

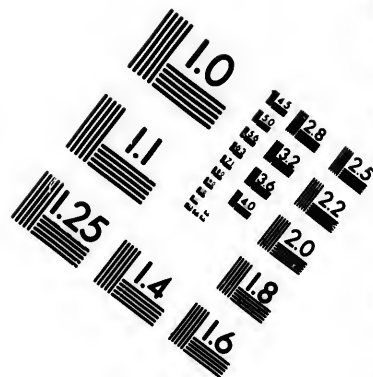
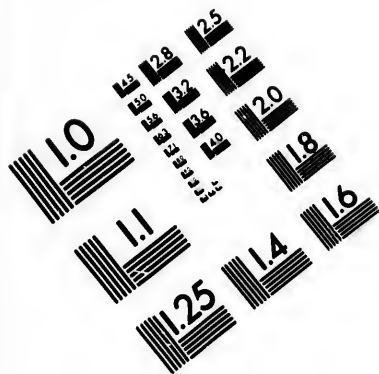
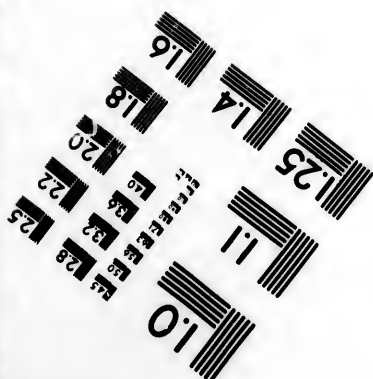
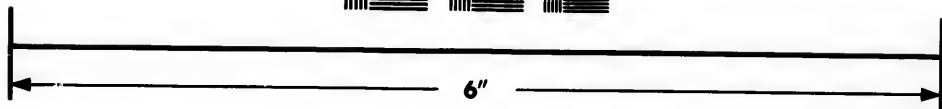
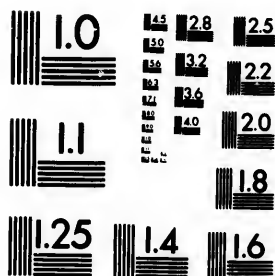


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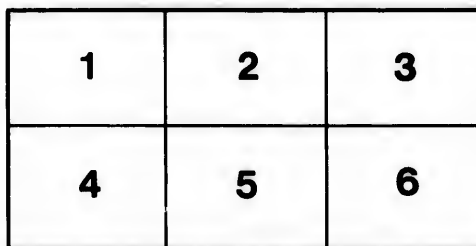
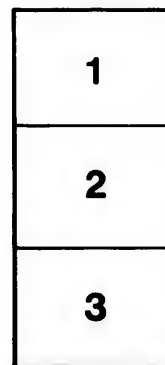
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VANCOUVER ISLAND

AND

BRITISH COLUMBIA,

WHERE THEY ARE; WHAT THEY ARE; AND
WHAT THEY MAY BECOME.

A SKETCH OF THEIR HISTORY, TOPOGRAPHY,
CLIMATE, RESOURCES, CAPABILITIES, AND ADVANTAGES,
ESPECIALLY AS COLONIES FOR SETTLEMENT.

BY

ALEXANDER RATTRAY, M.D. EDIN., R.N.

LONDON:
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PREFACE.

THE following historical and geographical account of Vancouver Island was written towards the end of 1861, and is now published in the hope that the facts it contains may be generally instructive and entertaining. Many erroneous impressions are prevalent with regard to these, the last settled and least known of the British colonies, to which imperfect or faulty information has hitherto deterred many from emigrating. A desire is now apparent in England and elsewhere for more accurate acquaintance with their characteristics than a few scattered letters and newspaper articles are able to furnish. A perusal of this volume may possibly serve this most reasonable wish, and will at least satisfy all as to the great importance of these colonies. The present work does not profess to go beyond the ordinary pretensions of a general "sketch," and lays claim only to the merit of accuracy: the facts it contains having been obtained on the spot, and the author's experience of the locality

he describes having been assisted by a residence of nearly two years, and association during that period with the most practical and best-informed men around him.

The recent settlement and present comparatively undeveloped state of both colonies will account for the manner in which the subject has been handled. It is necessary to view them more as they will be than as they now are ; and to treat their importance and position rather as a prospect of the future than a fact of the present. The apparent prominence given to Vancouver Island over British Columbia arises from the circumstance that the former was the original subject of the writer's inquiries and research, while facts with regard to the sister colony have since been added. The two settlements, however, are not to be regarded as *rival*, but as *combined* colonies.

ESQUIMALT, VANCOUVER ISLAND,
May 1, 1862.

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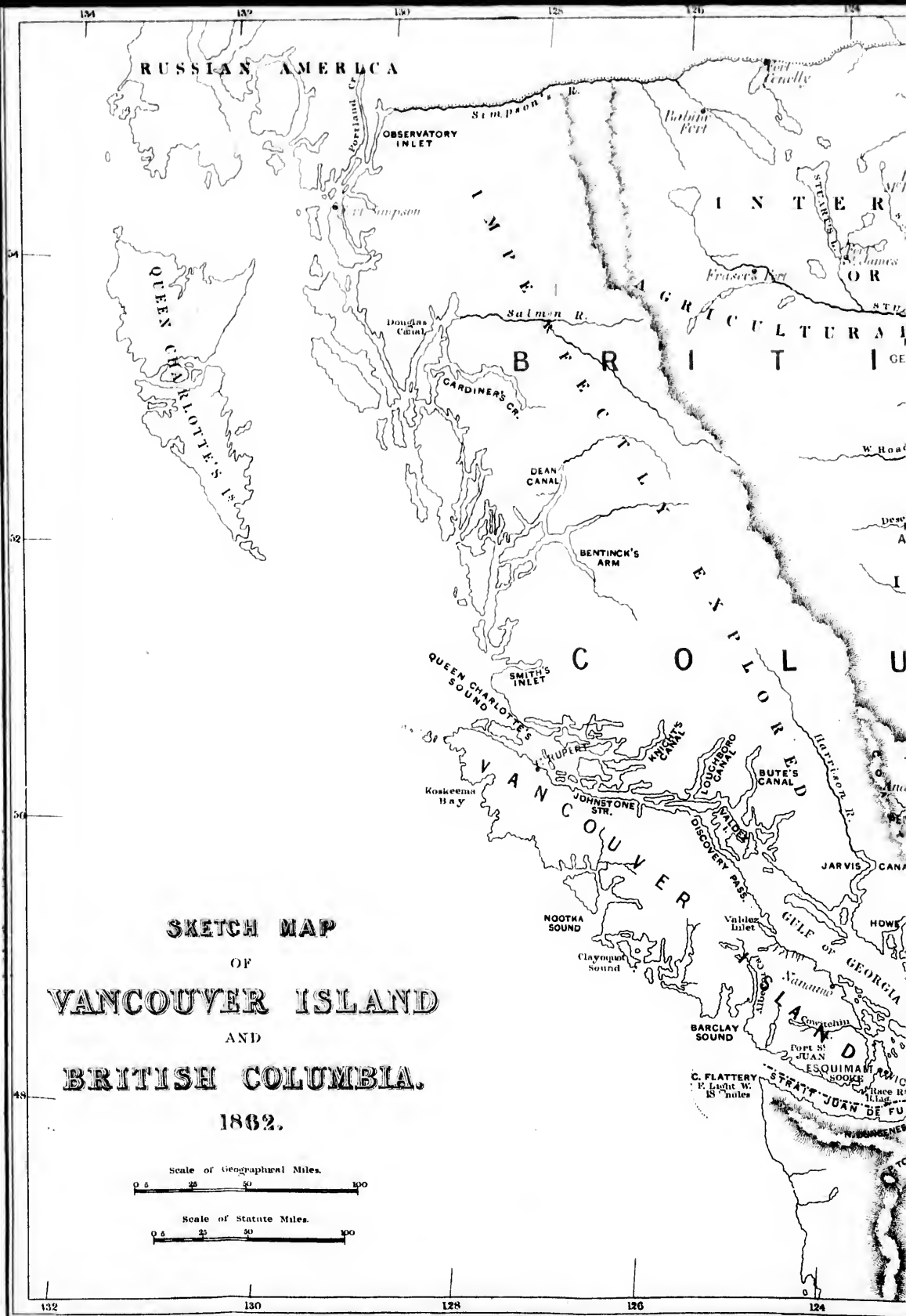
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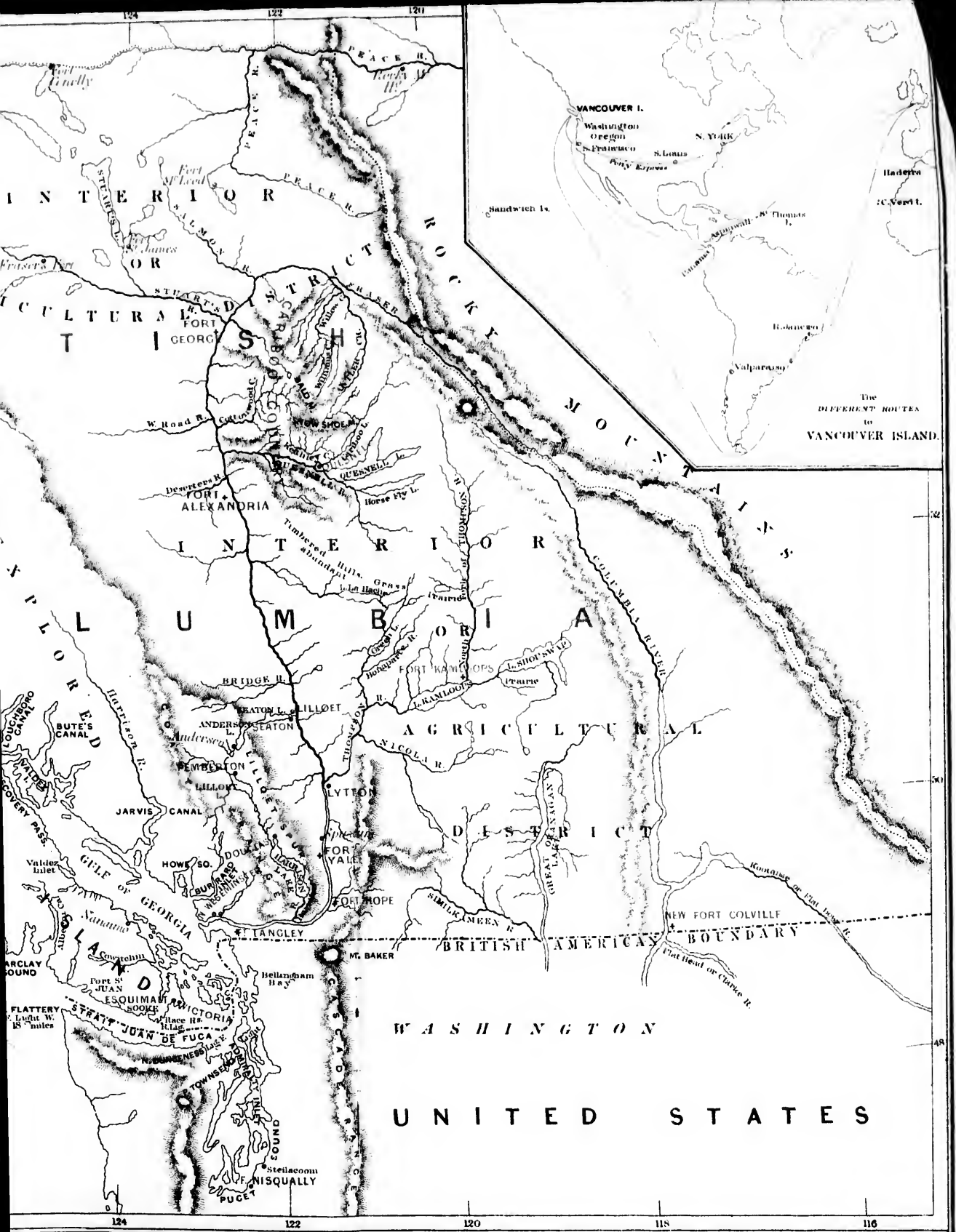
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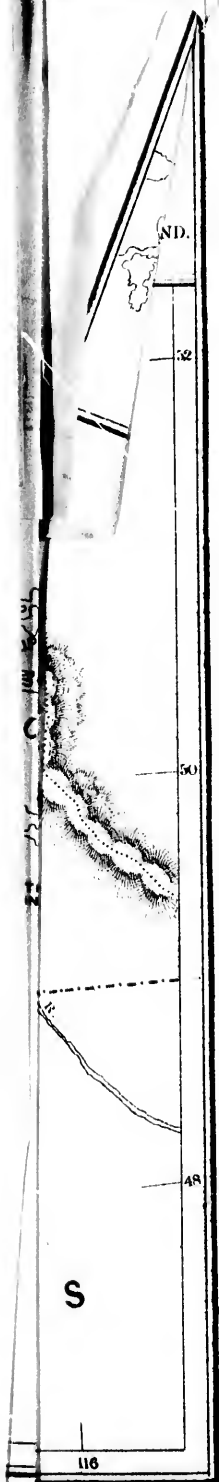
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VANCOUVER ISLAND AND BRITISH COLUMBIA.

INTRODUCTION.

THE history of the rise and progress of the colonies of a nation, especially of those which, like Vancouver Island and British Columbia, are far from the parent country, and therefore within less easy reach of its influence and aid, is only equalled in interest by that of the nation itself. Their prosperity or adversity is a subject of general concern, whether we regard its bearing on the advance of commerce, the spread of civilization and religion, or on the distribution and ascendancy of particular races. Nor does it lessen in importance when we hold it as furnishing a more or less just index of the prosperity, and the political, moral, and religious influence of the parent country, and of the industry, intelligence, and capabilities of the race from which the colony has sprung.

Especial interest usually centres in the colonies of large and influential nations. Hence the attention with which these offshoots of British enterprise are watched, the care

taken to cherish their infancy, and the encouragement, both temporal and spiritual, already so liberally afforded them.

Without a right direction, the efforts made by local governments, as well as by individuals, to advance colonial interests will be in a great measure lost. The geographical position of a colony, its geological structure, physical conformation, the nature of its soil, and other conditions which combine to give character to a country, undoubtedly adapt it for development in a particular direction. Probably there are not two whose resources, capabilities, and advantages are alike, or likely to lead to similar wealth and importance. One is fitted for agricultural, a second for pastoral pursuits, while others become distinguished for their commerce, manufactures, or mineral wealth. We thus perceive that colonies differ in their capabilities, and consequently in their aims. Hence how important, in dealing with the early career of those now under consideration, to estimate correctly their distinctive characteristics and natural advantages, in order to determine with something like certainty the appropriate means to be employed for turning their resources to the best account, so as thus to advance both private interest and public good.

The intending emigrant of the present day has a wide choice; and many of the colonies to which he may resort have been long and favourably known. It becomes absolutely necessary, therefore, in the interests of British Columbia, to supply some sufficient inducement to turn his steps in this direction, and with this view, to recount the advantages which these countries possess. To the emigrant himself, its results are of much importance. It is not to be expected

that every locality will be found equally adapted for his calling, or suited to his taste, and it cannot be a matter of indifference in what direction he may turn his steps. A mistake once committed is not easily remedied, for it is both inconvenient and expensive to re-emigrate. He, therefore, stands in need of some guidance to enable him to make at the outset a judicious and decisive selection.

Our unhappily imperfect knowledge of the greater part of Vancouver Island necessarily renders any inquiry respecting it both incomplete and unsatisfactory. A large part of it remains to be explored; our knowledge, indeed, of the island is limited to that comparatively small portion of its southern extremity which is bounded on the north by Port San Juan and Nanaimo. Of its geology, its arable land, the nature of its fisheries awaiting development, and even the character and value of its harbours, we can give but little account; while even with the parts already settled our acquaintance is in many respects very deficient.

The results of the coast survey now in progress will dispel much of this uncertainty, more especially as to the character of the harbours. An urgent necessity exists for a complete survey of the interior of the island; and until both countries have been thoroughly explored, geologically and topographically, any general conclusion arrived at must, from the very nature of the case, be crude and premature.

A large part of British Columbia is thoroughly unknown. Fur-trading settlements have long existed in its interior, which has therefore been partially explored; and the gold-diggings of more recent date have opened up the country in the neighbourhood of the Fraser River; but the north-east,

north, and western districts, including nine-tenths of its surface, are still unsettled, and much of it unvisited. The nature of the geology and value of the mineral wealth of British Columbia have yet to be determined; gold and silver have been discovered, and an abundance of timber and fine tracts of arable land are said to exist in the interior. Its resources are undoubtedly valuable, but all details with reference to them must be held to be at present in abeyance.

Notwithstanding, however, these difficulties at starting, enough material remains to furnish reliable and satisfactory inducements to our friends at home. There is ample evidence to shew that the known resources of British Columbia and Vancouver Island are both varied and valuable; that their capabilities for development are of a high order—Vancouver Island chiefly as a commercial, manufacturing, and mineral-yielding colony, and British Columbia in agriculture, pasture, and mining; that both offer superior advantages for settlement; that their present condition is eminently prosperous, their future equally promising; and that the prospective emigrant, uncertain in his choice, may advantageously fix it here, whether for purposes allied to those particular activities already enumerated, or simply with the idea of seeking a comfortable and pleasant home in a healthy climate, and under a good government.

CHAPTER I.

HISTORY OF THE DISCOVERY AND COLONIZATION OF VAN-
COUVER ISLAND AND BRITISH COLUMBIA.

MINUTE details of the history of these colonies,—necessarily intimately connected with that of the progress of modern maritime discovery, the spread of races, and of English colonization,—although interesting, are unnecessary here. The discovery of Vancouver Island and British Columbia was from the southward, and by sea; its settlement from the eastward, overland. The two events must therefore be separately traced.

The time, mode, and source of America's first occupation by the aboriginal Indian races are lost in obscurity; and now form a fertile theme for conjecture and controversy. The discovery of the continent in modern times, and the progress of its subsequent colonization from Europe by the more civilised races, who are fast supplanting its earlier inhabitants, are much better known.

Iceland, Greenland, and the east coast of North America, probably as far south as 30° N. lat., were unquestionably first discovered and subsequently settled by the Scandinavians of North Europe, and probably the Celts of North Britain, as early as the year 861. Columbus and his followers, by sailing from the south of Europe in 1492–1502,

subsequently encountered the West Indian islands, Central and South America. Bilboa, by crossing the Isthmus of Darien, was the first to discover the Pacific beyond; and Magellan to enter and navigate it by sailing through the Straits of Magellan in 1520. Crossing the neck of land, he led the way in the circumnavigation of the globe, and solved the long-vexed question as to the practicability of arriving at the fabulously rich Cathay by a westward route. The subsequent progress of discovery along the western coast of America was slow; and it was not till 1592 that Vancouver Island was first reached by San Juan de Fuca, who sailed along the strait which now bears his name, at the southern end of the island.

In 1776, Captain Cook roughly surveyed the coast; and since then Vancouver Island has been more or less frequently visited, as by Portlock and Dixon, Meares, Berkeley, &c.; and in 1791 by Vancouver and Quadra, who gave the island the double name it once bore; and more recently by whalers and vessels of war. But although known to occasional travellers, it was not until a comparatively recent period that these regions were brought into prominent notice, and their capabilities for settlement recognised.

The history of the first settlement of the two colonies embraces much of that of the Hudson's Bay, Montreal, and other fur-trading companies, who first paved the way by their settlements for a more general occupation of the country; and have in many respects been to North America, both for good and for evil, what the East India Company was to India.

After the discovery of America by Columbus in 1492, Mexico, Central and South America became extensively

settled by the Spaniards and Portuguese from Southern Europe; and the east coast of North America by the English, French, Dutch, &c., from Northern Europe. In 1629, the French or Quebec Fur Company was formed; in 1669, the Hudson's Bay Company; and subsequently, the North-West or Montreal Company; for the purpose of trading in the furs of animals, which abound in the northern parts of this continent.

Thus it happened that settlements multiplied westward and northward, but the Rocky Mountains formed an impassable barrier until Sir Alexander Mackenzie first crossed them in 1790, near the north end of the range, while tracing the Peace River and the head-waters of the Fraser River to their source; and was thus the first to enter British Columbia.

Further south, Lake Michigan was long the extreme boundary of European knowledge of the west; and still downward, the Alleghanies formed an insurmountable obstacle to emigration to the regions beyond. In 1714, however, they were crossed from Virginia; the wide and fertile valley of the Mississippi was discovered, and, soon after, settled. In 1804, that river was first traced to its source in the Rocky Mountains by Lewis and Clarke, who, pushing their discoveries, were the second to cross the range; and, descending the south branch of the Columbia River, were probably the first to reach the Pacific by the overland route. The regions beyond the Rocky Mountains, previously untraversed and unknown, soon became studded with fur-trading settlements. In 1803, the Montreal or North-West Company formed trading-posts on the north branches of the Columbia River. In 1806, Mr Fraser estab-

lished Fort Fraser, a Hudson's Bay station, at the head of the river of that name, probably the first fur-trading establishment ever opened in British Columbia. These two powerful companies, long rivals, became united in 1821; and, under the title of the Hudson's Bay Company, their territory extended over the greater part of Northern America, from the Atlantic to the Pacific. Gradually spreading over British Columbia, trading-posts were formed on the lakes in the interior, and along the Fraser River. In 1849, Vancouver Island was granted to the Hudson's Bay Company under stipulation that they were to colonise it; and the island was first settled by their erecting a fort at its southern end, on the site of the present Victoria, while smaller stations at Nanaimo and Fort Rupert were subsequently formed. Fort Victoria soon became the principal depot for the exportation of the furs collected on the west side of the Rocky Mountains; but their ill success in colonising the island may be learnt from the fact, that, in the end of 1853, its entire white population, men, women, and children, was only 450, chiefly Hudson's Bay *employés*. Vancouver Island remained in obscurity; few, with the exception of these agents and traders, settled there, owing to the many restrictions of the company, who governed the island, and were necessarily opposed to the intrusion of any but those connected with themselves. Its commerce was limited chiefly to the annual Hudson's Bay vessel with goods for barter to the Indians, and the transport of furs to England. British Columbia was still more scantily peopled, and even less known, except to the same traders, who had frequent occasion to traverse it. It was not the interest of a commercial company who monopolized a highly

lucrative sale of European goods, and an equally profitable barter of furs, to make known the fine climate, valuable resources, and ample capabilities of the country. Such tidings would bring about colonization and competition, and a decrease and ultimate extinction both of the fur-bearing animals, and fur-hunting Indians.

It was not, therefore, till 1859, when the charter of the Hudson's Bay Company had expired, and with it their license of exclusive trade, that active colonization began, forming a marked contrast to what previously prevailed. Vancouver Island and British Columbia, now under the management of the home government, were declared separate colonies, but placed under one governor; and since the removal of the restrictions on commerce and the discouragements to immigration, the progress of both colonies has been steadily progressive. Victoria has become the capital of Vancouver Island, and is the future commercial depot for both colonies. In the previous year (1858) a discovery of rich gold-diggings up the Fraser River, attracted thousands from California. These made Victoria a place of call and depot for provisions, and to this, the capital of Vancouver Island, and the colony itself, are unquestionably indebted, not only for the temporary prosperity they then enjoyed, but for being first brought prominently into notice, for the first development of their commerce, and for a large part of their present success.

While Victoria has thus risen within the short space of three or four years from an unimportant Hudson's Bay Company's trading-post to a flourishing commercial town, fair progress is evident in the colony elsewhere. An industrious agricultural population now farms much of the fertile south-

ern end of the island ; Esquimalt, in the vicinity of Victoria, has become the naval station of the Pacific ; Nanaimo—the Newcastle of the island, probably of the Pacific—has sprung into existence as a flourishing mining and coal-exporting township ; while a rising settlement for the exportation of spars and timber has been formed at Barclay Sound on the west coast ; and, although the interior of the island and its northern three-fourths are not yet settled, and but very imperfectly known, new resources and capabilities are being rapidly discovered and developed ; the colony is steadily increasing in population and importance, and its present prosperity may be fairly taken as an indication of an equally prosperous future.

Progress is likewise evident in the sister colony of British Columbia. As in Vancouver Island, its population is fluctuating, and largely composed of miners, who make only a temporary stay in the colony : but permanent settlement has also made considerable progress, surpassing that even of Vancouver Island ; and the rudiments of future populous and flourishing commercial towns are springing up, principally in the gold districts and along the Fraser River and its tributaries. Such are New Westminster, the capital, near the mouth of that river, well situated, and eminently fitted for becoming the commercial centre for the traffic of the lower Fraser River district. Further up the same river, and along the Harrison Lake route, we find the rising townships of Hope, Yale, Douglas, Lytton, Lilloet, local commercial centres for more limited districts ; and although the greater portion of British Columbia is still unexplored, especially its interior and its northern part, (settlement having pro-

gressed principally in the southern districts,) this colony gives ample evidence of great agricultural and pastoral capabilities, and of valuable mineral resources, which combine to render the future of British Columbia as promising as that of Vancouver Island ; although the development of the two colonies will necessarily, from the difference in their resources and character, be in a totally different direction.

Both colonies now enjoy a remarkable and steadily increasing prosperity ; and the combined resources of the two indicate a future success that will probably surpass that of any of England's colonies,—a success that will be accelerated by the spread of more accurate information, and the removal of many erroneous impressions that have so long prevailed in England as to the nature of the country, the character of its climate, the extent of its resources and capabilities, and its many advantages as a colony for settlement.

CHAPTER II.

THE TOPOGRAPHY OF VANCOUVER ISLAND AND BRITISH COLUMBIA; THEIR PRINCIPAL TOWNS, HARBOURS, RIVERS, ETC.

VANCOUVER ISLAND lies on the west side of North America, 5068 miles due west from London; and occupies in the Pacific very much the same position that England does in the Atlantic. London and the south of England lie nearly in the same latitude as Victoria and the southern end of Vancouver Island. Canada and British Columbia together occupy the entire breadth of North America; the former lying to the east, and the latter to the west, of the Rocky Mountains. If a traveller were to leave London and travel westward, first crossing the Atlantic, then Canada, and then the Rocky Mountains, he would enter British Columbia; and by continuing his westerly course, would arrive at Vancouver Island.

British Columbia consists of a tract of country nearly twice the size of Great Britain, with an area of 200,000 square miles. It extends from lat. 49° to lat. 57° north, and is contiguous on the south to the territories of the United States, and on the north to Russian America. The Rocky Mountains, lying from 350 to 400 miles inland, form

its eastern boundary ; on the west, its coast borders the Pacific, the coast line being about 450 miles long. This is deeply indented by numerous narrow inlets or arms of the sea ; and appears still more irregular from the presence of a chain of off-lying islands, of which the two largest are Vancouver Island and Queen Charlotte's Island ; the latter lying off the north part of its coast ; while the former lies along, and close to, its southern half.

The present population of British Columbia—miners included—is probably from 5000 to 6000 ; of which the miners form about one-third.

Vancouver Island is elongated and hilly, 270 miles in length, and from 40 to 70 miles in breadth ; with a superficial area of 14,000 square miles,—scarcely one-fourth of the size of England and Wales. Its long axis lies along the coast of British Columbia, the lower and larger end being received into a deep notch in the mainland. Its coast, especially on the west, is irregular and deeply notched by different bays and inlets ; its streams are few and unimportant. The white population of the island, including that of Victoria, is about 4000 or 5000 ; but no accurate returns can be obtained for either colony. The Indian population is said to number 16,000, but this is doubtful ; and the native population of British Columbia is still further beyond the reach of present calculation.

A narrow but navigable channel separates this island from the adjacent colony ; too narrow and intricate at its north end to be of much use, but broad and deep along the south coast and the lower half of the east coast of the island, so as to permit of easy and safe access by the Strait of Fuca to Vic-

toria, the commercial harbour of the colony,—to Esquimalt, its naval harbour,—and by the Gulf of Georgia, to Nanaimo and its coal mines,—and to the Fraser River, the largest and most important stream in British Columbia, and the principal outlet for the commerce, and the agricultural, mineral, and other products of that colony.

Vessels arriving off the coast will find the access to Victoria and Esquimalt Harbours, safe, easy, and comparatively free from danger. There is deep water till within fifteen miles of the land, when it suddenly shoals to ninety fathoms and under,—a good guide to the distance from the shore in foggy weather. A snug harbour—viz., Port San Juan—exists at its entrance, convenient and safe in stress of weather. The entrance of the strait is thirteen miles wide, and can be readily distinguished at a distance by the appearance of the land on either side. A lighthouse has been placed on its right or American side; and as it is neared, the beholder can easily discern the irregular rugged Olympian mountain range and the jagged hilly surface of Oregon, with its snow-capped peaks, from the more undulating and less lofty pine-clad hills of Vancouver Island, which increase in elevation towards the north. The Strait of Fuca varies from eight to eleven miles in width, and the scenery preserves the same character throughout. On the right is the American territory of Oregon, its hilly surface increasing in height as the vessel proceeds; the hills often appearing to rise cliff-like from the shores of the strait, and culminating in Mount Olympus, opposite Victoria. The snow-clad ridges of this peak rise to a height of 8000 or 9000 feet, and slope gradually down on the east towards Puget Sound, and on the west,

towards Cape Flattery. Here they attain the level of the sea, after forming a continuous wall which stretches for 100 miles east and west, and constitutes the southern boundary of the Strait of Fuca. On the left is the rounded, hilly, and pine-clad, but less lofty surface of Vancouver Island, which gradually slopes and diminishes in height towards its south-east corner: while beyond the further end of the strait in the far distance, the snowy ridge of the Cascade range may occasionally be seen, running in a north and south direction. At night, the strait is very fairly lighted. At its entrance is Cape Flattery light, visible eighteen miles at sea. Fifty miles up is the Race Rock light, seen both from Victoria and along the Strait of Fuca. Rounding this, the vessel enters Royal Bay, and sights another placed at the entrance of Esquimalt Harbour,—a safe guide both to that port and to Victoria Harbour, nine or ten miles off. Both are situated within three or four miles of each other at the south-east corner of the island.

Esquimalt Harbour is roomy, safe, and deep; of easy access by night or day, and at all states of the tide; and is one of the snuggest along the entire American coast, and perhaps in the world. Vessels may lie and unload close to the rocks. It is now the naval station, and ought to have been the commercial harbour. Indeed, it must be so for large vessels drawing more than seventeen feet of water, which Victoria cannot admit. The difficulty may be overcome by a railway communication between the two, and smaller vessels may then unload in Victoria Harbour, and larger ones in Esquimalt. As yet, Esquimalt village is small and unimportant.

Victoria Harbour is confined, crooked, and small, its approach narrow, intricate, and somewhat unsafe owing to the presence of rocks and a sand-bank off its entrance, and rocks in its channel. It is capable, however, of much improvement. Greater obstacles have been overcome in the Clyde at Glasgow, the Mersey at Liverpool, and the Thames at London, with a view to improved accommodation; and the increasing trade of Victoria will soon lead to similar remedies being adopted here. Rocks may be blasted and removed,—the entrance dredged, deepened, and widened,—dry and wet docks may be constructed,—lighthouses erected, and steam-tugs kept in readiness to tow vessels up and down the strait.

Victoria, the capital of Vancouver Island, is built on a well-chosen site, on elevated ground which commands a fine prospect of the Olympian mountains,—the Strait of Fuca, and entrance to Puget Sound,—the celebrated San Juan Island, uninteresting as far as scenery is concerned,—the snow-clad ridges of the Cascade range in the far interior,—and the nearer hills of the interior of the island itself. It is a free port, and already enjoys a thriving trade, and is the depot for the local and foreign traffic of both colonies, the source of supply, and the usual place of arrival and departure. Its population, which is variously estimated at from 3000 to 5000, consists of many different races; but mainly of English, Irish, and Scotch, especially the latter, with a considerable admixture of Americans, French, Germans, Jews, and coloured people. These came eagerly to this colony, on its first settlement, from San Francisco, and now form a well-behaved and industrious

part of the community. Victoria is the seat of government, and the residence of the governor.

Nanaimo is yet small ; and its population, which numbers from 150 to 200, consists chiefly of coal miners and their families. Its harbour is good, and its export trade in coals already considerable. The development of its coal-fields, now in progress, will ultimately make it a place of great importance, with an extensive traffic, and a large mining population. Nanaimo boasts of two places of worship—an English church and a Wesleyan chapel.

The Barclay Sound settlement—where a saw-mill has been erected for the manufacture of spars, and cut timber, for exportation—has a population of about 100. The company has an extensive grant of land from the local government, and both the trade and settlement are rising in importance.

Fort Rupert, at the N.E. corner of the island, is an unimportant Hudson's Bay Company's fur-trading station, with a few *employés*.

New Westminster, the capital of British Columbia, occupies a commanding and well-chosen position on the north bank of the Fraser River, fifteen miles from its mouth. The anchorage is good, the water deep, the wharfage facilities fair, and steamers of eight hundred tons and drawing fourteen feet have proceeded some miles up the stream, as far as Langley. The shifting sand-banks, however, and the intricate navigation at the river's mouth, will unquestionably prevent this town from becoming a place of extensive foreign trade. Still, it enjoys the daily increasing traffic of the Fraser River, and derives a large revenue from its custom duties ; and will probably become of importance, but only as a local

commercial depot for the traffic of the "lower Fraser" district. The greater part of the trade in connexion with the mines in the interior has hitherto passed through this capital; but it appears probable that the recent discovery of routes to the gold-diggings, and to the agricultural districts in the interior, shorter and cheaper than those by the Fraser River, will greatly diminish both the traffic and importance of this place. A company of Royal Engineers is camped about a mile higher up. The population of New Westminster with its garrison is about 700. It has an English church and two clergymen.

Hope and Yale, formerly fur-trading settlements, have become developed within the past few years, since the discovery of the Fraser River gold-fields, into small townships, with a considerable trade, which chiefly depends on the traffic connected with the gold-diggings higher up. The former has a population of 250, and the latter of 400. Hope will become of importance as an outlet for the Similkameen district—a rich agricultural and pastoral country along the Columbia River. Both Hope and Yale have English Church clergymen, and the former a Wesleyan minister. Yale, 87 miles above New Westminster, 102 miles from the mouth of the Fraser River, and 15 miles above Hope, is the head of steamboat navigation on this river.

Douglas, at the head of Harrison Lake, is a rising place with 200 inhabitants, through which passes the traffic of the "Douglas route" to the mines beyond. A Church of England clergyman is stationed here.

Lilloet; Seton; Lytton, with a population of 200; Cayoosh, with 350; and Quesnelle, with 200 inhabitants, are all thriving

places farther up the Fraser River and Harrison Lake routes, developed since the rush to the gold-fields, and principally supported by the diggings and the traffic they cause. Although most of the towns in British Columbia depend for their existence and support on the gold-fields, they serve to encourage and aid agricultural settlement, which is slowly spreading round them.

The Fraser River, and its tributary the Stuart River, with other smaller streams, arise in and drain the northern part of the interior or agricultural district of British Columbia. Uniting at Fort George, the main stream continues to run in a general southerly direction, and traverses the entire length of the interior, receiving in its course various important accessories, especially the Thompson River, till, arriving at the south-west corner of the agricultural region, it enters the hilly district, and soon takes a sudden bend and runs in a westerly direction through the Cascade and other ranges, emptying itself into the Gulf of Georgia opposite Victoria. The entire length of the river is about 450 or 500 miles; and may be divided into the "upper Fraser" and the "lower Fraser," the former consisting of that part which drains the interior, and the latter of that shorter portion which reaches from Yale downwards. It is the only stream of magnitude in British Columbia, except the north branch of the Columbia River, which occupies the south-east corner of the colony. The river is navigable by steamers as far as Yale, 102 miles from its mouth. The Fraser River district may be said to be the only permanently settled portion of British Columbia. On it or its tributaries are the principal settlements of this colony,—*e.g.*, New Westminster, Hope, Yale, &c. &c.; its bed

and banks have yielded the greater part of the gold, and it still forms the principal route to the gold-bearing gullies and "creeks" of Cariboo, along the upper Fraser, in the interior.

The Cariboo country, named after a small lake, is a tract lying about the centre of the "interior" of British Columbia, and to the east of the Fraser River, in the bend formed by that stream before it takes its southerly course. The Quesnelle River, a tributary of the Fraser, forms its southern boundary, and the latter its western and northern. The district thus circumscribed is hilly and mountainous, and is drained by innumerable streams and rivulets which appear to radiate from its centre and flow into the Fraser and Quesnelle. The valleys which these drain, and the beds of the streams, are the "creeks" which are now proving so highly auriferous,—*e.g.*, Williams' Creek, Antler Creek, Lowther Creek, &c. &c.

Many of the numerous inlets, canals, and arms of the sea which penetrate the coast of British Columbia, and not a few of which are only imperfectly explored, will become of importance at a future day; and as convenient sites for fishing-stations, seaports, and depots for the commerce of the interior, and for the exportation of its timber and other produce, they will prove of the greatest value not only to that tract of country which lies between the coast and the Cascade range, which has no outlet except by these and a few unimportant rivers, but also to the interior or agricultural and the gold-mining country, access to which has hitherto been chiefly along the "Fraser River" and "Harrison Lake" routes. The latter are probably the shortest and easiest to the southern parts of the region now alluded to; but better and cheaper

ways are now necessary for access to its middle and northern parts, and to the Cariboo mines. This the inlets alluded to will supply; and Bentinck's Arm, but especially Bute's Canal, already promise to be those most frequently made use of. In a subsequent page the different routes to the interior of British Columbia will be more fully discussed.

CHAPTER III.

ON THE CLIMATE OF VANCOUVER ISLAND AND BRITISH
COLUMBIA ; ITS NATURE AND SALUBRITY.

THE nature of the climate of Vancouver Island and British Columbia, putting entirely out of sight its effect on their animal and vegetable productions, is of importance to the emigrant in a sanitary point of view ; and is, moreover, likely to have a material influence on the progress and ultimate prosperity of the colonies themselves : for the great majority of emigrants will of course prefer a temperate and genial climate, more especially if it be at all similar to that of their native place. A large proportion of those who sail for these colonies will no doubt come directly or indirectly from the parent country, and will desire a climate at least as mild as that of England. That they may enjoy this on our shores is perhaps as little imagined as any hitherto unascertained fact connected with the history of these places. Not only in England, but even in Canada, the opinion prevails that the climate of these colonies is cold and inclement, and the country itself bleak and inhospitable ; and that both are so uninviting that the formation of a settlement here appears as unpromising an idea as the foundation of one in Banks's Land, the Sundra, or Tierra del Fuego.

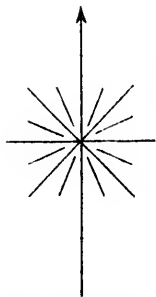


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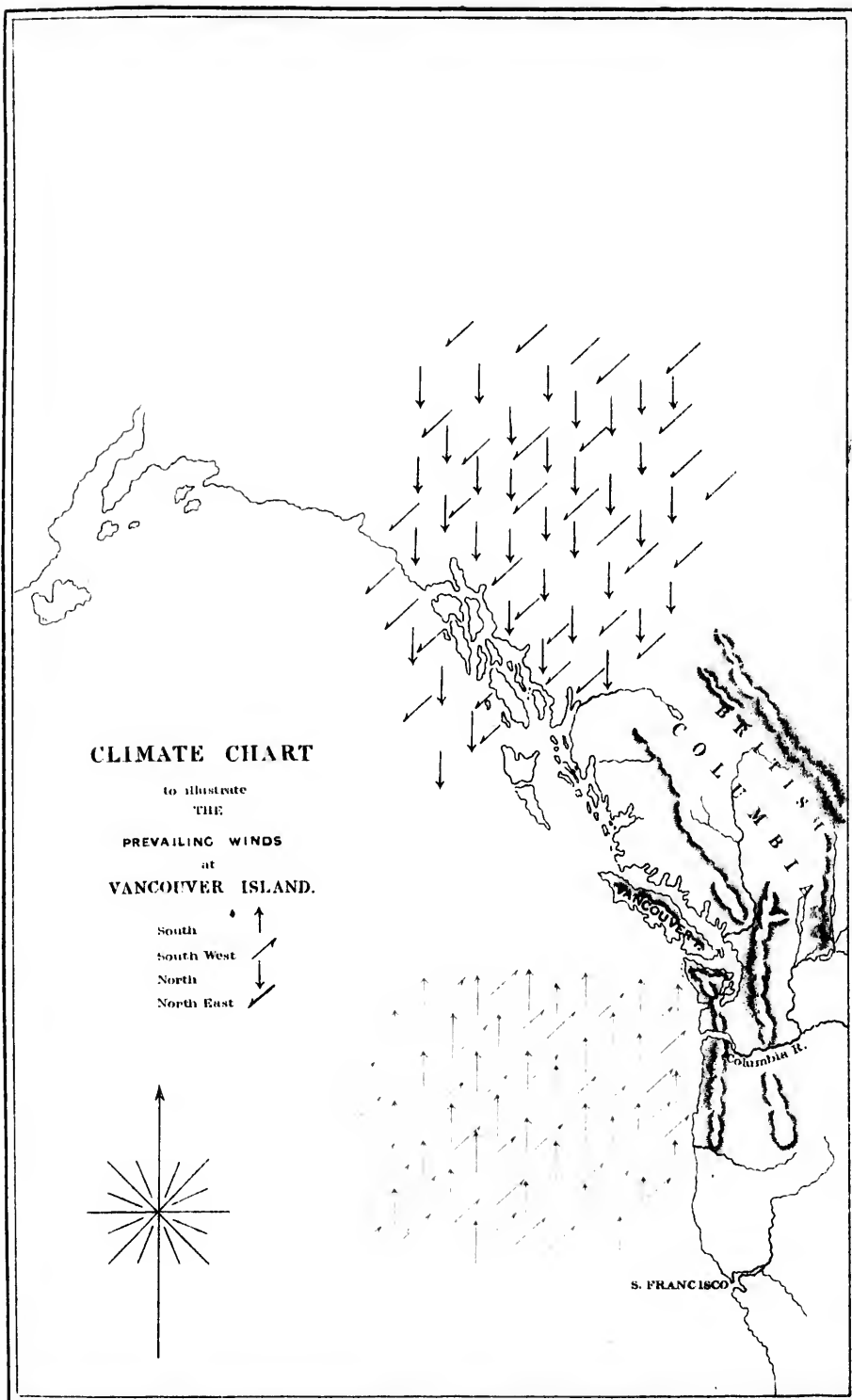
to illustrate
THE

PREVAILING WINDS
at
VANCOUVER ISLAND

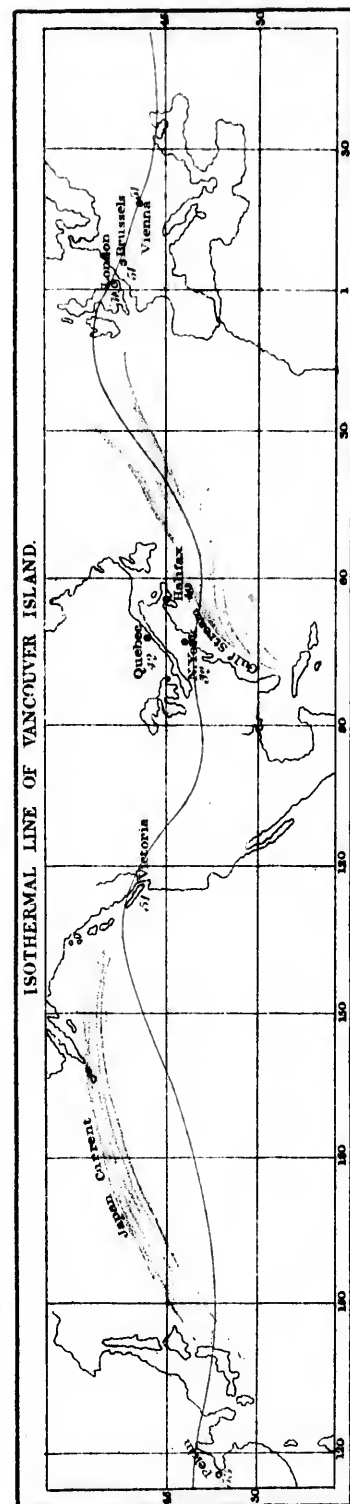
South
South West
North
North East



Vincent Brooks. lith.



Vincent Brooks. lith.



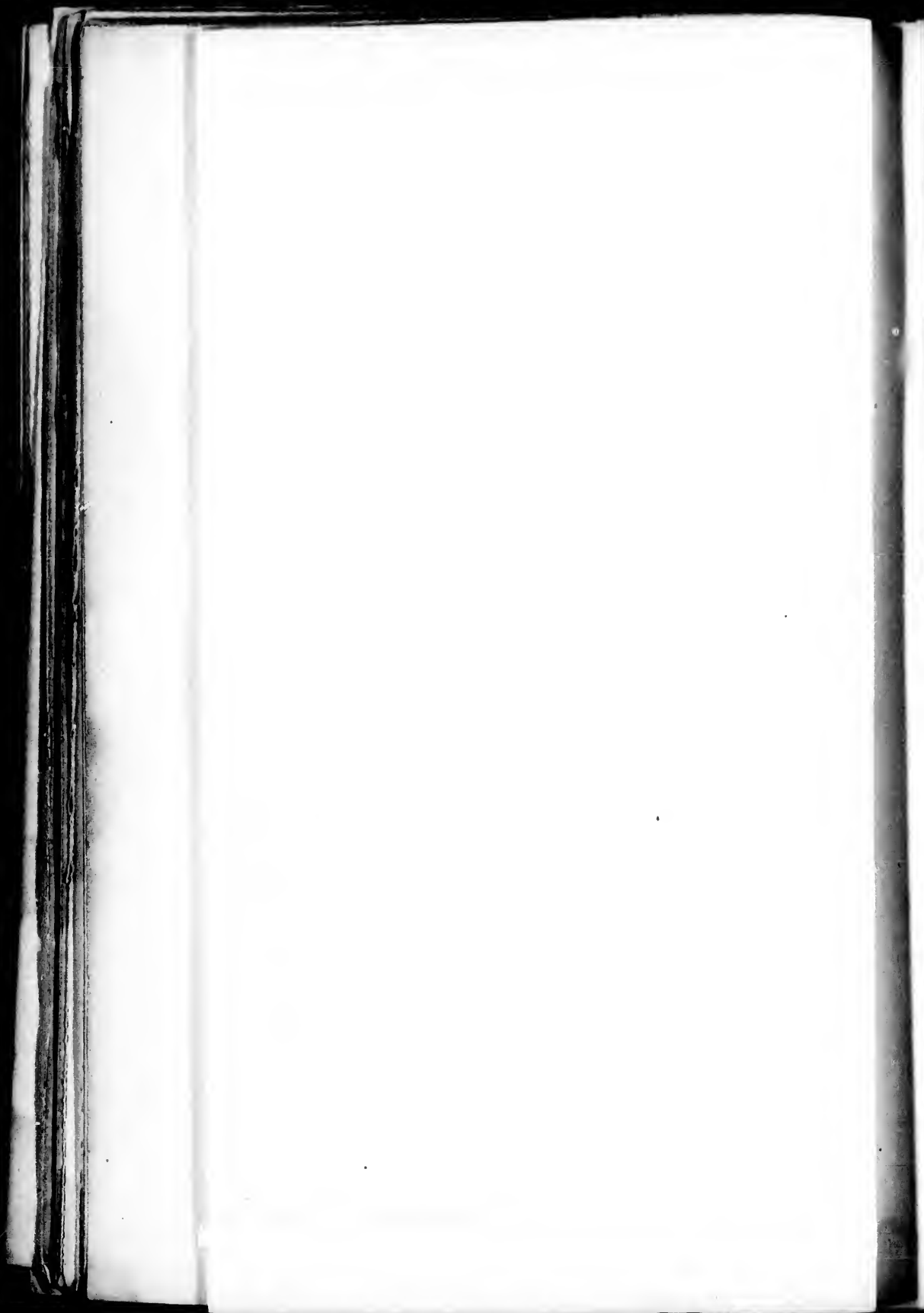


TABLE I.
METEOROLOGICAL ABSTRACT for ESQUIMALT, VANCOU

1859-61.	Barometer.					Thermometer.					Difference between wet and dry bulb Thermometer.					Direction of Wind.									
	Maximum.	Minimum.	Medium.	Monthly range.	Greatest daily range.	Maximum.	Minimum.	Medium.	Monthly range.	Greatest daily range.	Maximum.	Minimum.	Medium.	Monthly range.	Greatest daily range.	N. W.	N. N. W.	N.	N. N. E.	N. E.	E. N. E.	E. by N.	E.	E. by S.	E. S. E.
April	30.53	29.84	30.23	0.69	1.04	61.5	43.5	51.74	18.0	9	6½	1½	31½	5	3½	...	...	9	...	8	...	...	5	...	...
May	30.39	29.63	30.03	0.76	0.28	62.5	46.5	55.50	16.0	8½	7½	0	3½	7½	5½	2	...	12	...	3	1	...	7	...	...
June	30.47	29.76	30.06	0.71	0.22	68.0	52.5	59.44	15.5	10	8¾	1	3¾	7¾	5¾	...	...	...	...	...	...	...	...	...	...
July	30.20	29.90	30.10	0.30	0.15	68.5	54.5	61.01	15.0	10	8½	½	3½	8	6½	...	...	...	...	...	...	...	...	...	...
August	30.37	29.64	30.04	0.73	0.29	72.0	55.0	62.10	17.0	11½	6½	0	2	6	6½	...	...	3	...	...	...	...	...	...	...
September	30.42	29.48	30.08	0.94	0.45	65.5	50.0	57.97	15.5	11½	2½	0	1½	2½	2½	...	...	5	2	...	...	...	6	...	...
October	30.25	29.63	30.01	0.62	0.27	60.5	45.5	54.11	15.0	8	3½	0	¾	3½	3½	5	...	15	...	6	...	...	8	...	...
November	29.83	29.26	30.10	1.57	0.55	61.0	40.5	49.16	20.5	11	5	0	1¼	5	3½	2	2	22	2	9	...	...	4	..	10
December	30.54	29.43	29.96	1.11	0.27	59.0	28.5	42.62	30.5	29	7	0	1½	7	6	21	15	34	...	20	...	...	...	...	...
January	30.42	29.43	30.11	0.99	0.33	51.5	23.5	39.19	28.0	22	6	0	1½	6	5	4	20	42	...	3	...	...	6	...	...
February	30.69	29.19	30.03	1.50	0.42	50.5	29.5	43.17	21.0	22½	9½	0	2	9½	7½	4	...	28	...	6	4	...	15	...	...
March	30.60	29.43	30.09	1.17	0.40	59.0	34.0	45.31	25.0	23	5	0	1½	5	4	...	...	19	...	1	...	...	22	..	...
Entire year...	30.69	29.19	30.07	1.50	1.04	72.0	23.5	51.77	48.5	29	9½	0	2½	9½	7½	38	37	189	4	56	5	...	73	...	10

324

88

Southerly Wind
Northerly "
Easterly "
Westerly "
Variable "

TABLE 1.

ESQUIMALT, VANCOUVER ISLAND, for the Year 1860-61.

Direction of Winds, (Number of Readings.)																	Force of Wind.		State of the Weather.											
N.E.	E.N.E.	E. by N.	E.	E. by S.	E.S.E.	S.E.	S.S.E.	S.	S.S.W.	S.W.	W.S.W.	W. by S.	W.	W. by N.	W.N.W.	Variable.	Calm.	Average.	Range.	Calm days.	Calm mornings.	Calm evenings.	No. of fine days.	No. of wet days.	No. of showery days.	No. of foggy and misty days.	No. of days with strong breeze, or squally.	No. of days with thermometer below freezing.	No. of days on which snow or hail fell.	
8	...	...	5	...	...	21	...	32	...	46	3	...	...	...	...	3	31	21½	0·8	2	10	12	19	0	9	0	6	0	1	
3	1	...	7	...	...	14	2	56	2	39	...	...	...	...	...	1	30	12¾	0·7	0	11	10	20	0	10	0	2	0	0	
...	...	...	...	...	...	15	4	59	5	30	...	...	1	...	...	...	...	14	0·7	0	17	11	24	0	6	0	2	0	0	
...	...	...	...	...	...	19	9	48	5	17	...	...	...	...	...	5	39	11½	0·5	3	15	9	22	0	8	3	1	0	0	
...	...	...	...	...	...	7	20	62	10	19	...	...	...	...	...	6	40	12¾	0·6	2	17	10	27	0	4	slight.	0	0	0	
...	...	...	6	...	...	...	22	40	...	...	...	...	...	...	...	8	76	1	0·8	3	24	16	14	1	8	5	0	0	0	
6	...	...	8	...	...	...	27	...	...	10	...	...	...	...	...	4	87	13½	0·7	5	27	23	9	3	11	partial.	3	0	0	
9	...	...	4	...	10	...	10	...	22	...	...	...	5	...	...	2	67	2	0·9	4	20	13	10	4	9	2	0	0	0	
0	...	...	...	...	...	6	...	...	...	4	...	...	...	...	...	65	65	11½	0·9	5	18	19	13	4	6	dense.	4	0	0	
3	...	...	6	...	...	...	1	1	25	7	...	10	...	...	...	1	41	11½	0·8	3	9	11	9	3	12	2	2	0	0	
6	4	...	15	...	...	10	...	5	5	28	...	...	...	...	...	5	49	17⅓	0·9	1	17	11	7	1	12	0	7	8	4	
1	...	...	22	...	...	2	...	5	...	31	2	...	...	...	...	16	77	13½	0·9	2	19	18	13	1	6	0	4	0	5	
...	5	...	73	...	10	94	57	345	28	271	12	...	16	...	2	51	602	17⅓	0·9	30	204	163	187	17	101	17	35	11	12	
88																	795		30								118		118	

Synopsis of Winds.

Southerly Winds, . . . 795 = 61·72 per cent.

Northerly " . . . 324 = 25·15 "

Easterly " . . . 88 = 6·83 "

Westerly " . . . 30 = 2·33 "

Variable " . . . 51 = 3·96 "

1288

Once every 12 days.....

51⅓ per cent. of the entire year, the remainder being dull, squally, rainy, &c.

Once every 3⅓ days.....

SYNOPSIS OF WINDS.

Southerly Winds, . . . 795 = 61.72 per cent.
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1288

Once every 12 days.....

51 $\frac{1}{2}$ per cent. of the entire year, the remainder being dull, squally, rainy, &c.Once every 3 $\frac{1}{4}$ days.....

AL ABSTRACT

and er.	Greatest daily range.				No. of days on which snow or hail fell.
		N.W.	N.N.W.	N.	
	3½	...	...	9	1
	5½	2	...	12	0
	5¾	...	...	...	0
	6½	...	...	...	0
	6½	...	...	3	0
	2¼	...	...	5	0
	3⅓	5	...	15	0
	3½	2	2	22	0
	6	21	15	34	0
	5	4	20	42	4
	7½	4	...	28	2
	4	...	...	19	5
	7½	38	37	189	12

324

The results of a continued spread of this delusion in retarding emigration are too obvious to require comment. Hence the importance, not merely to the intending emigrant, but to the colonies at large, of correcting the erroneous impressions in circulation.

It is not our purpose to enter into a very lengthy or scientific discussion on this point, or to consider in minute detail the causes which affect it, but rather to illustrate the subject by a practical and intelligible sketch: consisting, first, of an abstract of the usual characteristics of our climate; and, secondly, a comparison of it with others well known, especially that of England.

In the table opposite will be found a statement of the prevailing weather at Esquimalt for one year,—viz., from the 1st April 1860 to the 1st April 1861 inclusive,—which may be taken as a fair specimen from which to form an average conclusion.

This goes far to prove that we enjoy, as a rule, fine weather. Of the 365 days of the year no fewer than 187, or 51 per cent., were fine, the remainder being dull, showery, rainy, &c. During the winter months, fine weather accompanying frost is by no means uncommon or of short duration. Rain fell on 118 days, or once every $3\frac{1}{7}$ days; most heavily and frequently during the winter months from October to February. Snow fell on twelve days only, and then neither heavily nor for any length of time. The thermometer fell only eleven times below freezing during the year—a good indication of the mildness of the winter.

Heavy and prolonged fogs prevail during October and November. In the summer, mists are usually rare, par-

No. of days on
which snow
or hail fell.

1

0

0

0

0

0

0

0

0

4

2

5

12

9

4

tial, and transitory. The highest summer temperature shewn in the table was 72° , (9th August;) June, July, and August being the warmest months of the year. The lowest, $23\frac{1}{2}^{\circ}$; the coldest months being December, January, and February. The annual thermometric range was $48\frac{1}{2}^{\circ}$, while the greatest daily range (23°) occurred in March, and the smallest during October. The extremes of temperature are, therefore, by no means great,—a good index of the equable character of the climate, and of the absence of sudden and violent changes.

The columns indicating the difference between the wet and dry bulb thermometers (a good criterion of the amount of moisture in the atmosphere) shew that during the entire year, even during the winter months and the rainy and foggy weather of October and November, the air is not unfrequently very dry. The greatest difference between the wet and dry bulbs was $8\frac{3}{4}^{\circ}$, (June,)—it has been observed as high as 13° , (5th May 1861,)—and the least maximum difference, $2\frac{1}{2}^{\circ}$ (September.) The dampest months of the year were from September to January inclusive, the dampest of all being October, when fogs are often prevalent.

The barometric variations are neither great nor frequent, the range for the entire year being only 1.50 inch.

The wind columns shew the great frequency of calm mornings and evenings; while entire calm days occurred about once in every ten. The average force of wind for the entire year was only $1\frac{7}{10}$ —scarcely equal to a light breeze; the highest being 9. High winds and squally weather are unusual in summer; they chiefly visit us in the spring and winter months. The following table will shew the direction

of those winds which occurred during the year with a force equal to a fresh breeze :—

TABLE 2.

Esquimalt, Vancouver Island, 1860-61.—Table of Winds with a force at and above 5, (fresh breeze.)

Direction of Wind.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Total and Per-centage.
Southerly, (chiefly S.W.),	11	5	6	4	6	2	2	5	...	5	4	6	56 = 67.47 p.c.
Northerly,.....	1	...	...	...	...	...	2	1	3	3	...	1	11 = 13.25 "
Easterly,.....	1	...	...	...	...	1	...	1	...	...	2	1	6 = 7.23 "
Westerly,.....	1	...	...	...	...	...	...	1	...	3	...	1	6 = 7.23 "
Variable,.....	...	...	...	1	...	...	...	...	...	...	1	2	4
Totals,.....	13	6	6	5	6	3	4	8	3	11	7	11	83

Thus it appears that high winds are commonest in April, and blow chiefly from the south and south-west, forming 67 per cent. of the strong breezes which occur during the entire year. Strong northerly winds are rare even in winter. The per-centage from the west is, however, unusually large. When westerly winds do occur they are often violent.

Southerly winds prevail, as a rule, during the year, and occur in the proportion of 67 per cent. Next to these in the order of frequency are the northern, eastern, and western. The southerly winds, which blow nearly all the year round, and those in winter from the north, may be said to prevail in the southern extremity of Vancouver Island. The less prevalent easterly and westerly winds usually occur during

the winter months, especially December and January ; in the summer, very rarely.

TABLE 3.

Esquimalt, Vancouver Island, 1860-61.—Winds which accompanied Rain.

Direction of Wind.	April	May	June	July	August	September.	October.	November.	December.	January.	February.	March.	Summary.
S.W.,	4	2	4	2	...	...	2	3	...	5	3	4	29
S.,	1	4	...	2	2	2	2	1	...	...	...	...	14
S.S.W.,	...	...	1	...	...	...	...	...	...	1	...	...	2
S.E.,	1	2	...	...	1	...	...	...	2	...	1	...	7
S.S.E.,	...	...	...	2	1	4	...	...	...	...	...	...	7
N.E.,	1	...	...	...	...	...	1	...	...	2	...	...	4
N.,	...	...	...	...	...	1	3	5	3	1	...	1	14
N.W.,	...	...	...	...	...	...	2	...	...	1	2	...	5
N.N.W.,	...	...	...	...	...	...	...	...	3	2	...	...	5
E.,	...	1	...	...	...	1	1	2	...	2	2	2	11
E.S.E.,	...	...	...	...	...	...	...	1	...	...	...	...	1
W.S.W.,	...	...	...	...	...	...	...	...	...	2	...	...	2
Vancouver Island	...	...	...	...	...	...	...	...	...	...	1	...	1
Columbia,	2	1	1	2	...	1	3	1	2	2	1	...	16
Total,	9	10	6	8	4	9	14	13	10	13	14	8	118
							64						

The above table shews that the winds which most frequently accompany rain are southerly or sea breezes, principally S.W. These almost invariably accompany the showers of spring and summer, and often occur with the heavier and more prolonged winter rains—although northerly and east-

erly winds, both land breezes, are those which usually follow the latter, and together form about one-third of the winds which succeed rain.

The following are the usual characteristics of the different seasons :—

The spring is short, and lasts from the beginning or middle of March, to the end of April or beginning of May. In early March the weather undergoes a marked change, and a drier and milder atmosphere forms a decided contrast to that of the cold and wet winter months that precede it. Trees bud and come into leaf ; and, towards its close, various wild plants—*e.g.*, the *Colinsia Tullium*, &c.—are in flower. The prevailing weather is characterized by fine mild days, still alternated, however, with occasional rain and squalls. Towards the latter end of April, fine weather has fairly set in, with mild dry south and south-west winds ; but farming operations may usually be commenced with the utmost safety in the beginning or middle of March, as the keen biting “March winds” of the English climate, so detrimental to the budding fruit and vegetation generally, are seldom, and never severely, felt here.

Our beautiful and more protracted summer begins with May, and ends with September. During these glorious months we are cheered by a bright sun, a clear, and often cloudless sky, lasting frequently for days together, with gentle sea and land breezes. Rain falls seldom, and never heavily ; fogs and mists are rare ; the season is delightful. Sometimes, indeed, the power of the sun becomes excessive, and the soil very arid from the want of rain ; but these drawbacks are but trifling, and do not interfere, to any appreci-

able extent, either with individual arrangements, or agricultural or horticultural operations. The heavy English "harvest rains" of August and September are unknown in Vancouver Island; and the crops are usually sown, reared, cut, and housed with fine weather.

The autumn, which lasts during October and November, presents a marked change. Cold and moist northerly winds succeed the dry southerly breezes of summer; fogs begin in October, and occasionally during the latter end of September, with a moist atmosphere and frequent rains. These, however, alternate with periods of fine mild weather, sometimes lasting for ten days or a fortnight, and forming what, in the aggregate, is termed the "Indian summer." So mild, however, is the temperature, comparatively speaking, even at the latter end of November, that wild strawberries may occasionally be seen in bloom.

During the winter, which lasts from the beginning of December to the end of February, cold, moist northerly and southerly winds prevail, with frequent rain and occasional fogs; the latter, however, less common than in the autumn. This state of things is often pleasantly varied by periods of fine, clear, frosty weather, lasting from two to four, or even eight or ten days. The thermometer is seldom much below zero; snow is uncommon, and neither falls heavily nor lies long; nor are the frosts intense or long-continued, ice being seldom more than one inch thick. So mild is the usual winter weather of this colony, that most farmers leave their stock unhoused and at large, during the entire season. More severe and prolonged winters occasionally occur, however, as during the past year of 1861-62, and

during 1852-53; but these are exceptional, and do not happen more frequently here than in England and other countries with similar climates.*

The climate of the southern extremity of Vancouver Island may be more simply ascertained:—

1. The summer, or dry season, (including spring,) which lasts during seven months of the year—viz., from the beginning of March to the end of September; and,

2. The winter, or wet season, (including autumn,) which lasts from October to February inclusive.

The former is dry and mild; the weather usually fine in the extreme; the atmosphere clear and serene; the winds dry, light, and southerly; fogs, mists, and rain, rare: while the latter forms a marked contrast, with its moist atmosphere, cold northerly winds, frequent fogs, heavy rains, and occasional frosts and falls of snow, alternating with short periods of fine, clear, frosty weather.

In addition to latitude,—unquestionably of first importance in determining the temperature and climate of a country,—the following are among the most prominent causes which combine to influence that of the southern end of the island:—

1. Its proximity to the Pacific gives an essentially insular character to its climate, and is the principal cause of its mildness and uniformity, its freedom from extremes of heat and cold, and the absence of that variability so characteristic of England.

The following table will shew—first, the low temperature

* During the past winter, 1861-62, the falls of snow were heavy and frequent. Snow was on the ground from the middle of December to the middle of March, and the thermometer occasionally down to 3° at night.

of the sea which bathes the coast, as compared with that of the air ; second, its relatively high temperature in winter ; third, its limited annual range ; and fourth, that its average annual temperature is about the same as that of the land : thus proving, as a whole, its general uniformity throughout the year :—

TABLE 4.

*To contrast the Temperature of the Air with that of the Sea.
Esquimalt, 1860-61.*

	Maximum (in Summer.)	Minimum (in Winter.)	Range (Yearly.)	Average of Year.
Temperature of Air (shade,)	72	23½	48½	51½
Do. Sea,	62	41	21	51½

The temperature of the sea which surrounds the island is more uniform than that of the land, and varies only 21° during the entire year, while the air ranges 48½°. Its influence on the surrounding climate is as important as it is unquestionable. By communicating to it its own uniformity of temperature, it lessens the annual range ; cools it and prevents it from becoming oppressively hot in summer ; warms it during winter, and tends to diminish the otherwise extreme cold of that season ; in a word, renders the island warmer and less changeable than it otherwise would be. The greater annual range of the temperature of New Westminster (only fifteen miles inland) when compared with that of Victoria, shews the effect of even a trifling distance from the ocean in diminishing the equalizing influence of its temperature. The chilly evenings so frequent during the summer, especially after sultry days, may be similarly accounted for. The land

and its atmosphere heats rapidly, but as soon as the sun's influence is gone, it as quickly cools ; the comparatively cool temperature of the sea having full sway, and speedily reducing that of the land to its own level.

This proximity to the sea undoubtedly affects the moisture as well as the temperature of the atmosphere. Local circumstances modify this considerably as regards the southern end of the island, more especially the nearness of the Olympian range ; but it is more felt towards the north and north-western coasts, and also at New Westminster, where the air is damper and the annual fall of rain greater.

The influence of the gulf stream in increasing the warmth and salubrity of England is now well recognized. Although the ocean currents of the North Pacific are not yet mapped out with the same accuracy as those of the Atlantic, it must be evident that a warm current running along this coast from a tropical latitude would have a sensible effect on the climate of Vancouver Island ; and that a current of this kind actually exists, there is every reason to believe. A current, analogous to the gulf stream, and supposed to have its origin among the numerous islands which lie along the coast of Eastern Asia, runs in a north-east direction across the North Pacific towards the shore of Russian America, where it sets to the southward along the mainland, and, after bathing the coast of Vancouver Island and British Columbia, finally joins a westerly equatorial current to recommence the circuit.

The great irregularity of the tides at the southern end of Vancouver Island, resulting from the irregular influx of different currents from the Pacific, at the upper and lower ends of the strait which separates the colony from the main-

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The large bodies of fresh water, consisting chiefly of melted snow or rain, originally deposited on the sides of the mountain ranges of the interior of British Columbia, and carried down by the Fraser, Harrison, Salmon, and other rivers that empty themselves in the strait which separates this island from the adjacent mainland, have a marked influence on the temperature and climate of this colony. The Fraser, which is *the* river of British Columbia, and its tributaries, the Bonaparte, Thompson, and other streams which drain the greater part of that colony, including the western slope of the Rocky Mountains, and partly the Cascade, Coast, and Harrison ranges, has an especial influence on the temperature of Vancouver Island, particularly its southern end, opposite which it empties itself into the Gulf of Georgia, sixty-five miles from Victoria. The river has one, and occasionally two freshets during the year. The first or principal one, which occurs in May and June, is caused by the melting of the snow on the mountain ranges; while the second and inferior one, which happens in October, is the result of heavy falls of rain in the upper country. So large is the body of water carried down during the first of these, that the river rises from twenty-five to thirty feet at Hope, and forty feet at Yale, fifteen miles higher up. The effect of this may be noticed by a marked change in the sea-water of this vicinity, which during winter is clear and transparent, but in spring and summer dirty, as if from admixture with melted snow. The cooling influence of the Pacific on the temperature and cli-

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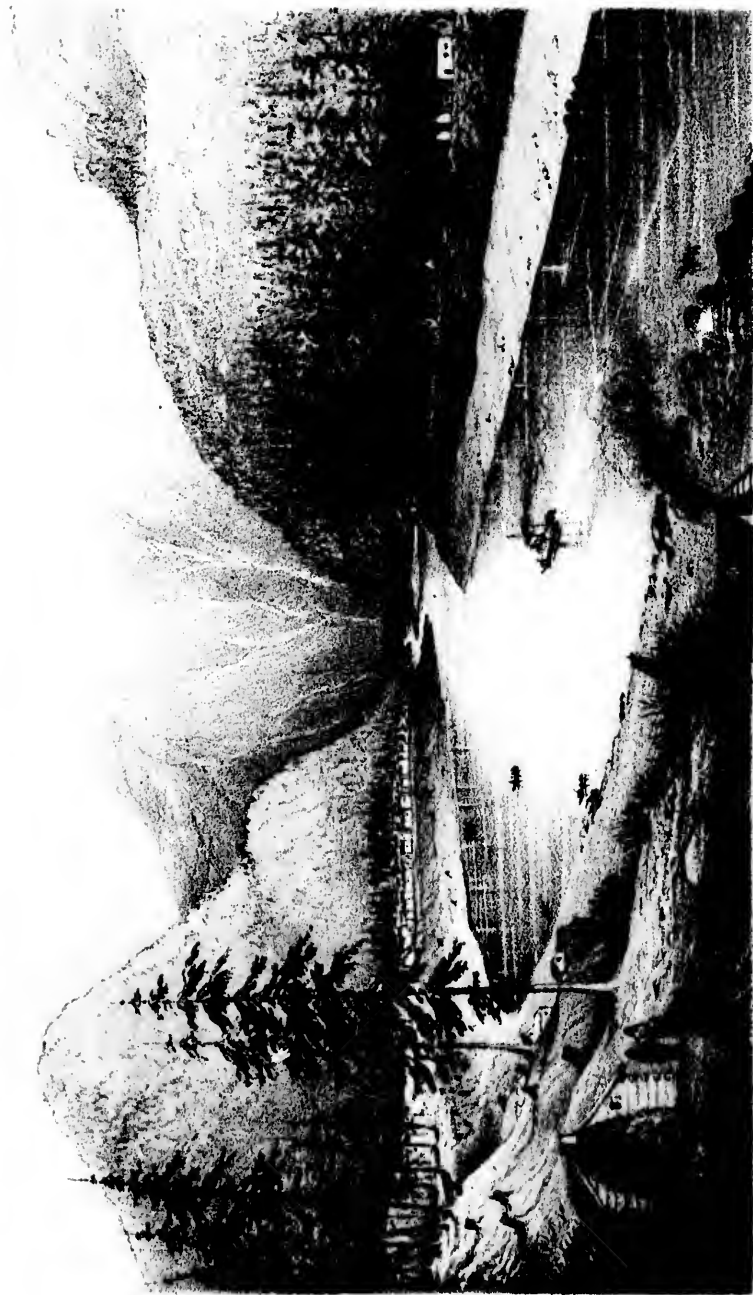
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The largest body of fresh water, consisting chiefly of melted snow, is rain, originally deposited on the sides of the mountain ranges of the interior of British Columbia, and carried down by the Fraser, Harrison, Salmon, and other rivers that empty themselves in the strait which separates this island from the adjacent mainland, have a marked influence on the temperature and climate of this colony. The Fraser, which is the river of British Columbia, and its tributaries the Bulkley, Thompson, and other streams which drain the interior of that colony including the western slopes of the Coast Range, are collected by the cascade, about the middle of the river, and descend to the sea on the temperate coast. The river, at its mouth, is within an end, opposite where it empties itself into the Gulf of Georgia, sixty-five miles from Victoria. The river has one, and occasionally two freshets during the year. The first or principal one, which occurs in May and June, is caused by the melting of the snow on the mountain ranges; while the second and inferior one, which happens in October, is the result of heavy falls of rain in the upper country. So large is the body of water carried down during the first of these, that the river rises from twenty-five to thirty feet at Hope, and forty feet at Yale, fifteen miles higher up. The effect of this may be noticed by a marked change in the sea-water of this vicinity, which during winter is clear and transparent, but in spring and summer dirty, as if from admixture with melted snow. The cooling influence of the Pacific on the temperature and cli-

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Vincent Brooks Ltd

TOWN OF YALE, B.C. FRASER RIVER

mate of this colony has already been alluded to. The effect of a still colder body of water carried down by the Fraser River during two or three of the summer months is equally great; and both no doubt combine to give the summer temperature of the southern end of Vancouver Island its characteristic coolness, although it would be difficult to allot to each its separate measure of influence.

2. The proximity of Vancouver Island to the adjacent continent, combined with the influence of the vast body of water which bathes its coast, has a material effect on its climate, and is the principal cause of its most prevalent winds.

As is usually the case in temperate latitudes, the winds of this coast are essentially variable. We never have prolonged breezes blowing constantly in one direction, like the trades of tropical regions, or the regular north-east and south-west monsoons of India and China. Very rarely indeed do they blow more than three or four days in one direction; and they often vary several times both in direction and force during the same day, while intervening morning and evening calms are frequent. The great prevalence of southerly and northerly currents is, however, peculiar, and the cause of it worth inquiring into. The influence of the trade-winds of the Pacific is lost, many degrees nearer the equator than Vancouver Island; and although the more prolonged winds, both northerly and southerly, may occasionally have some distant affinity to those upper and under currents which blow to and from the pole in connexion with the trades, the ordinary winds of this coast are of a different nature, and their origin is to be otherwise explained. They partake more of the character of

sea and land breezes. Morning and evening calms are frequent both in summer and winter. Their true character and course is best marked in summer. About eight or nine A.M. a sea breeze usually springs up, which blows towards the land, and lasts till afternoon or evening, when it declines, and is succeeded by a calm, to be followed during night by a contrary current blowing from the land.

TABLE 5.

To shew the relative Frequency of Northerly and Southerly Winds.

Direction.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Totals and Per-Centage.		
Northerly Winds.	N.W.,.....	2	...	...	...	...	5	2 21	4	4	...	38	} 249=76.85 p.c. of the N. winds.		
	N.N.W.,.....	...	...	...	...	...	...	2 15	20	...	...	37			
	N.,.....	9	12	...	...	3	5	15	22 34	42	28	19		189=58.33 p.c.	
	N.N.E.,.....	...	...	...	...	...	2	...	2	...	...	...		4	
	N.E.,.....	8	3	...	...	...	...	6	9 20	3	6	1		56=17.29 p.c.	
Totals,.....	17	17	...	...	3	7	26	37 90	69	38	20	324	} 234=72.22 p.c. of the northerly winds.		
Southerly Winds.	S.W.,.....	46	39	30	17	19	...	10	22	4	25 28	31	271=34.09 p.c.	} 644=81.01 p.c. of the S. winds.	
	S.S.W.,.....	...	2	5	5	10	...	...	...	...	1	5	...		28
	S.,.....	32	56	59	48	62	40	27	10	...	1	5	5		345=43.39 p.c.
	S.S.E.,.....	...	...	2	4	9	20	22	...	...	...	...	...		57
	S.E.,.....	21	14	15	19	7	...	...	...	6	...	10	2		94
Totals,.....	99	113	113	98	118	62	37	32	10	27	48	38	795	} 541=68.05 p.c. of the southerly winds.	

This table will shew that north is the most frequent of the northerly winds, and next to it N.E. ; N.W. and N.N.W currents being less common : while of the southerly winds south is the most frequent, and next to it S.W. ; S.E. and S.S.E. breezes are of rarer occurrence. Of the northerly and southerly winds therefore, currents blowing due north among the one and due south among the other are the most frequent, and next to them the two opposites, N.E. and S.W.

The geographical position of Vancouver Island readily explains the nature of these winds, and accounts for their direction and great prevalence over easterly and westerly currents.

The long axis of the island, and the general trend of the North American coast along which it lies, take a N.W. and S.E. direction. A perpendicular to this would point on the one hand to the centre of the North Pacific, and on the other to the interior of the N.W. corner of America ; corresponding to the direction in which the prevailing southerly and northerly winds of the island blow. This is the identical route that we should expect the sea and land breezes of this coast to take ; the N. and N.W. winds, so prevalent in winter, being land winds, and the S. and S.W. currents, common in summer, sea breezes. The difference which usually exists between the temperature of the sea and that of the land, and the unequal extent to which the two surfaces become heated by the sun's rays during the day and cooled during night, account for their origin, direction, and character, and the relative prevalence of the two through different seasons.

During the day, especially in summer when the sun is in

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the northern hemisphere, the land becomes more rapidly and intensely heated than the ocean, its atmosphere is rarefied and rises, and a sea breeze is the result. Throughout the summer the temperature of the land is usually higher than that of the sea, except for brief periods at night, and hence the great prevalence of S. and S.W. winds during this season. Table 5 shews that 68 per cent. of the southerly winds occurred during the five summer months from April to August inclusive. The facility with which the land becomes heated even by the winter sun at mid-day, and the consequent fact that its temperature is occasionally higher than that of the ocean, account for the less frequent southerly and south-westerly currents of winter. And it is worthy of notice that at this season the southerly winds assume still more of the sea-breeze character and direction than those of summer, and blow chiefly from the S.W.,—*i.e.*, more directly from the ocean; winds from due south being rare. Hence these are emphatically the winds of summer.

During winter, when the sun's influence is weak, contrary currents prevail. The sea seldom cools to the same extent as the land: the relatively warm water of the Pacific heats the superincumbent atmosphere, which rises and gives place to a cool current from the land, (whose temperature is perhaps below the freezing point,) which forms the N. and N.W. winds of winter; 72 per cent. of which occur during the four coldest months of the year—*viz.*, from November to February inclusive. Hence the winter winds are from the north. During summer they seldom occur—especially in June and July—as if the balance of temperature at this period were principally in favour of the land.

The southerly winds, blowing from the sea and from a warmer latitude, are necessarily warm and moisture-laden; while the northerly winds from colder northern regions, and which have blown over land whose temperature may be below the freezing point, are cold. The thermometric range of these winds resembles to a certain extent that of the surfaces over which they blow. The southerly winds partake of the oceanic equability of temperature, and vary less during the year than the northerly or land winds. Their difference in character during different seasons, though partly owing to this cause, is principally relative. During summer, the southerly winds, with their ocean temperature, lower than that of the land heated by the sun's rays, although mild, are relatively cold. This is increased by their passage across the snow-clad Olympian range, on which they are deprived of much of their caloric and rendered still more chilly. During winter, the same winds, although actually colder than in summer, feel relatively mild in contrast with the low temperature of the land and the northerly winds: their passage across the Olympian range deprives them of much of their high ocean temperature, but does not cool them sufficiently to prevent their relative warmth from being apparent. So these winds modify the rigour of the winter, and of the cold northerly gales which prevail during those months. Were there fewer southerly breezes, the winter climate of this colony would be less mild and less healthy than it now is.

The difference in the character of the northerly winter and summer winds is still more marked. The latter are transient and mild, especially in contrast with the chilly breezes from the south; while those of winter partake of the low tempera-

ture of the land, and are excessively cold, especially in contrast with the relatively warm southerly winds with which they occasionally alternâtes.

The chilly character of the southerly winds of summer is thus more relative than actual; they appear chilly in contrast with the warmth of the summer sun. Their mildness in winter is both actual and relative; they still retain much of the ocean temperature, and appear warmer from contrast with colder northerly breezes. On the other hand, the cold of the northerly winds of winter is more actual than relative; and although contrast with the milder southerly currents of this season makes them appear more chilly, they are essentially severe in themselves.

The principal proofs in favour of the belief that the two prevalent winds of Vancouver Island are merely ordinary sea and land breezes are—

a. The direction in which they blow with reference to the adjacent land and ocean—viz., directly to and from the warmer parts of the Pacific, and to and from the neighbouring continent.

b. Their ordinary accession, course, and decline, and the occurrence of intervals of calm.

c. Their change in direction according as the sea or land becomes relatively the hotter; and the greater prevalence of southerly winds in summer, and of northerly or land currents in winter.

3. The relation which the colony bears to neighbouring mountain chains has an important influence on its climate. The lofty Olympian range, which lies opposite the lower end of the island, and which, running in an east and west direc-

tion, forms the southern boundary of the Strait of Fuca, lying from 15 to 20 miles south of Victoria and Esquimalt, has a special influence on the climate of the southern extremity of the island. The effect of this range is chiefly marked by an influence exerted on the prevailing southerly winds, to which it acts as a barrier by stretching across their course, and producing a change in their force, warmth, moisture, and direction. These continue warm and moist until they meet with this obstruction, which first reduces their power and perhaps alters their course; while, on its cold sides, they part with a portion of their warmth and their superfluous moisture, which is precipitated in the form of rain or snow,—thence journeying onwards as the dry and chilly south and south-west winds of summer. The rare and scanty rains, and the dryness of the summer at this end of the island, are thus explained.

No similar mountain range obstructs and modifies the most northerly winds of autumn and winter, and their moisture is spent on the island in the form of fog, rain, or snow. The hills tend to make the autumn and winter, and the prevailing winds of that season, more damp and rainy than they otherwise would be, by attracting and condensing moisture. Local differences may also be observed,—*e.g.*, Esquimalt, lying some miles nearer the hilly part of the island, is more damp and rainy in winter than Victoria, situated at a greater distance, and on an open and partially cleared plain.

The effect of the more distant Coast and Cascade ranges, of which Mount Baker forms the loftiest peak, and of the still more distant Rocky Mountains, on the climate of

the southern part of this colony, is more indirect than direct, acting chiefly through the snow and rain which the rivers, especially the Fraser, carry down from their sides to bathe its coast, and aid the Pacific in producing that equability of temperature which is one of the characteristics of the essentially insular climate of Vancouver Island.

4. The prevalent winds of Vancouver Island exert a most decided influence. The extent to which the climate is affected by the southerly winds that prevail all the year round, and blow cool and dry in summer, and relatively mild during winter, is too obvious to need re-assertion ; nor less so, by the cold, damp northerly winds of winter. To the former the colony is, to a certain extent, indebted for the mildness and uniformity of its temperature and its cool summers, and to the latter for much of the rain, fogs, and snow of the autumn and winter months.

5. The effect of the small annual fall of rain at the southern end of the island, and the unfrequent and scanty showers of summer, in contributing to render the weather drier, though occasionally somewhat hot, and the climate more salubrious than it might otherwise be, and of the opposite effect of the dense fogs and frequent rains of autumn and winter in rendering that season more damp, colder, and less healthy, must be very apparent.

6. The geology of the country, its physical geography, the nature of its soil, &c., all affect its climate.

The influence of the former is more indirect than direct. The dense impervious trap-rocks and metamorphic clay slate formations which prevail in the vicinity of Victoria, and the conglomerates and sandstones which abound about Salt-

spring, Nanaimo, &c., and the volcanic rocks which form the central mountain chain, are all evidently better adapted for the formation of a dry and healthy climate than, for example, porous granite or gneissic formations. These, from their tendency to dampness, and to the formation of unhealthy malaria by the decomposition of their component particles, are said to be a fertile cause of disease in some countries.

The scantiness of the soil in many places, its frequent gravelly or sandy nature, combined with the hilly and rocky character of the island, and the absence of extensive swamps and low lands, all combine to prevent excessive moisture, and to aid in carrying off the superfluous water of the autumn and winter rains. Hence the atmosphere becomes drier, less malarious, and more healthy than it would otherwise be; although the evident effect of the northern hilly part of the island, removed from the influence of the Olympian range, is to attract and precipitate moisture, which is nevertheless rapidly carried off. The substratum of dense tenacious blue clay at the southern end of the island, tends to make its surface moist in winter by preventing absorption, and dry in summer by facilitating evaporation.

7. The gradual spread of settlers, the gradual clearing away of superfluous brushwood and timber, which tends to make the climate damp and unhealthy, especially in the valleys and low lands, and the drainage, tillage, and general improvement of the soil, will all combine to increase still further the dryness and general healthiness of the colony.

The climate of the southern end of Vancouver Island

presents certain features for which latitude alone will not entirely account.

Its remarkable mildness, equability, and essentially insular character, are particularly noticeable; and are the combined result, first, of the equalising influence of the adjacent ocean; second, the cooling effect of the waters of the Fraser River, which tends chiefly to prevent a too elevated summer temperature; third, the prevalence and equalising influence of southerly winds, cool in summer and relatively warm in winter; and fourth, the rarity of cold, damp northerly winds in summer, and then frequent alternation during winter with warmer southerly currents by which their rigour is modified.

Its dryness, especially during summer, is also remarkable, and the small annual fall of rain; both principally the effect of contiguity to the Olympian range, which precipitates the superfluous moisture of the prevailing southerly winds before they reach the island.

Although the above data refer, strictly speaking, to Esquimalt and its vicinity, they may for general purposes be considered applicable to the colonies generally; local differences not being of great importance in taking an extended survey of the climate of a country.

The climate of Victoria, only three miles off, differs somewhat from that of Esquimalt. The former is more exposed to the winds which blow up the Strait of Fuca, and those from the N.E., E., and from Puget Sound: while the latter is almost land-locked, and is sheltered from wind in almost every direction by the trees and hills that surround it; which, however, tend to make it more rainy.

The climate of both places, and of the southern end of the island generally, is modified by local circumstances which probably do not affect its northern parts. The influence of the Olympian range on the prevailing winds and atmospheric moisture, and the cooling effect of the Fraser River, probably do not extend beyond the southern third of the island. The Strait of Fuca acts like a funnel, and alters their course, causing them to blow through it more in easterly and westerly directions. There is a perceptible difference in the temperature at the outer end of the strait, and strong breezes are more frequent outside. The northern part of the island is probably more rainy, owing to its hilly nature and its greater exposure to the moist southerly winds which blow over it unmodified by the Olympian range; and also milder in winter, on account of the shelter afforded by the hilly backbone of the island from the cold northerly winds of that season.

The climate of the district along the lower Fraser River, and probably the whole of the hilly region which forms the coast, and about one-third of its western surface, is generally more damp and rainy than that of the interior or agricultural districts, where it is finer, warmer, and drier, in summer, and less rigorous in winter. This is especially the case along the valley of the Thompson River, where snow seldom lies,—a circumstance which adds greatly to its value for agricultural and pastoral settlement.

The following table will shew that the climate of New Westminster, fifteen miles from the mouth of the Fraser River, is scarcely equal to that of Victoria (the data for the former being taken from the accurate annual meteorological report of the Royal Engineers Camp):—

TABLE 6.

*To contrast the Climate of Victoria, in Vancouver Island,
and New Westminster, in British Columbia.*

	Thermometer, (mean) all in shade.		Days on which Rain fell.		Quantity of Rain.		
	Vic- toria, 1860-61.	N. West- minster, 1859-60.	Vic- toria.	N. West minster.	Vic- toria.	N. West- minster.	London.
June,	59.4	65.5	6	5	No return kept.	Inches 0.594	Inches
July,	61.0	68.6	8	7		0.717	
August,	62.1	69.4	4	6		1.770	
September,	57.9	60.6	9	14		4.558	
October,	54.1	50.9	14	15		11.519	
November,	49.1	35.9	13	14		6.275	
December,	42.62	32.7	10	12		4.245	
January,	39.19	35.7	15	16		9.498	
February,	43.17	39.7	13	20		6.652	
March,	45.31	46.7	7	16		4.561	
April,	51.7	50.7	9	12		2.750	
May,	55.5	56.8	10	15		3.260	
Mean,	51.7	51.1	118	152		56.429	26*
For the Year.					The average annual fall of rain of 25 places in different parts of England and Wales is 37½ inches.		
{ Maximum,....	72	93.0					
{ Minimum,....	23½	-20.0					
{ Range,....	48½	113.0					

* Clarke on Climate.

These are for one year only, and those different years ; and therefore can only be taken as an approximation until more prolonged observations can be obtained. The table, however, shews that although the two capitals have a nearly similar annual temperature, the range is much higher in British Columbia than in Vancouver Island ; that the summer of the former is hotter, its winter colder, and that its weather is more frequently rainy. The great annual fall of rain at New Westminster may be explained by the difference in its topography from that of Victoria. The former is situated in the vicinity of lofty, densely-wooded hills, well calculated to attract rain ; while the latter lies on a level, partially-cleared plain, and opposite a mountain range on which its principal winds are deprived of much of their moisture. New Westminster is out of the influence of this range, and its prevailing southerly winds blow on it as they come from the ocean. Passing up Puget Sound, they first encounter the hills of British Columbia, and on them they deposit their moisture.

Vancouver Island owes its milder and more equable climate to its insular position. New Westminster—distant from the sea—is more out of the influence of the ocean temperature than the former ; and its climate, though fine, is therefore not equal to that of Victoria.

A comparison of the climate of these colonies with that of other places in a corresponding latitude, still further proves its excellence.

The climate of Vancouver Island, on the Pacific side of North America, is much superior to that of Canada, on its

eastern or Atlantic side, and finer even than that of places having a lower latitude. A map of isothermal lines will shew that the line for this island takes a deep southward bend as it crosses towards Canada; and that the mean annual temperature of Vancouver Island is only a trifle lower than that of New York, which lies 8° nearer the Equator. This is well demonstrated by the following table, which contrasts several different insular and inland climates of places in nearly the same latitude:—

TABLE 7.

*To contrast the Climate of Vancouver Island with
that of New York, &c.*

Place and Latitude.	Mean Annual Temperature.
Victoria, Vancouver Island, lat. $48^{\circ} 24'$ north,	$51^{\circ} 77'$
{ Quebec, " $46^{\circ} 48'$ "	$41^{\circ} 85'$
{ Montreal, " $45^{\circ} 31'$ "	$45^{\circ} 76'$
{ Halifax, " $44^{\circ} 39'$ "	$40^{\circ} 08'$
{ Toronto, " $43^{\circ} 40'$ "	$44^{\circ} 81'$
{ New York, " $40^{\circ} 43'$ "	$51^{\circ} 58'$
Pekin, " $39^{\circ} 54'$ "	$53^{\circ} 58'$

In Vancouver Island there is not the comparatively short summer of Canada, nor the scorching heat of its mid-day summer sun; nor its long and severe winters, its heavy snows and prolonged, intense frosts; nor does the former suffer from the extremes of heat and cold to which the climate of the latter is subject. This difference is strikingly shewn by the following table:—

TABLE 8.

To contrast the Climates of Vancouver Island and Canada.

	Highest Thermometer during Year.	Lowest Thermometer during Year.	Annual range of Temperature.
Esquimalt, Vancouver Island, 1860- 61,.....	72°	23½°	48½°
Canada,.....	102°	—36° (below zero.)	138°

In Vancouver Island the climate is comparatively mild as compared with that of Canada; the summer temperature is seldom oppressive, its highest range being 72°,* while that of the latter is 102°. In the former, the lowest temperature was 23½°; that of Canada was —36°, or 59° lower: and the great difference in the annual range of the two equally shews that the climate of Vancouver Island is far more invariable than that of Canada.

The climate of the south of England forms a more just standard for comparison with that of Vancouver Island. Both lie in the same hemisphere and in nearly the same latitude; both are insular, and occupy a similar geographical position on the western side of a large continent and contiguous to an extensive ocean.

The accompanying table will shew that the temperature at

* During August 1859, the thermometer at Victoria, according to Mr Pemberton's accurate observations, rose to 81°, and fell in January of 1860 to 17°. This difference of range between Esquimalt and Victoria arises from the greater exposure of the latter to the sun's rays in summer and cold winds of winter.

Esquimalt contrasts favourably with that of London. The former has a slight advantage in latitude, marked by a corresponding increase in temperature :—

TABLE 9.

*To contrast the Temperature at London and Esquimalt,
Vancouver Island.*

Place.	Maximum.	Minimum.	Range.	Average.
London, lat. 51° 30',	86 (June)	22 (Jan.)	64	50·39
Esquimalt, lat. 48° 24',	72 (Aug.)	23½ (Jan.)	48½	51·77

The weather of Vancouver Island is milder and steadier than that of England ; the summer longer, drier, and finer, and the winter shorter and less rigorous. The mean annual temperature of the former is higher by 1·38° than that of the latter. During the summer months the hot weather of Vancouver Island is not so oppressive, and the maximum temperature is less by 14° than that of London ; while in the winter the temperature never falls so low at Vancouver Island as in London ; and the annual range of the two places differs by 15½° in favour of Esquimalt.

The following table shews that during several months, especially in summer, the difference in the mean thermometric range of the two places is very marked in favour of Vancouver Island. This is probably due to the cooling influence of the waters of the Pacific, and the melted snow and rain of the Fraser River freshets, which prevent the temperature of the southern end of Vancouver Island from rising so high during summer as that of the south of England :—

TABLE 10.

To compare the Monthly Maximum, Minimum, Mean, and Range of Temperature of Esquimalt and London.

	ESQUIMALT, VANCOUVER ISLAND.				LONDON.			
	Max.	Min.	Med.	Range.	Max.	Min.	Med.	Range.
April,	61	43	51	18	69	32	48	37
May,	62	46	55	16	75	36	55	39
June,	68	52	59	16	86	38	60	48
July,	69	54	61	15	77	44	63	33
August,	72	55	62	17	82	44	63	38
September,	65	50	57	15	75	40	58	35
October,	60	45	54	15	65	32	51	33
November, ...	61	40	49	21	57	27	43	30
December, ...	59	28	42	31	54	24	39½	30
January,	51	23	39	28	50	22	37	28
February,	50	29	43	21	52	25	40	27
March,	59	34	45	25	61	29	42	32
The entire } Year, }	72	23	51.77	49	86	22	50.29	64

The following table proves that, as a rule, these changes of temperature from month to month, which are so apt to make a climate trying to health, are not so marked and intense in Vancouver Island as in London; and shew that the rise and decline of its temperature is more gradual, especially during the summer. Thus not only are the extremes of temperature slighter in this colony than in England, but those incessant variations and sudden changes from heat to cold, which often

prevail in the latter country, are rarer here, less sudden and intense, especially in summer :—

TABLE 11.

To shew the difference between the Mean Temperature of each month at London, in comparison with that of Esquimalt.

Place.	January and February.	February and March.	March and April.	April and May.	May and June.	June and July.	July and August.	August and September.	September and October.	October and November.	November and December.	December and January.	Mean difference of successive months.	Difference of mean temperature of warmest and coldest months.
London....	3.08	2.20	5.36	7.64	4.36	3.43	0.10	4.73	7.00	8.31	3.89	2.22	4.36	26.17
Esquimalt	3.98	2.14	6.43	3.76	3.94	1.57	1.00	4.13	3.86	4.95	6.54	3.43	3.82	22.91

The atmosphere of Vancouver Island, especially in summer, is drier than the proverbially humid climate of England ; and the heavy harvest rains of the English summer and autumn months, (especially August and September,) which not unfrequently damage the crops, are unknown amongst us. The following table will shew that at Vancouver Island the annual number of rainy days was sixty less than at London :—

TABLE 12.

To shew the relative Prevalence of Rain at Esquimalt and London.

Place.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Entire year.
London, ("Clarke on Climate,")	14	16	13	14	16	12	16	16	12	16	15	18	178
Esquimalt, Vancouver Island, } 1860-61.....	15	13	7	9	10	6	8	4	9	14	13	10	118

Here we find rain falling at London once every two days, but at Vancouver Island only once every three days. The results of an accurately kept rain-gauge would be more satisfactory. The table, however, goes far enough to prove that our climate is drier and less variable than that of England, and that rain does not occur so often or so heavily with us, especially in March and April, when agricultural operations are commencing, or during August and September, when the crops are ripening. The crops in this colony may suffer, although rarely to any serious extent, by droughts, but they are never injured by an excess of humidity, as they occasionally are in England. The rains of the Vancouver Island summer have more the character of showers. Autumn and winter may be called emphatically the "rainy" season, in contradistinction to the summer, which is often excessively dry; while in England the rain is more distributed over the year, and summer and autumn form the rainy season.

The prevailing winds of Vancouver Island are southerly, those of England south-westerly; in the former the biting N.E. and E. winds, which often prevail during the English spring and early summer, give place to mild S. and S.W. winds in April, which are followed in May and June by still milder summer breezes. Great or sudden barometric variations unquestionably affect materially both the climate and salubrity of any place, although their influence may be less apparent than that of temperature. The following table shews that these occur less frequently at Esquimalt than at London, which indicates a greater equability in its climate, and perhaps accounts in some degree for its greater salubrity:—

TABLE 13.
To Contrast the Annual and Monthly Barometric Range at London and Esquimalt.

	Annual mean height of barometer.	Monthly Range.												Range for the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
London, (1806-1816,) } from " Clarke on Cli- mate," }	29.895	1.429	1.350	1.299	1.070	0.914	0.830	0.691	0.759	0.898	1.158	1.458	1.450	1.998
	30.07	0.990	1.500	1.170	1.590	0.760	0.710	0.300	0.730	0.94	0.62	1.57	1.11	1.890

The range during the winter months at Esquimalt is slight, especially in October, December, and January, but during April it is higher than for any other month at either place : this month is known for its frequent squalls, and is the period of struggle between the northerly winds of winter and the southerly breezes of the approaching summer.

The salubrity of the climate of these colonies, so intimately associated with their physical character, is proved by experience to be equally good. No better test can be had of a climate than its effect on the health of individuals subjected to its influence.

Epidemics, such as small-pox, scarlet fever, and other infectious diseases, are rare in these colonies, even among the natives. Catarrhal complaints and rheumatisms occur, as in all countries with a corresponding climate, but less frequently and less severely than in England. Epidemics of influenza in various forms occasionally prevail, especially during the damp foggy weather (October and November) which succeeds the warm summer, when individuals are most apt to neglect those sanatory precautions necessary for the maintenance of health ; but these are neither lasting nor severe, and many of the diseases which do occur may be traced to this cause, and to the erratic and often exposed life so often led by the floating population of both colonies. It is unquestionable that those who take the ordinary precautions may enjoy as perfect a state of health in Vancouver Island and British Columbia as in any part of the world.

No statistical returns are yet kept of the health of the population, but the salubrity of the climate has been fully proved not only by prolonged popular experience, but also

by its effect during shorter periods on the crews of H.M. ships stationed at Esquimalt.

During the stay of H.M.S. *Satellite* (crew, 240 men) in the colony, from June 1857 to July 1860, a period of three years, the number of deaths which occurred was only five ; of cases invalided and sent to England, nine ; and of hospital cases, twenty-seven ; but among the whole not more than fifteen could be fairly ascribed to the effect of climate,—a remarkably small number for so protracted a period, while the general amount of sickness was equally small. Catarrhs and rheumatisms were the most frequent diseases that occurred,—the former in the proportion of one man every six days, and the latter one man every fortnight,—the majority being insignificant. The only epidemic was a trifling influenza. These statistics thus indicate a degree of healthiness seldom witnessed on foreign stations, and not often experienced even in England.

The health of the crew of H.M.S. *Topaze*, (480 men,) during a more limited stay, has been equally good. During twelve months—viz., from April 1860 to April 1861—her sick-list has averaged $13\frac{3}{4}$ per day = $2\frac{1}{2}$ per cent., or $1\frac{1}{2}$ per cent. lower than during her four months' stay in England before leaving for this station. The great salubrity of the climate of the colony is well shewn by its marked effect on the health, weight, and general *physique* of this ship's company, who were weighed individually before arriving, and again after being $9\frac{1}{2}$ months in Esquimalt harbour. On this occasion, 91 per cent. were found to have gained weight to an average of $9\frac{1}{4}$ lbs. per man, the greatest gain being 25 lbs. In the majority of the

36 cases who had lost flesh, the falling off could be traced to slight accidental and remediable causes.

Actual observation thus goes far to shew that the climate of these colonies is superior to that of England both in physical character and salubrity, and experience proves that it is equally well adapted for agricultural and pastoral farming. Its general mildness and healthiness, therefore, offer one great inducement among many which Vancouver Island and British Columbia hold out to intending emigrants.

CHAPTER IV.

VANCOUVER ISLAND AND BRITISH COLUMBIA AS AGRICULTURAL AND PASTORAL COLONIES, THEIR ANIMAL AND VEGETABLE PRODUCTIONS, AND THEIR CAPABILITIES AS FOOD-YIELDING COLONIES.

CLEARLY the progress and probable future of a colony will depend greatly on the nature of its agricultural and pastoral resources, and on its capabilities for yielding food. A colony which has to draw all its supplies from other quarters, and perhaps from distant countries, at high prices, is not so likely to succeed, whatever be its advantages in other respects, as one which is independent of foreign resources. A period occurs in the early history of every settlement when supplies have to be drawn, either from the parent country or elsewhere ; but the necessity passes away with time ; the colonies soon supply their own demands, and find within themselves those elements of growth necessary both for their present prosperity and their future progress.

Vancouver Island has thus far passed favourably through this first struggle in her early career ; and although her supplies are still principally imported, so promising do her agricultural and pastoral capabilities appear, that there need be

no apprehension of her future, or fear that the colony will not—and that at no very distant day—be equal for her own supply, and perhaps for carrying on a considerable export of surplus produce.

Though destined, however, to attain great eminence, it will never acquire the agricultural prominence of California or British Columbia. Her fisheries, when developed, may become valuable as the source of an extensive export trade, but her animal and vegetable produce will always be limited, and that of her farms will never be much more than sufficient for her own supply; nor should Vancouver Island ever trust to herself for more than the supply of her own wants, and the development of more important resources, as well as the provisioning that large element in her population, her manufacturers, merchants, and miners.

Neither the geological structure nor the general topographical features of Vancouver Island adapt it for development as an agricultural or pastoral colony. By far the greater part of the island is hilly and mountainous, and, in fact, forms the prolongation of the Olympian range, which, branching off from the Rocky Mountains to the south of California, runs up along the coast, traversing its entire length so as to form its backbone. A comparatively level peninsula, containing about 150 to 200 square miles, exists at the southern extremity of the island, in the neighbourhood of Victoria, formed by the Saanich and Sooke inlets, on which several fine farms and sheep-stations are actively and profitably worked; but this cannot be taken as a criterion of what prevails over the island generally. The prob-

ability is, that such another tract, equal in size and fertility to the Victoria peninsula just alluded to, is not to be found over the entire island. The prospect from Victoria, which may be taken as a fair example of the general features of the island throughout, though fine, is by no means inviting, in a utilitarian point of view. It presents only a series of lofty, undulating, pine-clad hills, which rise irregularly one behind another, and have small intervening valleys where patches of arable land exist; but the hills themselves are generally so scantily covered with soil, as barely to afford root to the scattered and stunted trees on their sides and summits.

Of the 1400 square miles which form the surface of this island, a large part consists of mountain, rock, swamp, and waste land, incapable of cultivation. Patches of arable land, containing from 20 to 700 acres, are, however, found in various parts of the southern end, as at Sooke, Beecher, and Peddar Bays, Saanich, Point Holmes, along the banks of the Coivitchin River, and the few small streams which exist in the island; and similar patches will probably be detected near the numerous inlets, bays, and harbours round the entire island; but although the soil is often of fine quality, and valuable, as in the Coivitchin Valley, as at Sooke, &c., these tracts, being of comparatively trifling extent, cannot be said to affect, to any appreciable extent, the character of the island. The accompanying table will give an idea of the proportions of available and waste land, or rock and swamp, &c., on some of the largest and best-worked farms in the island :—

TABLE 14.

	Under Cultivation.	Incapable of Cultivation.	Still capable of Cultivation.	TOTAL.
	Acres.	Acres.	Acres.	Acres.
Three Farms,	430	1780*	150	2360

Towards Esquimalt, which lies near the hilly country, the land is not so favourably adapted for agricultural and pastoral farming as over the Victoria peninsula generally. Numerous rounded masses of rock crop out in almost every field, and most of this neighbourhood has so broken and rugged a character, as materially to interfere with agricultural operations; but although much of the land here is rocky and incapable of tillage, it will be seen, from facts to be hereafter stated, that what is now cultivated is highly fertile. Towards Victoria, however, the land improves, and in the Lake and Saanich districts arable land is more abundant, and of good quality.

The subsoil consists of a bluish clay, above which rests a light-reddish gravelly sand, and, above all, a layer of rich fertile black or brownish-black spongy loam, which consists chiefly of decayed vegetable matter, the accumulation of ages; and to the presence, absence, or relative preponderance of which is to be attributed the difference in the character of the soil apparent in different districts, and often

* Of this quantity, though incapable of cultivation, from 400 to 500 acres are woodland and open pasture, interspersed with trees, affording shelter and some little food to cattle.

within comparatively narrow limits, and which necessarily causes a difference in the value of even neighbouring farms.

The agricultural capabilities of Vancouver Island, however, such as they are, are good; and instances might be given where, with selected land, farming operations on a large scale have been crowned with success, under the energetic and persevering exertions of practical farmers. Owing, however, to the usually scattered condition of the land of this colony, its broken nature, and the scantiness of the soil, it will be evident that farming operations on an extensive scale are attended with great difficulty. In this island, large farms are rarely met with, the smaller being more likely to prove successful.

That the capabilities of Vancouver Island, for the purposes now under consideration, are by no means unimportant, notwithstanding these evident disadvantages, is proved by many instances of complete success. Wheat, oats, barley, pease, and other cereals, with potatoes, turnips, carrots, beet, &c., and all the usual products of English farming, grow readily in the colony, and are often superior in quality to those reared in the territories adjoining; while the market-gardens and orchards are equally successful in supplying the table with vegetables and fruit of a very superior description. While we are on this subject, it may not be out of place to add the testimony of one of the most practical and energetic farmers of the colony:—"Draining is unknown in Vancouver Island as yet; labour is so high that it prevents the farmer from carrying on this improvement. Could he afford the luxury, the soil would be thereby rendered equal, if not superior to that of England and Scotland.

Our best soil is low and swampy, requiring nothing but cheap labour and tile-drains to make it equally productive with the finest lands in the old country."

The accompanying table will shew that the average yield of good land in Vancouver Island contrasts favourably with that of England, the finest and most productive of the three divisions of Great Britain :—

TABLE 15.

Yield per Acre of Land in Vancouver Island in contrast with that in England, Ireland, and Scotland.

	YIELD PER ACRE.				Weight per Bushel at Vancouver Island (Estimated.)
	England.	Scotland.	Ireland.	Vancouver Island.	
Wheat,.....	4 qrs.	3½ qrs.	3 qrs.	3 qrs.	62 lbs.
Barley,.....	4½ "	5 "	4 "	4½ "	50 "
Oats,.....	5 "	6 "	4½ "	4¾ "	38 "
Potatoes,	64 "	60 "		25 "	
Pease,.....	3¾ "	3 "	3 qrs.	3½ "	
Turnips,.....	20 tons	25 tons	25 tons	15 tons	
Clover, (cut green,) }	6 "	5 "	7 "	4 "	
Gardens,.....	25 fold	25 fold	30 fold	25 fold	
Tares,..... }	30-40 tons, (green)	35 tons, (green)	33 tons, (green)	35 tons, (green)	

TABLE 16.

Average Prices of Vancouver Island Farm Produce in contrast with those of England, Scotland, and Ireland.

	Vancouver Island.	England.	Scotland.	Ireland.
Wheat,.....	£3, 15s. per qr.	£2, 13s. 10d. per qr.	£2, 16s. per qr.	£2, 10s per qr.
Barley,.....	£2, 18s. „	£1, 15s. 6d. per qr.	£1, 16s. „	£1, 10s. „
Oats,.....	£2, 0s. „	£1, 3s. 9d. per qr.	£1, 5s. „	£1, 0s. „
Potatoes,.....	£15 to £18 per acre.	£15 per acre.	...	...
Pease,.....	£2, 18s. per qr.	£1, 14s. 2d. to £2, 3s. per qr.	£2 per qr.	£1, 15s. per qr.
Turnips,	£15 per acre.	£5 to £10 per acre.	£5 to £10 per acre.	£4 to £8 per acre.
Clover, (green,) ...	£12 „	£6 to £8 per acre.	£4 to £6 per acre.	£3 to £5 per acre.
Gardens,.....	£23 „	£25 per acre.	£20 per acre.	£15 per acre.
Tares (valuable as summer feed,)	£8 „	£6 per acre.	£5 „	£3 „

The high prices which the Vancouver Island farmer can obtain for his wheat, barley, and oats, contrast favourably with those of England, especially when the close proximity of the colony to the eminent grain-growing and exporting country of California is taken into account. Those obtained for pease, tares, clover, but especially for potatoes, turnips, and garden produce, are also worth notice; they are, however, counterbalanced by a corresponding outlay for labour.

At present, the farm produce of the island is insufficient for the supply of its own population. Few of the farmers having any surplus to dispose of, their exports are *nil*; and hence the island farms, gardens, and orchards cannot compete with those longer colonised and better cultivated neighbour States of Oregon, Washington, and California, with their cheap land and cheap labour, which furnish the greater portion of its supplies. When, however, it is more extensively settled, when labour cheapens and increases, and agriculture is more developed, we may anticipate such an increase of this island's productions as will equal, if not exceed her consumption, and contribute to a more successful competition with the adjacent states, which it will yet surpass in the quality, if not in the quantity of its productions. Many tracts, both in the neighbourhood of Victoria and over the island generally, where the land is too rocky and the soil too scanty for agricultural labours, may be easily and profitably converted into market gardens or orchards. Market-gardening and fruit-growing on a large scale will soon be required for the supply of Victoria, and are likely to pay well. Vegetables and fruit may be reared in quantities sufficient not only for home-consumption, but for exportation. The ordinary vegetables, and also the apples, pears, and other varieties of fruit grown in temperate climates, are generally much superior to those reared in warmer latitudes; and the samples grown here are decidedly superior to much that is at present imported from Oregon and California, and its production as an article of export deserves encouragement.

On the other hand, the hilly character of the island generally,—the deficiency of level arable land,—the absence of

extensive tracts of well-watered pasture and grassy plains, and the scantiness of the natural grasses,—combined with the occasional dryness of the summer, which often scorches and withers what does exist,—all check the development of Vancouver Island as a great pastoral colony. Large flocks of sheep or herds of cattle, such as are common in the Australian colonies, and such as may yet be kept in British Columbia, with its extensive prairies well adapted for pastoral purposes, can never be kept in Vancouver Island. The number of cattle at the largest farms on the island varies from 60 to 100 head. Flocks of sheep consisting of from 400 to 500 head are kept in the Lake and Saanich districts, where the natural grasses are more abundant, and the land more level and better adapted for sheep-farming than near Victoria or Esquimalt. These prove most profitable, the usual annual increase being about 100 per cent. Hogs, also, thrive remarkably, their average annual increase being about 1000 per cent. Much is to be expected in this colony from a more extensive clearance of the land, a more rigid economy of soil in converting the rocky parts which are unfit for anything else into grazing ground, and from a more general introduction of artificial grasses,—*e.g.*, alfalfa, or Chilian clover, &c., &c.,—a more ample supply of winter food, and a more frequent adoption of the practice of housing cattle, especially in winter. The risk which now attends the keeping of stock would be thereby much diminished, and the advantages which Vancouver Island possesses, especially as to fertility of soil and salubrity of climate, render it capable of producing cattle, sheep, and farm-stock generally, of superior quality, and sufficient for the colony, if not for ex-

portation. The experience of the past severe and prolonged winter (1861-62) has rendered most painfully apparent the necessity which exists for providing a better supply of winter food for cattle than has hitherto prevailed as a rule among the farmers here.

Cattle, sheep, pigs, poultry, &c., originally introduced from Oregon, England, or Australia, thrive remarkably in Vancouver Island; and no finer mutton, beef, or pork can be had than that of this colony, except, perhaps, in England; that of Vancouver Island certainly surpasses much of what is now imported from American territory. The accompanying table (17) will shew the average weight attained by our stock. The want of labour, the scanty supply of grass and other food, &c., prevent the farmer in this colony from paying the same amount of attention to stock as in England; otherwise we might rival the mother country. As yet, however, much of the beef, mutton, &c., sold in the markets of the colony, is imported from the neighbouring American territory, although the colony itself will be able to compete with more success when better developed.

The trifling attention paid to dairy produce in Vancouver Island is a mistake. Colonial milk, butter, or cheese is seldom seen as an article of sale. No cheese has yet been made; most of the butter in the market is imported. The milk is good and abundant in summer, the climate favourable as to temperature, and dairy produce would sell well in the colony, and might also be exported.

Although the climate of Vancouver Island is favourable for agricultural and pastoral farming, and much of its arable land highly fertile, its general mountainous character pre-

TABLE 17.
*To shew the Quality and Value of Stock in Vancouver Island in contrast with
that of England.*

	Per-centage of increase.	Average Weight.		Average Price in Vancouver Island.	Average Price in England.	American.
		Vancouver Island.	England.			
Horses.....	...	...	...	£10 to £25	£25 to £40	£25 to £60
Mares	75 per cent.	...	...	£8 to £20	£20 to £35	£20 to £100
Mules	...	...	...	£40 to £100*	...	...
Oxen (fat).....	...	550 lbs.	700 lbs.	£11	£16 to £20	...
Cows	90 per cent.	375 "	500 "	£7	£10 to £15	...
Calves	...	100 "	150 "	£3	£3, 10s.	£3, 10s.
Sheep	100 per cent.	50 "	75 "	£1, 5s.	£2 12s. to 20s.	Southdown rams, £20 each. Good breeding ewes, £3.
Lambs	...	30 "	40 "	18s.		
Hogs (fat).....	1000 per cent.	150 "	175 "	£3, 12s.	£3, 10s.	...

* Valuable for packing in a mining country.

cludes the possibility of its ever excelling or even rivalling countries like California and the longer known British colonies in the southern hemisphere,—*e.g.*, the Cape of Good Hope, Australia, New Zealand, &c.,—whose capabilities comprise a fine, genial climate, an abundance of pasture land, and a soil well adapted for husbandry. This colony, however, has British Columbia on her right to fall back upon to supply her markets,—a country in every way adapted, by its climate, soil, fine pastures, and an abundance of arable land, for agricultural and pastoral development, and capable of becoming a storehouse of animal and vegetable produce able to supply, not only this island, but the entire Pacific. For farmers desirous of possessing large farms, or extensive tracts of grazing land for cattle-breeding, British Columbia unquestionably offers a better field than Vancouver Island.

Farm-labourers are much required in this colony. Labour is scarce and expensive; and Indian labour cannot supply the deficiency. For married men able to purchase and stock a small farm of from twenty to sixty acres, and have that and their family as an inducement to remain where they settle, Vancouver Island is a fine field for emigration. Steady, practical farm-labourers, with no capital except a stout heart and willing hands, are much wanted, and are sure to find ready employment, high wages, and a comfortable home, and may ultimately become independent farmers. Cases of this kind are not uncommon; and instances might be given of individuals in this neighbourhood who came to the colony as farm-labourers, and are now independent, and possess a small property. The following is a table of wages :—

TABLE 18.

To contrast the Wages of Farm-Labourers in Vancouver Island with those of England and Scotland.

Vancouver Island.	England.	Scotland.
£4 per month, with rations. 6s. 3d. per day; no rations.	£2, 8s. per month; no rations.	10s. per week; no rations.

Vancouver Island has no attractions for amateur farmers, especially during the present scarcity of labour. Difficulties have to be encountered in clearing heavily-timbered land, fencing and draining it, in building houses, making roads, &c., with which energetic practical farmers alone are able successfully to cope. Setting these aside, and the deficiency of labour,—both great inconveniences, especially on first settling,—the emigrant will find that farming in Vancouver Island very much resembles what it is in England. The usual time of sowing and reaping is almost the same in the former as in the latter, with the exception of spring wheat, sown in England in February, and of which there is little or none sown in this colony.

Vancouver Island.

Time of Sowing.		Time of Reaping.
Wheat,.....	1st November.	} 1st August to end of Sept.
Oats,	} From middle of March to end of April.	
Barley,.....		
Pease,....		
Tares,.....		
Potatoes,.....	1st to 25th Day.	} 1st to middle of November.
Turnips,	1st June to middle of July.	

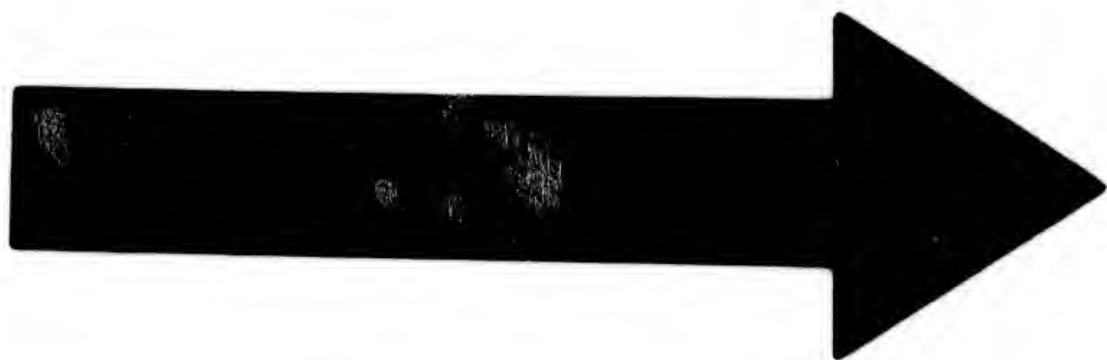
In England and Scotland the farmer has the advantage from his land being mostly all drained, which enables him to get on with his operations so much earlier in spring.

The principal market for the farm produce of Vancouver Island will necessarily be found in the colony itself, and chiefly in its capital, the population of which is rapidly increasing and will soon be great.

For any surplus produce China will be a good market: first, among the colonists, chiefly English and American, resident at Hong-Kong, Shanghai, and the other free ports along that coast; secondly, among the more numerous floating populations which man the merchant and royal navies of England, France, America, &c., on the China station.

Butter and cheese, when manufactured, will find a ready sale in China, and will supplant much of that now sold there, which is expensive and often bad. Australia imports a large quantity of butter chiefly from England; Vancouver Island and British Columbia are closer at hand. Potatoes, carrots, turnips, &c., superior to those grown in such climates as that of China, especially along its sultry, sub-tropical southern coast, will find a ready market there, like those now sent across from San Francisco. Cattle, sheep, &c., much superior both in weight and quality to the dwarfish cattle of China, would meet with a ready sale among the Europeans. The regular steam communication which must soon be opened between Vancouver Island and China, and a short passage of three weeks, will give both this colony and British Columbia, every facility for sending a regular and abundant supply.

The above remarks on the agricultural and pastoral capa-



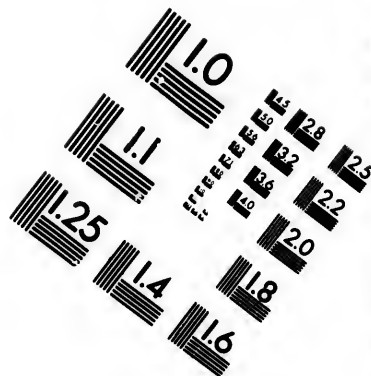
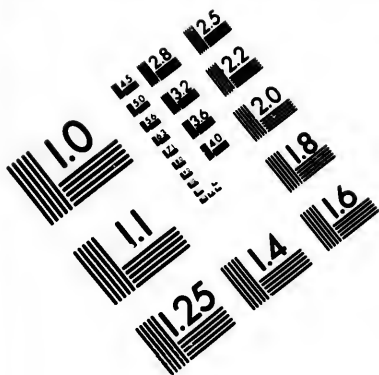
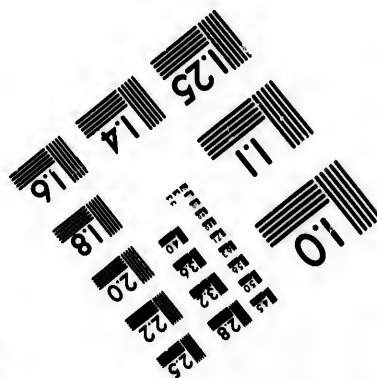
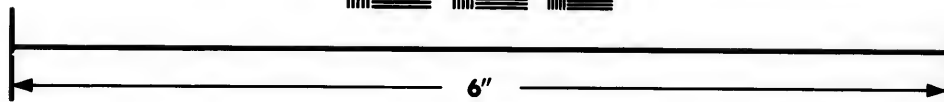
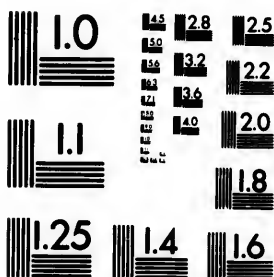


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bilities of Vancouver Island are equally applicable to British Columbia as far as the quality of the soil and the nature and value of its productions are concerned, but not as to their quantity.

British Columbia possesses every facility for becoming a great agricultural and pastoral colony. It may be roughly described as consisting of the coast or hilly country, which embraces about one-third of its surface, and the interior or agricultural district, comprising the inner half or two-thirds next the Rocky Mountains. In the former, which is comparatively unknown, some level arable land exists along the small rivers which drain it, and also near the numerous inlets which penetrate this coast; but its general features are hilly and mountainous. The "Lower Fraser," as far as Yale, (which may be said to be the only tract of British Columbia yet settled,) lies in this hilly country. Its climate is rainy, and any level land which does exist, though fertile, is densely wooded and difficult to clear.

The interior or agricultural region has a different character, and is the country of the "Upper Fraser," where the Hudson's Bay Company's forts have long existed, and where the Cariboo mines are. Its principal characteristics are extensive tracts of fine woodland and of open prairie, highly fertile, and well adapted for farming or pastoral purposes; and well watered and drained—first by the Fraser River, which traverses its entire length from north to south; and, second, by an innumerable number of lakes, many of which are of considerable size, but the majority small and unimportant, and most numerous towards its northern part. In the interior the climate is fine, mild, and dry, and superior to that along

the "Lower Fraser," which still forms the principal route to the agricultural country. The difficulty of access is the chief obstacle to settlement: trail and canoe are still the only modes by which it can be reached; and waggon roads leading from some part of the coast will be necessary for its development. When more accessible and better known, the interior of British Columbia will become rapidly colonised by agricultural and pastoral settlers. The land is highly fertile, open, and clear of heavy timber, well watered and grassy; the climate fine and healthier than along the "Lower Fraser," and especially invites those desirous of farming or stock-keeping on an extensive scale.

Owing to the dryness of the soil in the agricultural districts of British Columbia, irrigation is necessary for successful farming or gardening; otherwise the grass, &c., becomes parched and withered. Fortunately, rivulets and streams abound, and the character of the country is such that this task is easily accomplished.

In both colonies the value and tenure of land varies according to whether it consists of town-lots, suburban, or rural land, and whether it is surveyed or unsurveyed. The town and suburban lots in both colonies are nearly all sold, and can now be obtained only at high prices. Town-lots in Victoria vary from £200 to £500 per acre; and, during the gold-digging excitement of 1859, much higher prices were obtained; in several instances reaching many thousands. The average price of suburban lots at Victoria is £20 per acre. The upset price of surveyed rural land in both colonies is 4s. 2d. (one dollar) per acre, one-fourth of which must be paid at once, the remainder by instalments within four years.

In Vancouver Island, the greater part of the land at its southern or settled end, within a circuit of eight to ten miles from Victoria, is already surveyed and sold, though not all cultivated, and unfortunately is mostly in the hands of speculators, not actual settlers, which is a great loss to the colony. Emigrants desirous of settling in this neighbourhood may probably purchase land at from £2 to £3 per acre. Some of the land at and near Nanaimo has been surveyed; but with this exception, Vancouver Island is still unsurveyed, and the emigrant who intends to farm may have land in almost any part of the island by "pre-emption." In British Columbia likewise much of the land within a certain distance of its different townships and settlements is already surveyed and sold, but pre-empted land may be had anywhere else. Pre-emption enables the emigrant to hold and farm a limited amount of land, for which he is not required to pay until it be surveyed, when he becomes liable for the usual government price of 4s. 2d. per acre, payable by instalments. The pre-emptor must record his claim at the land-office on occupation, for which he has to pay a small fee. A single man can pre-empt 150 acres; a married man, whose wife is resident in the colony, 200 acres; and for each of his children under 18 years of age, and resident in the colony, an additional 10 acres. The emigrant has thus every facility for obtaining cheap land and settling in either colony: and a wide choice in both, very little comparatively of either being yet settled. The fertile land in the interior of British Columbia is a good and extensive field for the farmer or cattle-breeder; little of it has yet been settled.

Various causes may be assigned for the slow increase of

the agricultural and pastoral population of these colonies. The chief reason undoubtedly is that neither the colonies themselves nor their capabilities are yet sufficiently known to induce emigration to the extent that will sooner or later prevail. A second is, the great distance of the colony from England, and the expense of the voyage. This obstacle, however, is decreasing as the colony advances, and much of it might be removed by the aid of "Emigrant Societies,"—similar to those which contributed so much some years ago to the development of Australia, New Zealand, Canada, &c., by providing good accommodation in comfortable, safe, and speedy vessels,—the passage money to be paid partly after settlement, as the success of the colonist enables him. The gold-diggings of British Columbia also undoubtedly allure many from this and other less exciting pursuits, and diminishes the available labour of the colony.

THE TIMBER-PRODUCE OF VANCOUVER ISLAND AND BRITISH COLUMBIA.

The timber-produce of Vancouver Island and British Columbia will soon be of great value in the colonies themselves—especially in the former, likely to possess a large mercantile navy. In addition to this, the increasing scarcity, in many countries, of timber adapted for mast and sparmaking, and for ship-building purposes generally, makes the produce of these colonies of peculiar value, especially to extensive ship-building countries like Great Britain.

Both colonies are, for the most part, forest-clad, and much fine timber exists. The pine, or cone-bearing family, predominates throughout, and forms a marked feature in the

scenery. The following list comprises the most useful and important trees :—

1. *Coniferæ* (*Cone-bearing family.*)

Pinus Douglassii,	...	...	Douglas pine.
„ Balsamea, ...	...	...	Canada-balsam pine.
„ Strobis, ...	...	...	White, or Weymouth pine.
„ Canadensis,	...	...	Hemlock pine.
„ Mitis.			
„ Nigra, ...	...	...	Black spruce.
„ Nobilis, ...	...	...	Noble fir.
„ Grandis.			
„ Monticola.			
Thuja Occidentalis,	...	...	Red cedar.
Cupressus Thuoides,	...	...	Common cypress cedar.
Taxus Bacchata,	...	...	Western yew.

2. *Amentaceæ* (*Catkin-bearing family.*)

Platanus Acerifolia,	...	...	Plane.
Populus Tremula,	...	...	Aspen.
„ Balsamea,	...	...	Cotton-wood.
Quercus Nigra, ...	...	...	Black oak.
„ Alba, ...	...	...	White oak.

3. *Ericaceæ.*

Arbutus Laurifolia,	...	...	Arbutus.
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The Douglas pine preponderates at the southern end of Vancouver Island, and along its east and west coasts, with occasional patches of oak, and a few maple, cypress, arbutus, yew, and other varieties. Maple is said to abound towards its north end. Many of the trees on the hilly ground are of stunted growth; but in the valleys and low ground, especially along the west coast, heavy timber is plentiful—especially the lofty Douglas pine, admirably adapted for

mast and spar making. Messrs Stamp & Co., at Barclay Sound, are actively pushing the timber trade, and are exporting cut timber to Australia, &c.; and are also under contract to supply the English Government with spars. Much of the oak of this colony is of good size and quality, and well adapted for knee-timber and general ship-building purposes.

Their wood has been of incalculable utility to these young colonies, where it still forms the principal fuel, and the most generally employed material for house-building, land-fencing, &c., &c. Saw-mills are much required at the southern end of Vancouver Island to supply the colony with sawn timber; much of that now in use is imported from the neighbouring American territory. The principal difficulty in this colony is the scarcity of labour.

The timber-produce of British Columbia is both varied and valuable; the country, along the lower Fraser especially, is densely wooded. The forests of this colony may be said to be inexhaustible, and will long yield timber in abundance when the timber-produce of Vancouver Island has been consumed. British Columbia has superior facilities for the development of an export trade in timber. By its large and rapid rivers, especially the Fraser and its tributaries, and the Harrison and other lakes, which usually communicate with them, the timber of the north-east, east, and southern parts of the interior, and of the whole of the extensive tract of wooded country which the Fraser River drains, may be floated down to New Westminster or Victoria for shipment; while that of the hilly region which lies between the western coast and the Cascade and Harrison Lake ranges may be

similarly transported by the smaller streams and those numerous arms of the sea which are found in that direction —*e.g.*, Bentinck Arm, Howe Sound, Bute's Inlet, &c., where saw-mills may easily be established for the manufacture of spars and timber, similar to that now in operation at Barclay Sound. The timber found in British Columbia, though more varied than that of Vancouver Island, is even less used, except for fuel and house-building.

Several markets may be found for the manufactured timber of Vancouver Island and British Columbia. In England, spars, oak, and other woods are much required for ship-building; in Australia and South America timber is scarce; and in China, especially in the south, whose teeming population are compelled to sacrifice everything to agriculture, and where wood is therefore scarce, valuable, and in great demand for house, junk, and boat-building. In China, the soft woods of Vancouver Island will find a ready sale; and also charcoal, the principal fuel used by the Chinese for culinary and general domestic purposes.

The collection of turpentine, an exudation from various species of pine, might be profitable in these colonies. The Douglas pine yields it in considerable quantities, though probably not so abundantly as the Carolina pine, the ordinary source of the turpentine of English commerce. The manufacture of tar, invaluable to Vancouver Island as a commercial and fishing colony with a numerous shipping, has not yet been attempted in either colony. In the Southern States of America, it is made from the heart-wood of dead pines, which become charged with resinous juice long after the tree has died; from which it is extracted by an easy

process usually carried on in the forest. From tar thus obtained, pitch may be procured by distillation.

The manufacture of potash or pearl-ash, (the black-salts of commerce,) now extensively carried out in the forests of Canada, might be attempted in those of British Columbia and Vancouver Island with their surplus wood. In Canada, the hard woods yield it in greatest abundance, especially elm, ash, birch, beech, and maple, and the salt is made by dissolving and evaporating the ashes left on burning the trees. This salt will be useful in the colony for the soap, candle, and other manufactures.

THE FISHERIES OF VANCOUVER ISLAND AND BRITISH COLUMBIA.

Both the coast and deep-sea fishing of Vancouver Island will yet become of great importance to the colony, and be one of the most fertile sources of her wealth. This colony offers one of the most promising fields that could be found for the immediate commencement of fishing operations on a large scale, and holds out superior inducements both for energetic private and combined labour and capital, and for the settlement of an industrious fishing population.

1. No attempt has yet been made to develop them, and, with trifling exceptions, they still remain in the hands of the native fish-eating Indians, who subsist almost entirely on salmon, cuttle-fish, shell-fish, &c., caught in the vicinity of the island.

2. Vancouver Island is eminently adapted for becoming a fish-catching, curing, and exporting colony. Her insular character, indented coast, and the numerous harbours and

inlets which exist along her coasts, many of which (*e.g.*, Port San Juan, Alberni Canal, Barclay, Clayoquot, and Nootka Sounds, Hespod, Koskeema, and other bays along the west coast, Sooke, Esquimalt, and Victoria, along the south coast, and Nanaimo Harbour, &c., along the east coast) are well adapted for convenient and sheltered fishing stations; and her proximity to an extensive fishing field which exists round the coast and in the North Pacific, all afford extraordinary facilities for development of the colony in this direction.

3. Fish are caught in abundance. Herrings abound all round the island. Several varieties of salmon are caught, and thousands die annually in the Fraser, Coivitchin, and other rivers of both colonies while passing up the stream to deposit their spawn. Sturgeon are caught in the lower Fraser River, and on the banks and shallow water near its mouth; while halibut, skate, rock-cod, smelt, whiting, bass, and many other varieties of fish, are caught along the coast. Very little is yet known as to the varieties existing in the deep water at a short distance from the coast, but they are probably abundant. Cod are found, and extend as far north as the Aleutian Islands; and an energetic prosecution of the cod-fishery may yet make it as valuable as that of Newfoundland.

4. The development of the fisheries of Vancouver Island is both necessary and judicious. The requirements of an already large and daily increasing colony necessitate a speedy development of its fisheries. Victoria, with its 3000 inhabitants, now depends for its scanty and irregular supply of fish on a few Italian fishermen and the native Indians, and the other settlements are still worse off. Moreover, salmon,

herrings, sturgeon, and the other fish caught near the island, may be easily cured by materials which the colony itself can furnish, and exported in the sun-dried smoke-dried, salted, or preserved state. British Columbia, when more densely peopled, will become a good market for Vancouver Island cured fish. Preserved fish may be exported to Chili, Peru, &c., where they are now imported from England and the States. The preserved salmon of this colony would soon supersede the too frequently inferior preserves in use among the Europeans along the coast of China. The Chinese, Japanese, &c., themselves, all great consumers of fish, would readily purchase dried or salted fish. An export of this kind will soon be practicable; the fisheries of Vancouver Island cannot long remain undeveloped; the relations between this colony and eastern Asia are likely soon to be intimate, and the intercourse frequent; for, undoubtedly, it is in these countries that Vancouver Island, as a manufacturing and commercial colony, will find the best market for her manufactured goods, and the busiest field for her commerce. Another market will be found in New Zealand and Australia, where an attempt is now being made to introduce salmon and several other varieties of fish, as well as grouse and other game, from England and Europe—an attempt which this colony may possibly aid.

5. The development of the fisheries of Vancouver Island will indirectly originate several useful and lucrative manufactures. Various oils are obtained from the herring, sturgeon, &c., &c., but especially from the cod; and the production of cod-liver oil might be carried on. From the sound, or swimming-bladder, of the sturgeon fine isinglass is

made, like that largely exported from the eastern States of America; and a coarser kind is made from cod sounds. Both will be useful for fining malt liquor, likely soon to be abundantly made, and even now largely in demand in the colony, and which may also be exported to England, Australia, &c. Caviare, a favourite article of diet in Southern Russia, and made of sturgeons' roes, may also be manufactured for exportation.

Vancouver Island will become an important depot for the prosecution of whale, seal, and walrus fishing.

The "right whale" fishing ground in the North Pacific extends from lat. 30° north. We have seen a shoal of whales within eighteen hours' sail of Victoria. Seals abound on the shores of the Aleutian Islands, and in the vicinity of Behring's Straits. And the morse or walrus, valuable on account of its ivory, exists in greater numbers there than in any other part of the world. Vancouver Island is only 2000 miles, and fourteen or fifteen days' sail, from Behring's Straits, which may be considered the farthest range of her fishing ground; a shorter distance by 580 miles, and four days' sail, than England is from her fishing ground in Davis' Strait. The "sperm" or South Sea whale-fishing ground extends from lat. 20° north to lat. 20° south; and to and from thence to Vancouver Island, in lat. 48° north, whalers would have a comparatively short and safe run, with the trade-winds to aid them, and an open sea, free of danger, to traverse.

San Francisco and the Sandwich Islands are the principal rendezvous for those whalers that prosecute their fishing in the Pacific. The harbours of this colony—*e.g.*, Esquimalt

and Victoria, offer equal safety and superior facilities for refitting, provisioning, &c.; with greater proximity to the whaling ground, at least to that of the North Pacific, and a better chance for accurately timing an early arrival at the commencement of the fishing season. Also the development of Vancouver Island as a manufacturing colony, and the introduction of those by no means complicated processes necessary for making the products of whaling available,—*e.g.*, the manufacture of spermaceti, ivory, whalebone, oil, &c., &c.,—will make this colony of still greater importance as a whaling station. Many of those trades which depend directly or indirectly on the supply of such products—*e.g.*, the manufacture of soap, candles, combs, umbrellas, &c.—may be introduced into the colony by developing its whale fisheries. An additional inducement to urge their development is found in the fact that the “right whale” is fast disappearing in the Greenland seas; and can now be caught in numbers barely sufficient to make the whale-fishing of Great Britain and the United States a paying affair. The fishing ground of the North Pacific is more extensive, little occupied, and that only by whalers with no fixed headquarters, and who, having to carry their cargoes to a distance for sale and manufacture, prosecute their labours under disadvantages which would not attend the ships hailing from this colony.

The fisheries of British Columbia, still undeveloped, will also become of importance; and are probably equal in value to those of Vancouver Island, though different in character. They consist of the river, coast, and deep-sea fisheries. The rivers of this colony, especially the Fraser, and the coast of

British Columbia generally, abound with salmon, which are caught by the natives all the year round, but more particularly during the salmon season, in the months of September and October, when they obtain their winter stock. The salmon caught in the rivers are said to be finer, and better adapted for curing than those of Vancouver Island and the coast. The sturgeon is plentiful in the lower Fraser; and both the sturgeon and the salmon fisheries of this colony are worth developing as the source of an export trade in cured fish, isinglass, caviare, &c. Carp and the "white fish" (*Corrigonus alba*) abound in the lakes and streams of the interior, and form an important article of food.

British Columbia has a coast line of 400 miles, indented with numerous inlets well adapted for fishing stations; and herring, whiting, &c., &c., may be plentifully caught for the supply of this neighbourhood when it becomes settled; while along the northern half of the coast, which is open to the Pacific, deep-sea, whale, seal, and walrus fishing may be carried on at some future day when the north-western regions of this colony become settled; although in this, Vancouver Island is evidently better fitted to take and keep the lead. British Columbia will ultimately excel in river fishing; Vancouver Island in deep-sea, whale, and seal fishing; while both, besides supplying their own population, and giving a mutual exchange, are capable of developing an extensive and lucrative export trade in cured fish.

An abundance of game is found all over both colonies; and deer, grouse, &c., and an infinite variety of wild fowl are shot and sold at a cheap rate by the Indians.

Victoria has long been the seat of a valuable export trade in furs, and is to the country to the west of the Rocky Mountains what Fort York on Hudson's Bay has been to the tract lying to the eastward of that range. The furs collected at the various stations in the interior, and transmitted to this fort for annual shipment to England, consist chiefly of beaver, otter, fox, bear, marten, lynx, and minx skins. This trade has hitherto been entirely in the hands of the Hudson's Bay Company; and, although their charter has expired, their capital and position will long enable them almost to monopolise this trade—the importance and value of which, however, are gradually on the decline. Twenty or thirty years ago, the exportation of the valuable skins of the sea otter from California to China was most lucrative; but the spread of this settlement, the colonization of Washington and Oregon, and lastly, of Vancouver Island and British Columbia, has both driven the fur trade and fur-bearing animals, as well as the native Indians who hunt them, further north, and reduced their numbers, and will ultimately lead to their extinction.

Vancouver Island and British Columbia thus possess valuable animal and vegetable products, and good agricultural and pastoral capabilities; valuable fisheries and eminent food-producing capabilities; while good markets exist in the Pacific for their surplus produce, with every facility for its exportation. Few colonies can offer better inducements than these. Their ultimate prosperity and development can only be a question of time.

CHAPTER V.

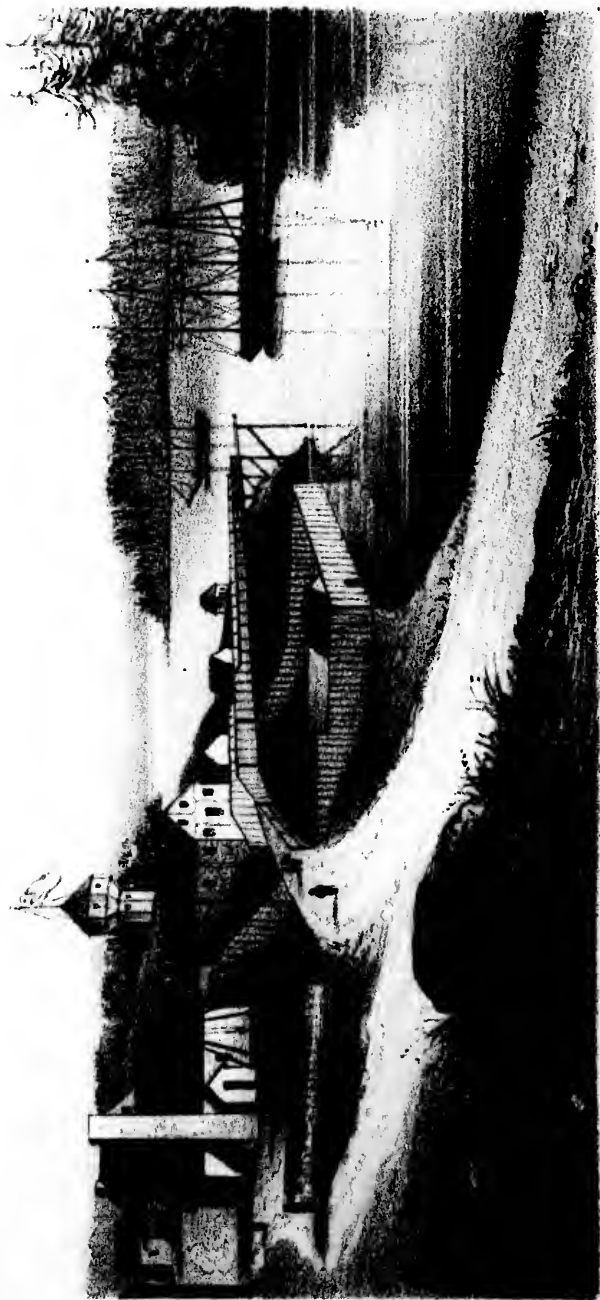
THE MINERAL PRODUCTIONS OF VANCOUVER ISLAND AND
BRITISH COLUMBIA; AND THEIR RESOURCES, CAPA-
BILITIES, AND ADVANTAGES AS MINERAL-YIELDING
COLONIES.

BOTH colonies are rich in undeveloped mineral wealth. The mineral resources of Vancouver Island, though less attractive than those of British Columbia, will ultimately become of greater importance to both, especially to the island itself, the successful development of whose manufacturing and commercial capabilities they will materially aid. It is to these, in connexion with her manufactures and commerce, that we must look for much of her future prosperity: and their true value and importance will become apparent only when the island has attained the position of a commercial and manufacturing colony; when her railways and steamers, her manufactures, her smelting operations, and the requirements of a largely-augmented population have increased the demand, more especially, for her building materials and coal.

The geological structure of this island consists of a central axis of dense erupted masses of igneous origin, resting on the flanks of which are conglomerates, sandstones, and other sedimentary rocks of a carboniferous deposit. But our

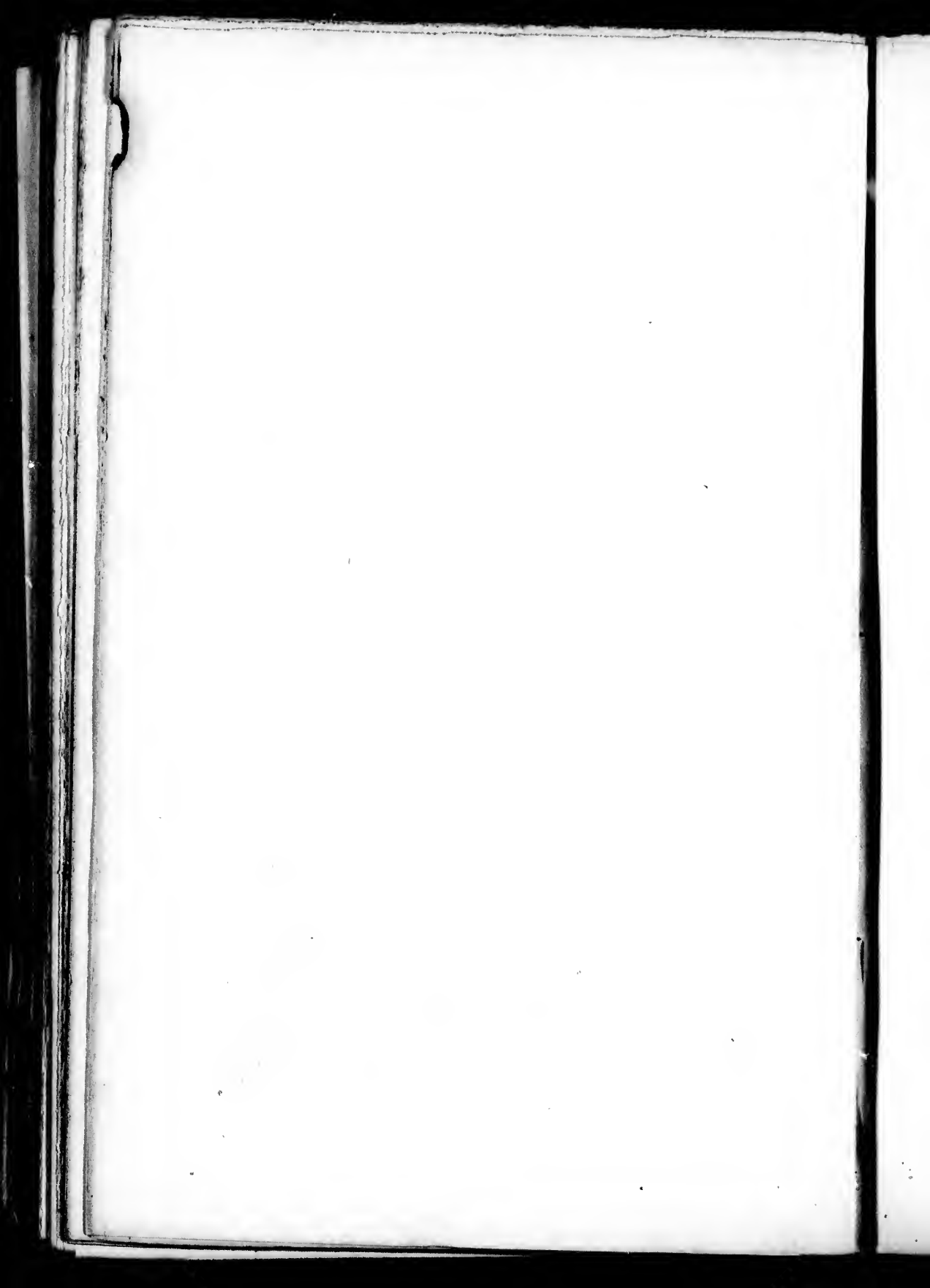
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View of Bixby, Ill.

NANAIMO



knowledge of her mineral wealth is still very limited ; no part of the island, not even her coal-fields, having yet been carefully surveyed.

Occasional rumours have told of the discovery of gold and silver ; but the geological and physical features of the island, the probable widely spread existence of the coal formation, (in which they are seldom found,) and various other circumstances, appear to suggest that neither of them will ever be obtained in such abundance as to rival the mines of British Columbia ; if, indeed, they be found in quantities sufficient to remunerate the miner for his labour.

Copper is more likely to be obtained in paying quantities ; and would prove of greater value. A metalliferous vein, containing traces of copper, crops out at Esquimalt Harbour—perhaps valueless in itself, but still of importance as an indication of the presence of this metal, and of its probable existence elsewhere in richer veins. Copper has more recently been discovered at Barclay Sound in the form of peacock ore, containing sulphurets, which is very favourably viewed. The only sample yet assayed contained 26 per cent. of copper. The locality has been only partially prospected, but a company has been formed to follow up the discovery, and work the mines, if practicable. Fine specimens of peacock copper ore, containing from 20 to 68 per cent. of copper, and apparently equal in value to much of that now so profitably worked in Chili, have been brought from Queen Charlotte's Island—one of the same group as Vancouver Island, and possessing a similar geological structure.

The frequent occurrence of iron in connexion with coal in other countries, and the probable prevalence of the coal

formation over a large part, perhaps the greater portion of Vancouver Island, appear to indicate that this, the most useful of all the metals, which is said to have been lately discovered along the west coast, will be found in abundance. It is to her insular position, her coal-fields, and her *iron* that England owes much of her greatness. Two of these this colony possesses; the third she may, and probably does possess, and it ought therefore to be well searched for. With iron for machinery, coal to work it, and eminent commercial capabilities, Vancouver Island might become second only to England in manufacturing and commercial prosperity.

Coal, unquestionably the most important of the known minerals of this colony, crops out at various parts,—*e.g.*, at Cape Bonilla, near Port San Juan; at Nespod, to the north of Nootka Sound, both on the west coast; at Fort Rupert, and at Nanaimo, on its north-east and east coasts; and these indications of its presence near the north and south extremities of the island, and on her east and west coasts, render it probable that this fossil is very generally distributed, especially along its east coast, where the seams are apparently extensive and valuable, although Nanaimo is the only place where it has been ascertained, as yet, that mines can be readily, profitably, and extensively worked.

The coal of Vancouver Island is of fair quality, decidedly superior to some of the Scotch coal, but cannot be compared with that of the North of England, or more especially with the Welsh. The following is an analysis and comparison of it with other varieties:—

TABLE 19.

Analysis of Vancouver Island and other varieties of Coal.

Variety.	Specific gravity.	Carbon.	Hydrogen.	Nitrogen.	Sulphur.	Oxygen.	Ash.	Per-cent. of coke.
Welsh (Craigola)	1.30	84.87	3.84	0.41	0.45	7.19	3.24	85.5
Newcastle (Can's } Hartley)..... }	1.25	79.83	5.11	1.17	0.82	7.86	5.21	60.63
Scotch (Fordel Splint).....	1.25	79.58	5.50	1.13	1.46	8.33	4.00	52.03
Borneo (Labuan)	1.28	64.52	5.74	0.80	1.45	20.75	7.74	...
Chili (Conception Bay)	1.29	70.55	5.76	0.95	1.98	13.24	7.52	43.63
Sydney	...	82.39	5.32	1.23	0.70	8.32	2.04	...
Vancouver Island.....	...	66.93	5.32	1.02	2.20	8.70	15.83	...

It is a bituminous coal, lighter than Welsh coal by about 10 per cent., consumes rapidly, and answers well for steaming purposes, especially with fires and boilers made to suit it. Although a good gas coal, it is apt to form clinker, leave a large ash, and does not coke well for smelting purposes or foundries. The large proportion of sulphur it contains is a disadvantage; that of Fort Rupert, where the coal was first discovered, is said to contain less. All hitherto raised, however, of which the above is an analysis, is little else than surface coal, and cannot be fairly taken as a criterion of the Nanaimo coal, which is perceptibly improving as the mines deepen. An extensive seam has lately been discovered of superior quality. Unfortunately no general survey of the coal formations of the island has yet been made.

For developing the manufactures, commerce, and mines of

the colony, the importance of an unlimited supply of cheap coal must be obvious. Machinery may be generally introduced, and many manufactures and processes in the arts originated which would otherwise be impossible. Instead of tedious sailing craft, the colony may have steamers, railways, and greatly facilitated land and water carriage, machinery for cotton-spinning, saw and flour mills, and many manufactures. Her minerals, both native and imported, may be smelted and made available on the spot, instead of being sent in the rough state to a foreign market, and sold at a great disadvantage; while by these means her commerce will receive an impulse, and the traffic of her merchant steamers will be greatly increased.

The exportation of Vancouver Island coal is increasing, and will soon be valuable in itself, besides aiding the development of commerce and shipping by its carriage. Nanaimo fortunately possesses a commodious, safe, and easily accessible harbour, in which vessels of 1500 tons can lie close to the mines, and load with facility, and will soon become an important coal-exporting depot, the Newcastle of the colony. Energetic measures are now in progress to develop the resources of its mines.

The export of coals from Nanaimo will be immensely increased when a supply can be furnished commensurate with the demand, and the price be somewhat reduced. The following statement of the imports of coal into San Francisco will shew that the quantity of Nanaimo coal imported during the first three months of 1862 nearly equalled that for the whole of the previous year :—

TABLE 20.

Statement of Coals Imported into San Francisco.

Variety.	Jan. 1 to Dec. 16, 1861.	Jan. 1 to Mar. 15, 1862.
	Tons.	Tons.
English,.....	24,895	5,036
Cumberland,.....	2,662	2,876
Chili,	12,254	...
Sydney,	12,304	3,942
Japan,	25	125
Coos and Bellingham Bay, (im- } ported free of duty,)..... }	16,183	2,535
Anthracite, (New York,).....	26,291	5,176
Vancouver Island, (Nanaimo,)....	5,204	4,235

The following table will shew the advantage, as to price, which the coal of Nanaimo will have in the San Francisco and other markets in the Pacific, when its first cost at the mines, which is now so very high, can be reduced :—

TABLE 21.

Prices of Different Varieties of Coal at Vancouver Island, San Francisco, &c.

Variety.	Price at the Mines.	Price at Victoria.	Price at San Francisco.	Price in China.
	Dollars. 6 to 7	Dollars. 9 to 10	Dollars. 12 to 15	Dollars. ...
Nanaimo Coal,				
Chilian "	...	...	12 to 15	...
English "	...	...	15 to 20	15 to 20

Her proximity to the markets of the Pacific, and the ulti-

mate cheapness of her coal, will enable Vancouver Island to compete successfully in supplying the greater part of that Ocean, in many parts of which colonies are springing. China and Eastern Asia generally is being opened up to commerce; steamers now ply frequently across its previously little-traversed waters, and the consumption of coal is daily increasing. The demand has hitherto been supplied at high prices by the coal-fields of the Pacific itself, but principally by England.

The more important coal-fields of the Pacific are those of Panama, Chili, Australia, and New Zealand, Labuan, and the more recently discovered mines of Nanaimo. The Labuan coal is of inferior quality; moreover, the climate being unhealthy, the mines are imperfectly worked, and are not likely ever to rival those of this colony. The coal of Panama, Chili, New Zealand, and Australia, is good; but the many obvious advantages which this island possesses for exporting coal, together with its abundance, cheapness, and quality, will ultimately enable it in a great measure to supplant the English, Chilian, and other coals now sold in the San Francisco and other markets, and Vancouver Island will thus become the chief source of supply, if not for the entire Pacific, at least for all but the countries in the more immediate neighbourhood of these other mines.

The Coos Bay coal is a lignite or brown tertiary coal, similar to that found in a thin seam on the south bank of the Fraser River, near its mouth; and the Bellingham Bay coal, now imported into San Francisco in considerable quantities, is inferior to that of Nanaimo; so that neither of these can prevent the latter from monopolising the supply.

One of the principal markets for the coal of Nanaimo will be the coast of Eastern Asia, and the large and rapidly increasing steam-fleets, naval and mercantile, which ply along that coast; which now draw their supply principally from England, at high prices.*

In addition to coal, Vancouver Island possesses several other minerals that will yet become of great value to the colony.

Sandstone is found at Salt-spring Island, thirty miles from Victoria, and is said to be abundant at Fort Rupert, and, as one of the rocks of the coal formation, is probably widely diffused. The stone is of good quality and fine grain, hard and durable, and well adapted for architectural and monumental purposes, &c.

A fine tenacious blue clay, suitable for the manufacture of bricks, roofing and drainage tiles, coarse pottery ware, &c., is diffused over the southern end of the island, often close to the surface, and ready for manufacture on a large scale for colonial use or exportation.

The slate or fire-clay found in thick layers between the coal seams of some of the Nanaimo mines may be converted into fire-bricks, like those extensively manufactured in the coal-fields of the Western States of America.

The imbedded masses of concretionary limestone often found in the trap rocks of the southern end of the colony and its adjacent islets—*e.g.*, San Juan—yield a limestone well adapted for mortar or cement, manure, and various

* On the 31st August 1861, the British fleet in China consisted of eleven gunboats, and nineteen of larger size, making a total of thirty, and 6340 horse-power.

processes in the arts,—*e.g.*, sugar-refining,—and which may be carried on in the island at a future day. The importance of so abundant a supply of sandstone, limestone, brick and fire clay, all well adapted for building purposes, must be obvious in a climate which, though not rigorous, is still such as to require warmer and more substantial dwellings than those of wood.

British Columbia is also rich in mineral wealth, and already noted as a mineral-yielding country. To its gold-fields both that colony and Vancouver Island are indebted for much of their present prosperity; and enough is known to prove that its mineral wealth will become of still greater value. The Rocky Mountains which form its eastern boundary, the Cascade and other minor mountain ranges that traverse it, usually in a north and south direction, are continuations or spurs of the Cordilleras of South and Central America, part of a mountain range which runs through the entire length of this continent, and in which are found the gold, silver, copper, and quicksilver of Chili, Peru, Mexico, and California; and the mountain ranges of British Columbia will probably become equally productive of valuable minerals. But, although gold has been found in abundance, and silver has been discovered, so little is yet known of the geology of this colony, that it would be fruitless to speculate as to the nature and value of the minerals it may yield. Limited tracts have been *prospected* by private individuals, chiefly along the Fraser River; but a small part of the Harrison Lake district is all that has been scientifically explored. Neither sandstone nor coal has been detected;

and if found at all, it will probably be along the coast opposite to that of Vancouver Island.

The gold-fields of British Columbia are even now of world-wide celebrity. The "Fraser River" and "Cariboo" diggings are names which have already become almost as familiar in England as were the "Sacramento River" of California, and the "Ballarat" of Australia, a few years back. They are probably the richest in the world; and their history goes far to prove, not only that the auriferous region extends over a wide tract, but that even richer diggings than those of Cariboo will be discovered closer to the Rocky Mountains. The fine grain gold of the lower Fraser in 1858 has given place to "nugget" gold at Cariboo, 300 miles higher up. All of it has been found in the alluvial sand and gravel of streams, and none in imbedded rock. Nugget gold is never carried far from its source;* and if we may estimate from the quantities already found at Cariboo, this metal will be found in quantities to which those obtained from the mines of California and Australia will bear no comparison. The aggregate yield during the summer of 1861 of three of the principal creeks at Cariboo,—viz., "Antler," "Williams," and "Lowhee" creeks,—mined by from 90 to 100 men, fell little short of one million dollars, (£200,000;) while "Lightning," "Van Winkle," and "Last Chance" creeks, discovered later in the season, likewise proved remarkably rich. So

* The largest nugget yet found was dug in the Cariboo mines, and weighed 17 ounces, its value being about \$16, (= £3, 5s. 4d.) The maximum fineness of British Columbia gold dust is 940, or \$19:43:15 per ounce; the minimum fineness \$17:15:76: it is, therefore, sufficiently fine for conversion into coin, wire, or jewellery.

much of the gold is carried out of the colony in private hands, that it would be impossible to ascertain accurately the total quantity which the British Columbia mines have yielded; but the following table will give some approximation to it:—

TABLE 22.

Gold-dust Shipped to San Francisco from Victoria.

Year.	M'Donald & Co.	Walls, Jargo, & Co.	Total.
	Dollars.	Dollars.	Dollars.
1858.....	...	337,765	
1859.....	259,815	951,489	
1860.....	349,292	1,303,329	
1861.....	602,734	1,339,895	
Total,.....	1,207,841	3,932,978	5,140,819 *

The greater part of the gold of British Columbia passes out of the colony to San Francisco, New York, and England; and the value of the gold-fields to the colonies arises chiefly from the crowds thus attracted, which contribute in many different ways to increase the traffic and develop the agricultural and other resources both of the colony itself and of the adjacent island, from which it is chiefly supplied.

Silver has been discovered near Fort Hope, and also † (in 1860) along the base of a mountain range which skirts the eastern shore of the Harrison Lake, where seven veins of argentiferous ore were found in a comparatively limited dis-

* About £1,028,164; exclusive of that taken away in private hands.

† By Dr Charles Forbes, R.N.

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trict. A mining company is now attempting to develop the Harrison Lake mines. The ore contains galena in small quantities, and the silver in the form of black oxide; and samples from outcroppings have assayed at the rate of from \$60 to \$300 per ton, (£12 to £60.) The Fort Hope Silver Ore contains galena with traces of gold. Choice specimens have assayed as high as \$2000 (£400) per ton, but the average results will not exceed \$100 (£20) per ton. Silver undoubtedly exists, but in both localities the value of the mines has still to be proved.

The development of the mineral wealth of these colonies, though proceeding but slowly, is creating a constantly-increasing demand for labour; and high wages and steady employment are among the inducements held out to encourage an influx of miners, labourers, and artizans connected with the extraction, manufacture, or applications of these different mineral products. Both colonies are highly attractive as a field for emigrants of this as well as other classes; and miners and labourers generally can find few in which to settle equal to Vancouver Island and British Columbia, where wages generally average from \$3 to \$5 (12s. 4d. to 20s. 5d.) per day.

CHAPTER VI.

VANCOUVER ISLAND AND BRITISH COLUMBIA AS MANUFACTURING COLONIES ; THEIR RESOURCES, CAPABILITIES, AND ADVANTAGES.

THE manufactures of Vancouver Island, likely to be of great importance at a future period, are still few and rudimentary ; while those which may become of the greatest value have not yet been introduced.

The capabilities which this island possesses for development as a manufacturing colony go far to compensate for her deficiencies as an agricultural and pastoral settlement. There is but little hope for the future of a colony which owns neither mineral wealth nor coal, nor is it likely to excel in manufactures or commerce.

Vancouver Island fortunately does not labour under any of these disadvantages, and therefore has most of the requirements for development. It has valuable mineral wealth, especially coal ; a favourable maritime position, and other advantages for shipping and commerce.

While the prospects for the introduction and successful prosecution of many valuable manufactures, and for the general development of Vancouver Island as a manufacturing colony, are highly encouraging, British Columbia, on the

other hand, has little chance of ever becoming important in this respect. British Columbia may have her local and limited manufactures in connexion with her farm and river produce, but the absence of coal, and her limited commercial facilities, will hinder her development. The following remarks will therefore apply principally to the former, as the manufacturing colony, strictly so called.

A glance, first at the history and capabilities of Vancouver Island, and, secondly, at its position and probable future, will shew that an urgent necessity exists for developing it as a manufacturing colony.

1. A necessity, already apparent in the island, for the development of certain manufactures,—*e.g.*, food, clothing, and other necessities of life,—usually manifests itself in the early history of every colony, and is especially to be expected in distant settlements like Vancouver Island, far from the parent country and other sources of supply.

Altogether independent of this, however, there are other reasons. Its distance from England, whence a large portion both of her population and supplies are derived; the expense and irregularity of the supply; the danger of losses, &c.; all tend to discourage importation from abroad, and to create a necessity and desire for making the colony self-supplying—especially as her population is daily increasing, and is likely to be soon large.

The weakness of Vancouver Island as an agricultural and pastoral colony,—in which she is at present surpassed by California, and ultimately will be far excelled by British Columbia, with both of which it will be difficult for her to compete,—tends still more to urge her development in this

direction. Unable to trust to her agricultural and pastoral capabilities alone, the interests of the settlement imperatively demand for it an impetus to manufacturing prospects.

Moreover, Vancouver Island cannot depend on what has been the chief source of her past, as it is of her present prosperity, as a permanent element of progress and advancement. Victoria was first developed, and now prospers chiefly by the commerce created by the discovery of the gold-fields of British Columbia. The gold mines of the latter are probably the most valuable in the world. They may, however, ultimately be exhausted ; and, with them, most of the mining population will disappear. The past history of the colony (1858) furnishes an instance of a rush of 30,000 gold-diggers from California, and the speedy return of the majority as disappointed miners. The discovery of new gold-fields elsewhere might at any day speedily deprive these colonies of their mining population, and it would, therefore, be unwise in Vancouver Island to trust permanently to so uncertain a source of prosperity as the resources of a neighbouring colony. The present welfare of this island appears to rest on a very insecure basis ; and her development as a manufacturing colony is, therefore, a matter of necessity.

This course, too, will benefit the shipping, and thus aid commercial progress. For her manufactures the island will draw many of her supplies of raw material from the islands and countries in and around the Pacific ; while she will be able in turn to supply the same countries, which will thus furnish, not merely raw materials, but regular demand for her manufactured goods.

2. A further necessity for the development of the manu-

facturing capabilities of this island is found in the position which the colony is well fitted to hold in the Pacific.

The market for Vancouver Island manufactured goods may yet become world-wide, like that of England; but the principal seat of demand will long be more local, and confined chiefly to the Pacific, of which this colony should endeavour to become the manufacturing centre.

The neighbouring colony of British Columbia will soon become one of the chief markets for the manufactured, as it now is for the imported goods of Vancouver Island. Its population is already considerable; farms, villages, and towns are rapidly springing up along its rivers and lakes; and when its agricultural and pastoral capabilities are better known, when cultivated fields take the place of the universal forest which now covers it, and agricultural and pastoral labours share the interest and importance at present attached to the pursuit of gold, British Columbia will become a highly populous colony, and, doubtless, a good market for Vancouver Island manufactured goods.

When overland access has been facilitated by road, river, and railway communication, Canada will make her demands on adjacent colonial produce; and these can be more easily met by Vancouver Island than by the United States or the mother country.

In the numerous and highly populous British colonies in the Pacific,—*e.g.*, Hong-Kong, Singapore, Australia, New Zealand, &c.,—and also in California, Chili, Peru, and other densely-peopled countries which lie along the west coast of America, at present supplied from England, Europe, or the United States, the cheaply made and cheaply exported manu-

factured goods of Vancouver Island will yet find a ready market.

China, Siam, Japan, and other countries now being gradually opened up, will yet be among the best markets for the manufactures of Vancouver Island. The events which have occurred within the past few years on opposite shores of the North Pacific are of vast importance, and appear singularly significant as regards this colony. A new era seems to have lately dawned on that hitherto little-traversed ocean, now become one of the great highways for the extension of commerce, civilization, and religion. On its western or Asiatic shore those barriers that have so long prevented several numerous and highly-interesting races from holding intercourse with their fellow-men, have been demolished, and countries have been more or less completely opened up to influences that will gradually bring them within the pale of civilised nations. On its eastern or American shore a new colony, with eminent commercial and manufacturing capabilities has been formed, and that within the same year, by a race that has long taken the lead in commercial and manufacturing pursuits—a colony well-fitted for supplying the commercial and manufacturing wants of the opposite shore. With the settlement of Vancouver Island, a field for her industry appears to have been at the same time discovered.

The slower but equally certain effect of commerce and religion is gradually bringing about among the inhabitants of Polynesia what has been accomplished by other means in China and Japan, and is breaking up those impediments that have hitherto obstructed mutual confidence and re-

ciprocal commerce. Civilization is spreading over Polynesia, and will ultimately bring its numerous tribes to a position in the social scale similar to that which the Sandwich Islanders now hold. We shall witness another extensive field for the manufactures as well as the commerce of more civilised nations; with which Vancouver Island, close at hand, and well qualified in position to spread her manufactures over the Pacific, is quite able to compete.

The supply of the Pacific with manufactured goods has hitherto been monopolised by distant countries, especially England and the United States. The development of Vancouver Island, as a manufacturing colony with eminent commercial capabilities, and a favourable geographical position on the shores of the Pacific, would unquestionably divert much of this commerce to her own shores; and might ultimately lead to her rivalling, as a manufacturing colony, the larger and longer-established countries of the East and West Atlantic, and thus make her the England of the West.

Again, while many parts of the Pacific have been longer settled and are more populous, and at present more important than Vancouver Island, this colony is likely to become the principal, and perhaps the only important seat of manufactures in the Pacific. The United States has colonised California; Spain and Portugal—South and Central America; Russia—Kamschatka and the north-west corner of America; and England—Australia, New Zealand, and many other islands: but none of these is ever likely to acquire a manufacturing fame. Apathy and revolutionary tendencies will prevent Chili, Peru, and Mexico from excelling in this direction. The Russian territories may boast of their

fisheries; but with an unfavourable position, a bad climate, and no coal, they need hope for little else in the way of prominence. California, eminent as an agricultural and mineral-yielding colony, is a more formidable and more probable rival; but the absence of coal as one of the resources of the colony is sufficient of itself to make her ultimate manufacturing prosperity questionable.

No country at the present day which, like California, has to import coal at high prices, has any fair prospect of becoming a great manufacturing centre, especially when it is called upon to compete with a neighbouring colony in which coal can be obtained at half the price. None of the other English settlements in the Pacific are likely to attain a similar success. Hong-Kong and Singapore are purely commercial; New Zealand and Australia, principally agricultural and pastoral.

Happily, this great object is as feasible as it is desirable. Vancouver Island has many facilities for the purpose on which we have been dwelling: first, in her commercial capabilities; and, secondly, in her resources, both internal and acquired.

1. The eminent commercial capabilities of this colony offer many advantages which will aid the development of her manufactures. Her maritime position, her abundance of timber for the formation of a commercial navy, and her coal for steamers; her superior harbours and favourable geographical position in the Pacific, all combine to give her facilities, on the one hand, for the carriage from foreign countries of those supplies of raw materials necessary for her

manufactures; and on the other, for the supply of her numerous markets scattered over the Pacific.

2. Nor are the internal resources of the colony less calculated to promote the same great end.

The various manufactures connected with the agricultural, pastoral, and fishing capabilities of the island we need not recapitulate. Its known mineral resources will render material aid. Over the coal formations of all well-developed manufacturing countries we usually find their busiest and most important manufacturing towns. On those of England are situated Newcastle, Sunderland, Birmingham, Sheffield, Leeds, and other great emporiums, those great centres of activity, the source of British wealth and power.

The acquired resources of the island will also materially aid in its development as a manufacturing colony; many of them indeed are indispensable for this purpose. The commerce of the colony is still rudimentary and trifling; and Vancouver Island as yet has little, and very often no intercourse with those countries and islands of the Pacific from which she will derive many of the raw materials for her manufactures. This Island, as a commercial colony with numerous shipping, will, like England, be able to draw her supplies from all parts of the world. But even were she limited to the Pacific as a source of supply, almost everything necessary to enable her to carry on extensive and valuable manufactures, calculated to raise her to great wealth and position, might be drawn from its varied climes and countries alone. For example, from China, Japan, Siam, and Eastern Asia generally, sugar may be procured, to be refined

in the colony. China can supply silk ; and Manilla, hemp. Leather, wool, &c., may be imported from Australia ; from the Sandwich Islands, cocoa-nut oil and fibre, pulse, &c., may be obtained ; from the Society Islands, arrow-root ; from Banca, tin and iron ; from Java, indigo, and many other articles of native produce ; from Sumatra, turmeric, dyewoods, sulphur, and many other products : all to be manufactured for the colony or again exported.

It would be unnecessary, and indeed impossible, to attempt to point out the direction which the manufacturing energies of Vancouver Island is likely to take, or the particular manufactures in which it will excel. Its peculiar resources ; facilities for special manufactures ; a demand for particular kinds of manufactured goods, either in the colony itself or in its markets ; with many other circumstances—some at present unforeseen—will all tend to determine this. Curious instances have occasionally occurred where the discovery of resources and capabilities, previously unsuspected, in a colony, has originated manufactures of which it was previously thought incapable.

Those which may hereafter be introduced are divisible into two classes :—

1st, Those which are easy of introduction, and which are imperatively necessary for the convenience or comfort of the colony ; as the source of its own supply for many of the necessaries of life, at present imported from abroad.

2d, Those not at present so necessary, but which ought to be introduced at a future day as a fertile source of wealth.

It would be unnecessary even to enumerate the many different manufactures for the successful introduction of which

this colony appears capable, or to enter into the different processes connected with them. Acute practical men will more readily perceive than we can point out many facilities for the introduction of different manufactures; or, on the contrary, the difficulties which stand in the way. We shall here merely take a few to serve as examples of what the colony is capable.

Tanning might be profitably carried on in Vancouver Island until the colonies themselves can furnish a supply. Hides, calf, sheep, or goat skins, can be readily and cheaply imported from California, Chili, Australia, &c. Both colonies can supply buck and doe skins, and an abundance of oak bark. Morocco for book-binding, glove leather, wash-leather for gaiters, leather for saddlery, and ordinary leather for boots and shoes, might thus be readily made. Boots and shoes are in great demand, and are either imported or made in the colony of imported leather. They are expensive, and often of inferior quality; and for boot and shoe making, and the allied trades, this island offers a good field both for individual labours and wholesale manufacture, and exportation to many ports in the Pacific.

Nor is this island without facilities for brewing and distilling. The demand for liquors is great. Some very indifferent colonial beer is brewed in small quantities, but the greater part of the supply is from abroad, chiefly from England and the States. A practical brewer would find every encouragement in this colony. The climate is sufficiently cool for such operations; grain, wheat, barley, oats, rice, potatoes, apples, &c.,—the requisite ingredients can be supplied on the spot, or may, if necessary, be imported. California can readily furnish them all, and ultimately they

will be procurable from the adjacent colony. Sugar for the manufacture of rum may be imported from the Sandwich Islands, China, Siam, &c. ; wine or grapes for the manufacture of brandy, from California or Australia. Coal, for distilling, is cheap and abundant. Vancouver Island beer, spirits, &c., may be extensively exported to California, Australia, and India.

Vinegar, for the manufacture of pickles and preserves, may be made in the colony from imported sugar, &c.

Sugar-refining may be easily carried on in this colony, which possesses all the materials for its prosecution : lime for clarifying, charcoal for decolorizing, steam for evaporating and re-crystallizing ; while raw sugar may be imported from many places in the Pacific, to be exported in the refined state.

Salt.—The manufacture of this necessary of life, now imported chiefly from California, might be easily and cheaply carried on in Vancouver Island by a simple method which has long prevailed in Scotland,—viz., by evaporating seawater with the aid of artificial heat. Salt-pans may be procured from England or America at no great cost ; and the coal and wood of the island will furnish a cheap and abundant fuel for evaporation. The indirect application of salt for various chemical manufactures,—*e.g.*, soda, bleaching-powder, alum, the manufacture of which may with equal facility be introduced into Vancouver Island, will make the production of common salt still more important.

Soap, now imported from England or America, may be readily made in this colony, both for colonial use and for exportation to Chili, Peru, Australia, the coast of China, &c.

All the conveniences and necessities for its manufacture may be readily procured within the limits of the Pacific, most of them in the colony itself. Tallow, the island can partly supply. Ultimately larger quantities will be obtainable in British Columbia; and till then, it may be imported from Oregon, California, Australia, Peru. Palm oil: since varieties of soap may be procured from many of the Polynesian Islands, where the culture of the oil-palm might be introduced in the same manner as the olive and vine have been imported into California. Thus England will be able to procure this most important article of traffic from the islands of the Pacific in as great abundance, and with as much ease, as from the coast of Africa. Cocoa-nut oil can be had from the Sandwich group, Fanning, and many other of the islands of Polynesia; and olive oil from California, Chili, and Peru, &c. Seal, whale, cod-liver, and other oils used in the manufacture of soft soap, will soon be available in the colony from the products of its fisheries. Linseed oil, (for soft soap,) and various other vegetable oils,—*e.g.*, oil of aniseed, hempseed, rapeseed, &c., all employed in soap-making,—may be procured in many parts of the Pacific. The potash ingredients the colony itself yields, and also resin for yellow and soft soaps. Few colonies thus have more ample facilities for the soap manufacture than Vancouver Island.

Candle-making, equally simple in its details, would be as easy of introduction. Tallow may be procured from sources already indicated; cotton for wicks, from the American cotton-growing Southern States *via* California, or from China and Bengal. The fisheries of the colony will soon supply spermaceti for fine candles, and California can supply wax,

while the fatty matter from the seeds of the tallow-tree of China, (*Stillingia Sebifera*,) extensively employed in that country for candles, may be obtained for re-exportation to China in the manufactured state. The oil or wax of the fruit of the candleberry-tree, (*Myrica Cerifera*,) employed by the natives of Polynesia for illumination, will furnish another material for candlemaking—a demand for which would soon cause a more careful cultivation of those trees which yield them, and a more plentiful supply of their products.

Starch-making may be commenced with little trouble or expense. Potatoes are abundant and cheap for the manufacture of common starch, while, for fine starch, corn and other cereals may be cheaply imported from California, or rice and sago from China, Manilla, &c. This manufacture will become most valuable when that of the textile fabrics—*e.g.*, cotton, linen, &c.—has been introduced.

Biscuit-baking on a large scale, by steam-power, ought to be attempted in Vancouver Island, especially for exportation. The naval and merchant fleets, and the European residents in China, as at Hong-Kong, Singapore, &c., procure their present supply from native bakers, who often furnish very inferior bread.

Glass might be readily manufactured in this colony. For crown, plate, or bottle glass, the island possesses sand and sandstone in abundance. Potash may be made in the colony, or imported from British Columbia or Canada. Soda may be abundantly manufactured in the colony from common salt. Clay, for melting-pots, we have in abundance, and coal or coke for the furnaces. For domestic and other purposes in this rapidly-increasing colony—a colony likely to

develop many manufactures and chemical processes requiring the use of glass bottles and other utensils—the importance of this manufacture will be obvious. Looking-glasses and mirrors might thus be manufactured from glass made in the colony, and silvered by mercury from California, and tin from Banca.

A coarse pottery and porcelain manufacture may be easily introduced,—*e.g.*, that of plates, jugs, and many culinary and domestic utensils,—both for colonial use and exportation,—*e.g.*, to China, Polynesia, &c., whose inhabitants would eagerly purchase such articles. The colony possesses an abundance of blue clay and coal.

Ship-building in all its branches, block-making, sail-making, rope-making, &c., are likely soon to become important in this colony, whose shipping and whose capabilities as a commercial colony, and as a fishing station, are only beginning to be recognised and developed. For rope-making, hemp may be imported from Manilla or India, flax from New Zealand, &c. Flat ropes for mining purposes, as well as cord, twine, &c., may thus be made. River-steamers and sailing craft, up to 200 tons, are now built in Victoria, and will soon be in greater demand,—*e.g.*, for fishing, coasting, and the exportation of coals. A good slip or floating dock is much required at Victoria or Esquimalt.

Cabinet-making generally, and also the manufacture of implements of husbandry, and that of carts and other vehicles, are much wanted in this colony, where such articles are all imported, and therefore expensive.

Gas-making is soon to be commenced. Besides the light it yields, it furnishes coke for locomotives and certain

chemical and metallurgic processes; coal-tar, useful for shipping; naphtha and paraffin, for illumination; prussic acid, used for making Prussian-blue—a valuable dye, especially when the colony becomes the seat of the manufacture of the textile fabrics; and ammonia, useful as a manure.

Metallurgy.—As a mineral-yielding colony likely soon to yield copper, and probably iron ore and other minerals in abundance, and intimately associated with the neighbouring colony with her silver mines and other mineral wealth, the introduction of the metallurgic processes for the smelting and separation of metals from their ores becomes imperatively necessary to obviate the necessity of the ores being carried to California and elsewhere, and this colony thus deprived of all the benefit of the smelting and refining processes. The colony supplies coal and coke in abundance. Ores should be smelted on the spot when practicable.

Assaying of gold, silver, copper, and other ores, is carried on in Victoria by private individuals, but the equally important operation of reducing and refining the metals is yet to be tried. Commercial facilities and a good supply of coal at Victoria will adapt it for becoming the seat of extensive smelting operations, such as no other place in either colony or along this coast can offer. The present rapid transit of the metals through the colony would thus be prevented, and many manufactures in gold, silver, and other metals might be originated, as, *e.g.*, those of gold and silver wire, leaf, jewellery, and other articles of utility or ornament, (although, in the present rudimentary state of the colony, comfort and convenience are more looked to than elegance and ornament.) Copper-smelting would originate several manufactures in

copper, brass, and other mixed metals—*e.g.*, those of bells, buttons, pins, wire, &c., &c.; while iron, if yet found in sufficient abundance, will prove equally valuable, and may originate various iron and steel manufactures like those now carried on so extensively in the coal and iron districts of England—*e.g.*, of cutlery, guns and other fire-arms, saws, files, wire, screws, nails, and innumerable articles of utility and convenience—as well as the manufacture of machinery for steamers, and miles of rails for railroads, &c., &c. Iron can be procured from China, Siam, or Borneo, till it is found in this colony, or in British Columbia. A foundry, employing from twenty to forty men, is now in active operation at Victoria, and is capable of making small engines, but heavier work has still to be sent to San Francisco. As a commercial, manufacturing, and mining colony where engines, boilers, &c., are likely soon to be in great demand for steamers, railways, engines, saw-mills, &c., &c., foundry work will become an important branch of manufacture in Vancouver Island. The present wages of founders and fitters average five dollars—£1, 0s. 5d.—per day.

Among those manufactures which ought to be introduced when the colony becomes sufficiently developed, that of the textile fabrics—cotton, linen, silk, &c.—is among the most important. If iron for machinery is found in sufficient abundance either in this colony or in British Columbia, this will be comparatively easy. Vancouver Island need not be without imported iron, which may be obtained from many places in the Pacific, and machinery may be made in the colony. The introduction of foreign-made machinery, however, would form a comparatively trivial obstacle to enter-

prising manufacturers, especially when counterbalanced by corresponding advantages which are sufficiently evident. Cotton and other fabrics are exported in incredible quantities to China, Australia, Peru, Chili, &c., and many other places in the Pacific; and this trade, now carried on chiefly by England and America,—whose Manchester and Lowell find in the Pacific a lucrative market for their productions,—might be easily shared by this colony, possessing, as it does, the double advantage of greater proximity both to the raw materials and to the markets.

For cotton-spinning, the island may procure cotton from Carolina, &c., whence lines of railway will soon be opened to San Francisco, or from Siam, Manilla, Formosa, Birmah, Peru and the west coast of South America generally, the Fiji islands, &c., &c. The colony may thus manufacture all those cotton fabrics, especially printed calicoes, which now obtain a ready sale among semi-civilised nations. It is said to be inattention to the favourite width that makes the cottons of England have a less extensive sale in China than they otherwise would.

For her woollen manufactures, Vancouver Island may obtain her supply of materials from British Columbia; and till then, from California, Australia, New Zealand, Chili, or Peru. The best market for woollen goods will be found in British Columbia and Canada, and also the north of China and Japan, where cold, and often rigorous winters prevail.

Blankets and coarse woollen materials will yet find as ready a sale in the colonies themselves as those of England at present enjoy. Carpet-making may also be introduced.

Silk for the silk manufactures may be imported either

from Japan, China, or Bengal, to which Vancouver Island is in greater proximity than England, the country which at present chiefly monopolises the silk trade. The introduction of the manufacture of costly silk fabrics, however, is likely to be long unnecessary in this island for the market she has to supply, and an attempt to introduce it therefore unadvisable. England, situated in the centre of the civilised world, which forms the chief source of demand for such goods, is evidently more favourably placed for their manufacture and sale than this colony.

For sailcloth, sheeting, and other flax and linen fabrics, supplies may be readily obtained from California, where the growth of flax has been lately introduced. Hemp may be imported from Manilla, Formosa, Chili, or from California. This manufacture will become of even greater importance and value to this colony than that of cotton. Canvas and sailcloth will find a ready market, not only in the colony itself, but in many other maritime colonies in the Pacific, which are now supplied from England or America; while ducks, drills, towelling, shirting, &c., will find purchasers among the numerous populations of our Australian colonies and many other places in the Pacific. Sacking, bagging, and the coarser linen fabrics will be of value for purposes connected with the commercial, manufacturing, and mining industry of the island.

Although this island thus possesses within herself no resources (coal excepted) with which to carry on the manufacture of the textile fabrics, and yields no cotton, silk, flax, or hemp, it is in this respect no more conveniently placed than England, which imports her wool from such distant

parts as Australia ; her silk from China and India ; her cotton from India, China, or America ; her flax from New Zealand, Russia, and Holland ; and her hemp from Russia.

Bleaching and dyeing are inseparably connected with the introduction of the preceding. We shall presently speak of the facilities for manufacturing bleaching-powder.

Dye-stuffs, for dyeing calicoes, &c., to adapt them for the varied and often peculiar markets of the Pacific, may be procured from many different sources. Prussian blue may be made from prussic acid obtained in gas-making, or imported from China. Indigo may be procured from North China, Manilla, India, Amboyna, &c. Cochineal, turmeric, logwood, and other dyewoods, from Siam, Timior, Borneo, Panama, &c. ; and various other animal and vegetable dye-stuffs and other chemicals employed in dyeing, from other sources in the Pacific.

Several chemical manufactures, calculated to be of great value to the island as a manufacturing and commercial colony, may be easily introduced.

Sulphur, extensively used in the arts and in various chemical manufactures, and therefore of great value in a manufacturing colony, may be obtained by smelting the ores of copper or iron. It is usually abundant in the vicinity of volcanoes, and there are various sources in the Pacific from which an abundant supply may be more easily procured than by smelting. England obtains her supply from Italy ; and the volcano of Mauna Loa in the Sandwich Islands, and the volcanic island of Formosa, which exports sulphur in considerable quantities, may easily be made the source of the supply for this island.

From the combustion of sulphur, vitriol is manufactured, invaluable in many chemical manufactures; but the bulkiness and expense of the apparatus will probably long prevent the introduction of this process, and make the purchase of imported vitriol or sulphuric acid less costly than its manufacture.

Soda, for domestic purposes, and of great value and largely employed in glass and soap making, bleaching, and other manufactures, to be soon introduced into Vancouver Island, may be readily made in the colony from common salt and vitriol.

Chloride of lime—bleaching—a disinfecting powder, may also be manufactured from the same materials—*i.e.*, common salt and vitriol; and as a disinfectant, but more especially as a bleaching agent, it would be invaluable: for the latter, its full value will not be apparent until the cotton, linen, and other manufactures have been introduced, and an abundant and cheap supply of this chemical becomes necessary to enable the manufacturer to export his fabrics in the more valuable bleached state.

Many other manufactures might be given in detail, the introduction of which would be equally practicable and of corresponding value. Those already enumerated will, however, suffice to shew, first, that Vancouver Island is capable of development as a manufacturing colony; second, that it has superior facilities for development in this direction; and third, that the island may and is yet certain to become a great manufacturing colony, the principal and perhaps the only one in the Pacific.

It is not, however, to be expected that the development

of Vancouver Island as a manufacturing colony is to be either easily or early accomplished. The island unquestionably possesses valuable resources, both internal and acquired, and eminent capabilities for the development of her manufactures and her commerce ; but the rise of both, especially of her manufactures, will necessarily be a work of time, and is likely to be a comparatively slow process. The colony, however, has the well-developed experience of the present age, and, above all, that of the parent country, to aid and guide her ; and we may therefore expect that her development as a manufacturing colony will not be of so tardy a nature as that of England, and that fifteen or twenty years hence Vancouver Island will probably be a populous and flourishing manufacturing and commercial colony, with a by no means contemptible claim for notice.

The development of this island as a manufacturing colony is only what the necessities of the settlement itself demand, what its capabilities point to, what its resources encourage, and what the wants of this part of the globe, of which it may be considered the manufacturing centre, absolutely require. Vancouver Island only requires manufacturing labour and capital, with energy and talent to wield them, to become developed as a great manufacturing colony.

Two facts will be apparent after a perusal of the above : first, the prominent part which coal takes in the majority of manufactures, and its great importance to the colony ; and, secondly, the importance of the commercial capabilities of the island for aiding the development of its manufactures, and the benefit which the manufacturing capabilities of the colony will derive from her commercial efficiency. Her

commerce and her manufactures must go hand in hand ; and while the latter furnish a supply of manufactured goods to promote her commerce, the former will in turn benefit her manufactures by providing raw materials for their prosecution.

The manufactures likely to be first developed in this colony will be more the useful than the ornamental ; those which minister to the wants of the many rather than those which add to the luxury of the few,—*e.g.*, tanning, soap, candle, salt, rope, and sail making, &c., all will probably be early introduced. Those likely to be first commenced on an extensive scale are such as the colony itself, or the adjacent colony, can abundantly and cheaply supply with raw materials,—*e.g.*, the manufacture of salt, glass, coarse pottery, porcelain, bricks, tiles, &c., for the introduction and prosecution of which no great outlay is required, for which raw material can be readily and cheaply procured, and the manufactured goods cheaply sold.

For manufactures generally, this colony is a yet unoccupied field, but one which offers every encouragement for their introduction, and inducements for the immigration of tradesmen, artisans, and a manufacturing population, such as few colonies can present. The scarcity of labour and the want of workmen prove great obstacles to the introduction even of such manufactures as require but few hands. Workmen and mechanics are in great demand, and wages are therefore high, usually averaging from four to five or six dollars per day.

A mutual exchange of manufactured goods for native produce ought to be encouraged, and in the majority of cases

this will be comparatively easy. For example: to Manilla and China, Vancouver Island can send wood, charcoal, fish, and manufactured goods; and obtain in return, hemp, rice, sugar, cigars, from the former, and tea, silk, camphor, &c., from the latter.

The introduction of useful plants into the colony of British Columbia, and also into the various islands and countries of the Pacific, is worthy of attention, and deserves every encouragement. The cotton-plant, the olive, and cocoa-nut palm, the vine, flax, hemp, and many others, may yet be cultivated in many parts of the Pacific, to furnish a plentiful, cheap, and easily-procured supply to this colony for her manufactures.

CHAPTER VII.

VANCOUVER ISLAND AND BRITISH COLUMBIA AS COMMERCIAL
COLONIES ; THEIR RESOURCES, CAPABILITIES, AND AD-
VANTAGES.

So evident are the advantages which Vancouver Island possesses over British Columbia for the development of commerce, that we must regard the former as *the* commercial colony.

The commerce of Vancouver Island necessarily has much in common with her manufactures, and their interests are so intimately connected, that a unity of aim and purpose is necessary for their mutual development. The countries in which this colony will find a market for manufactured goods and the source of her raw material, are those in which she will find the principal field for her commerce ; much of the commerce of the colony will consist in the carriage of raw material for the supply of her manufactures, and the exportation of her manufactured goods. In speaking of the one, we therefore cannot avoid alluding to the other ; so intimate, indeed, is the connexion, that the two might have been treated as one subject.

The *local* commerce of Vancouver Island is already considerable ; small steamers and coasting craft are busily en-

gaged in transporting her coal, sandstone, lime, and imported goods, and in conveying passengers between different parts of both colonies, and the colony will be able to keep this traffic chiefly in her own hands.

The *foreign* trade is by no means unimportant for so young a colony. Like the local commerce, it is daily increasing with the growing population, and consists chiefly of an import trade for the supply of both colonies with food, clothing, and other necessities of life. The following table will serve to shew its nature and value :—

TABLE 23.

Imports into the Port of Victoria during the last Six Months of 1860.

	Dollars.
From San Francisco,	824,221
„ London,	170,386
„ Honolulu (Sandwich Islands),	63,209
„ Callao,	51,291
„ Hong-Kong,	21,357
„ Port Townsend (American),	58,865
„ Portland (ditto),	42,482
„ British Columbia,	26,000
Unspecified,	10,000

£253,562 (Roughly estimated) = 1,267,811

From England and the United States, Vancouver Island draws her supplies of clothing and manufactured goods; from Oregon, California, &c., agricultural produce; from the Sandwich Islands and China, sugar, rice, &c. The growing trade with China and Polynesia is interesting as the fore-shadow of an extensive commerce to be developed at a future day in that direction.

The export trade is trifling. That of furs, however, is valuable. One of the Hudson's Bay Company's vessels arrives annually for their transport to England; and a late cargo is said to have been valued at £50,000. The greater part of the gold of the neighbouring colony passes through Victoria on its way to the United States or to Europe; the value of this export has already been mentioned. The only export of purely island produce is in timber and coal. Several cargoes of spars and timber are exported annually from Barclay Sound to Australia, England, and elsewhere; and the timber trade will soon be valuable, although at present Barclay Sound is the only timber-exporting settlement in the island; but many more might be formed. The coal trade will yet be extensive, though now comparatively unimportant, and limited to San Francisco. The Nanaimo mines may supply a great part of the Pacific, and will certainly be the chief source of supply for the North Pacific; and, as is the case with Newcastle, the carrying trade should be in her own hands. As the colony becomes developed, the coal and timber trade will increase; while the fisheries, and perhaps the farms of the island, its quarries, mines, and manufactures, will all yield valuable products for exportation in colonial shipping.

Regarded as a whole, the commerce of this young colony, though daily increasing, is still of comparatively trifling importance and value compared with what it will one day be. The commerce of the island, in fact, must be considered more as an event of the future than of the present. Fortunately, Vancouver Island possesses eminent commercial capabilities, and may yet become the most important com-

mercial colony in the Pacific, every encouragement being given for her development as such.

A more extended development of Vancouver Island as a commercial colony is not, however, a matter of choice, but of expediency; and it must be obvious that a double necessity exists for its development in this direction.

1. The wants, weaknesses, and requirements of the colony itself urge its development thus; and an increase of its shipping. A few small schooners, engaged chiefly in coasting, may be said to constitute its present fleet. Its foreign commerce is chiefly in the hands of strangers; and the rapidly-increasing trade with California, the Sandwich Islands, England, &c., whence these colonies draw their principal supplies of food and other necessities, is carried on in British or American, and not in colonial vessels.

The surplus produce of the island, still too trifling for exportation, is likely to become more abundant, and the traffic connected with its exportation, great. The coal and timber now exported is carried in foreign vessels; and with the development of the timber and coal trade, the increasing exportation of the products of her mines and her fisheries, and the expansion of her commerce, the necessity for developing shipping will necessarily increase.

A successful development of the manufactures of the colony will stimulate the development both of its shipping and commerce. The raw materials for her manufactured goods are in distant parts of the Pacific; the carrying trade of both ought to be in the shipping of the colony itself. Its remoteness from England, the United States, and other civi-

lised countries, whose vessels might be so employed, will further necessitate the formation of colonial shipping.

2. An additional necessity for the development of Vancouver Island as a commercial colony exists in the commercial requirements of the Pacific, and the countries and islands in and around it. The trade of the Pacific, already considerable, and daily increasing, consists chiefly in the transport of native produce to Europe and the United States, and the return carriage and dispersion of the manufactured goods of these countries. In this, Vancouver Island need not attempt to share in competition with these well-developed maritime nations.

An inconsiderable, but daily-increasing traffic, limited to the Pacific, is also carried on, chiefly by California, Chili, Peru, &c. This commerce will soon be both valuable and extensive. China, Japan, Siam, &c., have lately been opened up to commerce; Polynesia is slowly becoming civilised; new colonies are springing up, and steam and sailing vessels now traverse parts of the Pacific formerly unknown; while, lastly, Vancouver Island and British Columbia have been settled, and are rapidly rising in importance, and likely, as manufacturing and productive colonies, to increase this commerce materially. By developing her shipping, Vancouver Island may almost monopolise this. The colony itself will have much to import and much to export, and shipping must be developed to enable her to accomplish this. By still further increasing her shipping, this island might be made to achieve both. Few places exist in the Pacific likely to compete in commerce with Vancouver Island. The com-

merce of Hong-Kong and Singapore is a mere transit traffic, as *entrepôts* through which the trade of Europe on the one hand, and of Eastern Asia and China on the other, passes. They possess an insignificant commercial navy of their own. The ships which crowd their harbours, and the cargoes they contain, belong, not to themselves, but to Europe and America; nor are they likely ever to develop a local shipping or a local commerce in the Pacific. California is a more formidable rival. That state has a growing commerce, and the amount of her shipping is already considerable; but the possession of coal for steam purposes will evidently enable Vancouver Island soon to rival, and ultimately eclipse California as a commercial colony.

Should the formation of a railway across British Columbia and Canada, connecting the Atlantic and Pacific, result, as it probably may, in diverting the commerce between China and Europe from the westward route by Suez and the Cape of Good Hope, by which it is now carried on, to this overland route, the development of the shipping and commerce of this colony will receive an additional and most important stimulus. Vancouver Island herself is evidently the colony best fitted and most conveniently situated of any in the Pacific for carrying on a traffic between her own shores and the opposite coast of Eastern Asia.

Vancouver Island will become the manufacturing depot of the Pacific at a future day; and her commerce and shipping must be developed both to commence and carry this on. At present, however, the Pacific is, and probably long will be, supplied with manufactured goods which are carried to it from Europe and the States by Panama, Cape Horn, and

the Cape of Good Hope ; and for this there is no convenient depot. This colony is admirably adapted for becoming a commercial centre of this kind, and ought to be made a mart for the dispersion of imported manufactured goods to all parts of the Pacific. A company possessing capital, shipping, and influence, like the Hudson's Bay Company, might thus develop in the Pacific a trade to which that of the fur countries in the days of their monopoly would bear no comparison. The shipping of the colony would afford every facility for this, and would itself become augmented and greatly benefited. It will thus be evident that the prospect of a valuable colonial export and import trade, and of an extensive commerce in the Pacific, renders the development of a commercial navy in this colony absolutely necessary ; while the chance of competition, with California at least, renders its early development prudent.

While many reasons thus urge the development of Vancouver Island as a commercial colony, the island fortunately possesses eminent facilities for development as such, and for an indefinite extension of her mercantile navy : few colonies possess better. The principal commercial advantages which this colony claims are the following :—

First, The internal resources of the island favour its development as a mercantile colony. It is endowed with superior facilities for ship-building and for the formation and equipment of a commercial navy, an abundance of oak and other timber, and the forests of British Columbia to fall back upon when her own become exhausted. Her coal will render the introduction of steamers and railways comparatively easy ;—celerity in commercial pursuits and the speedy

transmission of goods is necessary at the present day for successful competition in commerce;—while the stimulus which coal will give to the development of this island as a manufacturing colony, will encourage its shipping and commerce by giving them employment.

Secondly, The maritime character of the island will facilitate the development and prosecution of an extensive commerce. Her insular nature permits free access to all parts of her coast, and thus facilitates her trade. The harbours of the island are well adapted for commercial purposes—*e.g.*, Esquimalt, Victoria, Nanaimo, Barclay Sound, all capable of admitting large ships, possessing good facilities for loading, easy and safe access, and situated close to the Pacific. Victoria and Esquimalt, the two chief commercial harbours, are both admirably adapted for commercial purposes, and are not more than sixty miles and eight or ten hours' sail from the ocean; and no other harbours in either colony are better fitted for becoming the commercial depot for the prosecution and concentration of their mutual commerce. It is to her insular nature that England is principally indebted for her position as the first commercial nation in the world; and Vancouver Island fortunately has this, as well as many other advantages, in common.

Thirdly, The geographical position of Vancouver Island is favourable for her development as a commercial colony. The position which this island holds in the Pacific very much resembles that which Great Britain holds in the Atlantic, and both have a wide field for their commerce; but while the shipping of the latter only shares in the traffic of the Atlantic, that of Vancouver Island may, and probably will,

almost monopolise that of the Pacific, which at a future day will probably rival that of the former, and this colony will thus hold a place in the commerce of the west superior to that which England now holds in that of the east.

The position of the colony, at a part of the Pacific which is comparatively free from islands, and therefore of safe navigation, will facilitate its traffic and favour the development of its commerce; while the configuration of the North American continent, and a bend its coast takes towards the south-west, gives Vancouver Island both a more central position in the Pacific and a greater proximity to the trade-winds, and thus increases her facilities for commerce: while, again, the comparative proximity of the colony to China and to Eastern Asia, and to that part of the Pacific where the busiest and most lucrative traffic over the whole extent of that ocean will yet be carried on, will enable her to share largely in it,—a result that will be rendered both more certain and more speedy by the traffic between Eastern Asia and Europe being diverted in this direction by the formation of a trans-Canadian railway to connect the Pacific and Atlantic, and to bring Eastern Asia in direct communication with Europe.

Vancouver Island has a threefold aim as a commercial colony:—

First, This island must carry on the traffic of both colonies. Of the two, this colony alone is adapted for development as a commercial colony; and Victoria and Esquimalt will continue, as they now are, the commercial depots for both, the mercantile centres of the entire coast, and the markets for supplying the population of both colonies, including 214,000

square miles that will ultimately be as densely peopled as Canada and many of the United States.

Secondly, Possessing eminent capabilities, its aim should be to become the principal commercial colony of the Pacific, and to make its shipping carry on, at least, the local traffic.

Thirdly, Her purpose should be to become the depot for concentrating the commerce of the Atlantic and Pacific; the *entrepôt* in which the traffic from Polynesia, Australia, Eastern Asia, and the Pacific generally, meets with that from Europe and the United States; where the produce of the one is collected for transmission to Europe, the goods of the other for dispersion over the Pacific.

Vancouver Island thus evidently possesses many of the elements of, and will unquestionably become, a great commercial colony, unrivalled in the Pacific. The future history of the colony, like its past, will in great part be that of a commercial settlement. The establishment and rise of this island marks a new era in the history of the commerce of the Pacific. From it, as a centre, civilization and commerce will now more rapidly spread in that hitherto little travelled ocean, and in countries which are now scarcely known, and which have hitherto been debarred by prejudice and ignorance from intercourse with more civilised nations. Few countries can be named, and certainly none exist in the Pacific, that possess more numerous and happily combined advantages to facilitate their development as commercial colonies, than Vancouver Island. Her internal resources, geographical position, and her manufacturing and commercial facilities, all urge her development in this direction; and especially as a com-

bined manufacturing and commercial colony: her manufactures to aid her commerce; her commerce to foster and encourage her manufactures. Fewer difficulties stand in the way for the development of her commerce than of her manufactures, and the former will be more speedily accomplished. The development of the latter is for a future day; that of the former is already begun, is steadily increasing, and will soon be extensive. Vancouver Island can never expect to equal, but yet she may emulate England, both in commerce and in manufactures. The development of the latter is far advanced, that of the former is scarcely begun; the one labours in a civilised field, the other in a semi-barbarous one, in which, however, this colony has one advantage—the field is even more extensive than that which England occupies, and there are fewer in it to oppose her.

As a commercial colony, Vancouver Island offers a fine field for men of capital and enterprise; new and almost unoccupied, with the entire Pacific for its range, in which an extensive and lucrative trade may be developed in many different directions; a field for commercial investment such as probably no other colony belonging to Great Britain can offer, and one still less likely to be met with in any of the commercial places either of Europe or America, where every avenue to wealth, and every field for commercial enterprise is already occupied, and where competition is therefore difficult. For seamen, carpenters, and others connected with shipping, content with steady employment and high wages, and not likely to be allured by the gold-diggings of the neighbouring colony, Vancouver Island will be a good field. Carpenters and seamen are scarce; the shipping of

the colony is often imperfectly manned by Indians ; and the rapid increase of the colonial shipping holds out to steady men a fair prospect of advancement.

The development of the commerce of this colony, and the interests of the colony generally, may be materially aided in many ways. These colonies much require and well deserve government help. Their mails are carried from Panama in American steamers, and from San Francisco to Victoria by a line subsidised by the colonies themselves. Both this inconvenience and expense could be saved by a government subsidy. It is evidently the interest of the parent country, as well as that of the colonies, to connect Vancouver Island with Panama, and thus with England by a regular line of English packets, and to form a complete communication between England and Esquimalt, which will not be interrupted during war.

The local government can aid the commercial development of this colony in many ways, *e.g.* :—

1. By encouraging colonial industry, and the formation of companies to develop her fisheries, mines, and manufactures ; direct importation ; reciprocal commerce, &c.

2. By facilitating intercourse and internal traffic in the colonies themselves, and also that with adjacent territories. Roads are especially necessary to open up both colonies and develop their resources. Nanaimo, Barclay Sound, and the north end of the island should be thus connected with Victoria. The introduction of steamers, railways, and other means for more rapid, easy, and cheap intercommunication than now prevails should be encouraged. To promote commerce it will be necessary to connect Esquimalt with Victoria

by railway ; and the latter with Nanaimo, with a view to encourage manufactures.

3. By facilitating intercourse with foreign countries, especially those in the Pacific, the commerce of this colony will be materially aided. We anticipate the day when the means of intercommunication and the commerce of the Pacific will rival those of the Atlantic at the present day. The relations between Vancouver Island and Eastern Asia, especially China, will soon be most intimate ; and a regular telegraphic and steam communication will soon be imperatively necessary to connect Victoria or Esquimalt with Hong-Kong and Shanghai, the centres of the commerce of the south and north of China. The chain of the Aleutian Islands, the Kurile Islands, and Japan, will favour telegraphic intercommunication. When the eastern and western shores of the Pacific become connected thus, the mails, passengers, and goods of this colony may be transmitted to China, India, and Eastern Asia generally, instead of by the tedious route through England. The probable diversion of the Anglo-Chinese trade to a trans-American route will still further necessitate a double communication of this kind. Steam communication now connects England with Eastern America and Vancouver Island on the one hand, and with China on the other, and the electric telegraph soon will ; and it will evidently be in the interests of this colony to connect them in Victoria. It has been proposed to make San Francisco the connecting link ; but the political, social, and commercial inconvenience both to this colony and the parent country of having a British telegraph to pass through foreign territory must be obvious.

The formation of a trans-American railway and telegraph

to connect the Atlantic with the Pacific is a project intimately connected with the commercial interests both of these colonies and of Great Britain itself; and the question as to whether they should be on British or American soil is one of much importance to both. The project is perhaps premature. Vancouver Island, British Columbia, and the western part of British North America generally, are not yet sufficiently peopled and developed, nor their traffic extensive enough, to warrant it; the civilization and the manufacturing and commercial necessities of the Pacific not yet sufficiently advanced to require more frequent and extended intercourse with their present markets in Europe and America; and the prospect of making Vancouver Island and Canada a new track for the traffic between Eastern Asia and Europe too uncertain to warrant its present formation. But in the present age, when railways are necessary for successful competition in commerce, and are forming a network over every civilised country, a railway communication of this nature will soon be necessary; and Vancouver Island should not be the loiterer in the march of progress, or permit neighbouring nations to divert the commerce of the Pacific into their own channels,—an event that would go far to prevent, or at least retard, the development of Vancouver Island as a commercial colony.

Various important political reasons may be urged in favour of the formation of a trans-American railway and telegraph. These colonies would thus be brought into closer connexion with Canada and England, whence political support and military aid could be more quickly and safely sent than by Panama or Cape Horn, by both of which routes their transit may be prevented. Their formation is of importance

in connexion with the conversion of Esquimalt into the principal naval station of the Pacific. That ocean, and British interests along its varied shores, would thus be brought more under the notice of the home government. News of the revolt of the natives of her colonies, should such a calamity occur, would thus be speedily transmitted to Britain, and aid or advice returned; or the Pacific fleets or troops from Canada distributed where required. The communications between different parts of the Pacific will soon be more frequent and rapid than they now are, and will probably equal those of the Atlantic.

The conversion of Esquimalt into a sanatorium for the Pacific,—a depot for the invalids both of the Pacific and China fleets,—and its requirements as such, form an additional motive. Invalids are now sent home from China by the tedious Cape of Good Hope route; those of this station by Cape Horn. The invalids on both stations have long to wait for passage, the voyage is tedious, and the tropics, in which many die, and all are weakened, have to be crossed twice. A trans-American railway with steam communication with the opposite shores of the Pacific would obviate all of these disadvantages, and afford a safe, speedy, and comfortable passage both from China and Vancouver Island.

The commercial reasons are equally weighty. The tea, silk, and other valuable products of China and Eastern Asia, find their way to Europe by various channels: overland, through Siberia; by sea, round the Cape of Good Hope, or by the Isthmus of Suez. A Euphrates valley route is also proposed. All of them have their disadvantages and their dangers. The Cape route is tedious, and the cargoes are

liable to suffer, especially by the double passage through the tropics. The Suez route is quicker, and will be facilitated by the Lesseps canal now in progress; but a considerable part of the voyage is intertropical, and therefore unfavourable. The Siberian route is shut to all but Russia. Some safer, more rapid, and cheaper route is therefore much required, and this, steam communication between China and Vancouver Island, in connexion with a trans-American railway, would supply. The following table will shew the distance and time by this route, and the same in contrast with the others :—

Distance from Hong-Kong to } Vancouver Island, . . .	6053 miles, = 21 days steam.
Distance from Vancouver Is- } land to Halifax, . . .	2536 miles, = 6 days railroad.
Distance from Halifax to Southampton, . . .	2532 miles, = 9 days steam.
Totals, . . .	11,121 miles, = 36 days.

Distance by Cape of Good Hope route } (Hong-Kong to Southampton), . . .	12,000 miles, = 110 days.
Distance by Overland by Suez (Hong- } Kong to Southampton), . . .	9,467 miles, = 50-60 days.
Distance by Vancouver Island (Hong- } Kong to Southampton), . . .	11,121 miles, = 36 days.

The principal advantages of this route would be—

1st, The passage through the tropics would be avoided, and part of the confinement on shipboard.

2d, The time would be shortened, and the route probably cheaper.

The commerce of the greater part of the Pacific with England may thus be conducted at a future day. Steam communication to connect Vancouver Island and New Zealand,

Australia, &c., in connexion with a trans-American railway, would probably divert much of the traffic of the Pacific, now carried on by the Cape of Good Hope, Suez, Cape Horn, and Panama, to this island,—for its onward transmission to Europe and England; *e.g.*:—

Sydney to Southampton by Cape of Good Hope route,	. . .	11,880 miles.
Ditto ditto Suez, . . .	. . .	11,219 „
Ditto ditto Cape Horn, . . .	. . .	12,746 „
Ditto ditto Panama, . . .	. . .	11,115 „
Ditto ditto Vancouver Island, . . .	. . .	11,794 „

A trans-Canadian railway would further benefit both colonies by affording quicker and cheaper communication with Canada, the United States, and England, whence they draw their principal supplies, *viâ* Panama or Cape Horn. For the supply of Vancouver Island, as a depot for the sale of European goods in the Pacific, a trans-American railway would be invaluable; while it would also enable her, as a commercial colony, to watch the markets of European and American goods, in which this island may ultimately compete—at least, in those of the Pacific.

Many social reasons urge the formation of a trans-Canadian railway. The principal cause of the slow colonization of these islands is their isolation. The Rocky Mountains and an imperfectly-explored country separate British Columbia from Canada and the United States, and a tedious passage by Cape Horn, and an expensive one *viâ* Panama, from England; while with China and other countries in the Pacific, from which immigration might come, the communications are even less frequent.

A railway across Canada would permit more frequent

intercourse, and materially encourage emigration from that colony, the United States, and England, and would increase mutual traffic; and would, moreover, aid in opening up those parts of the interior of British Columbia and Western Canada through which it would pass.

The interests of both these colonies as well as British interests generally would be benefited in many respects by the completion of a railway of this kind. Their commerce and political importance would be increased, and their development aided in various ways. The project is practicable as far as engineering difficulties are concerned; and there are many evident reasons why the communication should be across British soil. The political and commercial reasons have already been alluded to. The possession of coal at different places along the route—*e.g.*, at the Red-River settlement and at Vancouver Island—affords every facility, both for the railway and the steamers which ply across the Pacific; and a field for British and colonial capital and labour would thus be afforded.

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CHAPTER VIII.

VANCOUVER ISLAND AND BRITISH COLUMBIA AS UNITED
COLONIES ; THEIR CAPABILITIES AND RESOURCES.

WE have hitherto confined our attention to Vancouver Island as a colony distinct from the large and, in some respects, not less important sister colony of British Columbia. We have pointed out the political importance of the former,—the many advantages which both offer to intending emigrants ; we have shewn what their resources are, and what their capabilities for successful competition with neighbouring colonies in agriculture, in manufactures, in commerce, and as mineral-yielding colonies,—and have indicated the encouraging prospect which their flourishing, though still comparatively undeveloped present condition holds out of a still more prosperous future, and the direction which their industry and efforts are likely to take.

Although we have every confidence in their future prosperity, and a firm belief in their being capable of ranking, each by itself, among the most important, wealthy, and influential of England's settlements, still it is in Vancouver Island and British Columbia *united* that we place our chief hope. We allude, not so much to a union of their governments,—the prudence of which is a question which does not

materially affect our present inquiry,—but to such a union of aim and object in a common cause as would mutually benefit both, would bring them into notice and raise them in public estimation, and ultimately advance them to a supreme position; and we believe, accordingly, that their policy should be, not to work singly, but conjointly, and thus encourage, aid, and firmly establish each other. To unite the two colonies would be to obviate the necessity for a double staff of government officials with large salaries, and cancel an item of expenditure which is wholly unnecessary. Were British Columbia to apply her surplus revenue to promote the development of Vancouver Island, she would but indirectly further her own interests; and such an expenditure in the one colony would be well repaid by future more solid and lasting benefits to the other.

Public opinion in the two colonies is, on the whole, in favour of a union. Perhaps the best argument on this side may be shewn by a simple review and contrast of their different resources and capabilities. To those who can calmly and dispassionately examine the respective claims and relative value of the resources and capabilities of each colony separately, it must be evident that, while the qualifications of both are of a high order, their respective resources and capabilities are widely different, and that therefore their aims must be, to a certain extent, of an opposite character; that, while the great objects of both—viz., present progress and future prosperity—are identical, their endeavours in particular directions to develop resources so dissimilar are totally distinct. Hence it must be apparent that Vancouver Island, on the one hand, with her fine harbours, especially Esquimalt

and Victoria, which afford easy and safe access at all times, and are situated within a few hours' sail of the Pacific, combines advantages which no harbour along the whole extent of the western seaboard of North and South America can offer, and may become not only the centre of supply for British Columbia, and the adjacent Russian and American territories, and Western Canada, but also the commercial depot of the Pacific. Moreover, we may yet see here a great commercial colony which neither British Columbia, with its capital, New Westminster, nor any of the numerous inlets and harbours along its coast, can ever expect to rival. New Westminster, situated on a narrow river, difficult and even dangerous of access, and distant from the sea, may become a local depot for the supply of a limited extent of territory; but its capabilities as a commercial centre for the entire coast can never equal those of Victoria, while the latter may command a much wider range.

The possession of coal gives to Vancouver Island another source of pre-eminence over British Columbia. In her coal-fields the former colony possesses an element of wealth and power that will aid immensely in developing her manufactures, in making her mineral wealth available, in developing a steam navy, and in expanding her commercial capabilities.

British Columbia, on the other hand, possesses, in her mineral wealth, in her gold-fields,—probably second to none that have yet been discovered,—in her silver-mines, in her stores of plumbago, &c., elements of wealth such as probably do not exist in Vancouver Island, and that fit her for becoming, under judicious management, a most important mineral-yielding colony.

It is obvious that Vancouver Island possesses some resources and capabilities unattainable by British Columbia; while, again, the latter has others of which the former cannot boast. Very few of the characteristics of these colonies are alike in nature or value. Those which they own in common differ so much in relative importance, as to place that colony in which any advantage is particularly prominent beyond the fear of rivalry in that respect from the other.

Both have certain leading distinctive resources, and certain marked capabilities, which point out the direction in which they will ultimately excel. It is evident that Vancouver Island and British Columbia are fitted for development in totally different directions; and that while the resources of both are such as to lead to the belief that they will yet become of great importance and attain to great wealth, they are such also as promise eminence in very different fields of industry. For example, both colonies possess valuable mineral wealth; but while Vancouver Island has her coal, her copper, her sandstone, limestone, &c., all of inestimable value to a manufacturing and commercial colony, British Columbia, on the other hand, has her valuable gold fields, her silver mines, her plumbago, &c., all valuable and more direct sources of wealth. Vancouver Island has good agricultural and pastoral capabilities as far as they go, but these are far surpassed, in extent at least, by those of British Columbia. The former has every prospect of development as an eminent commercial colony, both for local traffic and for foreign trade; but British Columbia may also expect to possess an extensive, though more local, commerce in supply-

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ing the requirements of her own and neighbouring populations. While the political importance of British Columbia is very apparent, it can never equal that of Vancouver Island, whose insular position and maritime character render invasion unlikely or difficult, with her fine harbours to shelter her naval fleet, and her favourable geographical position, which commands the whole of the Pacific. And again, while British Columbia may have her local manufactures in common with Vancouver Island, it will be readily perceived that the favourable position and advantages which the latter possesses as a *commercial* colony, and the peculiar facilities which the nature of her resources, especially her coal, confers upon her for development as a *manufacturing* colony, secure to her a great advantage over British Columbia, and impart manufacturing capabilities such as the latter can never possess.

A disinterested survey of the respective resources and capabilities of both colonies, like that now taken, cannot fail to lead to the conclusion, that while these are so different, their aims as colonies are, from one point of view, equally distinct. Though separate, however, their interests agree in another point of view; and both colonies should be united in one great purpose,—viz., mutual advancement and the common good,—and with this object each may greatly aid and advance the other. While Vancouver Island by her commerce may attract emigrants, goods, wealth, &c., to spread over both colonies; the sister colony, on the other hand, by her agricultural and pastoral produce, her gold and silver, her timber, and other valuable resources, may benefit the commerce and manufactures of Vancouver Island: and

while the latter, as a manufacturing colony, may render eminent service by furnishing a supply of useful manufactures at cheaper rates than they can be imported from other countries; British Columbia will be useful in her turn by the demand which a numerous and widely-scattered population will create for supplies and manufactured goods, as well as by the supplies of raw materials which that colony will soon be able to furnish.

A friendly emulation between the two may do good, may have a healthy stimulus, and benefit both; but carried too far it must have a contrary effect, and, notwithstanding the eminent capabilities and ample resources of both, a deplorable mediocrity may follow. Vancouver Island and British Columbia combined have within themselves many of those elements which are to be reckoned among the chief sources of England's greatness, and which made her conspicuous for commerce, manufactures, agriculture, and mining operations. They are endowed with a climate equal, and in some respects superior, to that of England; an abundance of the more precious metals,—gold, silver, &c.,—and of the baser, but not less useful—copper and plumbago, with others as yet undiscovered. They possess coal to make these available on the spot; an abundance of fine arable land, capable of rendering them not only independent for supplies of agricultural and pastoral produce, but sufficient to furnish an important source of wealth by exportation; an extensive seaboard and productive fisheries; an insular and maritime position on the part of Vancouver Island, and excellent harbours on the part of both for their merchant navy; and a fine geographical position, giving them not only a most important political

influence, but affording facilities for commerce such as could not without difficulty be found in any part of the Pacific.

Many other reasons might be adduced in support of a union of the two colonies ; and we are strongly in favour of a union under one government, one talented energetic head, of these two colonies, evidently intended by their mutual and relative position, by the nature of their resources and eminent, yet distinct capabilities for such a union. Until this can be effected, however, we believe that the best policy of these colonies, though politically separate, is to be one in their social and secular aims, the efforts and actions of each tending rather to strengthen than to weaken its neighbour ; and that they should endeavour to develop the commercial, mineral, agricultural, and manufacturing capabilities of this highly-favoured portion of North America, not as separate colonies, working singly, and opposed in aim and object, but as the united colonies of Vancouver Island and British Columbia. Politically separate, but still one in aim and purpose, let each colony, therefore, strive to encourage, aid, and strengthen the other, and materially work for the common good.

CHAPTER IX.

THE POLITICAL IMPORTANCE OF VANCOUVER ISLAND AND
BRITISH COLUMBIA : ESQUIMALT AS A NAVAL STATION,
AND AS A SANATORIUM FOR THE PACIFIC AND CHINA
FLEETS.

WHATEVER future success may attend these colonies, there cannot be a question as to their vast importance to Great Britain in a political and strategetic point of view ; more especially Vancouver Island, possessing a favourable geographical position in the Pacific, and a convenient naval harbour—that of Esquimalt.

Until recently the English navy had really no harbour of their own along the whole of the lengthy western coast of America in which to coal, refit, provision, or concentrate, if necessary, during war. Vancouver Island and British Columbia, though known, were only occasionally visited ; and were heretofore so unimportant as never to require the constant presence of even a small naval force for their protection. H.M.S. *Satellite*, in 1857, was the first to make a prolonged stay in Esquimalt, in connexion with the Anglo-American Boundary Commission ; while the conversion of these territories in 1859 into British colonies, and the subsequent San Juan dispute, first led to the occupation of that harbour by

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CHAPTER IV

THE POLITICAL IMPORTANCE OF VANCOUVER ISLAND AS
BRITISH COLUMBIA: ESQUIMALT AS A NAVAL STATION
AND AS A SANATORIUM FOR THE PACIFIC AND CHINESE
FLEETS.

WHATEVER future success may attend these colonies, their present importance to Great Britain is beyond question; more especially Vancouver Island, from its admirable geographical position in the Pacific, and its magnificent natural harbour—that of Esquimalt.

Until recently the British were not able to depend on their own along the whole of the western coast of America in which to coal, refit, provision, or concentrate if necessary, during war. Vancouver Island and British Columbia, though known, were only occasionally visited, and were heretofore so unimportant as never to require the constant presence of even a small naval force for their protection. H.M.S. *Satellite*, in 1857, was the first to make a prolonged stay in Esquimalt, in connexion with the Anglo-American Boundary Commission, while the conversion of these territories in 1859 into British colonies, and the subsequent San Juan dispute, first led to the occupation of that harbour by

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a British fleet, and to a recognition of its capabilities and importance as a convenient naval station. Esquimalt is now the principal naval rendezvous on the American side of the Pacific; and, from its comparative proximity to China, it appears by no means improbable that it will also become a depot for the still larger and more important China fleet, where ships may refit, coal, &c., more conveniently and more easily than in China, which possesses no regular naval depot. This harbour may thus become, at a future day, the principal naval depot of the entire Pacific.

Esquimalt Harbour, where both fleets can rendezvous, may materially affect, not only the future success, but even the possession of Vancouver Island and British Columbia themselves, which lie in close proximity to the Russian and American territories,—a rupture with either of which might lay those colonies, if unprotected, completely at their mercy.

The daily increasing importance of British interests in the Pacific, but more especially the varied and interesting occurrences of the past few years that have caused the hitherto little-noticed North Pacific to assume a prominence to which it was formerly a stranger, render the possession of Esquimalt of increased importance to Great Britain. The fatal disaster of Petropaulski, and the subsequent operations against the Russians during 1853–55; the second rupture with China in 1856, which led to hostile proceedings that have only recently terminated; significant naval demonstrations, and the formation of treaties in Japan during the years 1855–58; the foundation of these colonies in 1859 on the opposite side of the ocean; and the subsequent San Juan difficulty,—proceedings in all of which Great Britain has

taken the chief share,—have caused an increased concentration and activity of naval force never before witnessed in this part of the globe, and indicate a necessity for the possession of a naval harbour in the position which Esquimalt occupies; and the importance of that harbour to Great Britain, in a strategetic point of view, is daily becoming more evident. From this depot her fleets can readily proceed to any part of the Pacific, and have a more complete command of that ocean than if Hong-Kong, Australia, or any other of her colonies were made their rendezvous.

In addition to the direct benefit to be derived from the presence of a naval force, the development of these colonies will be greatly aided by the political importance which the conversion of Vancouver Island into a naval station will give them, and by the security thus afforded to their commerce. By combining the Pacific and China squadrons, a fleet can be formed superior in force to that of any other nation; and, with such protection, Vancouver Island will be able even in time of war to continue her commerce without fear of interruption.

Vancouver Island may, however, become of still greater value to Great Britain, by its conversion into a sanatorium for the ships of the Pacific fleet and their crews; which, even in time of peace, consist of a large body of men, the preservation of whose health and lives becomes of the greatest importance, whether regarded in a Christian, or in a more secular point of view.

The great salubrity of the climate of this island, and the hospital conveniences it can afford, add much to the value of Esquimalt as a naval station. The hospital accommodation

on this station has long been unsatisfactory, and Valparaiso, the former head-quarters of the Pacific fleet, and Callao, were the only ports to which invalids might be sent for treatment, or sickly ships be transferred to recruit the health of their crews; until 1857, when the sick of H.M.S. *Satellite* first occupied the hospital at Esquimalt, previously erected in 1853 for the Petropaulski squadron, but never used. The convenience of ample hospital accommodation at the head-quarters of the squadron and on British soil, and in a climate whose salubrity is unsurpassed on the entire station, is therefore evident. Esquimalt thus supplies a want long felt on this station.

The unhealthiness of the climate of China, and the sickness and mortality which usually prevail in the China fleet, when contrasted with the great salubrity of Vancouver Island, and the fineness of its climate, make it a question of great importance whether or not Esquimalt, with its hospital accommodation, its conveniences as a naval harbour, and its comparative proximity to China, with which communications both naval and mercantile will soon be more frequent than at present, might not become the recruiting station and sanatorium for the China as well as for the Pacific squadron; and whether the healthy climate of the eastern coast of the North Pacific might not be made available to counteract the unhealthy influence of that of its western coast.

The heavy sick-lists of ships stationed along the coast of China, the large per-centage of invalids sent home, and the great mortality, are often unequalled even on the once so sickly, and still so much dreaded, coast of Africa. The following table will contrast the large sick-list of ships on that

station with those of Esquimalt, and will prove the unhealthiness of the one and the salubrity of the other:—

TABLE 24.

To contrast the Sickness in H.M. Ships in China with that at Vancouver Island.

Ship.	Average Sick-list.	Average Crew.	Per-centage of Sick.
H.M.S. Nankin (50), China Station, 1855-58,	42	443	9½
H.M.S. Topaze (51), Esquimalt, Vancouver } Island, 1860-61,..... }	13⅔	482	2⅔

The ships sent on commission to China not unfrequently return with one-half, one-third, or even fewer of their original crew; and many of these with broken health, the remainder having succumbed to the unhealthy climate of the station, some of whom had to be invalided, and the others consigned to their last resting-place. The following table will shew the extent to which the ships on the China station are often disabled:—

TABLE 25.

To shew the extent to which H.M. Ships on the China Station are often disabled by Sickness.

Years,	Deaths ...	{ From Dysentery, Diarrhœa, } 39 = 1 in { and periodic fevers, 22 } 11 of the { From other diseases, 17 } crew.	
1855-58.			
Average	Invalided	{ For Dysentery, Diarrhœa, } 64 = 1 in { and periodic fevers, 32 } 7 of the { For other diseases, 32 } crew.	290, or 65½
crew,			per cent.
443			of the
men.	Sent to	{ For Dysentery, Diarrhœa, } 187 = 1 { and periodic fevers, 76 } in 2⅓ of { For other diseases, 111 } the crew.	
	Hospital		

The question as to the possibility of saving much of this suffering and mortality is a subject of great importance every way. The principal effect of a prolonged residence on the coast of Eastern Asia, especially in the humid subtropical south of China, is to weaken and enervate the system, to make it less and less able to resist the unhealthy influence of the climate of that country, and gradually to succumb to the diseases which prevail there. The slightest exposure, or error of diet, may then cause an attack of diarrhoea, dysentery, or ague, which is not unlikely in a subject thus weakened to become serious, and perhaps terminate fatally. Whatever it may be in other climates, acclimatization appears for the most part nugatory in China; and a long residence fails to inure the system to the climate, or to prevent or even modify the prevalent maladies. The longer a ship remains on the station, the more susceptible of disease does her crew become, the larger *cæteris paribus* are her sick-lists, and the more numerous her hospital cases, her invalids, and her deaths. Popular experience among those resident in China has arrived at the same conclusion; and the custom, when it is practicable, is to take an occasional voyage to England for change of air, or to spend a portion of every year in some healthier climate near at hand—*e.g.*, that of Macao, Manilla, or Japan. A similar practice is followed in Her Majesty's navy, and vessels are frequently sent for a cruise to Japan, or the north of China, with a view to benefit the health of their ship's company; and the beneficial and bracing effect of such a trip on their health can be credited only by those who have witnessed it. Men return to the station as if with a new lease of life, apparently

able to resist the debilitating and sickly influence of its climate, and to ward off diseases under which they might otherwise have been speedily laid prostrate.

The prudence of this occasional change of climate, with a view to prevent or lessen disease in Her Majesty's ships, is not more decided than its efficacy. The great aim of the medicine of a former age was the *cure* of disease ; the characteristic object of that of the present day is its *prevention*. The cruise to Japan, however, has its disadvantages, especially those which arise from the jealousy and peculiarities of its people ; and to obtain hospital accommodation there is, and probably will long be, impossible : and in many cases, perhaps in all, a similar voyage to Vancouver Island might be advantageously substituted, and a cruise to Esquimalt of two and a-half or three months, there and back, be conveniently taken instead of that to Japan ; with the quadruple object of refitting, provisioning, coaling, and recruiting the health of the ship's company.

The beneficial result of a cruise of this kind would be manifold. It would save much suffering and many deaths. By occasional visits to Vancouver Island as a combined naval station and sanatorium,—say twice or thrice during a commission,—the health and efficiency of the crews of ships on the China station would be better preserved, and much of the sickness and mortality which is an unfailing result of a prolonged stay in China prevented. A voyage of this kind would insure much of the benefit of a return to England, with little of the inconvenience, only part of the delay, and none of the danger to health from passing through the tropics. It would cause a considerable pecuni-

ary economy; for it must be obvious that so much sickness and mortality is attended by a corresponding expenditure for hospital expenses, transportation of invalids to England, &c.; and to lessen the one would be to diminish the other.

Whatever the origin of the severe and often fatal dysenteries, diarrhœas, agues, &c., of China,—whether electrical, meteorological, miasmatic, or animalcular,—the first indication in their treatment, unfortunately seldom a practicable one, is to remove the patient from the unhealthy climate, and the specific morbid influence which produced his disease. The hospital at Hong-Kong, though an invaluable institution, has many disadvantages; and in addition to the confinement which necessarily attends that most inconvenient form of sick-quarters, a “ship” hospital, invalids remain for treatment in the very focus and centre of the unhealthy climate, which undoubtedly both retards their cure, and adds to the mortality.

To remedy this it has been proposed—

1st, To invalid more speedily and more frequently, and thus remove the sick, at an early stage of the disease, from the unhealthy climate. This, however, though judicious enough in itself, would rapidly and materially weaken the squadron when the loss cannot be readily supplied, and has other disadvantages as to the length and danger of the voyage to invalids, as will presently appear.

2d, A better and more practicable plan would be to remove the sick temporarily from the unhealthy locality, by sending them to some sanatorium; the principal requirements of which are, a healthy climate, comparatively safe,

easy, and not too distant access, and good hospital accommodation, where the patients might be either quickly restored to health and returned to the service, or whence they could be sent home if their disease were persistent.

Various places have been suggested as suitable for the formation of a sanatorium for the China station ; *e.g.*—

a. The Cape of Good Hope, which has a healthy climate, and good hospital accommodation ; but the passage is 6840 miles long, and sixty days' sail ; while the transit through the tropics forms an additional drawback, and an occasional rough and tedious voyage through the China Sea against the monsoons.

b. Others have proposed some part of Australia,—*e.g.*, Sydney ; which is less distant, the passage being 4440 miles, or forty days' sail ; but the navigation is intricate, the tropics have to be crossed, and the climate of Sydney is said to be apt to excite or aggravate dysentery and diarrhoea, and is, therefore, unsuitable.

c. The south of Japan,—*e.g.*, Nangasaki,—which possesses a mild and healthy climate, fine scenery, and a latitude similar to that of Madeira, would be better than either ; while its proximity to China would give it an important advantage over Vancouver Island. That country, however, is now only passing through that stage in its existence in which China was twenty years ago, while being slowly opened up, and exhibits a similar jealousy of the intrusion of foreigners ; and the formation of a sanatorium in Japan will, therefore, be long impracticable.

d. Vancouver Island is, in several respects, superior to the first two, and even excels the last on the whole, and is

admirably adapted for becoming a sanatorium for the China station.

1st, It has a mild and healthy climate, similar but superior to that of England, to which the men have been accustomed; one which is neither apt to cause, nor aggravate, nor retard the cure of the diarrhoeas, dysenteries, agues, and rheumatisms, &c., from which the great majority of the China invalids suffer.

2d, It possesses good hospital accommodation, where the sick are more likely to recover, and to be cured more speedily and more permanently than if treated at Hong-Kong. Instead of fancying himself in a foreign land, the invalid might feel *at home* in Vancouver Island, the good effects of which upon him would be incalculable.

3d, The distance, viz., 6053 miles, and the voyage, viz., 40 days' sail and 21 days by steam, are comparatively short; and have the advantage of being both safe and free from danger, as far as the navigation is concerned, and altogether within the temperate zone, and therefore, as far as salubrity goes, more likely to be safe, comfortable, and healthy than the passage to the Cape or Sydney. The voyage alone, with its gradual transition from sub-tropical Hong-Kong to the mild, English-like climate of this colony, would contribute much to cure and recruit the invalid. Many slight cases of dysentery, &c., if at once sent to Vancouver Island, might thus be prevented from running into the more severe and more fatal forms of disease, and much permanent organic mischief and mortality obviated. Those slight but tedious chronic cases so common in China would also be benefited by a voyage of this kind, with its change of air and scene;

and the men returned to their own ship on recovery able to prosecute the remainder of the commission.

4th, The communication between Vancouver Island and the coast of China will soon be more frequent than between China and either the Cape of Good Hope, Australia, or Japan. H.M. ships will occasionally cross the Pacific to refit, coal, provision, &c., in Esquimalt; mail steamers will soon ply between Hong-Kong and Vancouver Island; while an extensive trade, carried on between this colony and the opposite shores of the Pacific, will soon cause a more frequent passage of sailing vessels.

5th, If permanent invaliding should ultimately be necessary, invalids may be sent to England as easily, cheaply, and speedily from Esquimalt as from Hong-Kong. From both places they are sent by one of two routes: from the former by the Cape of Good Hope or Suez, and from the latter either by Cape Horn or Panama; the two short, or "overland" routes being by steamer, and the two long, or Cape routes by sailing vessel.

The following table will contrast the distance and time by these different routes. The Cape Horn is somewhat longer than the Cape of Good Hope route, but the difference is too trifling in a voyage of this length to be worth notice. The Panama route, on the other hand, is considerably shorter, both as to distance and time, than the Suez route. The short are preferable to the long routes for both stations, as the invalids are thus saved the inconvenience, anxiety, and danger of detention in the climate which may have first originated their disease, the tedium of a long voyage, and the (to them) dangerous double passage through the tropics;

and government much of the expense which necessarily attends their detention while waiting for passage :—

TABLE 26.

To contrast the Distance and Time of different Routes from Hong-Kong and Vancouver Island to England.

Route.	Miles.	Average Passage.
		Days.
Hong-Kong to England by Cape of Good Hope,	12,600	123
Vancouver Island to England by Cape Horn, .	13,267	126
Hong-Kong to England by Suez,	9,467	50
Vancouver Island to England by Panama, . .	8,447	42
Hong-Kong to England by Canada and trans-American Railway,	11,121	42

The formation of a trans-American railway will afford superior facilities for the homeward transmission of invalids from both stations, and will probably be the route followed in all cases. The passage from China, though slightly longer as to distance, will be shorter as to time, and probably cheaper; part of the sea voyage will be saved; and a comfortable passage obtained, with a gradual transition from warm to cool weather.

In a large proportion of those cases of sickness which occur in China, therefore, not only in severe but in slight cases likely to prove serious; and not only in those that will ultimately require invaliding, but also in those which may be sent back to the station, a speedy transmission to a sanatorium at Esquimalt would be most judicious; and the combined bracing influence of the voyage and of the climate of the colony would unquestionably prevent much invaliding,

save much sickness, and perhaps many lives. Treat such cases in China, and the invalid undergoes a lingering and, perhaps, dangerous illness, and may be either invalided or die. Send him forthwith to Vancouver Island, and the bracing influence of the voyage, and the climate of Esquimalt, and its hospital comfort, may probably save his life; may obviate the necessity for permanently invaliding him; and will certainly more speedily and more effectually restore his health, if this be possible.

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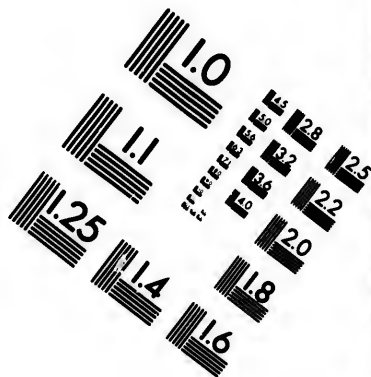
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CHAPTER X.

SUMMARY : THE PRESENT CONDITION OF VANCOUVER ISLAND
AND BRITISH COLUMBIA ; THEIR RESOURCES, CAPABILITIES,
ADVANTAGES, AND PROBABLE FUTURE AS COLONIES
FOR SETTLEMENT.

THE history of Victoria, the capital of Vancouver Island, its rapid rise and present prosperity, may be fairly taken as a criterion of the future career and success of both colonies. Within the short space of four years it has risen from a small Hudson's Bay Company's trading settlement to a large thriving and important commercial town, with a population of three or four thousand souls. Few of those rapidly-developed cities of which the history of colonization during the past twenty or thirty years has given some well-marked instances, can boast of so great an increase within so short a space of time ; and those who visited this island some years back would now have some difficulty in recognising in its present capital, with its bustling streets, its busy harbour, and its already large and industrious population and thriving trade, the "Tsomus" village of a former day, or the "Fort-Victoria" of 1856 or 1857,—a paltry settlement with a scanty white population, and a harbour disturbed only by the canoe of the Indian, the occasional visit of some small and adven-





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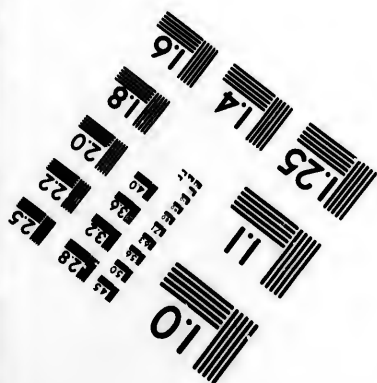
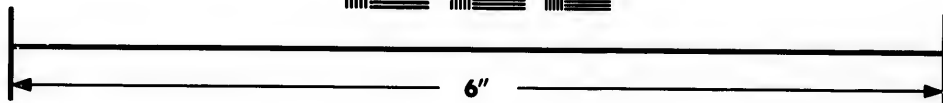
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turous trading craft, and the annual arrival of the Hudson's Bay Company's store-ship, with supplies, and for the homeward transport of furs. The introduction of gas into Victoria, now in progress, is an event which of itself goes far to indicate the already advanced state of these young colonies.

We have previously pointed out, however, that the present commerce and prosperity of Vancouver Island depends chiefly on the supply of the large but fluctuating mining population of the adjacent colony; while British Columbia itself has been developed, and still principally depends on the traffic and supply of her mining population. New Westminster and the rudimentary towns along the Fraser River and Harrison Lake routes were originated chiefly by local traffic, and are still principally commercial places. In both colonies the agricultural districts are only partially settled, while the manufactures, foreign commerce, fisheries, and all the principal sources of their future wealth, are still undeveloped. Although the present flourishing condition of both evidently rests on a very uncertain footing, (to obviate which no effort should be spared to develop their capabilities and resources in other directions,) their population is steadily increasing, their trade gradually extending, new sources of wealth and new fields of industry are being rapidly discovered, the valuable resources of both, and the readiness and ease with which they can be made available, are becoming more and more evident, while a feeling of security and confidence in their capabilities, and an increasing belief that they are destined to enjoy a highly prosperous future, appears to pervade the entire community.

Although both colonies enjoy well-marked present prosperity and give evidence of future greatness, equal advance is not so apparent in every direction, and their resources and capabilities generally are capable of greatly increased development. Their agricultural, pastoral, and food-yielding capabilities, *e.g.*, have not yet been fairly tested, and their development in this direction is proceeding very slowly; only limited tracts of both have yet been cleared and cultivated, while the scarcity of labour has prevented the full development of that already settled, and they are still far from being able to feed their own population. Few agriculturists or farm-labourers emigrate hither; the influx has hitherto consisted principally of gold-diggers, tradesmen, and artizans. Farm-labourers being scarce, the farms are imperfectly worked; Indian labour can be had, but it is unskilful, fitful, and not to be depended on; and not much better success has attended those who have brought farm-labourers from England with them, the facilities for settlement and farming on their own account being too great to keep them. The circumstances of the agricultural population, however, evince an amount of comfort and plenty which is rarely seen in the agricultural districts of most parts of the old country; and a farm-labourer or small farmer, with ordinary intelligence and industry, has a better chance in colonies like these of ultimately becoming his own master than he can ever have in densely-peopled countries like England, where land is valuable, and usually out of reach of all but wealthy individuals, and farms therefore unattainable to the majority.

Their mineral wealth is equally undeveloped. A large amount of gold has been taken from the Fraser River

diggings in British Columbia ; but, with this exception, the mines and mineral wealth of both colonies are very imperfectly developed. Their coal-fields and quarries have been worked only to a trifling extent, while their copper and silver mines are only being explored, and their value is not yet known. Neither colony has yet been thoroughly geologically explored, and both may possibly be rich in still undiscovered minerals.

Their manufactures, strictly so called, are still limited and rudimentary. Several useful trades are, however, actively carried on, (*e.g.*, brewing, cabinet-making, bread-baking, &c.) both by private individuals and companies, who maintain a more or less successful competition with their neighbours. Many trades and tradesmen give evidence of great prosperity. Their profits are large ; raw materials are readily procured in the colony or imported from California, while the expense of freight on articles imported from Europe goes on the side of profit to the colonial manufacturer. Trade and manufactures generally are likely to be equally successful in this extensive and rapidly increasing field, where the demand for manufactured goods will be long much in advance of the supply which the colonies can furnish and occasionally even import. There is ample room in both for the introduction of many new trades and manufactures.

Their commerce is limited in comparison to what it will ultimately be, although that of Vancouver Island is wonderfully advanced for so young a settlement. Its active commerce is, indeed, the principal feature of this colony. In addition to its local traffic, vessels frequently arrive with passengers and cargoes from England, California, the Sand-

wich Islands, China, &c.; and the amount of shipping connected either directly or indirectly with the colony is already surprising. Victoria Harbour usually contains one or two ships of considerable size, with numerous coasting craft and river steamers; while shipbuilding of small craft is pretty actively carried on to supply a steadily-increasing demand for shipping, and the busy scene which this port frequently presents is such as many a longer established colony and maritime town in any country would be pleased to witness in their own case. The means of intercommunication between Victoria and different parts of both colonies, as well as with the south-west coast of America, the United States, and Europe, are already ample. With the commerce the shipping is rapidly increasing, and promises to become one of the most important sources of their wealth: the commerce and shipping of British Columbia, however, is likely to be unimportant.

Such is, briefly, the present state of development of Vancouver Island and British Columbia. Their probable future, a subject of equal importance to the intending emigrant, is promising in the extreme. Few colonies could have better prospects; and few can offer a better field for labour, or a more certain prospect of success—an impression which the following summary of what has been treated more at length in the former pages, will go far to strengthen:—

1. We have shewn that their climate is good, much superior to that of Canada, and equal, perhaps superior, to that of the south of England; that its salubrity is equally marked, and probably surpasses that of England and the majority of England's colonies, and is not only favourable

for health, but well adapted for agricultural and pastoral purposes, as evinced by the quantity and superior quality of their animal and vegetable productions, and also admirably adapted by its temperature for many manufacturing processes—*e.g.*, brewing, soap and candle making, &c.—which could not be so readily carried on either in a warmer climate or in a colder one.

2. While British Columbia has eminent agricultural and pastoral resources, and is emphatically *the* agricultural and pastoral colony, Vancouver Island, on the other hand, has no prospect of excelling in this respect, but its principal strength and importance as a colony will lie in a totally different direction. The hilly nature of the island and its scanty soil preclude the possibility of extensive farming; its available land is limited, and only adapted for farming on a small scale. The soil of both is highly fertile, and much of it superior to that of England, while the crops are fair both in quantity and quality. Both have eminent capabilities as food-yielding colonies. Their fisheries will become of great value, and also their timber produce.

3. Their known mineral wealth is most valuable. Vancouver Island has an abundance of useful and readily available building material admirably adapted for the climate. In her coal-fields she possesses a valuable resource calculated to promote the welfare and prosperity of both colonies, and of especial importance to the island itself, to aid and stimulate the development of her manufactures and commerce. British Columbia, on the other hand, has her gold and silver mines, the former probably the most valuable in the world.

4. Vancouver Island is capable of, and will probably

become an eminent manufacturing colony. Her climate is suitable for it; her internal resources are equally favourable; her coal will be of inestimable value for many manufactures and processes in the arts which could not be developed without it; the Pacific alone offers a well-stored field in which to procure such raw materials as she is most likely to require; while in the same wide sphere, as well as in the future dense population that will cover the 214,000 square miles of the united colonies, and also the interior of Canada, she will find an ample market for her manufactured goods. If properly developed in this direction, this colony may be almost without a rival in the Pacific; while her proximity to the markets will give her an advantage over more distant countries, which furnish the present supply, that will ultimately enable her to supplant them.

5. The prospects for the development of Vancouver Island as a commercial colony are also of a superior character. She has abundant resources for the equipment and safety of a merchant navy, and her shipping will yet be one of the most fertile sources of her wealth; her maritime position, insular nature, fine harbours, and favourable geographical position, all admirably adapt this island for the development of an extensive commerce. The colony is perfectly competent to carry on its own import and export trade, and to take the principal share in that of the Pacific. Her proximity to Polynesia, Eastern Asia, &c., will enable Vancouver Island better than any other country or colony in the Pacific to develop an extensive commerce with China and many other fields now gradually springing up for commercial energy and competition. The colony is favourably situated

for becoming an emporium in which the mutual commerce of Asia, America, and Europe, may be concentrated ; by which this valuable traffic may be diverted to her own shores and capital as the medium for its onward transmission across Canada. When Western North America becomes as populous as the Eastern States now are, when Polynesia becomes civilised, and China, Japan, and Eastern Asia generally are fully opened up, Vancouver Island, as the principal commercial and manufacturing colony of the Pacific, will probably assume an importance and position second to none of the British colonies, and to be compared only with that of countries like England.

6. Vancouver Island, of great political importance, and valuable to England in a strategetic point of view, is admirably adapted for a naval station and sanatorium for the Pacific generally. Its character as such will benefit both colonies, both directly and indirectly, and will especially give great security to their commerce.

7. While Vancouver Island and British Columbia are individually valuable and important, their resources, on taking a general survey, are evidently widely different, and their capabilities adapted for development in totally different directions. While Vancouver Island is fitted for becoming a commercial and manufacturing colony ; British Columbia, on the other hand, is adapted principally for agricultural, pastoral, and mining operations. Although the great aim of both—viz., mutual advancement and prosperity—is therefore identical, their individual interests cannot be antagonistic, because widely dissimilar, and their soundest policy will be as united colonies to mutually aid the common progress, the

chief aim of both being to encourage and strengthen rather than to rival and weaken its neighbour.

8. As united colonies, they possess valuable internal resources and eminent capabilities for development, not in one, but in many different directions,—in agriculture, in mining, manufactures, and commerce,—such as probably no other colony belonging to Great Britain can ever possess. The Australian settlements, Cape Colony, and Canada, are eminent agricultural and pastoral colonies, but it is doubtful if they will rival British Columbia when fully developed. Singapore, Hong-Kong, &c., are eminent commercial colonies, but they will probably soon be surpassed in importance by Vancouver Island. Few of England's colonies have, or are likely ever to have, many claims to be styled manufacturing colonies, and therefore will never equal Vancouver Island as such. Many possess valuable minerals: gold is abundant in Australia, and copper in Cape Colony, &c.; but none possess a similar amount of varied and valuable mineral wealth as united Vancouver Island and British Columbia, with their coal-fields, gold, silver, copper, plumbago, &c., &c.; and certainly no other colony belonging to Great Britain possesses so many valuable combined advantages for development in many different directions as these colonies united.

9. Vancouver Island and British Columbia, regarded as rapidly-increasing settlements in which labour is scarce, and as colonies whose fisheries, mines, commerce, manufactures, &c., will soon become important, and furnish an ample field both for labour and capital, evidently offer advantages for settlement such as few colonies can offer. Both are new and extensive fields for industry; and the colonist who emigrates

while these settlements are still young and scantily peopled is more likely to find the field in which he labours unopposed. No tradesman or working man can err by emigrating to either. On the contrary, the labourer has a sure prospect of high and steady wages, a comfortable home, and, with steadiness and perseverance, may ultimately possess a comfortable independence, with the additional advantage of being able to make an equally good provision for his family.

While Vancouver Island and British Columbia possess many of the elements of future greatness and wealth, they do not enjoy *all* the natural advantages, and therefore can never equal England either in manufactures or in commerce ; although, united, they may surpass her in agricultural and pastoral pursuits. Their mineral productions, gold and silver perhaps excepted, are less numerous, less abundant, and less valuable ; while their commercial and manufacturing capabilities can never either equal or resemble those of the parent country, as they will probably never have an equally civilised and wealthy, though possibly more extensive, market to supply. Their capabilities for development, however, are such that they will yet hold a high position among the wealthiest, most populous, and most important of her dependencies. In one respect these highly-favoured colonies have an advantage over England : their starting-points differ ; and while inexperienced England rose from a small beginning, by long and tedious steps, with little aid and much opposition, to the place she now occupies in the commercial, mining, and manufacturing world, Vancouver Island and British Columbia, with the same energetic race to develop them, have the accumulated experience of the

parent country to guide them, the sympathy and aid, if necessary, of the most wealthy and influential nation that ever existed, and a new and almost unoccupied field in which to labour.

While evidences of present success and future prosperity combine to invite working men generally to these colonies, they offer other manifest advantages. The moral and religious tone which pervades the community, the state of society, and the amount of social and domestic comfort which the colonies are likely to afford, are subjects obviously of importance to emigrants generally, especially to married men with families.

Wages are high, and vary from three to as much as five dollars (12s. 3d. to 20s. 5d.) per day; while the price of provisions and other sources of unavoidable expenditure are sufficiently moderate to enable the colonist, if he chooses, to save money. Comfortable boarding or lodging-houses, and French and English restaurants abound both in Victoria and New Westminster, and are such as would not disgrace London or Paris for cleanliness, comfort, and variety. The following table will shew the usual charges in Victoria for comfortable board and lodging:—

TABLE 27.

Charges for Bed and Board in Victoria, Vancouver Island.

Breakfast, . . .	$\frac{3}{4}$ dollar per day,	} 6 to 8 dollars per week.
Dinner, . . .	$\frac{3}{4}$ " "	
Tea, . . .	$\frac{1}{2}$ " "	
Bed, . . .	$\frac{1}{2}$ " "	
Bed and Board, .	2 " "	8 to 11 " "

The dollar, 4s. 1d. British currency; the cent, about $\frac{1}{4}$ d.

Luxuries are generally dear, but the usual simple and unostentatious style of colonial life renders such articles less necessary than might be supposed. Ordinary necessities, such as bread, tea, rice, sugar, &c., are on the whole cheap; and were it not for the supplies required by the gold mines of British Columbia, provisions would be much cheaper than at present. As the resources of the colonies, especially their farms and fisheries, become developed, the supply will be more abundant, and living correspondingly cheaper; both can yield farm and garden produce similar to that of England, and plenty of fish and game. The following table will give an estimate of their average price:—

TABLE 28.

Cost of Provisions at Victoria.

Loaf, per 2lb.	...	...	6d.
Potatoes, per bushel,	...	...	1s. to 1s. 3d.
Onions, per lb.	...	...	1½d. and 2d.
Butter, per lb.	...	...	1s. 3d. to 2s.
Cheese, English, per lb.	...	...	1s. 3d. to 1s. 6d.
„ American, per lb.	...	...	9d. to 1s. 0d.
Eggs, per dozen,	...	...	1s. to 2s.
Tea, per lb.	...	...	1s. 8d. to 3s.
Coffee, per lb.	...	...	10d. to 1s. 1d.
Sugar, lump, per lb.	...	...	7d. and 8d.
„ coarse, per lb.	...	...	4d. and 5d.
Molasses, per gallon,	...	...	1s. 3d. to 1s. 6d.
Candles, per lb.	...	...	1s. 1d. to 1s. 3d.
Soap, fine, per lb.	...	...	5d. and 9d.
Currants and Raisins, per lb.	...	...	6d., 7d. and 9d.
Bacon, per lb.	...	...	7d., 9d. and 1s.
Ham, per lb.	...	...	6d. to 1s.
Beef, per lb.	...	...	4d. to 1s.
Veal, per lb.	...	...	5d. to 1s. 3d.
Mutton, per lb.	...	...	4d. to 1s.
Lamb, per lb.	...	...	5d. to 1s.

Pork, per lb.	...	...	4d. to 8d.
Ale, Bass, per quart, ...	...	...	1s.
Porter, per quart, ...	...	...	1s.
Whisky, per quart bottle, ...	...	...	2s.
Gin, per quart bottle, ...	...	...	2s.
Wine, Port, per quart bottle, ...	...	...	3s. to 5s.
„ Sherry, per quart bottle, ...	...	...	5s. to 8s.

Up country, especially at Cariboo, where everything has to be carried by "trail," (packing from Yale or Douglas being 50 cents = 2s. per lb.) provisions, &c., are enormously high. The following table will shew the price of pork, and beans, and bread, the usual miners' fare at the Cariboo mines:—

TABLE 29.

Price of Provisions, &c., at Cariboo.

Flour, ...	...	...	0 dollars 80 cents.
Beans, ...	...	...	0 „ 80 „
Bacon, ...	...	...	1 „ 25 „
Tea, ...	...	...	3 „ 0 „
Boots, ...	...	...	12 to 20 dollars.
Woollen Shirts, ...	...	...	4 dollars.

The ordinary productions of the island, and its imported supplies of food, &c., very much resemble those of England. Ready-made articles of clothing are expensive; those made in the colony still more so. Boots, shoes, &c., are much dearer than in England; often double the price. Almost everything can be purchased in Victoria; and so regular and frequent are its communications with the Eastern States and Europe that no want or discomfort need long be felt; and all the necessities, conveniences, luxuries, and even the elegances of life can be either readily procured in Victoria or easily imported. Many of the well-stocked shops of this

port would be no disgrace to any first-class commercial city in Europe or the States. And these colonies possess in their capital advantages which few settlements could offer the emigrant, and which those resident in distant parts of either colony share by being able to hold more or less frequent communication with it. Few colonies have a centre of supply equal to that which these as yet comparatively thinly peopled settlements possess in their chief town Victoria.

The mildness and healthiness of the climate, and the comparative rareness of those diseases which are apt to decimate in the periods of infancy and childhood, encourage emigration. Hither the emigrant may come without that dread which is occasioned by the more frequent occurrence of these diseases; and the married man especially, who intends to proceed to either colony, has the comfort of knowing that his family is to reside in a country with a climate at least as healthy as that of England, and probably more salubrious than that of any other colony to which he could resort.

One of the first and strongest impressions that will be produced on the minds of emigrants after arrival here will be to all, or most of them, of a very agreeable character, arising from the remarkable regularity, quiet, and order that prevails in Victoria, New Westminster, and over the colonies generally, and even at the mines; and which contrast most strikingly with the conduct which is said to have disgraced the early career of several of the large and rapidly-developed cities in Australia and elsewhere. There is none of that feverish excitement said to have characterised the industry of many of the cities just alluded to; although, taking Victoria as an example, its fluctuating population exhibits

a corresponding prominence of the mining element, and a constant passage to and fro of more or less erratic and unsettled gold-diggers; while business is carried on with such energy as would do no discredit to any commercial town, even in England.

The general tone of society and style of life is, with some not very important exceptions, thoroughly English, tinged, however, with occasional slight manifestations of American tendencies; and a similarity of race and character, of manners and customs, of sympathies and aim, in those among whom the newly-arrived emigrant from England is cast, all combine to make him feel more at home, and less discouraged, than he otherwise would on first landing at Victoria.

The religious tone which pervades the community in both colonies, and in Victoria their capital, is probably as healthy as that of most towns in England. The Sabbath is well observed; shops are closed during divine service, and business suspended; and the churches are fairly attended. Victoria is well supplied with places of worship. The English Church, the Presbyterians, the Congregationalists, Wesleyans, and Roman Catholics have their churches and their representatives, all for the most part endeavouring to aid reformation, and to advance moral and religious good. Owing to the early and liberal endowment of a mission, by the munificence of an English lady,* the dominant Church of the community is that of England.

The moral tone of these colonies and their capital is good, taking all things into consideration, and especially making

* Miss Burdett Coutts.

allowance for the presence of a very considerable floating population of miners, and of erratic fortune-hunters, who often infest newly-founded colonies; and of many idle Indians and half-castes, who are too frequently influenced by bad example. Intemperance is by no means a very prominent vice; nor is there any of that ruffianism and defiance of law and order once common in other colonies. Serious crimes are rare, and both life and property may be said to be almost as secure as in England. All resident here, whether Europeans, Americans, Chinese, or native Indians, are equally amenable to the colonial laws, which are based on, and in most cases identical with, those of England.

The natives are quiet and inoffensive to a degree, unless provoked or made victims of intemperance by unscrupulous traffickers, who manage to evade the law which forbids the sale of intoxicating liquors to Indians. Murders occasionally occur, usually among hostile tribes of Indians, and is often the direct or indirect effect of intemperance. White men, especially "King George's men," as distinguished by the Indians from the "Boston men," or Americans, run no danger from the native Indians, provided they treat them with the kindness and justice which is their due.

Parents need have no fear that the morals of their children or friends will be liable to be more corrupted here than in England or the colonies generally, and certainly there is less danger of this here than in many settlements of longer standing. The firmness of the Hudson Bay *employés*, who have so long lived among the native Indians, and taught them to fear as well as to respect "King George's men;" and of the present colonial authorities, who have insisted on

a strict regard to the laws of the colony and of civilised life, and have promptly punished every transgression; together with the felt superiority of the white race on the part of the Indians themselves, and the usually inoffensive Indian character,—all combine to render both life and property secure.

The educational institutions are unquestionably in a wonderfully advanced condition for so recent a settlement; and in Victoria a sound and even refined, though somewhat expensive education, may be obtained for the young of either sex. Several well-conducted schools, both sectarian and non-sectarian, already exist, where the youth of the colony—its future tradesmen, merchants, and manufacturers—may obtain a suitable education; and one in particular, conducted under the auspices of the colonial bishop, where a superior elementary education may be had such as will fit a youth for entering on a college education elsewhere. The formation of a college at a future day is in contemplation. The well-attended Sunday-schools connected with the various churches and sects prove that moral and religious education is equally cared for.

Victoria has two daily newspapers, and New Westminster one. Reading-rooms and a public library have already been projected for the former. Weekly winter-evening lectures on interesting and instructive subjects are delivered by the talent of the colony, and give ample opportunities for improvement to all who desire it: nor need any emigrant fear, therefore, that his children will not be virtuously trained, and only imperfectly educated. In few colonies, even those of longer standing, is the moral, religious, and educational welfare of youth better attended to than in Vancouver Island.

These advantages are not confined to Victoria, but extend to most of the smaller settlements in both colonies ; several of which have now both churches and schools. Nanaimo, with its 150 or 200 inhabitants, has two churches and a school ; Craigflower, an agricultural settlement three miles from Victoria, has a school and church service ; and Saanich will soon have a clergyman and church. The larger towns and settlements in British Columbia are fairly supplied with clergymen ; every care being taken, as far as possible, to make the spread of schools and churches, and of moral and religious instruction, follow close in the rear of settlement.

The superior prospect which these colonies afford the emigrant of obtaining not only a better position, but also an easier and better start in life for his children than could be managed in England, where every avenue to prosperity and wealth is crowded, presents another favourable inducement. Here a youth can usually be more readily apprenticed and have a wider choice of trades than in England, where the candidates are more numerous and the openings relatively fewer. On the other hand, these improving colonies offer the youth, who has grown with their growth, a field for his exertions superior to any he could have in the mother country ; he has a better chance of succeeding and of attaining an independence, and, perhaps, becoming a man of standing and position, than in the crowd with whom he would have to compete in the same struggle at home. Speaking generally, the younger the colony the less is the competition, and the greater consequently are the chances of the commencing tradesman or professional man to succeed, always assuming, of course, that the colony of his choice

possesses the elements of success within it ; and hence the benefit of early emigration.

It is not the design of these pages, however, to conceal the fact that both British Columbia and Vancouver Island have their disadvantages and drawbacks like other colonies, and especially recently-settled ones. House rent is necessarily high. Rapid immigration and limited capital render it difficult to erect even wooden-built houses with sufficient rapidity to keep pace with the demand. Capital might be profitably laid out in Victoria, and the colony greatly benefited by the erection of suitable dwellings for the working classes. The scarcity of labour and of domestic servants forms another source of inconvenience to many, especially on their first arrival, and until they have become inured to colonial customs and to emigrant life. Indian labour and native or half-breed servants can be had, but they are often too obtuse, dirty, and untidy, to be of much use. English servants are at a very high premium ; indeed they can scarcely be had at all, or but for short periods ; most of them get married soon after arrival in the colony. Emigrants of both sexes are nearly all brought to a level, and must perform many menial offices which might not be required of them in England. Servants' wages vary from £50 to £90 per annum, with board and lodging, which the majority of emigrants cannot afford ; washing costs 8s. to 10s. a-dozen ; a carpet bag can be carried a moderate distance for a dollar (4s. 1d.) ; shoes brushed for 1s., and so on : the economical colonist brushes his own. It is after arrival in the colony that the married man, especially if farming, finds his family of growing-up sons and daughters of use to him in the absence or scarcity of servants. Those

so situated can carry on their farming operations, while others not so fortunate, though possessing ampler means and larger property, are compelled by the scarcity of labour, if not entirely to cease, at all events to limit their operations and work their farms imperfectly.

The married emigrant need have no fear of the future for his daughters. Probably the greatest want here, as in young colonies generally, is that of women. The arrival of a few cargoes at Victoria would create a jubilee; and good wages for even a moderate amount of work, together with a certainty of marriage, can be found for all ranks and almost all ages.

The great distance of these colonies from England, especially apt to discourage the emigration of women and children, is a serious disadvantage; and is one leading cause of the tardiness with which their colonization proceeds. A large proportion of their present population is derived from California and Canada—closer at hand and easier of access. The aid of colonial "Emigrant Societies," however, and the increasing competition for a share in the commerce of the colonies, are daily affording greater facilities for emigration, and safer, quicker, and cheaper passages; and ultimately railway communication across Canada will bring them still closer to England, and by facilitating emigration, and lessening its expense, will more rapidly increase their population.

CHAPTER XI.

THE ROUTES TO VANCOUVER ISLAND AND BRITISH COLUMBIA.

EMIGRANTS may have a choice of three routes from England to Vancouver Island :—

- 1st, By Sailing-vessel, *vid* Cape Horn.
- 2d, By Steamer, *vid* the West Indies (St Thomas's) and Panama.
- 3d, By Steamer, *vid* New York and Panama.

The first route is longer and more tedious than the others, but cheaper, and in some respects better adapted for families, especially those with limited means. The distance by this route is 12,746 miles, and the voyage lasts from four to five or six months, according to the stoppages (if any are made) to provision or water. Opportunities for passage by this route are not numerous,—seldom more than five or six vessels a-year sail for these colonies,—but they are increasing gradually. The Hudson's Bay Company's ship *Princess Royal* usually makes the voyage and back within the year; affording the best accommodation, and as safe a passage as can be obtained, at the following fares :—

Cabin,	£70	Provisions included.
Intermediate,	£40	
Steerage,	£30	
Children under fourteen, half-price,		
Goods, per ton,	£6	

For families an arrangement may possibly be made. A regular line of packets is much required to facilitate emigration to these colonies.

The formation of "Emigrant Societies," to supply a cheap, comfortable, and safe passage would aid materially in peopling these colonies,—a benefit they conferred some years ago on our Australian settlements. The passage-money in this case is usually paid by instalments—part of it before departure, and part after arrival in the colony.

The term "overland," as applied to the other routes, *vid* Panama, is a misnomer,—only forty-two miles across the isthmus being by land, the remainder by sea. The difference between the two as to distance and time is too trifling to be worth notice in a voyage of this length; but the New York appears to be the preferable route, as the sickly climate of St Thomas's, the chance of yellow fever, the longer stay in the tropics, and a probability of detention at Panama, are all avoided. The passenger by either route, on arriving at Aspinwall, crosses the isthmus by railway, and from Panama on its Pacific side is conveyed by an American line of steamers to San Francisco, and thence to Vancouver Island, where he is landed at Esquimalt, three miles from Victoria. The following are the present rates of passage to England :—

New York Route.

	1st Cabin.	2d Cabin.	Steerage.
England to New York,.....	£26	£20	£6 (without rations.)
New York to Victoria, {	£62	£46	£31
	(\$308.50)	(\$230.75)	(\$153.75)
Total,.....	£88	£66	£37

West Indies and Panama Route.

1st Cabin,	£75	10	0
2d Cabin,	59	0	0
Steerage,	45	5	0

Government aid is much required to subsidise an English line of steamers to carry the mails and passengers between Panama and Vancouver Island,—transport by American steamers being less safe, comfortable, and regular than by English mail-boats.

On arrival, the emigrant will find that both Vancouver Island and British Columbia already enjoy some good roads and fair means of conveyance. Wagon roads have been made from Victoria to Esquimalt, and thence onwards to Metchosin and Sooke; thence from Victoria, through the Lake and Saanich districts, onwards to Coivitchin, 35 miles off. This includes the greater part of the southern end of the colony, which has already been surveyed and extensively settled. No roads are made beyond, and the further parts of the island are still unopened, the only access being by water, or by the circuitous "trails," or foot-paths of the Indians. A small screw-steamer affords occasional conveyance to Nanaimo, 70 miles distant, the fare being \$5 (£1); while to Barclay Sound—the only other settled part of this colony—less frequent access may be had by sailing craft.

There is frequent communication between Vancouver Island and the adjacent colony. Several steamers run from Victoria to New Westminster, 82 miles distant, daily in summer, and thrice a-week during winter, when the river is navigable; and from the latter river steamers ply up the Fraser as far as Hope and Yale,—the latter 102 miles

off,—as well as along the Harrison Lake to Douglas and Lilloet. These form the two principal routes hitherto followed to the gold-diggings of the upper Fraser. The following will shew the usual fares:—

Steam-boat Fares in Vancouver Island.

	Passengers.	Goods, per Ton.
Victoria to Nanaimo,	5 dollars.*	3 dollars.
„ North Westminster,.....	5 „	3 „
„ Hope,.....	} 10 „	20 „
„ Yale,.....		
„ Douglas,.....		

Access to the settlements beyond, and to the diggings at Cariboo, is less easy and more expensive, and is usually had, either by canoe or “trail,” according to circumstances. Miners usually travel in company. The canoes are large, and well adapted for river navigation; and, prior to the introduction of steamers on the Fraser River, they afforded the only mode of transport to the mines, and, even now, many miners prefer going from Victoria in this way. Many go by trail in company with “pack trains,”—i.e., mules or camels laden with provisions and other goods for sale at the mines.†

The principal route to the gold-diggings since 1858, when these were on the lower Fraser about Hope and Yale, has been by the Fraser River itself. Since the discovery in 1861 of the Cariboo mines, 300 miles higher up, this route has been found tedious, difficult, and expensive, and new

* For facility of calculation a dollar may be roughly calculated as = 4s. English currency.

† The latter have been lately introduced from the Amoor.

ones have been projected. Shorter routes to these diggings are practicable by Bute's Canal, Bentinck Arm, and other inlets along the coast, which are navigable for a long distance inland, and afford access across the coast-range by trails or wagon roads leading from their further end. Many miners have already gone by these routes, and they will be universally followed soon. Of the Fraser River routes, that by the "brigade trail" is said to be the best, being less mountainous, and capable of affording good camping ground, and plenty of grass for the pack mules. The expenses for an ordinary miner to and from Cariboo from Victoria by the Fraser River route amount to between \$300 and \$350 (£60 or £70.)

Of the coast routes, that by Bute's Inlet appears the best, being the quickest and shortest, and, probably, the cheapest and easiest. The following table * will go far to prove the superiority of this over the Fraser River and other projected coast routes :—

Table of Routes from Victoria to Cariboo.

	Distance by			Total.	Time employed in Days.
	Sea.	River.	Land.		
	Miles.	Miles.	Miles.	Miles.	
Fraser River route,.....	92	90	359	541	37
North Bentinck Arm route,.....	506	54	173	733	28
West Road River route,.....	506	54	155	715	...
Bute Inlet route,.....	222	83	158	463	22

A few good roads have been made in British Columbia,

* Extracted from Mr Waddington's clearly-written pamphlet.

but only for short distances. Longer ones are much required, and will be necessary to aid in opening up and developing the resources of both colonies, more especially the interior of the former.

Emigrants should endeavour to time their departure from England so as to arrive in spring—the best season both for comfort and convenience. The weather is fine, the roads good, and travelling easy from March to September or October, but otherwise during the rest of the year. The winter, however, with its fogs, rain, snow, and muddy roads, and impassable trails, is apt to discourage the newly-arrived emigrant, and to give an unfavourable impression of the colony. Before the month of May, the miner cannot have easy or safe access to the diggings, where operations are usually suspended from the middle of October till the beginning of June; nor can the farmer or agricultural labourer commence their farming operations until early spring.

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