just flowering. Daisies in bloom everywhere. (The common English daisy run wild & not uncommon in patches in vicinity of Victoria & Esquimault.) Saxifrages on the rocks just about to flower. Whole adder's tongues in bloom. Nettles budding out strongly at the point of flowering. Wild Gooseberries just about to flower.

April 10. Out all day pacing & clearing rocks on Cedar Hill Road. Every afterward a packer (R. Ridley) on prospect of getting to Leach R of this season. Reading. Wrote letters to mother & Ella. A fine day.

April. 11. Busy at Office writing up notes, working tracing, labeling specimens & figuring about maps of Leach River. Afternoon Search coast between Victoria & Symmault, Dr Walkem accompanying me. A very fine day. Busy reading & writing.

April 12. Started at 10 A.M. Walking to Symmault examining part of old road on the way. All the afternoon in boat examining rocks of harbour. Returned to Victoria by Stage at 5 P.M. Busy reading, labeling specimens &c. Day very fine

April 13 Walked to Symmault, got boat, & all day examining rocks of harbour, which pretty nearly completed. Return by stage. Busy at library & reading & in Letters from Home. Office at work some hours in the ~~morn~~ afternoon.

~~Told on good authority (Mr Humphrey & another gentleman independently) that the tooth of a Mammoth or Mastodon was found on or near Cedar Hill (Mr Douglas) on the surface, or a short distance below it at the time of the gold excitement some years since.~~

Cultus: said the one part of some pistols lead!

April 14. Good Friday. Morning reading Stevens paper on plants, &c. Afternoon examined rocks of ridge between Cedar Hill Rd, & Dr. Tolmie's farm. Day fine but blustry.

April 15. Again running little matters. Went to Tolmie & went out with him to his house to do some work on the Indian vocabularies. Afternoon at office looking out traps for expedition to Leach R. & making other arrangements. Large mail of newspapers by Str City of Panama. Evening reading news &c. Day fine.

April 16. Day wet throughout. Reading & writing. Afternoon for a walk.

April 17. Making arrangements for expedition to Leach R, & attending to other business about town. Also. carting my Geol Notes. Evening packing, writing & reading. day fine but cool.

April 23 Left Sooke with our brother about 9 A.m. driving to "Lawrence's" at Junction of Happy Valley Rd. thence walking into Town, arriving at 3 P.m. Found various letters & Telegram from Mr Selwyn requiring me to remain in Victoria till amended instructions for Seasons work reach ~~[illegible]~~ by mail. Reading &c.

April 24 Monday At Office arranging specimens &c. W. Russell came up by steamer this morning & occupied most of afternoon. In "The House" for a little while. Very reading.

April 25 Hard at work all day writing up notes & plotting work. Discovered an error in the tracing supplied by Lands & Works Office, of Leach R which has been confusing me a good deal. Very reading, pressing plants &c.

April 26. At work on notes & account of Leach R. Very reading &c. Wrote to Mr Selwyn.

Ap. 27. Work on business about town. Saw Capt Spring as to possibility of getting a Capt &c. &c. P.m. At & about Esquimalt with Russell defining the edge of the intrusive mass. Letter from home. Very. Reading, pressing plants &c. Remitted to Bank S.F. $34.00
A very fine day, warm & summer like

April 28 Out all day geologising accompanied by W. Russell. At Cedar Hill & Cordova Bay. Very fine day.
Evening reading, pressing plants, at library &c.

April 29. Out all day geologising at Cadboro Bay &c. Day fine with one or lots showers.
Evening reading writing up notes & mounting specimens.
Vegetation much advanced during the last few days. Maples in full flower with leaves well out. Wild Gooseberries almost past flowering. Woods of deciduous trees general green tint. Tulips in full flower Grass growing to grow long in rich ground. Fruit trees in flower.

April 30 Sunday. Morning reading arranging rooms.
Afternoon for a walk.
Long walk & reading.
A fine summer like day.

May 1. Out all day geologising. Made the circuit of Mt. Tolmie by the road. Evening reading & writing up notes. Large flights of Cranes passing northward.

May 2. Out all day geologising on Saanich & Burnside Roads. Evening went down to Esquimalt on arrival of steamer. Saw Cambry on Reading. & a very fine day.

May. 3. Called on Crerar & got letter from Mr Selwyn which had Simms telegraphic advice. Changed base of operations to Mainland in consequence to Mt Lands news. Promises further details from Montreal. To depend for transport & supplies on C.P.R.S.
Writing up notes & writing up accounts.
At Office & about town allowing & various letters. Very Monday newspapers arrived & last night mail.
Day fine but overcast & chilly.

May 4. Busy allowing & various trappers letters & seen Mr Cantie about plans of cooperation during the summer. Earnest movements of parties, & deal lies for doing work in connection with them.
Afternoon got boat & went with Russel up the Arm & examine rocks there.
Evening reading.
Day unsettled cloudy & showery.

May 5. At Office packing up & arranging letters. Making out accounts & statement of expenditure to May 1.
The "Colpoys" left this evening for the North Stickeen & Cassiar, the "Otter" leaves tomorrow morning at ½ am. The two steamers probably carrying over 400 miners & others and provisions

Wm Russell leaves by the Otter. Curious scene on departure of California. Deck crowded with men of all classes, but severally in different stages of inebriation. Wharf black with "friends" & others seeing them off. Men on board singing lustily, tomfoolery, shouting &c & exchanging goodbye's, which in the inebriate state of some a dangerous operation. Lower deck packed tightly with mules & cattle & every inch of room long enough to lie down on "spotted" for a bed by some one, the plan being to tack up a playing card with the owners name above the place appropriated.
The steamer forward shamefully overcrowded, & should not have been allowed to leave port in the condition in which she was. Happily all have a prudent passage as in the case of the Pacific.

Saturday May 6. Went with Dr Welsman in search of shells &c to Shoal bay. Day very wet, & returned to town pretty wet. Dinnered at about 3 p.m. Coopers at Shoal bay kind enough to ask us to lunch.
Spent reading & making up accounts of expenditure for exhibition.

Sunday May 7 Morning Reading. attending to specimens preserved yesterday. afternoon for a walk. very reading, attractive rides from hot spirit of Washington Territory.
A very fine day.
Oaks have begun to leap out, hawthorns, & alders about half leafed, pines have not yet in flower though buds showing. Populus balsamifera, covered with young swell green leaves. Lilacs not yet in flower though buds colored. The ground very often covered with a carpet of buttercups in full flower. Probably R. acris introduced. See specimens. also in two places quite quantities of Sorrel (R. acetosella) (introduced?) in flower. Flowers falling from maple

May 8. At work all day making pinchers & arrangements for departure. Clearing out Office at Fort. Buildings &c
Day fine & warm

May 9. Packing &c. Compared Barometer with standard at RRS Office. Wrote Selwyn Foster. Sent acct of expenditure to May 1. to Grant. Changed all plant papers. Read a little.
Day fine & warm.

WEDNESDAY, 10.

Finished packing & arrangements for departure. Saw a Bowman who volunteers to go with me for the Summer. Arranged the matter conditionally on nothing happening during intervening time to necessitate change of plan. Dined at Crease's, got back at half past twelve changed clothes, went on board Str. Douglas & turned in.

THURSDAY, 11.

Steamer started about 8 Am. but lay off mouth of harbour waiting for some missing men till about 9. Steamed all day, anchoring about Sunset in Departure Bay. Very fine weather. Got a few casts of the tow-net, & caught a number of small Crustaceans &c.

May. THURSDAY, 18. 1876.

Packing & making final arrangements for departure. Sent $300 to pay outstanding bills, & current expenses of trip. Sent on Mr Selwyn for $300 Saw Mr Cambie & arranged to meet him on June 17 near Solomon House.

FRIDAY, 19.

Left Victoria 7 am. Arrive New-westminster 3 Pm.

May 19th 1876

Cont. at May 26th 1876 in note Book of 1876

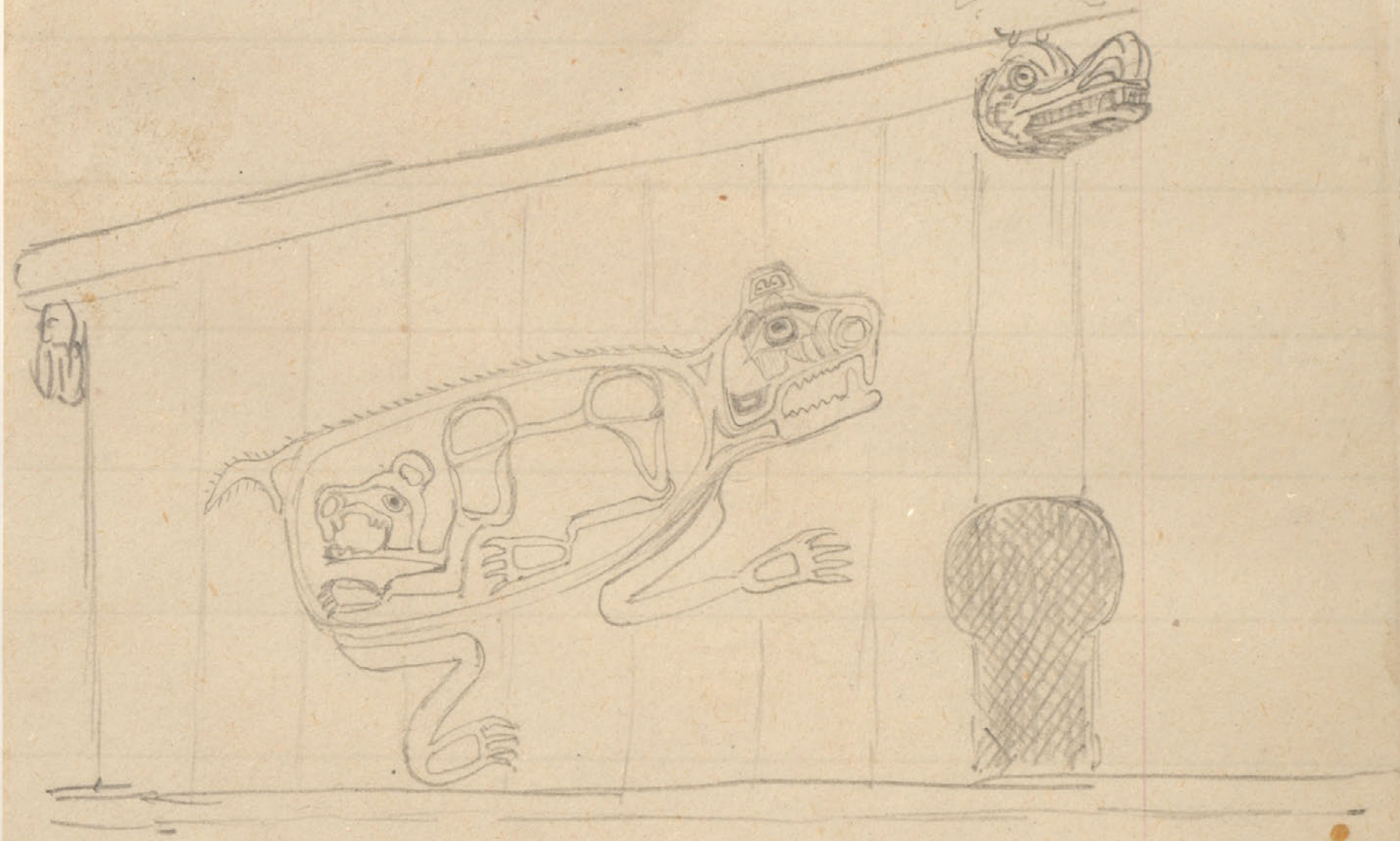
SATURDAY 20.

SUNDAY, 7.

MONDAY, 8.

MONDAY, 22

TUESDAY, 23



Bear?. painted on Cullacullatto
H. Sketches L. The opposite side of
the door ornamented by a similar
though slightly different figure.
Monsters head above surmounted by a black bird with
wings partly spread.

May. FRIDAY, 12. 1876.

Left Departure Bay 5 Am. Steamed till 5 PM. & anchored in bay on N.W. Stn Stuart Id, entrance of Bute Inlet. Many squalls, PM. fine. Strong tide races afort entrance Bute Inlet, making the steamer steer wild. Islands from Entrl Channel all bare & very rocky. White granite. Canoe arrt Indians Canoe along side after anchoring.

SATURDAY, 13.

At 5 AM. Steamed up Bute Inlet, arriving at Waddington Harbour before noon. The mountains above about 3000 ft covered with a fresh fall of snow. Torrents & little Cataracts falling from clifs in all directions. Clouds covering higher peaks. All supplies carried up to depot 2 m. up Homalko, by boat & canoe before dark. Took trip up to Depot & examined rocks near mouth of river.

SUNDAY, 14.

At 5 Am. but on getting S of Mary Id met heavy head wind & sea. Turned & anchored in Dean's Har. PM. went on shore with Capt Morrison. Got some plants, & found a Crane's nest with 2 eggs. Indian intrenchment. Got some limpets & Polotherians & dragging a swab overboard on a lead while the ship swung

Left Drews Har. early with strong fair wind. Near Ballinacelds met heavy sea, & half a gale from the S.E. Got hauled off dredge a few miles S of Todd's narrows, & a second on coming to anchor in Ganges Har. First 35 f. second about 8. Both mud with Zedas &c. Evening calm & beautifully fine. Whales heard blowing near the vessel

TUESDAY, 16.

Left Ganges Har 7 am & arrived at Victoria 11 a.m. Saw Cantlie, rec'd letters &c & decided to start for Quesnelle on Friday. Tracing maps & making preparations Eng. at Drieard Ho. & Led a chat with Cantlie & Jennings.

WEDNESDAY, 17.

Busy all day with preparations &c tracing maps. Making business calls. Telegraphed A. Bowman, Got invoice of photo. plates expected June 5. Not hearing from Bowman cannot engage a man.

[illegible]

10 lbs. flour
8 lbs bread
8 lbs biscuit.
10 lbs bacon
6 lbs ham
2 lbs Cheese
4 tins tomatoes
4 pound tins Salmon
2 lbs butter in Crock
2 lbs. tea
4 lbs. Sugar
2 lbs. Soap.
1/2 doz Candles
Matches
Salt.
Pepper
2 tins baking powder

1 Coarse towel.

No. D56299

Nov 1 1875

J. C. Reeves

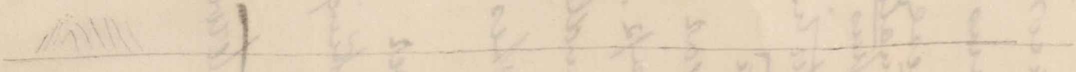
$ 128.30

GEOLOGICAL SURVEY OF CANADA

(Museum and Office, 76 St Gabriel Street) MONTREAL.

~~List of Articles~~ 18

A. R. C. SELWYN DIRECTOR



Possible arrangement of rocks along W. shore Esquimault

Geological Survey Dr

To

Sept 7th 1 Month Services

Oct 7 1 Month do

Oct 30, 23 days Services

To Cash Sick Burial in K

Contra Cr

By Cash at Fort Grey

140 22

25/
12 50
37 50

on

Lo 7 Rem

mis

du

50.00

50.00

~~38.31~~

138.31

in Vedma

5.00

$ 143.31

15

128.31

145

$ 130.22

130.22

Intelligen

Intellige

Intelligen-

Vocabulary in Dakk from 'Charlie' Allen's House Indian.
In pencil corrections & parallel words from Blackwater Indians.
(In the pencil column marks thus (✓) mean that word same as before written)

Black spruce	tsuth	
P. Contorta	chin-tee	chin-tou
Black lichens hanging from spruce	tehl	whl
Aspen poplar	tas-pi	vaslou poplar Cow-duz
Willow	khi	
Abies Douglasii	tsim-tsun	
Herb (Aster Solidago &c)	nin-guot-an	yin-wod-an
Grass	khoh	klo
Bark	ăluq (ul-luz)	a-lah
Sedge	toil-a-hi	
Rose	howas-ka	howish
Yarrow	chun-e-che	✓
Strawberry	un-tzin	(un-tsing-tau) in tye
Epilobium	Kouse	
Vetch	nin-kut-lulth	
Leaf	at-an	✓
Forest	kul tsul	il-tsul
Wet land	gut-zil	✓
Wild gooseberry	whus-ka-chin	(tsu-o-whl)
Raspberry	ta-halt-zil	✓
Dock (?)	sol	
Earth	tles	(nun)
Good Earth for forming (growing potatoes. Chelaclim name for the Tsawco)	Uz-in-guat-lin	(potato?)
Wheat	came	
Flour	klesse	
Stocs	te-chun-ka	
Trousers	e-klah-hil-tin	klaz-us
Handkerchief	tsas-och	Tsar och
Wooden pipe	te-chin-ka-touch	te-chin-ta-gatsi
Stone pipe	tsi-ka-touch	clay pipe tles-e tse-le-gatsi

Stone	tsi	tse
Red	til-til	
Green & yellow.	tul-tsau	tul-tsau
Black	klit-is	tul-kushe
White	kle-yul	kle-yul
Blue	tenit-tsau	til-kus
Skin	uz-zuz	
Glove	bat	bat
Mirror	pete-sau-elin	et-tuz-nale
Comb	pe-seul-zoue	chil-jouk
Tent	coh (pun	s-i
Shirt	quit-sit-an	tzuz-dan
Matches	te-keich	
Tobacco	tsul-lu	ta-ka
Knife	penl-so	(tskin-il-kutch) tesh
Kunikinic	tin-icht-an	~~ne-nicht-an~~ not understood
Iron	tsa-tsan	(tsa-tsun)
Gold brass &c	tsa-tsan-il-tsau	shunia-ad-el-gun
Hat	tsin-a-koue	tsoh
Straw hat?	hi-tsin-a-koue	hi-tsoh
paper	tis-tlis	tush-lus
Clothes	tlis-tih	tlush-tsis
Charcoal	kan-ul-tsuh	ut-ush
Mountain	tedl-kuhl	tsutl
Valley	kul-koue-chet	(kil-kouch-it)
Beaver	tsah	
Marten	sis-chez	chin-ich
Mink	til-chus	chel-chus
Buck Skin	man-chiz	tut-niz
Coyote	Chil-ich	~~Chil~~-ichi nel-ussi
Large black wolf	nun	yush
Squirrel	tick	~~Nah~~ nesh-il-tick
bat	ya-ho-un-le	

Mouse	klun	ta-tzurz
Loon	tan-tsin	ta-tsih
Goose	kuh	koh
Duck	tun-uhl	(~~ton~~ notte) mallard tug-ui-choh
White fish	tra-tsich	
Saw	put-ta-kut	
To saw	ut-taa-ta-zut	pa-da-da-gut
Snow-shoes	ich	
Socks	ke-tul	
A seat	pitch-e-ta-las-tah	geos-o-dah
To sit down	tsin-tah	
To get up	mit-en-clat	ted-in-yeh
To go away (imp)	zu-un-i-uhl	~~ten-in-uhl~~ ten-nine-dehl
A bee	us-tsurz	
Man (white man)	tie-gon	tse-yuh (pitopa means any occ. and unit ~~ten-ne~~)
Indian	ten-ne	ta-kihl
Big man	ten-ne-en-in-cha	ten-ne-et-cha.
A chief	neitz-il-in	mou-dich
Great chief	neitz-il-in-cho	ne-chil-e
Minor chief	neitz-il-in-gus	ne-te-yaz
People	tin-ne-o-cont-lin	
My father	ap-pa	ish-pa
My mother	a-kul	ish-klu
Woman	Ta-goul-tine-teen	che-koh
My wife	Tsi-at	yun-tsuc-ou
Boy	Chil	Chil (~~shoi~~ ~~tse-a~~ ish-koi
Boys	Chil-er-kuh	(Chil-aCah-un)
Girls	ted-i-o-kuh	(ta-deer-kuh) ~~chu-kie~~ te-de-koh
My girl	sis-ki	
Young woman	ti-et	te-et
Old man	ta-gul-tin	ten-ne-a-te-cha-cou-te old woman
Ancestors	io-si-tam	tsi-an-a-tas-si

White man col-juh
Freedman na-dah

	Baby	chel - accah	Skoi
–	Sick man	tin - ně - tuh	tu - ne - tul - ā (speaking to a sick man)
–	" "	tell - sa - ta - zut	(speaking of absent sick man
–	Large house	con - gouin - cha	go - who - cho
–	Large stick	tich - in - in - cha	te - chin - tin - chi
–	Small stick	tich - in - in - tout	
	Strong	gūn - zūn	tel - tush - ā
–	Old house	Congo - chit	go - who - chut
–	Young dog	klin	kle - wz dog kle - cho
–	Bar	kun - tsun	
	Kill	ta - tyuz - an	chi - chih to shoot chăg - il - toh kill with stick chu - ul - hurz kill with stone
wurz - guz	Cold	guul - kuul	
	Alive	cla - tchalā - sneh	(ha - hlen - neh)
wurz - ul	Warm	kun - ā - zul	
	I	tsun - us	ně - yun
	You thou	nun - us	she
	He	ku - yin	un - na
	They	tsa - us	tsi - e
	We	to - zo - tus	un - il - tit
–	We go	arantsil - ta - zo - tus	un - to - tus
–	Go thou	tas - kuich	un - ine - dul gun - un - e - yuhl
–	He goes	tsal - kuh	
	That	ku - yit	ň - gun - e
	This	nihl - te	
–	Something far away	nihl - zūt	nihl - tsa
	All	con - tlan	tsi - uh
–	All gone	ka - tse	tse - a - hush - un - til
	Many	hlan	te - te - ne - tlan
	1	inl - he	tlu - ki
	2	nan - kuh	nan koh
	3	tie	ta - gi
	4	tee	tin - ge

5	is-kun-la	is-kun-li
6	ult-chun-ti	ilt-ku-tagi
7	ilt-gun-ti-gut-git-in-tte	il-ta-gunl-te
8	guh-in-il-te	il-kut-ting
9		lan-ez-kuk-i-un-la
10	it-chil-au-nil-nan	lan-ez-e-
20	nat- " " " " "	nat-lan-ez-e
30	tat " " " " "	tat " " "
40	tin " " " " "	tat " " "
50	is-kun-lah " " " " "	iskunla " " "

— Good bye	ta-wa-ta-han-tah (Said by one man going away from a number)	ut-ti-unti
— Good day	ho-lan-a-uch	
— Good day	in-ko-ta-lan-uh (Said by one man coming to many)	
Today	kun-tsin	kan-et-zin
Tomorrow	ult-kun	pun-te
— Day after tomorrow	ta-tsin-tsin	pun-te-a-pun
Yesterday	ult-ult-tan	ult-ta
Yes	ah-uh	ha
No	tok	own-tuh
— they eat	ut-tse-un	tse-wah-wah-he
— he eats	ut-ta-lonl	yun-e-ye
— they drink	ta-tsit-nan	tse-you-tat-ni
— thirsty	tsut-ta-nul-tsi	ta-ous-ta-tus-in-yut
I drink	tas-nah	ta-tsut-ni
dance	tsin-e-tih	uz-nut-ti
laugh	chit-il-loch	tsut-luck
Speech	ye-tsil-tich	ya-tsul-tuck
I speak	ya-ti-stick	a-cho-yal-tuck
Sing	shin	tsut-chun

– they sing	tsi - kin	tse - yahwa - chin
– very sleepy	tsut - le - na - trl	nan - is - te
– they sleep	nhl - na - rin - ran	tse - yan - nan - an - is - tig
he sleeps	but - la - rail - rhin	
to see	nhl - in	hun - itl - in
they see	tsin - ikl - in	tse - ya - na - nitt - in
all see	tin - il - hlan	
to wish	ko - sio - tin	you - nis - te
not to wish	kla - gos - tin	tsut - us - nick
love	pa - na - sun	
To kill a man	tun - es - tun - as - tuhl	
to wrestle	ut - les - un - til	clen - tsut - nek
to walk	tsi - utt	tsi - utt
to steal	ut - tsin - a - ech (ut - tsin - onl - e)	
	un - dun - is - ti	not so good
Bad man	tin - ne - nun - tsun	nen - tsi - a - den -
You to give ?	nan - il - luh	n - gan - e - i (give me)
to give	ku - tick	
– to cry	tsut - tsa	tsut - tsa
– they cry	tsi - a - tsil - tich	tsi - a - whut - sa
		horse
– Spurs = kick horse	pe - unity - ho - tus	yes - cle - pen - de - tatt - ei
– Saddle	e - you - clay - ril	yes - cle - cus - e
– bridle	e - you - clay - ya - hil - yuh	yes - cles - e - kely tuck
– lariette	e - you - clain - kuhl	yes - cle - whuts a sin - clu
– stirrups	ka - til	tun - as - tatt - is
horse	youngs - a - keen	yuy - cle
– to shy	nel - kit	
Rabbit	koh	koh
fly	as - tsus	tsus
mosquito	tsih	tsih

Snake	Kla - us - tsin	Kla - gus	
Egg	Ah - ris	ug - iz	
Short feathers	chūs	phut - yuy	
Long feathers	~~t~~ ~~sh~~ tah		
Wings	ut - ah	put - tah	
Fish	Cloe	cluk	
Salmon	tsaman	ta - lup	
My house	Suc - koh	Ses - Kuh	Kuh
Village	Koh	koh - a - li	
Church	hunty - e - a - gul - ta - a - koh		le - clis
Priests house	yaka - stop - ialte - a - koh		
Kettle	mon - si		us - sa
Bow	tad - tsan - kuh	tte - te	Ka - yah
Arrow	Kugh		
Axe	tyin - tte	tsi - tsl	
My axe	tsut - atutte	tsi - se - tsl	
My knife	tSu - peul - so	tsi - se - tis	(tesh Knife)
Canoe	tsi	tsi	
Raft	hun - ūs	hui - yus	
Moccasins	kih	Kech - kot	
My pipe	tsuc - cotsu	tsis - ta - gat - tsi	
Sky	~~yah tah~~ yat - ah	yah	
Stars	Sun	Sun	
Sun	tsūh	tsah	
Meat	ut - sun	ut - Sun	
Fat	a - kuh	a - Koh	
Dog	Kleen	Kle	
Bear	Sus	Sus	
~~to~~ Fox	nan - chis	nan - Kuy	
Deer	neitsa	is - tse	
Sunrise	ka - pun	pun - da - ta	
Midday	tsan - as	tset - ney	

	Evening	hut-leigh	na-ei
	Night-	utle	tsis
	Spring	a-golt-tsin	
autumn ta-git	Midsummer	tan tie	sher-in
	Rain	na-goulti	na-whul-tan
Winter hui	Wind	nein-tse	ta-tse
	Thunder	ind-neih	teit-neik
	Lightning	ind-neta-ush	teit-neik-a-kus
	Snow	yus	yus
	Fire	kun	kwun
	Water	toh	to
	Ice	kol-uh	tun
	~~Salt~~ The sea.	ya-tu	tow-ca-hun-cha
	River	tsa-rin-lin	tow Kuh
	Creek	tsa-rin-kul	
	Lake	ping	pun-gut
	Prairie	klue	klen-sa-kă
	Island	noh	neu
	Salt-	la-sal	le-sel
	Iron	sat-sun	a-tes
	Bone (as yder)	a-kut	tsun
	Leg	ten-ad-sun	qua-chun
	Foot	ten-ne-a-kuh	pă-ke
	Big toe	ne-~~kil~~ keil-a-cho	quil-a
	Second toe	ne-keil-a-neez	
	Third toe	" " " "	
	Fourth toe	" " " "	
	Small toe	ne-keil-ad-sut	
	Deer's foot	a-kuh	
	Belly (~~human~~ human)	ten-ne-put	pă-put
	Female breasts	ten-ne-adsoh	put-gu
	Blood (human	ten-ne-e-til	ski

Friend	tsil-tūs	tsil-et-tsi
– Friend (aged)	tsūn-ă	
– Friend (Old man speaking to young friend)	tsich-eil	
Friend (old man or woman to young woman)	~~tsi~~ sit-ells	
~~Man~~		
Head (human)	ten-nĕ-ă-tsa	mut-tsi
Beard or whiskers	ne-tā-na	ne-tā-ga
Face (human)	ten-nĕ-nin	ne-nin
Forehead	neitz-e-kŭlh	nin-in-tack
Ear	neitz-ă	neit-tsa
Eye (human)	~~ten-nĕ~~-	ten-eena nin-a
Nose	ten-ni-neitz-eh	ne-nin-tsis
Mouth	ten-nĕ-azi	ne-zick
– Your mouth	Sus-ĭ	ses-ick
– General opinion	yadt-eil-tick	tsi-a-na-den-ne
– One man's speech	yads-a-tick	you-nostē
Tongue	natzole	tsu-la
Teeth (human)	ten-~~nĕ~~-ā-ō-ŏh	ne-gou
Neck	ten-ā-o-~~kus~~	ne-zil-tsin
Throat	naz-a-wohl	na-zul
Arm (human)	ten-nĕ-a-kon	ne-kun
Hand (")	ten-nĕ-luh	ni-lah
– Little finger	neil-a-sut	nil-a-~~[illegible]~~
– Third finger	neil-a-sŭh	~~[illegible]~~
– Second finger	neil-a-neiz	
– First finger	neil-ăs-kut	
Thumb	neil-a-cho	
– Finger nails	neil-ă-kŭn	kil-a-kin
– Body (human?)	ten-a-nus	ne-ze
– Bone (human)	ten-nĕ-a-kut	
– January (large eagle month)	tein-tsel-esa	
– February (or July?)	min-chus	

kai

Months rather uncertain

March	(hunt-deer month)	pun-in-yes-adtSilch
April	(end of winter)	o-goltsin
May	(young deer month)	in-clay-a-zuh
August	(Salmon month)	toamaudsa
September	(?)	tau-tsa-hasa
October	(wind month)	pun-in-atsi
November	(talking month)	pun-in-kleat-kun-eitz-
~~December~~		keitz-kun-eitz
December	(ice moon)	kal-usa

Words from 'Fanny' ~~Blackburter~~ Cluscus & Ludian.

Moon	Sa
Sun	tsin-a-son-za

October	cle-ct-ne	fish run
November	ta-gitl-nan-ta-tit	Canis fish
December	nil-chih-cha	Some sat off
January	pun-un-saz-ul-tul-tau	
February	hei-clous-a	White fish moon
March.	ta-zas-til	Little snow falls
April	en-a-tlas	much snow
May	Snow	
June	shen-ous-a	
July	tuc-cous-ous-a	much fish run
August	ne-chul	
September	tal-ou-gous-a	Salmon come
	nan-tle-cho	many fish

Words from Blackwater Indians, including a correct list of the months.

bag - is - li

Prairie hen. il - tutl - e

Spruce partridge. tich

ruffed grouse. ut - sut

owl us - un

gun the - te

pistol. the - te - uz

belt sch

coat ~~tapuk~~ tshut

blanket. nal - tch

vest ta - ki

hammock. faad - ul - bluy

October

pem - tsa - housa

clou - housa

ta - gesting - ei

ta - gus - e

ta - cas - til

te - chesl

nin - at - las

Snow goes away

ken - ous - a

tu - cous - un - tya

ne - chuy

tal - ou - gunya

~~nan - dle - yo~~ nan - cle - cho

Great Bear yet-tah
Pleades sum-ne-ttan-ne

Additional words from Blackwater Indians

Lichen (on wood) tau-tluz

Lichen (on stone) tse-gus-ul-chus
Moss yeam-pā
Green scum on water glass Pun-chaw tā-tsā
Grave tsuk-gut
Seed capsules of Moss tsus-e-chuck
Matonia tal-gal-chin (Indian gloves used for eye medicine)

Pyrola rotundifolia tsat-tsau-ā-tam
Geranium Fremonti Tuck-ai-kun
Wild pea & vetch tsu-ttul
Cornus Canadensis tsit-mi
Galium boreale tal-chos-chin
Epilobium kuh-as
Blueberry ilt-tzul
Flowering raspberry clan-ing-cut
Red dog-wood (C. stolonifera) kund-ul-kun
Rose nin-chuh
God ne-pa (= pa-poa)
Soul or spirit moud-nil-tuz.

THE BANE AND ITS ANTIDOTE.

Though Manitoba is now happily free from the grasshopper plague and may look forward with some confidence to immunity from the scourge in future, we cannot withhold our sympathy from the settlers in certain parts of Minnesota who are in less happy circumstances. While the farmers of this Province can rejoice this year in overflowing granaries, the contents of which will find a home market at remunerative prices, they will doubtless take some interest in the troubles of agriculturists in the State to the south of us, albeit the scene of disaster is some hundreds of miles from our own more favored land.

We are not inclined, as a rule, to place much confidence in the reports which reach the newspapers from independent sources on a subject like this, as they are far too frequently of an alarmist and exaggerated character. We have now, however, an official account before us which affords trustworthy data respecting the extent and ocality of the disaster in the State of Minnesota. About a fortnight since, Governor Pillsbury commissioned the Hon. D. Bassett, of St. Paul, to traverse the devastated territory, to ascertain and report the facts. Mr. Bassett went out on the Sioux City road, and first saw grasshoppers in considerable numbers at St. Peters, but no great damage seemed to have been done, until Watonwan county was reached. Leaving the railroad at St. James, Mr. Bassett procured a team and thoroughly traversed the counties of Watonwan, Cottonwood, Brown, Renville,

utility and complete success of these bugs as destroyers of the grasshopper eggs there would seem to be no doubt in the minds of those who have given the subject a general examination, as well as of those who have personally inspected their mode of operation and the places where they have already utterly destroyed the eggs laid by the hoppers a few weeks ago.

SOME PROOF ON THIS POINT.

is furnished in the letter of Governor Miller alluded to above, dated on Wednesday, and written at Windom. Governor Miller says:

"Last evening when we reached Worthington from Lake Shetek, there was quite an excitement in Worthington, owing to the fact that the citizens were generally convinced that a red parasite was destroying the grasshopper eggs. I examined the matter carefully myself, and became convinced that the destruction of the eggs in that immediate vicinity was well assured; but I determined not to write you and excite any hope until a further and more complete examination could be had. We therefore furnished our Bohemian friends with a bottle of eggs, and *their pests*, and the commission left in high spirits. We postponed further investigation until this morning, when I left and prosecuted the examination with vigor. The farmers in the vicinity knew nothing of these signs of deliverance until the visitors from Worthington reached them, and I feel safe in saying to you that in a circle of ten miles from Worthington there will scarcely be an egg left by tomorrow night. I send you a bottle herewith containing the cones and the parasites. We could scarcely find a cone, or sack, except as they were indicated by the parasite on the surface; and each cone which was not entirely destroyed had from five to fifty red laborers at work upon the eggs. We found scores of cells with no eggs left except the shells. As soon as the bug finishes one cone it starts upon an expedition for more worlds to conquer, and in instinctively finds and conquers the new world. I, of course, informed our station agents and and others at Hersey and Heron Lake of this discovery, and they also promised to make a thorough investigation, as I will do here, and the results will be reported forthwith. If the matter is general, deliverance is nigh. * * * I stopped for fifteen minutes one and a half miles west of Wilder, where Section Foreman Smith took me to that portion of his farm where eggs were deposited. We could find none by general digging, but wherever we found, as we frequently did, the red parasite on the surface, we found the cone beneath, with the parasite at work consuming the eggs. * * I am aware that two years ago this parasite was found working upon the eggs at Madelia and other places, but here we have the remedy almost as soon as the eggs are laid, while in the former instances the parasite was only discovered in the spring."

Since the letter from which the foregoing is an extract was written, Governor Miller has received a despatch from a gentleman at Heron Lake, in which the latter says:—"I find that parties were in town this morning, talking about the red insect which is effectually destroying the grasshopper eggs. They were found three miles east of here, and also four miles southwest, and all engaged in eating the eggs. I will at once have further examinations made in other directions, and report to-morrow."

WHAT SHOULD BE DONE NEXT.

Redwood, Yellow Medicine, Chippewa, Stevens, Kandiyohi, Wilkin, Otter Tail, and Swift. He finds that in all of the above and so far as he could learn, in the counties south and west of them to the Iowa and Dakota lines, that at least one half the crops are destroyed. Owing to the drought which prevailed during the early part of the season the yield would have been comparatively light, and with the grasshopper plague added he is of the opinion that eight to ten bushels of wheat per acre is the utmost that will be realized, upon an average, throughout theentire region above referred to. Most of the farmers are comfortably provided with stock of various kinds, but many of them were obliged last spring to either sell their stock or mortgage it to procure seed and the means of maintaining their families until harvest time, only to find themselves with no crop to harvest. The wheat harvest is substantially finished (though the grain is not yet stacked) and what there is of it is in good condition. Mr. Bassett's observations extended through a strip of territory about two hundred miles in length and one hundred miles in breadth in Minnesota, and the extent of damage beyond the Iowa and Dakota lines must also be considerable. Through all this territory the hoppers have deposited their eggs, giving the farmers every reason to fear a renewal of the plague another season, unless they should hatch this fall, and freeze to death. On the line of the Sioux City road, Watonwan county has suffered most severely, and on the line of the St. Paul & Pacific, Kandiyohi county is the greatest sufferer.

It will be admitted that the above account is disheartening enough for the people of Minnesota, who might well become discouraged as they, year after year, witness the destruction of their crops. There is, however, a bright as well as a dark side to the picture, and in the same issue of the St. Paul *Pioneer-Press*, in which we meet with the information condensed above, we come upon the following account of the triumphant progress of a new-found destroyer of the settlers' fell enemy:—

A remedy is at hand in the shape of an egg-eating bug, which is surely and certainly destroying all the eggs laid by the grasshoppers this year, thus ensuring Minnesota an exemption from the ravages of this voracious and destructive insect next year. This bug is of a deep red color, about the size of a flea, or rather a louse, resembling the latter also in its shape and movements. Ex-Governor Stephen Miller has forwarded to President Drake, of the St. Paul & Sioux City road, a box full of earth which originally contained grasshopper eggs, but which had been transformed by these parasites into a quantity of loose soil, mingled with the remnants of discolored egg shells, with a multitude of the fat little red bugs prancing around on the surface apparently in pursuit of something more to eat. Now, as to the gentlemen interested in the St. Paul and Sioux City, the Winona and St. Peter, Southern Minnesota and St. Paul & Pacific railroads should, and, no doubt will, take prompt measures to have this important matter thoroughly and properly investigated and the facts made known to the public without delay. There can scarcely be a doubt that an antidote for the grasshopper pest has at last been furnished by nature, and the fact that there is no likelihood of any extended damage from the grasshoppers next year should be widely circulated. In addition to this collection of information on the operations of the parasite, every man owning an acre of unbroken land should at once strike out boldly and plough for a crop next season. The damage inflicted by the grasshoppers during the present and previous years can by this means be measurably repaired next year. Certainly the signs are hopeful that Minnesota will at last be relieved of one misfortuue that has afflicted it for several pears, not alone in the destruction of a portion of its valuable crops, but also in the uncertainty and demoralization which have attended the annual visitation of the infernal grasshoppers. For this blessing let us all give thanks.

THE Merchant Shipping Bill, respecting which so much interest has been taken in Canada, was finally passed by the Imperial Parliament to the satisfaction of Candians. The Commons carried one important amendment against the Lords. Having accomplished the end for which he was specially sent by the Dominion Government, Mr. Smith, Deputy Minister of Marine, sailed for Canada on the 17th ult. The Hon. Edward Blake, whose assistance had doubtless been given to Mr. Smith in accomplishing his task, was to sail on the 24th.

LOCAL AND PROVINCIAL.

THE river is rising up above.

A TEACHER is wanted for the Point Douglas school.

REV. MR. SEMMENS left for Beren's River Wednesday.

A FEW prairie chickens are now in market, and sell at fifty a brace.

PRAIRIE chickens are reported as not very plentiful west of the city.

COMING.—Hon. Donald A. Smith is expected to arrive in this city shortly.

THE chief of police has been around warning people about their stovepipes.

THE tobacco establishment of Geo. Firestine has been purchased by C. J. Brown & Co.

THE heavy rains experienced the past few days have delayed the work on the sewers considerably.

ANOTHER tailoring establishment is to be opened shortly on Main street by Messrs. Cameron & Campbell.

A QUANTITY of timber and iron stringers for bridges on the C. P. R. has recently been brought down the river.

IT is expected that the International will be ready to take her place on the line in time for the next trip.

by the imposition of duties on wool and other agricultural products, and argued that whenever we could buy any article more cheaply than we could raise it, our interest was consulted by its importation.

Mr. Patterson recognized in the policy of the Government a willingness, if any adjustment of the tariff were necessary, to regulate it in the interests of the manufacturers, but, when no addition to taxation was necessary, he was not disposed to condemn the Government for not making any financial changes. He showed the insincerity of the Opposition in attempting, after voting the other day for protection to the manufacturers only, to now tack on the agriculturists merely to catch votes.

Mr. McDonald (Cape Breton) advocated a duty on coal.

Mr. Carmichael pointed out that the mining interests, shipping interests, and fishing interests were all ignored in the resolution. If protective duties were to be inflicted why were these great industries ignored? But protective duties would destroy the shipping interests. The thanks of the House were due to the Government for having adopted a truly national and not a sectional policy.

The debate was adjourned to be the first order of the day on Wednesday.

the falls from one side to the other for two days before finally working its way over. Before the next fall is reached the ice is dissolved. Consequently, no ice flows into the lake. In the fall on account of its depth and of the wide bays the Winnipeg is slow in freezing, being about ten days later than the Red River, and, as such, is of some value as a harbor of refuge in case of being caught on the lake after the other rivers freeze. Four days after the closing of the Red River, and when an entrance there was hopeless, I have sailed into the Winnipeg. It must be remembered that the lake does not freeze for a fortnight or three weeks after the Red River is frozen. The water on the Winnipeg overflows the ice to a height of six or nine inches and in many places renders travelling disagreeable. This is caused by the weight of snow and the pressure of winds. In other places the ice is unsafe, being worn to a thin crust underneath by eddies. There are some few such spots on the Red River which become dangerous only in spring and it is at these places that accidents occur. The water of the Winnipeg is brown and clear and remains cool all summer.

March 29th, 1876. M.

NITOBA FREE PRES

OPENING OF RIVERS.

A well-informed correspondent, who has paid considerable attention to this matter, gives his views in the following letter, which will be found well worth perusal;

To the Editor of the FREE PRESS.

To some of those who are now so anxiously looking forward to the opening of navigation it may not prove uninteresting to read an account of some observations which I have been enabled to make during the past few years on the breaking up of our rivers in spring. My opportunities have made me acquainted with the mode in which the ice disappears on the Winnipeg, the Brokenhead and Red Rivers. They all flow into Lake Winnipeg, but the nature of the country which each drains is quite dissimilar. This to some extent varies the conditions under which the ice disappears in each. The Red River, though having its sources in the lake and timber country of north-eastern Minnesota, flows for the most part through a vast plain destitute of timber, except along the banks of the river. The banks have. consequently, an almost uniform altitude. One would imagine that a stream making its way through a level country, where no rocks nor timber obstruct its course, would do so in almost straight direction. The reverse we know is the case with the Red River. Its course is of the most sinuous kind. Its many bends have much effect upon the disappearance of the winter's ice. The depth to which the ice forms on the Red River is from 2 to 3 feet—the average being about 2 feet 6 inches in an average winter. The shores of the river are in many places composed of soft mud. The water and mud both freeze, and from the shore out to deeper water the depth of ice is greater than the average, being frozen to the bottom, and forming a solid mass with the mud under neath. In the spring, after the snow begins to thaw, or after a fall of rain, this portion of the river is always flooded, the reason being that, unlike the ice over the flowing water, this is prevented from rising. It is always the last to rise or to move, and it may be seen some time after the main body of ice has been in motion rising to the surface in large masses and black with mud. This is what is called ground ice; it is, however, not always confined to the shore, but may sometimes be found formed and adhering to the ground under the flowing water. The conditions under which it forms in that position are not easily determined; but it is quite probable that ground ice of this kind may tend to choke up the outlet for the surface ice as it rolls along with the current. The first portion of the river in which the ice shows signs of decay, is where the current is most rapid, or where eddies are formed by bends or obstructions in the channel. After a good many of these openings are made the ice moves in a mass. At Winnipeg, no movement takes place until the water first rises from the result of thaws or rains; and the final movement depends upon the pressure of the downward mass of ice. Partial movements take place which leave open spaces, but these are entirely local, and do not extend beyond the first bend of the river. When the full pressure of the ice coming down is felt, every avail able spot is covered with ice more or less broken, and often impelled in large cakes upon the shore with slow but immense pow- ice jamming in the river on this side of the line, the water from that cause is never higher than the upper bank. The local movements of ice begin five or six days before the last shove or clearance occurs. At Winnipeg, last year, there were partial movements of ice about the 24th, and the river was clear during the night of the 29th of April. The water continues rising until the final "shove" takes place. During the twenty-four hours preceding the final shove this rise is very rapid. This is occasioned chiefly by the ice becoming jammed at some of the bends below where the rise takes place. The moving ice attempts to force a passage underneath the still stationary ice, and it may be heard groaning and roaring as it rolls and tumbles underneath. The large blocks continue their progress under the other ice in a series of somersaults, but they sometimes fail to find room in which to turn, and are brought to a standstill, and so a jam is formed and the channel through which the water escapes is almost blocked up. From this point upward the water will rise, and continue rising until the jam gives way. In some places where the current is rapid a jam thus formed will raise the water ten feet in as many minutes. At some places on the river lime-kilns are built at a point considered to be beyond high water; but a local jam of this kind will raise the water so unexpectedly that the kilns are inundated, and the lime slaked for that season. When this occurs a beautiful cloud of steam is seen to issue from the top of the kiln. The distance which the last departing ice travels in a day varies at differents points on the river. From Upper to Lower Fort Garry is a distance of thirty miles by water, and it takes at least one day to travel this distance. It is somewhat singular that of all the immense body of ice which forms and which ultimately flows on the river none reaches Lake Winnipeg. Much of it is thrown on the banks, but the continued friction which goes down and the contact with the open water causes a rapid dissolution, notwithstanding the ice is very powerful when first in motion, and no vessel can withstand its pressure with safety, at least on this side of the line. I have now, I think, shown that a flood is not to be apprehended from the outgoing of the ice, except in quite a local and circumscribed way; and it is not likely to last more than a few hours. The floods of which history and tradition make mention have to be traced to other sources. The water falls rapidly after the last ice disappears, and gets down almost at once to a depth of about seven feet over low water level. From this point it goes down more slowly until the end of May, at which time its further course is stayed by rains. Upon the continuance and extent of these rains it appears to me depend the occurence of floods. To some extent the nature of the winter in Minnesota and Dakota may affect the lakes, swamps and marches by not allowing the rains to become absorbed by reason of surface frosts, and hence cause their overflow into the Red River and its tributaries; but an acquaintance with that region and its climate would be necessary before coming to any conclusion on this point. The Brokenhead River is a much smaller stream than the Red River, and flows altogether through a timbered country, although without rocks or gravel. The banks are not high, nor is there the falls from one side to the other for two days before finally working its way over. Before the next fall is reached the ice is dissolved. Consequently, no ice flows into the lake. In the fall on account of its depth and of the wide bays the Winnipeg is slow in freezing, being about ten days later than the Red River, and, as such,is of some value as a harbor of refuge in case of being caught on the lake after the other rivers freeze. Four days after the closing of the Red River, and when an entrance there was hopeless, I have sailed into the Winnipeg. It must be remembered that the lake does not freeze for a fortnight or three weeks after the Red River is frozen. The water on the Winnipeg overflows the ice to a height of six or nine inches and in many places renders travelling disagreeable. This is caused by the weight of snow and the pressure of winds. In other places the ice is unsafe, being worn to a thin crust underneath by eddies. There aae some few such spots on the Red River which become dangerous only in spring and it is at these places that accidents occur. The water of the Winnipeg is brown and clear and remains cool all summer.

M.

March 29th, 1876.

er. The movement of the ice is seldom rapid, the channel being so much occupied. By this time the water has gradually risen, until it is on a level with the second or lower bank of the river. For a great many years it has not risen over this bank. While the ice is in motion a roar not loud but very determined is produced by the grinding and crushing of the ice. Some miles to the north of Winnipeg, when the current is swift, this roar is much louder and is heard at a distance of a mile or two, and before the ice is seen and while it is beyond the next bend, one feels an inclination of stepping back a pace or two to let it pass. The ice before moving is well advanced in dissolution, and as the decay seems to be produced in a perpendicular direction to the water the ice is said to be "honeycombed" or to be in "candles." It is somewhat singular that dung which is usually productive of warmth should have a contrary result on ice. Wherever on the river holes for watering cattle have been dug, the ice surrounding these is the last to decay, and when other ice is pounded into fragments large floes covered with dung may be seen flowing intact for long distances. The principal points of interest in connection with this subject to the people of this Province are the time when navigation may be expected and whether floods may take place. With respect to the first of these all sorts of theories are advanced. The breaking up of the river is said to depend upon the time at which winter set in; or the severity of the winter; or the depth of the snow; upon the spring rains, and I have met with some who believe in the direct agency of the moon in the matter. A much wiser and safer conclusion is that it depends on the weather; but I would confine the period during which the weather affects the opening to the month preceding that event. The fall snow, the intensity of cold during winter, nor the time at which winter set in, I believe have nothing whatever to do with the opening of the river. Two years ago the winter was severe, but upon the 17th of March we had heavy rain continuing for sixteen hours with a raw east wind, but the river was open only on the 1st or 2nd of May. Last year we had very mild weather on the 29th of March, and a heavy thaw, but the river was not open until the 29th of April. This year we have had no thaw to compare with those I have mentioned, and yet the belief is general that the river will open early. A week or ten days of cold, cloudy weather in April will do more to retard the breaking up than an unusually cold winter. It has to be remembered that the ice once formed to a thickness of two or three feet it will continue intact if you but leave it at a temperature of 32, and it is at that temperature nearly every night in April. The destructive process has therefore to take place during the day, and upon whether the winds are northerly, and more particularly upon whether the sky is cloudy, will depend the time taken to destroy the ice. I therefore hold that if any one can predict the weather for April, he may be safe in predicting a day at which navigation will open. With respect to the second point of interest—whether we are to be subjected to flood or not—it will no doubt appear strange to most of your readers to be told that the great floods of which they have heard so much, have never been occasioned by the breaking of the river or the ice at all, and they did not occur for four or five weeks afterwards. Floods spreading over the prairie have taken place in Minnesota and caused by the

any irregularity on their surface. The ice on this river does not shove or move. It remains until it dissolves utterly. No fragment of it is seen to float. It first decays in the middle of the stream and disappears towards the shore. There is little if any current in the river, the sun and air alone act on the ice, but so slowly and steadily that no movement of the ice is occasioned. I have reason to believe that the outlet of this stream gets frozen up during the winter and that no water escapes, at least during the latter months of winter. The depth of water on the bar at the open water is but four feet, and with a feeble current the ice might freeze to the bottom. During March the water of the river changes color, becoming of a reddish tinge. The taste and smell become bad. This may be caused by stagnation. There are, however, at every water immense quantities of dead fish—like minnows—from which this discoloration and bad taste might arise; although it may be more probable that the fish have been killed in consequence of the stagnation of the water. The water in summer is clear, and of a light brown color. The Winnipeg River is in marked contrast to the Red River. The latter after flowing through hundreds of miles of level prairie is almost lost in a delta formed from its own deposits. No less than three well defined channels (the largest of which on its bar has only seven feet of water) lead it into the lake, while innumerable smaller and more devious creeks conduct its waters also in the same direction. The Winnipeg River runs a shorter course, but in a much grander fashion. With a volume of water ten times greater than that of the Red River, and borne from a wooded and rocky region, and having as reservoirs the Lake of the Woods and Rainy Lake, it fllows down, now with gentle and unruffled surface, expanding its bosom, until lakelets are formed and anon confined between granite walls topped by the birch and poplar, and escaping with a rush of thunder over precipices, it again falls below, finds greater freedom and becomes again smooth and quiet. The shores on its estuary are high and well defined. For some miles its course may be traced through the bay which has its outer boundary at Elk Island. The channel here, as everywhere in its course, is deep, although on each side it is lined with rocks, the heads of some of which are visible, but most of them are under water, although, in many cases, only a few feet: it is then dangerous in sailing to leave the course as rocks may beset one on every hand. Of course, at the falls the river never freezes—some distance above and some distance below remaining open all winter. This is the case, too, at many of the swifter currents. In the wider reaches of the river the ice remains much longer than on the Red River, there being no current to waste it nor rise of water to displace it. The rise of water on this river is not perceptible when the ice goes away nor is there any indication of high water until the middle or end of June. The large lakes from which the river is supplied serve to retard the outward flow and the numerous smaller lakes formed by the river itself give so much space that the effects of spring thaws or summer rains are but very indifferently felt. There is no general movement of ice from one end of the river to the other. Between each rapid or fall the ice moves sometimes in an unbroken mass of a hundred acres. As it approaches the rapids it gets jammed between the shores and breaks up, but this process takes some time, and a large mass may be seen hanging over

NITOBA FREE PRE

by the imposition of duties on wool and
er agricultural products, and argued
whenever we could buy any article
cheaply than we could raise it, our int
was consulted by its importation.

Mr. Patterson recognized in the polic
the Government a willingness, if any adpt
ment of the tariff were necessary, to not
late it in the interests of the manufacturw
but, when no addition to taxation was
cessary, he was not disposed to condm
the Government for not making any fnd
cial changes. He showed the insincerit
the Opposition in attempting, after yo
facturers only, to now back on the agrno
turists merely to catch votes.

Mr. McDonald (Cape Breton) advocatea
duty on coal.

Mr. Carmichael pointed out that the nt
ing interests, shipping interests, and fishi
interests were all ignored in the resolutih
If protective duties were to be inflicted w
were these great industries ignored? If
protective duties would destroy the shippi
interests. The thanks of the House we
due to the Government for having adopt
a truly national and not a sectional policy.
The debate was adjourned to be the fi
order of the day on Wednesday.

alnty
frivol
6 and
evil
crease
vision
s I hav
o far a
r trespa
c9 as
pealed.
If the
pass o
any of
&c., sh
damage
entitled
ant in r
er is s
tried or
unless
who n s
mediate
record o
quiry tha
a right
damages
the action
the trespa
action wa
will be ob
rms confi
2. 9. Eithe
erlooked
ct. It is u
Jac. C. 16
nderons w
pealed by
It is quite
ite broad e
t the form
ary to the
and togethe
a general
which all
e case in re
d was not
rticularly
Jac. C. 16, it
second sec
tion of 21 Ja
led. I am,
ld that the
es, 9 C. B. N.
d R. 249, Pe
refore an ac
words or ph
rds," a judg
y statute in
present cas
give no cert
intiff to reco
verdict. Wit
osts; with it
is verdict. (E
ler v. Moore,
is, the statute
ords which are
o words which
special damage
re v. Harwood
ons 1 Salk. 20
Burry v Perry 2
lard 2 Black Rep
Ld. Greenfield
ll v. Essell, 2
ne, 2 H. Black.
not actionable
eason of the sp
lty under
vance was
the plaintiff
ott N. R. 73
d. Turner

ainty and regularity in respect of the costs in all rivolous actions. The first section recites 43 Eliz 6 and the 22 & 23 Car 2 c 9 and that "the same evil notwithstanding doth still prevail and increase and it is expedient to make further provision for the prevention thereof," and enacts, as I have already mentioned, that the 43 Eliz c 6 in so far as it relates to costs in actions of trespass or trespass on the case, and so much of 22 & 23 Car c 9 as relates to costs in personal actions, be repealed. The second section then enacts that—"If the plaintiff in any action of trespass or trespass on the case brought or to be brought in any of Her Majesty's courts at Westminster, &c., shall recover by the verdict of a jury less damages than 40 s. such plaintiff shall not be entitled to recover or obtain from the defendant in respect of such verdict any costs whether it shall be given upon any issue or issues tried or judgment shall have passed by default unless the judge or presiding officer before whom such verdict shall be obtained shall immediately afterwards certify on the back of the record or on the writ of trial, or writ of enquiry that the action was really brought to try a right besides the mere right to recover damages for the trespass or grievance for which the action shall have been brought, or that the trespass or grievance in respect of which the action was brought was wilful and malicious." will be observed that the repealing clause is in rms confined to 43 Eliz. C. 6 and 22 and 23 Car. 9. Either the 21 Jac. C. 16 was altogether erlooked or it was purposely left standing in ct. It is useless now to consider whether the Jac. C. 16 in so far as it relates to actions for nderous words was by necessary implication pealed by the second section of 3 and 4 Vict. C.

It is quite true the words of this section are ite broad enough to justify such a conclusion; t the former is not inconsistent with or contrary to the latter, and both may consistently nd together. It would seem by 3 and 4 Vict. C. a general provision was intended to be made which all actions of trespass and trespass on e case in respect of costs should be governed. nd was not 43 Eliz. C. 6 and 22 and 23 Car. 2 C. 9 rticularly mentioned, making no reference to Jac. C. 16, it would be difficult to say that by e second section of 3 and 4 Vict. C. 24 the sixth ction of 21 Jac. C. 16 was not repealed or superled. I am, however, bound by authority to ld that the latter act is not repealed (Evans v. es, 9 C. B. N. S. 391. Goodall v. Ensell, 2 C. M. d R. 249, Pedder v. Moore, 1 U. C. P. R. 117). If refore an action for libel is comprehended in words or phrase, "in all actions for slanderous rds," a judge under 3 and 4 Vict. C. 24 S. 2, the y statute in force here on this subject, can in present case (Powle v. Gaudy, 7 C. B. N. S. give no certificate which would entitle the ntiff to recover more costs than the amount verdic'. Without a certificate he can recover osts; with it he can only recover costs equal is verdict. (Evans v. Rees, Goodall v. Ensell, ler v. Moore,) In actions for slanderous ds, the statute of James is confined strictly ords which are actionable in themselves, but o words which are not actionable per se but special damage is the ground of the action. e v. Harwood, W. Jones 196, Browne v. ons 1 Salk, 206. Boss v. Hickford, Andrews Burry v Perry 2 Ld. Raym, 1588. Collier v. ard, 2 Black Rep. 1062. Surnam v. Shelleto, r. 1638, Grenfield vs. Pierson, 1 Dwl. 406. all v. Ensell, 2 C. M. and R. 249. Saville v. ine, 2 H. Black, 531.) But where the words not actionable and the action is maintained eason of the special damage, the judge may ify under 3 and 4 Vict. C. 24 S. 2, that the vance was wilful and malicious so as to en the plaintiff to full costs. (Pryme v. Brown ott N. R. 739. Skinner v. Schappe 6 Bing. N. d. Turner v. Horton, Willes 438. Croft v. [illegible] notes.) The is-

defendant; and that none such was given or offered. It may be urged that the verdict of the jury on the two pleas of not guilty and the truth of the libel ought to have an important bearing on the determination of this question; and that had the jury supposed their verdict would not have carried costs they would have made it such that it would have done so. The verdict, as I have already intimated, is entitled to consideration, were there other evidence to support the contention; but if by it itself it were conclusive the statute would be a farce. I can only gather the intention of the jury from their verdict. They, to my knowledge, gave no expression to any understanding or opinion beyond the verdict as recorded. It might be well, in such actions, to tell the jury what amount of verdict will carry costs; and I now think hereafter I shall do so. For if they gauge the damages on the supposition that the defendant is to pay the plaintiff his costs it seems but just that the defendant should do so. How this may have been in the present case I do not know. I cannot from any of the considerations to which I have adverted certify that the grievance complained of in this action was, on the part of Kenny, the defendant, "wilful and malicious" in the sense in which I think I am bound to certify to entitle the plaintiff to costs under 3 and 4 Vict. C. 24, Sec. 2. A certificate is therefore refused.

The City Schools.

The following is the second quarterly report of the Inspector of schools for the city of Winnipeg:

This report, which should have been made at the close of July, has been delayed, inasmuch as the schools were at that time dismissed for the summer holidays.

The schools assembled upon Monday, 4th inst., and during the present week your inspector has visited all the departments, and is desirous of giving the results of his observations.

CENTRAL SCHOOL GROUNDS.

There is a marked contrast between the central school grounds at present and at the time of last report. The grounds have been divided between boys and girls, and outhouses of a suitable kind have been provided. Sidewalks have been laid where necessary, and during the present week the crossing to the grounds has been completed. As soon as practicable some steps should be taken to provide the playgrounds with a few simple means of exercise, such as swings and bars. Every effort should be made to encourage healthful outdoor sports.

CENTRAL SCHOOL BUILDINGS.

Since last report was presented the school buildings have been much improved. An addition has been made capable of containing between fifty and sixty scholars, and this makes a cheerful and comfortable room for the senior division, provided as it is with commodious entry-rooms. The former building has been made much better by a liberal use of paint and whitewash, by the addition of a ventilator, and by the repair of broken windows, etc. The *tout ensemble* of the school buildings is vastly superior to that of three months ago.

NORTH WARD BUILDING, ETC.

Efforts have been made by the board to improve the condition of the North Ward school building. The breakages have been repaired, the room cleaned, benches painted, and what was possible done; but the place is wholly unsuitable for school purposes. The rent is considerable, the building uncomfortable, and it is to be feared that during the present winter it will be well nigh uninhabitable. It is necessary to call attention again to the fact that the grounds are uninclosed, and that this being the case, the outhouses cannot be put in a satisfactory condition.

NEW BUILDINGS.

Since opening of the schools during the present week there have been in the senior department of the central school 56 pupils, and in the junior, 88. While it must be satisfying to the board to see its efforts

in the
15 in t
The la
ness a
pupils
ably le
senior
od of
very fa
the p
those
took t
tant su
school
receive
tion, it
possib
or 50 p
a teach
You
ward s
but on
and be
speak
tion.
on the
appoin
her me
est ar
pupils
them by.

AVERAGE PRODUCT PER ACRE.

SETTLEMENTS ON RED RIVER.

	Wheat.	*Barley.*	*Oats.*	*Peas.*	*Potatoes.*	*Turnips.*
Emerson,	25	40	50	25	200	
Whitehaven, (Plum Creek)	35	40	50	35	200	
Scratching River,	25	40	40	25	200	
Union Point,	30	50		25		
St. Vital & St. Norbert,	35	45	60	30	100	
Kildonan,	30	45	50	30	200	
S St Andrews,	30	40	45	20	250	
N St Andrew's,	30	30	28	32		
St. Clement's	35	50	55	40	300	
St. Peter's,	35	50	55	40	360	

SETTLEMENTS ON THE ASSINIBOINE RIVER.

St. James,	30	45	50	30	250	
St. Charles,	30	40	50	30	250	
Headingly,	30	45	60	20	150	10
S. F. Xavier,	36	35	50	40		
Baie St Paul,	40	50	65	40	200	
Poplar Point,	35	40	55	22	300	
High Bluff,	35	40	55	22	200	
Portage la Prairie,	30	40	40	30	250	

SETTLEMENTS ON WHITE MUD RIVER.

Totogon,	35	45	50	35	400	100
Woodside,	35	40	60	30	400	100
Westbourne,	36	40	60	40	150	
Palestine,	35		55	25	200	

A

pressed by isolation that another year's loss
crops might have blotted our future for t
next decade, and our specially burdenso
ills of reserved lands and unsettled tit
combine to check immigration and preve
The
development, our land should be so signa
blessed by abundant crops, while throug
the continent the contrary result has b
All
so general. Just now when it seems so
make
and a
tinctly marked that the middle and east
have
States and Ontario are becoming less rado co
ble for agriculture, the endless virgin lafo
of our North-West are becoming know
doome
ed as
specially productive wheat fields, and
said, t
be offered to their people for settlemen
in the
condition, only, of building railroads to r
in the

apaci
d by

ll be
and
ange
pect
anti-
t for
been
tion,
s the
fair

, it is
ities,
quisi-
this

pace
ay be
re we
d we
outes
acific
rican
oo far
e that
abun-
avail-
n pro
seed.
et has
of our
ed for
of that
ll over
for the
gener-
e think
hanks
ovince
t har-

the above
beyond the
by applying at
personally or by

arded by such a large and immediate in-
ease, yet it is plain that the accommoda-
on is altogether inadequate. As the winter
pproaches a large further increase of pupils
ay be looked for, and the question of how
provide for those desiring admittance is
very embarrassing one. There seems no
esource but to take immediate steps to-
ard providing a new central school build-
ng. At the earliest, before the means to
uild can be obtained, the designs prepared,
nd the building completed, the greater part
f a year must elapse, so that a great deal of
vercrowding will certainly be unavoidable.
very available foot of space in the senior
ntral is occupied, and were the junior
equately seated, very few more pupils
uld be accommodated. The amount spent
on other city improvements is altogether
t of proportion to that spent on educa-
on. What should have been one of the ob-
cts of greatest solicitude, the providing of
perior school accommodation, has really
en pushed in the background. If the city
esires to redeem its character educational-
, nothing will so help to this end as the
uilding of new school houses, not ne-
ssarily of the most expensive kind, but
ommodious, respectable, brick or brick-
neered buildings. Should steps be tak-
n in this direction immediately, it will
t only increase the efficiency of the
hools, but be the means of advancing
e interests of the city materially. Tak-
g into account the wretched charac-
of the North Ward school building
eady referred to, should the consent of
e people be obtained, it would seem to be
e wisdom of the board to erect a suitable
uilding during the present season. Not
ly would a most uncomfortable building
in this way got rid of, but a large saving
rent and maintenance would be effected.

INSPECTION.

On the 5th inst., the day after assem-
ng, your inspector visited the senior de-
rtment of the central school, and found
pupils present—35 in the III. Book; 21
the IV. Book, and of these last the
acher recommends five as prepared for the
Book. Although the school was very
ich crowded, and although the desks have
en so closely arranged as to make move-
nt into class very difficult, and to make it
possible to find proper space for classes,
t the *morale* of the school was excellent. It
something almost marvellous to see the
ange that has taken place in this division.
thargy has been replaced by activity;
erest on the part of the pupils has taken
place of indifference; the improvement
neatness is very noticeable; the accuracy
position insisted on, and regularity and
mptitude of movement are very good
lications of the habits of mind that will
found in time developed in the pupils of
e higher division. In the opinion of your
spector the board has been most fortunate
its choice of a principal for the city pub-
schools. It is altogether likely that very
on it will be necessary to draft down the
nior 3rd class, and to divide it between
e two junior departments.

JUNIOR CENTRAL.

On the succeeding day, 6th inst., your in-
ector visited the junior central. Up to
at time, during the three days of the pre
nt term, 86 pupils had been present—31

B.—Persons desirous of copies of the above
icle for transmission to friends beyond the
vince, will get the same *gratis* by applying at
FREE PRESS office, either personally or by
il.

e supplied. The flour manufacturing capaci
of the Province has been increased by
ently run of stone.
Of the coarse grains the supply will be
ater in proportion to the demand, and
ices thereof may be expected to range
w. But even these we confidently expect
see fairly remunerative, as a large quanti-
will be consumed in fattening meat for
r own market which hitherto has been
plied, almost entirely, by importation,
t for the want of stock so much as the
nt of grain to bring the same to fair
aughtering condition.
Thus, taking everything into account, it is
ally doubtful, had we shipping facilities,
ether they would be called into requisi-
on for grain exportation even with this
ar's production on our hands.
Immigration being bound to keep pace
th our increasing grain growing, it may be
asonably deduced that long before we
ve a surplus for exportation eastward we
all be in possession of competing routes
transportation in the Canadian Pacific
ilway to Thunder Bay, and the American
ilway system. Neither is it going too far
the hopeful direction to conjecture that
en we have a surplus to export an abun-
nt and high priced market will be avail-
le in the wants of more southern pro-
nces and states for new and hardier seed.
very high authority on the subject has
edicted that for the first ten years of our
plus production it will be exported for
r purposes, and at the expiration of that
e the North-West will be known all over
e continent as its principal granary for the
pply of breadstuffs. In view of the gener-
feeling of joy and congratulation we think
would be well to proclaim a day of thanks
ing and prayer throughout the Province
the grand results of an abundant har-
t.

The Manitoba Free Press.

SATURDAY, SEPT. 16, 1876.

THE CROP OF 1876.

It was our intention to have presented full reports of the crop prospects throughout the Province about the middle of August, but many causes have contributed to prevent our doing so until after the harvest, and they may now be discussed in the full light of the process of threshing and obtaining the first exact returns, which we hope our friends will be good enough to furnish for publication. In the meantime we wish to express our thanks to the various gentlemen who kindly took so much pains, often at great loss of time, in collecting the necessary data for this summary.

It will be seen by these returns, gathered simultaneously in thirty-four different settlements by intelligent farmers, who in some cases spent days in inspection before summing up their conclusions, that the famous average of Manitoba's growth has been somewhat lessened by various causes, some local and some general, but mostly peculiar

OUTLYING PRAIRIE SETTLEMENTS EAST OF RED RIVER.						
Springfield,	28	30	45	25	300	700
Prairie Grove	35	50	50	40	350	
Sunnyside & Cook's Creek,	35	40	50		200	
Rosseau,	30	40	60	30	300	
OUTLYING PRAIRIE SETTLEMENTS NORTH OF ASSINIBOINE RIVER.						
Rockwood, Victoria & Grassmere,	25	55	40	20	250	500
Greenwood,	30	40	50	30	350	
Tp. 15, R. 1 E.,	45					
Woodlands & Meadow Lea,	30	35	50	20	200	
Ossowa,	20	25	25		140	
OUTLYING PRAIRIE SETTLEMENTS SOUTH OF ASSINIBOINE RIVER.						
Pembina Mt.	35		50	20	150	
Boyne River,	38	60	60	30	300	

REMARKS.

EMERSON.—Later growth here much retarded by heavy rains, and a local hailstorm which battered grain down; about $\frac{1}{3}$ of whole area sown on the fresh soil, and produced 18 to 20 bus. per acre.

WHITEHAVEN.—Being a young settlement and crops sown on new ploughed land this average is very satisfactory.

SCRATCHING RIVER.—Crops mostly on new ploughed land, its average however is about 15 to 18 per acre.

KILDONAN,—Loss of average here owing to rust and mildew; rains very heavy in latter part of season.

S. ST. ANDREW'S.—Wheat light, and all crops shrunken from effect of unusually heavy rains in August.

N. ST. ANDREW'S.—Average below ordinary season. Harvest very wet and trying. Roots will still increase in product.

ST. CLEMENT'S & ST. PETER'S.—Wheat and barley suffered from wet season still average will likely be higher than given.

ST. JAMES.—Great loss her from lodging, samples inferior and somewhat shrunken by extreme wet weather.

HEADINGLY.—Barley and wheat will be poor color, but all grain heavy. Root crops will yet be good. Peas a comparatively light crop; very wet season.

POPLAR POINT.—Grain did not fill as well as usual. The wettest season known since '59; crops too luxurient in stalk, but grain heavy.

HIGH BLUFF.—All crops suffered in quantity and color from heavy and continued rains.

PORTAGE LA PRAIRIE.—Average higher than given; season wet; roots much damaged.

WOODSIDE.—Loss here from blackbirds.

PALESTINE.– Loss of average here by local causes and inferiority of seed.

TOTOGON.—All grain, and oats particularly, suffered from blackbirds and lodging by heavy rains.

SPRINGFIELD.—Some injury here by rust from wet harvest, grain very much delayed in ripening.

PRAIRIE GROVE.—Damage by blackbirds and rains.

SUNNYSIDE AND COOK'S CREEK.—Average lessened here by drowning in low lands and wet harvest. Root crop light.

ROCKWOOD, GRASSMERE & VICTORIA.—Crops here not up to usual average; considerable grain lodged.

WOODLANDS & MEADOW LEA.—Average five bushels less than would have been in average season. Seed inferior.

OSSOWA.—Most of area sown here newly broken ground, average lessened thereby.

PEMBINA MOUNTAIN.—Less returns on account of large area sown on first ploughing but even then good half crops returned.

BOYNE RIVER.—Blackbirds destroyed one-tenth of the crop. Settlers complain of unoccupied homesteads.

are supplied. The flour manufacturing capacity of the Province has been increased by twenty run of stone.

Of the coarse grains the supply will be greater in proportion to the demand, and prices thereof may be expected to range low. But even these we confidently expect to see fairly remunerative, as a large quantity will be consumed in fattening meat for our own market which hitherto has been supplied, almost entirely, by importation, not for the want of stock so much as the want of grain to bring the same to fair slaughtering condition.

Thus, taking everything into account, it is really doubtful, had we shipping facilities, whether they would be called into requisition for grain exportation even with this year's production on our hands.

Immigration being bound to keep pace with our increasing grain growing, it may be reasonably deduced that long before we have a surplus for exportation eastward we shall be in possession of competing routes of transportation in the Canadian Pacific Railway to Thunder Bay, and the American railway system. Neither is it going too far in the hopeful direction to conjecture that when we have a surplus to export an abundant and high priced market will be available in the wants of more southern provinces and states for new and hardier seed. A very high authority on the subject has predicted that for the first ten years of our surplus production it will be exported for seed purposes, and at the expiration of that time the North-West will be known all over the continent as its principal granary for the supply of breadstuffs. In view of the general feeling of joy and congratulation we think it would be well to proclaim a day of thanks giving and prayer throughout the Province for the grand results of an abundant harvest.

N.B.—Persons desirous of copies of the above article for transmission to friends beyond the Province, will get the same *gratis* by applying at the FREE PRESS office, either personally or by mail.

to this year. The unusually heavy rains of the late season have done their share, especially on low lands selected last year—an average season; whereas this has been the wettest known since 1869. Another cause by which the average has suffered materially is the sowing on a first ploughing, as done often by new settlers rather than await the slow process of rotting the sod; the half crop grown is, however, better than none at all, and will go far towards provisioning those settlers' families for the winter. The loss by the depredations of blackbirds in some neighborhoods suggests an enquiry into a means for their destruction. Another cause strongly felt in some places is from old and deteriorated seed, it being remarked that where new seed was used the difference was easily perceptible.

These returns are interesting also, as showing the remarkable evenness of the productive quality of the land and its capacity for producing what would be considered most surprising returns elsewhere under such special disadvantages as ruled this season. We have great cause to thank the Almighty Giver of every good that just now when our commercial interests are so heavily pressed by isolation that another year's loss of crops might have blotted our future for the next decade, and our specially burdensome ills of reserved lands and unsettled titles combine to check immigration and prevent development, our land should be so signally blessed by abundant crops, while throughout the continent the contrary result has been so general. Just now when it seems so distinctly marked that the middle and eastern States and Ontario are becoming less reliable for agriculture, the endless virgin lands of our North-West are becoming known as specially productive wheat fields, and may be offered to their people for settlement on condition, only, of building railroads to reach them by.

AVERAGE PRODUUCT PER ACRE.

SETTLEMENTS ON RED RITER.

	Wheat.	*Barley.*	*Oats.*	*Peas.*	*Potatoes.*	*Turnips.*
Emerson,	25	40	50	25	200	
Whitehaven, (Plum Creek)	35	40	50	35	200	400
Scratching River,	25	40	40	25	200	
Union Point,	30	50		25		400
St. Vital & St. Norbert,	35	45	60	30	100	
Kildonan,	30	45	50	30	200	
S St Andrew's,	30	40	45	20	250	
N St Andrew's	30	30	28	32		
St. Clement's	35	50	55	40	300	
St. Peter's,	35	50	55	40	360	
SETTLEMENTS ON THE ASSINIBOINE RIVER.						
St. James,	30	45	50	30	250	
St. Charles,	30	40	50	30	250	
Headingly,	30	45	60	20	150	100
S. F. Xavier,	36	35	50	40		500
Baie St Paul,	40	50	65	40	200	
Poplar Point,	35	40	55	22	300	
High Bluff,	35	40	55	22	200	
Portage la Prairie,	30	40	40	30	250	
SETTLEMENTS ON WHITE MUD RIVER,						
Totogon,	35	45	50	35	400	1000
Woodside,	35	40	60	30	400	1000
Westbourne,	36	40	60	40	150	
Palestine,	35		55	25	200	

It may safely be assumed that but for the special causes mentioned, such as heavy rains, old seed and sowing on new land the returns of the whole Province would have been one-sixth better. We have collected the averages in divisions of areas separated by the great rivers which have respectively formed the nucleus of settlement and of whose rich vallies this city is the natural marketing centre, as follows:

AVERAGE PRODUCT PER ACRE.

SETTLEMENTS ON RED RIVER.—Wheat 32 bushels, barley 42, oats 44½, peas 27¾, potatoes 182, turnips 400.

SETTLEMENTS ON THE ASSINIBOINE RIVER.—Wheat 33½ bushels, barley 40¾, oats 53½, peas 29¼, potatoes 150, turnips 750.

SETTLEMENTS ON WHITE MUD RIVER.—Wheat 35 bushels, barley 40. oats 60, peas 31¼, potatoes 287½, turnips 1,000.

SETTLEMENTS EAST OF RED RIVER.—Wheat 29½, barley 40, oats 51¼, peas 32, potatoes 387, turnips 700.

SETTLEMENTS NORTH OF ASSINIBOINE.—Wheat 30, barley 39, oats 4I, peas 23½, potatoes 235, turnips 700.

SETTLEMENTS SOUTH OF ASSINIROINE.—Wheat 36½ bushels, barley 60, oats 55, peas 25, potatoes, 225, turnips 600.

THE TOTAL AVERAGE PRODUCTION

throughout the whole Province of Manitoba this year, will therefore be found to be, as nearly as may be: Wheat 32½ bushels, barley 42½, oats 51, peas 32, potatoes 229, turnips 662⅓.

This is a much less total than was expected in the early part of the season, still greater than was latterly looked for it being feared that the continual rains during the usual term of harvest would have utterly destroyed the crops in many sections.

The figures cited above, together with others in our possession, would indicate

THE TOTAL YIELDS OF THE PROVINCE.

to be about: Wheat, 480,000 bushels; barley, 173,000; oats, 380,000; peas 45,000; other grains, 5,000; potatoes, 460,000; turnips and other roots, 700,000.

It has been feared by some that the effect of the bountiful yield will be the reduction of prices below a paying point. However, while prices are sure to range much lower than they have for many years past, we think that next spring, when the immigration which is sure to pour in begins, will demonstrate that those who have sold their wheat at much below one dollar a bushel are considerably out. Estimates, based upon importation statistics, place the Provincial and North-West Territorial consumption of flour for the next year at ninety thousand barrels, an equivalent of 360,000 bushels of wheat. This would leave only 120,000 bushels for seed and holding over—plainly insufficent. However, we are disposed to believe that the flour consumption has been slightly overestimated; but not so much so, as to leave any considerable surplus of wheat after the next twelve months' requirements

tribes or
dit trade
all has be
alone intr
only with
Dominion
the grou
strong m
of a noble
life.

Numbe
time on
across the
ready hos
whether
the fu
which a
may us
McDougal
of men wh
without m
nience us

His arden
satisfied u
tier of ci
overtaken
and ease
fields, p
River to
toria, to
ville on
unfortuna
astrous v
the India
Dougall's
ing that
every Ind
he and h
attendance
times buri
In this nob
might have
fell a sacrifice
Dominion ha

The Premier, m
beyond that s
of his life-lo
Christianity

Following

DEAR M
observed
you have
port of th

Althou
but casua
long to th
not refra
regret fo
the uney
civilizatio

I am su
dress thes
sive purp
centre of
I earnestl
set on foo
monial of
abled to co

I write i
connection

TH

One of the
intrinsic val
older provin
with America
pers and bus
is best to be
It gets circul
ers buying sil
to farmers at
that legislati
speaking here
tion that a re
way. It says
ciated coin at
"getting a litt
"paid in silver
ing what the

tribes or whiskey battles between the bad traders and their victims. Mr. McDougall has been known to go single-handed and alone into a whiskey trader's camp, armed only with his patent as a magistrate of the Dominion, and spill their Indian poison on the ground passing out through a crowd of strong men cowed before the quiet dignity of a noble man doing his duty at the risk of life.

Numbers of our citizens sojourning for a time on the Saskatchewan, and travellers across the continent can testify to his ever ready hospitality and care for the stranger, whether foot sore and weary or wrapped in the full appliances for travelling, which abundance of ready money may usually obtain anywhere. Mr. McDougall did not belong to the class of men who take the name of missionary without much of the danger and inconvenience usually attendant upon its duties. His ardent evangelic nature seemed never satisfied unless when upon the very frontier of cilization; and though frequently overtaken by all the accessories of comfort and ease he was ever reaching out to new fields, passing successfully from Garden River to Superior, to Norway House, to Victoria, to Edmonton, and, finally, to Morleyville on Bow River, near which he met his unfortunate death. The events of the disastrous visitation of small-pox among the the Indians in 1869-70 displayed Mr. McDougall's heroic qualities in bold relief. During that dark and dreary time when nearly every Indian tribe and family were afflicted he and his family were unwearied in their attendance upon the sick, and numberless times buried the dead with their own hands. In this noble devotion to a duty which they might have escaped two of his daughters fell a sacrifice. His recent services to the Dominion have been fitly referred to by the Premier, in Parliament; but something beyond that seems desirable in recognition of his life-long devotion to civilization and Christianity.

Following is the letter of Col. Smith :—

March 31st, 1876.

DEAR MR. YOUNG :—With deep regret I observed in the FREE PRESS of this day that you have received confirmation to the report of the death of the Rev. G. McDougall.

Although my acquaintance with him was but casual, and that I do not chance to belong to the same religious connection, I cannot refrain from expressing to you my deep regret for the loss we have all sustained in the unexpected deprivation to Christian civilization.

I am sure you will understand that I address these few lines to you with no intrusive purpose, but as this is at present the centre of our young North-West civilization, I earnestly trust some movement may be set on foot under your auspices for a testimonial of some sort to which I may be enabled to contribute my mite.

I write in haste as I am called away in connection with the frontier embroglio.

Believe me faithfully,

W. OSBORNE SMITH.

THE SILVER GLUT.

One of the results of the depression of the *intrinsic* value of silver coin is that the older provinces are again becoming flooded with American silver coin; and the newspapers and business men are discussing what is best to be done to get over the difficulty. It gets circulation mainly by produce dealers buying silver at a discount and paying it to farmers at par. It has been suggested that legislation is required. The *Globe* speaking hereupon sensibly scouts the notion that a remedy can be obtained in this way. It says the men who take the depreciated coin at is par value "calculate on "getting a little more nominally if they are "paid in silver, and then they look to getting what they want in the store as cheap-

Red River Improvement.

To the Editor of the Free Press.

The appropriation of $10,000 for the improvement of the Red River of the North, proposed by the Commerce Committee of the House of Representatives at Washington, is a surprise to the most sanguine friend of that measure. It is extremely difficult to get a new item into the River and Harbor Bill—the total amount of appropriation not being large, and the enterprises numerous which press for recognition: and in this year of all others, when the whole drift is to reduce expenditures, the exception in favor of Red River, affords a striking proof of the attention now drawn to the trade with Manitoba and Central British America, and of the efficiency of the Minnesota delegation in Congress.

No member, however influential, can secure an appropriation for a river or harbor without a severe preliminary probation. The first struggle is to obtain a reference to the United States Engineer's office—a bureau of the War Department. Then follows a close scrutiny by an army officer, independent in position and with a scientific reputation to sustain: and only when a favorable report is made will the Committee on Commerce look again at the measure. Even then a recommendation by the committee requires to be seconded by a great and persistent effort. Although for ten years, the Legislatures and Boards of Trade of Minnesota and Dakota, have urged the improvement of the Red River of the North, it was only in 1874, that, on reference to the Engineers office and a careful survey of the stream between Moorhead and Pembina, the report of Col. F. U. Farquhar in its support, was secured and published, and two years have elapsed before any affirmative action thereon by the House Committee on Commerce.

I am of the impression that Col. Farquhar's report has been reprinted or fully abstracted in the Free Press, but a few of its statistical statements will warrant reproduction.—The average fall of the river from Moorhead to Pembina is seven-tenths of a foot per mile. From Moorhead to the head of Goose Rapids the fall is half a foot per mile; the length of the main rapids is 4,900 feet with a fall of 4 to 5 feet, and from the foot of the rapids to Pembina, the average fall does not exceed three-tenths of a foot per mile.—The rainfall in the Red River Valley has been observed twelve years at Fort Abercrombie, 15.42 inches; 5 years at Fort Wadsworth, 18.95; and three years at Fort Pembina, 13.16 inches.—The difference of level between high and low water marks at Pembina is 45 feet, at Moorhead about 36 feet.

Col. Farquhar presented a three-fold proposition; first, to remove snags and boulders from the channel, and overhanging and fallen trees from the banks, with temporary wingdams at Goose Rapids, which will probably absorb the appropriation of $10,000; secondly, to dredge the bars, involving the removal of 63,887 cubic yards, at a cost of $32,380; and thirdly, to overcome the fall at Goose Rapids by dams and a lock of 50 by 150 feet, with a lift of 6 feet, requiring an expenditure of $185,000.

It is quite likely that the Steamboat Company would assume the construction of the wing or temporary dams at Goose Rapids, for the purpose of making the appropriation as effective as possible in removing snags, trees and boulders, and dredging the most troublesome bars. Capt. Alex. Griggs is an adept in this sort of construction, having already applied his experience in the Minnesota River to the management by wingdams of the current at Goose Rapids.

Col. Farquhar's survey terminated at Frog Point, 22 miles by the course of the river below (north of) the Goose Rapids; but he will doubtless be detailed to continue the survey to the northern boundary of the United States.

In conclusion, I would request the publication by the Canadian Railway Survey, or other competent authority, of any facts bearing on the regimen of the Red River, its width, depth, current, &c., from the international boundary to Lake Winnipeg, and beg leave to express the hope that when Col. Farquhar shall have completed the survey from Fergus Falls or Breckenridge to Pembina, that a similar report may be at hand of the remaining course of the Red River of the North.

J. W. Taylor.

Winnipeg, April 11th.

Oct. 7. 1876.

Yours, &c.,

CATHOLIC.

THE BUFFALO MOVING EASTWARD.

Herds entering Manitoba.

A gentleman in whose integrity we have complete confidence, and whose information is based on authentic accounts, arrived from Emerson Friday morning, and brings intelligence of the actual arrival of the vanguard of migratory buffalo herds on the western boundary of this Province, which these animals have not approached for years.

The Sioux Indians residing at Devil'sLake, in Dakota, have already been on a great hunt, and have returned to their homes with an abundance of buffalo met and numbers of robes.

A half-breed who arrived from the west at the Jo settlement reports that great herds of bison were seen about six day's journey from Red River and that some bulls were passed but four days off. This statement (estimating a journey at 20 miles) would place the nearest buffalo at about 80 miles distance—that is to say actually on the western boundary of this Province; and, as from all the accounts received, the herds are migrating eastward, it is not unreasonable to assume that by this time they have entered Manitoba after ten years of total absence.

The party of Mounted Police who came into the city yesterday, from Fort McLeod and the Cyprees Hills, passed immense herds during their journey, the last seen being about seventy miles west of the Mounted Police post at Qu'Appelle, heading eastward.

It may be remembered that Sergeant-Major Frances' diary of the route from the Cypress Hills to Winnipeg mentions having killed a buffalo calf three days journey west of Qu'Appelle (these were a good deal longer journeys than those made by ox-cart),noting the fact that it was unusual to meet with this animal so far to the eastward. The place where the calf was killed is this side Chaplin or Old Woman's Lake, which may be found on most maps of the North-West.

ıpid motion. If a well or cistern be under over, or shaded by buildings, so that the unlight will not fall near the opening, it is nly necessary to employ two mirrors, using ne to reflect the light to the opening, and nother to send it down perpendicularly nto the water. Light may be thrown fifty r a hundred yards to the precise spot and eflected downward. We have used the nirror with success to reflect the light round a field to a shaded spot, and also to arry it from a south window through two ooms, and then into a cistern under the orth side of the house. Half a dozen reections of the light may be made, though ach mirror diminishes the brilliancy of the ight. Let any one, not familiar with this nethod, try it, and he will find it not only seful, but a pleasing experiment. It will erhaps yield a mass of sediment at the ottom of your well that has not been hought of, but which may have been a uitful source of disease by its decay in the ater.

Murder Out After Twenty-three Years.

A few days ago, some men in Alleghany, hile excavating for a cellar at James and hird streets, came upon the bones of the g and arm of a man. It was immediately called by the neighbors that about seven ars ago the skull and a portion of the inal column of a skeleton were found in e same place. Rumor has it that they are e remains of John Busch, who disappeared uddenly on the night of Christmas, 1853, aving gone out to buy some toys for his son. e fell in with a countryman, one Ernest einhard, and the two spent part of the vening in John Harris' saloon. From that lace the two departed. Busch was last seen t or near the house of one Hart, who had a aloon at Gerst Avenue and Second street. t the time Hart was suspected of the mur er, and arrested for it, but the evidence id not warrant a commitment.—*Reading Eagle.*

The Young Execution.

John Young, the elder of the murder rs of Abel Macdonald, was hanged on Friday 22nd Sept., at Cayuga. Th

Dyking the Fraser.

EDITOR COLONIST—SIR:—My attention has been directed to an article appearing in your issue of the 5th inst. from James Chadsey, a Sumas farmer, giving a detailed account of what might be justly termed a sad calamity to the people in these settlements from the recent overflow of the Fraser.

Being one of the sufferers and a resident, I believe that I am capable of giving an opinion as to the truthfulness of the article referred to, and candidly say it was the truth. As the waters are receding and the farms are beginning to make their appearance at the highest points, clothed with mud or sediment deposited by the water, the appearance is a gloomy one. Some people might justly think this gloom would take possession of the farmers and cause them to give up in despair and become thriftless; but, fortunately, I don't believe there is a more energetic class of people in the Province than ours. They have a strong hope that by perseverance their difficulties will yet be overcome by dyking out the Fra-

—*Woodstock Sentinel.*

IMPORTANT EXPORTATION OF SH HORNS FOR CANADA.—A Canadian has recently purchased Bow e farm, near Toronto, Canada, a head of which firm is the Hon. Ge Brown. From the recent spring s and by private treaty, Mr. Wil Ashburner, of Ulverston, their ag in England, has bought 50 of the l Bates animals in the United Kingdo 25 of which left the Mersey on Thu day, the 1st June, in the steamsl Polynesian, and will form the m valuable cargo of live stock ever tak from this country. The purcha price of the fifty animals is upwards £20,000, and for single females much as 2500 guineas and 2000 gui eas has been paid to the Duke of D vonshire and Colonel Kingscote re pectively. The following is a list the 50 animals:—Bulls: Duke of O ford 38th, Duke of Oxford 30th, Gran Duke of Thorndale 2d. Cows an heifers: Grand Duchess of Oxfor

The Pacific Railway Progress.

From the Globe.

In a speech which all who heard it admited to be a wonderfully clear and succinct exposition of a most difficult subject, the Premier last evening described the progress made, and the policy of the Government, so far as it can be determined upon, in connection with the construction of the Canadian Pacific Railway.

Noticing in the first instance the difficulties which stared the Government in the face in their assumption of office,he referred to the Herculean task of surveying the several routes it had been necessary to examine in order satisfactorily to locate the line through British Columbia, and fix upon the western terminus. The total cost of Pacific surveys has been spent west of the Rocky Mountains. From the first the Jasper House Pass in the Rocky Mountains has been looked upon as the one that would certainly be adopted. From that point the most natural course would have been to seek the waters of the Pacific at New Westminster, by the way of the Fraser River, or else to have sought Bute Inlet *via* Clear Water River and the Big Bend of the Fraser. But the course of the line traversed on the last named survey was arrested by mountains 9,000 feet in height, formidable for their glacia and other difficulties. The New Westminster route would be more favorable, but the enormous cost of tunnelling and rock excavations would have made the expenditure so great as to virtually preclude its adoption. From Tete Jauna Cache to Fort George, at the bend of the Fraser, some 200 miles, the route for so rugged a country is singularly favorable. From that point several routes present themselves; one *via* Stewart River and Stewart Lake, to the Upper Branch of Gardner Inlet, would be the shortest road probably to the ocean, and in that sense favorable for the trade of the East. The gradients, however, would be very heavy, and this line may therefore be regarded as still under examination. Another route by which, *via* Kamsquot Lake, the south branch of the Gardner Inlet would be reached may also be considered as open to further consideration. A third by way of Black Water River to the north branch of Dean Channel is being very carefully explored, and presents some favorable features. The route by the Homathon Canyon to Bute Inlet has often been referred to. On this the most favorable grade would be one of 115 feet to the mile for fifteen or sixteen miles, with a large amount of tunnelling and excavation in the face of rocks rising precipitously from the river. The route *via* the Kamsquot River is a few miles shorter, and has grades not exceeding 104 feet to the mile, with a rest of three-quarters of a mile in length in the middle. The summit level is reached at a distance of 70 miles, and is 3,460 feet above the sea. Between that point and the Stewart River the line is favorable. From the lowest level of Stewart River to Fort George is 2,860 feet, and the highest 3,750. Some 50 miles would be saved by adopting Dean Channel as the terminus as compared with Bute Inlet, while the line, if carried to Bute Inlet, would strike the middle of Vancouver Island. The Dean Channel route traverses a country very sparsely settled,and one hundred miles north of Vancouver. This is, of course, an important element in the question of location. The foregoing applies solely to the progress of surveys in British Columbia, and on the assumption that the Jasper House Pass would be the one in any case adopted

[illegible] bridging that may cost $5,000 further.

The survey is completed from Selkirk to Livingstone, 266 miles, and the route is virtually determined upon from Livingstone to the Saskatchewan, which it will strlke at White Mud River, some 15 or 20 miles south of Fort Edmonton. The entire distance for which the telegraph is constructed is 720 miles.

It may then be assumed that from Fort William to Fort George, at the bend of the Fraser, the route of the Canadian Pacific is practically settled, the distance between these points being 1,730 miles. From Fort George to Bute Inlet the distance is about 300 miles.

The Temperance Concert.

The Maple Leaf Lodge of Good Templars held a successful concert Tuesday night in Temperance Hall. The room was well filled, and good order and good feeling prevailed during the entire meeting. A portion of the programme was omitted, owing to the unavoidable absence of several performers, but, on the other hand, two songs and a speech, not down on the programme, were given in good style. Thomas Nixon Esq., occupied the chair and opened the proceedings with a few pointed remarks, which were loudly applauded. The Good Templars opening ode, "Friends of Temperance," was then sung by the company, and was followed by a recitation, The Natural Bridge," by J. Duncan. Then came a song, "Memories Dear," by [illegible] recitation, "The Seventh

peared before the Council, and offered sureties Messrs. John A. McRea and John H. Bell.

Mr. John. J. McRea, collector elect, offered Messrs. John J. McRea and Adam McBeath as his sureties.

On motion of Thos. Anderson, seconded by John Flett, the sureties were accepted by the Council.

The bonds of the treasurer and collector respectively were then signed, also the declaration required by the Municipalities Act.

Mr. John Flett reported that he had seen Thos. H. Smith, and he thought a ferry road could be obtained from Mr. Smith on the west side of the river, and there would be no difficulty of getting a ferry road on the east side.

Wm. Matheson reported that he had seen Angus Matheson, the present proprietor of the ferry, and after seeing parties he had failed to obtain a road on the west side, opposite the present ferry, and he therefore could not run the ferry this year as a public ferry.

Mr. Anderson reported that lower down he had seen John. A. McRea, who would give a ferry road on the east side, but he was not prepared to report respecting the west side.

Wm. Matheson gave notice that at the next meeting of the Council he would introduce a by-law relating to pounds, and pound-keepers and fence viewers.

John Flett gave notice that at the next meeting of the Council he would introduce a by-law relating to dogs.

It was agreed that the Council sit as a Court of Revision of the assessment roll on Saturday, 20th May, at 2 p. m.

Moved by Thos. Anderson, seconded by John Flett, that Wm. Matheson and John Flett be a committee to ascertain definitely where and at what cost a ferry road can be procured, also what person if any can be obtained to take out a license and run the ferry when the road is procured, said committee to report at a special meeting of Council to be held at John Matheson's on Thursday the 13th inst.—Carried.

Thos. Anderson gave notice that at the next meeting of Council he would introduce a by-law relating to certain animals running at large.

By-law No. 7 was then passed appointing John J. McRea collector of taxes for the municipality.

By-law No. 8, appointing Adam McBeath treasurer for the municipality, was also passed.

By-law No. 9, defining the duties of collector, was next introduced and passed.

The principal provisions of this by law are, that the collector complete his duties, settle his accounts, and return the roll to the treasurer by the 15th December, or on such other day as the Council may direct. He is also to keep a book in which he is to record, 1st, name of party making payment; 2nd, the lot or other property on which payment is made; 2rd, the amount; 4th, the date; 5th, the number of the receipt. The last clause provides "that he shall give receipts by him, and preserve the stubb of the receipt, on which he shall note all the facts contained in the receipt.

By-law No. 10 was next passed. This by-law dvides the municipality into three road divisions as follows:

Division No. 1—From the south boundary of the municipality to the north line of John Matheson's (councillor) lot on the west side of the river, and the north line of John H. Bell's lot on the east side of the river.

Oct. 1872

Intelligence from the North-West.

We are indebted to Mr. Skeffington Thompson, formerly a member of the Mounted Police Force, for some interesting information from the far West.

He started from Fort McLeod on the 3rd Sept, in company with the party of Mounted Police who arrived in this city Thursday, 28th ult., and travelled by way of the Cypress Hills, which were reached seven days from date of departure.

Sub-Inspector Neill, with Sergt.-Major Francis, four sub-constables, and the six recruits enlisted at Winnipeg, was met fifty-five miles west of Fort Ellice. They had with them a train of ox carts conveying the four mountain guns and ammunition destined for Fort Walsh, and were making but very slow progress owing to the badness of the roads.

Immense herds of buffalo were passed on the other side of Qu'Appelle, heading eastward. Last winter there were none hunted in the immediate proximity of Fort McLeod, though buffalo were very abundant the previous seasons. Great numbers of Crees and half-breeds are out on the hunt, the latter destroying the animals in their usual reckless and unthrifty fashion. Mr. Thompson adds his testimony to that of all other travellers from the West as to the urgent importance of speedy legislation to prevent extermination of the buffalo. He says that this is an all important question to the Blackfeet and several other tribes, who are entirely dependent upon the bison for their food supply.

Provision were getting somewhat cheaper at the distant posts. Flour now sells at Fort McLeod at $15 per sack of 100 lbs; last winter the price ranged from $20 to $25. Tea is $2.25 per lb.; other articles in proportion.

A gross case of rape was perpetrated in the village at Fort McLeod by a trader who is a member of an influential firm. Though the Mounted Police were brought to the house by the cries of the Indian woman subjected to outrage, the non-commissioned officer with them hesitated to break in the

Six sugar beets—John Harrower, 1st; Theophile Jette, 2nd,

Twelve white field carrots—W.G. Fonseca, 1st; Thos. Anderson, 2nd.

Thirteen large red carrots—Mrs.Pritchard, 1st; D. F. Knight, 2nd.

One mammoth field pumpkin—Mrs. Pritchard, 1st; W. Peel, 2nd.

HORTICULTURAL PRODUCTS.

Twelve crab apples—W. B. Hall, 1st.

Assortment dried native fruit—Robt. Bell, 1st.

Assortment preserved native fruit—W. B. Hall, 1st; W. Corbett, 2nd.

Assortment pickles—Mrs. Palk, 1st; Mrs. Pritchard, 2nd.

Bottle tomato catsup—W. B. Hall, 1st; R. Egan, 2nd.

Bottle native wine—R. Bell, 1st; Pere Richot, 2nd.

Bottle mushroom catsup—Alex. McPherson, 1st; T. W. Gravely, 2nd.

VEGETABLES.

2 qt. kidney beans—Pere Richot, 1st.

2 qt. any other kind—Pere Richot, 1st; H. R. O'Reilly, 2nd.

6 long blood beets—Hudson's Bay Co., 1st; H. J. Arkland, 2nd.

6 turnip beets—H. J. Arkland, 1st; Wm. Corbett, 2nd.

6 long table carrots—Wm. Nimmons, 1st; Donald Sutherland, 2nd.

6 early horn carrots—W. A. Farmer, 1st; E. H. G. G. Hay, 2nd.

6 parsnips—Bishop of Rupert's Land, 1st; Donald McIvor, 2nd.

6 table turnips, white—J. Harrower, 1st H. J. Arkland, 2nd.

6 table turnips, yellow—H. J. Arkland, 1st

2 heads early cabbage—H. R. O'Reilly, 1st Robt. Morgan, 2nd.

2 heads Savoy cabbage—Jas. Tait, 1st Robt. Morgan, 2nd.

2 heads winter cabbage—Richard Egar 1st; Robt. Lowes, 2nd.

2 heads early cauliflower—Mrs. Pritchard 1st; Robt. Morgan, 2nd.

2 heads late cauliflower—Robt. Morgan, 1st; P. G. Laurie, 2nd.

6 heads celery cauliflower—Bishop of Rupert's Land, 1st; H. R. O'Reilly, 2nd.

4 cucumbers—Thos. Taylor, 1st; Theophile Jette, 2nd.

citrons—D. Flett, 1st, Charles Mollard, 2

The Turko-Servian War.

From the conflicting and somewhat uncertain character of numerous dispatches received since the commencement of the Turko-Servian war it has been almost impossible to form a correct idea as to the probabilities of success of either party or to estimate the relative strength of the belligerents. The following article taken from the Toronto *Globe*, however, gives a very general and, as near may may be, accurate statement of facts concerning the war which but a short time since threatened to involve the great European powers:—

"At the present moment the exact military strength of Turkey as compared with that of her revolted provinces becomes a question not only of great interest but also of great importance, as largely determining what the final issue of the struggle will be. It is impossible either to reconcile the conflicting accounts which have been published or to furnish anything like an accurate estimate, but in all probability the following figures will be found not very far from the truth. The total active force or standing army numbers over 200,000 men. Of these 32,000 have been engaged in trying to put down the insurrection in Herzegovina and Bosnia, while 48,500 have been stationed as an army of observation on the Servian frontier. The garrison at the capital is composed of 20,000 troops. There are 30,000 scattered through Albania, Bulgaria and Epirus; 7,000 in Crete, 17,000 in Syria, 20,000 in Kurdistan and on the Russian frontier, and 8,000 dispersed in isolated garrisons. There are 30,000 Kurdistan and Syrian troops not yet called out, and 35,000 reserve soldiers who have just been called to active service. It seems surprising that with all these forces at its control the Porte should have had any difficulty in suppressing what any well conducted government would have regarded as a petty insurrection; but it should be borne in mind that the disaffection among the Christians was general, and the above distribution of the forces shows that the rulers were aware of the fact.

The Porte was, moreover, seriously embarrassed for want of money, its own suicidal policy of repudiation having effectually destroyed its credit in the only quarters from which the necessary funds could be expected to come at its call. Nor has this embarrassment ceased; it may, on the contrary, be expected to grow more aggravated, and to have an important share in determining on whose banners victory will finally perch. Want of funds may embarrass the insurgents as well as the Turks; but they have already been supplied liberally with both money and munitions of war, and if there is likelihood of their proving victorious more assistance of the same kind will doubtless be forthcoming when needed. It is not [illegible] to di-

ser water. The question may be raised, is it practicable? Why, yes; because such works have been done with decided success in different parts of the world. But would it not be such an expensive undertaking that it would be impossible for the people and Government to undertake the work at present? No; because nature has done the principal part of the work. The shape of the valley is oblong; one end abuts on the Fraser, the other at the 49th parallel, about 15 miles in length. The sides are already dyked by a chain of mountains on each side so the work of dyking is confined to the end touching the Fraser, a distance of about five miles. At least half of this distance is already dyked by what is known as Chilliwhack mountain, about two miles long, and Miller's mountain, half a mile in length, leaving a balance not exceeding two and a half miles to dyke. What would be the probable expense? I firmly believe that the total loss estimated at Sumas this season from the water ($30,000) would meet half the expense of building a substantial dyke, and what would be the result from such a dyke? It would utilize thousands of acres of prairie land for the raising of all kinds of crops which are now almost a waste from the annual overflow of the Fraser, thus creating labor and homes for hundreds of people, and would retain in the Province thousands of dollars which now go out to a foreign country for the commonest staple articles of life consumed in the country, thus draining it so heavily that it is bound to be kept in a state of poverty. I claim that public works of this nature are reproductive, and if the late Government when expending such large sums of public money had grasped the idea of reclaiming the overflowed lands on the Fraser, they would to-day see that money reproducing itself in fields of grain and immigrants coming to our shores.

The immigration policy of the present Government is drawing nearer the desired purpose by the appointment of agents at New Westminster and Victoria, instead of, as it used to be, at London and San Francisco. Now, the duty of these agents will be to secure all the immigrants that come to British Columbia. What better inducement could an agent give than by telling a settler that the Government had some paririe lands dyked and perfectly secured from water at $5 or $10 an acre, where they could go and raise a crop as soon as it was fenced? Such land at the price would go at once. What better proof as to the practicability of dyking Sumas than the fact that the landowners are almost unanimous in favor of coperating with the Government in this work—willing to bear their portion of the expense. Provided that sufficient time be given by paying annual instalments, they will pay both principal and interest in ten years.

The first step to be taken in this scheme would be for the Government to employ a practical engineer, and if there is none in the country import one from the United States or Europe, and test the nature of the ground and suggest or draw up a plan and scheme for the dyke, and also give the probable expense. Then the people and Government would have a basis to work upon. I trust and hope that the Government will see its way clear to move in this matter soon, for there are other places similar to Sumas to be reclaimed and must be. There are Matsqui Prairie, Pitt River Meadow, and the Delta of the Fraser.

SUMAS FARMER.

Sumas, B.C., July 10, 1876.

Medical.

PRFEZEIONE strengthens, enlarges, and develops any part of the body, $1; Nervous Debility Pills, $1; Invigorating Pills, $1; all post-paid. DR. VANHOLM, 161 Court Street, Boston, Mass. 50

SAMARITAN NERVINE, the grea Nerve Conqueror, cures Epileptic Fits, Convulsions, Spasms, St. Vitus' Dance and all Nervous Diseases; the only known positive remedy for Epileptic Fits. It has been tested by thousands and has never been known to fail in a single case. Trial package free. Enclose stamp for circulars giving evidence of cures. Address DR. S. A. RICHMOND,
15-dw Box 741, St. Joseph, Mo.

NEPENTHE BITTERS ARE AN excellent herb preparation. Tested and proved a thorough stomachic that will regulate digestion, strengthen the secretive and assimilating organs, and help nature to throw off any poisonous matter that has found its way into the blood. It is therefore a thorough blood cleanser that really will do its work well. Sold everywhere. A. NORMAN, 118 King street west, Toronto, Wholesale and Retail. 63

D'ARY'S CURATIVE GALVANIC Belts, Bands and Insoles are made on the most approved scientific principles, and will certainly cure sexual weakness, nervous disorders, rheumatic affections, neuralgia, weak back and joints, indigestion, constipation, liver complaint, consumption and diseases of the kidneys and bladder. All these yield to the mild but powerful application of Electricity. The only Galvanic Belts patented in Canada. Send for circular to A. NORMAN, 118 King street west, Toronto. 63

IRON IN THE BLOOD.

PERUVIAN SYRUP AN IRON TONIC

The Peruvian Syrup Vitalizes and Enriches the Blood, Tones up the System, Builds up the Broken-down, Cures Dyspepsia, Debility, Dropsy, Chills, and Fevers, Chronic Diarrhœa, Nervous Affections, Boils, Humors, Diseases of the Kidneys and Bladder, Female Complaints, &c.

Thousands have been changed by the use of this remedy from weak, sickly, suffering creatures, to strong, healthy, happy men and women, and invalids cannot reasonably hesitate to give it a trial.

CAUTION.—Be sure you get the "PERUVIAN SYRUP" (not Peruvian Bark). Sold by dealers generally.

A 32-page pamphlet, containing a treatses on iron as a medical agent, and other valuable papers, testimonials from distinguished physicians, clergymen and others, will be sent *free* to any address. SETH W. FOWLE & SONS, Proprietors, 86 Harrison Avenue, Boston.

DR. ROBERTS'S
CELEBRATED OINTMENT,
CALLED THE
Poor Man's Friend,

is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Ulcerated Sore Legs, even of twenty years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions and Pimples on the face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula and Cancerous Humors, and is a Specific for those afflicting Eruptions that sometimes follow vaccination. Sold in Pots at 1s 1½d and 2s 9d each.

Dr. Roberts's Pilulæ Antiscrophulæ,

or ALTERATIVE PILLS, confirmed by sixty years' experience to be one of the best medicines ever compounded for purifying the blood and assisting nature in her operations. Hence they are useful in Scrofula, Scorbutic Complaints, Glandular Swellings, particularly those of the Neck, &c. They form a mild and superior Family Aperient, which may be taken at all times without confinement or change of diet. Sold in Boxes at 1s 1½d, 2s 9d, 4s 6d, 11s and 22s each.

BY THE PROPRIETORS,
BEACH & BARNICOTT,
AT THEIR
DISPENSARY, BRIDPORT, ENGLAND
and by all respectable Medicine Vendors.

SCIENCE OF LIFE;
Or SELF PRESERVATION.

WRITTEN by the Chief Consulting Physician of the Peabody Medical Institute, author of a Treatise on Diseases of the Throat and Lungs, Physiology of Woman and her Diseases, a Treatise on Nervous and Mental Diseases, late Surgeon U.S.A., etc., etc. It treats upon MANHOOD, how lost, how regained and how perpetuated, cause and cure of **Exhausted Vitality, Impotency,** Premature Decline in Man, Spermatorrhœa, or Seminal Losses (nocturnal and diurnal), Nervous and Physical Debility, Hypochondria, Gloomy Forebodings, Mental Depression, Loss of Energy, Haggard Countenance, Confusion of Mind and Loss of Memory, Impure State of the Blood and all diseases arising from the **Errors of Youth,** or the indiscretions or excesses of mature years.

"The Book for young and middle-aged men to read just now, is the Science of Life, or Self Preservation. The author has returned from

whole on the Trinity House Bill.

DOMINION LANDS ACT.

Hon. Mr. LAIRD moved the second reading of a Bill to amend the Dominion Lands Act, which, he explained, was intended to encourage tree-planting in the North-West. In the United States, and especially in Minnesota, they had done a great deal in this direction, and about half a million of acres had been set apart for that purpose. From the reports which had been published on the subject, it appeared that the attempt had been on the whole eminently successful. As to the desirability of doing something in the same way in our own North-West, he quoted from the report of Mr. G. M. Dawson, of the North-West Boundary Survey, and he mentioned that to the suggestions of that gentleman were owing the leading provisions of this measure. There were other provisions in the Bill which would be explained in Committee.

In reply to Sir JOHN A. MACDONALD,

Hon. Mr. LAIRD stated that the law was pretty much the same as in Minnesota, but scarcely so exacting.

The second reading was carried, and the Bill referred to Committee of the whole, Mr. Young in the chair. Clauses one and two were carried without discussion. On clause 3,

Dr. SCHULTZ thought these provisions were very unfair to the holders of county warrants to whom the grants had been made without any such conditions as were now proposed.

Mr. SMITH (Selkirk) said if these warrants were in the hands of those to whom they were originally granted, there would be some force in what was said by the hon. member for Lisgar, but unfortunately they were too frequently in the hands of speculators, who held them for speculative purposes, and prevented settlement.

Sir JOHN A. MACDONALD said it was manifestly unjust to any party who had purchased those warrants that their acquired rights should now be interfered with in this way.

Mr. SCATCHERD agreed with this view of the case, and could not understand upon what principle his hon. friend could propose such an interference with vested rights.

Hon. Mr. LAIRD contended that it was in the interest of the country that there should be some restrictions upon the power of speculators holding these warrants to prevent settlement. If the rule laid down by the Right Hon. member for Kingston were to be strictly applied it would prevent the reservation of lands for railways purposes in the North-West.

Mr. SMITH (Selkirk) urged that there should be some means of preventing speculators from locking up whole townships, which there was a tendency to do, with a view of holding them until settlement around them would make them more valuable, which really interfered very seriously with populating the country.

Dr. SHULTZ said he had studied the section over very carefully, and he suggested that the hon. member was the more anxious to have it passed becaused it provided for the exclusion of the Hudson Bay Company's lands, which would be held until they were surrounded by settlements, and thus greatly enhanced in value.

Hon. Mr. MACKENZIE said the clause would be allowed to pass *pro forma*, and the amendment of the hon. member for Lisgar, as well as one suggested privately by the Right hon. gentleman from Kingston, would be considered before the next stage of the Bill was taken.

The fourth and fifth clauses were passed without discussion. On the sixth clause, providing that claims to homestead rights on account of actual settlement must be made to the local office, within three months from the completion of the same,

Dr. SCHULTZ thought the time was too short.

The section, after some discussion, was allowed to stand over. On section nine, with respect to settlement by Committees,

Mr. SMITH (Selkirk) suggested the addition of the following words:—"Provided that in such community the provisions respecting improvements by cultivation and otherwise shall not be less stringent than those exacted in the case of individual homesteads."

Hon. Mr. MACKENZIE promised that the suggestion would be considered before the next stage.

The remaining clauses of the Bill were passed with little discusssion. The Bill was then reported, and the amendments read the second time; the Bill was then read the third time, and passed, an amendment having been added providing that the provision referring to county warrants would refer only to those issued after the passing of the Act.

(To be Continued.)

Mont. Gazette Aug. 1876

A correspondent of the L'Orignal *Advertiser*, writing from Minnesota, gives the following vivid account of what he witnessed of the grasshopper plague:—

"I started from Porham and came down through what is called Rush Lake settlement. I had come but three or four miles when I came into the army of grasshoppers. I travelled forty-five miles on Monday, and all the time amongst the most destructive army of pests I ever witnessed, or anyone else, for they were so thick I could with difficulty get my team along, and where they had been only one day and night there was not a bit of grain left. Otter Tail county is nearly all cleaned out. I came down through Clitheral, Nedross, Eagle Lake, Leaf Mountains and Millerville townships, and all the entire way, sixty miles, they were thick. A few miles along by Chippewa village they were not so thick, but down in Ida, Douglas county, the fields are just black with them, and the fences and fence posts are so thick with them that you could not put the point of a pin down for them. One cannot find language to half tell the story. Only seeing will give anyone an idea. A swarm of bees when they are swarming is something like the sight. These are some of the remarks that the farmers make. One of them said to me, "I did think that the machine agents were the worst pest I ever knew or heard of, but I had rather see one hundred machine men all coming for me at once, than have a one thousandth part of a grasshopper." Some men I met going to the railroad with their last load of wheat, but when they saw the "hoppers" coming they turned and went to mill, and others said they could live upon their cattle one year. But, oh! who will buy our cattle with nothing to buy with? In Becker county, when I came down through there, the wheat looked magnificent, and bid fair to yield 25 to 30 bushels per acre, but the heavens were literally full of the pests travelling in that direction, and they have reached there ere this, no doubt. Wheat would have averaged 20 to 25 bushels per acre throughout Otter Tail county had it not been for this pest.

peiors William and Francis Joseph agree [illegible] the maintenance of the policy of non-intervention was impossible, in view of the massacres and bloodshed now occurring. All the powers except Russia had declared Roumania's demands unreasonable.

The Sclavistic Committee in Moscow has issued an address solemnly promising a general uprising in Russia and armed intervention, if the Servians are defeated.

LONDON, 24.—The *Daily News'* Belgrade special, dated the 22nd, says the Austrian Consul-General on Friday ordered some Austro-Sclavonian volunteers, who had landed here, to return to Austria. Upon their refusal, a discussion followed; the Consul seized a Servian General. The citizens warned him to desist if he wished to depart in safety. The Consul has proceeded to Semlin.

PARIS, July 24.—The *Gaulois* says Schauvaloff, Russian Ambassador to Great Britain, insists upon being recalled, as his position in London is intolerable.

LONDON, July 24.—The *Telegraph's* Berlin special says:—"I am informed Servia has solicited Germany to reconcile Russian and Austrian views in the negotiations that must ensue should further reverses compel Servia to sue for armistice, so that Turkish demands may be modified and the integrity of the Servian territory preserved."

The *Standard's* Vienna despatch, dated Monday evening, says:—"It is rumored that Tchernayeff, in an interview with Prince Milan, mentioned the advisability of an armistice."

The *Standard's* Alexandria despatch says that 1,000 troops started for Salonica on Sunday, and 1,200 on Monday.

ENGLAND.

LONDON, July 21.—The mysterious death of Mr. Bravo, barrister, continues to occupy public attention. The Manchester *Guardian's* London correspondent says:—"There is an extraordinary report gaining currency that Government has thought it expedient to apply for the exhumation of the body of the late Capt. Ricardo. The remains are in the

THE ACADEMY.

Mr. W. H. Baily, of the Geological Survey of Ireland, has issued another part of his "Figures of Characteristic British Fossils," thus completing the Palaeozoic division of this valuable work. The volume in its present form contains forty-two lithographic plates, comprising 700 figures, while numerous wood-engravings are dispersed through the letter-press. The figures have been selected with much judgment, and a large proportion are original. This collection of engravings will be of great value to all students of our palaeozoic formations.

MANITOBA FREE PI

xcep-
ecify
and
both
the
who
oto-

no-
ent-
ve is

e in
end-

ctive
Moon-
oon's
ly re-

er of
forts
not so

sent
Marian
rse of
to

and all succeeded in carrrying off prizes. Other entries which reflected credit on the fair makers, are also worthy of mention, but the impossibility of learning the names of the exhibitors prevents us referring to them more fully.

A fine display of Osborne sewing machines is made by Capt. Scott. Mr. Wellband makes a good exhibit of boots and shoes, for which prizes were awarded him.

Mr. D. Ede exhibits some tombstones, in the lower hall, which are highly finished and very creditable to his establishment.

We omitted noticing yesterday a very handsome sideboard, manufactured here by Bishop & Shelton.

STOCK.

The storm that set in on Wednesday evening kept back a good many entries in stock. There were, however, a few excellent animals. Mr. Jefferson, of Greenwood, had the only herd on view, and he certainly has made a good start. The best stock is generally acknowledged to be kept in the western portion of the Province, but no entries were made from there. Messrs. Robinson and Wilson, of Rockwood, carried off the Skead prize with their fine bull.

The display of horses was limited in num-
t excellent in quali

THE ACADEMY.

her knee. This is the better work of the two, soft in colour, and mostly very agreeable. Hodgson, *The Armourer's Shop*: another Tunisian specimen by this able painter, carefully and nicely executed. Waterhouse, *Margaret, Scottish Martyr*. This uncommon-looking subject has been painted before; the Scotch girl who, for Cameronianism or some other religious obliquity, was judicially sentenced to be drowned by the flood-tide, and was left, bound to a stake, to perish as the sea rose. Mr. Waterhouse gives us the moment when the tide is just beginning to turn:

door to seize the offender; the result is that he has so far evaded arrest.

At Lee's Creek, seven miles from the foot of Chief's Mountain, and about two miles from the boundary line, some traders sank a prospecting shaft fourteen feet deep, and, without reaching the bed-rock, washed out gold to the amount of three cents to the pan. The "color" is to be found in every stream flowing out of the Rocky Mountains.

A trader named Fred Kanouse some time ago found good prospects in a locality close to the Kootenay Pass into British Columbia, but unfortunately got into a difficulty with the Indians and killed two of them in self-defence. He then found it expedient to take his departure, but is very anxious to return whenever he can do so safely.

The want of postal facilities is a great source of dissatisfaction, and the organization of the Government of the North-West is anxiously looked forward to as affording a prospect of improved arrangements. At the present time letters from Fort McLeod are sent *via* Fort Shaw, in Montana territory, bearing U. S. postage stamps, when, if a post office were established at Fort McLeod, the Canadian Government would receive revenue from the money so expended.

Hellmore.

rejoicing under the

ago when Earl Dufferin said the Island road was dead and buried as a Canadian Government work he was called a "Vice-Regal Spy" by the very man who now proposes in cold-blood to "abandon" the enterprise. Well, what do the people of Victoria think of their self-appointed champion now? Were we not right, ten days ago, when we warned city and country to beware of him and his machinations? He began by dividing Mainland and Island on the route question—rendering it impossible for the two sections to adopt a unanimous plan of action. Having succeeded in his first effort he now proposes to "ABANDON" railway work on the Island. And this person claims to represent public opinion, and in the face of recent addresses says a majority of the people will back up his treasonable proposition!!

To that portion of the Islanders who are *not* in favor of "abandoning" the Island road we would say, work late and early in support of the claims of the great Central or Bute Inlet route. We feel certain that that route will be soon adopted for the Railway. But don't place any stipulation as to route in your petitions or addresses for the Carnarvon Terms, because it don't belong there!

THE CLOVEN FOOT.

We should be sorry if the railway agitation were to take a new shape and degenerate into a mere scramble for the possession of the Local Government offices. It would be a pity if such were to be the ultimate results of the efforts now being put forth to advance railway communication and hold Canada to her bargain. Next to the sectional breeze that has been indiscreetly raised in this important matter we should regard the importation of party politics into the discussion as unwise and tending to weaken the movement. The recent assaults made on the Local Government—the attempt to fasten upon them a conspiracy to sell out the Carnarvon Terms—have their origin in a deliberate effort to destroy public confidence in the loyalty of Mr. Elliott's Government to the best interests of the country.

Two members of the Cabinet

By Electric Telegraph.

EXCLUSIVE TO THE COLONIST.

EASTERN STATES.

CHEYENNE, Aug. 31.—A courier who left the camp of Crook and Ferry on the 20th at the month of Powder river arrived at Fetterman to-night. The command was on a trail which was estimated at ten thousand, ponies Camp fires] indicate seven district bands. There is reason to believe the Indians are almost destitute of food, and the traces left in deserted camps indicate that they are reduced to the extremity of eating raw birds for food. All the Snake allies have gone home, the Crows remaining. Gen. Crook fully expects to strike Sitting Bull in a few days.

SANANNAH, Sept. 1.—To-day there were twelve interments of persons who died from yellow fever yesterday. The disease is confined to the suburbs.

NEW YORK, Aug. 31.—Mr. Beecher having moved for a change of venue in the suit brought against him by Frank Moulton the latter has served a supplementary complaint locating the action in this city.

BOSTON, Aug. 31.—The sentence of Jesse Pomeroy, the boy muaderer, has been committed to imprisonment for life.

NEW HAVEN, Aug. 31.—Fifteen million cartridges valued at 375,005 dollars were shipped to-day for Constantinople:

BELGRADE, Sept. 1.—A week ago today Prince Milan invited the mediation of the Powers in the most formal manner for Servia and Montenegro jointly. This step was taken in opposition to General Tchernayoff's opinion and in the face of his protests and arguments. It has been daily becoming more and more apparent that the Prince's action is regretted, at least by those in control of the Servian Government, and notwithstanding the Powers have notified Prince Milan of their acceptance of the task of bringing about peace negotiations there is evidence that Servia will obstruct or evade them if possible unless some new military disaster produces another revolution of feeling. Tchernayoff's memorandum against Reaver was yesterday officially published by the Servian press at Bursaw. It throws no additional light on the situation, and its most striking features are the arguments that Servia has nothing to lose.

NEW YORK, Sept. 2.—Don Carlos and suite sailed for Europe in the steamer Brittannic.

NEW YORK, Sept. 3.—John. S. Marvin & Co., of Yonkers, the heaviest hat manufactory firm in New York, have failed. Their assets are said to be greatly in excess of liabilities.

PHILADELPHIA, Sept. 3.—Washington Territory, its growth and resources. The above caption was the subject of the address by Hon. Elwood Evans in the Pacific Centennial Hall on Satururday. After referring to the wealth of timber and rich alluvial bottom lands and prairie of good agricultural capacity and well adapted to wheat culture and stock-raising, the speaker went on to review the early discovering and subsequent history of the territory, including the recent settlement of the dispute for the possession [of San Juan Island] between Great Britain and the United States. The great timber, coal, and mineral resources of western Washington, her unsurpassed fisheries, established schools system and future prospects in general were severally discussed.

New York, Sept. 3.—The steamship City of Berlin from Liverpool with the Irish rifle team has arrived.

Chicago, Sept. 3.—A 'Times' correspondent at Toledo, telegraphs that he has examined the records of Gov. Hayes' assessments of taxable property and finds that he has underrated his income and estates in every case and has never paid more than the smallest part of the tax which his ample fortune calls for.

Chicago, Aug. 3.—La Crosse special gives details of a terrible explosion of a boiler to a steam thresher working at the farm of C. G. Jones, near Chat field, Minn. The machine was in full operation when the explosion occurred. Engineer Lawner was blown a hundred and fifty feet from the ground, his body breakingoff a tree at the top 20 feet from the ground. He was instantly killed. Charles Arnold, band cutter, was literally torn to pieces; Barnett, measurer, had the top of his head taken off by a piece of boiler. The boiler was blown a distance of two hundred feet.

Utica, Sept. 2.—Gov. Seymour has refused to withdraw his absolute declination to allow the use of his name as a candidate for Governor.

New York, Sep. 3.—The democratic dilemma intensifies every hour.

The 'World,' Albany 'Press' and some other journals propose ignoring Seymour's declination altogether and marching on to victory under his name and banner. The 'Sun' says it would not be advisable to put either Dorsheimer or Potter up for the first place on the ticket. Some conspicuous democrat of long standing in the party and of necessary reputation in the S tate should be nominated.

Chicago, Sept. 3.—At the request of Senator Mitchell, instructions from the war department will be forwarded immediately with reference to the commencement of the work on canals and locks at Cascades of Columbia river.

EUROPE.

Constantinople, Aug. 31. — The Council of Ministers and great dignitaries of the Empire have proclaimed Abdul Hamed Sultan vice Murad, deposed.

London, Aug 31.—A dispatch from Ragusa says Dervish Pasha has reached Podgoritza with a strong detachment of Egyptians and Arabians. The Turkish force at Podgoritza is now formidable. It has 54 guns.

Belgrade, Aug. 31.—Official intelligence is received to-night that the Turks were defeated at all points on the right bank of Morava, and subsequently taken in the flank and put to flight. Their bridges over Morava were destroyed. The Servians occupied Turkish entrenchments on the the right bank of Movara.

Washington, Aug. 31.—The Turkish Minister received the following from the Turkish Minister of foreign affairs: Constantinople, Aug. 31.—The cruel disease of which Sultan Murad Khan has been suffering ever since the day of his ascension to the throne and which has been continually increasing, having put him in manifest impossibilty to take any more the reins of Empire in virtue of the fetes rendered by His Highness Sheck Ul Islam, and in conformity with the laws regulating the exercise of the Sovereignty in the Empire, his majesty Sultan Hamed, presumptive heir to the Imperial throne, has been proclaimed to-day Emperor of Turkey.

London, Aug. 31.—Application of Thos. Vaughan and Co. for liquida-

the side of the complete skeleton was a very extensive fire-place, wherefrom we took a large amount of ashes, together with charred bones and charcoal. The skulls found in the mound are similar to those of the living Indian. Quite a number of those found on the upper level of the mound present the conical deformation alluded to above as resembling the deformation in use among the Inca Peruvians.

I will conclude with certain remarks on the way of burial in the shell-mounds of Vancouver Island, and show the difference existing between the mounds of Vancouver and those found in California.

On Vancouver Island, when a place had been chosen as a burial ground, the bodies were brought and laid down on a bed of hard earth, mixed with small rocks and gravel, then covered up with shells. A fire was then lit near the body, and all the earthly possessions of the deceased were buried with him. If the deceased was a man of wealth or renown, slaves were killed and buried by the side of their master—practices still common among the Thlinkit tribes of Alaska. As soon as the fire was over the ashes and the body were covered with another layer of shells and everything was over until a new burial took place near or on the top of the preceding one, this is to explain the extent and elevation of some of the sepulcral shell-mounds. In California, we find only one kind of mound, which seems to have been used at the time as a "Kjjokkomodings" and a burial place; everything taken out of the hut of the natives, refuse of cooking, or any other rubbish, was thrown on this mound; or if anybody died the body was buried in the mound itself, so that California mounds are at the same time burial mounds and "Kjjokkomodings."

Before I close this paper I must mention that in connection with the cairns above spoken of are generally to be found large ditches inclosing in their area quite an extent of ground, cutting off sometimes from the mainland—a small promontory and forming in that way a fortified enclosure, where the natives could defend themselves from the incursions of warlike tribes, inside of the enclosure formed by those ditches, and protected by the subbankments thrown up on the inside of the ditch, from the earth dug out, are to be found remains of houses. Such fortifications are found along the southern and eastern parts of the island, all along the coast from Victoria (one of these fortified strictches is found at Beacon Hill) to Co-, a distance of 200 miles.

Alph. Pinart.

ago when Earl Dufferin said the Island road was dead and buried as a Canadian Government work he was called a "Vice-Regal Spy" by the very man who now proposes in cold-blood to "abandon" the enterprise. Well, what do the people of Victoria think of their self-appointed champion now? Were we not right, ten days ago, when we warned city and country to beware of him and his machinations? He began by dividing Mainland and Island on the route question—rendering it impossible for the two sections to adopt a unanimous plan of action. Having succeeded in his first effort he now proposes to "ABANDON" railway work on the Island. And this person claims to represent public opinion, and in the face of recent addresses says a majority of the people will back up his treasonable proposition!!

To that portion of the Islanders who are *not* in favor of "abandoning" the Island road we would say, work late and early in support of the claims of the great Central or Bute Inlet route. We feel certain that that route will be soon adopted for the Railway. But don't place any stipulation as to route in your petitions or addresses for the Carnarvon Terms, because it don't belong there!

THE CLOVEN FOOT.

We should be sorry if the railway agitation were to take a new shape and degenerate into a mere scramble for the possession of the Local Government offices. It would be a pity if such were to be the ultimate result of the efforts now being put forth to advance railway communication and hold Canada to her bargain. Next to the sectional breeze that has been indiscreetly raised in this important matter we should regard the importation of party politics into the discussion as unwise and tending to weaken the movement. The recent assault made on the Local Government—the attempt to fasten upon them a conspiracy to sell out the Carnarvon Terms—have their origin in a deliberate effort to destroy public confidence in the loyalty of Mr. Elliott's Government to the best interests of the country.

The members of the Cabinet

traces of great age. The skulls found are dolichocephalic, long and narrow, presenting an artificial flattening of the occipital bone—deformation due to the manner in which the child is held tight to the cradle among the Northwestern tribes, the back of its head resting on the board. If I compare any of them with those found in the shell mounds of more recent date, or with those of the actual Cowitchan Indian, I can hardly trace any difference. It would be too long to enter here on the morphology of the skull, but suffice it to say that, in my own opinion, I have not the slightest doubt that the cairnbuilders whose bones have been lying in the ground for six, seven or more centuries, were the ancestors of the present race of Indians. Among the skulls found was one presenting a very peculiar deformation, the forehead is pressed upwards, and the back part of the head has suffered the same deformation, together with the process of flattening. it has given to the knoll the comical aspect we are used to find among the old Inca Peruvians. No implements of any kind have been found in these cairns, either by Mr. Deans or myself. I believe that all the personal property of the deceased was burnt with him, but the most valuable objects, such as bone or stone implements and utensils, were burnt only in effigy; that is to say that images of said implements or utensils made of wood were burnt with or near the body, and the original ones distributed among the relatives of the deceased. I have been able to trace this custom to different tribes of the northwest coast. The bodies deposited in these cairns have all been doubled up Indian fashion, the head lying generally toward the west, the hands resting on the knees under the chin. Outside of these customs there does not seem to have been any particular way of laying the body, as some of them are found with the face downward, some others with the face upward. I paid formerly a good deal of attention to the way in which the bodies were laid by the Indians: but I have found that there is no particular rule in which they do it, and I have been obliged to give it up altogether as an ethnological sign; so it is with the cremation and the common burial. I believe they have co existed formerly as they do still now among tribes closely related to each other.

Shellbanks, Kjokkomodings and shell-mounds. Before proceeding any further I must explain the three words here used. A *shellbank* is a large accumulation of shells in digts near a river, where formerly was a village; in it we only find shells, broken bones and broken implements and utensils. A *Kjokkomoding* or common *shellmound* of the Danes is composed of the refuse of the repasts of the savage, and is found to contain shells (clams, mussels, oysters; etc.), broken bones, (human bones have been found in large quantities among those I examined at the arm, showing that the Indians were in the habit of eating human flesh, probably that of their enemies killed in battle), and broken implements and utensils, as in the shell banks; in fact, the shell banks are nothing else but Kjokkomodings, which seems to have been leveled by the action of time. The Kjokkomoding is always found in the implacement of former villages, but the sepulchral shell mound is generally a distance back of the village, on a small eminence and contains the bodies, together with utensils, implements, ornaments, etc. At the "George" about three miles up the Arm from Victoria, are remains of a very extensive village: we can trace for miles the places where the houses stood, as the embankments piled against the low r parts of the walls of the houses are still traceable. It was at that place I concluded to make my researches.

A large spectral mound had been already partly removed by Mr. Dodd to build his house, and during the removal across a large number of skeletons, together with stone and bone implements. In my own diggings I was fortunate enough to discover a whole skeleton, skulls and bone implements, utensils, ornaments, etc. In this place, too, I found that the bodies had been deposited without any fixed rules—some were doubled up, some were lying at whole length; by

" and
have
ement
THEIR
e fail-
What
with
en a
ssert-
un-
aims
land
that
the
And
in
dis-
way
nt—
ject-
the
ely,
our
out
nds
We
pre-
ota-
ace
sec-
to
ays
tu-
nce

ND

ed to
ublic
nder
hold
ldress
Are
Car-
erial
t was
ation
Car-
here
the
ere a
or of
king
epu-
von

report of the pistol. The deceased was an electrician in the employ of the Electrical Construction Co., and came here over here a year ago from St. Johnsbury, Vermont. In his trunk was found an unfinished letter directed to his sister, closing as follows. "I shall be glad when this life is over, even if my portion is to be in hell in the next world. I don't think there is a hell, and that is a comfort. You may expect to live in heaven, but I expect a total blank, think of death as a perfect slumber."

A French Scientist Explores the Indian Mounds of the Pacific-Coast Indian Remains on Vancouver Island.

EDITOR BULLETIN.—The southern and eastern part of Vancouver Island seem, at a period not very far back, to have been inhabited by a very numerous population: wherever we go, on the sea shore where there is a spring of fresh water, or on the larger rivers, we are sure to find traces of former occupation; immense shellbanks and shell mounds exist for miles above the rapids on the arm above Victoria, and sepulchral cairns are to be found by thousands at Cadboro Bay and vicinity. We will try here to describe these remains and show that the people who built them is the very same as the one now living on the island of Vancouver, Puget Sound.

I will begin by the small sepulchral mounds which I design under the name of cairns. This name is used on account of the striking resemblance between this Indian cairn mound and the celebrated cairns of Scotland, Wales, &c,; they vary very much in dimensions and shape, varying from a perfect circle to a rectangular form, though the circular ones are the most numerous. For the digging of the grave and the building of the cairn, a circular space has been cleared) I am speaking now of a circular cairn) and a receptacle dug right at the centre to a depth of from three to five feet. In this receptacle the ashes or the body have been deposited, cremation and common burial have been in use contemporaneously among the cairnbuilders;) the receptacle is then filled up with loose earth to the level of the cleared ground. Then on the top a large flat stone, weighing in some instances 300 or 400 pounds, closes the receptacle. All round that central stone others of large dimensions are set on end, forming a circle. Then at a distance of one and a half to five feet from the central circle is another one of smaller stones set on end, forming the outer circle. Between this and the inner one we find, when we have cleared the rubbish, ashes, charred bones and charcoal, seeming to indicate that a sacrifice was made to the manes of the deceaeed. After the sacrifice was over the whole was covered with loose rocks and earth so as to form a mound of a conical form, of a height of two to six feet above ground. If instead of a circular mound a rectangular one was to be built, the same precautions were taken to have the receptacle right in the centre; and instead of two stone circles we had two rectangular layers of stones set on end with large rocks forming the four corners. It is a very interesting fact to find on this coast remains so similar to what we are used to see in the old Celtic countries; and from such a fact hasty observers might make some very startling deductions. But here I must say that the skulls and bones found in the cairns opened by Mr. James Deans and myself belong undoubtedly to the Indians. and I will be more positive in affirming that if they did not belong to individuals of the actual tribe of Indians, (the Cowitchin) now living in the southern and eastern parts of Vancouver Island, they certainly had very great craniological and morphological resemblance to them. The bones are only found in a small number of cairns; most of the time we only found the ashes, showing that cremation had taken place. In the mounds that I opened in company with Mr. Deans I found bones in only one in four. The bones are extremely brittle, showing the side of the complete skeleton was a very extensive fire-place, wherefrom we took a large amount of ashes, together with charred bones and charcoal. The skulls found in the mound are similar to those of the living Indian. Quite a number of those found on the upper level of the mound present the conical deformation alluded to above as resembling the deformation in use among the Inca Peruvians.

I will conclude with certain remarks on the way of burial in the shell mounds of Vancouver Island, and show the difference existing between the mounds of Vancouver and those found in California.

On Vancouver Island, when a place had been chosen as a burial ground, the bodies were brought and laid down on a bed of hard earth, mixed with small rocks and gravel, then covered up with shells. A fire was then lit near the body, and all the earthly possessions of the deceased were buried with him. If the deceased was a man of wealth or renown, slaves were killed and buried by the side of their master—practices still common among the Thlinkit tribes of Alaska. As soon as the fire was over the ashes and the body were covered with another layer of shells and everything was over until a new burial took place near or on the top of the preceding one, this is to explain the extent and elevation of some of the sepulcral shell-mounds. In California, we find only one kind of mound, which seems to have been used at the time as a "Kjjokkomoding" and a burial place; everything taken out of the hut of the natives, the refuse of cooking, or any other rubbish, was thrown on this mound; or if anybody died the body was buried in the mound itself, so that California mounds are at the same time burial mounds and "Kjjokkomodings."

Before I close this paper I must mention that in connection with the cairns above spoken of are generally to be found large ditches inclosing in their area quite an extent of ground, cutting off sometimes from the mainland—a small promontory and forming in that way a fortified enclosure, where the natives could defend themselves from the incursions of warlike tribes, inside of the enclosure formed by those ditches, and protected by the embankments thrown up on the inside of the ditch, from the earth dug out, are to be found remains of houses. Such fortifications are found along the southern and eastern parts of the island, all along the coast from Victoria (one of these fortified ditches is found at Beacon Hill) to Co-, a distance of 200 miles.

ALPH. PINART.