

**Empire and Dispossession:
Coal, Communication, and the Labour Process at the
Origins of Capitalism in British Columbia, 1849 - 1903**

by

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Abstract

Coal mining on Vancouver Island was a conjunctural point for two complementary systems of dispossession: capitalism and colonialism. Soon after London granted the island and its minerals to the Hudson's Bay Company in January 1849, industrial mining began to replace the previously non-capitalist organization of the coalfield. The island shifted into industrialization in part through its entanglement in Pacific markets hungry for coal. The tools and capital that returned on homeward voyages hastened mining's development, while transoceanic maritime networks provided inflows of labour power. As energy capital developed internally, strategies to displace Indigenous organization of the land were matched by efforts to alienate miners from acting as a class in their own interests.

Through analysis of archival evidence, this project demonstrates that Vancouver Island mining before 1903 proceeded through a series of compounding deprivations, generally beneficial to islanders occupying dominant economic positions. Toward unpacking this history, "Empire and Dispossession" asks three questions: how did the coal industry support the development of capitalist social relations in the Pacific, north of parallel forty-nine; how did transportation systems sustain the expansion of empires operating on the island; and what social, political, and economic relationships conditioned technical change in the mines? Taken together, the answers to these questions root the development of capitalism in active power relationships of class and race.

This project's original contributions to communication studies include a historical narrative of Western Canadian capitalism, otherwise absent in the field; the development of a transportation-focused approach to communication, rooted in the work of Karl Marx; a history of Indigenous transportation and communication labour at the origins of capitalism on Vancouver Island; and a reinterpretation and application of labour-process theory to the mutually constitutive development of coal-mining machinery, social class, and race in the island's mines.

Keywords: Canadian history; coal mining; historical materialism; labour-process theory; communication theory

Dedication

Ashley McClare tolerated all the problems and annoyances that accompany a partner writing their dissertation, providing support throughout. Thanks, hon!

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The research and writing of "Empire and Dispossession" happened mostly on the unceded territory of the Coast Salish peoples, including the Skwxwú7mesh (Squamish), xʷməθkwə'yəm (Musqueam), and Səl̓ílwətaʔ (Tseil-Waututh).

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List of Acronyms

AG	Attorney General
ANT	Actor-Network Theory
ANTs	Actor-Network Theorists
BC	British Columbia
CA	Collective Agreement
CJC	Canadian Journal of Communication
C	Centimeter(s)
CPR	Canadian Pacific Railway
DD&C	Dunsmuir, Diggle & Company
E&N	Esquimalt and Nanaimo Railway
E&NRC	Esquimalt and Nanaimo Railway Company
HBC	Hudson's Bay Company
HP	Horsepower
KG	Kilogram(s)
K	Kilometer(s)
KoL	Knights of Labor
M	Meter(s)
MECW	Marx & Engels Collected Work
MMLPA	Miners and Mine Labourers' Protective Association
NE	Northeast
NP	Northern Pacific Railway
NW	Northwest
N/C	Numerical Control
NVCMLC	New Vancouver Coal Mining and Land Company

NWC	North West Company
SFU	Simon Fraser University
SE	Southeast
SW	Southwest
STS	Science and Technology Studies
UBC	University of British Columbia
UK	United Kingdom
VCMLC	Vancouver Coal Mining and Land Company
VIR	Vancouver Island Ranges
WFC	Western Fuel Company
WFM	Western Federation of Miners
WWI	World War One/First World War

Introducing Fuel, Capitalism, and Communication in the Canadian Tradition¹

All objects are enchanted people

- *Alexander Kluge, News from Ideological Antiquity*

The British empire settled there to dig coal. On September 15, 1852, the Governor of the Vancouver Island colony, James Douglas, wrote anxiously to his manager at the recently established Nanaimo mining encampment. Douglas urged Joseph McKay to “use every exertion” possible to quickly load the Hudson’s Bay Company’s (HBC) brigantine *Mary Dare* and prepare the ship for departure. It is “important,” Douglas pressed, “to get our Coal unto the Market as soon as possible” (September 15, 1852). The company had been trying to mine and sell Vancouver Island coal from a north-island fort since January 1849, to what can charitably be characterized as middling success. Nanaimo would however be different from HBC’s other attempt. In late summer, Douglas hoped to take advantage of geography. The rapidly expanding California market needed energy and coal was receiving a high price at its ports. This was not lost on producers farther afield, with shipments headed to California from Britain and elsewhere in the United States. Douglas concluded that it was a race to San Francisco to receive the highest price before a glut of coal saturated the market.

In itself, HBC’s rush to take advantage of the desideratum in California is perhaps no more than a footnote in the history of Vancouver Island coal mining. Yet Douglas’ instructions were part of a larger but recent series by the company that would advance capitalist resource settlement and colonization by enmeshing Vancouver Island within networks of circulating capital, commodities, communications, and labourers. On the

¹ Portions of the introduction and third chapter appear in the single-authored essay “Fuel as a Factor in Canadian Transport: Energy Capital and Communication Theory.” *Canadian Journal of Communication* 42 no. 4 (2017): 565 – 84.

island, coal mining would be a conjunctural point for two complementary systems of dispossession—capitalism and colonialism—through which the production of surplus value by a proletarianized working class would emerge. Such was HBC's hope for Fort Rupert, established a mere three years earlier at the north end of the island, but workers resisted the company's operational structure and useable coal was harder to come by than the company first believed. Strikes followed soon after its establishment, and HBC's Vancouver Island operation would be forced to take seriously the power of workers to intervene in extraction.

At Nanaimo, Douglas had instructed McKay to settle and mine the "Wenthuysen Inlet commonly known as Nanymo Bay" only three weeks before the race to California began (August 24, 1852), with miners² under contract to HBC arriving soon after, on September 6. The coal loaded aboard the *Mary Dare* and headed for California was not dug by these miners, mostly emigrants from the Scottish coal mining region of Ayrshire, but local Snuneymuxw miners under HBC tariff, as the company claimed the minerals beneath Vancouver Island under an 1849 colonial decree. Despite the incipience of the Nanaimo settlement, three ships preceded the *Mary Dare* in loading Snuneymuxw-mined coal from Nanaimo, the HBC schooner *Cadboro*, which hauled some 480 barrels, the *Recovery*, and the *Honolulu Packet*, which also made runs to San Francisco.

The urgency of the Nanaimo coal export indicates not only California's local need for energy but the more general yet exponential increase in global coal consumption during the nineteenth century. Coal had emerged as a necessary component in the maintenance and expansion of world markets. Commodity production and circulation required inexpensive and portable energy available in great quantities, which the combustion of coal provided. Industrial Britain by the 1830s, then center of the capitalist world, had for example chosen coal as its dominant energy source, surpassing water

² The term 'miner' is used throughout as a catchall to mean all the labour of workers but not managers or engineers involved in mining, above and below ground. When specific jobs need to be referenced, as in, say, 'diggers' or 'runners', I will make the distinction clear. The terminology itself can be somewhat confusing, even in the historical record. The Minister of Mines' Reports refer to diggers as miners. The Miners and Mine Labourers' Protective Association, a union which figures prominently in the concluding chapter, defines through 'miners' and 'mine labourers' what this dissertation collapses into the former.

power (Malm 2016, 25, 249 – 54). The maritime circulation of commodities was likewise, though somewhat later, powered mostly by coal, overcoming wind power as the second half of the nineteenth century progressed (Pascali 2017).³

The widespread adoption of coal for steam power had the obvious result of expanding extraction. Coal would have appeared particularly lucrative to mid-century HBC, as the United Kingdom of the late 1840s and early '50s experienced its greatest rate of growth in coal production, 1700 – 1900 (Malm 2016, 250). The Historian of British Columbia (BC) B.A. McKelvie is then only partially correct when he writes that “it was the epochal development of steam applied to world-wide transportation that hastened the inevitable settlement of Nanaimo” (1944, 170). The uses of coal were not restricted to circulative functions in globalizing capitalism nor industrial production either. Set alight for domestic heating, it was commonplace for nineteenth-century miners on the island and elsewhere to receive sizeable amounts to supplement their wage. As early as the seventeenth century, coal had become the dominant fuel for heating Britain. Prior to widespread electrical illumination coal was powering municipal lampposts as well.

All of this meant that degraded vegetation, compressed into uneven subterranean strata over time, then commodified, came increasingly into use across different economic spheres. Coal was a staple commodity for the global market, its uses spread across production, circulation and social reproduction, confirmed by the rapidity with which it was being removed from the earth. Noting the growth of coal-powered capitalism during the nineteenth century, the Historian Eric Hobsbawm observes: “[c]oal output had long been measured in millions of tons, but now came to be measured in tens of millions for individual countries, in hundreds of millions for the world” ([1975] 1989, 55). On Vancouver Island, the global consumption of coal provided the impetus for profound social and economic transformations in the Canadian Pacific, as systems of dispossession entrenched new power relations and economic structures to facilitate the mining and sale of coal toward the accumulation of wealth by settlers.

³ In the 1840s, as the Historian Keith Ralston notes, coal-powered steamships lacked the technical sophistication required to do so, and were then restricted to more regional uses (1981).

1.1 Coal, the Working Class, and Canadian Communication

This dissertation is unusual for the field of communication in Canada. It revives dated theories of exploited classes formed in outposts of empire. It is an account of the people, commodities, and information circulating on the maritime and terrestrial transportation networks implicated in Vancouver Island's coal trade, the workers and labour processes that formed the basis of these flows, and capitalist development on the island more generally. Despite this focus, it is written for the field of communication and not history. Although they may animate portions of the following narrative, questions of historiography are ultimately less important to the current project than problems relevant to communication studies. One of the most important hypotheses in what follows, for example, is that transportation *is* communication and, historically speaking, it may also be dispossession. The movement of people, money, and goods is the communication of contingent economic and social tendencies elsewhere and, in the case of commodity circulation, the return of wealth—in colonial transportation, plundered wealth. Transportation mediates and reconstitutes societies at other ends. In the process, transportation also expresses and transmits social biases, here imperial and capitalist institutions. It is of its historical moment and power structures, normative in use.

Toward further exploring the political-economic and institutional history of Vancouver Island coal mining, 1849 – 1903, the following dissertation asks three questions: (1) how did the coal industry on Vancouver Island aid in the development capitalist social relations in the Pacific north of parallel forty-nine, (2) how did maritime transportation systems and rail support the expansion of empire(s), and (3) what social and economic relationships conditioned technical change in the island's coal mines? Any of these questions, I hope to show, cannot adequately be answered without recourse to the others, and this has less to do with any internal logic that each carries forward than the history of the Vancouver Island coal trade itself. Expanded transportation infrastructure in the 1850s, for example, not only expedited the transmission of coal from the island, flows of colonial necessities and mining implements entered the island on homeward voyages, supporting colonization and augmenting the labour process toward the accumulation of greater value by mine owners.

In coming toward answering these three questions this dissertation accomplishes three main things. It retrieves a focus on commodity circulation and labour for Canadian communication studies; contributes original research on transportation, energy, and the origins of capitalism in the eastern Pacific to the field; and develops a contemporary reading of labour-process theory and mechanical change as non-capitalist social relationships transition to capitalism with all that that entails, a reading that also challenges the premises and wisdom of the non-human turn in the social sciences and humanities.

As a problem of communication studies, energy is only recently being recognized,⁴ while transportation has largely become a neglected area. In our field, the energy-in-transportation lacuna is surprising, given that our ontology of ‘communication’ is notably broad. The classificatory system that designates what is or is not our problem is heavily permissive. In part, this follows from the numerous intellectual traditions with which we operate. Robert T. Craig and Heidi L. Muller, for example, identify seven traditions that constitute communication theory—the rhetorical, the semiotic, the cybernetic, the phenomenological, the sociopsychological, the sociocultural, and the critical—each with its foundational statements, subprograms, rules, theoretical intricacies, internal debates, and loose study agendas, although these may overlap (2007). In practice, these traditions most often address oral/aural media when developed within communication departments, but hardly exhaust the field.

Disciplinary practices in communication are somewhat narrower than theoretical traditions. Soon after the growth of Canadian communication departments in the 1970s, Liora Salter argued that the parent disciplines of communication in Quebec and Canada are literature, history, sociology and political science (1981, xvii).⁵ Two axes, then, from

⁴ The emergent focus on energy has, for the most part ignored the basic importance of fuel to the transmission of commodities and messages, a defect given the generalized use of non-renewable energy in commodity and message transmission from the mid-nineteenth century, save Maxwell and Miller (2012) and Mosco (2014). Maxwell and Miller (2012), Gunster and Saurette (2014), Mosco (2014), Levenda, Mahmoudi, and Sussman (2015), and Raso and Neubauer (2016) are notable recent exceptions to the broader problem of missing energy research. Each provide a political economy, in one form or another, of energy politics in Canada. A forthcoming special issue of the *Canadian Journal of Communication* (43 no. 1), with Gunster, Szeman, Greaves and Neubauer as editors, further situates energy within Canadian communication studies.

⁵ Philosophy and science and technology studies could no doubt be added to this list today, among other disciplines. The list isn't exhaustive.

which to discriminate communication research: theory and discipline, and theoretical commitments cut across disciplinary fields in interesting ways. Perhaps more so in communication studies than other fields within the social sciences and humanities, internal differences in theory and discipline generate a multitude of research problems. “Today the sweep and import of communication have become virtually uncontained,” Dan Schiller noted two decades ago. Narrowing only slightly, Schiller proceeds: to study communication is to “make arguments about the forms and determinants of sociocultural developments as such” (1996, vii).

In communication studies, transportation had appeared as such a determinant.⁶ Researchers, perhaps most notably Mattelart ([1994] 1996), considered the circulation of commodities, people, and information as problems of communication.⁷ At its origin in Canada specifically, the field “demanded an analysis of the relations between the technological form (media of communication) and political system (empires), between social experiences and economic context” (Salter 1981, xvii). It was recognized from the beginning that advances in media and transportation systems are implicated in the development of political and economic regimes. Imperial Britain’s colonial project in what would become Canada is unthinkable without transportation networks for the circulation of goods, people and money. The day-to-day reality of colonization is, obviously, not a process of establishing wealth among the colonized. It is the disarticulation and dispossession of the colonized from the commodity to be. Transportation, in this circumstance, is the means of transfer from colony to colonizers, something not lost on the latter. The theorist of English colonialism Edward Gibbon Wakefield, for one, recognized the need for “improved water and road communication” in Canada years before the Colony of Vancouver Island was established in 1849 (Prichard 1986, 48). Transportation in the colonial context allowed objects to be rearticulated in new locations where exchange value was attached. The demand that communication scholars in

⁶ There are, of course, basic differences between the transportation of commodities and that of language that cannot be forgotten. Media mobilize different resources and reflect different class alliances and biases than other forms of communication. Collapsing one into the other would obscure more than it would illuminate.

⁷ This tendency, as we will see, is not exclusive to communication studies in Canada. Raymond Williams’s justifiably lauded “Means of Communication as Means of Production” treats transportation alongside “printing and electronic industries”, as aspects of communicative production ([1980] 2005, 53).

Canada consider the relationship of politics and technology may, then, be in no small part related to the political-economic history of regional and international capital in the country.

A definition of communication from the Canadian political economist Vincent Mosco perhaps better captures the relationship of transmission and social power than what I have cited from Salter and Schiller: “*communication is a social process of exchange, whose product is the mark or embodiment of a social relationship* ([1996] 2009, 67; emphasis in the original). Mosco might have added that the product marks and marks related social processes of exchange.

With the following dissertation I show that problems of fuel and transportation fit comfortably within the scope of communication studies. I offer two basic rationales to support this position: one based in the historiography of Canadian communication, the other in the history of transportation that supported the development of capitalism in BC through the development of the Vancouver Island coal industry. To support the first, I introduce approaches to communication from Marx and Harold Innis that highlight the role of transportation in the political economy of capital and empire.⁸ Each provides theoretical touchstones from which to consider circulation and the development of capitalism on

⁸ Innis, regarded as a foundational thinker of communication in Canada (Babe 2000, 50 – 88), understands the problem of communication through the administration of economy and population, though the cultural results of media and communication technologies implicate the entirety of the social realm. “It has seemed to me that the subject of communication offers possibilities in that it occupies a crucial position in the organization and administration of government and in turn of empires and Western civilization” (Innis [1950] 2007, 23). Transportation appears to Innis as a decisive factor in Canadian political economy, in which, for example, trade routes through the Precambrian shield inscribe subsequent developmental patterns. Speaking to the complexity of Innis’ work, David Crowley identifies theories of history, society and knowledge from his writing on transportation and communication, (1981, 235 – 46). Discussions of social class are, however, mostly absent in Innis (Drache 1982, 53), with much of the heavy lifting in this regard accomplished by those of the left working in his tradition. An interesting exception to this blind spot comes in *Empire and Communication*, in which the development of writing appears to emerge from sedimented professional and ruling-class relationships (Innis [1950] 2007, 7 – 8).

Marx, by contrast, believes that class divisions constitute the circulation of commodities: transportation and communication infrastructure are developments of class-based societies. So important are these systems to human improvement that their socialization is regarded as a fundamental condition of the proletarian state (Marx and Engels [1848] 2011, 88). Although the influence of neither Innis nor Marx on communication studies can be limited to commodity circulation and exchange, both writers prefigure extensions within the field beyond oral/aural media systems and practice.

Vancouver Island. However, Innis' well-known failure to address issues of social class, in favour of a fetishism of material communication, suggests that Marx is the more appropriate theorist if the current study of fuel and transportation in communication is to take seriously capitalism as a coherent economic system based on structural difference and exploitation, the same for communication as a social process of exchange embedded within capitalism.

Following the discussion of Innis and Marx, I argue that the transportation of commodities poses the related problem of energy, placing the production, circulation, and consumption of fuel within the orbit of communication studies. The current study of Vancouver Island coal production and trade is then a (re)positioning of energy and transportation within the scope of communication. As recent work from Mosco reminds us: energy (electricity, in Mosco's study) is a necessary condition of communication networks (Mosco 2014, 32 – 3), which require it to emerge and be sustained. As it surpassed wind power, coal became a vital ancillary in a world system for communication. Indeed, the first purchaser of HBC-owned coal from Vancouver Island was a company delivering mail as far down the Pacific coast as Central America aboard its fleet of steamships.

The systems of production, domesticity, and transportation that coal supported were marked by regimes of colonialism, capitalism and attendant programs of dispossession underlying each. Challenging Innis' thesis that empires proceed through different forms of material communication that privilege certain socio-economic structures, I show that communication may itself become a technique of dispossession, reflecting enhancing, and entrenching certain power structures. During chapters two and three I produce a theory of energy production and circulation suitable for humanist explorations of Canadian communication studies. Subsequent chapters veer from this focus to center the development of labour and the labour process of energy production, treating these as an index of capitalism in B.C. during the nineteenth century.

1.2 Social History, Technology, Circulation and Methodology

In his introduction to the *Grundrisse* notebooks, Marx highlights the compositional process of social formations through methodological problems of political economy.

Criticizing the abstractions from which the classical political economists conduct their research, he writes that

the concrete is concrete because it is the concentration of many determinations, hence unity of the diverse. It appears in the process of thinking, therefore, as a process of concentration, as a result, not as a point of departure, even though it is the point of departure in reality and hence also the point of departure for observation and conception” (Marx [1857] 1993a, 101).

The “unity of the diverse” may be more contingent within resource extraction than it is manufacturing. Geological factors are more pronounced in the concretization of the former, suggesting additional problems for producers. Component parts taken together do not themselves, moreover, constitute the totality of developmental circumstance. The economic function of machinery and the labour process generally emerge through conditions of production within what Georg Lukács calls a ‘concrete totality’. Chapter two, “What do they know of Networks who only Networks Know”, looks at theories of labour-process concretization through the work of the philosopher of technology Andrew Feenberg (1999, 2002) and debates within post-Braverman labour-process theory.

The method I produce for analyzing technical development departs from the most popular readings of technology in Canadian Communication Studies today—influenced by three-plus decades of actor-network theory (ANT) and science and technology studies (STS)—by subordinating non-human material ‘actants’ to social forces, while retrieving a critical transportation-focused to communication. Networks composed of humans and non-humans, as foundational ANT thinker Bruno Latour understands them (1992, 1993), proceed through a sort of symmetry between the two. Although in minor ways comparable to Feenberg’s critical theory of technology, Latour’s rejection of the socialist project (and Marxian thought more generally) produces research frustratingly incapable of comprehending even basic sociological categories, not to mention the historical development of social phenomena. Liberal anti-Marxism is the core political project of ANT, and Latourian ahistorical materialism is read against the conceptions of technological change and the labour process situated by dominant power relations but irreducible to them, introduced through Feenberg and labour-process theory. Proceeding in this manner will lay the groundwork for a Marxian theory of technical change in

Vancouver Island's coal mines, which will influence the following discussion of machinery and extraction.

Reintroducing history to the study of technology in communication allows for critical epistemologies forbidden by ANT to be used. Marxist historians have long been concerned with the periodization of capitalism and the social history of labour power. E.P. Thompson ([1963] 1976), Neal Wood (1984), Gérard Bernier and Daniel Salée (1992), George Comninel (2000), and Ellen Meiksins Wood (2002), among others, have each attempted to correct liberal theories of development that naturalize capitalist social relations. William Burrill (1987) has produced a Marxian social history of HBC coal mining on the island, 1848 – 62, the first attempt, to my knowledge, at applying historical materialist analysis to the industry. Burrill's thesis is a remarkable positioning of class dynamics toward the center of capitalist development. Yet problems in his interpretation of labour-process theory (10) cleave Marxist thought on labour into divisions of control and exploitation more where significant continuity exists. Likewise, Burrill's account restricts development to local productive tendencies, meaning a lack of recognition for the role of international trade and transportation in the transition to capitalism on the island.

To avoid following a similar path, sections 2.7, 3.5, and 3.6 develop a transportation-focused theory of capitalist transition and development, returned to in 4.2, 4.5, 5.4 and 6.4, using trade initially as an index for development as capitalist dynamics were emerging. To provide a theoretical basis for this aspect of the dissertation, I explore the role of circulation in Marx's work on mercantilism and capitalism. Comparing him to Innis, I find Marx's historicism and interest in questions of oppression, exploitation, and social class more suited to the current project.

The work on transportation is meant to balance that on internal capitalist dynamics as the coal industry developed, especially after Confederation. The latter become more important as this history progresses, however. Drawing from Marx, Harry Braverman, and the post-Braverman tradition of labour-process theory, in the next chapter I delineate the sort of social history of work and technology, rooted in place, this project uncovers. Economic necessities, social control within the relations of production, and active class struggle and class dynamics, are all positioned as forces of mechanical development within the Vancouver Island coalfield. Technological development cannot be conjured

from entirely local conditions however, as the first of these suggests. Transportation systems, the general level of mechanical development, *and* abstract economic forces inherent to capitalism combine with local conditions to produce the labour process in a given setting. This feature of my analysis is distinct from the existing research on technological development in Vancouver Island coal mining and, as I've suggested, means to challenge communication's contemporary interest in ANT.⁹

1.3 The Emerging Mines: Collapse at Fort Rupert and the Nanaimo Years Before B.C. Enters Confederation

In practice, periodizing the development of capitalism on Vancouver Island through a study of the coal industry requires identification of the pre-capitalist and non-capitalist social relations that existed before and otherwise. The third chapter considers the mid-nineteenth century introduction of capitalist economic practice at Fort Rupert, while the fourth explores mining at Nanaimo, 1852 – 71. Through the roughly twenty-three-year period from January 1849 through '71 island collieries developed not only the conditions for successful extraction and trade but strategies to dispossess miners of the power they held over the working day. Internal dynamics were developing as capital sought expanding, reproducible output and to stifle workers' organizations and solidarity. Through at least the 1850s, however, trade remained the most important aspect of island mining and colonization.

From the commercial fur trade in the eastern pacific and on the continent, what would become BC enters modernity through transitional and overlapping economic systems—something like what John Lutz (2008, 169) sees as the modified economies of the Canadian Pacific—led by burgeoning industrial-capitalist staple extraction and proceeding through the colonial dispossession of territory. Lutz means to call our attention to the labour of First Nations workers in capitalist industry while their social reproduction

⁹ A recent special issue on communication and STS notes more generally that “[i]n recent years, these has been a notable cross-fertilization of ideas from the fields of Communication Studies and Science and Technology Studies... [G]rowing numbers of communication researchers have been employing conceptual tools and methods offered by STS to assist in understanding the socio-technical character and situatedness of media and information technologies and their configurations” (Paré, Millerand, and Heaton 2014, 519).

remained basically unmediated by market dynamics. Capitalist production on the island was, however, hardly mature throughout the first decades of coal mining. The picture that emerges at Fort Rupert during the first few years of the trade is one of mercantile-colonial administration struggling to contain the contradictions of a labour form situated between free and indentured, what we might describe as unevenness within a capital. The conflicts that arose in the transitional economy of Vancouver Island would, however, quickly exceed initial containment strategies in Fort Rupert, from which imprisonment and terror would augment colonial strategies.

To the best that I can determine, the first Vancouver Islanders to engage in coal extraction on a scale beyond the local were Kwagu'ł miners who traded coal with HBC prior to 1849, but only occasionally used it themselves and then as a dye (Codere [1950] 1966, 22). Kwagu'ł miners gathered sea and surface coal and worked shallow pits around Fort Rupert. While moditional in Lutz's sense, in which economic systems overlap, Indigenous participation in capitalist social relations was typically contingent upon their mining labour dovetailing with extant social practices, in many instances incompatible with productive norms of emerging capitalism. Lutz notes, for example, that Kwakwaka'wakw workers only contributed to mining seasonally, "when it didn't interfere with their subsistence and ceremonial activities" (2008, 172). Through the 1830s and '40s, the coordinated trade of coal with HBC satisfied the company's rather paltry needs. HBC's *Beaver* serviced the island after 1835 and burned coal in rather insignificant amounts, nor were its forts much using much, aside from company blacksmiths who could also burn charcoal.

The moment in which HBC begins to trade for Kwagu'ł-mined coal was also one of economic transition for the company. Under the direction of Governor-in-Chief George Simpson, 1821 – 60, HBC undertook various revenue-diversification schemes by mid-century, amidst dwindling pelt resources and markets. It was Simpson who arranged HBC's first coal sale and supported extraction to the company's board. The transformation of rocks into commodities under British control required, however, the establishment of a new regime of property rights on the island. Anything less would have figured the British as mere intermediaries in the sale of coal between Kwagu'ł producers and other buyers. Over-coding (then displacing) indigenous land tenancy was therefore a condition of

capitalist extraction at Fort Rupert, and this would proceed through the 1849 charter granting the island to HBC for colonization. The process of removing extant norms of land use, an aspect of what Marx referred to as “so-called primitive accumulation,” ensued under the Wakefield system of colonization, which was itself indebted to John Locke’s metaphysics of property.

Wakefield sought to reproduce the capitalist social relations of Britain in the colonial setting. HBC transported miners from England and Scotland to Vancouver Island to establish an industrial mode of colonization. Flows of wealth from Vancouver Island, based in the circulation of coal, also saw workers negotiate the colonial setting, HBC’s rather mercantile expectations, and the local practices of mining that they brought with them. The third chapter also explores their circulation, and the ideas of coal mining they held. At Fort Rupert, HBC was unable to reconcile these phenomena, and miners resisted the company’s attempts to establish illiberal forms of social control. HBC’s operation at the north end is indeed a story of struggle and failure, generally reducible to the contradictory arrangement of these phenomena. The transportation of coal miners to Vancouver Island, their eventual movement around the Fort Rupert area, and mining itself are treated as a result of the interstitial point between mercantilism and capitalist organization that HBC inhabited, 1849 – 53. This liminality proved to be a barrier to accumulation. Inadequate transportation networks to support extraction, to name only one reason, is shown to have contributed to the failure of colonial mining at the fort. It is an irony of capitalist development on the island that intercontinental wind-powered ships carried people and capitalist property rights on a months-long journey—around Africa and north up the Pacific coast of the Americas—but extraction at Fort Rupert failed (in part) because of underdeveloped transportation networks across what was a relative handful of kilometres (K).

The organization of the island coalfield prior to Confederation indeed proceeded through the communication of colonial bodies across oceans and the reconstitution of an imperial working class in the colonized society. On the island, part of this reconstitution involved an assessment of colonized bodies and their place in capitalist extraction—an evaluation and categorization of colonized peoples and their value to the company. In describing this historical process in chapter three, a pathway opens for the project to travel

down what the Historian Bryan D. Palmer criticizes as a “descent into discourse” (1990), or the post-structuralist primacy of language in social history. The words deployed by colonists and mine owners to understand colonial and colonized workers were, however, already contained by the economic orthodoxy of British colonial administration. Where colonial language deviated or developed, it did so in response to the working conditions and active dynamics between First Nations workers and colonial capital. The Indigenous miners that were part of the labour process after 1848 were already described by racialized notions of labouring and pre-capitalist economic norms, holdovers HBC’s fur trade. Discursive constructions of technical skill and presumed cultural traits attributed to certain coal miners also informed concrete aspects of colonial mining. Company ideas that assumed an essential racial commonality were, however, subject to change as economic practices were transformed.

Chapter four concerns, among other things, racialization in the labour process and colonial project through the loss of Fort Rupert as a mining settlement and establishment of Nanaimo in 1852. The emergence of a system of express canoes helmed by First Nations workers, to take one example, constituted a prompt and reliable communication network for the island, surpassing anything telegraphy could offer the island in the pre-Confederation era of colonization. First Nations workers were also involved in the local circulation of coal from the pit head to waiting ships, especially prior to the construction of a wharf and jetty system in the harbour.¹⁰

The coal industry moved away from Indigenous employment as it developed, although canneries on Burrard Inlet and the provincial forestry industry are different stories. This process was, no doubt, the result of capital finding other workers it could more successfully hyper-exploit. In general, colonization failed to subordinate the social reproduction of Indigenous workers to capital. As Lutz argues, those working in the coal industry adapted modified economies of non-capitalist nationhood. Yet a highly-racialized division of labour characterizes the labour process throughout the period of study this

¹⁰ This emerges as the earliest example of a continuing theme in the island coalfield, in which relatively low-paid or rebellious labour is supplanted by technological innovation.

dissertation undertakes. And, as the express canoes imply, race was frequently instrumentalized in conjunction with technology.

The introduction of Chinese labourers to the Vancouver Island coalfield in the 1860s complicated the administration and exploitation of racialized people. The ideal subject of British colonial society reflected a bourgeois white-supremacist tradition, which in certain ways fit awkwardly with capitalist imperatives. Vancouver Island's collieries planned to use Chinese labourers underground to reduce the cost of variable capital. Chinese-identified miners would haul coal below ground and on the surface. The existing colonial mining population objected, however. Out of the resulting political tumult, a complex system of subcontracted labour appeared, in which white miners were able to hire others. Changes in the relations of production were, in other words, directly tied to incommensurate forces of racial exclusion and economic imperatives. As it was produced by competing visions of economics and white-supremacy, the division of labour would evolve over the course of the century in a peculiar manner that cannot be explained through capitalist imperatives.

Chapter four also identifies certain conditions for fixed capital development, in the forms of extractive and circulative infrastructure, the division of labour, and the transformations each undergo over the two-decade period between the introduction of coal mining to Nanaimo and BC's entrance in to Confederation. By the 1850s industrial machinery had begun to operate on Vancouver Island, in the form of a steam engine used to extract water from the mines, first shipped to Fort Rupert, then Nanaimo after the fort is abandoned. When, in 1853, workers and residents of Nanaimo "came to see the miraculous machine pump water out of the mine," as Lynne Bowen writes, the "industrial age had arrived in Nanaimo" (1987, 64). Industrial expansion was, however, by no means limited on Vancouver Island to burgeoning energy capital. Saw and flour mills were using steam power one year later, as were Vancouver Island foundries by the 1860s (Lutz 1988, 171).¹¹

¹¹ With that said, Lutz shows that developments in steam power before World War One were ultimately tied to resource capital (1988, 172, 173), where most horsepower (HP) was found.

Prior to 1871, first HBC then VCMLC—after its purchase of the former’s mining concerns in 1862—held real monopoly over the industry. These companies were, because of this, solely responsible for the introduction of machinery in island coal mining prior to Confederation. This would last no longer however, as competition within island-mining capital emerged and proceeded through the 1870s.

The Nanaimo years before Confederation were the time in which capitalism, both in the mines and as a market-centered life, began to cohere on the island. Trade networks that brought coal south returned with food and mining implements for workers to purchase—flows of rock met with fare and tools. Mining itself expanded greatly throughout the period. Inchoate at Fort Rupert, economic tendencies toward growth and reproducible profit become drivers of development in Nanaimo, where technical development, especially in local coal transmission, was in an impressive state by the end of the settlement’s first two decades.

1.4 Expansions and Paternalisms

Chapter five begins in 1871 and ends around the death of the island’s most prominent capitalist, coal or otherwise, Robert Dunsmuir in spring 1889. If much of what comes before this period constitutes the establishment of an identifiably capitalist industrial and social structure, from 1871 to ’89 both capital and class antagonism mature on Vancouver Island. The Historians Burrill (1987, 96) and John Hinde (2003, 81) separately argue that advanced, highly exploitative capitalist machinery does not really enter British Columbian coal mining until the twentieth century. This is both true and rather limited. Technological change in the island’s mines, especially after Robert Dunsmuir’s death, is responding to conditions unique to given collieries and social structures. Even before the introduction of advanced labour-saving machinery in the 1890s, forms of class struggle not materialized in fixed capital had begun to intensify the exploitation of labour power. On top of ongoing attempts at VCMLC and Dunsmuir mines to reduce wages, by at least the late 1870s, VCMLC manager John Bryden—later employed by Robert Dunsmuir after leaving VCMLC in 1880—had begun to develop tactics to increase the rate of extraction without commensurate wage gains.

While mine owners and managers were discovering techniques to intensify the labour process in the 1870s and '80s, simultaneous large-scale exploration for coalbeds was occurring across BC. Arguably the first major technological advance in Vancouver Island coal extraction happened in this period—the introduction of a diamond-boring machine by VCMLC in 1875. Although the province's land was no longer treated as a quasi-fiefdom of HBC, industrial resource extraction expanded greatly in the 1880s.¹² Perhaps no site was more indicative of this outward-facing interest than Gabriola, an island roughly the size and shape of Manhattan, sitting about three nautical miles east of the former HBC and VCMLC harbour in Nanaimo, in between Vancouver Island and the mainland. Convinced the Newcastle or Douglas coal seams, which largely comprise the island's coalfield, crossed the narrow Northumberland Channel between Nanaimo and Gabriola, VCMLC miners bored an astonishing 670 meters-deep hole underneath the western edge of Gabriola by 1890. No workable deposit was ever found, although the gulf island's economy would ultimately be tied to coal mining in Nanaimo, becoming a breadbasket for the industrial city. An industry report in 1894 blamed, perhaps disingenuously, “mechanical difficulty” for the cessation of exploratory activity on the island (Planta 1894, 300).

In addition to its already operating mines and the exploration of Gabriola, mining capital had discovery projects underway in the Comox Valley, over 100 K to the north of Nanaimo, and proposed a survey of Texada Island, lying in the Strait of Georgia in between Comox on the island and Powell River on the mainland. The general character of economic activity in coal mining on the island prior to Robert Dunsmuir's death, as this suggests, was one of expansion. Mining capital was growing by extending its mine systems across underground space and its local circulative systems above.

¹² As a researcher, the post-Confederation period in island mining also produces some of the most consistent data, especially that of the Minister of Mines' Reports, which were assembled annually from 1874. Recent work undertaken by the University of British Columbia (UBC) and the British Columbia Government Publications Digitization Group has made these reports accessible online, an initiative that should promote a proliferation of research into the history of mining in the province. These reports reveal much about the expansion of the coal industry, the racialized division of labour, safety in the mines, technological change, and the importance of coal to the provincial economy.

Industrial expansion in this manner implies growth in the working population, all other things being equal, and by 1891 collieries had become the quantitatively dominant employer on Vancouver Island,¹³ with well over 2000 individuals working in island mining according to the census.¹⁴ For the coal industry, quantitative growth in this period is both that of the working and capitalist classes, if marginally so for the latter. Monopoly becomes duopoly as Robert Dunsmuir's mining operations rise to challenge VCMLC's control of the Vancouver Island coalfield. Dunsmuir had come to Vancouver Island to mine Fort Rupert, among the first several groups from Britain. After discovering the Wellington coal seam north of Nanaimo, Dunsmuir incorporated an independent colliery with several other investors, Dunsmuir, Diggle & Company (DD&C). Following the dissolution of DD&C, Robert with his son James built an immodest empire on the island, which included sizeable profits from the construction of an Island railway that ran from Esquimalt to north of Nanaimo, a Victoria foundry, their coal mines, as well as provincial political office.

Among other things, a rivalry emerged between VCMLC and the Dunsmuirs, revealing forks in the path coal mining on the island followed. This rivalry would bear in a perhaps unlikely manner upon the labour process. Competition between the Dunsmuirs and VCMLC's manager Samuel Robins after 1884 concretized as conflicting modalities in the control of labour. Paternalist authority, as H. Clare Pentland (1981) and Palmer (1983, 12 – 20) note, characterized productive relations in Canada until 1850.

As a prevailing ethos that defined relations of subordination in an age of commercial capitals and nascent industrialism, paternalism grew out of the necessity to justify exploitation and mediate inherently irreconcilable interests. It rationalized inequality and provided for a hierarchical order, but did so in diverse ways (Palmer 1983, 14).

Subsequently, as bourgeois and capitalist relations established themselves, paternalist management evanesced. Yet this process also happened unevenly in island coal mining. Residual paternalism, in one form or another, structured the relations of production throughout the nineteenth century. As Hinde notes, paternalism in management

¹³ A decade prior, more were employed in the fisheries, as handymen or in farming than in the mines.

¹⁴ The Vancouver Island coalfield would, however, begin to decrease the number of labourers employed in the industry by the end of the century, while maintaining or enhancing output in terms of tonnage.

developed in opposite ways (2003, 23 and 26), what can be characterized as collaborationist and authoritarian paternalisms, each with their own strategy of capital for labour peace.

Paradoxically, persisting paternalism corresponds roughly to the coherence and progression of capitalist antagonisms, producing odd admixtures. As some pre-capitalist vestiges disappeared throughout the second half of the nineteenth century, mining capital was faced with the problem of potentially rebellious workers responding to its efforts to lower variable capital costs. Through the 1870s and '80s, the state increasingly began to represent the needs of mining of capital in response. The period is marked by an expanding role for direct repression in securing the conditions of coal extraction. What Louis Althusser called the 'repressive state apparatus' emerged to contain the contradictions of advancing extractive capital. At multiple points, for example, the provincial Legislative Assembly mustered militia forces to break strikes and evict mining families from company cottages, bringing the state into line with the needs of mining capital. The collective struggle of miners against enhancing exploitation was met with reactionary suppressive forces.

This constituted one containment strategy for mining capital on the island: direct antagonism and confrontation supported by the state. Here again, however, the advancing capitalist state is twinned with older forms of social and economic control. Control over local economies, first by HBC/VCMLC and later the Dunsmuir, impeded the liberal functioning of capitalist social reproduction. Social liberalization was delayed or displaced by the power capitalists expressed in wider society. In the Dunsmuir's case, control of housing and influence over shopkeepers denied workers some of the benefits afforded by coal capitalism. Both father and son also maintained antipathy toward freehold tenancy for white miners throughout their tenure as mine operators, arguing that the benighted group would be unable to sell their land after nearby seams were exhausted (Belshaw 2002, 104). A situation was therefore present in the Dunsmuir communities in which coal mining was firmly capitalistic in orientation, but the social reproduction of the working class remained tethered to an illiberal social authority.

Such efforts to control coal miners under duopoly conditions also indicate the degree to which the expansion of the working class was not merely numerical. The political expression of labour power began to establish itself as a serious force during this period, although strikes and job action were common from the time of Fort Rupert. During the period of expansion, segments of miners organized as a politically volatile entity to which capital was obligated to respond. This cohesion was, however, fractured by divisions of race and skill. While census data from 1891 suggests that the British remained the dominant population on the island, the racial composition of the working class had grown with the introduction of Chinese, Japanese, Finnish, Italian, and eastern Canadian labourers, among others. The political composition of the working class was restrained by extant white-supremacism and entrenched labour hierarchies within the coal mines, which affected the extraction of coal and the social reproduction of labour. Expansion was able to be wielded politically by mining capitalists against workers. Race became a cudgel for capital to wield against working-class solidarity, as racialized miners were employed during strikes to continue extraction and in peace-time to lower variable capital.

The containment strategies that emerged in the 1870's and '80s responded to the power of certain miners to assert demands and impede extraction. Alternative methods were used by Dunsmuir and Robins—direct antagonism and collaborationism, respectively. At the Nanaimo mines after 1884, VCMLC achieved the latter by including miners within certain decision-making bodies. The strategy was effective: VCMLC faced no strikes during Robins' years as superintendent, which ran to early 1903. Robert Dunsmuir's authoritarian paternalism was similarly effective, although the 1880s saw a handful of strikes at Dunsmuir's Wellington and Cumberland collieries—a few and roughly 100 K north of Nanaimo, respectively. Following the protracted and intense 1890 – 1 strike at Wellington, however, the company would introduce deskilling machinery to the island for the first time.

1.5 Mechanical Change, Class Struggle and the Labour Process

Robert Dunsmuir's 1889 death marks a transition in the articulation of class struggle on Vancouver Island. This had almost nothing to do with the passing itself—instead a convenient temporal marker, as capitalist codification of coal-mining technology

began to appear more directly political quickly thereafter. Technological change in the labour process began to mediate the relations of production on behalf of capital, especially in the Dunsmuir mines; technical mediation itself is from this point forward saturated by the political code of deskilling. Marx's famous statement in the first volume of *Capital* that "machinery does not just act as a superior competitor to the worker, always on the point of making him superfluous" (Marx [1867] 1990, 562) is here resonant. He continues

[machinery] is a power inimical to him, and capital proclaims this fact loudly and deliberately, as well as making use of it. It is the most powerful weapon for suppressing strikes, those periodic revolts of the working class against the autocracy of capital... It would be possible to write a whole history of the inventions made since 1830 for the sole purpose of providing capital with weapons against working-class revolt (Marx [1876] 1990, 562 - 563).

The weapons worked by cleaving the working class. In the 1890s, the duopoly between James Dunsmuir's operations and VCMLC, now the New Vancouver Coal Mining and Land Company (NVCMLC)¹⁵ in Vancouver Island mining remained in-tact, though minor independent operations would begin and often fail.¹⁶ The differing managerial ideologies of Robins and Dunsmuir would likewise manifest in mechanical change in the island's coal mines. The early part of the decade represented the greatest expansion of output and productivity in Vancouver Island mining, hitherto. Yet the years immediately prior to the introduction of advanced mining technology in 1891 (Dunsmuir) and '92 (NVMLC), were those when the top-end wages of coal diggers¹⁷ were at the highest level since coal mining had begun on the island (Belshaw 2002, 95).

¹⁵ In 1889, VCMLC becomes the NCVMLC, after the company is "reorganized", to use Belshaw's term (2002, 221 note 13). The Minister of Mines' Report from that year passes over the reorganization with no mention of the event or preceding conditions. By contrast, mining for coal near the incoming Crow's Nest Pass Rail Route less than a decade later (which produced fewer than 10,000 tons of coal in 1898), would generate hyperbole in that year's report.

¹⁶ By 1899, collieries operated by the Crow's Nest Pass Coal Company (of Toronto) working in the province's interior would produce about 103,000 tons of coal and 30 tons of coke. VCMLC, by contrast, extracted about 615,000 and Cumberland 207,000 tons that year (Minister of Mines' Report 1899, 819, 830).

¹⁷ Bowen (2004) comments that, in fact, 'digger' was the more common term on Vancouver Island over the more general 'hewer', whereas British readers, among others, might be more accustomed to hewer. I've kept the usage of digger—mostly to add local colour—although I recognize that the term may be alienating to some familiar with the British.

For all their continuities, James Dunsmuir's administration of his labour force sometimes departed from his father's methods.¹⁸ Robert's control over the miners hinged on that of the community more generally. James, though retaining power in social reproduction, would introduce coal undercutting technology to Cumberland¹⁹ in 1891.²⁰ Its use became economically and politically efficacious because the labour force in the No. 4 Slope, where the technology was first introduced, was radically different than the other mines on the island to the south of Cumberland. Through undercutting machinery, the high-wage labour of coal diggers could be replaced by low wage racialized coal runners, as much of the skill required of work at the coalface was transferred from embodiment within the human digger to the mechanical cutter.

While the introduction of undercutting machinery at Cumberland is a watershed moment, it did not transform extraction across the coalfield. As Hinde puts it, "we must be careful not to exaggerate the extent to which mechanization deskilled and proletarianized the mining workforce" (2003, 81 – 2). More impressive innovations in productivity would be realized in coal mining when cutting machines were connected, in one form or another, to advanced haulage systems, allowing extraction and underground transmission to move at pace. The turn to complex deskilling and labour-saving machinery in the early 1890s marks the origins of capital's investment in a political form of technology in island coal mining nevertheless, though the fact that this machinery did not revolutionize extraction across the coalfield, given what I show are significant productivity gains at Cumberland, requires some explanation. The concluding chapter identifies three primarily social reasons for this history, found within the active power relations between workers and managers.

The power of Nanaimo's underground miners and their desire for labour peace would inhere in the form of technological change. VCMLC's miners had made a series of

¹⁸ See section 6.0 for references to the bourgeois press' treatment of Robert Dunsmuir's death,

¹⁹ At its founding, Cumberland was named Union, after the Dunsmuir-owned Union Colliery Company. The name would soon be changed, according to Belshaw (2002, 53), after a massive loss of life in a mining disaster. I use Cumberland throughout this dissertation, even when Union would, properly speaking, apply.

²⁰ On this point see Hinde (2003, 26 – 34), who dismisses narratives that figure James Dunsmuir as forward thinking or interested in the welfare of labour, at least of those working in Wellington and Extension mines.

wage concessions with Robins in exchange for a certain degree of control over the labour process. The result was a period of uninterrupted extraction to 1903. The benefits of these concessions are starkly evident with the Nanaimo diggers. Far from being victims of technical change directed toward deskilling the labour process, the relatively privileged face workers participated in the form of a collective agreement and committee work overseeing the functioning of the mines, what are known as 'pit committees.' In 1892, Nanaimo saw serious improvements in haulage within the No. 1, Esplanade mine, with the introduction of electrified trams. As with Cumberland, the economic imperative was obvious: the reduction of variable capital in Nanaimo was followed by increased output. Power relations, embedded within economic necessities, were then by no means absent from the benevolent paternalism of Robins. Instead, technological change mirrored local conditions of production—here, the development of miners as a political entity and the strategies of mine managers—embedded within a greater totality. Part of this wider context involved evolutions in the circulative system. The introduction of mining machinery produced elsewhere required rail develop for producers in the Great Lakes region to ship their machinery westward. That Vancouver Island's coal predominately satisfied consumption in California is also important to note. Far from isolated innovations, electrification and deskilling machinery appear within a series of changes to the labour process, motivated by the political economy of an emerging local industry and emergent, interconnected world market.

From its origins in merchant capital, coal mining on Vancouver Island would undergo significant changes in its labour process throughout the nineteenth century. Yet the introduction of electrical haulage systems and deskilling machinery at the coalface in the 1890s were the most dramatic of the period.²¹ Identifying technical change in island coal mining is useful for two reasons. First, the extractive industries continue to play a central role in Canadian political economy. Oil policy has been an abiding—arguably dominant—economic concern for successive twenty-first century federal governments in Canada, though some more than others. In 2015, all five of BC's top exports were raw or slightly rendered raw materials—lumber; coal and rendered coal by product; copper ore and concentrates; chemical wood pulp, soda or sulphate; and liquefied petroleum and

²¹ Deskilling technology introduced soon after the First World War arguably represents more advanced relations of production but falls outside of the temporal scope of this dissertation.

hydrocarbon gases (British Columbia 2016). The current dissertation, which attempts to understand the development of energy capital through the coal industry in BC, is then meant as something like a history of the present. Second, consideration of technical conditions in the mines presents an important redress to historical and contemporary work on technological change. Chapter two concludes that the current fascination in communication studies with the non-human turn generally and actor-network theory (ANT) specifically has lead researchers of technological change toward unhelpful and politically-muted projects. Chapters five and six identify the social processes that become crystallized in technological change, for which ANT cannot account. The history of technique, machinery, and labour process in Vancouver Island coal mining rebuts such apolitical conceptions, uncovering radically uneven determinants.²²

Another way to say that technological change in production is uneven is to assert that historical circumstance, with all the messiness of concrete reality, defines the

²² In deterministic accounts, on the other hand, the status of technology is that of the 'prime-mover'. Technological change moves upon a basically fixed path. In this regard, Robert Heilbroner's notable contribution, "Do Machines Make History," is exemplary. The essay attempts to discover institutional powers that might direct autonomous-technological progress. Neatly anticipating the text's core argument, Heilbroner makes parsimonious use of Marx's work on technology, instead relying heavily on an often-cited phrase from *The Poverty of Philosophy*: "The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist", which plays epigraph (1967, 335). The accumulation of capital and the division of labour regulate technical change in this account, however the pattern of this change is generally fixed. In the history of Vancouver Island coal mining before World War One (WWI), the steam engine and steamship, rather than the larger steam mill, are prominent. Yet the similarities to Marx's early-career comment on the social implications of productive machinery do not go much farther.

productive capacity of labour power.²³ Capital brings to life the abstract category of labour power, otherwise formally indeterminate, in the immediate and “particular conditions of the enterprise, and by the technical setting” of the labour process, Braverman writes ([1974] 1998, 39). Beginning in the 1890s, the augmentation of labour power in Vancouver Island coal mines through mechanical change takes on political expression. Whereas, predating the political influence of capital over machinery, class struggle conditioned labour power in ways that were more fluid. *Pace* the non-human turn, the history of technical change in Vancouver Island’s coal mines suggests neither a fixed course nor a lack of politics in extraction. Instead, the forces of production on Vancouver Island were moderated by active power relations defined by the political-economic context.

The dominant power relations in Vancouver Island mining are themselves easily recognized. In the nineteenth century, articulations of class struggle between workers and capital constituted the prevailing force in the concrete circumstances of the industry’s labour power. Yet a host of other factors influenced development of the labour process. A by no means exhaustive list includes infrastructural capacity for commodity circulation, social and political regulation of racialized people, competition among capitalists, the island’s position within a world market, and the colonial project in pre and post-

²³ Commonly defined, labour power is the mental and physical capacity to produce a commodity. The reality of labour power for a given worker (or capitalist, for that matter) is, however determined in historical circumstance—the development of the labour process and the political power of the working class, for example. More than this, the sale of labour power is central to the definition of capitalism as an economic system. George Comninel thus writes that “[i]n capitalism, as in no other society that has ever existed, the normal social condition is to be unattached to any means of engaging in meaningful social production, and to be dependent upon 'finding a job'. Every Western society has had markets, and every Western society has had wage-paying labour. Only capitalism has made every normal productive relationship an expression of 'the market'. And only in capitalism are wages not merely the normal means of acquiring subsistence, but a form of income wholly divorced from traditional and normative rules of payment, in principle being exclusively determined by 'the market' through the 'commodification of labour-power'” (2000, 7). Similarly, Ellen Meiksins Wood argues, that “[o]nly in capitalism is dominant mode of appropriation based on the complete dispossession of direction producers, who (unlike chattel slaves) are legally free and whose surplus labour is appropriated by purely 'economic' means. Because direct producers in a fully developed capitalism are propertyless, and because their only access to the means of production, to the requirements of their own reproduction, even to means of their own labour, is the sale of their labour-power in exchange for a wage, capitalists can appropriate the workers’ surplus labour without [extra-economic] coercion” (2002, 96). Triangulated historically by the separation of labourers from the means of production and social reproduction, the sale of labour power by workers to the capitalists then defines the capitalist period, in the accounts of Meiksins Wood and Comninel.

Confederation BC. Each is a distinct yet overlapping moment that augmented the directive power of local economics over the labour process in nineteenth-century mines. Their identification is crucial if we are to understand changes to coal mining because machinery and the labour process concretize through abstract economic imperatives, local class struggle, and historically contingent and sometimes non-designable conditions of production. Although perhaps obvious in general, the basic binary opposition between the working and capitalist classes structures the more intricate concrete unfolding of the labour process. It was, of course, economic motivations that placed coal within the orbit of capitalist class relationships in the first place.

1.6 The Literature on Vancouver Coal Mining to Date

Wherever possible, I have tried to rely on archival documents. Writing from the mainland city of Vancouver, I have been helped immensely by the digitization of many key papers, including reports from the provincial Minister of Mines, special government committee findings, and HBC's Nanaimo notebooks. I have travelled also to archives in Victoria, Cumberland and Nanaimo and made extensive use of the Hudson's Bay Company's archives in Manitoba through its generous loan policy. Where these and other sources were insufficient, I've drawn from a handful of secondary texts.

Coal miners on Vancouver Island are a reasonably well-studied group. Lynne Bowen's *Boss Whistle* (1982) and *Three Dollar Dreams* (1987) represent the most comprehensive histories of island miners and their industry. Belshaw is no doubt correct when he writes that "Bowen has an intimate understanding and appreciation of the Vancouver Island coalfield that is unmatched" (xiv). Bowen's "Independent Colliers at Fort Rupert" is a concise yet compelling genealogy of the first miners on the island, which resembles moments of *Three Dollar Dreams*. Some of the secondary history that informs this dissertation is taken from Bowen's writing, although any interpretative mistakes that arise from following this work are, of course my own. I've made note where I follow the historical work of others.

William Burrill's unpublished thesis, "Class Conflict and Colonialism" (1987), is the only explicitly Marxian account of capitalist development on the island. More condensed

than the current project, Burrill's attention is limited to HBC coal mining 1848 – 62, and his object is class conflict rather than the labour process. Burrill periodizes capitalist development through a reading of Marx's distinction between the real and formal subsumption of labour to capital, analytical categories that I also use. Although similarly Marxian in method, I depart from Burrill by arguing that the absolute separation of real *from* formal subsumption, in his reading of Marx's "The Results of the Immediate Process of Production" (Marx ([1863 – 6] 1990b), obscures the complex mingling of mercantile and capitalist forms in nineteenth-century extraction and social reproduction. Burrill's period of study also separates his analysis from what I gather to be some of the most interesting mechanical developments in the mines.

Daniel Gallacher's unpublished 1979 dissertation, "Men, Money, Machines: Studies Comparing Colliery Operations and Factors of Production in British Columbia to 1891," traces the rise of the coal industry. Despite its title, *Men, Money and Machines* does not present a history of machinery within Vancouver Island mines. When moments of technological saliency do arise, the lens through which they are presented is largely uncritical. Throughout his project Gallacher instead discloses a liberal faith in economic and technical progress. Based upon a comparative economic analysis of competing capitals, *Men, Money and Machines* nevertheless provides an important account of developments in the haulage and circulation of coal. It is also one of the earlier descriptions of Vancouver Island coal mining of which I make use.

Although only in small part a discussion of island miners under HBC, Edith Burley's 1993 dissertation "Work, Discipline and Conflict in the Hudson's Bay Company, 1770 – 1870," helps contextualize the brutality of HBC officials engaged in an illiberal system of organizing social life, as does Barry Gough's *Gunboat Frontier* (1984), though in a different way. John Kemble's 1938 essay "Coal from the Northwest Coast, 1848 – 1850" provides much appreciated detail regarding the relationship of HBC to the Pacific Mail Steamship Company, the first purchaser of HBC coal. I also draw from Allan Orr's unpublished 1968 master's thesis, which details the political and union organizing of miners into the twentieth century. Jeremy Mouat (1988), Allen Seager and Adele Perry (1997) provide accounts of the 1890 – 1 strike at Wellington, of which I've availed myself.

Hinde's *When Coal was King* (2003) is a sophisticated account of coal mining in Ladysmith specifically and on the island more generally. The book deals with the labour process extensively and recognizes the importance of technical change to coal mining in the nineteenth century (79), perhaps most prominently among historians of nineteenth century coal mining on Vancouver Island.²⁴ On the labour process, Hinde finds himself at odds with Belshaw's account in *Colonization and Community*. They differ over the importance of population with respect to mechanization in the mines. Belshaw argues that a lack of surplus labour on the island slowed mechanical development. Hinde, on the other hand, identifies the temporal consistency between the mechanization of Vancouver Island coal mines and others in North America. Belshaw's description of the working day in "Work and Wages" and Hinde's chapter "Down in the Dark Gloomy Dungeons" are unequivocally the most sophisticated analyses of work in Vancouver Island coal mines to date—with Hinde's my preferred of the two. Belshaw's conclusions overemphasize geologic factories in the composition of labour power. In "Work and Wages," internal economic dynamic related to labour process are subordinated to geology; cycles of class struggle slip beneath layers of rock. Hinde similarly downplays the importance of control and class struggle to the development of the labour process but focuses more closely on mining technology and related social relationships.

While the differences between Hinde and Belshaw are sometimes pronounced, they share a common critique in provincial historiography. Both reject the assumption of intrinsic labour militancy within the British Columbian working class, held by some historians of BC (Belshaw 2004, 8 – 11 and Hinde 2003, 4 – 8). A protracted interest in "western exceptionalism," Belshaw argues, imposes something like a frontier-hypothesis understanding of the working class (7 – 9). Against this hypothesis, Belshaw presents a comprehensive study of the British Columbian working class or diasporic British working class on the island. Hinde similarly believes that the frontier thesis, ironically, decontextualizes workers. Although briefly stated, Belshaw and Hinde's complementary

²⁴ Hinde is, however, partially incorrect when he writes "the structures of capitalist economic development on Vancouver Island were well in place before the spectacular economic, social, and political ascendancy of the Dunsmuir family [in the 1870s]" (Hinde 2003, 14). Workers were legally free producers early in the history of Vancouver Island coal mining, sometime after HBC contracts cease becoming the dominant compelling force to labour, this is true. Yet residual pre-capitalist norms continued to influence the direction of coal extraction and the lives of coal miners toward the *fin de siècle*.

arguments are compelling. Their methodological concern within the field of Canadian history is, all the same, outside the current scope.

If Belshaw's *Colonization and Community* and Hinde's *When Coal was King* appear as correctives to the frontier vision of the British Columbian working class in the nineteenth century, neither center mechanical change. Hinde, to my mind, even downplays the importance of undercutting machinery. My analysis in the final chapter, on the other hand, revolves around this history. Identification of the local conditions of production is key to understanding why the labour process of coal miners developed in the ways that it did. I offer a comparative analysis between mines on Vancouver Island to show that uneven development and local factors and discourses within the totality of an emerging world market produced the labour process of island miners.

1.7 Concluding Introductory Remarks

The historical literature is both thorough and of an impressive breadth. There has not, however, been a detailed accounting of the labour process and technical change across nineteenth-century coal mining. Similarly, the research to date has yet to periodize the island's coal industry within the development of capitalism in the Pacific. Both are aspects of the current dissertation. Throughout, technical change to the labour process appears because of fluid internal forces, abstract economic tendencies, and contingent social phenomena. Each is explored through insights from the critical theory of technology and labour-process theory to account for the complex and uneven paths of mechanical development in Vancouver Island's coal mines.

In the nineteenth century, the most advanced capitalist relations in BC were found in the Vancouver Island coalfield. These were, paradoxically, marked by the persistence of pre-capitalist tendencies. Vancouver Island's unique position in the world market combined with the rapid expansion of coal use promoted the industrial development of the island. The emergence of the California market for coal consumption was particularly important. Internal dynamics and conditions, however, dictated the course or particulars of industrial development on the island. In attempting to answer the three research question I've posed in this dissertation—how did Vancouver Island's coal industry support

the development of capitalist social relations in the Pacific north of the forty-ninth parallel, how did transportation systems enable coal production and influence the composition of labour power and the expansion of empire(s), and what social and economic relationships conditioned technical change in the island's coal mines—there is therefore a constant need to weigh, on the one hand, economic forces and development peripheral to the island with its own internal subtleties. I hope that I've been able to adequately construct such a dialectic.

2. What do they know of Networks who only Networks know? Methodology, Labour-Process, and Non-Human Agency in Communication Studies

In few fields of contemporary social reality is there such a lack of solid historical understanding.

- *Raymond Williams, "Means of Communication as Means of Production"*

Theory is history.

- *Samir Amin, Theory is History*

Vancouver Island lies off the Pacific coast of Canada's mainland. Just to its east, the Juan De Fuca and Explorer plates begin to slide underneath the North American Plate, a region known as the Cascadia Subduction Zone (CSZ). Dipping below the forty-ninth parallel at its southern edge, the island runs approximately 460 K north, northwest. Fort Rupert, HBC's first coal mining outpost, is roughly seventy-five K east of the island's northernmost point. Vancouver Island's northern region is adjacent to the Great Bear Rainforest at its east, which includes the coastal mainland of northern BC and some of the islands between the mainland and Vancouver Island. At its broadest, Vancouver Island is about eighty K wide, a point about half of the distance between Fort Rupert and Nanaimo. Its relatively short width belies the complications of latitudinal travel. The showery west coast is separated from the comparatively arid east by the Vancouver Island Ranges (VIR), which span almost the entirety of the island's length, and European colonial settlement to this day and has taken place predominately on the east side of the VIR.

To the best that I can establish, the coal deposits of Vancouver Island, charitably characterized by an interested party as the "Britain of the Pacific" (Planta 1894, 294), stretch non-contiguously from the Victoria region, at the island's southern edge, northward past Fort Rupert. There are three major formations: the Nanaimo group; the Comox formation, north of Nanaimo; and the Suquash in the Fort Rupert area. The Nanaimo and Comox fields are interrupted by the coal-barren Nanoose Arch, although little distance separates the two. The Comox and Nanaimo-area mines are fed by three prominent coal

seams: the Wellington, mined by the Dunsmuirs until James sells the family mining empire in 1910 to Canadian Northern Railway, as well as the Douglas and Newcastle seams, predominantly worked by HBC and (N)VCMLC during the nineteenth century, followed by the Western Fuel Company (WFC) after its purchase of NVCMLC in 1902.²⁵ Vancouver Island's seams are fractured by numerous faults, a somewhat unique challenge to mining on the island, which is related to activity within the subduction zone, though not necessarily its result. "Mining of the Wellington Seam," for example, "has been hampered by the irregular topography of the seam floor, splits within the seam, and minor faulting and clastic dikes within the seam roof. Most of the topographic irregularities of the floor are of sedimentary rather than tectonic origin" (Bickford 1978, iii).

The island's coal seams vary widely in depth. VCMLC's No. 3 Pit at the New Douglas mine near Chase River, south of downtown Nanaimo, was noted in 1889 to run from under one and one quarter meters (M) in depth to over three. The company's Northfield mine, on the other hand, varied much less, from 1.16 to 1.3 M. Near the town of Courtney, BC, roughly ten K from Cumberland, the thickness of Comox-formation coal fluctuates dramatically, from two to eight M (Canada 2004). Several K south of Fort Rupert, the coal seam exploited by the first coal miners on Vancouver Island is reported to be under one M in thickness (Helmcken [1887 – 92] 1979, 303).

In the story of coal extraction on Vancouver Island, the thickness of coal seams and the regularity or irregularity of faults present methodological challenges for researchers and miners alike. Thickness and stability correlate to methods of coal extraction, which in turn suggest—though do not determine—alternative supervisory techniques and mechanical change. On Vancouver Island, mine managers preferred to work coal seams fewer than 1.5 Ms in thickness by the longwall method of coal mining, a relatively recent development at the time mining began on the island. John Bryden, who at different times managed both VCMLC and Dunsmuir mines, chose the longwall method for thinner seams, and the convention appears mostly consistent during the period of study. At its origins, longwall was sometimes called the Shropshire method, after the English county in which it is thought to have originated (Galloway [1886] 1969, 86). The

²⁵ From this point forward, I use VCMLC to refer to the company before and after the company's restructuring and name change from VCMLC to NVCMLC in 1889.

pillar and stall method (also bord and pillar, room and pillar, or stoop and room), in which teams of miners work in separate stalls or rooms, existed in coal mining since “time immemorial” (85). Pillar and stall has teams of miners separated by columns of coal left to support the mine ceiling. It is generally preferred for thicker or unstable seams, although the size of pillars required to mine pillar and stall at great depths renders the method economically impractical in many circumstances.

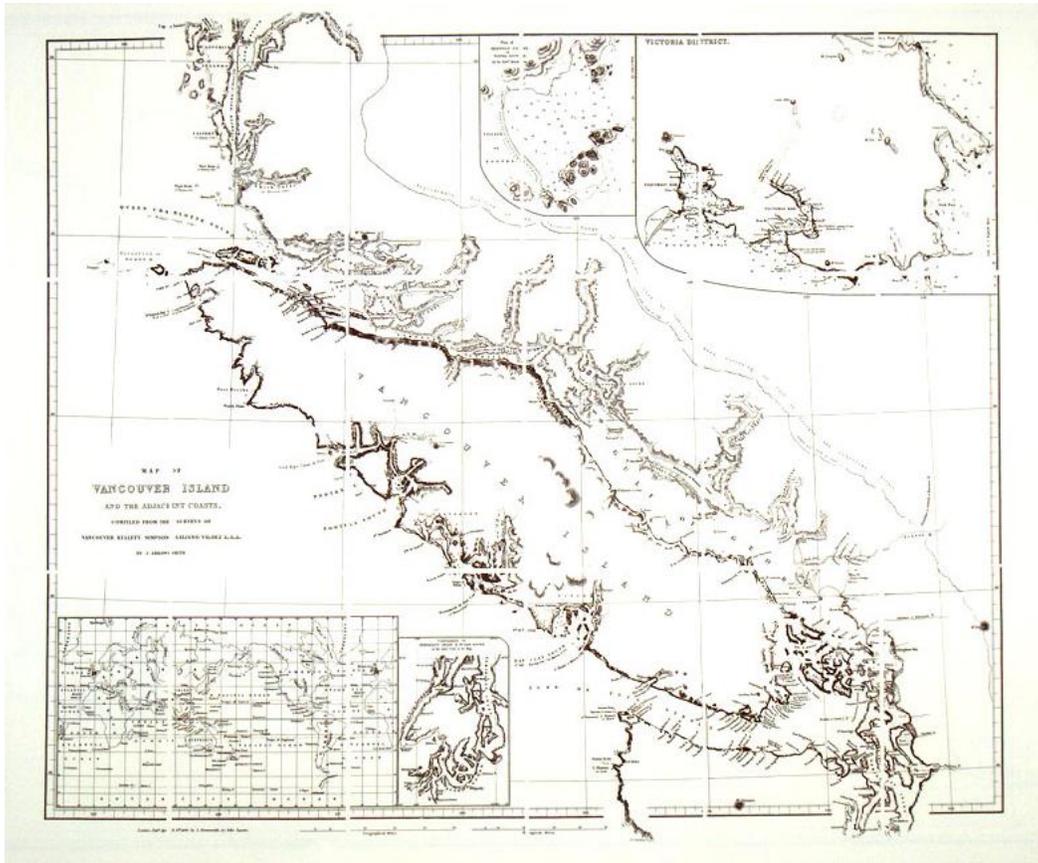


Image 1: John Arrowsmith, *Map of Vancouver Island and Adjacent Coasts*, 1849. Courtesy of the Association of Canadian Map Libraries and Archives, <https://acmla-acacc.ca/map-images/066.jpg>

While both longwall and pillar and stall were common beneath Vancouver Island before 1903, no linear developmental history of one method supplanting another exists. Debates have nevertheless arisen regarding the labour process of these systems, and related machinery, and the degree to which economic imperatives or class struggle influenced this development. Hinde (2003, 67) and Bowen (2004, 124 – 6) criticize Belshaw for assuming that the hostility of the Dunsmuir family toward organized labour

influenced their collieries' preference for the longwall method, when in fact the history of Vancouver Island's mines suggest no such thing. The perpetuation of class struggle through machinery and transformations in labour process appears adaptable to both methods of coal mining. As I argue in chapter six, by the 1890s technological development in the mines was directed toward the realization of greater profit and control of the labour process. While Hinde is correct when he writes that "[t]here is no evidence to suggest that the decision to use longwall mining on Vancouver Island was made for reasons other than seam thickness" (2003, 67), the same political neutrality cannot be ascribed to the introduction of machinery into the mines from the 1890s forward.

If, on Vancouver Island, one method was regarded as superior for certain seam thicknesses, differences in the interpretation of efficacy would arise elsewhere as the century progressed. All other things being equal, the European civil engineer and mining researcher George G. André believed longwall to be the superior method. His criteria for this claim are largely economic. When the two methods are considered against profit motives, André writes that "it will be found that long wall possesses the important advantage of giving the greatest quantity of coal" (1876, 306). Departing somewhat from consensus, even thicker seams could be profitably worked by longwall (306 – 7).

Boosterism of one method or another aside, natural factors like seam thickness, depth, and faults implied differences in labour process.²⁶ This much is without debate. The recognition that geologic factors influenced the unfolding of Vancouver Island's coal industry must, however, be tempered by a robust *historical* materialism, lest we fall into a determinism of the material object. The question of how to understand social power and its concretization in the composition of the labour process then comes to the fore.

In this chapter I examine theories and methods that attempt to account for power in the development of technology and socio-technical networks. I am particularly interested in addressing a sophisticated methodological anti-Marxism, popular in

²⁶ Nevertheless, the labour process and mechanical development responded to geological aspects of coal seams in multiple ways (Belshaw 2002, 75 – 114, Hinde 2003, 68). Technological development, prior to deskilling, is concerned with increasing the safety of some of the world's most dangerous mines. Massive fans and safe-illumination technology were introduced to mitigate the possibility of explosion or poisoning from "damps", or different air and gas mixtures. Protocols were developed to ward off this same possibility.

communication studies today, that has developed within STS since the late 1970s. Responding to developments in historical-materialist approaches to technology (Braverman [1974] 1998, Winner 1980, 1993, Noble [1984] 2011), actor-network theorists (ANTs) proposed methods that disavow extant directive power in the composition of human-technical networks. In their research, social power is instead exclusively the problem of hyperlocal networks unstructured by political-economic abstractions.

The critiques of historical materialism and the social history of technology posed by ANTs Bruno Latour and Michel Callon, some of the most well known, will be discussed over the next three sections. Callon's criticism of social history is implied by his method and is therefore dealt with in a more minor way than Latour, whose anti-Marxism is explicit. In interpreting Latour's criticism, I use Lukács as a stand-in for historical materialism in the Western-Marxist tradition generally and Braverman along with the post-Braverman tradition for that of the social history of technology. Of course, I do not mean to imply that all historical-materialist thought is commensurate to or workable with these writers. Latour's criticism of materialism in *We Have Never Been Modern* (1993) and "Where are the Missing Masses" (1992) is, however, directed toward dialectics and social history, respectively, and placing Lukács and social historians of technology into communication with Latour reveals the limitations and missteps in the latter's criticism.

Following from this discussion, I suggest a historical-method for the study of extraction, in particular mechanical change in the labour process of coal miners. What I call the *critical theory of mechanical development* is also compatible with the transportation-focused approach to communication. Much of this is informed by the social historians of capitalism and those of technology working in the post-Braverman tradition of labour-process theory. However, insights from Feenberg's critical theory of technology (1999, 2002) are also introduced to better account for local histories of technological change within the totality of emerging world-capitalist modernity. The method derived from this chapter will be considered against the historical record I've worked up through textual evidence from archival sources and other narratives developed by historians of Vancouver Island coal mining. The goal is not to apply a single, generalizable theory to the labour process, placing theory before history. Rather, the method for understanding technical change in Vancouver Island's coal mines means to account for local contingencies against

political-economic laws. Developing theory in this manner should provide a flexible and historically-rooted method, while suggesting a robust challenge to the actor-network tradition as it might be applied to the labour process. As the chapter moves forward, it should also become clear how the method I develop facilitates answering the research questions outlined in section 1.1.

2.1 Ahistorical Materialism against Western Marxism

Social totality is anathema to Latour. In ANT, relationality does not reflect some approximation of the social whole but comes into being through the local network. Latour's program indeed pushes a bellicose approach to the humanism and dialectical method of historical materialism. He is skeptical, for one, of the deskilling hypothesis, with one of its feet in social history and the other dancing in dialectical movement. His criticism is of especial interest to me, as this project draws heavily from documentary evidence of local extraction to construct a robust historical materialism. In the chapter at hand, I argue that the criticism levelled by Latour attempts to displace the most trenchant discoveries made by social historians of technology, particularly as the liberal ideological composition of Latour's method undercuts the socialist project of class emancipation.

Far from a secondary or perhaps throwaway element in his analysis, Latour's anti-historical materialism is central to the methodology. He argues that the work of those called moderns, including historical materialists, is to proliferate the human-technical networks that make up the social world. Yet moderns simultaneously create two distinct and separate spheres of thought: the human world and that of the non-human, each with its own laws. An explosion of free-flowing communication between human and non-humans occurs in contemporary being, however the moderns' intellectual doctrines refuse this knowledge. Moderns fill the world with human-technical associations while assuming an absolute separation between these aspects, according to Latour. The proliferation of hybrids is called the work of "translation." The disavowal of this reality is called "purification."

The double dichotomy of the moderns is the target of Latour in the landmark *We Have Never Been Modern* ([1991] 1993). The separation of human and non-human, the

work of purification, occurs only in the humanist register—through the construction and maintenance of strict epistemological distinctions regarding causality. As a matter of course, traditional social theory avoids the imbroglios that include human and non-human factors, and the primacy of humans within humanism is therefore misplaced. It is a false reflection of the diverse social composition of networks. Latour instead argues that, ontologically speaking, human groupings²⁷ are not the primary constitutive element of networks, rather humans form and enact power within and through networks comprised by human and non-human factors alike.

Since the separation of subject from object is a pillar of western Marxism, Latour believes that historical materialists rely on one purified form to ultimately subjugate the other—subject or object, human or non-human. In the factory, for example, fundamentally “human and individual” ways of producing are effaced through machinery and scientific management, as Lukács argues.

Neither objectively nor in his relation to his work does man appear as the authentic master of the process; on the contrary, he is a mechanical part incorporated into a mechanical system. He finds it already pre-existing and self sufficient, it functions independently of him and he has to conform to its laws whether he likes it or not ([1923] 1971, 89).

When factory machinery and scientific management dominate the labour process, technology becomes perched atop humanity. As a function or proxy of the capitalist class, however, humanity or *a class of humanity* re-emerges as dominant.

Lukács is careful not to posit machinery as phenomena autonomous of human activity. In the critique of Nikolai Bukharin (1966), he makes clear that technology should not be separated from other ideological forms and, therefore, the economic structure of society. Bukharin's *un-Marxist* assessment, on the other hand, attributes to science and technology a 'false objectivity'. Bukharin forgets the de-fetishizing imperative of Marxist critique: “*all economic or ‘sociological’ phenomena derive from the social relations of men to one another*” (Lukács 1966, 29; emphasis in the original).

²⁷ The traditional stuff of sociology or social history.

Following this course, ANTs accuse Marxists of linking the two poles of nature and society, originally purified of one another, through feedback loops. Fabricated technical objects become repositories of social antagonisms (Latour [1991] 1993, 55), placeholders for class struggle. Latour's anti-humanism and his critique of dialectical movement, in this respect, appear to be based on a legitimate reading of materialism generally and labour-process theory specifically, as management (human) and capitalist imperatives direct science and technology (non-human) toward the subordination of workers (human), displacing ways of producing that emphasize, for example, solidarity or the rule-of-thumb in the process.²⁸

Likewise, Lukács' entry point into the social in "Reification and the Class Consciousness of the Proletariat," the commodity fetish,²⁹ in which material social relationships between people assume "the fantastic form of a relation between things" (Marx [1867] 1990, 165), seems to sanction Latour's assessment. Yet if we avoid treating the separation of subject from object as an estrangement from some sort of natural relationship, Latour's ahistorical materialism (1992, [1991] 1993, 2004) appears trivial. The continuing relevance of Lukács and labour-process theory exceed mere feedback between human and non-human elements composing social networks. The existence of a reified technological society and the reified consciousness of modern social actors, for example, explains the continuation of deleterious or alienated self-practice, greatly surpassing the explanatory ability of ANT analyses, best suited to the hyperlocal. Reification is, of course, a *subjective* as well as objective phenomenon, with the (splitting of) proletarian consciousness a result of the objective factors of capitalist society. More than this, the world outside of a given network appears within it, as abstract laws structure the local and the concrete.

²⁸ On the desires of capital and management to eliminate the rule of thumb method, see Taylor [1911] 1967. For a critique of Taylor, see Braverman [1974] 1998, 59 – 85

²⁹ That is, the historical situation of modern capitalism in which relations between individuals appear as relationships with things. Such a circumstance may lead to a confusion where the power of individuals is ascribed to things (Marx [1867] 1990, 163 – 77).

2.2 Deskilling and Actor Networks

While ahistorical materialism leads Latour to avoid categories like ideology or class consciousness, doing so results in a weak definition of the subject, what's called the quasi-subject. Latour's discussion of delegation—in which action is transferred between human and non-human—and deskilling (1992) provides a suitable demonstration of this point. In the design of human-technical networks, he identifies the process of transferring work from individuals to non-humans, what he calls delegation, but which social historians of technology would, in the context of the labour process, call deskilling. For Latour, delegation resists external context. The human labour delegated to the door-hinge, to use his example, would be intensely impractical. Using a sledgehammer to make one's way through walls, then repairing the hole once on the other side is work much more sensibly translated into the door and its pivots, Latour says. While *reducto ad absurdum* on its face, the general point that technology may translate human action in generally beneficial ways is accurate nevertheless. The door-groom, a technology that regulates the speed and power required to open and close a door, is given as a practical discussion of delegation, and it is through this everyday technology that Latour mounts his criticism of the deskilling hypothesis.

Thousands of human grooms [doormen] have been put on the dole by their nonhuman brethren. Have they been replaced? This depends on the kind of action that has been translated or delegated to them. In other words, when humans are displaced and deskilled, nonhumans have to be upgraded and reskilled (Latour 1992, 232).

Latour appears to argue here that the deskilling hypothesis fails through its rigid assumption of simple delegation—a transfer from intrasomatic to extrasomatic skills, from the skilled human to the skilled nonhuman. “There is always a trade off,” with new behaviours imposed back upon humans, Latour writes (*ibid*). Delegation is augmentation within a network, rather than displacement or deskilling. Prescriptions that result in behavioural change for humans are coded into technology and actor networks. Competencies are distributed across the system, given to humans and non-humans, as engineers mediate conflicting desires.

While technological change quite obviously suggests new competencies on the part of users, Latour's invocation of the deskilling hypothesis, “so dear to social historians

of technology” (232), is both narrow and deeply incurious. His point is underdrawn because contradictory desires in design by no means remove class biases. To suppose that the economic decisions of managers are not themselves already ideological is, ironically, to perform the work of purifying subject and object of politics. In capitalist production, the opposition between worker and owner is irreconcilable. Alternative means are available to either enhance or mollify related antagonisms,³⁰ however none of it can settle capital’s desire to control the working day and reduce costs. Latour’s indifference to political-economic analysis deprives technology and actor networks of political encoding, as it does classes. Only by an operationalism that refuses differences between people and objects, socio-economic systems and their ordering of the world, can Latour boldly get away with this project. With any sort of historical lens, however, the hyperlocal focus appears incapable of distinguishing between world-historical changes in the mode of production during the Fordist period—toward the reduction of skilled work, wages, and trade unionism—and the opening and closing of a door. His criticism of the deskilling hypothesis, in this way, discloses the severe limitations of Latour’s method, ANT generally, and to the extent that Latour still appears as a godfather of the field, STS.

The criticism of skill-flow similarly misunderstands the social historians of technology. The philosophy of deskilling identified by Braverman in F.W. Taylor’s work is more complex than a simple transfer of skill from the labouring body. While it is true that skilled labour is displaced through a confrontation between workers and management in *The Principles of Scientific Management*, Taylor’s principles were ideological as well as technical, involving the investment of bourgeois doctrine within workers. Following scientific examination, or “time-study,” of an individual labourer’s work by management, methods are to be developed to replace the rules of thumb previously used by labourers. Management is tasked with convincing workers that it is in their best interest to cede control of the labour process, that if they produce at some high-enough rate workers will be paid at an elevated scale. Close cooperation between management and the employee is also to be fostered. These practices will ensure that workers follow the methods derived from scientific study, and skill is then replaced by an investment of ideology within the worker by management ([1911] 1967, 36). While Braverman undoubtedly pays less

³⁰ See sections 2.5, 5.2 and 6.4.

attention to this aspect of Taylorist management than the separation of the conception of work from its execution, he nevertheless recognizes the presence of interpolation in the project. “Taylorism,” he writes, “dominates the world of production; the practitioners of ‘human relations’ and ‘industrial psychology’ are the maintenance crew for the human machinery” (Braverman [1974] 1998, 60). Similarly, Noble’s account of technological change in twentieth-century machining ([1984] 2011) sees postwar managerial fascination with total automation in part guide the mechanization of skilled machinists in the United States. The externalization of skill by management, when it is translated into machinery or new labour processes, requires a similar investment of ideology, recognized by the social historians of technologies. And both physical changes to the labour process and its ideological composition emerge from the basic opposition in the relations of production between workers and owners.

2.3 Power and the Labour Process: Non-Human Influence and Coal Mining

The model for Braverman’s critique of deskilling was undoubtedly the mature Fordist factory. It may reasonably be argued, however, that non-human factors express greater influence over the human-technical-natural networks that comprise the labour process of mineral extractors than that of the factory. Actor-network theorist Michel Callon’s “Some Elements of a Sociology of Translation” is an obvious touchstone for the current dissertation, as Callon produces a method to account for the agency of natural elements related to extraction. Callon describes the social relationships between humans and non-humans that emerge through efforts to curb the declining scallop population of St. Brieuc Bay, in northwest France. The actor network is composed of scallops, fisherman, and the scientists studying the scallop population who initiate the relationship. The scallops and the fisherman cohere, for the most part, around scientific action. However, this does not mean that each actor is without implication in the others’ problems. A possible reason for the decline of the scallop population may be the mollusks’ ability to anchor (if they anchor at all, which is initially in question), scientists believe. A towline is introduced as an anchoring device, which effectively sets the terms of association for the field. From the towline, scientists can ascertain that the scallops of St. Brieuc Bay do indeed anchor, although this is only discovered through negotiation with the scallops,

finding a position relatively undisturbed by ocean currents, free of parasites. Finally, a few scallops are chosen to represent St. Brieuc scallop population to scientists studying the bay.

Callon notes three conditions under which his study of scientific action at the bay proceeds: an impartiality between actors involved in the scenario, abandonment of all *a priori* distinctions between the natural and the social, and a commitment to explaining conflicting actors in the same terms.³¹ All three correspond roughly to methodological questions regarding the allocation of power. As the system of anchoring shows, power appears in St. Brieuc consequently, rather than a cause of action, a methodological imperative Latour also identifies (1987, 264). Actors, like scientists and scallops, compel action from other actors within a complex web of social and natural entanglements. Their positions emerge in relation to one another, and there exists a symmetry between the actors, which work with one another. Power, as in Latour's work, is distributed and redistributed among networked actors in this schema but has no life outside of the network.

Borrowing ANT methods, we may claim that mine owners do not hold power, they would enact it. They set in to motion the process of extraction, the digging of coal from the beneath earth, the movement of coal around the mines, and the transmission of coal from mine site to its destination. When sending miners below ground, colliery owners start a network that ends in the movement of coal to shipping vessels. While negotiations occur between actors, through which their identity emerges relative to others, the network itself also comes into being as participant associations become clear. The modern-humanist doctrine of separation between human and non-human is replaced by power that is negotiated as it flows between parties.

These are fundamentally performative definitions of networks and actors, and the performative turn may explain a great deal about coal extraction: how do workers act with or against one another in the mines? How do coal seams suggest methods of extraction?

³¹ According to Callon there are also four moments of translation at work in St. Brieuc Bay: (1) definition of problems and actors involved by researchers; (2) researchers lock actors into roles; (3) strategies are defined through which researchers explain the relations and roles of parties involved; (4) definition of the process through which some scallops come to represent their population (1987, 196).

The difficulty for historical study lies in the lack of horizon, or “the general assumptions that form the unquestioned background of every aspect of life” (Feenberg 1999, 86) under which technical action and networks emerge. Scientists are sent to St. Brieuc to study scallops. However, the social context under which scallops are the object of study is not developed further than (1) French consumers enjoy scallops; (2) the scallop population is declining by predation, human and animal; (3) it is unknown, initially, whether scallops anchor. We are left with a strong indication of how scientists produce knowledge, but the excision of political questions limits the range of ideas to those derived from scientific methods and the imperatives of an invertebrate. Concerns of, for example, commodity circulation, the commodification of French fauna, and the reification of nature are absent. Pondering the epistemological implications of this study, we might recall C.L.R. James’s widely-cited introduction to the sport of cricket: “*what do they know of cricket who only cricket know?*” (2013, xxxi; emphasis in the original).

A similar limitation is apparent in Latour's criticism of deskilling. The engineer mediates conflicting desires in design (*it is true*) but remaining on the immediate level precludes analyses of directive power that social history, political economy for that matter, could provide. It is to the credit of the social historians of technology that their research is situated within broad changes to the function of the labour process across the twentieth century. Where the power behind the composition of the labour process is obvious to social historians and critical researchers, Latour and Callon fail to explain the existence of networks in any satisfying historical manner.

No advanced reading of the *Capital* series is required to know that the realization of profit is the economic goal of production. History and political economy therefore make quick work of immanent actor networks. Any analysis of the labour process that fails to address the constitutive opposition between capital and the working class in concretization is at best liberal idealism operating under the guise of materialism.

The question of non-human agency cannot, however, be answered by reduction to some ossified relations of production. As Marx writes plainly in volume three of *Capital*: “The productivity of labour is also tied up with natural conditions, which are often less favourable as productivity rises—as far as that depends on social conditions. We thus

have a contrary movement in these different spheres: progress here, regression there” (Marx [1863 – 83] 1991, 369). On the other hand, non-human power in production does not dissolve this opposition. Although coal miners on Vancouver Island have traditionally used different methods of extraction for thicknesses above and below roughly 1.5 M, to conclude on this truism would be to avoid transformations within mining that augment the labour process in favour of mine owners. The socio-technical compositions of the labour process in the mines before 1903 exceeded direct negotiation between worker and degraded vegetation.

If the power of geologic factors is ultimately subordinate within coal mining to that of human action, what then is the work performed by natural factors? In *The Politics of Nature* (2004), Latour uses the term *actant* to describe the action within networks performed by humans and non-humans alike. Briefly defined, the action of an actant refers to modifications of another’s behaviour, human or non-human (237). His model is the scientific laboratory, but by this time Latour has established that his project is “not talking about instrumental thought but about the very substance of our societies” (1993, 4). Latour’s goal is to uncover flows of power within the networks comprising social life. In the register of Western Marxism, such a goal would be called de-reifying. The prerogative of ANT is however to uncover power only within the network itself. The meaning of actants arises in relation to others, through provisional relationships called ‘propositions’. Identities and behaviours “*emerge in surprising fashion*” when causality is no longer pre-inscribed (79; emphasis in the original). The result is a social world comprised of local situations pieced together, which appears like a quilt with no quilter or even thread binding patches to one another.

There are nevertheless two aspects of ANT methods worth considering for the current project: the emergence of identity and behaviour through the network and the excision of *a priori* compositional power as it is usually understood by social historians of

technology,³² although the latter has already been criticized in this chapter. The first is the more intriguing of the two. In the mines, we might see a network comprised of tools, machinery, miners of different positions in the extraction process, coal, gas, and communications equipment. All of which, fixed and variable capital, *extra-capital* as well, compose the productive network. Coal-seam width and the presence of faults, gas, and underground water suggest different methods, tools, and machinery, and the history of labour process in nineteenth-century mines suggests that new relationships emerge through interaction between aleatory coal compositions and mining.

The formation of this knowledge was, itself, a historical process. As Michael Flinn argues, it took until the late eighteenth century for the systematic study of geology to emerge. Throughout much of the late eighteenth century, by contrast

there was an almost total ignorance of geology. Apart from the absence of an understanding of the basic geological processes—the formation of rocks, the laying-down of strata, folding and weathering, glaciation and geomorphology, and the whole chronology of geological periodization—there was no adequate terminology, while cartographic techniques were inadequate for the accurate representation of geological data (Flinn 1984, 69).

This illiteracy coincides with a labour process that primarily sought coal protruding from the surface and that which was only slightly below ground. As mining moved deeper underground, flooding posed a serious problem to extraction, particularly acute in certain seasons. The steam engine, configured as a pump, was introduced to Vancouver Island to solve this very problem, common in mining during the mid-to-late nineteenth century.

³² In *Descent into Discourse* (1990), Bryan Palmer positions social history against what he terms 'critical theory' in the field of history. Critical theory has a somewhat different meaning in communication. While Palmer argues that critical theory is an attempt to displace historical materialism (xiii), its meaning in communication encompasses Marxist study as well. More precisely, critical theory in communication studies refers to analyses that question oppression and hierarchy in the social order, be it gendered, racialized, or classed. Within communication, critical theory may then also include the poststructuralist approaches that Palmer criticizes. A recent issue of the *Canadian Journal of Communication* (CJC), declares "we understand power here as the scaffolding of social life: part and parcel of social relations, power represents the capacity to act upon and modify the actions of free subjects. Domination and oppression are of course aspects of this capacity, but power cannot be reduced to them... Power runs through the "capillaries" of the social system—that is, through the everyday social relations and practices we engage in" (Dumitrica and Wyatt 2015, 590).

Other solutions also existed. As early of the 1790s, cast-iron tubing was being used in Britain reinforce sections of mineshaft prone to flooding (76 – 7).

In consideration of geological factors, longwall mining may present a particularly lucrative form of mining thin seams or at depth. In longwall, the coal pillars used to support the ceiling in pillar and stall are replaced with timber and refuse—or *gob*—from the mining process. The strata that comprises the overhead roof is allowed to fall once workers finish with a given area, moving toward or away from the main slope. The fixed capital costs tend to be higher with longwall, with the bracing of the roof accomplished by labour rather than carved-out coal pillars. Determining the best extractive method also requires negotiation with the seam itself. As the roof should, by design, fall with some predictability, faults within the seam can render longwall expensive for capital, should a collapse occur. Aquifers overlying the seam may also render a mine less stable and therefore unsuitable for longwall.

If the extraction of coal emerges through processes irreducible to human intentionality, the methodological insistence that the results of human/non-human relationships be considered *qua* the immediate association is more difficult to accept. In the production of coal, class politics are suggested by technique and vice-versa. The pillar and stall method, for example, had miners split into groups or teams that extract coal from a series of stalls, composed of one or two diggers and a handful of on-cost miners that aided diggers and circulated detached coal. In 1879 – 80, John Bryden, then manager of VCMLC, attempted to use the discrete groupings of pillar and stall to undercut the wage of miners, as reductions were attempted on a stall-by-stall basis. Longwall mining, by contrast, has the predominant amount of work occur along a broad expanse of coalface, with a greater number of workers engaged at the same face. Here work either advances from the main tunnel, or slope, or retreats toward it. Belshaw argues that longwall on Vancouver Island allowed for direct supervision by management (2002, 82), regulating behaviour and output. Dix, paraphrasing a mining official, writes that longwall will “make supervision easier and in every way tends to lessen the work of the mine superintendent, which also would reduce the cost per ton of coal” (1988, 4). Hinde believes that this arrangement may have had the opposite effect. Unlike discrete stalls, the coordination

required to mine at elongated breadth means that a relatively small number of miners may disrupt the production process through simple absence (2003, 67).

We can therefore say that forces external to the immediate acquisition of coal from beneath the earth influence the relations of removing coal from underground.³³ The problem with immediacy in Latour's work is that it requires a rejection of history, a bourgeois reduction of subject and object to immediate and usually mutually beneficial exchange. If we walk on eggshells to avoid "humiliating objects" (Latour 2004, 72), we refuse the complexity of both subject and object. Does this excision mean that Latour reifies actants, despite ANT's goal of uncovering networked relations? That is, does Latour treat social relations as things unto themselves? Not precisely. In "Reification and the Class Consciousness of the Proletariat", Lukács objects to the reification of literal machinery in bourgeois thought ([1923] 1971, 153). Unlike historical materialism, with its imperative to uncover the dominant power relationships that produce technology, the machine in bourgeois thought is discrete or individual. Its powers are entirely immediate. Latour, by contrast, locates power in associations. He cannot, therefore, be painted with precisely the same brush. Yet Latour's associations are of a similar hue to fetishism. The functioning of networked actants through provisional relations is only slightly less discrete than the conceptions Lukács attacks. In effect, we move from the isolated machine to the ahistorical network. Actor-networks configure agency in such a manner as to fetishize technical configurations. The void created by the rejection of history, Latour fills with immediate ontological relations. Associations free of the political and economic power through which the networks themselves arise are the result. This poses a serious problem for the current study. The predominance of coal in fuelling nineteenth-century capitalism emerges because of the power relationships that comprise production, circulation and consumption.

³³ A more obvious limitation of networked immanence is found in Latour's discussion of sport. Opening wide the comparison to James, Latour writes of tennis that "far from referring to isolated spheres that have been brought together by a higher consciousness, or 'surpassed' by a dialectical movement, the notions of object and subject have just one goal: to return the ball to the other side while keeping the adversary in a constant state of alert. We can say nothing of subjects that does not entail humiliating objects; we can say nothing about objects that does not entail shaming subjects" (2004, 72). Two vastly different impressions of sport are indeed put forward by Latour and James. One is interested in the rules of the game, the other in its conditions and history.

2.4 Common Dialectics: The Critical Theory of Technology

The deficiencies of ANT, listed above, suggest the basic usefulness of political-economic and historical categories for researchers of non-human objects. The current project, however, still requires a determination of how best the relevant insights of ANT, which relate to the influence of geology and capitalist development on coal-mining technique, may be tied to a social history of mechanical change. Typically applied to more modern cases than that of coal mining before 1903, Feenberg's critical theory of technology provides an important bridge between historical materialism and the few worthwhile portions of ANT. Feenberg's theory of *secondary instrumentalization*, in particular, suggests that human-technical networks come with politics inscribed. For Feenberg, the technologies and networks that mediate the everyday contain biases reflective of the social world—the "social alliances that lie behind technical choices" (1999, 10). The fallout of capitalism cannot, of course, be limited to production, as the Frankfurt School convincingly showed, and Feenberg's work explores the wider social realm, rather than production, which separates it from labour-process theory. While it is important to acknowledge this separation, a Marxian critique of class bias applied to technology is common to Feenberg and the social historians of technology. Although the former works within a Frankfurt School tradition in which the revolutionary potential of the working class is displaced by the political economy of the postwar era, his engagement with historical materialism means that reading workers into the critical theory of technology is no great challenge.³⁴

Feenberg's work suggests a dialectic between abstract and concrete moments through lines of development that produce technological change, relevant to the current discussion of method. There is an interplay between, on the one hand, generalized capitalist tendencies and, on the other, the local and particular—the actions of individuals and groups and their effect on the labour relation. Marx begins his *Eighteenth Brumaire of Louis Bonaparte* by noting a similar pattern to history. He writes that

³⁴ The most penetrating critique of Feenberg's work is to my mind that of voluntarism. In the absence of a strong conception of social groupings and their objective reality, Feenberg is indeed vulnerable to this charge. With that said, the closing pages of *Questioning Technology* do seem to suggest that those exposed to the consequences of technology are suited to direct its change.

Men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past. The tradition of all the dead generations weighs like a nightmare on the brain of the living ([1852] 1979, 103).

This works well as a kind of shorthand distillation for Marx's theory of history as well Feenberg's method for understanding technology. It is somewhat reductive but nevertheless useful.

Perhaps the best example of Feenberg's dialectic of technological change is found in chapter six of *Transforming Technology*, "Beyond the Dilemma of Development" (2002). Here Feenberg theorizes potential investments of solidaristic and communal values within technical networks. For all the contemporary claims to embody revolutionary or disruptive essence, technical networks are prone to exploitative or revanchist orientation. That technology reflects the social world guarantees as much when it develops under a capitalist horizon. Drawing from both Marx and the actor-network tradition, Feenberg's critical theory of technology suggests that control of workers by capital is embedded in the labour process through an imbricated process of secondary instrumentalization (1999, 205 – 8). In its realization, a given object is assigned functions through socially-determined value judgements, made to fit within a network. Technology exerts control (though not total) over users. Subject and object form an entangled hierarchy, in which identity and meaning are challenged and solidify (205 – 7; 2010, xxi – xxiii). Control is in effect a two-stage process: established because of capital and present but negotiated in the immediate relationship between user and technology. In this way, new machinery might displace the high wage labour of skilled workers while simultaneously positioning less-skilled workers within a system of hyper-exploitation, in which the latter's control over the process of manufacturing is increasingly alienated. We may, then, move away from questions of direct human and non-human agency to those that address agency and development as situated historical phenomena, in a world that can be described by political economy.

In the critical theory of technology, technical ambivalence suggests that technology and technical networks may be recoded to embody socialist values. Feenberg posits that

1. Technological development is overdetermined by both technical and social criteria of progress, and can therefore branch in any of several different directions depending on the prevailing hegemony.
2. While social institutions adapt to technological development, the process of adaptation is reciprocal, and technology changes in response to the conditions in which it finds itself as much as it influences them (2002, 143).

While prevailing capitalist values push technology toward lines of development that embody the ends of existing power structures, the relation of abstract to concrete allows a degree of manoeuvrability for those exposed to a given technical network. The exact terms in which technical networks may be engaged are determined by history and locality, not philosophy. As we will see by the end of this manuscript, the ability of workers to react back upon capital, local laws and customs, as well as the level of circulative infrastructure all produced lines of technical development in Vancouver Island's coal mines.

2.5 Labour-Process Theory and some its Debates

There are perhaps fewer indications of methodology in the social historians of technology than either the critical theory of technology or ANT. The most obvious may be the positioning of social relationships at the center of technical change to the labour process. In the 1970s and '80s debates over labour-process theory followed the publication of Harry Braverman's *Labor and Monopoly Capital* ([1974] 1998), in which control was shown to be central to the development of the forces of production. What does control mean in the context of the labour process? Is control a natural or inevitable outcome of capitalist social relations? What role do workers play in the concretization of control? Is control an epiphenomenon of the valorization process? At one level, the debates are a fascinating document of intricate theoretical divergence. They also provide insight into *Labor and Monopoly Capital* as well as the methods, successes and failures of post-Braverman labour-process theory. This section will assess some contributions to these debates before sketching a provisional method that will guide the assessment of technological change in Vancouver Island coal mining.

Control over the labour process is indeed the central concern of *Labor and Monopoly Capital*, in which the separation of mental conceptions from their execution forms the basis of labour politics. Following Marx, work is defined as purposeful activity

guided by human intelligence, however the unity of thought and action that makes up labour is violable (Braverman [1974] 1998, 34 – 6). It is primarily through his reading of Marx and the management theorist Taylor that Braverman arrives at his theory of control through the historical schism. Taylor's *The Principles of Scientific Management* ([1911] 1967) collects accounts of management innovations in the labour process at the end of the nineteenth and early twentieth century. Systemic, scientific-management strategies sought to displace worker control over the content of production. The rule-of-thumb method, for example, in which workers determine the course and technique of purposive action, must be replaced by management-established terms of action, what Michael Burawoy calls an "apparatus of 'conception'" (1978, 248).

In Braverman's book, management control over the labour process is an imperative of capital.

Insofar as [scientific-technological reconstitutions of the labour process in nineteenth and twentieth centuries] have been governed by manufacturing rather than marketing considerations (and the two are by no means independent), they have been brought about by the drive for greater productivity: that is, the effort to find ways to incorporate ever smaller quantities of labor time into ever greater quantities of product. This leads to faster and more efficient methods and machinery. But in the capitalist mode of production, new methods and new machinery are incorporated within a management effort to dissolve the labor process as a process conducted by the worker and reconstitute it as a process conducted by management (Braverman [1974] 1998, 118).³⁵

Yet goals can be particular, rather than general, their origins up for debate. Sheila Cohen (1987) argues that Braverman is interested in the *logic* of capital, and that this logic directs control in the labour process, rather than the dynamic of class struggle—the "more or less concealed civil war between the capitalist class and the working class," as Marx put it ([1867] 1990, 412 – 3). Cohen's work "restores" the "Marxist understanding of *valorization* and *exploitation* as central to the operation of the capitalist labour process and to the

³⁵ From the estrangement of conception and execution, machinery follows. "Machinery comes into the world not as the servant of 'humanity,' but as the instrument of those to whom the accumulation of capital gives the *ownership* of the machines. The capacity of humans to control the labor process through machinery is seized upon by management from the beginning of capitalism as the *prime means whereby production may be controlled not by the direct producer but by the owners and representatives of capital*" (Braverman 133; emphasis in the original).

politics of workers' resistance" (1987, 35; emphasis in the original). Control over the labour process is always tethered to the concern of profitability, the central dynamic of capitalist accumulation, implied by Braverman's quote. Cohen accuses subsequent control-primacy theorists of imprecision. Power appears nebulous in their work, difficult to apprehend yet struggled over.³⁶ The reduction of socially-necessary labour time to a minimum so to undercut one's competitors, on the other hand, structures the very organization of the labour process (44).

While Cohen shifts the terrain of primacy away from control and toward a more traditional Marxian understanding of technological change, her piece fails to provide space for concrete dynamics to emerge within abstract principles. Control is reduced to an outcome of the valorization process. Structural contradictions are inherent because valorization is the base necessity of capitalist production, from which control and resistance follow. Class struggle becomes entirely economic in origin.

The dialectic of structure and response within the capitalist labour process springs not from some externally delivered political awareness, a 'radical' response by workers to the oppressive domination of management, but from the contradictory relationship inherent in the production process itself, that of exploitation (41).

In this way, Cohen cannot account for dynamics that may exceed the logical influence of valorization, as the process is structurally determinant. Such a model necessarily fails to account for local management dynamics, as impersonal forces overwhelm the concrete. It comes uncomfortably close to what Feenberg calls a property critique of machinery, in which technical networks require only non-capitalist direction to embody socialist values (2002, 44 – 5). The opposite view of the labour process, that of Lukács, holds that "socialism must change the very machinery of production and not just its administration" (45).

If Cohen's work ends in a kind of determinacy of economic abstraction, Burawoy's "Toward a Marxist Theory of the Labour Process" (1978) advances a Lukács-inspired

³⁶ Thus David Noble writes that "[i]f the drive to maximize profits, through private ownership and control over the process of production, has served historically as the primary means of capitalist development, it has never been the end of that development. The goal has always been domination (and the power and privileges that go with it) and the preservation of domination" ([1984] 2011, 321).

reading of Braverman that attends to the more subjective aspects of the labour process. At its core, Burawoy's argument is that Braverman "mistakes appearances for essence" (253). The latter confuses a moment in the late-Fordist West for patterns as such. The interests of capital and labour are not, Burawoy believes, necessarily antagonistic, but become that way. "[W]e must," therefore, "go beyond Marx," (257) and posit a theory of participant interests. While an important movement to reintroduce the subject, Burawoy's detachment of basic structural insights from labour-process theory gets us no closer to the dialectic of abstract and concrete suggested by Feenberg.

John Storey's (1985) dialectic of managerial control fits somewhere in between Burawoy and Cohen. Storey proposes a threefold dialectic of totality, contradiction, and social construction that in some ways anticipates Feenberg's work. Technology and user activity are here concretized within imbricated systems (or networks), in which the terms of control are socially determined. Encapsulating the dialectic between abstract and concrete, Storey argues that management is, by its structure, concerned with controlling the labour process. Control is however "in no way guaranteed by capitalist ownership rights" (Penn 1982, 108; quoted in Storey 1985, 198). Through impressive detail, Storey goes on to posit overlapping means of control available to management. "The dialectical process facilitates the deployment of a range of circuits and levels of control" (203). Indeterminacy is not free-floating, of course. It is tethered to a general need to "secure surplus value" (207), though undetermined by this need. Hardly nebulous, management control appears as a dynamic course that occurs at different levels, in which capitalist economic objectives may be met through direct antagonism or cross-class collaboration.

Storey's work approaches the kind methodology suitable for this project. At the concrete level, control is multiple, networked, and struggled-over. While abstract tendencies promote control, the content of the labour process is indeterminate or perhaps *underdetermined* (Feenberg 1999, 79 – 83). Far from absent, however, the basic requirement of reproducible and expanding profit is crucial to understanding capitalist alienation, or the estrangement of control, including workers' control over the labour process. Elsewhere I treat alienation as a historical phenomenon, which Marx turned into a theory that is, nevertheless, generalizable (Greaves 2015). While retaining such a theory

may open this project up to critiques like that of Burawoy,³⁷ my hope is to avoid this mistake through a robust micro-history that connects totality with concretization.

2.6 Periodizing Capitalist and Non-Capitalist Development

That Marx took history—the origins of capitalism, in particular—as his model for the development of alienated practice is important. In the first decades of coal mining on Vancouver Island labour was able to exploit on the absence of a surplus population, striking for higher wages and greater control over the terms of work. The active terms of alienated practice, defined through struggle between workers and capital, were contingent on the particularities of the moment.³⁸

Yet moments of consistency between locations emerge through a general logic of capital. This is true also of transitions from pre-capitalist to capitalist social relations. The late Ellen Meiksins Wood remarks in *The Origins of Capitalism* that there exists a tendency when reading the concluding chapter of *Capital Volume One* to miss the implications Marx implies by qualifying 'primitive accumulation' with 'so-called'. No amount of capital accumulation, “whether from theft or imperialism,” will by itself generate capitalism, she argues. “The specific precondition of capitalism is,” instead, “a transformation of social property relations that generates capitalist 'laws of motion': the imperatives of competition and profit-maximization, a compulsion to reinvest surpluses, and a systematic and relentless need to improve labour-productivity and develop the forces of production” (Meiksins Wood 2002, 36-7; emphasis in the original.). Indeed, if uneven development characterizes capitalism in its contemporary form, as well as coal production on Vancouver Island, such a theory does not explain the origins of capitalism (73), not generally nor on the Pacific coast. Deviating somewhat, we might also reply to Meiksins Wood that pre-capitalist mercantile exchange supported the emergence of capitalism. As Marx notes in volume three of *Capital*,

the great revolution that took place in trade in the sixteenth and seventeenth centuries, along with geographical discoveries of the epoch, and which rapidly

³⁷ Mistaking the appearance of a phenomena for its essence, the specific for the general (Burawoy 1978, 253).

³⁸ The next chapters will discuss this relationship extensively, especially the sections 3.7 and 4.8.

advanced the development of commercial capital, were a major moment in promoting the transition from the feudal to the capitalist mode of production ([1863 – 83] 1991, 450).

Against liberal notions that treat capitalism as the natural outcome of social or perhaps temporal progress, Wood argues that its emergence in England required mass dispossession of the peasantry from the land, the general absence of politically-constituted property, and the termination of traditional peasant land tenures. Stated briefly, the establishment of capitalist social relations operates through “two transformations, whereby the social means of subsistence are turned into capital and the immediate producers are turned into wage-labourers” (Marx [1867] 1990, 874). What was required for the transformation was not merely the hitherto accumulation of capital, but the development of entirely new ways of being and producing, though mercantile wealth did support the transition. Enclosure dispossessed the peasantry not only of land, but of the conditions for reproduction outside of the market, or *social reproduction*. Common people became free labourers. A worker was the “owner of the commodity 'labour-power' ... free to dispose of himself” (Marx 1990, 415). The freedom to sell one’s labour is the primary social condition of free labour, with workers dispossessed of their means of social reproduction. “The emergence of the market as a determinant of social reproduction presupposed its penetration into the production of life's most basic necessity: food” (Meiksins Wood 2002, 97).

David Harvey (2003) agrees with Meiksins Wood that so-called primitive accumulation is fundamentally a theory of dispossession.³⁹ A close reading of *Capital Volume One*, he argues, reveals at least eight processes that come under Marx’s definition. The most relevant to Vancouver Island include the privatization of lands and subsequent establishment of property rights, suppression of indigenous forms of living, commodification of labour power, and colonial appropriation of natural resources (145). The next chapter explores the establishment of a regime of property rights on Vancouver Island through colonial charter, colonial-capitalist economic methods, and the relation of

³⁹ In chapter six, the dispossession of workers from their skills will be considered. However, the linguistic convergence of this kind of dispossession with that of indigeneity and social reproduction is not implied by Meiksins Wood or Marx, the latter of which developed theories of deskilling and political power in production better attuned to dealing with these processes than dispossession.

treaties to coal extraction—covering the first two aspects of Harvey’s reading included here. Yet appropriation and dispossession of Indigenous land and life was never total during the nineteenth century, and First Nations resisted colonial capital in a variety of ways. In concrete terms, this meant a complex and racialized division of labour in the first decades of European control of the coalfield. The uneven development of the labour process in the mines is addressed in chapters three through six. The social construction of the indigenous other, in which difference is produced in ruling-class discourse, will be primarily considered in the next chapter. There, I argue conceptions of indigeneity within HBC shifted to suit colonial settlement and the labour process as management responded to non-capitalist Indigenous social reproduction outside of the temporal rhythms outside of the capitalist mine. What Harvey calls the “perpetual problem of habituating the worker” (1990, 134) is one of capitalist life generally, and company racism appears here as, in large part, a discursive system to explain the functioning of colonial capital.

In the next two chapters the commodification of labour power is tied to the reification of objects and appropriation of resources. As mining capital comes to subject humanity and nature to economic calculation, exchange value came to influence the course of the island’s development. Chapter four details the ordering of nature and humanity by the demands of capital, although on Vancouver Island the former came prior to the latter. As mining capital attempted to extract value from the island’s coal, distance and water appeared as the most pressing problems solvable by technical improvement. The commodification and ordering of life and labour, under the theory of reification and the history of so-called primitive accumulation, show Vancouver Island coal mining mired in a basically liminal or intermediate economic space for the first several decades of its development.

2.7 Uneven Development

Part of the reason that island mining developed as it did during the Fort Rupert and early Nanaimo years was an absence of terrestrial networks for machinery to travel, a phenomenon of underdevelopment compounded by extant labour shortages. Sections 3.5 and 3.6 demonstrate the necessity of circulation to capitalist development, on the island and generally. The Marxian theory of transportation I put forward is, however, largely

incompatible with the most famous theory of Canadian development, known as dependency theory. Within the Canadian tradition of communication, the dominant model of economic change has its basis in the Toronto School. Harold Innis, the School's most robust thinker, believed Canadian economic development held peripheral status to, first, the British Empire, then American capital following the emergence of continental trade routes. This is commonly referred to as a core-periphery or centre-periphery relationship.

In his conclusion to *The Fur Trade in Canada*, Innis writes that

Canada has participated in the industrial growth of the United States, becoming the gateway of that country to the British Empire. She has continued, however, chiefly as the producer of staples for industrial centres of the United States even more than Great Britain making her contribution to the Industrial Revolution of North America and Europe and being in turn tremendously influenced thereby (Innis [1930] 1970, 386).⁴⁰

This imbalance or dependency on an external center is said to slow or foreclose the economic paths that peripheral regions and industries would otherwise travel. Those trade relationships found in commodity circulation appear instead as the normative connections that command capitalist development. Liora Salter's insight, that communication demands "an analysis of the relations between the technological form (media of communication) and political system (empires), between social experiences and economic context" (1981, xvii), reappears here in the context of energy capital in the nineteenth century, placing the development of machinery within Vancouver Island coal mines in the context of emerging North American capitalism.

Interest in Innisian methods was renewed in the 1970s and 80s, with the application of Innis's thought surpassing the fields of economics and communication. Out of this interest, the Innisian metanarrative of development would be pushed leftward by the work of so-called left-Innisian political economists.⁴¹ These writers largely worked outside of communication, but their research suggests connections between the coal

⁴⁰ A pithier definition of Innis's view of Canadian economic development is found on this same page. Innis writes: "The economic history of Canada has been dominated by the discrepancy between the centre and the margin of western civilization" (Innis [1930] 1999, 386).

⁴¹ See Drache 1983 and McNally 1986 for reference to left Innisians, a group in which Drache locates himself and of which McNally is heavily critical.

industry on Vancouver Island and communication studies. The left Innisians fused the writings of Innis and Marx to explain backwardness in the Canadian economy. To understand incomplete development, the class alliances that underlie capitalist production required Marxian political economy (Drache 1982, 54). Gary Teeple, for example, argues that the ruling class in Canada remained effectively mercantile well after Confederation, dependent on a peripheral relation to other centers for their wealth. Tom Naylor also identifies a protracted mercantile ruling class in Canada, which was unable to generalize industrial production. Canadian dependency on foreign investment and foreign technological inputs is culpable, *inter alia*, for the nation's arrested development (Naylor 1973). While in a number of ways compelling, Naylor appears to locate the forces of Canadian development within the nation's capitalist class, saying: "[t]o examine the evolution of Canadian capitalism one must begin by considering the foundations of the great Canadian fortunes, the basis of social stratification" (42). The lack of transformation in mercantile interests then explains the backward development of Canadian manufacturing well into the twentieth century (Teeple 1972).

However much of the fusion of Innis and Marx is meant move Canadian political economy leftward, liberal tendencies within Innis's thought make themselves apparent in this analysis. As David McNally implies (1981, 39), Innis's failure to breach to sphere of commodity circulation, and consequently discover the underlying class dynamics of capitalist society, results in a fetishistic description of capitalist development (incompatible with Marxism and the development of capitalism in BC). Innis holds natural features and attendant technology determinant in the accumulation process, while core-periphery trade dynamics subordinate industrial development at the margins. Protracted mercantilism, as in Teeple's argument that staple extraction is an extension of bourgeois accumulation (60 – 2), ignores the emergence of a working class around staple industries.⁴² The preoccupation with the ruling class, revealed strikingly in Naylor's quote above (Naylor 1973, 42), exists at the expense of an analysis of active class relations. Here, capitalist development is an outcome of the bourgeoisie, not active class dynamics—a method that subordinates the presence of a working-class to presumably autonomous mercantile

⁴² As chapter three will demonstrate, HBC struggled to overcome its mercantile past in its development into a coal producer.

accumulation.⁴³ On Vancouver Island, the left-Innisian project would mean ignoring identifiably capitalist class dynamics and fixed-capital investment in coal mining.

Concisely, the relationship of the local to both the international and the systemic exceed core-periphery. On the other hand, a somewhat micro-historical approach that situates the labour process in BC against historical and abstract dynamics is better able to account for developmental complexity. While there is an undeniable relationship between the stoutness of nineteenth-century coal production on Vancouver Island and burgeoning consumption elsewhere in the world, core-periphery relations constituted by the circulation of commodities do not determine the circumstances of production. Circulation and communication in particular play much subtler roles than that of prime mover. Instead, the core-periphery developmental hypothesis, as it may apply to capitalist development in BC, with its overemphasis on trade, breaks down under the weight of local historical evidence.

It would in fact be a mistake to characterize coal mining on Vancouver Island as historically delayed or protractedly mercantile. By at least the 1850s extractive capital in Europe had turned its attention toward the production of deskilling machinery at the coalface. Salient mechanical change in coal mining had previously been limited to haulage and safety measures. Technological advancement at the coalface, on the other hand, contained the potential to displace the labour power of high-wage coal diggers, called “the threatening aspect” in the “relations of capital and labour” by one industry watcher (André 1876, 339). In North America, deskilling technology at the coalface appeared somewhat later in the century than in Europe, with prototypical developments progressing from the late 1870s onward. The Historian Keith Dix attributes the introduction of coal cutting machinery in North America to Francis Lechner (1988, 28 – 31). Lechner’s prototype became the basis of technological change in nineteenth century North American coal-cutting machinery. The introduction of this machinery in 1890s Vancouver Island coal mining was temporally consistent with industry norms on the continent. The case study at hand reveals the conditions of production that contour the labour process do so uniquely, making the labour process irreducible to core-periphery relationships. Moreover, the

⁴³ Such a reading, moreover, requires disavowal of Marx’s critique of alienation and its persistence across his work.

economic organization of the island lurched forward through the organization of the coalfield. As Rolf Knight writes, “BC leapt from a region sustaining a monopoly trading company extracting furs to one based on the industrial extraction of primary resources for export” ([1978] 1996, 122)

A determining center set against BC at the periphery also belies the advance of secondary manufacturing in the province post-Confederation (Lutz 1988). Indeed, “[a]ny characterization of British Columbia’s working class as ‘resource proletariat’ involves considerable distortion,” the historian Allen Seager writes (1996, 237). He notes that by 1891 extractive labour would only account for about 25% of the workforce in the province, down to less than 15% by 1921. The distribution of independent producers, agricultural workers, those in resource capital, manufacturing suggests further limitations in the application of dependency theory to emergent capitalism in BC (Seager 1996). Continuing uneven development does indeed characterize the province in trade relations, but we must be careful to limit the extent to which a subordinate trade relationship with an external center could reasonably be considered determining of production/extraction in the periphery. Such structuralism is incompatible with the method developed in this chapter thus far.

2.8 The Critical Theory of Mechanical Development

Feenberg’s work contends that technology and technical networks emerge through dialectical interplay between totality and locality. Like Storey, Feenberg believes in technical indeterminacy, that technology is ambivalent and subject to new lines of development from changes in abstract economic forces as well as local conditions. Feenberg’s entangled hierarchy, however, seems to better capture the contingent negotiations between human and non-human elements that characterize coal mining than Storey’s circuits and levels of control, owing to the qualified influence of ANT on former’s work. As I’ve argued, the negotiation between human and non-human (and the outcome of this negotiation concretized as coal extraction) cannot be separated from the normative economic and power biases that construct of the labour process. To this end, the valorization process and the estrangement of workers from historical correlates—the actual processes of alienation—have been mentioned in this chapter. As the dissertation

progresses, capitalist development and island colonization remain closely intertwined, as ongoing processes of alienation and dispossession complement and support one another. If much of what is to come historicizes Vancouver Island's development, a line of ongoing dispossession runs from British Empire through the empire of capital.

Abstract, extra-local economic forces come to characterize the island coalfield as the former becomes the latter. As we've seen, differences in the composition, depth and surrounding strata of subterranean coal promote different methods of extraction. However, interpretative and economic rationality preclude any naturalistic determinism we might proffer. The labour process is, in short, better understood as an object of history and structure. While ANT does well to identify the co-development of subject and object as an entangled unit within networks, the popular theory struggles to account for the history and economic or social structures that this project foregrounds. If the process of coal mining materializes in coordination with non-human elements, it is also quite clearly situated by historical and political developments—removing flood water at depth required the development of steam power or cast-iron tubing. Borrowing the dialectic of Feenberg's critical theory of technology, this chapter proposed a conditional method of critical theory (able) to account for historically situated technical developments in coal mining, what I've called the critical theory of mechanical development. The method restricts the directive power of locality by introducing valorization and alienation as constraining factors. While active class relations play a directive role in the technical development of the labour process they do not do so under a horizon of infinite possibility.

3. Waiting for the Ships: The Transportation of People, Coal, and Wealth to and from the Margin of Empire

[Coal beds] being on or near the surface can at present be worked at very little cost, but when the surface beds are exhausted, and it becomes necessary to mine, the expenses will be increased tenfold, and with our imperfect implements, and total ignorance of mining operations the project may perhaps terminate in failure and disappointment.

- James Douglas and John Work; emphasis added

The transport industry forms on the one hand an independent branch of production, and hence a particular sphere for the investment of productive capital. On the other hand it is distinguished by its appearance as the continuation of a production process within the circulation process and/or the circulation process.

- Karl Marx, *Capital: A Critique of Political Economy*, Volume 2

“Revolution was approaching” Fort Rupert, the coal miner Andrew Muir wrote in spring 1850 (Belshaw 2002, 27).⁴⁴ Muir had begun a diary in fall 1848 as a group of Scottish miners and their families prepared to sail for the soon-to-be established HBC mining outpost. The voyage would total the better part of a year, with miners arriving at Fort Rupert aboard the brigantine *Mary Dare* in fall 1849, following an extended period of labour at Fort Victoria. There is little in Muir’s diary in the time before he reaches Vancouver Island that foreshadows a revolutionary politics. At times, quite the opposite. Shortly after setting sail for the island, Muir mused that “Servants must be Subject to their Masters so far as is right...” (43).⁴⁵ The first group of Scottish miners, Muir included, generally regarded their contracts with HBC as firm documentation of the duties to which both groups were bound. Protest aboard the *Harpooner*, which took the miners from London to Fort Victoria, was nevertheless common. After three months on the “fine

⁴⁴ The version available to me, a typed copy of Muir’s diary, transcribed by Judith Zach and available through BC Archives, does not contain the date that Belshaw cites.

⁴⁵ I quote from Muir’s diary extensively in this chapter. I’ve included all spelling and grammatical errors just as they appear in the edited transcript from which I’m working. In my assessment, meaning is never particularly difficult to ascertain from Muir’s diary, though the reader should anticipate moving more carefully over these passages.

vessel,” workers struck until suitable beef rations were provided, a situation redressed by the company only after two weeks of dissent (Muir 1848, 4, 52 – 7).

During its operation to support coal mining, 1849 – 53, Fort Rupert was never home to more than a handful of workers and their families, with no committed revolutionaries under contract to the company, as best as can be deciphered from the available material. Yet Muir’s assessment, or some approximation, was not his alone. The Governor of the Vancouver Island colony at the time, Richard Blanshard, believed that miners and labourers at Fort Rupert held a “disposition to riot.” Following a miners’ strike in spring 1850, Blanshard threatened to deputize special constables to forcibly establish labour peace against the emerging *sansculottism* (Helmcken [1890] 1975, 309). In somewhat more circumspect terms, the Chief Factor of Vancouver Island, James Douglas, likewise saw little way forward with the first group of Scottish miners.

I would, at all events, recommend that no further payments be made on their accounts in England, and that another oversman and four Miners, with a Blacksmith and Engine Driver be sent out by the first ship to prosecute the Mining operation in progress... (Douglas [1850] 1979, 104).

For company officials, assessing a situation in which few HBC managers were present, dissent was intolerable at the small fort. “The spirit on mutiny is contagious,” Douglas would write eight months later (Douglas [1851] 1979, 153).

Antagonism between HBC management and the handful of miners and general labourers at the sparsely-populated fort appears to have matured quickly. HBC entered the industrial era—contractually, at least—as a coal producer fewer than twenty-four months prior to the assessments of riotousness and revolution. On November 23, 1848, Douglas reported that he had, under guidance from the Governor-in-Chief of HBC George Simpson, signed an agreement with Captain William C. Stout, an agent for William H. Aspinwall and Company of New York, in which HBC agreed to supply one thousand tons of coal to Aspinwall’s Pacific Mail Steamship Company. For the price of 50 shillings per ton Aspinwall would ship Vancouver Island coal from a nearby area suitable for docking (Douglas [1848] 1979, 18). HBC was to supply the Pacific Mail Steamship Company with coal for one year, with the first 300 tons provided on or before May 1, 1849, the remainder no later than May 1, 1850.

Although indirectly, the American state subvented the trade between HBC and the Pacific Mail Steamship Company,⁴⁶ subsidizing Aspinwall to distribute mail in the Pacific. Aspinwall⁴⁷ entered an agreement with the federal government in 1847 to provide mail service along the Pacific coast of the Americas, from Panama to the Oregon Territory, obligated to begin October 1, 1848. Transmission of the mail would occur through a fleet of coal-burning steamships, the *Oregon*, *Panama*, and *California*, each “about 1,000 tons burden and 200 feet in length, with side paddle-wheels driven by side-lever engines” (Kemble 1938, 123). Vancouver Island represented a more convenient source of coal than the Welsh supply upon which Aspinwall’s steamers had relied, and Aspinwall’s letters from the time demonstrate his dissatisfaction with the Welsh network and desire for alternative coal sources. Prior to the arrival of HBC’s first contracted coal miners to Vancouver Island, Simpson encouraged the board to expedite their acquisition of coal.

The U. [S.] Mail steamers from San Francisco may require coal earlier than it can be provided by the operations of the miners about to be sent out, I have to beg, you will use your utmost endeavours, by the formation of a post, the employment of Indians [*sic*] or otherwise to provide with the least possible delay and have placed in the most convenient spot for shipment from 500. [to] 1000 Tons of Coals, or as much more as can be collected (quoted in Kemble 1938, 136).

Similarly, on December 22, 1848, one month after Douglas and Stout signed on behalf of their firms, Aspinwall wrote to HBC that “[w]e would also like to order at once another vessel sent from the Columbia River or Oregon City or any other point in that neighborhood, to the new post at the mines on Vancouvers island [*sic*]⁴⁸ consigning her to the agents of the Hudson Bay [Co.] to be loaded to your address” (127).

Despite its apparent intensity, the relationship between Aspinwall and HBC would be short lived. The company encountered and produced an impressive number of

⁴⁶ Incorporated in New York in 1848, the Pacific Mail Steamship Company was born as a separate entity from Aspinwall and Company. There is no indication why Douglas lists Cpt. Stout as an agent for Aspinwall, as subsequent communication between Aspinwall and HBC makes the clear the coal’s use by the Pacific Mail Steamship Company.

⁴⁷ On Aspinwall’s relationship with HBC and its coal see Kemble 1938, 123 – 30, from which the information on this relationship detailed in this section is almost entirely gleaned.

⁴⁸ Almost every letter or journal I cite in the dissertation contains errors of spelling and grammar. It would be disruptive to note every problem, and the reader will therefore be expected to presume “sic erat scriptum” where appropriate. I retain the use of *sic erat scriptum* for instances of racism in the source material.

obstacles to successful coal extraction around Fort Rupert, and the coal collected in the Suquash, south of the fort, was in any event rejected by Aspinwall, deemed an unsuitable ancillary to the external-combustion steam engine powering maritime travel and trade because of ignition problems. The never fulfilled implication of Fort Rupert within an international network for the transmission of written communication nevertheless marks the origin of capitalism in the Pacific north of the forty-ninth parallel, arguably its cause: fuelling transportation and communication became a business of HBC and Vancouver Island. The island indeed stumbles into capitalism through the failed mining project of Fort Rupert, driven toward modernity by a thoroughly mercantilist firm approaching two hundred years of experience in the fur trade. The social forces identified by Muir and others at Fort Rupert were those of a colonial and mercantile firm struggling with capitalist production and social organization.

It was the ambition of Simpson, whose plans for HBC motivated the agreement with Aspinwall, to diversify the economic activity of the company, which included coal mining—by 1848, Simpson had begun to advocate the industry to HBC's board (Ralston 1983, 42). It was also Simpson who had instructed Aspinwall's agent Stout on contract terms before the latter arrived at Vancouver Island (Douglas [1848] 1979, 18). James Douglas, familiar with the company's economic goals, had worked for years to diversify Fort Vancouver before coming to Vancouver Island (Mackie 1992 – 3, 12). Following Simpson's course, Douglas "directed the search for coal and gold; he promoted markets for salmon, timber, spars, and shingles" (Bowsfield 1979, x). Diversification developed to varying success among western forts. While many in the interior failed to be self-sufficient, Fort Langley, for example, along the Fraser River, successfully exploited salmon for export (Ormsby [1958] 1964, 72 – 4).

Coal deposits on Vancouver Island were known to the company by 1835, but HBC appeared uninterested in undertaking mining operations until the mid-to-late '40s, preferring instead to establish a coal trade with Kwagu'ł miners from the millennia-old village Tsaxis, near what would become Fort Rupert. In 1839, Douglas reported that he had purchased 100 tons of Vancouver Island surface coal, but that it was insufficient for blacksmithing, given its "slaty" and "incombustible" character. Yet, "good coals might doubtless be obtained from the interior layers was there an object to be gained adequate

to the heavy expense of mining: until that time arrives we must continue to thrust to England for our supplies” (Douglas [1839] 1943, 215). The economic motivation behind extraction remained absent for some time, yet problems with the mercantile accumulation of wealth in the Pacific were already well established.

The fur-trade economy of the coastal northwest had, throughout the century, been experiencing foreseeable contradictions of intensive hunting. The exploitation of animal populations became resource depletion as it progressed. With sea otter populations failing, the maritime trade was exhausted by the 1840s.⁴⁹ The land-based trade of fur pelts, by contrast, continued well after HBC became active on the coast,⁵⁰ the principle economic concern of the company’s Pacific forts before 1849 and after,⁵¹ although the previous staple of the HBC’s political economy, the beaver, was losing that status. Beaver pelts were not only in short supply by mid-century, their price was dropping. “This continually decreasing price, when considered in connexion with a constantly decreasing supply, holds out no very cheering prospect for the future, unless the tide of fashion change” (Pelly, et al [1843] 1943, 306). If Vancouver Island’s first attempt at capitalist production was a failure, the origins of coal mining on the island were rooted in the contradictions of mercantile resource extraction in HBC’s Columbia Department west of the Rocky Mountains.

This is not to say that mercantile value accumulation on Vancouver Island transitioned naturally into industrial capitalism. It did not. Coal mining in the nineteenth century, with its dense working population, immediate oversight of labour, and tendency toward efficiency and improvement, required transformations in the social forces and relationships through which value was produced. The relatively autonomous producer of pelts would have to give way to the objectified labourer and associated laws and

⁴⁹ Russian, American, Portuguese, French and Spanish all took part in the Pacific fur trade, despite being established by the British (Clayton 2000, 72), with American vessels dominating the trade by 1801 (Fisher 1977, 3).

⁵⁰ After its merger with the North West Company (NWC) in 1821 and the establishment of Fort Vancouver in 1825, on the present-day border of Oregon and Washington state.

⁵¹ Beginning with Cook, only a handful of European settlements arose on the island. HBC, NWC, Spanish and American outfits established forts and trading posts on Vancouver Island prior to the establishment of Vancouver Island as a Crown Colony in 1849, though the infrastructure of mercantile trade in the nineteenth century remained in spite of declines in fur pelts.

tendencies of capital, though pre-capitalist norms would persist as capitalist accumulation advanced, and these interstices persevered on Vancouver Island well into the late nineteenth century.

The particularly mercantile spatial organization of HBC in the Pacific, for one, continued as capitalist social relations developed. While Fort Rupert is exceptional in the history of European settlement on the island before 1850, conceived primarily as a space from which to support the mining of coal, rather than the accumulation and trade of pelts, its operation and architecture resembled other HBC Forts. In his colonial reminiscences, the HBC doctor John Sebastian Helmcken describes Fort Rupert in 1850 as “of rectangle shape with the usual bastions, like large doves at two corners and a battery inside—a minor Victoria” (Helmcken [1890] 1975). Fearful of local Indigenous persons, Duncan Finlayson, a writer for HBC, suggests the practicality of a fort to coal extraction on unceded territory.

I do not think the mine can be worked without building an Establishment at it, there being a very populous village of Quaquill [Kwagu’ł] Indians [*sic*], consisting of from 50 to 60 houses within 2.5 miles of it, and purchasing the mine from them would be of little use, as the people left to work it, would unless protected by a large force, would be exposed to the attacks of other tribes who frequent this spot. I would therefore consider the mine, without the protect of a Fort useless to us. (Finlayson quoted by Ormsby in Douglas [1846] 1979, 5).

The fort as trading post would serve an alternate purpose, in part following Finlayson’s line of thought, becoming principally a community for the establishment of European sociality and capital Kwagu’ł Peoples were forbidden from entering.

General labourers at Fort Rupert were taken from Fort Stikine, in the Alaskan panhandle, under the company’s control since 1834. The first group miners—those of riotous disposition—came from Ayrshire, Scotland: An oversman, or supervisor, John Muir, and the miners John Smith, John McGregor (nephew of John Muir), Archibald, Andrew, John Jr., and Robert Muir, with the Smiths of no relation to the MacGregors (Bowen 1987, 21; Burrill 1987, 23). This first group came with their families where they existed, which HBC preferred. The colonial project on Vancouver Island, as Adele Perry (2004) calls it, held preference for workers with families, which suggested to the company bourgeois forms of civility, although this preference was not a constant throughout HBC’s resource extraction

(Innis [1930] 1956, 135). Approving of the company's familial choices, Helmcken reflected that John and Anne Muir were "a good, kind patriarchal Scotch family" ([1890] 1975, 303). The workers imported from Fort Stikine included a Scottish blacksmith, French Canadians, men from other pacific islands, and a handful of British general labourers. Kwagu'ł residents nevertheless greatly outnumbered colonizers, with around 2500 persons inhabiting the area by Helmcken's count (300).⁵²

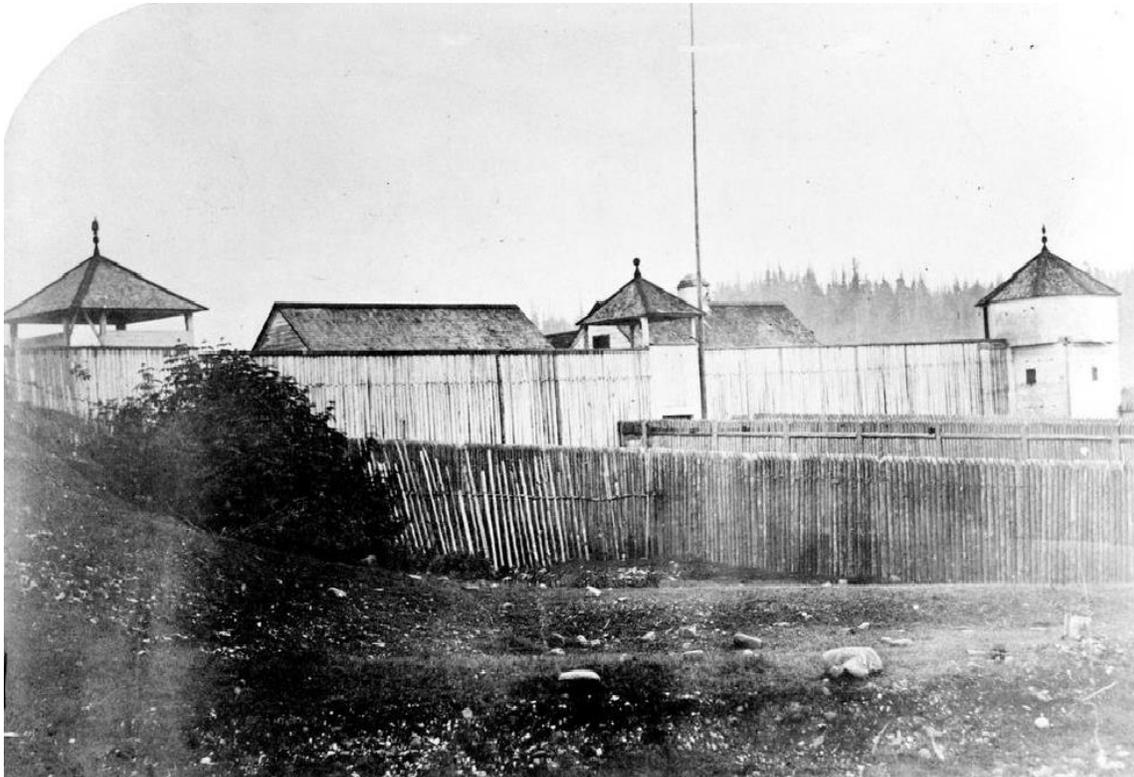


Image 2: Hudson's Bay Company's Fort Rupert in the 1880s. Photographer unknown, exact date unknown. Image A-01032 courtesy of the Royal BC Museum and Archives.

This chapter explores the Fort Rupert coal trade: coal acquisition in the area from 1849 – 53, the conditions under which HBC begins and ends coal production at the north end, the mercantile remnants and capitalist forces at play, the transportation of miners and their families from Britain to Vancouver Island, and unrest around mining sites, what Burrill describes as class conflict and colonialism (1987). The unique set of contradictions

⁵² As we'll see, Kwagu'ł numerical superiority combined with their resistance to proletarianization and the real subsumption of their work to capital would impede company mining efforts at the north end.

that emerged in the interstices between capitalist production and the mercantile-colonial system that governed day-day-day operation of Fort Rupert are particularly important in appreciating its trajectory. The site represents HBC's first attempt in the Eastern Pacific at what Marx calls the subsumption of labour to capital (Marx ([1863 – 6] 1990b),⁵³ out of which the company's accumulation techniques shifted from resource plunder through mercantile trade to resource settlement, which required a larger and more stable colonial population to exploit while introducing new economic imperatives.

I conclude that HBC management's "near total ignorance of mining operations" (James Douglas and John Work [1846] 1979, 5), and that of capitalist economic organization materialized in several of areas of life and work at Fort Rupert, resulted in the collapse and abandonment of the mining project in the early 1850s. The company's failures are generally reducible to inadequate concern for the economic forces and (infra)structures that capital required to proceed, as Douglas foresaw. The company's failure to realize a reproducible and expanding surplus is indeed found in the space between mercantilism and a more fully-developed capitalism, as HBC moves toward the latter on Vancouver Island. If fuelling written communication proved a failure of the fort's organization, Vancouver Island coal would soon be destined for, among other places, the emerging market of San Francisco, and the island would nevertheless become enrolled in Pacific capitalism.

⁵³ Burrill (1987) also uses Marx's concept of subsumption to discuss the origins and development of coal mining on Vancouver Island, although he and I come to somewhat different conclusions. Burrill believes really-subsumed labour in island coal mining emerges in the early twentieth century, whereas I see a more fully developed capitalism in the late nineteenth century.

3.1 What's so Primitive about Primitive Accumulation? The Coal Trade Prior to 1849

The first coal miners at the northern end of Vancouver Island were from Kwagu'ł groups, a part of the larger Kwakwaka'wakw Peoples.⁵⁴ Kwagu'ł miners from (what would become) the Fort Rupert area traded coal with HBC representatives as early as 1836, only a year after the existence of coal on and beneath Vancouver Island was disclosed to the company. The coal mined and traded by the miners was initially of little significance to the company. HBC consumed coal in negligible amounts, even with the company's steamship *Beaver*, the first and perhaps most prolific of the nineteenth century steamers on the Pacific coast, arriving around the time of the 1836 disclosure.⁵⁵ Coal produced on the island and elsewhere was mainly used within the company's forts for self-sustaining purposes, blacksmithing for example, as was charcoal. The accumulation of coal by HBC solely for its own meager consumption meant that no amount over and above necessity was carried for the purposes of arbitrage. HBC required no surplus of coal for immediately economic purposes, and the trade proceeded under conditions of simple exchange prior to HBC's possession of the coalfield and subsequent employment of both European and Kwagu'ł labour.

On the exchange of coal itself, the fur trader John Dunn observed that HBC and Kwagu'ł miners appeared amiable to his eyes. Kwagu'ł miners were eager to sell boxes

⁵⁴ The Kwakwaka'wakw nation comprises many separate Kwak'wala-speaking clans. The U'Mista Cultural Society at Cormorant Island, about forty K southeast of Fort Rupert, lists seventeen at and around the northern edge of Vancouver Island. The plurality of Kwakwaka'wakw groups became confused or misidentified within popular European-colonial taxonomy almost from the beginning. The anthropologist Franz Boas gathered together these groups under the name Kwakiutl, a practice that persisted in anthropological circles, with similar misconceptions held by the Canadian government. The U'Mista Cultural Society writes on its website (as of August 29, 2016) that "[e]ver since the white people first came to our lands, we have been known as the Kwakkewlths by Indian Affairs or as the Kwakiutl by anthropologists. In fact we are the Kwakwaka'wakw, people who speak Kwak'wala, but who live in different places and have different names for our separate groups."

Helen Codere's ethnography of First Nations around the northern end of Vancouver Island, *Fighting with Property*, which this dissertation cites approvingly at several points, similarly confuses Kwagu'ł and Kwakwaka'wakw, and adds members of the Wakashan language group to the former, another common misconception according to the U'Mista Cultural Society.

⁵⁵ A plaque in Vancouver's Stanley Park, near the site the *Beaver* was wrecked in July of 1888, reads "This historic vessel was built for the Hudson's Bay Company at Blackwall, England, in 1835, sailed for the coast immediately, and was the pioneer steamship of the Pacific Ocean. The story of the 'Beaver' is the story of the early development of the western coast of Canada."

of coal to HBC representatives (Mackie 1997, 299; Belshaw 2002, 117) and the company was wary of the high cost required to undertake its own mining operations on anything like an industrial scale (Douglas and Work [1846] 1979, 5), a concern that persisted into the HBC-era of coal mining at the north end (Douglas [1850] 1979, 113 and 140).

Interestingly, there appears a potentially significant transition in the historical record concerning the price at which HBC purchased coal from Kwagu'ł miners, possibly reducible to control over the resource itself. In her introduction to a collection of letters from Fort Victoria, 1846 – 51, the Historian of British Columbia Margaret Ormsby, citing Douglas, writes that “by the time of the [Ayrshire] miners’ arrival at Fort Rupert, the Indians [sic] had collected 750 tons of coal at the cost of 3s. 6p. a ton. For every two tons collected they were paid one 2 ½ point blanket” (Ormsby 1979, lviii, see also Douglas [1850] 1979, 132), and Kwagu'ł workers would continue to mine coal for HBC throughout the company’s tenure at Fort Rupert. By contrast, Douglas and John Work write in December 1846 that HBC “can purchase Coals from the Indians [sic] at about ten shillings a ton...” (Douglas and Work [1846] 1979, 5). The 1846 price, cited by Douglas and Work, appears roughly three times that of the 1849 price that Ormsby identifies, notwithstanding the blanket’s price. By January 1849, however, the organization of the coalfield had formally shifted to HBC, after the company had been granted monopoly rights over the island’s minerals by the charter that established Vancouver Island as a British colony.⁵⁶ Remarkably, ten shillings per ton of coal was roughly equivalent to the price paid for certain English coal purchased within 10 miles of a pithead, mid-nineteenth century. “Defined as 10 shillings or less per ton, the area of cheap coal remained confined to some 15 to 20% of Britain and Wales” (Malm 2016, 160). Farther afield, in Wales and the south of England, 1842 – 3, 20 shillings per ton was the most common rate, while between 10 and 20 shillings predominated in the midlands up to Scotland (von Tunzelmann 1978, 65).⁵⁷

Of the labour process of Kwagu'ł miners on Vancouver Island, Belshaw notes that “mining exposed seams” was undertaken by “ill-equipped Kwakiutl men and women”

⁵⁶ On the charter, see section 3.3.

⁵⁷ For prices at the pithead in the northeast up to the 1860s, see Clark and Jacks 2007, 44. The price of coal has not been historically or especially stable, and the going rate between and within nations can be drastically different at the same moment.

(Belshaw 2002, 23 and 82). Kwagu'ł miners traded coal picked from shorelines, inland outcroppings, and dug from shallow pits, with letters from Douglas suggesting that underground extraction preceded the introduction of a European working class, and coal pits at Suquash, organized by Kwagu'ł miners, which included Ayrshire miners, exceeded 3.5 M in several locations ([1850] 1979, 140). "Their mode of working, it to remove the trees and overlaying earth, until they hit coal from two to five feet below the surface" (Douglas [1850] 1979, 84). Helmcken, similarly, observed of Kwagu'ł extraction near the shoreline of Fort Rupert, in cooperation with newly-arrived Scottish miners, that: "[t]he coal there lay in a seam about a foot or more in thickness, only a foot or two under the beach and ground, but getting deeper as the land ascended. The mineral was taken out by Indians [*sic*] and whites in the way they thought most convenient, by mean of hammers, crowbars" ([1890] 1975, 303). Belshaw's account of early coal extraction, cited above, does not of course suggest a dichotomy of Indigenous gathering and European extraction. We should also be careful not to infer an immediate leap or innovation with the introduction of European miners to Vancouver Island through reference to ill-equipped Kwagu'ł miners in their process of extraction.

Technological advance from fixed capital investments was stunted at the north end, at least in the assessment of working colonists. A steam engine would arrive from England by spring 1851 to relieve miners from the tedious yet ongoing work of removing water, but it would never be used in the area's mines. Indeed, the processes of digging coal appeared much the same after 1849 as it did before formal declaration by London of Vancouver Island's colonial status. If coal was extracted from beneath Vancouver Island prior to the arrival of European miners and HBC would continue to pay Kwagu'ł miners throughout its Fort Rupert tenure, with little change to the labour process, how, then, did mining change following the introduction of European capital and organization?

What's primarily significant about mining at the north end between 1836 and Fort Rupert's failure under HBC control is not technical in nature. What marks Fort Rupert in the history of coal extraction is instead the transformation (in fact, the *introduction*, of a regime) of property rights over land, labour, resources, and tools. It was not anything technological that promoted the emergence of capitalist social relations, HBC had for years invested heavily in agricultural threshing machines and other implements at the

Pacific (Pelly et al [1842] 1943, 302). The new regime at Fort Rupert would bring with it economic laws and social relationships erstwhile absent from the island. If HBC merely hoped to satisfy the requirements of its contract with the Pacific Mail Steamship Company, Kwagu'ł miners produced about 1200 tons of coal in the 1849 mining season (Douglas [1850] 1979, 84), surpassing the initially contracted amount, although sustained or higher outputs were unlikely moving forward without the introduction of different methods, per Douglas (83 – 4). The surface outcroppings contained undesirable slate and, in any event, would not yield a suitable quantity of coal, Douglas came to believe by the end of 1850 (Douglas, [1850] 1979, 140). Instead of technologically-driven social change, it was the introduction of qualitatively new social relationships that transformed coal extraction from a trade relationship to one of proto-capitalism. The transportation of European miners to Fort Rupert under conditions of wage dependency created a need to produce coal at a greater rate and therefore intensify production. This was, again, not only to satisfy the soon-to-be defunct agreement with Aspinwall. The colonial-capitalist project on and beneath remote Vancouver Island was required to support mining.

While HBC had accrued a great deal of wealth through the colonization of Rupert's Land, this accumulation bore little resemblance to agrarian-capitalist production in England in the preceding two centuries, less still emerging industrial capitalist production in European centers. We can see this defined in the organization of work in the mercantile-colonial fort. Innis describes the condition of labour under the fur-trade hegemony as one increasing self-sufficiency. It's worth quoting him at length.

Agreements covered a period of three to five years giving time to adapt to the new labour conditions. If men proved unsatisfactory 'Company may recall them home at any time without satisfaction of their remaining time.' The labourers were generally required to perform a variety of tasks. Cutting and hauling wood and timber, hunting partridge and other game, setting deadfalls for fur, fishing, packing furs, storing goods, and brewing beer were among the routine tasks of the posts. The skilled workmen—smith, cooper, tailor, and other craftsmen—manufactured and mended various trading goods. The smith was engaged in making steel traps, retempering, grinding, and making hatchets and filing ice chisels, and making scrapers; the tailor was employed making up coats; the armourer mending guns, and the carpenter in building boasts and repairing the posts. The various journals are most illuminating on these details. The regulations for the labour force were designed to the same end.

HBC was capable of distinguishing between skilled and unskilled labour, as Innis observes. The fort, not the factory, was all the same the center of colonial political economy and skill, whether practiced within or outside a settlement's walls, embodied in the individual cooper, smith, tailor, and armourer and opposed to the generality of workers.

Contract length and the topography of HBC colonialism, moreover, produced a form of command that restricted any potential autonomy on the part of free labour. The absence of something like a labour market on Vancouver Island, and a situation of direct if not total dependence of European workers on HBC for the means to reproduce themselves, restricted options for dissent. Protests for their part would, then, often involved mutiny or escape, the latter appearing especially attractive after 1849, with the proximity of California coming into being. The dependency of workers on the colonial project produced a restricted form of free labour in island coal mining, and reverberations of previous forms of wealth accumulation remained embedded in the labour process and social reproduction at Fort Rupert.

In the final chapters of *Capital Volume One*, Marx develops a theory of historical transition from pre-capitalist societies to capitalist social relationships through the dispossession of European commoners' traditional land tenancy. Section 2.6 dealt with this conception in some detail and there's no need to repeat that level here. In summation, what Marx terms 'so-called primitive accumulation' denotes a process through which direct producers were separated from the means of reproducing themselves without markets, through a transition in which societies become dominated by markets. Marx breaks with Smith and the classical political economists by showing that capitalist society is not simply an expansion of previous mercantile or colonial accumulation of wealth (Meiksins Wood [1999] 2002, 35 – 7). Instead, the transition involves legal and physical separation from the non-market means for survival and, therefore, generalized market dependency. The resulting class of former commoners, unable to sustain life without working for another, are compelled to become labourers, embodying what Marx called "free labour," or the ability—within social compulsion—to sell one's labour as the "free proprietor of his own labour-capacity" to an employer on a market without direct coercion or a relationship of dependence (Marx [1867] 1990, 271). As the so-called "political Marxists" like Ellen

Meiksins Wood and George Comninel argue, this is the formative estrangement of capitalism.

In capitalism, as in no other society that has ever existed, the normal social condition is to be unattached to any means of engaging in meaningful social production, and to be dependent upon 'finding a job'. Every Western society has had markets, and every Western society has had wage-paying labour. Only capitalism has made every normal productive relationship an expression of 'the market'" (Comninel 2000, 7).

Central to this definition is that no amount of riches derived from non-capitalist accumulation causes capitalist industry to emerge, which is, at its core, a social relationship of exploitation between the owners of production and direct producers. So-called primitive accumulation should instead call our attention to the legal and coercive processes that prepare the formerly common for market and through which wage dependency becomes the normative circumstance. In England, though somewhat later in Scotland, the separation of common people from non-market means for survival is well underway by the mid-nineteenth century, and the miners aboard the *Harpooner* sailing to Vancouver Island in 1848 – 9 had the better part of a century's experience of free labour in Scotland before embarkation.

Kwagu'ł workers, on the other hand, were not proletarianized through capitalist coal mining. Kwagu'ł men and women refused to accept the formative estrangement of capitalist society, continuing to control the Suquash field despite formal appropriation decreed by London, a rejection that anticipated protests of different Indigenous Peoples employed as wage labour in Vancouver Island coal mining throughout the century. Despite their ongoing mining work, Kwagu'ł miners also rejected a number of HBC requests for coal output. They refused, for example, to mine coal when the weather changed for the worse and stopped to observe a regional conflict. Kwagu'ł miners also threatened other direct producers who attempted to remove the mineral from their territory. Kwagu'ł miners controlled the coal trade of Vancouver Island before acting as something like irregular wage labourers, who controlled the terms of their labour, able to survive without markets. So-called primitive accumulation around Fort Rupert, then, proceeded because of highly localized colonial dispossession of land tenancy, which did not include transformation of the Suquash coalfield, without the proletarianization of the indigenous Kwagu'ł population.

Even after two treaties are signed covering Suquash, HBC never meaningfully reorganized extraction. Steam power, for example, is never applied to drain the mines there nor do pits extend much deeper than they had prior to '49.

Taking the conditions at Fort Rupert and Nanaimo into account, Burrill correctly argues that mining on Vancouver Island for much of the nineteenth century corresponds to Marx's discussion of the formal and real subsumption of labour to capital. In a chapter written for volume one of *Capital*, but unpublished in his lifetime, Marx posits that, when capital first comes to control, or subsume, an industry, it does not intensify the labour process, at least not at the outset, merely formally subsuming it ([1863 – 6] 1990b). The capitalist appears as the mere overseer of the labour process (1019). As capital comes to implement technical changes to the labour process toward the realization of greater value, greater *productivity*, the industry moves into a state of real subsumption.

This distinction manifests principally in the creation of value. Under conditions of merely formal subsumption, capital can only increase its output by extending the working day or adding additional labourers. The historical trajectory then moves like this: emerging capital confronts labour, organized along pre-capitalist logics by merely *formally* subsuming it, allowing existing production standards to remain, but extracting surplus value from the direct producers all the same. Capital then reorganizes production, instilling its instrumentality and logic within all aspects of production and *really* subsuming these labour forms.

The formal transition from a relationship of trade with Kwagu'ł miners, though without real control of the Suquash, was provoked by the Pacific Mail Steamship Company agreement, which in turn had its roots in Simpsonian diversification and decree of colony. The coal removed from Vancouver Island would, following 1848, become subject to germinal laws of capitalist motion, even if mining was yet to be transformed. Situated within mercantile HBC, coal had been a simple ancillary of individual producers at colonial forts—a meager addition to the colonial project, “what little [of it] had been consumed” (Belshaw 2002, 24). New methods to produce coal would eventually follow the transition to HBC production, but this would take years and occur elsewhere underneath colonized

Vancouver Island. Sections 3.3, 3.4, and 3.5 will explore in greater detail the failure of HBC to reorganize coal extraction along industrial lines.

The next section, on the other hand, uses the diary of the Ayrshire miner Andrew Muir to describe the transportation of workers to Vancouver Island. Drawing also from Bowen, I put forward a theory of social reproduction in the context of colonial command that will inform of the subsequent sections of this chapter. While Kwaguł miners had yet to be divested of their means of social reproduction, free labour, as an existential condition, had been the experience of Scottish coal miners for seventy-five years prior to the *Harpooner's* arrival on Vancouver Island. Scottish miners entered contracts with HBC with the belief that their lives would meaningfully reflect that history. Yet the experience of the independent collier, as Bowen calls it, on Vancouver Island was markedly different than Scotland, and the very real limitations placed upon the miners of Vancouver Island and their families would be experienced at sea, before their arrival on the island.

3.2 Beautiful Weather and Fine Wind: Social Reproduction and the Maritime Transportation of Workers from Scotland to Vancouver Island

Andrew Muir's diary begins on November 9, 1848, also the date that his contract with HBC commenced. As he writes the diary's first pages, Muir is preparing to sail from Irvine, Scotland, in the north of Ayrshire, from which the first group of miners and their families emigrating to Vancouver Island hailed. The emigrant's brief journey before setting sail to Vancouver Island had stops in Fleetwood, England then Manchester, from which he would board a train to London, the final European stop in transit.

Beginning around the time of their departure from Irvine, the duration of the Ayrshire miners' contracts with HBC was three years.⁵⁸ During that period, miners were

⁵⁸ Belshaw has at length considered expulsive and compelling factors involved in the emigration of British miners to Vancouver Island (2002, 35 – 57). His work is not, however, limited to Fort Rupert. Indeed, its primary focus is emigration from Britain to the Nanaimo area. Dangers associated with deep-pit mines and diminishing labour conditions in British coalfields are cited (37) as are the exhaustion of certain older coalfields (38). In summation, he writes that “British colliers on Vancouver Island—especially those who took their families—were willing and able to make a large financial commitment that, they expected, would be repaid in high wages, security under the Union Jack, and vertical occupational mobility within a generation of two” (57).

bound to the company and its coal interests on Vancouver Island in a manner HBC interpreted as infrangible. There was a debt on the part of miners to be paid to the company, which precluded freedom of travel and action. Little of this was apparent to Muir before he departed Britain. Read against the contractually illiberal labour form at Fort Rupert and approaching confinement aboard the ship the *Harpooner*, Muir's few pages before leaving Scotland vacillate between excitement and boredom, coloured by understandable trepidation. Unable to sleep and "knocking about" the Irvine port area, Muir and company find themselves

running about doing nothing but walking with guns. One day we were very foolish rising out of our beds at 3 O'Clock walking away about 4 miles in a very cold morning to do great feats in the shooting department, but we were as successful with that as with our other scheme got nothing but a severe cold, and hungry belly it is a poor affair" (Muir 1848 – 50, 1).

During a delay in Manchester, which at that time approached a population of 200,000, Muir bought a knife and remarked upon the many large factories, which would soon influence Marx and Engels' notions of life and labour in capitalist society.⁵⁹

Behaviour aboard the *Harpooner* was more strictly regulated than it had been prior to arrival in London. The ship reflected British class society, its mores and the desire to reproduce British sociality on Vancouver Island. The *Harpooner* carried a variety of individuals bound for HBC outposts, including but not limited to "Smiths, Wrights, Tailors, Shoemakers, Braziers, Bookbinders, shelldressers" (Muir 1848 – 50, 77), a relatively complex, if pre-capitalist, set of colonial associations to sustain colonial forts. Aboard the ship, HBC officials sat above their workers. Those below shared cooking duties in weekly shifts, while food was rationed by the ship's captain, Lewis Morice, and subordinates. The company actively mediated the work of regenerating those tied to it by contract for

⁵⁹ Writing of Manchester in 1844 – 5, Engels describes a destitute Irish underclass, surrounded by expansive and deleterious factory production. "In a rather deep hole, in a curve of the Medlock and surrounded on all four sides by tall factories and high embankments, covered with buildings, stand two groups of about two hundred cottages, built chiefly back to back, in which live about four thousand human beings, most of them Irish... masses of refuse, offal and sickening filth lie among the standing pools in all directions; the atmosphere is poisoned by the effluvia of these, and laden and darkened by the smoke of a dozen small factory chimneys. A horde of ragged women and children swarm about here, as filthy as the swine that thrive upon the garbage heaps and in the puddles" (Engels [1845] 1976, 91).

eventual labour on the pacific coast: social reproduction, or the preparation and maintenance of workers so that they may sell their labour power, depended upon the company for its ancillaries.

The isolation of the *Harpooner* enhanced the power of HBC command. The dependency of working people upon HBC management for the necessities of life created contradictions unique to the maritime travel of workers. Previously free access to objects and provisions became mediating points for the expression of command over the labour force. This pattern furthered a form of power that attempted to produce a properly colonial British working class. Sunday worship, for example, was not merely provided by the company, but was instead compulsory under Morice's leadership.

[We] went to worship on deck but I must really say very few attended which says very little in their favor The Capt. Mustered all hands and gave them a very reprimand about not coming aft to service which negligence he deprecated in very severe tones... (41).

The punishment for recalcitrance was potentially severe. "The Carpenter was put in irons for disobeying orders" (43).

Command, isolation, and illiberal labour prefigured the relations of extraction, but also the content of communication. Expressions of power limited action and discourse in a foreseeable manner, promoting servility and colonial norms. Simple remoteness itself, similarly, represented an estrangement from common communicative norms outside of directly colonial-capitalist social relations. Two types of communication in Muir's diary stand out in this regard. After departing London, the sight of other vessels become popular events aboard the ship. Shortly before the New Year, the *Harpooner* pulled alongside a "very pretty" Swedish barque, close enough to make communication possible (23), though the content of their talk is not recorded by Muir. Passing ships represented a sort of contingent mode of communication for the trans-oceanic voyage: information that is happened upon or not. The *Harpooner* would also engage the ships *Lady Flora* and *The Fairy Queen*, both of which sailed from London, off the north African islands of Madeira and Tenerife, respectively. Communication with the Southampton departing *Sir Bremner* proved informative enough for Muir to note the discussion.

[W]e spak a vessel the Sir Bremner from ~~London~~ Southampton bound to the Cape of Good Hope Left ~~London~~ Southampton on the 16th Decr. gave us the latest news which was that Louis Napoleon was elected Emperor of France just as I excepted that will change matters there fine breeze today had supper ay 6 O.C. went to bed at 9 O,Clock (38).

A stop in Latin America presented even greater potential for communication than passing ships allowed. On March 27, 1849, as the Ayrshire group approached five months since departure from Irvine, the *Harpooner* anchored about ninety M from the shore of the Juan Fernández Island chain, some 670 Ks west of Valparaiso, Chile. In his diary, Muir's brief time on the Island reads like a wonderful fever dream, especially when juxtaposed to the isolation of the past several months. The excursion lasted only two days but comprises roughly ten percent of the pages in a diary that spans twenty-two months. Its importance to the those aboard the *Harpooner* has been largely neglected by historians, however.

Nearing the second largest of the island chain—now Robinson Crusoe Island—it was in Muir's estimation the *Harpooner's* first sight of land in three months, and the ship's inhabitants crowded the deck to see the island. For their part, those living on the remote island also expressed excitement for the anchoring ship, though Muir's diary indicates that it was not uncommon for ships to visit the island for simple trade. By Muir's count there were seven inhabiting Crusoe Island at the time of the *Harpooner's* visit: "1 American, a carpenter, the rest Spaniards 3 of them was married..." (59). Several brought peaches as gifts to the women aboard the ship. After they stepped onto the island, the *Harpooner's* residents were allowed take "such fine fruit such splendid fruit" back aboard, "as many peaches should fill the boat" (60). Hunting was also permitted, but the *Harpooner's* party returned with only a pigeon or two. The day before leaving Crusoe, Muir obtained eggs, onions, preserved figs, fowl, and a leg of goat, presumably through trade, although this isn't indicated. Muir also exchanged his old clothes and gun powder to passengers of an American whaling ship, which had docked at Crusoe, for whiskey and chickens, further swelling the haul.

The *Harpooner's* new-found abundance seemed, at first, to relax tension that had been building on the ship. The landing at Crusoe was only three weeks removed from protests, led by the working people aboard, over the quality of beef available through the company store. The seamen, in particular, had refused to manipulate the sails in high

winds, leaving the *Harpooner* vulnerable to damage through neglect. Immediately following the Crusoe errand, HBC was significantly, if not totally, disarticulated from the social reproduction of the ship's working-class passengers. Yet this was a temporary condition. Rows between Captain Morice and sailors marked the ship's northward progression along the pacific coast of the Americas. HBC's allocation of food would again result in dissidence on May 9, 1849, when the captain withheld normal meat rations, offering a recently killed turtle *in lieu*. It would be another three weeks before the ship landed at Fort Victoria on June 1, 1849.

Protests over the requirements of social reproduction were common aboard the ship, and the determinates of these protests are rather straightforward to theorize and require no complex digressions. Miserly control of the food supply produced discontent among HBC's working people and their families, suggesting a collective response. The visit to Crusoe's island alleviated certain hardships, if temporarily, as the company's control over food allocation became a less immediate concern for HBC's workers and their families. That abundance aboard the ship involved a reallocation of, not only food, but control over certain conditions of social reproduction, suggests that the *Harpooner* protests may be categorized as protests of control, concerning the terms of survival aboard on the ship.⁶⁰

⁶⁰ Interestingly, Muir's account of the *Harpooner* and its visit to Robinson Crusoe Island also provides a modest corrective to the most popular narrative of the island and its titular, ship-wrecked inhabitant. Less than a decade after the *Harpooner* landed off the shores of the Juan Fernández Island chain, Marx opened his preparatory economic notes of 1857 – 8 with a critique of the classical political economists Adam Smith and David Ricardo. Marx argued that Smith and Ricardo, in their writing, projected a utopian vision of liberal individualism incompatible with lived experience. Marx derisively, if awkwardly, calls them *Robinsonades* ([1857–1858] 1993, 83). The classical political economists imagined that people were free of social ties, outside of history with its objective and subjective limitations, like the freedom from social constraint that Crusoe enjoyed. People, it is supposed, are economic in nature, and this has always been the case. For the classical political economists, we are all the Robinson Crusoe's of our economic destiny.

Struggle over the very conditions of survival aboard the *Harpooner* emerged through class distinctions that dictated control over the ancillary means of social reproduction. The items through which working people reproduced themselves became sources of class conflict with HBC representatives. Contingent forms of social reproduction emerged to alleviate pressures that arose from HBC's command and control, with contracted workers and their families without immediate recourse to a world outside of the ship, while happenstance communication connected the *Harpooner's* passengers and crew to the outside world. Many of the themes that characterized class struggle aboard the *Harpooner* would persist at Fort Rupert. HBC's command of contracted employees hardly diminished and its punishments for intransigence remained severe. Networks for communication and escape would, on the other hand, also emerge. While Fort Rupert remained an isolated outpost of empire, its position within Pacific capitalism and attendant trade routes produced opportunities for information gathering and company discharge impossible aboard the *Harpooner*.

3.3 The Organization of Property and Propertylessness: Colonial and Industrial-Capitalist HBC at Fort Rupert

The landing at Fort Rupert followed a three-month period in which Ayrshire miners, formerly of the *Harpooner*, laboured on the Esquimalt peninsula, adjacent Fort Victoria. The work was regarded as tedious by the skilled miners—blasting rock and completing a well for the Esquimalt dockyard—and the group laboured additional hours daily to be rid of it. The miners' time as general labourers would, it was assumed, be a provisional condition of their employment with HBC. The hard-won skill and specialization of the group would be vital to the mining operation of Fort Rupert.

The abundance of Robinson Crusoe Island may sanction aspects of this utopic individualism, at least insofar as the individual may be disarticulated from the bonds that determine social reproduction. The flourishing of Crusoe became a project of discovering the practical significance of nature given to humanity. Projected onto aggregated society, the individual is an economic actor unencumbered by historical ties. "In this society of free competition, the individual appears detached from the natural bonds etc. which in earlier historical periods make him the accessory of a definite and limited human conglomerate" (ibid). The normative figure of Crusoe assumes that colonial British accumulation emerges naturally from the British individual. Just as Marx found Hegel "standing on his head" (Marx [1873] 1990b, 103), so too does he discover the classical political economists inverting social development.

On August 27, 1849, the Ayrshire group sailed from Fort Victoria, arriving at Fort Rupert on September 24. The previous spring, labourers and property had been transferred from Fort Stikine, following its closure. Certain basic infrastructures around Fort Rupert were required before miners could be expected to produce coal and establishing these conditions during the spring and summer of 1849 was the work of the Stikine men. HBC officials were so eager to mine coal around the fort that the company chartered the brig *Constantine* from the Russian-American Company for the Stikine transfer, at a cost of \$1000 per month, when its *Mary Dare* was late to return from the Hawaiian Islands.

As with British colonization generally, the establishment of the physical fort was based in a metaphysics of property and attendant regime of property rights, which allowed colonial individuals and bodies to possess colonial land. Vancouver Island was established as a colony of the British, to be governed by HBC, in 1849. The Colonial Office hoped to ameliorate some of the territorial losses it incurred through the Oregon Treaty (Mackie 1992 – 3, 5), which established the border between the United States and British North America at the forty-ninth parallel. The charter granting the colonial project of Vancouver Island to HBC was signed in January, with HBC required to establish permanent settlements on the island. It was subject to review and cancellation after five years if conditions were not satisfactorily met.

The colonization of Vancouver Island proceeded under what was known as the Wakefield system, developed by the political economist Edward Gibbon Wakefield. The use of Wakefield's model on the island was regarded as a mistake by its settler-colonists "whatever their affiliation with the company," who "viewed the system devised in London as a hindrance to settlement and commercial development" (4). Helmcken recalled that the first governor of Vancouver Island, Richard Blanshard, for one, thought it was "a mere theory, sure to fail in practice" ([1887] 1975, 285). The Wakefield system was based upon agricultural accumulation, and it was to be implemented on an island in which arable land was in short supply, by a company whose economic operation upon that land accrued wealth predominately from the mercantile mode, although agrarian accumulation was common in the former Columbia Department south of the forty-ninth parallel and around Fort Victoria. It also set high prices for colonial land, which would fund further colonization.

As the Historian Richard Mackie notes, high land prices required most colonial subjects perform wage labour. “The whole scheme depended on the presence of agricultural land, on a steady flow of wealthy emigrants in search of land, and on the presence of landless immigrants willing to engage in wage labour for the landowners” (Mackie 1992 – 3, 9). European class relationships between propertyless workers and capitalists were, in this way, introduced to and supported upon Vancouver Island through the economic structure of the colonial project. Not only were workers separated from the means of production, the Wakefield system positioned estrangement from control of the land as an attribute of class subordination. Marx, like Mackie, identifies this aspect of Wakefield’s thought. “Wakefield’s theory of colonization,” the former writes in volume one of *Capital*, “which England tried for a time to enforce by Act of Parliament, aims at manufacturing wage-labourers in the colonies. This is what [Wakefield] calls ‘systematic colonization’” (Marx [1867] 1990, 932).⁶¹ It is, again, in the merely legal separation of Kwagu’ł from total control of mining on the island, as the basis of subsequent reproduction of bourgeois class relations on Vancouver Island, that we find the origins of capitalist social relations in the colonial project. As these relations would develop on the island and mainland throughout the century, so too would mechanical forms and circulative systems for the transmission of commodities and the realization of profit. At Fort Rupert, however, these relationships are larval and profoundly constrained.

Colonial-capital proceeded at Fort Rupert by condition of landlessness for Ayrshire miners and land contingency for Kwagu’ł miners.⁶² By the summer of 1849, Douglas had been empowered to possess uncultivated or ‘waste’ land around Tsax̄is (Bowen 1987, 58 – 9), although he would sign two treaties covering area around Fort Rupert in 1851 (Duff 1969, 6).⁶³ Dispossession in service of the Wakefield system was, at its outset on the island, supported philosophically by a liberal regime of private property, articulated most

⁶¹ Mackie also notes the respect Marx shows for Wakefield in *Capital* (1992 – 3, 9).

⁶² British colonialism was often much more brutal in its treatment of coastal First Nations than rendering an economic staple unstable. Between 1850 and 1851, for example, the Royal Navy, acting on behalf of HBC, razed a village of 3100 near Fort Rupert to terrorize and collectively punish its inhabitants after several misunderstood a company directive to capture three HBC deserters.

⁶³ Around Beaver Harbour, no significant colonial settlement followed from the operation of coalmines during the nineteenth century; the buildings within the fort and the fort structure itself, including bastions, represented the only durable embodiment of the colonial project.

notably by the seventeenth-century Moral Philosopher John Locke. If Wakefield's concern was schematic, Locke's labour theory of property established philosophical conditions for the former's colonial diagram. Locke's *Second Treatise of Government* ([1689] 2010) provided a metaphysical basis for control and ownership of common land. In the *Treatise* Locke contended with the prevailing socio-economic order of agrarian capitalism in early-modern England, constructing a metaphysics of property from the emergence of capitalist tendencies in the English countryside. Locke believed that labour expended upon land constituted the parcel as property of that labourer, or, more precisely, the purchaser of that labour. The relationship of labour to land was, moreover, primary. Uncultivated 'waste' land was subject to possession by those who might improve it with their labour.⁶⁴ Although God granted land to all individuals in common, Locke surmised that God also intended individuals to be rational and industrious. The application of rational, scientific thought to the land entitled it to the applier, and this application would, in Locke's assessment, benefit the whole of society by increasing productivity.

[H]e who appropriates land to himself by his labour, does not lessen, but increase the common stock of mankind... one acre of enclosed and cultivated land are—to speak much within compass—ten time more than those which yielded by an acre of land of an equal richness laying waste in common (16, section 37).

Although an approximation of Locke's ideas of property supported HBC's claim to waste land, at least theoretically, it would be a mistake to uphold the labour theory of property as something like a guiding principle of Vancouver Island's colonization. More material matters of governing the colonial project were pressing the company. In service of English agrarian capitalism, Locke's theory of property granted capitalist land improves the status of metaphysical prime movers, justifying the enclosure movement. On Vancouver Island, Lockean metaphysics established the intellectual conditions that formed the basis of capitalist mineral extraction.

Possession of north island territory was, indeed, required for capitalist social relations to emerge and develop on Vancouver Island. Possession of land was not, however, displacement of indigenous mining techniques, knowledge, or even control of

⁶⁴ On Locke's ideas of improvement see Neal Wood's *John Locke and Agrarian Capitalism* (1984).

the Suquash. Kwagu'ł miners were employed by HBC in an almost consistent capacity after the company was granted monopoly rights over mineral extraction on the island.⁶⁵ Kwagu'ł workers were employed by HBC to scout mining locations as well. Two days after arriving at Fort Rupert, John Muir was part of a group that included Kwagu'ł workers searching the Northeast coast of the island for a workable coal seam.

Mr. Wark of Fort Simpson Mr. Muir Manager for Coal Work McGregor and I along with some Indians [*sic*] started in a canoe after dinner in the direction of McNeil's Harbour to examine the coast for the most eligible place to commence operations at the coal... (Muir 1849, 85).

In mining proper and in the search for coal, Indigenous People's knowledge and skill were subsumed within an emerging colonial-capital relationship, mediated by a wage, throughout HBC-controlled mining at the north end of the island. Partly, this resulted from the inability of the company to discover a plentiful deposit prior to the fall 1849 arrival of Ayrshire miners. In this absence, Locke's property regime and local knowledge were paradoxically melded to support any future discovery of coal. It's perhaps because of this that, throughout its Fort Rupert correspondences, HBC appears content with this relationship to Kwagu'ł miners.

The incorporation of Ayrshire miners within HBC's means of production and colonization presented more irritations for the company. The knowledge and skill of the Ayrshire men it employed to discover and extract coal around Fort Rupert vexed the company. To HBC, the admittedly problematic dichotomy between skilled and un-skilled work could be transgressed as colonial circumstance required. Five weeks after arriving, Muir described the labour conditions at the fort.

We are all of us at Pit digging drain to take away surface water now we are on Vancouver's Island and we are put to the sinking of a Pit to look for coal a thing we never agreed for as we came out here to work coal not to look for it and do all manner of work and I consider the company has broken our agreement as we were only to work as labourers in the event of coal not succeeding now we never saw a coal at all and on speaking about it we were told we should have to work at anything... well we determined for our own sakes and for the sakes of our Manager to work away of ourselves until we were forced to stop and further in retarding our

⁶⁵ Keith Ralston has argued that coal, or at least non-fur resources, were primary in motivating HBC's colonization of Vancouver Island, writing that the company moved forward with colonization as a secondary supplement to coal extraction (1991).

progress we were in want of Clay to mot our pit applied to the Fort and could get none and as much laying to this Day but could not get it so that I was at the Pit – and send my own men with Indians [*sic*] and canoes up and down the beach in the dead of winter in search of Clay (Muir 1849, 88 – 90)

European miners held the promise of advanced technique and mechanical competency. Douglas regarded Kwagu't mining techniques as rudimentary and inefficient, especially after outcroppings were exhausted in 1850.

The labour involved in [Kwagu't mining below the surface] is excessive, and the quantity produced extremely limited, for the number of Indians [*sic*] employed. They produced 1200 in the course of last season, and we hardly expect so much this year as the beds run deeper (Douglas [1850] 1979, 84).

Bowen, for contrast, notes that Ayrshire miners carried a “reputation for producing more coal in day and being less militant than those from other Scottish shires” (1987, 20). Yet, curiously, when the Ayrshire group arrived at Fort Rupert, they were directed to the largely general work of supporting the colonial occupation.

Abstracted from the knowledge of distinctly capitalist mining, productivity became entangled with the necessities of colonialism on the island; the skill of miners⁶⁶ was something to be engaged and disengaged as company officials saw fit. Misunderstood technical knowledge was mobilized to solve the looming problem of underproduction, only germane in a context of economic forces that require coal be produced over and above extraction costs, and those of colonial settlement born by the company. Far from an aberration, then, the work of breaking rocks at Esquimalt foreshadowed the generalized labour conditions at the north end of the island for the Ayrshire miners.

⁶⁶ Lynne Bowen notes in her genealogy of mining labour at the fort that the legal freedom of miners in Scotland was a somewhat recent condition in the mid-nineteenth century (1989). From the early sixteenth century until the Colliers and Salters Act of 1775, well after the Act of Union, miners produced for coal masters under conditions of slavery or bondage. The 1775 act had transformed the labour relation, transitioning miners into what Bowen calls independent colliers, with greater control over their labour. Skill in mining and apprenticeship in a situation of free labour granted a certain degree power for miners in Scotland. Prior to diversification, HBC had been accustomed to indenturing Scottish workers for the fur trade. However, the gentry's separation of direct control over labour power that vested some degree of it with miners came into conflict with the backward relationship of HBC to its workers (27 – 31).

Despite the emerging tensions between miners and HBC, the company eagerly attempted viable coal production around Fort Rupert. The knowledge and skill of Ayrshire miners would have mining follow colonial property rights when a viable seam was found, and industrial machinery would soon arrive to support extraction, representing the potential displacement of Kwagu'ł mining. Douglas, on behalf of John Muir, the Scottish oversman of Fort Rupert, requested and would in 1851 receive a steam engine to pump the mines of rain and groundwater (Douglas [1850] 1979, 74 and Douglas [1851] 1979, 179), although any successful deep-pit mine remained to be established on the island. Muir's pump would have to wait until 1853 to be used for water removal and then at Nanaimo and not Fort Rupert.

3.4 Underdeveloped Transport around Fort Rupert

The premature acquisition of a steam engine for Vancouver Island's mines symbolizes the more general state of underdevelopment in the circuits of capitalist accumulation at the north end. In its haste, HBC failed to produce conditions suitable for colony, coal extraction,⁶⁷ its circulation, and, therefore, the eventual realization of profit. Although it has to my knowledge gone unremarked upon by historians, underdeveloped transportation networks hastened the failure of mining at Fort Rupert. Driven by steamers, schooners, brigantines, and barques, travel to Fort Rupert was common from around the Pacific. Local travel around the north end of the island was more complicated. Locations not within immediate walking distance were reached by canoe or larger ship, the latter at considerable cost (Douglas [1851] 1979, 208). Canoes could carry exploration parties, but longer trips or those with heavy loads were more problematic, especially if the destination required leaving the strait between Vancouver Island and the mainland.

The extraction of coal from the Fort Rupert area faced the aggravated problems of its remoteness to empire and scarcities of food and labour, despite the common presence of ships. Isolated capitalist production, as in, for example, pastoral Britain of the nineteenth

⁶⁷ This is true of fall 1849, when the first group of miners arrive at Fort Rupert, and winter 1852 - 1853, when miners depart for Nanaimo. Despite the arrival of a second group of miners, the fort remained under resourced for industrial coal extraction.

century,⁶⁸ required heavy capital investment to support the social reproduction of miners as well as with their families. Few aspects of life at the fort articulate the problems that sit at the junction of transportation, capitalist production, and colonial occupation as well as the food supply and its transmission. HBC was required to organize and maintain the acquisition of foodstuffs in the colonial setting, with miners unable to autonomously feed themselves. The food supply was fragile, however, and for a variety of reasons. HBC officials held a monopoly on trade with the First Nations of the island that from time to time prevented its workers from independently trading for food, though little food was traded with First Nations in the early years. The possibility of self-sustaining agriculture in the area was, moreover, rejected by Douglas. Even though some of the fort's occupants had been cultivating cabbage and potatoes,⁶⁹ he believed that farming in the area was ultimately unsustainable.

There is no clear land at Fort Rupert fit for cultivation... the vicinity of the Fort being covered with a heavy growth of pines and other trees, but principally the former, which it will be a work of time and labour to clear and prepare for plough (Douglas [1850] 1979, 129).⁷⁰

In the absence of sustainable food production or local trade, Fort Rupert depended on Fort Vancouver, located after 1848 in the Oregon Territory, and Victoria. Supplies from the former also appeared potentially tenuous. As American settlement of the west progressed, the pork supply, for example, could not be relied upon, "in consequence of the United States Soldiers having shot all the pigs" ([1850] 1979, 81).⁷¹ The travel of ships

⁶⁸ Unless residing in the immediate area of employment, labourers require circulative infrastructure to move to and from work as well as basic means for social reproduction. Some pastoral areas of industrial Britain resolved symptoms of underdevelopment by establishing relatively self-contained colonies, adjacent to hydrographically appropriate sources of power. Prior to extensive reception of the external combustion engine, industrial colonies were constrained by the requirement that flowing water create HP. Flowing water concentrated factories in areas where HP could be easily obtained thereby, often outside the city and town. In these areas, "each worker then represented a living investment," Malm notes. "A commodity purchased by more than wage payment, her presence hinged on the fixed capital of houses, gardens, shops and chapels as well as considerable efforts to inculcate skills and a minimum of discipline in her person" (2016, 130). Through supplementary investment in fixed and variable capital, industrial colonies could proceed absent of infrastructure common to cities and towns.

⁶⁹ See also Bowen 1987, 52.

⁷⁰ A year later, Douglas would blame the employment of Kwaguł in mining for a lack of acquirable food (Douglas [1851] 1979, 192).

⁷¹ Douglas appears to be quoting someone in this phrase. It is, however, unclear to me whom he might be referencing.

to and from the fort also meant mouths to feed, despite docking vessels often carrying food supplies. HBC, in short, shouldered additional costs because of its inability to organize agriculture around Fort Rupert and the fort's trade position. Having already shown a stubborn obtuseness toward its miners' skills, the company could have had its miners clearing brush, were these workers not already otherwise engaged. Kwagu't workers were likewise employed elsewhere by HBC.

Underdevelopment at Fort Rupert was, then, driven in part by labour scarcity, manifest as an inability to proceed with the colonial agronomy dictated by the Wakefield schema. As with farming, labour directed toward transportation and commodity circulation could not be assured. In his first letter to the Company's secretary, Archibald Barclay, after the Aspinwall contract was signed, Douglas expressed doubt regarding the transportation system at the northern end, owing to the lack of labour and infrastructure necessary to transport coal from mine to port.

I would not enter in to any arrangement, to ship the coals from the mines, as I am convinced it will be an expensive operation, attended with risk and uncertainty, and the additional charge which, in that case, it would have been necessary to make, in order to cover expenses, would have been exorbitant. I therefore made it a point that coals should be delivered at the mines—from whence it will be shipped at the risk and expense of purchasers. I recommend that course in any future contract, in preference to the coals being freighted from Fort Victoria or any other port on this coast by the Company's vessels, which have full employment in our own transport, and can not be detached on any other service, without inconvenience and serious loss to the business (Douglas [1848] 1975, 19).

These costs could easily be transferred to the purchaser of coal once presumed. The lack of available labour power, however, meant that HBC would face problems transporting coal from the pithead, wherever that may be. In this context, discovery of coal adjacent to a natural harbour was crucial.

Underdeveloped transportation would become a serious impediment to coal extraction when it intersected with inadequate labour power at Fort Rupert and the residue of HBC's haste. The lack of an established seam focused the work of those contracted to HBC and the wage labour of Kwagu't workers. Yet even with the addition of a second group of Ayrshire miners in August 1851, as well as many more general labourers, the search for an exploitable coal seam remained unsuccessful. The company lost patience

with Oversman John Muir as his searches failed one after another to result in a workable seam. Barclay remarked in a December 1851 letter to Douglas that Muir “must either be entirely ignorant of the true indication of coal, or he must have been deceiving the company by his misrepresentation” (quoted in Ormsby 1979, lxxix). Muir would be replaced as oversman by Boyd Gilmour after the latter’s arrival. Yet the superior knowledge of Gilmour, presumed or embodied, nevertheless failed to yield results any different from those of Muir. After a year with Gilmour as oversman, Douglas reported that the “mining operations of the Hudson’s Bay Company, at Fort Rupert, are proceeding with great spirit, but I am sorry to say, as yet without success, the Bore having been carried to a depth of 183 feet [at Suquash, about three K south of Fort Rupert], without revealing a remunerative bed of Coal” (Douglas [1851] 1979, 248).

The inability to discover coal remained, in the absence of established transportation networks, tethered to the need for a natural harbour, compounding the failures of coal discovery around Fort Rupert and sending search parties farther afield. Information from Kwagu’l miners led John Muir to search near present day Quatsino Sound, some 30 to 40 K northwest (NW) of Fort Rupert by land but perhaps hundreds by sea, requiring circumnavigation of the island’s north end.

The Bay of Quatseynah, on the west side of Vancouver’s Island, having been only partially examined, the depth of water has not been ascertained, but from the appearance of the land, and the general character of the Inlets on this coast it is the general opinion, that it may be entered by large vessels, I mentioned in a former letter, that Muir, who saw it last year, had met with no surface coal in any part of the Inlet, though he observed that the rocks, though he observed that the rocks, all belonged to the carboniferous series. A small surface crop, was discovered near the head of Quatseynah, by Chief Factor Work during an excursion to that part of the coast in 1849, but on the whole the prospect of finding Coal in that quarter, is not so certain as in the Fort Rupert District. We shall nevertheless pay due attention to the important suggestion of the Governor & Committee, that some borings should be tried there before fixing upon the site for the Steam Engine, and of the Shaft for working Coal, but I ought at the same time remark, that the transport of men and implement from Fort Rupert can only be effected by sea, and will put the Company to considerable expense (Douglas [1851] 1979, 207 – 8).

The need for a natural harbour also became an issue of capitalist transportation when the company attempted to trade the coal Kwagu’l miners had gathered and dug at Suquash. Falling short on a quantity for the steamer *England*, coming from San Francisco, at its Fort

Rupert harbour, Captain Brown of the *England* refused to take on the additional liability of moving his ship toward the location where coal was being extracted, south of the fort. HBC Clerk George Blenkinsop, in day-to-day command of Fort Rupert, wrote that

The deficiency however could have been easily made up, without loss of time had Captain Brown followed my advice and taken his Ship down to the Coal mines and loaded her there, in the same way Captain Knox of the *Massachusetts* did. He declined on the grounds of only being ensured to Beaver Harbour. He has been laying here eight days since the last coal, was sent off, and intends laying here several more, waiting as he says for more coal, but evidently for his own purpose to fill up with fire wood. I offered to get the remainder for him in 14 days provided he went down to the Mines, which at this season of the year is a safe place to law in as Beaver Harbour (Blenkinsop quoted in Douglas [1850] 1979, 105).

Geological formations, millennia in the making, were then entangled with circulative networks and the labour supply in a manner that disrupted the circuit of capital for HBC as a proto-capitalist mineral producer.

Historians of Vancouver Island coal mining have previously noted a handful of incompetencies that obstructed the development of mining around Fort Rupert. These include the signing of contracts in Britain that did not reflect conditions on Vancouver Island and the company's misrecognition of hierarchy and skill within the labour process (Bowen 1987, 28 and Burrill 1987, 38, 43, 50). At the north end, inadequate transportation networks similarly reveal an inattention to structural problems of capitalist development on the island as well as circumstances unique to the extraction of minerals. Labour power did not exist in great enough quantities to support travel and circulation, hindering the discovery of coal. Sea travel over short distances was time consuming. Labour power was costly. Inadequate transportation reacted back upon production in these ways, something that Marx recognized in the abstract.

For capitalist relations to establish themselves at all presupposes that a certain historical level of social production has been attained. Even within the framework of an earlier mode of production certain needs and certain means of communication and production must have developed which go beyond the old relations of production and coerce them into the capitalist mould ([1863 – 6] 1990b, 1064).

Discovery of the would-be commodity is not a problem in manufacturing, of course, and the failure to find a coal seam around Fort Rupert is therefore also a result of aleatory

circumstance. It is possible that the oversman John Muir was incompetent or deceitful, as Barclay believed. However, the inability of Gilmour to discover a useful seam weakens this position.⁷² It is indeed more likely, contra Barclay, that at the north end HBC simply failed to appreciate or produce the conditions necessary for capitalist extraction of minerals. Formal control of Vancouver Island's coalfield was a simple legal distinction, bringing along no guarantee of mining success. That the requisite conditions for capitalist extraction failed to be implemented basically ensured that this potential became realized.

This circumstance can be further unpacked through Marxian political economy. In the upcoming two sections, I demonstrate that the process of circulating commodities for sale contains both labour and infrastructural elements, an often-overlooked aspect of Marx's circuit of capital. The Fort Rupert project, in this way, displays a political-economic truism: the production of commodities requires transportation networks capable of supporting their transmission, locally and further afield. Circulation is needed for profit to be realized and reproduced, while normal labour practices of capital require local infrastructures. Upon colonial Vancouver Island, transportation networks supported the purchase of labour power by capital and the social reproduction of European labour under terms of its subsumption to capital. These were, however, entirely maritime. Inland roads were not accessible enough to support the transmission of machinery and coal to the coast. In the next sections, I triangulate this Marxian historical analysis of transportation against another transportation-focused approach to communication, derived from Harold Innis' work. Finding that Marx is the more valuable theorist to address labour and capitalism, I put forward a theory of capitalist transportation able to account for the failure of Fort Rupert. This theory will also support subsequent discussions concerning more developed capitalist means and relations of production.

3.5 The Transportation-Focused Approach to Communication Studies in Canada

In *Empire and Communications* Harold Innis theorizes that significant political regimes, if they are to be durable, seek stability between what he calls time-biased and

⁷² Successful coal extraction would occur at the north end of the island in the early twentieth century, as Pacific Coast Coal Mines Ltd. would work the area for over a decade around WWI.

space-biased media—communication technologies that tend toward permanence and those which are easily transmitted across space ([1950] 2007, 10). The problem of transmission can therefore be expressed as one of administration, with the material form of media suggestive (perhaps even determining) of future development. Issues of administration across space and time concerned Innis throughout his career. Before it was formulated as a problem of written media, Innis dealt with administration through the circulation of people, commodities, and information. The problem of moving commodities nationally and internationally, foremost in Canadian development, is here one of the state.

We can trace in direct descent from the introduction of steam on the St Lawrence waterways, the Act of Union, the completion of the St. Lawrence canals, the Grand Trunk, Galt's statement, Confederation, the Intercolonial, the National Policy, the Canadian Pacific Railway, improved St Lawrence canals, the new transcontinentals, and the drift toward protection (Innis [1933] 1995, 137).⁷³

The centrality of commodity circulation to Canadian economic administration appeared so much of a truism to Innis that he began "Transportation as a Factor in Canadian Economic History" by remarking that "the title of this paper may appear redundant and inclusive" (123).

In Canadian history, the articulation of state power in infrastructural development exceeded purely economic rationality. The Canadian Pacific Railway (CPR) was a technology meant to unify Canada across space, an expression of "colonial civilization's expansion beyond the areas dictated by the rivers and drainage basins shaping the fur trade and its settlements," as Miles Weafer notes (2012, 5). Aware of the role of transportation in Canadian economic development, the nineteenth century political class came to regard the communication of commodities and bodies as a problem of governance. Economic policy concerned with the search for new markets was tethered to the administrative demands of a soon-to-be confederated space (Innis [1933] 1995, 132). It is, in this way, no surprise that Innis' attention to space, indeed to *space-binding* media, permeates the Canadian communication tradition. As Weafer shows, "Innis's special contribution to communication studies is his maintenance of a transportation-focused approach to media and communication" (2012, 6), to which we can add political economy.

⁷³ See Innis [1933] 1995, 130 – 2.

The position of transportation in capitalist production is, by contrast, underdeveloped by Marxian scholars within communication, though Marx has left readers with many indications of his position on the relation of production to circulation, spread throughout his career. For Marx, unlike Innis, transportation and communication networks supported social transformations in class-based societies. Innis' analysis of transportation has it as an expression of a united civilizational project, while Marx puts forward a conflictual assessment of transportation based in the divisions of capitalist and pre-capitalist societies. Transportation appears, to Marx, as the result of active class forces. In the 1976 Ben Fowkes English translation of *Capital Volume One*, communication was regularly coupled to transportation as a factor in the transmission of commodities in capitalist society: the means of transportation and communication.⁷⁴ The Penguin/New

⁷⁴ The use of communication in English translations of Marx reflects the expansion of circulative infrastructure in the second half of the nineteenth century and the world market for commodity trade. The German *Verkehr*, which includes communication, traffic and association, may transmit the notion of communication into Marx, though Marx used it to denote "relations of work, exchange, property, [and] consciousness" (Mattelart [1994] 1996, 101) as intrinsically communicative. However, Marx's use of *Transportwesen* and *Kommunikationswesen*—literally, systems of transportation and communication—brings into view the particularity of these systems against the more general *Verkehr*.⁷⁴ In volume two of *Capital*, Marx draws attention to the distinction. Considering branches of industry that do not produce a physical good, he writes that "[t]he only one of these that is economically important is the communication industry, both the transport industry proper, for moving commodities and people, and the transmission of mere information—letters, telegrams, etc" (Marx [1863 – 78] 1992, 134)

There is no reference to *Kommunikationswesen* in the original German 1848 *Communist Manifesto*, only *Transportwesen*. By the 1888 Samuel Moore English translation, however, "means of communication and transport" is produced merely from the original *Transportwesen*.⁷⁴ Thus the sixth post-revolutionary measure for communists to undertake, the centralization of all transport in the hands of the state," or "centralization of the means of communication and transport in the hands of the State" (Marx and Engels [1848] 2011, 88), is translated from "*Zentralisation alles Transportwesen in den Händen des Staats*" (Marx and Engels [1846 – 48] 1977, 481). Engels's 1847 *The Principles of Communism*, written for the same Communist League that commissioned the *Manifesto*, lists the almost identical demand: "Concentration of all means of transportation in the hands of the nation," with nationalized communication systems absent. Though Marx passed in 1883, Engels lived until 1895 and consulted on the 1888 English Translation. Record of this is available in the "Preface to the English Edition of 1888", which Engels closes by noting that he and Moore "revised [the original German version of the Communist Manifesto] in common" (Engels 2011 [1888], 40).

Left Review translations followed the 1887 Samuel Moore and Edward Aveling English translation in this regard. Similarly, translation of the posthumously published “Results of the Immediate Process of Production”, written for volume one of *Capital*, treated production and circulation as co-developmental, or, at the very least, capitalist circulation was conditionally inherited in capitalist production.

“[f]or capitalist relations to establish themselves at all presupposes that a certain historical level of social production has been attained. Even within the framework of an earlier mode of production certain needs and certain means of communication and production must have developed which go beyond the old relations of production and coerce them into the capitalist mould. But for the time being they need to be developed only to the point that permits the formal subsumption of labour under capital. On the basis of that change, however, specific changes in the mode of production are introduced which create new forces of production, and these in turn influence the mode of production so that new real conditions come into being. Thus a complete economic revolution is brought about... it creates the real conditions for the domination of labour by capital, perfecting the process and providing it with the appropriate framework.” ([1863 – 6] 1990b, 1064 – 5).⁷⁵

Less a problem of administration than in Innis, transportation appears to Marx as a means for commodity distribution, a lynchpin of capitalist development. “[T]he production and the

The use of “communication” in the Engels-consulted Moore translation of the *Manifesto* reflects the growth of transportation and oral/aural communication systems in the second half of the twentieth century, true of North America and Europe alike. Bowen, for example, notes that news of the Crimean war, declared in March of 1854, did not make it to Fort Victoria until July of that year (1987, 89), despite Britain’s involvement in both the war and the colonial project on Vancouver Island. Yet by the time of BC’s entrance into Confederation in 1871, “it was possible to get a message from Montréal to New Westminster in four hours via American electric telegraph...” (134). While the earliest uses of electric telegraphy predate the *Manifesto*, the means of communication would expand greatly over the four-decade period between the 1848 German original and the 1888 Moore translation. Oral/aural media expansion was, moreover, tied to that of transportation, as telegraphy developed in relation to and often alongside steam-driven locomotion.

⁷⁵ A similar thought occurs to Marx in *Capital* proper. There, he writes that “[j]ust as a certain number of simultaneously employed workers is the material pre-condition for the division of labour within manufacture, so the number and density of the population, which here corresponds to the collection of workers together in one workshop, is a pre-condition for the division of labour within society. Nevertheless, this density is more or less relative. A relatively thinly populated country, with well-developed means of communication, has a denser population than a more numerous populated country with badly developed means of communication” ([1867] 1990, 473).

circulation of commodities are the general prerequisites of the capitalist mode of production,” (473) Marx wrote in his magnum opus.

Transportation as a condition of development also appeared in the 1998 English translation of *The German Ideology*, although the interstices of mercantile and capitalist-value accumulation are the focus, rather than capitalist transportation.

The next extension of the division of labour was the separation of production and intercourse, the formation of a special class of merchants; a separation which, in the towns bequeathed by a former period, had been handed down... With this there was given the possibility of commercial communications transcending the immediate neighbourhood, a possibility the realisation of which depended on the existing means of communication, the state of public safety in the countryside, which was determined by political conditions (during the whole of the Middle Ages, as is well known, the merchants travelled in armed caravans), and on the cruder or more advanced needs (determined by the stage of culture attained) of the region accessible to intercourse (Marx and Engels [1846] 1998, 75).

This statement is perhaps a clearer elaboration of communication than those provided in *Capital* or “Results,” although the meaning is basically identical.⁷⁶ The Marx and Engels Collected Works (MECW) edition of *The German Ideology*, commonly regarded as the most accurate translation, indeed retains this denotation (Marx and Engels [1846] 2010,

⁷⁶ The etymology of the word communication would seem to sanction this usage. The root *common*, or *commūnicāre*, meaning to share, is given spatial as well as administrative qualities in the early-modern period. Not only is communion made holy, sanctioned by the church, it refers to the existence of “a common channel of passage”. Similarly, a roadway may be a “line of communication between places”, related to tracks and waterways (*The Concise Oxford Dictionary of English Etymology* 1996). The ‘common’ of communication, related to the holding of things *in common*, evanesces with the real subsumption of daily life under the regime of private property, and such interpretation is generally held in English usage today. Communication becomes global at the same time the common is purged.

67), in which trade is regarded as commercial communication,⁷⁷ as the expansion of mercantile trade networks become a condition for capitalist social relations to appear and progress. For Marx, the basis of circulation in social class therefore appeared in pre-capitalist social organization too. The separation of production from circulation was a pivotal moment in the development of mercantilism, or at least arbitrage between markets. Towns could trade with one another through investment within the merchant class, and transmission for the purposes of trade became a problem of social class and a condition for class distinction.

If we oppose Marx and Innis, the materialist media theory of one appears as an inversion of the other. Although Innis avoided a kind of determinism of the commodity, physical material is nevertheless crucial in development. He regards commodities or granular materialities with something approaching primacy.⁷⁸ “Agriculture, industry, transportation, trade, finance, and government activities tend to become subordinate to the production of a staple for a more highly specialized manufacturing community” (Innis [1930] 1970, 385). State intervention appears a means to overcome the problem of inadequate transportation. In communist epistemology, circulation is instead a conditional

⁷⁷ The growth of a mercantile bourgeoisie—trading the goods of direct producers—invested the former class with social power. The preparation of roads as infrastructure for commodity circulation required political administrations mediate and marshal powers within classed society, paving the way for consolidations of class power. The conditions for commodity distribution, formulated as a problem of the state, therefore contain and express normative political-economic biases. In *The Invention of Communication* Mattelart details the problem of communication—roads, canals, the sea and rivers—in eighteenth-century French political thought. Mattelart is interested in expanding the common-sense notion of communication in contemporary discourse, as something primarily linguistic. The economic thought of eighteenth-century physiocrats, Mattelart explains, permeated French administrations. A movement based in work of François Quesnay, the physiocrats believed that all wealth accrues from the land. “[T]he Physiocrats insist that only agricultural labour is productive,” Marx writes, “since that alone, they say, yields a surplus-value. For the Physiocrats, indeed, surplus value exists exclusively in the form of ground rent” ([1867] 1990, 644). The physiocrats emphasized flows of wealth between classes, individuals and nature. Anne-Robert-Jacques Turgot, intendant and minister in the *ancien régime*, expanded the French road system to promote the circulation of food. Agricultural producers, conceived as the primary beneficiaries of the road system, would in large part fund the expansion and improvement of roads through taxes. This expansion would bring rural France into communication with the cities, especially Paris (Mattelart [1994] 1996, 30 – 9). Turgot’s network of roads, constituted philosophically by physiocratic pragmatics, administratively by a tax on the productive class, express a class bias produced through economic, philosophic, and historical phenomena and contingencies.

⁷⁸ A conversation with Liam Cole Young at the 2016 Canadian Communication Association conference in Calgary helped me to see this. I also borrow Young’s use of the term granular.

moment of class society. The connection between circulation and production tightens as capitalism develops because expansions in the latter require the same in the former. Following Weafer, we may then classify the Marxist theory of communication as *an approach that identifies the importance of communication and transportation systems to classed societies*. This is important because many in the field of communication in Canada have championed Innis' unitary civilizational model of transportation, which collapses social divisions under banner of civilization. Marx's disjunctural theory of transportation may, on the other hand, account for the historical asymmetries at basis of capitalist and colonial transmissions.

3.6 Energy Capital

Both Innis and Marx have produced materialist approaches that may usefully underpin a political economy of what I am calling going to call energy capital, a theory that means to locate the production, circulation and consumption of energy within communication studies. The Marxian narrative nevertheless provides the more compelling framework for this theory. In the attempted fuelling of Pacific capitalism by Fort Rupert coal, Innisian problems of granular materiality and empire may be better addressed through explorations of class and capitalist development. Innis' inability to work through issues of class suggests that Marxian theories are more suited to communication if the field is interested in exploring capitalism as a coherent economic system based on generative structural difference and subsequent, corresponding exploitation.

At Fort Rupert, this difference was expressed, primarily, in both the colonial charter and the Wakefield System. The establishment of a European metaphysics of property and property rights at Fort Rupert allowed the relationship of capitalist owner and propertyless worker to travel from Europe to Vancouver Island. Yet the generative capitalist distinction did not, of itself, usher in a new era of development, something that Marx and those working in his tradition can help us conceptualize.

Andres Malm's *Fossil Capital* (2016) ties the emergence of steam power in Britain to the maturation of class struggle on the island nation; it provides an obvious touchpoint for the development of a theory of energy, commodity production and circulation. Malm

may suggest as much with reference to a forthcoming study of steam-powered travel, *Fossil Empire* (2016, 17). *Fossil Capital's* concern is, on the other hand, strictly with steam power in the production of commodities, and his theory of fossil capital requires extension to be of interest to us in communication. Nineteenth century maritime circulation would be radically enhanced by the acceptance of steam power, as with production in Britain.

When burned as part of the external-combustion engine, coal is an ancillary of production, consumed toward the creation of steam power. Ignited coals heat water to generate steam, which powers mechanical motion that is then manipulated to produce movement outside of the engine itself.⁷⁹ Malm shows that the generalization of steam power by British capital was tied to the availability and usefulness of coal. As it became the preferred energy source of mechanized capital, more coal was mined to satisfy demand: its production and consumption coming into deeper relation with one another. “One appears as a means for the other, is mediated by the other” Marx wrote of production and consumption, “this is expressed as their mutual dependence; a movement which relates them to one another, makes them appear indispensable to one another, but still leaves them external to each other” ([1857 – 58] 1993, 93). Coal, gas, and other energy producing material are things depleted in production, fulfilling their socially-constituted purpose by providing power for the completion of the circuit of capital.

The energy commodity is itself something that is also produced. It is a result of production and therefore subject to most of the same laws and contingencies as manufacturing. As something produced, the energy commodity reflects historic and geographic developmental circumstances in production.⁸⁰

⁷⁹ The transmitting mechanism is immaterial to the process of combustion and does not concern us now.

⁸⁰ The energy commodity is indeed both an ancillary productive force, as Marx notes ([1863 – 78] 1992, 238), and reflects production itself. The forces of production are generally taken to comprise living labour (the work of humans), as well as machinery and other constant capital like the buildings and raw materials that support production, as well as those materials consumed during the completion of commodities. As singular aspects, raw materials nevertheless exist relative to other forces of production. The widespread acceptance of the coal-burning steam engine in nineteenth-century manufacturing, for example, implies accelerations in the extraction of coal.

While the problem of fuelling commodity production is not particular to any point of development, economic tendencies that seek expanded and reproducible methods for appropriating surplus value are unique to the capitalist mode of production. The transition to capitalism is characterized by a shift in the status of transportation as it relates to the creation of value. Both Marx and Malm render the shift as formulae, building from the former's $M - C - M'$ formula. Capital proceeds by transforming money into commodities, which are then sold for more money than was put into the process at its beginning. At the outset, the money used to produce a commodity is divided into two portions, the outlay for the means of production and labour power. "The two sets of purchases pertain to completely different markets: one to the commodity market proper, the other to the labour market" (Marx, [1863 – 78] 1992, 110). These two aspects set into motion the creation of a finished commodity, which realises the initial outlay in sale and a surplus. Resource power, here the ancillary material coal consumed in production, is contained in the purchase of the means of production, worked to a suitable measure for consumption, whether it be in production or circulation.

Malm has expanded this further into what he calls The General Formula for Fossil Capital. The novelty of his formula is the introduction of the energy ancillary as something consumed in production—though merely in production—with ramifications for the global climate. His equation means to account for the fallout of fossil-fuel combustion, and *Fossil Capital* will proceed to identify the weight of more than a century of steam-powered production borne by the planet.

Despite presumably clear delineation in the forthcoming *Fossil Empire*, *Fossil Capital* nevertheless considers transportation too narrowly, relegating fuel use in capitalist transportation it to personal consumption. Transportation appears there as a personal form of fossil fuel consumption, rather than an ancillary of commodity circulation or even colonial plunder.

[T]here is a form of consumption preceding fossil capital by centuries if not millennia: the purchase of use-values whose very usage emits CO₂. Heating cottages with coal falls into this category, as do, to take but two examples, driving to work in a car and surfing the web with a computer (insofar as these run on fossil energy) (Malm 2016, 290).

As Marx recognized, however, commodity production requires the advance of transportation networks to expand, and production needs circulation for profit to be realized on a reproducible basis. “The process that creates this greater sum of value is capitalist production; the process that realizes it is the circulation of capital” (Marx, [1863 – 83] 1991, 132). Ninetieth century maritime shipping records conveniently support Marx’s assertion. The economist Luigi Pascali (2017) has recently, if tentatively, argued that the reduced shipping times that followed the widespread acceptance of steam-powered motion in maritime trade may have been responsible for *half* of the increases in global circulation in the second part of the nineteenth century. Through an impressive series of data sets Pascali showed that by 1875 shipping times were completely determined by steam, instead of sail, whereas the previous 15 years allowed for shipping times of both. Untethered from wind power, trade routes became more expedient for circulative capital, supporting the advances of steam-powered *production* begun earlier in the century.

We may, therefore, impose the means of circulation upon Malm’s general formula. As circulation was increasingly powered by fossil fuels during the second half of the nineteenth century, it becomes permissible to treat their consumption in circulation. Like production, fossil fuels were an ancillary material of circulation, used to power the engines of transportation. Similar basic premises indeed governed the proceedings of each, with inputs of labour-power and fixed capital dependent on historically variable circumstances. The specifically capitalist tendency toward improvement likewise compelled capital to reduce transportation costs and, therefore, cheapen commodities, an economic process that Pascali has identified in the transition to steam power in global shipping.

The theory of energy capital, as opposed to Malm’s fossil capital, means to account for the role of energy in commodity circulation. Malm has already identified in impressive detail the rise of fossil fuel use in British production and the conditions for the acceptance of the steam engine in its factories. Yet Malm hasn’t accounted for commodity circulation within the exposition. The result is a rather more discrete study of coal use in English capitalism than necessary, given the many uses of fossil fuel at the time. *Fossil Capital* indeed misses the development of steam power as an ancillary moment of circulation by limiting its focus to producers. Energy capital captures this blind spot in Malm’s equation

by placing commodity circulation, circulative labour, and transportation infrastructure within the circuit of capital.

If increases in the global production and consumption of coal, especially in Britain, helped to drive the expansion to Fort Rupert, the settlement's failure is in part related to the costs of travel associated with a labour shortage and inadequate infrastructure. In the absence of an independent industrialist or nation state willing to prepare transportation networks across the north end of the island, HBC sailed ships and chartered canoes, further delaying other element necessary for mining and the colonial project. The costs born by HBC for the lack of resource-capitalist infrastructure were high. The company lacked even the resources to clear a small field for farming, let alone the ability to produce a transportation network capable of supporting the terrestrial transmission of people, machinery and heavy commodities such as coal across significant distances.

Transportation networks are, in this way, an invisible input in Marx's circuit of capital: entirely necessary for capital to proceed on an inland basis but usually the product of another entity than the commodity producer. In volume two of *Capital* Marx calls circulation costs a *faux-frais*, or false cost, of capitalist production: secondary costs necessary to realize the value of a commodity, but unable to increase its value unless the transportation is from one productive location to another (1863 – 78] 1992, 226). Marx, in fact, references coal specifically in this discussion.

Within every production process, the change of location of the object of labour and the means of labour and labour-power needed for this plays a major role; for instance, cotton that is moved from the carding shop into the spinning shed, coal lifted from the pit to the surface. The transfer of the finished product as a finished commodity from one separate place of production to another a certain distance away shows the same phenomenon, only on a larger scale. The transport of products from one place of production to another is followed by that of the finished products from the sphere of production to the sphere of consumption. The product is ready for consumption only when it has completed this movement (227).

Here, Marx accounts for the necessity of transportation networks for production specifically. More than simple, individualized use, immediate transportation networks appear here as a political-economic condition for many forms of capitalist production, including coal mining.

3.7 “Cultivating the Friendship of these Children of the Forest:”⁸¹ Protest, and Social Reproduction in, around, and from Fort Rupert

Inadequate supplies of labour for the circulation of minerals and the social reproduction of workers severely restricted the development of a circuit to realize the exchange value of coal. We may also add the costs associated with exploration using underdeveloped (for the needs of mining capital) transportation networks to our accounting of HBC's incompetencies at the fort. The company was unprepared for the extraction and circulation of minerals. It failed to predict costs associated with transportation around the island, a problem ultimately of its own haste and incompetence, and the labour needed for colonial capitalism. The labour shortage in transportation and production also discloses HBC's changing relationship to Kwagu'ł persons. Prior to the establishment of Vancouver Island as a colony, the company had considered employing Kwagu'ł miners around the Fort. With the coming of colonial-capitalist property relations and Ayrshire miners, however, its view of the Kwagu'ł nation was altered to fit the new relationship.

As we've seen, the establishment of capitalist property relations on Vancouver Island required philosophical and legal means to the displace the Kwagu'ł coal trade. Granted and demarcated by English colonial charter, HBC assumed formal, unceded control of Vancouver Island in January 1849, including monopoly over the extraction and circulation of the island's minerals. The company anticipated future profits by legally monopolizing the Vancouver Island coalfield. With their legal governance of Vancouver Island's pre-capitalist coal trade formally eliminated in the eyes of HBC, Kwagu'ł miners began irregular employment with the company. Yet Kwagu'ł mining at Suquash in 1852, south of Fort Rupert and adjacent to Tsaxis, looked almost as it did in December 1848.

Although both Kwagu'ł and Ayrshire miners were paid to extract coal by HBC, much different relationships emerged between the company and each group. As with those from Ayrshire, HBC feared insubordination from its Kwagu'ł miners, an especially pressing concern given that Kwagu'ł greatly outnumbered colonists in the area. Douglas and Blenkinsop, for example, worried that Kwagu'ł miners may be pocketing coal, and

⁸¹ Douglas to Barclay, shortly after the arrival of miners at Fort Rupert ([1849] 1979, 39).

somehow in great enough quantities to disrupt the potential of the island's coal trade. Such self-serving claims, rejected by the HBC Secretary, represent a minor position on Kwagu'ł employment by HBC representatives, however. Throughout the existence of Fort Rupert as a mining outpost the company was generally enthusiastic about its Kwagu'ł miners, representing a departure from the common belief of colonists in the "indolence" of Indigenous Peoples on the coast. The discourse of company officials indeed swung from regarding Kwagu'ł workers as disobedient or lazy subjects to paternalistic appreciation as mining proceeded.

Historians of BC have paid considerable attention to the imbricate points of race and class in the development of the province.⁸² A disagreement between Peter C. Ward and Rennie Warburton in the journal *BC Studies* (Ward 1980 and 1981; Warburton 1981), revealed deep divisions between liberal and Marxist approaches to these moments in BC historiography. Ward considers social class from a position of individual identity, in which it was a subjective experience rather than an outcome of material reality. Class, in Ward's view, is something performed by individuals. Although concretely manifested, distinctions that may cleave the working class in history—race, for example—are ultimately found in the mind. He surmises that "they exist because they are believed to exist." (Ward 1980, 18). In an unyielding bit of criticism, Warburton accused Ward of inhabiting an essentially idealist position. Per Warburton, expressions of social class need to be understood through basic, yet fluid experiences found in the relations of capitalist production.⁸³

⁸² Ward ([1978] 2002, 1980) attempts to establish race as the dominant social division among early settlers in BC. Toward the maintenance of a vigorous white-supremacy, he writes that a "luxuriant anti-Orientalism flourished on the western coast" from the mid-nineteenth century ([1978] 2002, 34). As Jin Tan argues, however, Ward basically dismisses the vector of class (1987, 75). In the same paper, Tan discovers that the power of Chinese workers in the late nineteenth century was vested in the merchant class and articulated as struggles for equality. Adele Perry (2004) chronicles the rise of institutions in British Columbia that fashioned gender, race, and class toward properly imperial modes of behaviour. Particularly interesting here is the work of temperance societies led by energy capital (80 – 3). Although institutional temperance in BC during the nineteenth century was not ideologically nor materially contained by the direct relationship of capital to labour, the regulation of gendered, working-class norms by capital suggests rather straightforward ambitions.

⁸³ In Western Marxism generally, this holds for capitalist and working classes alike. See, for example, Lukács ([1923] 1971, esp. 83 – 110).

Warburton's criticism suggests a historical materialist account of discourse and social incorporation at play in the province's history, in which the working class is separated and constructed through capital's demands for less costly and more efficient means of production. His criticism of Ward supports an epistemological position in which the experience of class cannot be separated from race, or gender for that matter, as well as capital's attempts to undercut the solidarity or community of workers. "All activities of and in the social are," as Himani Bannerji reminds us, relational, "mediated and articulated with their expressive and *embedded* forms of consciousness" (2005, 147; emphasis added).

As they progress, moments of class and race occur in a double movement. Each, in other words, happens to and are performed by workers. At Fort Rupert, articulations of class to and by Ayrshire and Kwagu'ł miners were structured by the early state of the colonial project and that of capital. The discipline of workers by HBC was, inversely, determined by the power of workers to resist, escape, or disengage the employer. If emergent forms of capitalist social relations and practices came to Vancouver Island from Europe and were organized around coal extraction, non-capitalist forms of social organization among Kwagu'ł workers supported their autonomy and survival, their non-dependence on a wage, something that could not be said of the newly arrived Ayrshire miners. Strikes and escape appeared the most viable options for this group, bound to and by the company.

Perhaps surprisingly, the non-dependence of Kwagu'ł workers upon HBC for survival resulted in relative labour peace between the groups, in which a positive view of Kwagu'ł labour was formed by HBC representatives on the island. The company's subsequent assessment of what it determined to be the Kwagu'ł character was however a relatively recent development. HBC did not, of course, require a transformation in property relations to essentialize Indigenous Peoples. Robin Fisher notes that the view of Indigenous nations held by European fur traders was split between coastal and interior groups. "The coast was thought to be a luxuriant environment that yielded a livelihood with little effort," which "made its inhabitants lazy" (1977, 82). To be sure, settler-colonial assessments of the indolence and laziness were often reducible to a "lack of interest in the European form of labour subordination and refusing to exchange subsistence activities

for accumulation” (Lutz 2008, 35). Such ideas, influential among European fur traders active on the coast, were present in early assessments of the coal trade. In 1836, Finlayson wrote that any successful organization of mining would be improbable with Kwagu’ł workers, given their “indolent habits” (Finlayson quoted in Coderre [1950] 1966, 22). HBC’s view of its Kwagu’ł workers transformed with mining around Fort Rupert. The discourses of HBC representatives that emerged regarding the Kwagu’ł after 1849 followed from the labour peace. Indeed, Finlayson’s valuation of Kwagu’ł miners, bearing the mark of a previously established terrestrial essentialism, appears out of step with the paternal appreciation suffusing HBC letters on Kwagu’ł mining and life of the late 1840s and early 1850s, concerns of coal theft aside.⁸⁴

That Kwagu’ł workers were not under contract HBC also granted the group autonomy and power in the labour relation. They were, for example, able to decide when a mining season had concluded. “The Indians [sic] have given up digging coal in consequence of the Cold Weather... They live on very friendly terms with the Fort and have been of great service during the past season” (Douglas [1850] 1979, 75). The next year, Douglas appeared unaffected by a decision to decline coal extraction in summer 1851 in consequence of a war between HBC and another Kwakwaka’wakw nation (Douglas [1851] 1979, 205).

When Kwagu’ł protests arose, they were posed against the dislocation of their work, symbolized by Ayrshire miners, and not the company. Shortly after the miners arrived at Fort Rupert, the diary-keeper Andrew Muir had become terrified of the Kwagu’ł. Fights began to occur between Ayrshire and Kwagu’ł miners, including threats of serious violence unless Kwagu’ł miners were adequately recompensed for their losses (Muir 1849, 89). Formal control over the coal trade had shifted months earlier, though rather uneventfully, as Kwagu’ł miners continued to direct the working of the Suquash coal pit south of Fort Rupert, which could hardly be considered waste land. The introduction of

⁸⁴ Certain HBC employees went so far as to take credit for what the company understood as the positive characteristics of the Kwagu’ł. Helmcken, for one, credited the company for what he believed to be a positive deviation in Kwagu’ł indigeneity. “It seems, indeed, that intercourse with the whites is and has been the chief source of primitive civilization ...” (Helmcken [1850] 1975, 328).

Ayrshire miners represented, for the first time, the displacement of Kwagu'ł labour, or at least its potential. William Burrill is then approximately correct when he characterizes the animosity of Kwagu'ł toward Ayrshire miners as a pre-industrial labour force claiming the resource (1987, 37). It took time for Kwagu'ł miners to experience the formal transition in property rights to HBC control, with some form of payment passing into 1849 and beyond as they continued to extract coal at Suquash. The transition into a form of wage labour occurring without significant incident, Kwagu'ł were hardly passive when their trade was threatened. Struggle on their part would follow capitalist displacement and dispossession of the resource, albeit represented by the Ayrshire miners.

If control over the resource was primary in motivating disputes between miners, the wage relation itself also reflected distinctions HBC had drawn between Kwagu'ł and Europeans. Despite a slight transition in the nature of payment from indigenous to HBC organization, the remuneration system for Kwagu'ł miners appeared basically constant: derived from output. The company's European miners were, on the other hand, contractually guaranteed a wage regardless of output. The Ayrshire 'darg' system was in part used to calculate the earnings of the county's miners on Vancouver Island, in which a consistent annual wage would be provided with tonnage bonuses for extraction above a determined amount (Burrill 1987, 19; Bowen 1989, 28; Belshaw 2002, 92). As a biographer of Robert and James Dunsmuir notes: "[t]he wages of the first group of Ayrshire [miners] were fixed at £50 a year, but [miners] would receive a bonus of two shillings and sixpence for every ton of coal they raised above the 30 tons per month covered by their contracts" (Reksten 1991, 7). The prospect of bonuses based upon output was, however, slight. The frequent work of Ayrshire miners in tasks other than mining saw to this. It would indeed take until early 1850 for local infrastructure to be properly established.⁸⁵

In the absence of a sustainable seam and through the misrecognition of skill, the darg system with its established overage guarantees reacted back upon workers in the colonial setting. HBC's monopoly of power and redress allowed missing overages to function as a punishment. In April 1850, Ayrshire miners were blasting rock, searching for clay, and digging sewage drains. The culmination of these tasks and the absence of full

⁸⁵ "All the heaviest work at Fort Rupert is completed. The stockades and bastions are up, two stores, and a house for the men, and several smaller buildings" (Douglas [1850] 1979, 73).

darg brought about the first open conflict between Ayrshire miners and HBC. The former protested that they did not come to Vancouver Island as general labourers. The feeling that HBC had parted ways with the agreement had been brewing for some time. Almost immediately after arriving at Fort Rupert, Muir expressed his belief that the company had broken its contract with the miners. Blenkinsop responded to the frustrations of his miners by threatening the men with “sword and Pistol,” announcing to them that he was “not afraid to die” in any subsequent altercation. Four days later, Blenkinsop walked back his bellicosity, fining Andrew Muir a year’s wage, £50, instead of killing him (Muir 1848 – 50, 93 – 5). Protests would subsequently escalate and corporal punishment, shy of straightforward murder, would be used by Blenkinsop and HBC. Miners’ strikes began on April 16, 1850.⁸⁶ On May 3, Captain William Henry McNeill of the *Beaver* would arrive at Fort Rupert “like a madman swearing and threatening and ordered us to our work” (101). Andrew Muir and John McGregor would be put in irons and told that they would stay there living on bread and water for years to come. The punishment would endure for six days, with the cold and wet causing Muir to become partially deaf, for which the doctor John Helmcken refused treatment.⁸⁷

During their time in irons, the bodies of Muir and McGregor would bear an aesthetic of absolute domination, symbols of the company’s intolerance for dissent. HBC worried that mutiny would cross the boundaries they held important. “[The strikes] have in many respects a baneful effect on the service by impairing our influence with the natives and destroying the character of the service” (Douglas [1850] 1979, 112). Their worries were not unfounded. General labourers would also strike, for double pay, which the company blamed on the “example” set by the Ayrshire miners (111). Eager to quell dissent, the irons rendered torpid the formerly rebellious, binding them to company. For those in Fort Rupert, the vulnerable and increasingly weak bodies of McGregor and Andrew Muir displayed the power HBC assumed over its servants. The miners would continue to refuse work for weeks, before a trial could be held to determine the propriety of Muir and McGregor’s imprisonment.

⁸⁶ The first strike of a capitalist labour force on the Pacific coast of what would become Canada.

⁸⁷ Dr. John Sebastian Helmcken was the founding president of the British Columbia Medical Association. There are streets that bear his name in Victoria and Vancouver, BC.

Company control over the working day conflicted with miners' previous status as independent colliers. Yet the mobilization of a severe disciplinary regime was in keeping with HBC's prevailing belief that labourers were servants to the company master. Edith Burley's "Work, Discipline, and Conflict on the Hudson's Bay Company, 1770 – 1870" (1993) registers in significant detail the shacklings, lashings, beatings, and mutilations visited primarily upon the company's premodern workers by its officials. HBC was indeed well accustomed to using imprisonment and corporal punishment to penalize and regulate the behaviour of its workers well before Fort Rupert. The social forces that the company was trying to contain at the north end were, however, different from those that bounded premodern traders. At Fort Rupert, HBC misunderstood the skill of independent miners and their expectations, assuming the organization held dominion over the composition of work. The disciplinary regime that emerged at the north end therefore did so to contain the contradictions of an authoritarian, illiberal, and mercantile firm organizing free labour.

By July, miners were again off work, threatening to desert for Fort Victoria aboard one of the trading ships in order to get redress from someone above McNeill and Blenkinsop or perhaps leave the company entirely. The dependence of Fort Rupert miners on HBC for the means of social reproduction and their subordination at the hands of the company made desertion another feasible means of protest. This option appeared even more practical following the introduction of another strike-breaking strategy by the company. Owing to HBC's trade monopoly with Indigenous Peoples on the Island, Blenkinsop refused to allow food to be traded between Kwagu'ł persons and those from Ayrshire (107) once protest had begun, impeding any autonomous social reproduction on the part of the Scots, even though the trade was previously tolerated (Burrill 1987, 54). Miners' trade with Indigenous groups was now so strictly forbidden by HBC that Blenkinsop and his apprentice Charles Beardmore began assaulting families suspected of trading with First Nations.

Mrs. McGregor, Mrs. Smith & Sister went outside in the afternoon when there was 2 Deer given to them which they skin[n]ed and put into the house on entering the Fort gate, Blinkinsop and Bredmore, in a ruffian like manner seized and tore the basket off her back and world all her to the meat in the house but said his trader would trade it and would send it to them and whatever he paid for it he would charge to their Husband a/cs when Mother went out, (I was surprised for I never sae her in such a state she would rather suffer anything than breed a disturbance but they had trodden too much on good nature) she boldly said she was a free

woman and had no meat from the Coy. therefore... after a little more altercations the Baskets with the women carrying them came over to the house triumphant over the cowardly rascals who would attack a woman two to one (Muir 1848 – 50, 109 - 10).

Despite Mrs. Muir's victory over HBC management, the company would continue to exert control over foodstuffs entering the fort, requiring Ayrshire miners to surreptitiously trade with the English workers at Fort Rupert, who acted as mediators for items of Kwaguł food. Strict control over the food supply further supported abandonment of the fort, and maritime desertion would indeed become common among miners and labourers at Fort Rupert, with the frequency of trading ships providing a relatively convenient means for escape. The fort's blacksmith and three other labourers deserted aboard the barque *England* following the miners' strikes. By August 1850, most of the Ayrshire group had also fled for California, save John and Anne Muir and their youngest child. So too had three additional labourers, with six labourers and four miners deserting in total (Douglas [1850] 1979, 112). The deserting miners would return to Fort Rupert, however, with a second group from Ayrshire including Robert Dunsmuir, arriving in 1851. In the interim, Kwaguł miners continued to produce coal.

There is some disagreement among historians regarding the nature of protest at Fort Rupert. Burrill has argued that the strikes of Ayrshire miners concerned the wage relation, proceeding through what he calls collective bargaining by insubordination, turning Hobsbawm's well known phrase.⁸⁸ Per Burrill, miners wished to maximize their income but were unable to do so given the many tasks outside of mining they were assigned, the overages of the darg becoming punitive rather than rewarding. That wage was the core of Ayrshire miners' discontent is at odds with other suggestions that control over the terms of labour constituted the primary reason for the Fort Rupert disputes. Burrill criticizes Keith Ralston for his belief that the strikes concerned the labour process and whether the miners worked as general labourers, a view that I share with Ralston and for which there is, I believe, ample textual evidence in Andrew Muir's diary, the solitary surviving document written from the perspective of a miner at Fort Rupert participating in labour action. For Ralston, the source of the Ayrshire miners' struggles at Fort Rupert was specifically the "organization of work and methods of labour discipline" (1982, 24). Muir's punishment for

⁸⁸ Hobsbawm (1952) characterized machine breaking as 'collective bargaining by riot'.

rebellion, for example, which rendered him partially deaf, animates a simmering anger throughout the rest of his diary. "I shall never forget the treatment I have received" (Muir 1849, 103).

Burrill admits (1987, 10) that his position moves the economic exploitation of an early capitalist labour force to the center of Fort Rupert's struggles. Writing in the wake of Braverman (1974) and Noble (1984), he argues that labour process-theorists sought to displace exploitation from Marxian analysis of work in favour of control. This would constitute a retreat from Marx's most important discovery: the position of labour power in the creation of value. Section 2.5 of this dissertation attempted to show that the dichotomy of control and exploitation constructed by critics of labour process theory is false. In its place, I suggested a dialectic of exploitation and variable control, of economic dynamics and immediate needs, of abstract and concrete. All of this, however, supposes a more mature capitalism than Fort Rupert allowed.

Bowen's *Three Dollar Dreams* (1989) and "Independent Colliers at Fort Rupert" (1989) capture the pre-capitalist dynamics weighing on the Ayrshire miners. Her work offers a genealogical interpretation of the Scottish miner and their protests, complementary to Ralston. Bowen argues that HBC was accustomed to indenturing its contracted workers and assumed a great deal of control in exchange for salaries, a position inconsistent with the common labour practices in Ayrshire's mines. Following the Emancipation Act of 1775, Scottish miners became 'independent colliers', or independent entrepreneurs as Ralston (1982) puts it, with a great degree of control over the time they spent underground and the content of the labour process. They held power in the labour relation well beyond what HBC customarily allowed. The company assumed near total control over the means of production, social reproduction, the working day, and colonization, while Ayrshire miners believed their work on the island would resemble Scottish pits. Bowen's position evolves slightly from here to include the proposal that the pride of Ayrshire men motivated their struggles, which reduces what were in fact drastic systemic distinctions between the forces and relations of production at Ayrshire and Fort Rupert to a personal, inordinate character trait. This assertion is nevertheless easily bypassed, and Bowen's history of the Ayrshire miner further establishes control as the basis of protest at Fort Rupert.

Following textual evidence from Andrew Muir's diary (and aligning, for the most part, with the work of Bowen and Ralston), control within the material relations and forces of production, irreducible to the wage relation, contra Burrill, appears to be the predominant cause of protest at Fort Rupert. Control, similarly, seems to be a significant determinate in the absence of protest among Kwagu'ł workers mining at Suquash, a calm reflected in the language of HBC officials. The discursive formations of HBC translated white supremacy through nascent capital's need to maintain at least formal control over production, as well as sustained, if not expanded, output. This labour relation, which expressed Kwagu'ł workers' power over the working day, social reproduction and their non-contractual wage relation with HBC, presented a problem for HBC officials, who could not rely upon strategies either worked up from capitalist life or its mercantile history to direct production as they saw fit. The power of Kwagu'ł workers stabilized the output of coal at Fort Rupert and HBC's maritime coal trade. Formal displacement of the Vancouver Island coalfield was, therefore, not materially realized by Kwagu'ł miners during the Fort Rupert years, whose real control persisted as HBC unsuccessfully attempted to reorganize production.

The labour process around Fort Rupert diverged with the uneven productive relationships of workers to HBC. Kwagu'ł miners could reproduce themselves outside of capitalist norms, due in part to their continued possession of Tsaxis and the adjacent Suquash field. HBC would never challenge Kwagu'ł miners for full control of the Suquash field, barely exceeding anything more than mere formal control of the mineral by decree, established elsewhere.

Ideas of Kwagu'łness held by HBC coalesced through the company's immediate needs in mining and colony, as the solidification of perceived ethnic behaviours became subordinate to colonial and capitalist projects and the maintenance of formal property rights established by London. Uneven treatment of workers and racialized perceptions of labour followed from the material conditions of capitalist exploitation and colonial occupation. Racist beliefs were established and developed to support the form of white-supremacist capitalism established on Vancouver Island. Perceived and evolving racial distinctions were, in short, organized by HBC's economic needs. Language and belief followed the interests of empire. Informal, discursive difference, drawn from inequitable

social and economic relations, would then direct further HBC endeavors. Racism as the cultural form of colonial domination, Frantz Fanon argues, must “renew itself, to adapt itself, to change its appearance” (1964, 32).

The company was, moreover, comfortable paying Kwagu’l miners under conditions of simple formal ownership, so long as it could not advance the forces of production beyond its belief in their ability. This comfort was dictated in no small part by the power of Kwagu’l miners to set the terms of the labour relation, both through access to the means of their own social reproduction and simple, but vast numerical superiority. The ability of Indigenous Peoples’ of the eastern Pacific to resist subsumption by colonial capital is, moreover, often missed in subsequent assessments of their relations with HBC, with historians highlighting the benevolent colonist instead, especially Douglas. Gallacher, for example, notes that: “[a]ccording to all biographers of Douglas, the chief factor was particularly sensitive to native needs and their treatment at the hands of the Whites” (1979, 65 fn. 56). We might read this statement in conjunction with Fanon’s on the reverential colonist.

The constantly affirmed concern with ‘respecting the culture of the native populations’ accordingly does not signify taking into consideration the values borne by the culture, incarnated by men. Rather, this behaviour betrays a determination to objectify, to confine, to imprison, to harden (1964, 35).

Objectification, in other words, remains subordinate to colonial dictates, no matter the intention.

In a much different manner, the struggle of Ayrshire miners against HBC proceeded with great difficulty. The means for the social reproduction of worker and family were severely restricted, occupying an area near decidedly non-capitalist Tsaxis with trade restricted. Miners believed that HBC had broken their contract and, given that the power of immediate formal redress was located with company officials at the fort, desertion then became prudent. Lingering anger over corporal punishments and thinly-veiled threats of murder played a part in motivating desertion, as did the labour situation at the fort more generally. These problems arose from the company’s inability to recognize the demands of capitalist coal extraction, including free labour. Formal political control established by colonial charter was unrealized in the means of production, which continued to be

animated by non-capitalist productive relations, as desertion, labour shortages, and protest further hindered extraction. The basic contradiction that led to the destruction of Fort Rupert was that of vestigial mercantilism extending into capitalist production, from which other problems, including desertion, would arise. It was not revolution that would ultimately doom Fort Rupert, as Andrew Muir predicted, but a host of factors mostly reducible to the ongoing mercantilist practices of HBC as it tried to mine coal.

That Fort Rupert began to emerge as a hub for commodity trade, ironically, hindered the development of HBC's extractive capacities; at the very least, the search for coal was impeded by the escape of Ayrshire miners. Shipping routes that supported colonization brought Ayrshire miners to Vancouver Island, but the expansion of maritime networks for commodity trade in the Pacific allowed the independent Ayrshire collier escape from the more brutal remnants of mercantile-colonialism.

The company's production of coal at the north end would never quite surpass a mercantile relation, in which the commodity was purchased from another direct producer to then be sold at a higher price. Despite its efforts, HBC remained a merchant of coal rather than a producer, appropriating the "surplus labour [of Kwagu'ł miners] on the basis of the old mode of production" to quote Marx ([1863 – 83] 1991, 453). The Marxist approach to transportation, outlined in 3.5 and 3.6, highlighted the inequities of classed societies—rather than cohesion in empire—in the constitution of transportation. In bringing capitalist property relations to Vancouver Island, maritime travel established a historical form of communication based in exploitation (and plunder) that entrenched capitalist developmental patterns on the island. As the dissertation moves forward, transportation will continue to be important in the development of Vancouver Island coal, yet its near decisive position in the labour process will wane by the end of the century, making way for laws internal to the relations then forces of production. As capital transitions from formal to real subsumption, the status of transportation moves from primary to secondary importance.

3.8 Toward the End of the Whole Mess

A second group of miners from Ayrshire arrived at Fort Rupert in August 1851, having left Britain aboard the *Pekin* the previous December. HBC hoped that the group would proceed with coal extraction on the company's terms, unlike the rebellious group. Despite what Douglas characterized months later as the spirited efforts of the second party, the shallow Suquash remained the only productive pit on the island through 1852. Like John Muir, the oversman before him, Gilmour failed to discover a workable coal seam, and the second collection of miners from Ayrshire would barely last one season at the north end before the company would begin to abandon the project of coal mining around Fort Rupert.

By September 1852, Douglas had ordered miners and implements be ferried from Fort Rupert to the Nanaimo area. The company had decided to shift its efforts south after coal deposits had been discovered at Wenthuisen Inlet, now Nanaimo Harbour. HBC had been aware of coal's existence near the harbour since spring 1850, when, in an oft-repeated story, it was disclosed to Victoria by the trader and area chief Che-wech-i-kan, or Coal Tye. In summer 1852, Douglas subsequently explored the east coast of Vancouver Island, paying special to the Nanaimo area. Afterward, he jubilantly reported to London the discovery of three coal beds.

The reports concerning the existence of coal in that place were, I rejoice to say, not unfounded; as the Indians [*sic*] pointed out three beds cropping out in different parts of the inlet; and they also reported that several other beds occurred on the coast and in the interior of the country, which we did not see. One of those beds measured 571 inches in depth, of clean coal; and it was impossible to repress a feeling of exultation in beholding so huge a mass of mineral wealth, so singularly brought to light by the hand of nature, as if for the purpose of inviting human enterprise, at a time when coal is a great desideratum in the Pacific; and the discovery can hardly fail to be of signal advantage to the colony. The two other seams which we examined were about 3/4 of a mile distant from the former, and measured respectively 3 inches and 20 inches in depth, and are valuable chiefly as indicating the direction of the beds (Douglas [1852] 1854, 247).

Nanaimo suggested a handful of advantages over mining at the north end. The coal discovered at the Harbour appeared to be more plentiful than any seam found near Fort Rupert not under Kwagu'ł control; the coal itself was more suitable to internal

combustion than what was derived from Suquash, rejected, as it was, by the Pacific Mail Steamship Company; food was more readily available to the company, with Douglas finding it “cheap and abundant” through trade with local Snuneymuxw (Douglas 1852, 247); and Nanaimo was hundreds of Ks closer to Victoria than Fort Rupert.

The company had also learned from its hitherto inability to organize capitalist mining. That coal was discovered next to a brilliant natural harbour that made surface transportation relatively straightforward. The company would also separate the construction of the settlement from the extraction coal, at least in part rectifying the conflation of skilled and generalized labour that hindered Fort Rupert. Having learned from the north-end strife, more clear directions were delineated regarding the labour process. “The work of the Miners must however have the preference in all cases and be first attended to,” Douglas wrote shortly after his identification of a workable seam at Nanaimo Harbour (August 26, 1852). Economically and organizationally, Nanaimo would be organized differently than Fort Rupert, or Fort Victoria for that matter. Nanaimo would not come under the Fur Trade division of the HBC (Ralston 1982), and it was never settled as a Fort. As far as Ralston can tell, Nanaimo remained independent of the Fur Trade branch throughout the 1850s and early 60s. The physical outlay of property around the Nanaimo mines also proceeded in a different way than it had at Fort Rupert. Although a bastion would soon be built, with a handful of small mining cabins provided by HBC to workers at the company’s expense (Belshaw 2002, 102), the settlement lacked enclosure by HBC walls. In September 1852, Douglas instructed Joseph McKay, who oversaw the initial development of Nanaimo, to “put up as many small houses as profitable for the accommodation of the men then expected probably about 15 in number” (September 18, 1852).

Nanaimo would shortly thereafter become the symbolic and literal center of coal extraction in BC, remaining basically as much throughout the nineteenth century. Yet its existence is owed to the seizure of property rights concatenating from 1849. Fort Rupert, through the charter establishing HBC dominion of Vancouver Island’s minerals, established a legal basis for capitalism to proceed. It was the convulsion from which coal would spread outward from the island. The next chapter will explore the expansion coal mining in Nanaimo, the origins of Vancouver Island’s coal duopoly, and the slow

maturity of coal extraction as a capitalist industry on the island and in the province more generally. As it developed prior to Confederation, the industry saw many of the pre-capitalist practices that persisted at Fort Rupert severed, with more thoroughly liberal-capitalist forces emerging to shape production and the settler-colonial society.

4. “Beyond Sundry Needful Work:” Resource Colonialism and the Emergence and Latency of Capitalist Dynamics in Nanaimo before BC Enters Canadian Confederation⁸⁹

I feel that I only now [1860] for the first time truly comprehend our position in all its bearings. The project before us is I am sorry to say languishing.

- HBC representative A.G. Dallas

If Fort Rupert provided the legal foundation for capitalist extraction and colonial settlement to proceed at Nanaimo, extraction in the second mining community failed to develop by leaps and bounds during HBC’s tenure, 1852 – 62.⁹⁰ The mid-island settlement stabilized within a few years since its founding, the only permanent community based in mineral extraction that HBC had in the Pacific. Many of the managerial incompetencies associated with Fort Rupert, depopulated of its miners by 1853, were being overcome in Nanaimo: adequate housing was established, the food selection was more varied and available to colonial inhabitants through trade with nearby Indigenous Peoples, and a rudimentary division of labour was emerging in the settlement. Management was no longer, strictly speaking, controlled by a company whose wealth accrued predominately through mercantile accumulation. By early 1856, the immediate administration of mining had been subcontracted to an emergent managerial class, after the company’s agreements with some of its preferred miners expired. Mining itself was becoming more specialized and mechanically augmented. HBC put into practice technical advances to which their contracted miners in Europe had been accustomed. Steam power was being utilized in Nanaimo to clear the mines of floodwater, as well as in the settlement’s sawmill.

Yet advances beyond the organizational failures of Fort Rupert did not represent an overcoming of colonialism by industrial capitalism. Nor was this the aim, of course. Colonialism was an ongoing project on the island, which supported capitalist resource

⁸⁹ Throughout this chapter I use some variation of the term ‘pre-Confederation period’. In every instance, I mean prior to BC’s entrance into Confederation in 1871, rather than Canadian Confederation proper in 1867. I apologize for any confusion.

⁹⁰ Until around 1860, Nanaimo had more commonly been known as Colville Town.

settlement. Resource colonialism in the form of coal extraction required a much larger labour force to proceed than the extant fur trade. As Liza Piper writes in *The Industrial Transformation of Subarctic Canada*, the fur trade “required extensive exploitation compared to locally intensive farming, mineral, lumber, or hydroelectric activities” (2009, 48). Coal extraction on Vancouver Island, as a form of accumulation, needed mass settlement and technical advances to proceed on a permanent basis with proletarianized workers. It was, consequently, tightly thatched with the project of colonization. As the social relationship between workers and capital developed well beyond anything the company had previously organized in the Pacific, settlement likewise expanded to support the accumulation of energy capital by HBC.

Capitalist development remained embryonic through '62, however—something of an afterthought within the larger organization of the company. Yet as settlement and industry progressed through the 1850s, each continued to bear the markings of European traditions.⁹¹ Alcohol mediated old-world social practices with evolving social dynamics in the colony. On the evening of November 5, 1856, a group of settlers gathered in festivity around a Nanaimo bonfire. The fire commemorated the 1605 Gunpowder Treason, an attempted Roman-Catholic bombing of the House of Lords, a failed *coup d'état*. Scheduled holidays on the island were scarce—time off from work was rare in general—and memorial of a terminated *coup* against a continuing monarchy was, socially-speaking, of less importance for HBC than the births of Christ and Queen. Evenings were another matter, however. Celebrations after the working day were a tolerated concern for company officials, especially where they reflected empire in its margins.

Nanaimo's 1856 anniversary of the Gunpowder Treason was raucous, driven at least in part by alcohol, a common feature of November 5. Historically, some English communities had

[I]aid on a public beer barrel or supply of wine for all comers, or established a parish commemorative feast. The anniversary became a day of indulgence, of drinking and festivity as well as worship and mediation, even though it was never an official

⁹¹ Belshaw shows mining on Vancouver Island was numerically dominated by British, especially English miners through 1891 (2002, 62).

day of absence from work. Hospitality shaded into charity in some places, where 5 November was a day for distributing doles to the poor (Cressy [1989] 2004, 147).

In custom, HBC's Nanaimo workers drank excessively and shot bullets into the air. The bonfire itself would claim a victim. The carpenter Nelson turned pyre during the merriment, though he survived being badly burned.

Hardly anomalous, inebriation was a common feature of colonial Nanaimo, which at times mediated the labour relation.⁹² Miners, including some of the least class-conscious on the island, missed shifts with hangovers. The "illicit sale of spirituous liquors," as McKay wrote in his diary (April 3, 1853), such as brandy unloaded from ships coaling at Nanaimo Harbour, disrupted, at least temporarily, whatever notions of duty the company foisted upon its workers. In the absence of a significant labour pool from which to draw, HBC could not impose penalties for minor transgressions like simple drunkenness and its remnants, something that workers understood.

Often ending in a day or days off from work, the consumption of alcohol provided a physical release from the working day. The therapeutic function of alcohol as a social practice should not, however, be overstated. Cruelty and racism often came to supersede gaiety when it was consumed. In August 1854, Archibald French, among the second group of Scottish miners to arrive on Vancouver Island, sprinted around Nanaimo—numbering somewhere around 20 settlers at the time—firing his gun into the air, assaulting at least one Indigenous person, and alarming others near the settlement. The unnamed victim of French's brutality exacted a small measure of justice. "Means were on the point of being taken to confine and secure [French] when a stone thrown at him by an Indian [*sic*] whom he had beaten which took effect behind the ear that succeeded in silencing him he afterwards went quietly to his home" (McKay, August 27, 1854).

⁹² This was true of Victoria as well. Robert Melrose's diary account of New Year's 1854 is vivid in its concerns. "New Year's Day, a day above all days, for rioting and drunkenness, then what are we to expect of this young, but desperate Colony of ours; where dissipation is carried on to such extremities my readers will be expecting to find nothing in my Almanack, from Christmas, till past the New Year, but such a one drunk, and another drunk, and so on" (quoted in Akrigg and Akrigg 1977, 71).

**MAP OF THE COMPANY'S LAND AT NANAIMO,
Shewing Coal Fields, &c.**

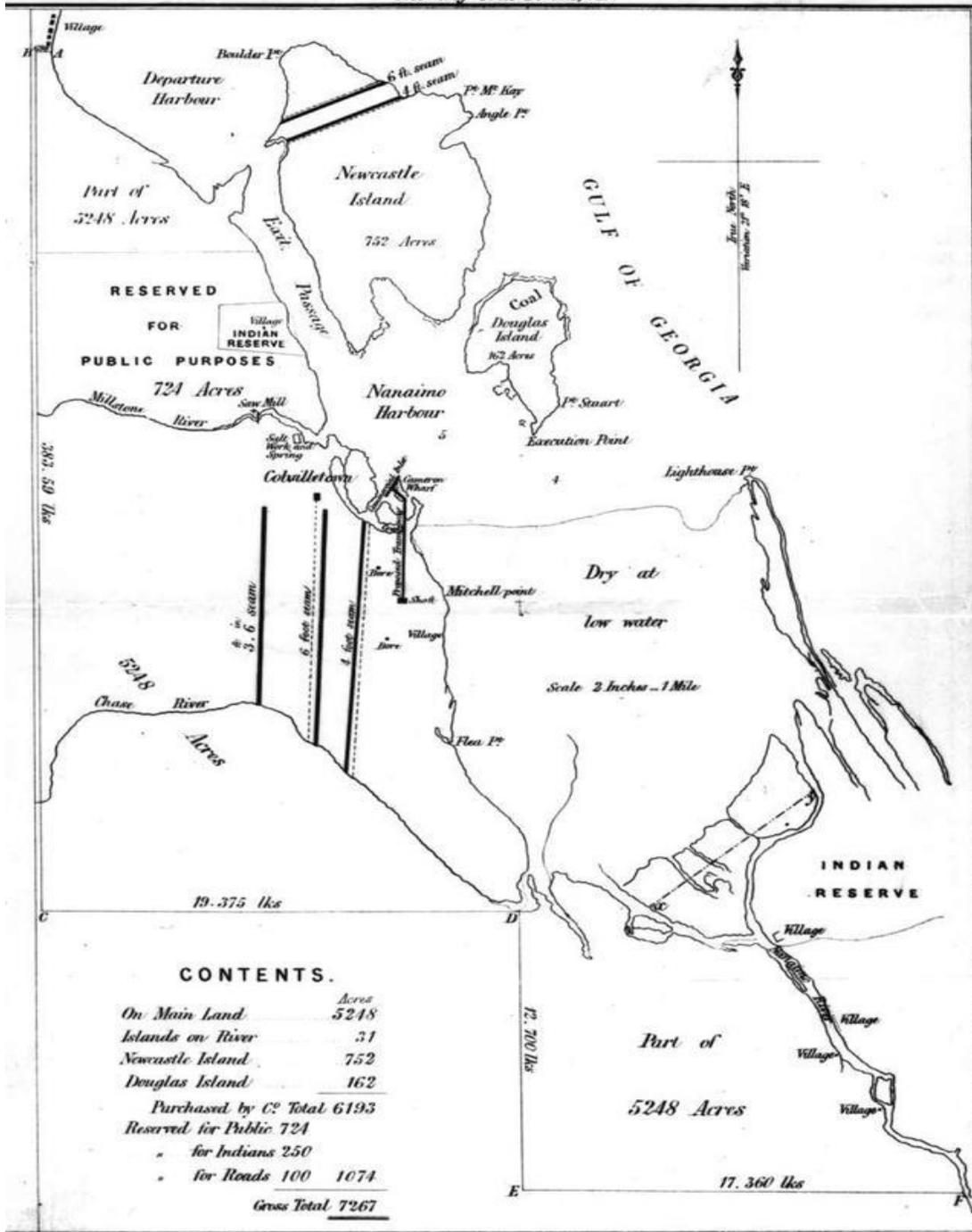


Image 3: Map including the Nanaimo area (nee Colvilletown) prior to 1863. Date unknown, producer unknown. Image E-01377 courtesy of the Royal BC Museum and Archives.

In at least one instance, drunkenness in Nanaimo facilitated killing. The French-Canadian labourer François Cote was among a group of men contracted by Douglas in 1853 to build houses in Nanaimo. Shortly before the new year, Cote would face an inquest concerning the death of Joseph Maurice, following a drunken beating. In the December 18 entry, McKay wrote in his journal that “Cote struck Maurice knocked him down and kicked him several times in the abdomen. [Maurice] is now dangerously ill,” passing several days later.

Maurice’s death followed a period of protracted drunkenness for Cote in which the latter regularly refused work. It was common for miners to take days off in December and January to celebrate the season. Cote had begun somewhat earlier than usual. A brief two-day inquest into Maurice’s death concluded on Christmas Eve, with the jury of HBC employees finding that the inflammation in Maurice’s body could not definitively be attributed to Cote’s beating.⁹³ Despite the ruling of his peers, word would come to Nanaimo that Cote face trial. He would, however, continue to serve HBC in the interim. As if to underscore the basis of social power in the settlement, Cote spent time in winter 1854 loading ships docked in the harbour with coal. In spring, he was tried and acquitted of manslaughter, then transferred to work aboard the steamship *Beaver*, running supplies and messages around the Vancouver Island colony. As the decade moved forward, Cote was tasked with odd jobs around Nanaimo as colonial jurisprudence attempted to reconcile the manifestations of alienated social activity with the needs of capital accumulation while acting as an instrument of company power.

Colonial life in 1850s Nanaimo was provincial, alienating, and ordered by British tradition. Alcohol was a release from drudgery⁹⁴ but revealed the brutality underlying the project of colonial dispossession as much as it suggested respite from the mines. English jurisprudence was a fixture in island mining since Fort Rupert; yet it had also been clear since at least the imprisonment of Muir and Macgregor that the law would primarily support the needs of occupation and resource capital accumulation. The early Nanaimo years

⁹³ The inquest’s proceedings were delayed when Cote’s representation objected to the lack of other French Canadians on the jury. The group would eventually be composed of six French Canadians and six Europeans.

⁹⁴ Indeed, Bowen titles the third chapter of *Three Dollar Dreams* (1987) “Drunkards and Skedaddlers,” 97 – 138.

were, on the other hand, the period in which more parochial or perhaps inept elements of the resource colony begin to evanesce. Aspects of production that Marx identified with the real subsumption of labour to capital now begin to appear. If Vancouver Island remained at the margin of empire prior to Confederation, its internal development was nevertheless progressing toward capitalist extraction, with the appropriation of Indigenous land at its basis.

This chapter surveys the coal industry and related colonial activity on Vancouver Island, 1852 to '71, in which capitalist tendencies and social relations cohere and develop under monopoly conditions. HBC records detail the company's efforts at colonization, coal extraction and commodity circulation between 1852 and '57,⁹⁵ though the 1860s are significantly less detailed. The few available operational records available from the latter period are supplemented with shipping documentation, articles from Victoria's *The Daily British Colonist* newspaper, available from 1858, and secondary historical texts where necessary.

Coal extraction on Vancouver Island during the two-decade period of the current chapter was almost exclusively focused on Nanaimo, with the most important extensive expansions in the industry to follow Confederation. Yet Nanaimo could hardly claim to be the center of the colonial project on Vancouver Island, at least prior to the sale of HBC's Nanaimo-area mining and colonial operations in 1862. Arguably, Nanaimo was not even the center of coal operations during the 1850s. Victoria played a decisive role in organizing and developing the Nanaimo coal trade. While McKay and other mine managers at Nanaimo had a high degree of operational autonomy in the organization of mining and housing, the early years had the trade run through Douglas in Victoria, both operationally and literally, via shipping at and communication with the south end of the island. Victoria was in this way the seat of power for burgeoning capitalist mineral extraction, just as it was the project of colonization.

As with the study of Fort Rupert from the previous chapter, the primary analysis remains focused on mining, shipping, class struggle, and social reproduction, with added

⁹⁵ Transcribed records available from the Nanaimo Archives' website. Nanaimo Archives, <http://www.nanaimoarchives.ca/>. Last accessed on October 24, 2018.

emphasis on technical development within processes of coal extraction and circulation. As the chapter progresses, I show that the Nanaimo coal trade and colony developed circuitously. Outflows of coal were twinned with inflows of workers, tools, food, and other necessary colonial assortments, largely from California. At the same time, coal extraction remained subject to its own internal motions and therefore at least somewhat independent of these flows. While the development of the labour process was influenced less by shipping than internal dynamics of capitalist resource extraction, the basic movement of people, goods and machinery was a condition for improvement. Any significant technical development in Nanaimo mining was preceded by the establishment of a bilateral trade relationship with California. However important, this relationship did not produce the developmental path of Nanaimo's mines, which was influenced to a far greater degree by abstract economic forces, population growth, and worker demands prior to 1871.

4.1 Colonial Housing and Diet in Nanaimo prior to Confederation

By management design, the labour of constructing Nanaimo's buildings was separate from mining coal. Resource extraction and colonial settlement were to be distinct as processes of company labour. Douglas made this clear to McKay in his letters from August and September 1852. The former seems to have been keenly aware that the labour strife at Fort Rupert concerned the content of work and appreciation of skill, or lack thereof. The Fort Rupert strikes, in this way, brought about a change in the company's management of Vancouver Island's coal mining operations. HBC representatives on Vancouver Island were compelled to discriminate between mining and housing construction as forms of labour because extraction at Fort Rupert was disrupted by the first group of Ayrshire miners, whom the company considered necessary for deep subterranean mining on the island.

Douglas also seems to have recognized that the distinction supported both colony and capital. The affirmation of skill by management became necessary for mining to proceed. As early as his second letter to McKay regarding possession of Wenthuisen Inlet, Douglas instructed that "the Blksmith Raymond is for general service," while "the work of the Miners must however have the preference in all cases and be first attended to" (August 26, 1852). With Hudson's Bay House in London showing little interest in the

day-to-day operations of Nanaimo mines, Douglas was able to put into practice the experience of Fort Rupert with little opposition. In June 1853, London wrote that

The Governor and Management having determined on conducting the Coal business of Nanaimo on their own according, the fur trade having no interest therein, we have of course no instructions to give on the subject. The statement of Nanaimo is not entered in the Minutes, nor any of the Company's officers appointed it, but you are authorized to transfer such officers' servants to that establishment as may be required... [while] changing their wages for the time they may be employed on the Coal business (HBC Board to Douglas, 18 June 1853, HBCA IM386).

The emergent taxonomy of labour was also codified in the contracts that workers reached with HBC. There were at least four types of labour agreements signed in Nanaimo before 1857—those for miners, assistant miners, general labourers, and house builders, not accounting for subcontracted mine managers or work on company ships in the harbour. As the decade progressed, the contracts of general labourers and assistant miners became increasingly task based. Agreements were made, for example, to erect fences or cut timber for use in the mines, in addition to those for housing. If it didn't prevail, piece-work was nevertheless common. In practice, the strictness of the four-fold labour classification held until HBC decided it wasn't necessary or prudent. When it was corrupted, however, assistant miners, labourers, and builders were more likely take on each others' tasks. Miners were less likely to do non-mining labour than other workers, but their work was hardly sacrosanct, with miners sometimes working to build houses, for example.

Relative to Fort Rupert, HBC's labour taxonomy at Nanaimo appears to have mollified the antagonisms of the previous labour relation in the proto-capitalist colony, though strikes and desertions would still occur. The basic appreciation of skill also allowed for something like a customary division of labour to emerge. Yet upholding the distinction between labourers and miners, where possible, proved difficult to accomplish by settlers alone, at least initially, something that Douglas had come to appreciate.

I know that with the present limited number of men you cannot get through all the work that would be desired but remember that you are at liberty to employ as many Indians [*sic*] as may be necessary to carry out my instructions (October 13, 1852).

Five Snuneymuxw workers were employed to build houses within two weeks of Douglas' instruction, and the first Nanaimo years were generally characterized by frequent Snuneymuxw labour in the coal trade.

By June 1853, less than a year after Douglas had first written to McKay instructing the mining and settling of Wenthuysen Inlet, ten houses were framed or completed, with McKay noting that "[t]he Bastion is nearly finished, [and] we have three dwelling houses 20 x 30 ft. habitable, 4 houses 25 x 15 and the wood raised for three houses 20 x 30 ft" (June 2, 1853). Housing would remain an emphasis throughout the first years, with an additional forty miners contracted to Nanaimo by mid-summer 1853.

As an aspect of settlement, housing was controlled by the company, the social reproduction of settler-mining families and individuals therefore remained dependent on HBC. Yet housing in Nanaimo was not an apparent source of struggle under HBC control. Where protests did arise, they were based in individual rather than structural antagonism, as shared accommodation brought latent tensions to the surface. During the working day, Edward Walker and Archibald French built chimneys and assisted miners, though they could not live together in the evenings. In January 1853, both men refused work "until the[y] were provided with separate accommodation" (McKay, January 8, 1853).

Nutrition was likewise improved in Nanaimo, although there are less evident corollaries to the Fort Rupert strike than in housing. In colonial shipping, trade, and animal husbandry, Nanaimo was superior to the northern fort. There were more labourers in Nanaimo, it was much closer to Victoria, and trade with nearby Indigenous Peoples enhanced. Pigs were raised, with sties constructed as early as September 1852. Salted pork had been available to Fort Rupert through shipping. It was, however, more difficult to acquire at the north end and workers protested when the supply was inadequate.

These [Ayrshire miners] must be fed on Pork Beef, flour and comforts of all kinds imported from England, the cheapest market, as they will not live on fish and no other kind of food can be regularly obtained here on in the Columbia (Douglas [1850] 1979, 113).

Like pork, venison was also available at Fort Rupert, through exchange with Kwagu'ł traders. Yet, once again, the scale of available deer was greatly expanded at

Nanaimo, sold through the company store built in 1852. As early as September, McKay noted that venison, through trade or hunt, was abundant. He acquired as many as 53 deer at one time from the Shishá7lh nation, living about forty K north of Nanaimo on the coastal mainland, in what's now ironically termed the Sunshine Coast. In summer and fall, salmon were even more plentiful than deer, and colonial Nanaimo traded with Shishá7lh and Snuneymuxw for as many as 300 salmon at one time.

The surplus of meat and fish in Nanaimo, acquired through trade, meant that preservation techniques became increasingly important in the colonial life of the coal-mining settlement. "We are also in want of salt and Bbls as a large quantity of Salmon and Venison might be put up here," McKay wrote to Douglas (September 16, 1852). It is unclear if HBC harvested ice for refrigeration in Nanaimo, and a cursory search of its records suggests that the company did not engage refrigeration techniques in the 1850s. In any event, salt curing was a common practice in the community. The discovery of a salt spring near the settlement in September 1852 presented a convenient solution to problems posed by the surplus of perishable food. Workers were engaged to evaporate water and harvest the salt residuum, likewise in the activity of salting salmon, deer and later herring. The labour of manufacturing salt in Nanaimo would continue throughout the decade.

Poignantly, the Fort Rupert area would also play breadbasket to Nanaimo, at least temporarily. "About 30 Quackhold [Kwagu't] canoes arrived from Fort Rupert bringing a private communication from Mr. Blinkensop together with a supply of vegetables" (McKay, September 17, 1854). Gardens were also planted at Nanaimo, although this appears to have taken some time, with the first mention of a garden coming in 1855. Cultivation of vegetables was generally done on a small scale in the 1850s. Lettuce, Onions, Cabbage or Spinach occupied minor beds. Potatoes from elsewhere were more important to the settlement than other vegetables, grown locally or not. Hundreds of bushels were stockpiled for the first winter, with spuds coming closest to a staple ingredient in HBC's Nanaimo settlement.

Although the coal trade was organized through Victoria, the specifics of food and shelter—as with the labour process—were the purview of local HBC officials. The terms

of social reproduction were therefore defined in the settlement itself. Yet Nanaimo could hardly claim to be self-reliant. While steps were in place to cultivate and raise something like a local food supply, Nanaimo never experienced the same urgency in this regard as Fort Rupert,⁹⁶ as canoes provided supplies up the interior coast of Vancouver Island. Trade with nearby Indigenous Peoples—and those not so nearby, as in the case of Kwagu’ł traders—constituted a necessary ancillary of social reproduction in 1850s colonial Nanaimo. Extensive trade networks allowed it to survive. The work of people from different tribes throughout the island, coastal mainland, and gulf islands, with whom HBC traded, was necessary for coal extraction to proceed. Yet the interactions of the HBC mining operation at Nanaimo and Indigenous Peoples are more varied still. The next two sections explore the different sorts of work and trade that Vancouver Island and other nearby First Nations engaged around Nanaimo mining.

4.2 Formally-Subsumed Island Media: The Transmission of People, Things and Colonial Discourse Through the Labour of Indigenous Peoples

The previous chapter established the character of HBC’s colonial prejudice toward Indigenous Peoples as subordinate to the company’s needs in production, at least insofar as this discourse constructed Kwagu’ł Peoples as a coherent entity in the image of colonial mining, comprised of subordinate social practices and beliefs. If evolving material relations produced ideas of an essential Kwagu’ł being, which supported a highly classed form of white supremacy, Indigenous bodies were also central to the coordination of empire and capital across distant coastal spaces. Members of different tribes were employed to courier messages, items, and people around colonial settlements, constituting a class of transportation workers aboard canoes, though one capable of reproducing themselves outside of capital.⁹⁷

In the 1850s, HBC found rather straightforward advantages in the employment of Indigenous Peoples in canoe-based transportation. European workers fully subordinated to the rhythms of capital were scarce, and the company seems in any event to have

⁹⁶ See section 3.4.

⁹⁷ See section 3.5.

preferred paying Indigenous people to send and receive items and messages across the island. This primarily Indigenous work represented a relatively inexpensive shipping option for information and light freight. Transmitting messages on underfilled ships wasted resources, and the company's vessels were typically put to other uses.

In employing Indigenous canoe workers, the company purchased navigational and operational skill on an as-needed basis, while renting shipping technology. Trading by canoe long predated European contact and colonization, of course, and HBC simply paid for a version of the coastal trade of goods and information already well established, rendering hitherto non-monetary exchange subordinate to mining capital and colony. The most common form of employment for Indigenous Persons in colonial transportation, related to island coal mining, was in courtering what were called express canoes, also referred to in the Nanaimo settlement as the Victoria and Fort Rupert Express.⁹⁸ The previous section identified trade between HBC and different Indigenous groups as the material basis of colonial life in Nanaimo. Express canoes, with similar importance, formed an information and transportation network, coordinated by the company, that connected the island's former coal operation in Fort Rupert, abandoned as a coalfield but still settled, to the emerging Nanaimo colony and Fort Victoria.

Here again First Nations workers were the basis of coal mining and colonial social reproduction on Vancouver Island. As with Kwagu'ł miners, however, the relationship wasn't one of international capital and proto-capitalist working class. The use of Indigenous labour on an as-needed basis did not fully subsume or reorganize previously established non-capitalist practices among First Nations. Snuneymuxw workers, for example, wanted to be paid in goods, not British pounds. More generally, Indigenous

⁹⁸ The frequency of express canoes may belie the difficulty and danger of travel. A tragedy occurred for one canoe travelling to the San Juan archipelago near Fort Victoria in July 1854. McKay journaled that "[a]t 8 A.M. a cano of Cowichins (Cowichan) arrived relating a melancholy event attended with loss of life. The circumstances recited is as follows. A canoe had been hired by the Hudson's Bay Company to carry provisions and other necessaries to Bellvue St. Juan Island but when about the middle of the traverse the breeze which was moderate on starting increased to a gale then the cross pieces which bound the canoe together owing to the vibrations of the mast gave way and the canoe split by which nine Indians [*sic*], two ship men and one Kanaka met an untimely end. One Indian [*sic*] only escaped he managed to retain his hold to the broken canoe and either paddled or drifted on shore—a most distressing accident" (July 16, 1854).

workers followed non-capitalist temporal patterns, fishing or trading elsewhere when nature or custom dictated, despite inconvenience to the company.

On the other hand, it was because of express canoes that Douglas could coordinate the coal trade through Victoria. Chunks of coal would, for example, be sent by express to Victoria for examination. McKay diarized that he “[d]ispatched a Canoe to the Fort in charge of Saalum a Nanaimo Indian [*sic*] with a specimen,” providing necessary information on the composition of a coal seam (November 20, 1852). Provisions like flour were, in turn, shipped back to Nanaimo aboard express canoes when necessary. In December 1852, eleven workers made their way from Fort Rupert to Nanaimo by Kwagu’ł canoes. If the remaining settlers at Fort Rupert required medical assistance, they could be transported to Nanaimo, and therefore an HBC doctor. “A number of [Kwagu’ł] Canoes arrived ... bringing with them a man from Fort Rupert named Finlay who having been ill for some time back has been sent down for the benefit of medical advice,” McKay wrote to Douglas (July 13, 1853). Insubordinate workers, in situations in which they could be detained, were also transported to Victoria by express canoe for reprimand.

More often express canoes carried instructions from Douglas to McKay and descriptions of mining and settlement activities from McKay to Douglas. Douglas’ coordination of the coal trade required a reliable information system, which express canoes provided. Extraction in Nanaimo could be expedited, exploitation intensified, if Douglas deemed it prudent. Workers could be marshalled to load ships, taken away from other tasks. The banality of a message like “the Express Canoe returned from Victoria bringing intelligence that the Otter intended leaving for Nanaimo on the following Monday,” belies its importance to the coordination of labour across space so that the activities of workers could be fit with the needs of docking ships (Nanaimo Memoranda, September 2, 1855). Accounts of the Nanaimo coalfield and the state of extraction, in turn, informed the coordination of coal circulation from the island. The bureaucracy of HBC also made use of canoe, as a means for which invoices and billing information were transmitted. Capitalism and colony, in short, required prompt communication to proceed, and this network was provided by Indigenous transportation workers travelling up and down the strait separating Vancouver Island and the mainland.

An intra-colony canoe transmission network therefore undergirded the Pacific coal trade of Vancouver Island and with-it globalizing capitalism, at least insofar as coal from the island was an important power source. This network supported HBC's operation on the coast, particularly its distribution of organizational management across the island. The company merely paid for the service, however. It could not be said that HBC organized the network in any meaningful way, other than choosing a beginning and endpoint for transmission. Indigenous maritime transportation for the communication of information and the trade of goods greatly exceeded European payments (not to mention interlocution), in any event. And normal trade between Indigenous Peoples and HBC brought with it information too. "A canoe arrived here to day directly from Comox who reported that a field of coals was discovered by them lately," McKay noted (30 April 1853).

The formal subsumption of Indigenous transportation was a fixture of Fort Rupert as well. However, the communication network emerging in 1852 stabilized energy capital, whereas the inadequacy of land transportation hobbled extraction at the north end. In communications to and from Nanaimo, a previous mode was altered slightly to suit emerging industrial capitalism, consistent with the image of liminality that this chapter has been constructing. Identifying a similar process in Europe, Marx notes that "the means of communication and transport gradually adapted themselves to the mode of production of large-scale industry by means of a system of river steamers, railways, ocean steamers and telegraphs" ([1867] 1990, 506) as subsumption proceeded. Communication across space was nevertheless a condition for HBC to proceed with the colonial-capitalist project.

Indigenous Peoples also supported the extraction of coal through more local forms of transportation than the express-canoe network. In September 1852, McKay paid a Chief from the Saanich nation, recorded as Moe-Mic Lum, two blankets for his work loading the ship *Recovery* and the use of his canoe. Prior to the establishment of a coal wharf in Nanaimo, ships docked in the harbour were loaded with coal from canoes and small boats, Indigenous bodies and technologies bridging infrastructural shortcomings in the circulation of coal. Snuneymuxw canoes spanned the short distance from coast to slightly there off, sometimes many at once.

Around the harbour, Indigenous canoes and people maintained the conditions necessary for capitalist transportation. This work even extended into the maintenance of the harbour itself. Nanaimo winters in the 1850s provided their own difficulties for the coal trade. The harbour froze just prior to New Year's Eve 1855, preventing shipping to and from the settlement. "Several Indians" [sic] were then "employed cutting a channel for taking off coal to the Active" (December 30, 1855).

Indigenous workers were therefore necessary in the operation of the Nanaimo coalfield and its harbour from the beginning of European intentions to mine. The next section will look at the labour of Indigenous workers on land around Nanaimo. In the early 1850s, individuals from the Snuneymuxw Nation were the predominate Indigenous group working in and around the Nanaimo coalfield, employed in several positions. Generally, however, Indigenous workers remained outside of HBC-controlled pits after the fall of 1852, employed to transport coal above the surface and support the colony in other ways. As with Kwagu'ł miners near Fort Rupert, the relationship of work to capital at Nanaimo should not be conceived as a fully capitalist productive circumstance. Wages and traded goods supplemented First Nations' existence without capital immediately subsuming social reproduction. When HBC did attempt to assert greater control over the coalfield, moreover, they were met with resistance by Snuneymuxw miners who claimed the resource, an existential relationship to the land that propertyless European miners could not assert.

4.3 Coal, Property, and the Snuneymuxw Nation

The interplay of power between HBC and Snuneymuxw miners is sometimes lost in historical assessment. Writing in *Men, Money, Machines* (1979), Daniel Gallacher claims that coal was first extracted at the settlement during a brief period in which the company tolerated Indigenous mining, prior to the arrival of its European miners from Fort Rupert. He writes that "[a]gain, the Indians [sic] were allowed initially to exploit new-found deposits, extracting and piling about 200 tons by mid-September" (61). Gallacher is correct that, as with the north-island fort, mining by Indigenous People's preceded European extraction, though at Nanaimo this appears to have occurred only in the period immediately prior to company settlement. He proposes a relatively simple transition in the

first months of Nanaimo mining: local Snuneymuxw workers exploited coal in exchange for wage or payment-in-kind until, we assume, such time that HBC's European miners arrived. The company did indeed claim Nanaimo coal under the 1849 charter, a different situation, then, from that of the Suquash field—HBC instituted a tariff upon Indigenous-mined coal at Nanaimo before payment systems were established. Yet, as Bowen puts it, Snuneymuxw miners “knew of the value of coal to the white men and expected to be compensated for it” (1987, 59). Hardly a relationship of tolerance or perhaps patronage, McKay notes that Snuneymuxw miners protested the amount they had been receiving from HBC in exchange for coal (August 26, 1852). The first miners at Nanaimo would, moreover, assert a degree of sovereignty over the coal seam.

WunWunShun the principal Nanaimo chief arrived today from northward. He was very impertinent in his behaviour. Said the coals were worth 1 Blkt or 5 Bbls and would not listen to any proposals for allowing the whites to work the coal (September 1, 1852).

Gallacher's homology of Nanaimo and Fort Rupert is similarly misleading, not for the comparison itself but for its suppositions. The previous chapter showed that the Kwagu'ł coal trade predated European organization of the Suquash coalfield by well over a decade at the very least.⁹⁹ During this time, HBC officers were wary of undertaking mining operations before the island was granted to the company—to say nothing of Kwagu'ł autonomy and control of their field. That the company never seriously attempted to appropriate the Suquash, despite holding a formal monopoly on mineral rights, suggests that Gallacher's determination of European allowance of First Nations' mining is perhaps a mischaracterization. Around Nanaimo, Indigenous persons knew of coal at Wenthuisen Inlet prior to summer 1852, as the story of Coal Tyee demonstrates. Neither mining nor the trade of coal appears, however, to have existed prior to HBC interest. The resource was claimed when its value became evident. Nevertheless, any discourse that posits HBC as tolerating or allowing Indigenous mining overstates the company's control of the resource (in late summer 1852 and in Fort Rupert generally) and minimizes the importance of First Nations' labour in coal mining during the first decades.

⁹⁹ I'm hardly the first to acknowledge this history. Bowen (1987), Burrill (1987) and Belshaw (2002), for example, all note as much.

Despite challenges to HBC's dominion over the resource by local Snuneymuxw miners, the company anticipated significant output from First Nations miners. Muir boasted in September 1852 that "[t]en thousand tons might be raised there by the natives [*sic*]," (September 16, 1852), though the final amount before HBC took control of the Nanaimo field was closer to 200 tons, according to Gallacher (1979, 61). Coal dug by Indigenous miners continued, moreover, to be sold for the first several years of Nanaimo's existence. McKay recorded the sale of uniquely Indigenous-mined coal as late as August 1854, though the practices of using Indigenous workers as assistant miners endured well beyond that year.

Indigenous labour in the Nanaimo coalfield was also not limited to Snuneymuxw workers. McKay noted in 1854 that "[t]he Quackholds [Kwagu't] have just arrived in time to give us a supply of working colliers and we have temporarily managed to get the refractory Nanaimoes [Snuneymuxw] to look generally with a more favourable eye towards their neighbouring kind [*sic*]" (September 17). The degree of control that the Snuneymuxw and other tribes that traded with HBC expressed over the coalfield seems to vary over time, with McKay observing that it was a remarkable occurrence to have another nation mining Nanaimo coal in summer 1854, as well as historical account. Allowance for Kwagu't mining in 1854 differs sharply from McKay's version of a disturbance he gave to Douglas in the first months of coal mining in Nanaimo.

Tsau si ai the Cowichin Chief arrived with a large party of his tribe: After being hospitably entertained by the Nanaimoes they started to return at 3 P.M. On passing the little narrows the [they] encountered an Old Man returned from the New Coal mine in a canoe laden w coals. ... a nephew of Tsau si ai murdered the old man by firing three balls into his heart, took his wife and child prisoner and proceeded on their voyage (September 17, 1852).

That Cowichan leadership would protect the claim of Snuneymuxw and HBC over the resource was questioned by Douglas, skeptical of McKay's account of the killing. Having already been appraised of the situation, he replied that the report in Victoria was "that [To cu ah?], committed the murder, in consequence of [McKay's] refusal to pay him for his services on a former voyage to Nanaimo" (September 20, 1852). Conflicts over the control and mining of coal were quickly mediated and perpetuated by mining capital in Nanaimo, in this way.

Indigenous work within the coalfield was fluid in the early years. The relationship between the company and its Indigenous coal workers continued to also be mediated by non-capitalist seasonal rhythms, which would undercut HBC's desire to proletarianize First Nations' labour in the Vancouver Island coalfield. McKay wrote shortly after his arrival that "most of the Indians [*sic*] left for their fisheries up the Nanaimo River" (October 7, 1852). Two months later, he noted "Indian [*sic*] labourers all absent from work owing to bad weather" (December 16, 1852). In Nanaimo, the autonomy that Snuneymuxw miners held over sale of their labour power to capital was twinned with ongoing expressions of control over the coal resource, prior to a December 1854 treaty that Douglas signed with Snuneymuxw leaders, which ceded the territory around the harbour and twenty K up river to HBC. Subsequently, Snuneymuxw claims to the resource appear to have basically ended, at least where coal was mined in treaty territory. In August 1855, for example,

Two canoes of Colmuck¹⁰⁰ Indians [*sic*] arrived, who reported that it was the intention of the tribe to visit Nanaimo after the fishing season was over - an event much to be desired, as we labour under much difficulties for want of Indian [*sic*] assistance (Nanaimo Memoranda, August 22, 1855)

This came to pass. On 12 December 1855, "a large number of Comuck and Lickquitoe¹⁰¹ Indians [*sic*] arrived" in Nanaimo "anxious for employment." In company memoranda, written in the few years following 1854, no mention is made of opposition from the Snuneymuxw Nation to other Indigenous Peoples labouring in Nanaimo. The treaty seems to have represented an accepted assertion of control over the resource and related industry by HBC. Indigenous Peoples would continue to come to Nanaimo, and increasingly they did so from greater distance. In March 1856, workers from the Tsimshian Peoples, around the southern-Alaskan archipelago, were engaged in dismantling machinery in Nanaimo (Nanaimo Memoranda, March 17, 1856).

Aside from experienced Kwagu'ł miners, HBC does not appear to have drawn much distinction between coal workers of different First Nations. Snuneymuxw and other Indigenous Peoples worked in a variety of jobs in Nanaimo with no apparent hierarchy. In Fall 1852, McKay wrote to Douglas that "at present we have 20 [Indigenous Persons]

¹⁰⁰ The memorandum is likely referring to the K'ómoks First Nation.

¹⁰¹ The memorandum is likely referring to the Laich-Kwil-Tach Peoples.

employed as follows 4 sawing, 6 squaring, 2 with Miners, 1 Cooking, 7 Variously Carrying in Timber, Stones, shells & Sand for Chimneys and clearing away for building sites” (October 22, 1852). A greater diversity of First Nations workers indeed appeared at Nanaimo after 1854, following the Snuneymuxw treaty, with the work no less varied.

Unlike express canoes, mining in Nanaimo organized the labour of Indigenous Persons around sometimes brutally enforced¹⁰² hierarchies, drawn from European experiences and the needs of colonization and capital accumulation. In extraction, Indigenous men were employed as assistant miners, though without contract to HBC. In mining more generally, Indigenous labour was crucial in supporting the circulation of coal, as the last section showed. Indigenous women were also employed in Nanaimo, representing a significant departure from the domestic labour mores prescribed for European mining families on the island. As workers, Indigenous women assisted miners by “carrying Bricks and clay” to mines (Nanaimo Memoranda, June 13, 1856). Indigenous women were also employed to garden by carrying seaweed and manure to the plants (September 21, 1855).

That Indigenous men and women held subordinate positions within the European labour hierarchy does not, however, mean that workers from different nations constituted a fully capitalist, and therefore proletarianized, working class. There had not been a disestablishment of existing Indigenous political-economies by colonial capital on Vancouver Island. Nor did the coming of industrial capitalism subsume non-capitalist social practices. Instead, First Nations workers made use of the coal industry in Nanaimo as it suited them. As Lutz similarly notes (2008, 169), Indigenous Peoples were engaged in uneven and overlapping economic relationships, those of the more traditional economies on the coast and emerging European capitalism (and mercantilism before it). The nature of Indigenous labour was then both capitalist and not, with non-capitalist and capitalist economic arrangements distinct and imbricated rather than separate.

¹⁰² On 25 November 1852, McKay records in his diary that a man from the ship *Cadboro*, Williams, “struck [an] Indian [*sic*] who was holding on the winch with a full barrel of coals. The Indian [*sic*] fell letting go the winch and the Miners were only saved from inevitable destruction by Mr. Muir who with great presence of mind interposed put himself in the way of the winch handle thereby stopping it. The Indian labourers all struck in consequence but turned to again after the affair was fully explained and settled by imposing a fine for the assault.”

4.4 Militarism in the Province of Energy Capital: Naval Ships and Vancouver Island Coal

Among the first consumers of Vancouver Island coal were naval ships, with sale to military vessels dating back to the *U.S.S. Massachusetts* during the Fort Rupert years. As with HBC's extraction and trade of north-end coal more generally, exchange with the *Massachusetts* was underwhelming, as the company failed to produce a quarter of their contractually obligated amount. Company coal, purchased in relatively substantial quantities, would nevertheless power colonial securitization of the coast above and below the American border. The amounts suggest that militarism emerged as a prime motivation for the consumption of Vancouver Island coal during the 1850s.

Both American and Royal navies purchased Vancouver Island coal, burning it to secure colonial accumulation and settlement through hot and cold belligerence. The presence of the *Massachusetts* was, for example, regarded in Victoria as an act of bravado, with Douglas hinting that the Island could use further armaments to prevent American manifest destiny (May 15, 1850, 87). Shortly after the first miners' strike

The U.S. Propeller *Massachusetts* called at Fort Rupert on the 18th for coal. She was sent to the Indian [*sic*] diggings about 20 miles south of Fort Rupert with Mr. Beardmore who dug and sent 235 tons of coal on board in the space of 12 days—for which we received payment in specie at the rate of 13 dollars a ton, the present selling price (Douglas, 3 July 1850, 104 – 5).

Whatever the symbolic value of the *Massachusetts* travelling Vancouver Island's coast, its reported mission south of the island was more banal. The ship would survey the coastal waters of what is now Washington State, sailing to Fort Nisqually, near present-day Tacoma, to select suitable locations for lighthouses and buoys, according to American Naval History and Command. By 1855, now burning coal purchased from Mare Island, California, but mined in parts undetermined, the *Massachusetts* would be involved in a more direct and brutal form of American colonialism. This ship supplied guns and ammunition from California to the Seattle-Tacoma area for use in the Puget Sound War against American Indigenous Peoples of the Pacific Northwest, returning to Vancouver Island months after the war had ended.

It was naval ships after, between, or prior to war service that burned Vancouver Island's coal, which they did charting territory around the eastern Pacific. Set to work, Vancouver Island coal powered vessels to mundane expressions of the military state and more aggressive demands of colonial capital. Before serving in the Crimean War, the H.M.S. paddle-wheel sloop *Virago* coaled at Nanaimo in spring and summer 1853. British naval forces, where they were present in the eastern Pacific, were instructed to protect British citizens and property (Gough 1984, 100). In practice, this meant, among other things, securing shipping and trade routes, though Barry Gough has argued that London “gave equal weight to the Indian [*sic*] and American threats” (101). Following a raid on the ship *Susan Sturgis* by a tribe from the Haida Gwaii archipelago, north of Vancouver Island, in which British citizens were ransomed at Fort Simpson,¹⁰³ the *Virago* sailed to uphold colonial property rights by securing safe passage for shipping and mete out punishment.¹⁰⁴

At Nanaimo, military consumption far surpassed naval trade with Fort Rupert. If the California market would, eventually, support the extraction of Vancouver Island coal, consumption by the Royal and American navies did far more than simply clear lingering surpluses left from more prominent buyers during the early years. Although tonnage records are inexact—derived from local managers' diaries and correspondences—and should therefore be taken with a grain of salt, the importance of military consumption is clear. Of the approximately 1123 tons of coal recorded as shipped or purchased from Nanaimo in 1853, some 648, or 58%, went to fuelling the *Virago* and *U.S.S. Active*,¹⁰⁵ although almost all of that, 88%, was aboard the *Virago*. As the Crimean War ended in 1856, approximately 781 tons were noted shipped or purchased in Nanaimo. Royal Navy vessels, at war with the Russian Empire, appear to have loaded no Vancouver Island coal this year, however the *Active* and *U.S.S. John Hancock* purchased 276 tons, or 35% of Nanaimo coal that made its way into the record. Although 1856 represents a significantly

¹⁰³ In the present-day Northwest Territories.

¹⁰⁴ On the *Virago*'s involvement in securing colonial shipping routes near Haida Gwaii, see Gough 1984, 99 – 102.

¹⁰⁵ The *Active*, the most frequent American purchaser of Vancouver Island coal according to HBC's Nanaimo notes, bought over 446 tons from Nanaimo in four trips between September 1853 and March 1856.

lower percentage of overall consumption by military ships than 1853, naval purchases remained robust in the fledgling period covered by the Nanaimo notes.



Image 4: USS Saranac taking on coal at Nanaimo. James Richardson, 1875. Image F-04629 courtesy of the Royal BC Museum and Archives.

During the early Nanaimo years, military vessels served a dual purpose for the company. The Royal and American Navies, though in different ways, supported conditions for the transmission of commodities and burned relatively exceptional amounts of island coal. From over one-third to over one-half could reasonably be speculated to have been taken aboard naval ships in 1853 and 1856. This consumption was not, however, a product of energy capital in the way that the previous chapter had theorized, as the military shouldn't be counted among directly capitalist transmitters of commodities. Yet, in colonizing coastal waters above and below the forty-ninth parallel by securing conditions for shipping, military vessels allowed the circuit of capital to reach its conclusion. In doing so, the *Virago* and *Massachusetts* upheld property distinctions in the Pacific that supported both colonial plunder and capital accumulation.

4.5 Mineral Outflows, Settlement Inflows: The Organization of Colonial-Capitalist Circulation by HBC

At Nanaimo, the ebbing of coal was matched with inflows of mining tools and colonial necessities. Sections 4.1 to 4.3 of this manuscript stressed the importance of Indigenous workers and canoes to social reproduction and coal mining in Nanaimo. I argued that HBC had subsumed extant Indigenous skill sets and technologies within the colonial apparatus, as it did with transportation and mining at Fort Rupert. Yet the company had not reorganized this form of transportation to any great extent. The current section explores industrial trade flows to Victoria, California, and back again to Nanaimo, controlled and staffed by HBC. In company shipping records and notes from Douglas, McKay, and the HBC official H.G. Dallas, Vancouver Island coal transmission appears as one half a bilateral trade with California, in which foodstuffs, mining and colonial implements returned to the island after coal became the property of purchasers farther south. With something approaching stable mining coming into view at Nanaimo, the maritime shipping of coal projected a dual incentive for the company. The money realized at California's ports could be reinvested in tools and sundries needed for capital and settlement to expand, while the circulation of outgoing coal followed by incoming goods represented a consolidation of the colonial enterprise's shipping function with the needs of an incipient resource capitalism.

For Nanaimo to proceed on anything like an industrial scale, the supporting trade necessitated certain basic technological advancements at the point of loading and unloading. This need was further heightened with the ongoing absence of a surplus labour force. After summer 1852, the establishment of a shipping wharf was prioritized by the company's coal operation, a technology HBC would have had to implement around Fort Rupert had it been at all successful at the north end. Prior to the establishment of a wharf, the work of loading large ships moored in the harbour involved Indigenous-helmed canoes moving coal from Nanaimo's shore, where Indigenous workers were also involved in its transmission from the pithead. HBC's non-Indigenous contract workers were employed to load coal too, yet prior to early 1854 this work seems to have been racialized as predominantly Indigenous.

For HBC, the Nanaimo wharf was a labour-saving technology: coal could be more quickly loaded onto large ships without the need for intermediary canoes, expediting the circulation process. In late September 1852, for example, the *Honolulu Packet* took aboard thirty-five tons over the course of three days. By March 1853,¹⁰⁶ the company's *Mary Dare* could haul fifty tons of coal from the newly built Nanaimo jetty, extending from the wharf, in a mere seven hours—a significant improvement, all other things being equal. The wharf system would not, however, remove workers from the labour relation at Nanaimo nor intensify the labour process, so much as it allowed the company to pay for work to be done elsewhere.

Any potential the technology held to cheapen the cost of producing coal before shipping would become absorbed within the larger demands of company, and here, once again, the primordial moment of HBC's resource settlement becomes apparent.¹⁰⁷ In the absence of a developed capitalist relations of production at the Nanaimo settlement, wharf and jetty infrastructure simply provided HBC further means to divide and reassemble the processes of extraction and colonization. Prior to the wharf's establishment, McKay described the problems of labour scarcity facing the capitalist resource colony to Douglas.

[t]he Nanaimoes [*sic*] have been so much pressed in loading the *Mary Dare* that they have not brought in any great quantity of fresh provisions consequently a very small quantity has been put up as yet. I will endeavour to meet your instructions on the subject as soon as that vessel sails by dispatching hunters and fishermen in all directions (October 6, 1852).

¹⁰⁶ As early as December 1852, the wharf's foundation was being laid by European and Snuneymuxw workers.

¹⁰⁷ The principal of mechanical invention in capitalist production is the reduction in the amount of time to produce a commodity, meaning a discount in its production cost, Marx notes at outset of his chapter on machinery form volume one of *Capital* ([1867] 1990, 492).



Image 5: Nanaimo Harbour with wharf and jetty in view and Protection Island in the background. Francis George Claudet, 1862. Claudet Family Fonds. Image A-00578 courtesy of the Royal BC Museum and Archives.

Coal shipping from the Nanaimo colony, both before and after the wharf, was directed toward a variety of locations, with California the most important. In mid-August 1852, HBC's brigantine *Mary Dare* departed from Fort Simpson, arriving in Nanaimo before heading south for San Francisco. Records from the ship are indicative of a soon-to-be established pattern of trade between Vancouver Island and California. The *Mary Dare's* haul would be the most substantial of the early Nanaimo years, removing 200 tons, or 1840 barrels, of Snuneymuxw-produced coal from the island. The brig made a comparable journey in spring 1853, geographically at least, taking a significantly less robust amount of coal south. After discharging its ballast and cargo in Nanaimo, the *Mary Dare* took on 50 tons, then a quantity of salmon in Victoria, before sailing to California. Records of the San Francisco intake on the home leg are imprecise, but a handful of references in the shipping logs are nevertheless suggestive. Over 550 bags of flour, and unspecified amounts of pork and passengers were loaded for Vancouver Island. Records of subsequent coal-bearing trips offer more detail. In 1860, the island imported beef, biscuits, beans, lard, sugar, corn meal, salted pork, bacon, cheese, coffee and rice from San Francisco. Other, smaller trips also comprised the Vancouver Island-California trade. After unloading food supplies in Nanaimo on leap day 1856, HBC's *Otter* headed for California with a supply of company coal. In August 1853, the *Mary Dare* deposited flour in Nanaimo, before sailing for San Francisco.

Where Nanaimo was somewhat secure in its food supply in the 1850s, through trade with First Nations, the company depended on California and Fort Victoria for tools beyond the resources of Nanaimo's blacksmiths,¹⁰⁸ at least if delivery was promptly needed. With construction of a forge ongoing throughout the first year of settlement, the early months saw pickaxes run to Nanaimo through Victoria. By Autumn 1854, the blacksmith George Mitchell, the third employed at Nanaimo in its short existence, could forge axes for the miners, with a general worker carving handles. "Blacksmith busily employed making picks for miners... The Blacksmith ready with the miners tools," McKay journaled (September 26, 1854).

Completed forge or not, the successful production of pickaxes and other mining implements was by no means assured, despite Mitchell's success. Problems in the local production of mining tools interfered in the extraction process when the first Nanaimo blacksmith, Camille Raymond, struggled to make lamps suitable to the Scottish miners on the island. McKay wrote to Victoria that

The lamps made by Raymond are very much complained of by the miners. The spout being only half the height of the body of the lamp there is a greater quantity of it wasted than is burnt the altering of this defect would greatly diminish the expenditure of oil, a sample of the [Kilmarnock?] lamp is herewith forwarded the Tinsmith will observe that the lamp has a double spout made purposely to catch the waste oil, the covers should also be fixed by a hinge to the body of the lamp and the [vice?] of the cover should be bevelled and well soldered (August 14, 1853).

Improperly completed tools and inadequate capacity to produce meant that Nanaimo remained dependent on externally-derived mining implements even after its first year, despite the simplicity of most mining tools used there. In late summer and early autumn 1853, as the *Mary Dare* was once again taking in coals from the Nanaimo wharf, general labourers found themselves unloading pickaxes to be used in the mines. This dependence on trade for simple tools persisted as the decade progressed. In 1858, Douglas reported that, over the course of the year, he had purchased 24 dozen hatchets and handles, 44 dozen miners' shovels, and 44 pickaxes and handles, though some of these tools were

¹⁰⁸ Its land-based steam engine aside.

possibly destined for the hands of goldminers, given the spring 1858 beginnings of the New Caledonia gold rush.

Other, more advanced technologies also travelled the coast to Nanaimo by company ship in the early years. The Vancouver Island coal industry's first steam engine not propelling maritime trade was marooned at Fort Rupert until spring 1853, before it could be shipped down to Nanaimo aboard the *Recovery*. Its subsequent period of installation was protracted and labour intensive. Bilateral trade with California had advanced the process of extraction at Fort Rupert by supplementing blacksmithing problems. Foodstuffs from California likewise supported the Vancouver Island colony. Problems common to capitalist coal mining nevertheless proceeded to hinder extraction as the Nanaimo mine system expanded. Particularly troublesome in the early years was the presence of water in the mines. Boyd Gilmour had been asking since at least July 1853 for an engine to pump water out of Nanaimo's mines, and McKay wrote in his journal that "[t]he water in the pit increases so fast that it requires two gangs to keep it clear of the mines" (July 6, 1853). If the trade network with California signalled advances in production, internal factors unique to the capitalist form of mining at depth had yet to be addressed.

4.6 The Preparation and Application of Steam Power to Resource-Capitalist Extraction

The process of removing water from Nanaimo's mines began by bucket in early autumn 1852. Hand pumps, horseback, and a horse-powered pulley system followed, but so too, in about a year's time, would the steam engine that had sat unused in Fort Rupert be applied to the problem of flooding. The quick ascension up something like a hierarchy of water elimination technology was necessary for HBC's coal operation on the west coast, equipped as it was with few labourers to remove rain and groundwater, workers that were in any event needed elsewhere. As if to underscore the antediluvian nature of the problem, the presence of groundwater near Wenthuisen Inlet had significantly eroded portions of the coal seam, rendering previously useful coal useless.

That water from the sky and underground persistently accumulated in the expanding mine system straightforwardly compelled its rapid removal by, eventually, available steam power. The introduction of steam to Vancouver Island's mines was a

departure in the labour process all the same, both in technological advancement and the productive circumstances that this advancement represented. In Bowen's account, the coming of steam was heralded by settlers and First Nations alike. She writes that

[i]t was with a great deal of ceremony that [the] engine now dubbed "Lady McKay," was finally started in the presence of James Douglas and his wife. Miners, labourers, and hundreds of Indians [*sic*] came to see the miraculous machine pump water out of the mine. The industrial age had arrived in Nanaimo (1987, 64).

Bowen dates the spectacle to late summer 1853, and McKay's diary mentions that the Douglas family visited Nanaimo from August 18 – 22 of that year. Unfortunately, these days pass with little mention in the manager's diary. Whatever the reason that McKay's impressions went unrecorded, mundane problems found in the application of steam to Nanaimo's coal mines were, on the other hand, well documented by the manager. The engine was in disrepair as of four days before the Douglas family's August arrival. It required specially crafted bolts to secure in place and work to remove the corrosion accumulated from idleness. Hardly insurmountable obstacles to quick use, but obstacles nevertheless. Douglas was unable to acquire the necessary bolts in Victoria. However, if Bowen's dates are correct, they must've been found, forged, or some other means for securing the engine discovered.¹⁰⁹

To understand the progression of extractive capitalism on Vancouver Island, it may be useful to acknowledge that steam power had been a fixture in Nanaimo's Harbour since its colonial founding. If industrial modernity is to be defined by the application of steam (mechanical, non-living power) to problems of valorization and value realization, as Bowen suggests, then the maritime engines on the coast should be our touchstone. The previous chapter demonstrated the absolute primacy of transportation and commodity circulation to Vancouver Island coal mining in the few years following colonial decree, as the establishment of social and property relations from elsewhere came aboard boats: shipping transmitted industrial capitalism to the island, manifested through mining.

In Nanaimo's pits, on the other hand, the steam engine suggested concerns of improvement unique to capitalist mineral extraction were becoming established. As the

¹⁰⁹ The earliest mention that I can find of the steam engine running comes nine weeks later, on November 2, and this was on a trial basis, with fits and starts in the following weeks.

mine system expanded so too did potential output and flooding. The well-attended ceremonial unveiling of the Nanaimo steam engine indeed fetishes the issue at hand: the object for water removal itself was much less important than the solution it posed to problems of nature found in mine expansion. Horses had been used for underground transportation in the mines since summer 1853, with horse roads built in the spring, a definite improvement upon the buckets, hand-pumps and winches previously used. They powered the gins “which pulled up the refuse rock, the water and skiveys¹¹⁰ full of coal” (Bowen 1987, 65). The figurative horsepower (HP) of the steam engine was however more efficient still in its immediate application than the equine system, something that miners obviously recognized, with McKay noting in July that Boyd Gilmour believed the steam engine to be a much more effectual method for removing water from the mines. While horses could be suitably used to remove water from a mine in something like a reasonable time frame, the steam engine could remove water from multiple pits at once and with somewhat greater power. The steam engine could reasonably be expected to make somewhere between eighteen and thirty HP in the 1850s, though probably closer to the latter (Thomson 2009, 80), while a given horse during brief periods of peak physical output, such as a sprint, makes about ten to fifteen. Steam power, moreover, would be measured against a horses’ output in a pulley system, which heavily decreased its power, or even the plodding work of moving water by buckets on horseback. The relative lack of power displayed by physical horses meant that they were sometimes unable to move water quickly enough from a mine to prevent flooding, as in 1856, when the “horses [were] unable to keep the water down at No.3 Shaft” (Nanaimo Memoranda, March 5, 1856).

At Nanaimo, certain implements and processes became both necessary for expanded extraction and an outgrowth of it, as the capacity to remove coal from the earth increased with the extension of the mine system. Marx identifies this distinctly capitalist duality in volume one of *Capital*:

the mass of machinery, beasts of burden, mineral manures, drain-pipes, etc. is a condition of the increasing productivity of labour. This is also true of the means of production concentrated in buildings, furnaces, means of transport, etc. But whether condition or consequence, the growing extent of the means of production,

¹¹⁰ Cedar baskets.

as compared with the labour power incorporated into them, is an expression of the growing productivity of labour (773).

That the implements in Nanaimo's mines came to represent productivity concerns demonstrates that extraction was, almost from its outset, developing under the horizon of capitalism, something that could not be said for the Suquash. It was not that the pump created a more productive environment by intensifying the labour process—making extraction move more quickly—instead production couldn't proceed at depth, couldn't reasonably *expand*, without steam technology. Nanaimo was hardly advanced in mining, yet capitalist imperatives began to manifest in extraction.

An expanded division of labour also followed the steam engine, in both preparation and use. Andrew Hunter, an engineer and engine driver, came to Vancouver Island with his wife and five children aboard the *Tory* in late spring 1851. At Fort Rupert, he bored an unsuccessful mine, helped square a pit entrance, and took on blacksmithing duties. At Nanaimo, his work initially revolved more closely around water extraction. In May 1853, Hunter was discovering how to fit pumps into the mines and by summer he worked both as a miner and in engine preparation.

The groundwork of Hunter and others on the engine was significant. Squaring the engine's frame took an entire month and the work of at least five labourers, from July 15 to August 13, work that would have to be repeated, at least in part, if the steam engine was applied elsewhere. The labour of squaring the frame also called for specialized blacksmithing from Victoria. "I beg also to recall attention to my former requisition for a Blksmith's Stock & Dies which are much required here and will be indispensable in erecting the Steam Engine," McKay wrote to Douglas (July 17, 1853). Modifications would continue throughout the next months, initially with Hunter fitting engine and frame, then proceeding with ongoing adjustments throughout the fall.¹¹¹

If, as the previous chapter argued, coal mining and the property relations underlying resource capitalism helped foster a transformation in the form of wealth

¹¹¹ Steam was also used to power circular saws during the first years in Nanaimo, supporting the construction of buildings and mine supports. Construction of a steam-powered sawmill was completed in summer 1854.

extraction on Vancouver Island, the introduction of steam to the island's mines subsequently represented and produced an expanded set of labour processes that would have otherwise been absent, derived from problems found in the enhanced exploitation of coal as the mine system expanded. This development is an early moment in the formation of a coherently capitalist production process, after the initial encounter between proletarianized wage labour and mining capital. The basis of this shift was however found less in the technical form of subterranean flood relief than problems arising from expanded production. Steam was a result of maturing resource capitalism as it existed in the mines.

This is especially evident in the increasing subordination of nature and labour to problems of calculation, in which a previous relationship to natural phenomenon is displaced by rational concerns of valuation. For mining capital on Vancouver Island after 1852, water was a problem impeding the successful extraction and sale of coal, the elimination of which became understood in terms of capital inputs. Technological necessity in the mines, generated by productivity concerns, created a reified nature subsumed by problems of value. The work to prepare the steam engine for use was onerous. Yet the labour of machine maintenance was dwarfed by that which would have been involved in successfully running water from the mine by other methods. The two gangs of workers were required to remove water from a Nanaimo mine in the especially dry month of July (see McKay's Journal, July 6, 1853), for example, could be replaced by an engine driver with little more assistance at the immediate point of use. Simple horsepower improvements were also evident, yet here, as with the versatility steam provided mine managers, natural phenomena influencing coal extraction became measured against other inputs in the extraction process.

The coming subordination of work and nature to mathematics is theorized in perhaps the foundational text of Western Marxism. In "Reification and the Class Consciousness of the Proletariat," Georg Lukács argues that commodity society, or simply capitalism, requires the "strict ordering of all that happens" ([1923] 1971, 91), within which we can include the interactions of labourers and nature during the working day. As an objective phenomenon, capitalist production creates a kind of impersonal domination¹¹²—

¹¹² I'm borrowing this terminology from William Clare Roberts' *Marx's Inferno* (2017).

an organisation of life by the needs of commodity production—and an attendant subjective experience of “phantom objectivity,” in which the reality of our domination under ordering by capital is hidden. Lukács’ essay, to be sure, places human life and social distinction in the foreground, before natural phenomena. Following Marx’s discussion of commodity fetishism ([1867] 1990, 163 – 77), in which the relationship between individuals materialized in the commodity takes on the objective appearance of the commodity’s physical form, Lukács begins from the premise that, under capitalist social organization, people’s relations begin to seem thing-like and alienating. Capitalism produces a society in which relations between people come into being toward the creation of value. Subordinated to a market economy, people are reduced to equations of exchange value. Something similar is true of objects in nature, as Lukács’ reference to strict ordering of all things suggests. The organization of life by capital transforms the non-human too. The value a commodity provides in what it does, a use value, becomes over-taken by what it can bring in exchange. Through this process, the object “changes into a thing which transcends sensuousness” (Marx [1867] 1990, 163). Valuation, in other words, becomes determining in the ordering of humanity and nature.

It may be contested that the reification of nature, under a regime of economic calculation, was introduced to Vancouver Island as early as 1835,¹¹³ with Kwagu’ł mining and sale of coal to European capital. Certainly, the extraction and sale of coal to HBC and passing ships subsumed what had previously been a dye gathered for its use value within questions of exchange value. Yet coal extraction under Kwagu’ł organization went forward under no similar capitalist equations as HBC mining, as seasonal concerns like cold weather and moisture surpassed economic equations.¹¹⁴ Kwagu’ł mining had no need to dominate by numerical concerns and, in turn, produced a form of extraction coordinated with seasonal patterns. At Nanaimo, on the other hand, nature was a problem of capitalist production. Interactions between coal and water were rationalized—crucibles, wherein nature met the level of development in coal mining, the labour process, and class relations. As problems of capital in this amalgam, rain and groundwater required solutions measured against the value of inputs and manifested in the level of technological development

¹¹³ Rajala (1993, 77) dates the emergence of industrialization in BC logging to the 1860s.

¹¹⁴ See Douglas [1850] 1979, 75.

available to the colonial settlement at that moment. In transitional moments of capitalism, reification can nevertheless be a considerably uneven phenomenon. In removing water from Nanaimo's mine at this point in history, the ordering of nature in coal mining far surpassed that of labour, especially labour at the coalface, as the next section will show.

4.7 Coal Mining and the labour process in Nanaimo Prior to Confederation

The beginning of this chapter identified strike action at Fort Rupert materialized in the division of labour at Nanaimo. HBC's eventual separation of mining from settlement operations, though uneven in practice, immediately followed from strikes at the north end, posed against HBC's mercantile organization of coal mining and, at their core, the company's misunderstanding of skill in the capitalist division of labour. The power of workers at Fort Rupert in this way helped to define the labour process at Nanaimo, at least at its outset. Struggle between those whose income came from profit and those who derived it from a contractual wage produced changes in the emerging labour process that softened company antagonisms.

Other developmental forces, unique to capitalist production, would subsequently advance and motivate change to the labour process following from something like successful HBC mining in Nanaimo. Economic imperatives, hardly present at the failed fort, began to structure the output of coal. More precisely, nature came to be ordered by capitalist equations, particularly in the introduction of steam power to the mines as the extraction process advanced. The current section attempts to draw a more detailed picture of Nanaimo miners' work during the 1850s and '60s, in which expansion and productivity concerns increasingly subordinated and directed moments of the labour process. Despite this, the labour process remained at an early stage.

As the 1850s progressed, mining in Nanaimo began to refer to areas other than the mainland. Newcastle and Protection islands, each less than a K off shore, were explored as pit sites soon after 1852, as was Nanaimo Harbour, with Newcastle mining beginning soon after. Serious exploratory work for Newcastle, north of Protection, began in March 1853, abandoned in April, was then begun again in the late spring and prepared and maintained throughout 1854. At least two bores were made to access the coal seam

at the north end of Newcastle island, later becoming the Newcastle and Fitzwilliam mines. At a depth of 14.5 M miners found coal in a seam of about .6 M thick. Whether or not this was the principle depth and breadth of the seam worked in the 1850s is unclear, however a good deal of labour power was expended mining Newcastle's coal. "The miners are now engaged as follows: at the new shaft there are three shifts in the twenty four hours—three miners to each shift; all the others being engaged at Newcastle" (Nanaimo Memoranda, November 1, 1855). Bowen writes that, in 1856, the Newcastle Mine's best year, it "employed the entire workforce of [Nanaimo]" (1987, 93). The smaller Protection Island,¹¹⁵ about 2/3 of a square K to Newcastle's three K², was less productive in the 1850s. An 1855 bore passed through only thirty-five C of coal before hitting sandstone and subsequent abandonment, though mining would return to Protection toward the end of the century. On the main island, all but one of HBC's mines prior to Confederation sat adjacent to Wenthuisen Inlet, by then Commercial Inlet, including numbers 1 and 2 shafts on the NE side and two on the south side. The New Douglas seam was the exception, sitting three-plus K below the south end of the inlet (see Bowen 1987, 107).

In the pre-Confederation period of Vancouver Island coal mining, all major technical advances were essentially interested in overcoming what capital saw as two major problems: nature and space. Large fan systems vented potentially flammable gas from the mines. Steam-powered water pumps made the expansion of deep-pit mining possible in the Nanaimo area, as the previous section showed. The circulation of goods to and from the Nanaimo area and port technologies—wharf and jetty—have also been discussed at length. However, circulation may also refer to the movement of commodities prior to their transportation for consumption, as discussed in section 3.6. We can think of this distinction as one between local circulation and shipping to consumers. In coal mining, the former includes the movement of coal around under and aboveground spaces on the mainland, as no roads or railways existed to transport coal for consumption in, say, Victoria, through the 1850s.

Technical change in the local circulation of Nanaimo coal receives little attention in any of the notebooks that detail production to 1857. By 1860, however, the designation

¹¹⁵ Protection Island is sometimes called Douglas Island in archival documents. I've chosen the present usage, which also seems to have been more common in the 1850s.

of tramways made it into the company's Nanaimo inventory, in addition to local roads and wharves. Dallas noted their combined inventory at an asset value £2700. The mines themselves were the second most heavily invested HBC Nanaimo asset, after general merchandise, at £7000. Land is listed at £6193. Boats and barges were at £800 and animals £530 (no distinction is made between beasts of burden and livestock). The advances of local circulation in the eight years since colonization and mining began in Nanaimo are captured in these fixed-capital investments, if in a more abstract and less descriptive form than that which this dissertation has previously explored. Tramways, roads and wharves were invested at a much higher rate than animals, assuming in any event that the £530 accounts for beasts of burden. That boats and barges were invested at only £800, compared to the more efficient wharf system, also speaks to the level of development in tramways, roads and wharves, as these were involved in bringing coal to tidewater and loading it aboard ships.

In *Three Dollar Dreams*, Bowen has the use of tramways coterminous and coordinated with canoes delivering coal to waiting ships in the harbour. "The skiveys moved along the tramway from the mine to a weighing platform and then to a knapsack in which up to 60 pounds of coal was carried on the shoulders of an Indian woman [*sic*] to a canoe" (Bowen 1987, 65). With the development of wharf and jetty in 1853, it seems unlikely that tramways, not present in Nanaimo until 1857 at the earliest, would transmit coal from the pithead to canoes at the harbour, except in circumstances in which coal could not be loaded at the wharf, that is, as contingency.

Technical advances in mining were spread out unevenly. At the point in which coal chunks were separated from the face of a deposit, tools did not drastically change throughout HBC's tenure. Of mining's development at the face in the period of HBC control, Bowen writes succinctly that "the adzes and axes of Indian [*sic*] and Ayrshiremen alike were soon replaced with the picks and shovels of the mining trade" (1987, 64). The character of this transition should not be overstated.¹¹⁶ The pickaxe is a variation and slight improvement on axes and adzes. Diggers, those loosening and separating coal for subsequent local circulation, used merely updated implements around Nanaimo to remove

¹¹⁶ Something that Bowen avoids.

coal, a transition in degree not substance. And this transition happened almost immediately after mining was controlled by HBC. In October 1852, McKay wrote desperately to Douglas that

I herewith forward a Requisition for some more goods and I beg to request that the order for axes, picks, shovels and rope for Miners will meet with particular attention and be forwarded by the return Canoe as they are indispensably necessary for the proper fulfilment of your instructions regarding Building houses, and raising Coals (October 22, 1852).

The process of removing coal from the face typically required diggers of the era to use more than picks. Combustible powder was applied in a process known as ‘blasting’. In *A Practical Treatise on Coal Mining*, George André arranges blasting into three stages: boring, charging, and firing (1876, 225 – 9). After the coal face had been prepared by pickaxe, a drill was used to bore holes, whose proper position was determined by the digger, based in part upon the composition of the coal seam. Blasting powder wrapped in hay or cloth to keep dry was then inserted into tin tubes, used to prevent premature explosion, which would in turn be attached to a wick. After the wicks of the blasting cartridges were connected and the resulting assemblies inserted into their boreholes, miners would then vacate the area to avoid any accidental ignition that could arise from their headlamps.¹¹⁷ The work after the ensuing blast was that of local circulation, gathering and transporting the separated coal to the surface.

Coal cleaning and preparation was also part of the labour cycle, necessary to the retention of value.¹¹⁸

I beg you will lose no time in calling our miners particular attention to that subject and you will require him to be most careful in receiving the Coal from the miners, and to see that the bituminary shale and other inconsistencies resembling Coal is carefully picked out and thrown aside, and that it be afterward shipped clean and free from rubbish otherwise the Nanaimo Coal will sink in Character and lose half its value (Douglas to McKay, Undated letter [probably from early June 1853]).

¹¹⁷ In 1854 one miner failed to reach sufficient distant before blasting. McKay wrote to himself that “Archibald French hurt in his right eye by the explosion of a blast before he was well clear” (March 29, 1854).

¹¹⁸ Coal would also be weighed before it was shipped, but this is a management duty which adds no value.

A four-fold labour process, prior to shipping, was therefore in place (with observable subdivisions in hewing): the excavation and preparation of a mine, which was in fact an on-going process; hewing/digging or separating coal from the coalface, accomplished by diggers; local transmission; and coal cleaning and preparation. The most consequential technical developments were in preparation (steam-powered water pumps) and local circulation (tramways and, as we'll see, a tipple), with hewing following an internally consistent pattern in pattern in the period, at least under European control, following from the formal subsumption of mining by, first, HBC.

Technical advance in the areas aided output, of course. Yet it is unlikely that the mines became significantly more productive because of technological change, though this is difficult to determine with certainty given the inconsistent numbers. Instead, the simple addition of miners to the Nanaimo area was likely much more important in the enhancement of coal production than technological change in local circulation. As late as 1879, the mine manager John Bryden recorded his belief that there was little need to invest more capital in machinery, as miners performed an identical function. The introduction of new miners was, on the other hand, significant. The handful of Ayrshire miners and their families that had arrived were supplemented by twenty-four miners and their families arriving from the Black Country in the English West Midlands, near Birmingham, in November 1854, with Bowen citing a subsequent total European population in Nanaimo of 151 (1987, 67 – 73). In July 1853, McKay reported the monthly yield from the Nanaimo and Newcastle mines to be fifty-five tons. Two years later, the average daily output was thirty tons (Nanaimo Memoranda, August 8, 1855). Further complicating attempts to determine productivity was HBC's underpayment of miners. In control of their own labour, miners in 1853 refused to produce over and above the thirty tons per month stipulated in their contracts, finding the pay overages inadequate, with assistant miners following suit (see McKay's letter to Douglas of May 18, 1853).

Perhaps the most physically impressive technological advance in pre-Confederation Nanaimo was a large coal tipple. Tipples are several-stories high structures used to load coal onto transportation vehicles. From underground, loaded coal cars travelled along tracks to the tipple, then to be moved by winch, hoisting cage or conveyor into what was called the shaker structure. After the coal car made its way upwards into

the shaker, it could be spun upon a rotary dump or tipped forward manually, spilling its contents. The coal would then pass through a screen or series of screens that sorted it by size, finally travelling by larger rail car for cleaning or simply to be shipped (see Ketchum 1913, 148 – 97). “The object in sizing coal,” the Civil Engineer Milo Ketchum notes, “is to separate the dirt and slack¹¹⁹ from the coal, and to obtain a product that can be burned more advantageously” (149).



Image 6: Group of Nanaimo coal miners at the VCMLC pithead, with a coal tippie in the background. Photographer unknown, 1870. Image B-03624 courtesy of the Royal BC Museum and Archives.

Tipples became expedient fixed-capital in local circulation—sorting and transferring coal to different vehicles for eventual sale—following the development of local rail. They were an evolution in need arising from advancing infrastructure. For Nanaimo,

¹¹⁹ Insignificant, fine-sized coal.

the structure is also symbolically significant for the level and path of development it represents. Circulation had progressed well beyond the problems of Fort Rupert, and in quick order technical solutions to problems of distance occupied the high-point of the mining operation. The Nanaimo wharf and jetty were followed by tramways to further improve circulation, here local circulation. The tipple furthered the local circulative system still, and at a moment when Nanaimo's diggers were preparing the coalface with pickaxes and setting charges by hand.

The situation at the coalface may suggest, at first blush, that the mining industry was still mired in merely formal subsumption. That is, coal mining had not greatly reduced its pre-capitalist fetters. Recall that, for Marx, in the formal subsumption of labour to capital, "surplus value can only be created by lengthening the working day" ([1863 – 6] 1990b, 1021), to which we can include both the addition of new workers to the labour process and extensions to the hours of work. Marx distinguishes between the two phases of subsumption, formal and real, through the production of what he calls absolute and relative surplus value. Producing additional surplus value—or the value created by workers and extracted by capitalists, which is then realized as profits—is, generally speaking, the goal of capital. In formal subsumption, this is achieved absolutely, by adding hours to the cumulative working day under a given firm's organization, whether by extending the working day or adding new workers. Under conditions of real subsumption, there is an intensification of the labour process in which output is increased through productivity gains, often but not always through technological improvements, including labour-saving and deskilling implements, in which fewer variable capital inputs are required to produce. The ability to load ships more quickly and transmit coal around the mines fits with this definition, as output could be expedited through intensified productivity in local circulation, even if the work of the most advanced miners hewing the coalface does not. The expansion of local circulative systems quickened much of the four-fold cycle of coal mining prior to shipping. Not only were more miners and assistant miners added as the 1850s and '60s progressed, circulative technology expanded to facilitate more rapid removal and sorting of the coal itself, meaning intensifications in local transmission surpassing simple gains derived from extending the working day. If it would be an overstatement to say that coal mining had become really subsumed at Confederation—given the backwardness

elsewhere in the mines—the industry was nevertheless being reorganized toward the future accumulation of surplus value under circumstances of real subsumption.

The next section will consider Nanaimo miners' strikes, refusals, and desertions prior to 1871, in an era of North American coal mining in which machinery had not advanced to subordinate the high-wage labour of coal diggers—nor could technologies be counted upon to displace the labour of assistant miners in Nanaimo, given ongoing labour shortages. In effect, power for miners in the relations of production could be garnered through scarcity and refusal.

4.8 Struggle, Both Class and Personal: Refusing Work, the First Nanaimo Strikes, and Deepening Racialization in the Labour Process

From the first strikes at Fort Rupert through to Confederation, the tactic of refusing work remained crucially important to labourers at Vancouver Island's mining sites. The goals of collective refusal around both Nanaimo and the fort were, overwhelmingly, either control over the composition of the labour force or wage increases, with the latter predominant. With a scarcity of labour, no constabulary, and no surplus population to employ, refusals at Nanaimo during most of the pre-Confederation period were particularly effective. During the 1850s, worker refusals were both collective in character and not—the tactic used to achieve personal/familial ends and those for the class of workers more generally, with the latter foreseeably more dramatic. At Fort Rupert, HBC condemned its refusers for all to see, a symbolic threat against future undutifulness, though one which itself suggested the option of workers' desertion from HBC's oversight. Corporal punishment at Nanaimo was rarer and less spectacular. It remained a threat but was used in moments of recalcitrance that surpassed work refusals or desertion from the settlement.

The power accrued by Vancouver Island's miners through the tactic of refusal would not, however, be posed entirely against mining capital. During the 1860s, mining labour would act against itself, as internal divisions were successfully exacerbated by capital. The dialectic of company strategy and worker tactics would, as we'll see, be mediated by ongoing and racialized concerns of wage reductions, manifested within an evident opportunism among a relatively powerful segment of miners.

The first refusals of labour at Nanaimo more straightforwardly pitted worker and workers against the management of capital. These weren't strikes in the sense of a workforce collectively halting the production process, but miners' deliberative action to meet only the minimum requirements of their contracts. In May 1853, miners and mining assistants had concluded that the company's overage payments per ton were insufficient for the work required of each group. By custom, the traditional Scottish darg saw pay for overages rise and fall with the price of coal. The terms of a darg were fluid, and job action against the employer to compel higher overage payments was common (Ralston 1981). Apprising Douglas of the situation, McKay wrote to him that

The Colliers appear determined to raise no more than thirty tons of Coals per month. They maintain that 2/6 per ton is not sufficient pay for extra work as at the rate of 30 Tons per month... none of the assistant miners are working Coals at present... the assistant miners lay claim to 2/6 per ton over half the quantity required from the regular Colliers they argue that as they receive only half the pay of a Collier they cannot be expected to perform more than half work for that pay (May 18, 1853).

Douglas considered the miners' campaign "scarcely reasonable," given that the company provided housing, yet he was left with little choice but to accede to their demands, given the scarcity of skilled mining labour. The Governor of the Colony of Vancouver Island was even less enthusiastic about the collective refusal of assistant miners. He wrote to McKay that the assistants cost an equivalent amount to house and shared the same doctor as the miners while being less adept. Douglas was however basically at the mercy of a workforce conscious of their necessity to capital accumulation and the absence of a reserve army, which forced him to capitulate to a wage increase for surplus coal extraction (May 20, 1853).

Individual refusals were also a means to higher wages but frequently exceeded concerns of the labour relation. The miner Robert Dunsmuir refused work on several occasions, according to McKay's journal, including to convalesce after a night of drinking (January 10, 1853; June 20 – 1; 1853, April 4, 1854). Dunsmuir had been with the

company since Fort Rupert, arriving among the second group of miners from Ayrshire.¹²⁰ Despite his absences, HBC held no Vancouver Island miner in higher regard. In studying the company's communiques, Keith Ralston notes that HBC officials spoke disparagingly of each miner they employed except for Dunsmuir, whom they considered the ideal worker (1982).

Following completion of their contracts in early 1856, Dunsmuir and Edward Walker¹²¹ were granted free-miners' licenses and with them the ability to dig coal on their own account (Nanaimo Memoranda, January 22, 1856), though Dunsmuir appears to have been working independently for several months, contractually at least (October 12, 1855).¹²² Bowen identifies a strain of speculation among historians, in which these contracts are said to have been a reward to Dunsmuir and Walker for amenable behavior, including non-participation in strikes against the company. She challenges this as guesswork, while accepting that Dunsmuir's actions "couldn't have endeared himself to dissatisfied miners" when he was merely a man "quietly getting on with his work" (1987, 80). Bowen is correct to challenge the idea of HBC reward, but we should be careful not to infer pliancy from the last statement and what she dismisses. Even the notoriously paternalistic and hierarchical Dunsmuir refused work when it suited him, as did Walker.¹²³ He may not have struck collectively with other miners, but Dunsmuir's individual refusals represent an expression of the same power collectively seized by miners in pre-Confederation Vancouver Island mining, albeit an individualist sort.

Desertion represented a different, potentially more permanent category of insubordination for the company than work refusals, but HBC remained little more capable of stemming the also popular form of noncompliance. On September 11, 1855 a company memorandum noted that the English miners "York, Webb, Dunn, Harrison, Bull, John

¹²⁰ In December 1851, Robert and Joan Dunsmuir left Britain aboard the *Pekin*, destined for Fort Rupert, with their daughters Elizabeth Hamilton and Agnes. At Fort Vancouver, in present day Washington state, Joan would give birth to the couple's third, James, on July 8, 1851. Reksten (1991) suggests that the family left Kilmarnock in Ayrshire to escape the social stigma attached to Elizabeth's conception before marriage (1991, 5 – 6).

¹²¹ The latter following a furlough in Victoria.

¹²² The second Ayrshire group, Dunsmuir included, were signed to three-year contracts in Britain, beginning the date of their arrival in Fort Rupert, ending August 8, 1854 (Ralston 1981).

¹²³ See section 4.1 for a discussion of Walker's refusal to work.

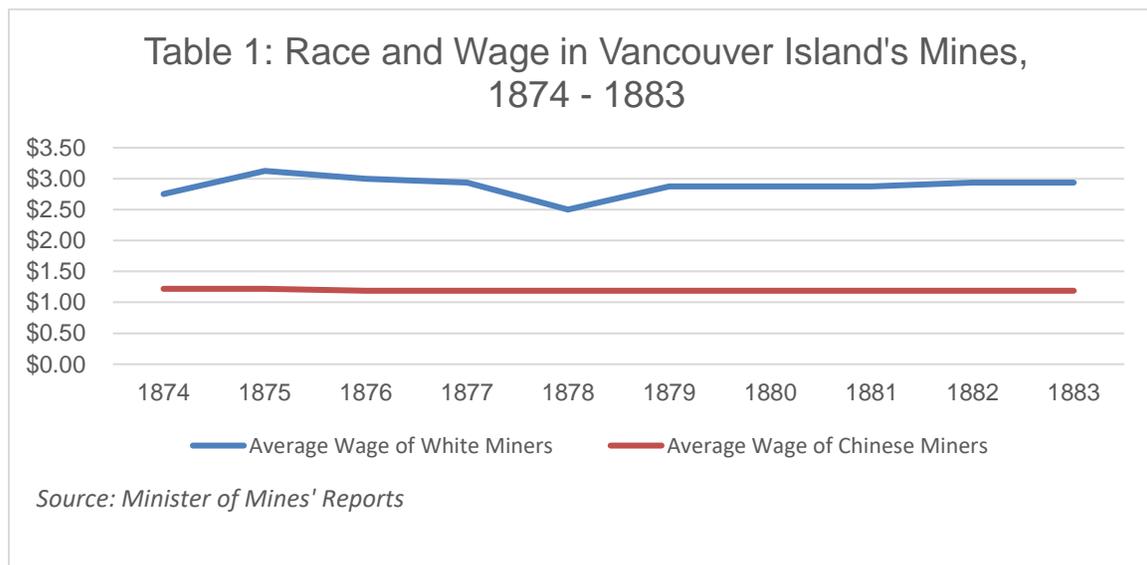
Baker, and Incher all [went] on the strike” from the mines. The party deserted the Nanaimo settlement the next day, only to return 12 days later after barely travelling farther south than the forty-ninth parallel. Desertions at Nanaimo were often less final than the term implies. HBC’s preference for ‘good, patriarchal families’ meant that the workforce was generally more tethered in place than the single miner. HBC indeed leveraged the precarity of miners’ families, threatening to evict them from company cottages soon after the breadwinner deserted. The September deserters anticipated this strategy. Their escape was a temporary means to secure better work in Bellingham Bay, about thirty K south of parallel forty-nine, presumably as miners for the California-financed Bellingham Bay Coal Company.

Eviction was one of the few meaningful threats the company had. The experience of labour disruption at Fort Rupert had not only taught HBC to distinguish moments of the labour process in coal mining, worker resistance had also shown that corporal punishment of miners on the island could not be counted upon to ensure the reproduction of the accumulation process. Other punishments for desertion existed but were similarly ineffectual. HBC had a policy of non-readmittance for deserters, for example (Bowen 1987, 83). In practice this was inconsistently enforced given the basic want of labour in the mines. Another collection of miners that deserted for Washington months after the September group was willingly reemployed without consequence. “The miners who deserted to Bellingham Bay were engaged again by the Company, having expressed contrition for their past conduct, they work on the terms of those who deserted before” (Nanaimo Memoranda, January 23, 1856).

The company did, however, continue to use physical confinement at Nanaimo where desertion represented a greater threat to its accumulation techniques. Forced patronage and debt to the company had become means for profit outside of coal or fur. The company store was, according to Bowen, well stocked (1987, 78 – 9), but its high prices retrieved portions of the wages paid to workers, with a tiered pricing system having workers pay significantly more than Nanaimo’s officers. After deserting, the assistant miners Alexander McCarthy and Thomas Jones were chased by canoe, “the former being in debt about £8, the latter about £4 at the store. Mr Shortly accompanied the canoe in quest of them – and returned about 3:30 PM - on their arrival the prisoners were put in

irons” (Nanaimo Memoranda, January 27, 1857). McCarthy and Jones were released a day later, on the condition that they recommit to their tenure with HBC.

Supported by force, debt compelled servitude to capital and secured future profits. By the 1860s, the mines had grown to include over 100 miners, more still employed in related work. And new strategies were used to control a recalcitrant working class. In 1861, Victoria’s daily reported that Nanaimo’s colliers had gone on strike following the imposition of three pence per ton of coal tax by the company. “Operations at the mines have entirely ceased since [September 30], and some of the men arrived here yesterday” (“Strike Among the Colliers,” *The Daily British Colonist*, October 4, 1861), returning to work five days later (Bowen 1987, 124). A strike from late summer 1864 to late winter 1865 (Bowen 1987, 124 and Hinde 2003, 126) had the Nanaimo colliery advertising in Victoria’s paper for strikebreakers. Miners struck for an increase of 12.5 cents per ton of coal, 37.5 cents per diem for shift work and for certain implements to be provided *gratis* (“The Strike at Nanaimo,” *The Daily British Colonist*, January 28, 1865). The arrival of strikebreakers, advertised in the *Colonist*, halted the months-long strike without success for workers. Mining capital was deploying techniques to both enhance the wealth derived from workers, through debt and tariff, and weaken the power of collective action.



From this moment, capital also began to instrumentalize racial divisions that were beginning to mark the abstract social labour of miners. Racialized differences in miners’ wages had been characteristic of coal extraction on the island since Fort Rupert. Yet by

the mid-1860s, capital began to exacerbate these schisms to weaken the power miners had previously enacted to resist the determination of wages and the composition of the working day by capital. In 1865, HBC had been able to recruit miners from Mexico to act as potential strike-breakers (Bowen 1987, 125), beginning a process in which collieries actively sought to suppress wage demands through the hyper-exploitation and political instrumentalization of miners of colour. The rest of the decade, indeed century, would be marked by the expansion of a relatively low-wage Chinese labouring population—resentment and racism from European miners toward their Chinese counterparts—as capital attempted to leverage racialized wage discrepancies against the solidarity of working people.¹²⁴

Chinese proletarians were common in what would become British Columbia before their entrance into the Vancouver Island coalfield. “Between 1860 and 1865,” the Historian Jin Tan writes, “Victoria received no fewer than 16 freighters arriving directly from Asian ports, mainly Hong Kong. Most carried as many as 200 to 600 passengers at a time... The emigrants were mainly peasants, peddlers and artisans” (1987, 71), and Chinese gold miners, bound for the Cariboo gold rush, had been passing through Victoria before since at least 1861 (*The Daily British Colonist*, May 16, 1861). On the entrance of a labouring Chinese population, the at times liberal, but by no means radical,¹²⁵ *Colonist* opined with excitement in 1860 that

The late arrivals of Chinese emigrants in our ports, open before us a new era, not only in our commercial relations, but as regards the productive population necessary to open up the wealth of our gold fields... Chinese appear on our shores as the pioneers of wealth yet to be discovered... All of the means are working towards this end. California aids us by its expulsion of [Chinese] labor from her gold fields, and little thinks how this one act tends to supplying our wants for

¹²⁴ Table one shows the average wage of coal miners on Vancouver Island among the two major mining operations (not including the high-waged labour of exclusively European coal diggers), divided by ethnicity, which was a distinction codified by the colliers and province in the Minister of Mines’ annual reports. 1874 to 1883 is the first decade in which reasonably reliable data on wages is available. The numbers for one of the collieries is missing in 1876, but this doesn’t appear to have significantly influenced the overall trend.

¹²⁵ Yet, and to his credit, the founder of *The Daily British Colonist*, Amor de Cosmos, wrote of the Paris Commune that “The names of Rouge, Red Republican, Communist, scare men not only in France but abroad. But the day will come when the principles of the ill-fated rebellion of Paris will be extolled to the skies” (quoted in “The Paris Commune; one hundred years gone,” *The Ubyyssey*, March 19, 1971).

manual labourers (“Chinese Immigration,” *The Daily British Colonist*, May 10, 1860).

Capital, as well as its allies, applauded the coming of Chinese workers to BC. From 1852 onward, coal mining had been a highly racialized form of production on Vancouver Island, in which workers of colour were hyper-exploited to lower variable capital inputs. Chinese miners would, structurally, be employed in jobs formerly given to First Nations. Never fully dispossessed, Indigenous miners presented a problem for industrial extraction predicated on coordination and temporal rigidity. Through the 1870s and '80s, collieries would increasingly turn to Chinese-identified miners, with fewer means to reproduce themselves outside of capital, for low-waged, racialized exploitation (see Belshaw 2002, 90).

The welcoming of Chinese-identified miners by capital could hardly be construed to rest on any other ground than economic self-interest. Their low coalfield wage represented to collieries “wealth to be discovered.” The reasons for capital’s barely restrained jubilation at the arrival of a surplus population for wealth extraction in gold can just as easily be applied coal mining. Years later, the mine manager John Bryden would indicate that capital was realizing its hopes for the Chinese proletariat on Vancouver Island, boasting to London that VCMLC mines paid its Chinese workers “the lowest wages in the country,” about \$1.00 for general labour. Similar circumstances persisted well after the entrance of Chinese miners. From 1874 – 83, Chinese-identified miners were paid about 41.5% of European miners, not including diggers, holding steady at a daily wage of between \$1.19 – \$1.22, the foretold wealth to be discovered proceeding to no small degree through the strategic immiseration of a portion of the mining population.

The vertical struggles between Chinese-identified workers and mining capital had, from the beginning of Chinese mining labour on Vancouver Island, a horizontal counterpart within the larger body of mine workers. On Friday May 3, 1867, *The Colonist* reported that “[a] meeting of the white miners was held on Tuesday, and another was to have been held yesterday, to protest the introduction of Chinese labor in the coal mines.” Bryden had resolved to pay Chinese workers significantly less than European and French-Canadian mine workers and, following from their organization against Chinese miners, the colliery locked-out its other miners. “Two months later,” Bowen writes

[t]he Company was able to hire its miners back to work with the promise of an increase of twelve and a half cents per ton, free pick handles, and a ton of free coal per month per miner. "Running" would be handled by contractors who would hire their own men, but the door was left open to [Chinese miners], whose low wages would be attractive to any business-like contractor (Bowen 1987, 126).

Mining capital was, then, able to introduce Chinese workers to mines, proceeding through indirect exploitation under mining capital, once removed by contracts with white miners.¹²⁶

The structural subordination of people of colour to the demands of European capital does not, however, suggest their passivity. Chinese miners struck for higher wages in 1876 (Tan 1987, 76), though gains from the strike do not appear to have been evenly distributed. More generally speaking, "the dubious assertion that the Chinese and Japanese immigrants willingly took low-paying jobs, and were willing to work for lower wages," is undercut by a history of job action against employers. In addition to coal strikes, "Between 1869 and 1871, Chinese [gold] mine labourers in the Cariboo struck several times for higher wages" (ibid).

Collective refusals and strikes had, in the early Nanaimo years, been an overwhelmingly effective means to achieve wage gains. This success rested on both solidarity and scarcity. Collective refusal to raise above thirty tons of coal per month meant an eventual wage increase for miners and assistant miners, as the company was unable to seriously respond given the labour market. Having secured clearer delineation of the labour process through strikes at Fort Rupert, most job action at Nanaimo, prior to confederation, focused on wage gains. The most notable organizing that attempted to exert control over the working day cleaved miners politically. Individualistic refusals also marked Nanaimo, with the company basically unable to punish workers for short-term transgressions in the early years. Even deserters were welcomed back, though debt to the company store was punished.

As mining in Nanaimo progressed beyond the 1850s, capital advanced techniques to disintegrate the power miners had held and enacted to achieve their goals, in particular

¹²⁶ A final strike before BC entered Confederation, in the winter of 1870 and 1871, was so difficult for miners to endure that representatives took out an ad in the *Colonist* to ask for aid from Victoria's citizens ("The Nanaimo Strike," *The Daily British Colonist*, January 6, 1871).

their wage demands. The first threat of strike-breakers occurred in this era, a strategy that mining capital would subsequently use throughout Vancouver Island's coal-mining history. The hyper-exploitation of a racialized emigrant working population became a means not only to extract greater surplus-value by paying proportionally less for variable capital, it rested on the introduction of a surplus population capable of carrying out mining work following hewing at the coalface. The heretofore mining population responded not by inclusion and solidarity but animosity toward and organization against Chinese-identified workers. The pioneering of wealth for capital yet to be discovered would, in this way, be aided by the separation of political activity within the working population.

4.9 Away from Colonial Monopoly: Resource Capitalism in Nanaimo at Confederation

HBC's monopoly over the Vancouver Island coal industry ended in 1862. On November 29, the *Colonist* reported that "the transfer of the mines, together with the whole of the plant and machinery to the Vancouver Coal Mining and Land Company has been fully completed for the sum of £40,000." VCMLC would operate mines in the Nanaimo area for twenty-seven years, until its 1889 reorganization as the New Vancouver Coal Mining and Land Company, then as NVCMLC for an additional thirteen years before its purchase by WFC of California in 1902. The sale of HBC's mining operation to VCMLC had been official since September '62. With it, the company transferred the entirety of its mining and colonial infrastructure at Nanaimo, including "coal lands, five shallow pits, two steam engines, a company store full of overvalued merchandise... one hundred dwelling houses" (Bowen 1987, 98), its sawmill, a winding gear (Belshaw 2002, 24), tramways, its wharf and jetty. The resource capitalism that had defined Nanaimo would however continue to be controlled by Europe. VCMLC was a group of British investors, including HBC's own Alexander Grant Dallas (who frankly characterized the company's coal operation in 1860 as "languishing" and lamented his own ignorance of mining).¹²⁷

The transfer was perhaps hastened by HBC's loss of its legal monopoly over the Vancouver Island coalfield in 1859, after the company failed to meet its settlement

¹²⁷ The epigraph to this chapter.

obligations in the eyes of London.¹²⁸ The company had been forced by labour to learn certain lessons about the division of work in capitalist production. There were however limitations to what working people could reasonably be expected to teach. The 1862 sale introduced investment capital to mines whose greatest advance was arguably the early introduction of steam-powered water pumps, though tramway and wharf certainly enhanced local circulation processes.

By 1871, a new mining company had been formed to challenge VCMLC's decade-long monopoly. In November, the miner Robert Dunsmuir, with others including Lieutenant Wadham Neston Diggle and Rear Admiral Arthur Farquhar of the Royal Navy, formed Dunsmuir, Diggle and Company (DD&C), to mine a somewhat recent discovery by Dunsmuir. For his part, Dunsmuir downplayed the find. In a report to the Minister of Public Works in September, he wrote that

When I was in the bush about three miles from the sea, in the month of October 1869, not exactly for the purpose of prospecting for coal, but being thoroughly acquainted from past experience with all the coal formation in this country, I came across a ridge of rock, which I knew to be the strata over lying the lowest seam that had as yet been discovered here.... [A]s I was again strolling through the bush about ten weeks ago, about 200 yards from the place I had determined to work, I chanced to come upon the root of a fallen tree, which I thought had a peculiar appearance. On examination I found coal sticking on the upturned root, and digging a little under it, I saw that coal had been there, but was now removed by the action of fire (Dunsmuir 1871, 86).

However coy Dunsmuir was about the discovery of a unique coal seam in writing the Public Works, he had searched for his alternative to the Douglas seam in one form or another since 1853. McKay noted that "Robert Dunsmuir with 4 Indians [*sic*] commenced boring for the purpose of proving the actual existence of a large seam of coal cropping out at Mr. Pemberton's encampment and supposed to underlie the Douglas Coal" (August 24, 1853). With a provisional three M thick seam to mine, Dunsmuir wasted little time putting in place the infrastructure necessary to transmit an estimated 7000-plus ton per acre, constructing a tramway and wharf at the adjacent Departure Bay. Employing about forty miners (Dunsmuir 1871, 87) in 1871, DD&C would compete with VCMLC in terms of output within a decade.

¹²⁸ See Belshaw 2002, 24.

Yet DD&C in the 1870s was as much the culmination of economic and social experience in Vancouver Island mining as it was an origin. Expanding commercial trade, its sedimented wealth, and coal-mining capital supported its emergence. Farquhar and Diggle were both attached to the Pacific Station, the Royal Navy's squadron patrolling the Ocean and invested wealth worked-up from commercial accumulation in the Pacific.¹²⁹ Dunsmuir's \$10,000 investment was accumulated as a member of the proto-mining bourgeoisie. Here, flows of colonial/investment capital found their way to the island following trade patterns established in 1850s, in which the movement of coal from Nanaimo was matched with incoming capital, workers, tools, and food, largely from California. Aside from the \$10,000 Dunsmuir had brought to the company, his experience was obvious and necessary, especially given discovery of the Wellington coal seam. The labour strategies of previous mining capital on the island were also replicated by DD&C. Prior to Confederation, technical development of the forces of production had been hindered by underdevelopment in the relations of production, which benefitted an active and sometimes militant working class willing to withhold its labour power. The relative bargaining power workers found in remoteness could however become turned against them. Dunsmuir, for example, employed the threat of eviction, repeating a pattern of refusal-then-eviction that had been playing out since the 1850s.

On this note I'd like to close the chapter by returning to the developmental history and tendencies identified at Nanaimo, 1852 – 71. At the origins of the settlement, canoes helmed by First Nations workers constituted the first viable communication network used by colonial capital. Pacific shipping routes stabilized conditions for liberal social reproduction, made the coal trade itself possible, and brought mining implements to Nanaimo. Technical development prior to 1862, though limited in scope and investment, was supported by the establishment of a bilateral trade relationship with California, the basic movement of people, goods and machinery was a condition for improvement.

The process of extracting coal under capitalist organization had its own internal motions and retained independence from determinacy by maritime flows. The former was not the cause of the latter. As the example of the steam-powered water pump

¹²⁹ "The rich are only defeated when running for their lives," C.L.R. James writes (1989, 78).

demonstrates, problems of nature were becoming reified and subject to calculation, quite apart from any subordination to shipping. Technical advance prior to Confederation was indeed pushed forward by problems of nature and movement, themselves developing as issues because of the economic need of capital to reproduce itself and expand. At Nanaimo, circulation advanced well past the inadequate local conditions around Fort Rupert. VCMLC's coal tipple, fed by tramways, was the most advanced aspect of Vancouver Island's mining industry prior to BC's entrance into Canadian Confederation in 1871. Taken as a whole, however, technical development was slow to progress in Nanaimo, kept in check by a small working population, underdeveloped relations of production, and the indifference of London. The wage relation was also increasingly racialized in the period, with race a category mobilized to reduce variable capital and stymie dissent. Chinese-identified miners would be paid less than half their counterparts, once consistent records begin to be kept—their low wage and the lack of solidarity from the pre-existing mining population instrumentalized by capital.

These were the basic conditions of extraction as Vancouver Island coal mining entered its Canadian era. The real subsumption of labour to capital was proceeding, however unevenly. Technical developments had enhanced capacity, which allowed for coal to be quickly circulated through the mines, sorted and prepared for shipping. The increased output of the period indeed seems to have resulted from the added variable and fixed capital additions away from the coalface.¹³⁰ Despite these gains, capital was faced with a refractory working class and backward forces of production at the coalface, each of which impeded the accumulation of capital on the Island.

The next two chapters explore, *inter alia*, the growth of the Dunsmuir mining empire, led predominantly by Robert and then son James, as it spreads up and down the island from the Nanaimo area. By the mid-1880s, the hardened class antagonisms of the Dunsmuir family emerged in stark contrast to the other major mine operator on the island. Each colliery demonstrated an alternative ideological understanding of capitalist development, formed in coordination with the experience class confrontation. Out of these managerial

¹³⁰ In *The New Imperialism*, David Harvey writes that “capital accumulation, in the absence of strong currents of labour-saving technological change, requires an increase in the labour force” (2003, 141). He includes in this category inexpensive, often racialized labour.

ideologies and embedded within a consistent need to produce and expand surplus-value extraction, changes in the labour process materialized.

5. “He’d be Damned if there was any Law for the Poor Man:” The Maturation of Antagonistic Class Relations and the Failure of Improvement, 1871 – 1889

The more ruthlessly capital sets about the destruction of non-capitalist strata at home and in the outside world, the more it lowers the standard of living for workers as a whole, the greater also is the day-to-day history of capital... In its living history it is a contradiction in itself, and its movement of accumulation provides a solution to the conflict and aggravates it at the same time.

- Rosa Luxemburg, *The Accumulation of Capital*

The second chapter established a provisional method for conceptualizing technical change in coal mining in which models from Georg Lukács and Andrew Feenberg were used to surpass debates in labour-process theory. There, I argued that transformations during the working day are indeterminate but nevertheless subject to an economic structure that seeks both the valorization of objects and simultaneous control over the process of valorization. In the resulting method, the labour process appears as the consummation of these abstract forces and more local, concrete conditions. The focus on abstract laws meant to displace the belief, held by Michael Burawoy among others, that the capitalist and working classes are not mutually antagonistic, as well as ANT’s ahistorical materialism. The study of more contingent local elements, including ideology, militates against a kind of determinism by abstraction. Without the empirical evidence of the second moment, the method would lapse into the kind of structuralism it means to avoid.

Chapters four explored the technical solutions that emerged in Vancouver Island’s mines to solve natural problems, like flooding and movement across space. Mining capital reified nature as an object of calculation and control, where an entirely different relationship at the Suquash mine existed between Kwagu’ł miners and the natural forms implicated in coal extraction. We also saw that local circulative infrastructure, established to expedite coal transmission and sorting, was made a priority by HBC and VCMLC collieries in the 1850s and ’60s, preceding advancements elsewhere in mining. After

investment capital had expanded with the 1862 purchase of HBC's Nanaimo concerns by VCMLC, the company's coal tipple, working by 1870, became the most impressive aspect of fixed-capital on the island. The tipple followed the creation of tramways and a wharf-jetty system, which themselves surpassed the use of canoes to bring coal to ships in the harbour. Through these technical changes—made to control distance and nature—the circulation of coal locally moved at a much greater pace and allowed workers to be employed elsewhere in mining. Transformations in the labour process responded to the material needs and desires of capital to valorize and transmit its commodity, while expanding extraction amidst an absent surplus pool of labouring bodies from which to draw.

The changes to the composition of the working day detailed so far were occurring, however, during a regime of technological advancement that lagged well behind Marx's description in 1867, when he observed that an entire history could be written of "inventions made since 1830 for the sole purpose of providing capital with weapons against working-class revolt" ([1876] 1990, 562 – 3). The reasons for this delay were twofold. First, any machinery at Nanaimo, no matter how advanced, could not be counted upon to remove labour from the working day, given the ongoing shortage of workers. What would have been technically derived labour savings could only be instituted to rearrange the labour process on Vancouver Island, shifting workers around mining and settlement. With miners striking since Fort Rupert to limit the scope of their work, any displacement of high-skill coal hewing could, moreover, hardly be counted upon to result in diggers working elsewhere. Second, and more importantly, readily available machinery had simply not progressed to deskill or challenge the political power of coal diggers. Mining machinery in North America, as a proxy or outcome of capitalist tendencies, existed primarily to discover coal, hold nature in abeyance, and move across space. Dix notes that the first North American coal cutter, made to intensify hewing work and decrease the skill involved, was not commercially available until the 1880s (1988, 29). Effectively, then, neither the social relations nor technological conditions were in place for mechanized techniques of capitalist power to emerge in Vancouver Island mining at the coalface.

Mining capital on the island was of course hardly in control of the general level of development in mining machinery. Yet social forces, ideology, and developmental conditions are all subject to quantitative and qualitative change, suggesting alternative

results. And, on the island, these relations were developing quickly. The Wellington miners' strike in 1877 is illustrative of this maturation of capitalist class dynamics, as well as the potential for political mediation of class held by industrial technology.¹³¹ Adjacent to Departure Bay, the Wellington DD&C mining settlement began in 1871. In early February 1877, about 100 miners went on strike, stopping work at the colliery of about 230, to demand a wage increase and that James Dunsmuir¹³² correct the improperly weighted scales that determined a miners' output and therefore their total pay. The request for increased pay stemmed directly from a reduction in wages that DD&C was able to accomplish in 1876, from \$1.20 to \$1.00 per ton of coal, a rate at which the miners refused to continue in February. There had been a brief strike in July over the reduction, but the cut was not redressed by the job action.

The issue of coal measurement was more intricate. Striking miners asserted that they had been "wronged out of hundreds of pounds of coal on account of faulty scales" ("Spring Assizes," *The Daily British Colonist*, May 23, 1877). In early February, workers collectively confronted James, after he had denied ongoing requests to have the scale examined. At the subsequent inspection, James appeared to have had his skepticism dramatically confirmed, when a representative was correctly weighed upon the device. Yet the theatrics were either misdirection or ignorance, as the scales weighed accurate only to 180 kilograms (KG), with considerable imprecision thereafter. At that weight and more the plates of the scale made contact, throwing off any calculation (Bowen 1999, 82).

If solidarity, though limited by race, had characterized the pre-Confederation strikes at Nanaimo, it was a more official working-class organization that would confront mining capital in 1877. The months-earlier loss of 20¢ per ton had been convincing enough among those exposed to its consequences to promote the emergence of the Coalminers' Mutual Protective Society (1987, 157 – 8), one of the first unions in BC coal mining.¹³³ With the reduction in wages and ongoing scale problems, themselves a form of wage theft, worker combination and solidarity were immediately set against the power of capital to

¹³¹ Bowen's account of the strike is the most thorough (1987, 149 – 74).

¹³² Robert's son and superintendent at Wellington for only a handful of months.

¹³³ Orr (1858, 36) cites Wellington miners in 1871 as having formed the first union of coal workers on island. For the rest of century union efforts at the Dunsmuir's mines would be on and off again, with the family never recognizing unions in their mines during the period of study.

depress the rate of labour power through methods quite apart from bargaining, collective or individual.

The Dunsmuir, for their part, refused to consider the authority of the Protective Society to represent DD&C's miners. Unions had been legal in Canada since passage of The Trade Unions Act in June 1872, made possible by the efforts of working people in Ontario. Yet previous bourgeois sentiment that considered workers' organizations a conspiracy against capital persisted on the island, and the paternalistic Dunsmuir clan was unlikely to surrender any control over wage or the working day that DD&C held. In the *Nanaimo Free Press*, Robert wrote on behalf of the company that

[t]here is an impression in the community that we are obliged to accede to the miners' demands: but for the benefit of those whom it may concern we wish to state publicly that we have no intention to ask any of them to work for us again at any price.¹³⁴

The public bluster obscured some significant problems DD&C faced selling its coal. Irreducible to the ideology of management and its influence, the Dunsmuir's immediate concerns of collective organization and wage reductions were also basically material. DD&C had held a major contract with The Pacific Mail Steamship Company, the island's first purchaser of HBC coal,¹³⁵ to supply its fleet. "In June [1876]," however, "the firm lost the Pacific Mail S.S. contract and their sales off to nearly nothing" ("Spring Assizes," *The Daily British Colonist*, May 23, 1877).

If the movement to strike in February had workers respond to wage reductions, both formal and informal, through an early instance of collective organization in island mining, DD&C turned in response to eviction. Soon after striking workers walked out of the mines, they were given one month to vacate company cottages.¹³⁶ In March 1877,

¹³⁴ This is a widely cited quote, but I think most uses are traceable to Bowen (1987, 153). Other examples include Reksten, (1991, 37), Hinde (2003, 18), and (Bowen 1999, 84).

¹³⁵ See section 3.0 for a discussion of the relationship between The Pacific Mail Steamship Company and Vancouver Island.

¹³⁶ Eviction was a common strategy to break strikes in mining communities and more generally within what Engels calls the 'cottage system'. "Not only are [workers] compelled to pay monopoly prices for these houses because the factory owner has no competitors, but immediately a strike breaks out they are homeless because the factory owner throws them out of their houses" ([1872-3] 2010, 349).

twelve miners were in a Victoria court to plead against eviction, with the court finding in favour of Dunsmuir. The evictions themselves had previously been a relationship limited to DD&C and the families that made homes in company cottages. The involvement of the legal institution in and against strikes repeated a pattern evident since Fort Rupert. Other state and ideological apparatuses were, after those of imperial Britain, beginning to function for capital. Dunsmuir had begun a propaganda effort through the bourgeois press, with the pledge not to accede to miners' demands in the *Free Press* likely most dramatic aspect of the campaign. He also began publishing the wages of his miners in the papers, apparently to demonstrate DD&C's largesse, though he omitted the wages many miners paid to Chinese runners. Depicting a predominately idle work force, Dunsmuir concluded one such card in the *Colonist* by writing that "if the miners would make it their rule, instead of sending out seven boxes to send eight, it would add 50 cents per day to their earnings" (April 6, 1877), more than making up for the pay cut. It is, perhaps, tempting to overstate the necessity of Dunsmuir's efforts to deform public opinion from the letters. The *Colonist* had, however, clearly chosen its side. A May 3 editorial by staff at the paper wrote snidely that

[i]f in 'striking' [the miners] were actuated (as one of their number wrote) by a high a noble spirit of independence, in consenting to be beholden to the company for their roof-tress they must have been inspired by a mean and groveling emotion of dependence."

Another heavy-handed, anti-strike editorial, here by the pseudonymous A Workingman, which was printed multiple times in the *Colonist*, suggested that the strike was a conspiracy of a few miners, which only continued through coercion.¹³⁷

Dunsmuir waged a separate campaign in the Legislature. From the beginning of the strike, he communicated to politicians exaggerated concerns of violence from government inaction. In February, Dunsmuir wrote to the Attorney General (AG) of British Columbia: "for goodness sake act promptly in this manner, I am afraid there will be bloodshed among us at this time." "Such a lot of men," he opined, "I have never had to

¹³⁷ The cooperation between Victoria's *Colonist* and DD&C is rather different than Robert Dunsmuir's relationship with Nanaimo's *Free Press*. Dunsmuir sued the owner, George Norris, for liable after the paper quoted a miner referring to Robert Dunsmuir as a liar (Bowen 1999, 88).

deal with before, and there will be no peace with them until they get a proper lesson.” On March 1, Dunsmuir protested that, “[i]t is very urgent that a Bill should be passed immediately relative persons occupying houses belonging to any mining company, sawmill company, or private individual.” Days later, he wrote to the AG more calmly: “we have a lot of men [strikebreakers] now in Victoria at a heavy expense, and cannot bring them up here unless we get protection from your government” (Dunsmuir [1877] 1878, 525 – 6).

On the ground, DD&C would hire and ship thirty-three men from San Francisco to act as strikebreakers, arriving in Departure Bay on February 23. A minor confrontation occurred outside the colliery, with the 100 or so strikers holding that no one would be allowed to work in Wellington for less than \$1.20 per ton. Despite the obvious conflict between the groups, the relationship of potential scab and striking miner was oddly amiable in this moment, with many of the former convinced not to enter the mines for work by forces at times as strong as 200, with some of the Californians even taken out drinking. At least one strikebreaker was given \$15 to return to San Francisco (“Spring Assizes,” *The Daily British Colonist*, May 23, 1877). A second group from California arrived at the Wellington mines in mid-March but they too were intercepted by miners and their families (Bowen 1999, 93). The company met with similar futility as it tried to execute eviction orders through the first weeks of April.

Capital’s lack of coercive strength was preventing the mines from opening; strikers and their families were able to block extraction. Discussing the fight over the length of the working day between buyers and sellers of labour power, Marx observes that “between equal rights, force decides” ([1867] 1990, 344). Dunsmuir, though hardly accepting of the former proposition, evidently agreed with the latter. He had applied to the provincial court for possession orders on company houses by the end of March, but miners held strong through three attempts by the Sherriff of Vancouver to evict. The last included fourteen cadets from Victoria (Bowen 1987, 164). A more seriously imposing muster, this time of militia forces, began shortly after the last round of failed evictions and would come together throughout April. During the next days the Sherriff evicted five families—“the silly men and women in every instance refused to leave the houses till turned out by the Sherriff,” the *Colonist* wrote—but another twenty followed the muster’s arrival. By strike’s end, 120

militiamen with twenty Sheriffs and official police were in Wellington (“The Wellington Troubles,” *The Daily British Colonist*, May 2, 1877).

With many of the striking miners out of their homes, DD&C continued the practice of importing strikebreakers, only now to less resistance, and by early June the mines reopened. In Victoria, five strikers faced charges of intimidation by threats or violence, though only one was convicted, and DD&C continued to bring workers into their mines from elsewhere, with the union’s power badly depleted. Bowen writes that Dunsmuir “had said repeatedly during the strike that no one who joined a union would ever work for him again” (1999, 101). With the power of the provincial force behind him, Robert was able to uphold his threat.

That machinery was not yet able to displace working-class revolts, not yet there to act as a political lever of mine owners, was of little consequence to the outcome in 1877. Apparatuses both ideological and repressive emerged to support colliery owners in a manner that surpassed what had previously occurred on the island, including a large muster and legislative coordination.¹³⁸ As Hinde writes, “the state became a guarantor of capitalist production and underwriter of existing social and economic relationships” (2003, 145). The press, though not uniformly behind Dunsmuir, became a willing conduit for his propaganda. Prominent institutions were, in fewer words, solidifying for, or perhaps being subsumed by, capital. This proved to be a surprisingly stable form of social control during the subsequent term of Robert Dunsmuir’s life. At Dunsmuir mines, no major strikes after 1877 again occurred before 1890.

This chapter explores the development of capitalist class dynamics in Vancouver Island coal mining between BC’s entrance into confederation and Robert Dunsmuir’s death in April 1889. The subsumption of social reproduction by capital—outside of Snuneymuxw communities—became predominant during the previous chapter and won’t figure in the current, though attention to commodity circulation and technical change will

¹³⁸ Also in spring 1877, provincial legislation was passed to comprehensively regulate Vancouver Island’s mines for the first time. Robert Dunsmuir, along with other colliery managers, protested the act of parliament and ignored the legislation where it suited him. While the provincial government was not completely beholden to mining capital—retaining some autonomy—Dunsmuir could count upon its aid when he needed to quell worker uprisings. And, in practice, provincial regulation was weak and difficult to enforce.

continue. Demographic change is considered as a moment of maturation in the relations of production on Vancouver Island, with additional workers also available to capital through maritime transportation, as was the case with DD&C's strikebreakers, although the population hadn't necessarily grown to a reserve army of workers for capital. This chapter also considers the diverging ideologies of management at Dunsmuir mines and VCMLC under Samuel Robins, as well readings of technology in labour and revolutionary-communist movements of the late 1860s through the 1890s. The prevailing hagiographic narrative of Robins is criticized for its blind spot of race and inability to consider inequitable power relations. I show that Robins' style of management was a strategy to maintain labour peace, though one rooted in a barely veiled white-supremacist hopes for the Nanaimo community. The different ideological and material approaches to the labour process in Vancouver Island coal mining should not, however, obscure mining capital's basic need to reproduce and expand profit, which continued to motivate the actions of managers.

In the mines, technologies of real subsumption were present in local circulation. The small working population in and around Nanaimo made it difficult, however, for mining capital to extract relative surplus value, and productivity gains remained modest throughout the current, pre-1890 period of consideration. This chapter will also discuss methods of coal mining, examining longwall and pillar and stall methods in greater detail than previous chapters. Out of the mines, the development of circulative rail and telegraph systems on the island are shown to be a political phenomenon, in which First Nations' land was enclosed for settler use, with communication networks solidifying here as a form of dispossession in support of capital and colonization.

Taken together, the sections of this chapter demonstrate that Vancouver Island coalmining, 1871 – 89, was characterized by increasingly dominating socio-economic forces, as commodity society develops and becomes ever more totalizing. Yet, perhaps paradoxically, a divergence of management ideologies regarding job action and the labour process is apparent, especially from 1884 to '89. This divergent ideological structure is not entirely ambivalent, however, as it is instead contained by certain abstract parameters set by economic need.

5.1 Population Growth, Competition, and Wage Symmetry in Vancouver Island Mining

In terms of simple population change in Vancouver Island's mines, the current period is nearly as significant as the transition from a handful of miners in 1852 to hundreds by 1870. In the sixteen-year span of 1874 to 89, beginning when reasonably reliable figures were first published, the mining population more than quintupled, from 409 to 2241. New mines opened—East Wellington, Union Colliery Company, Oyster Harbour Coal Company, Tumbo Island Coal Company, Baynes Sound, and Harewood—and existing mines also expanded. VCMLC grew from 284 miners in 1874 to 875 in 1889, the Wellington mines from 125 to 862. In 1889, 314 miners worked at the recently established Cumberland mine in the growing Dunsmuir empire and 190 mined at R.D. Chandler of San Francisco's East Wellington colliery the same year, about five K south of Nanaimo.



The available data on the mining labour force is derived from reports of the Minister of Mines in BC and aren't without their problem. There are missing workforce numbers from DD&C and Baynes Sound in 1876 and 1877, respectively. Between 1879 and 1883 VCMLC seems to have only reported below ground figures. From 1874 – 81 the reports note to that VCMLC did not include Chinese runners employed by diggers. The report from 1882 has basically the same numbers as 1881, though the mine manager had changed. VCMLC's 1883 submission appears to account for all the workers at the mine, but this isn't clearly articulated, while 1884 returns to the practice of only counting

specifically VCMLC-employed mine workers. All of which is to say that table two is an approximation based on the best available numbers.

From Confederation to 1889, just two producers account for the vast majority of employment in Vancouver Island coal mining, with about 91.5% of the labour force dedicated to Dunsmuir or VCMLC in 1889. The expansion of the Dunsmuir mines is particularly noteworthy given that DD&C's yields, in under decade, took HBC/VCMLC forty-plus years to accomplish, all other things being equal. By 1878, DD&C had caught up to and slightly overtaken VCMLC in those terms, surpassing Nanaimo by a significant but not extraordinary amount in 1889, with 304,588 and 223,871 tons produced respectively.

The competition between the Dunsmuir and VCMLC's Robins, which exceeded purely capitalist terms, is well established in the historical literature. Hinde, for example, writes that "[a]n intense rivalry developed between Nanaimo and Wellington over the competition for market share and the different business philosophies of Dunsmuir and VCMLC manager, Samuel Robins," though he adds that this was especially acute after 1890 (2003, 216 en 30). In a more evocative explanation, Bowen describes how a deal to sell James Dunsmuir VCMLC-owned wharves and adjacent land was scuttled when Robins made the purchase conditional on the younger Dunsmuir altering his labour practices. "No one, least of all Sam Robins, told James Dunsmuir how to run his mines," she concludes (1987, 360).

Subsequent sections of this chapter explore the different ideologies of Vancouver Island mine managers and how they manifested in the labour process. Significantly, however, the wages of miners at VCMLC and the Dunsmuir's mines were basically equivalent throughout the current chapter's period of study. The coordination among the collieries could easily be overstated, and the infighting among mining capital, noted by Hinde and Bowen, also militates against readings of the Vancouver Island coalfield as a cartel, although the basic economic imperatives of capitalism were in place irrespective of management outlook.

Mine managers throughout the 1870s and '80s were aware of the wages other collieries paid and attempted to keep their variable capital costs in line. Duopoly, in this instance, also suggests a sort of *de facto* coordination. The simple presence of competition and animus within mining capital should not mask what's in fact a nearly identical logic at play in the determination of wage, though at times the *de facto* was abandoned altogether and became simple coordination within mining capital. During the 1877 strike concerning wages and their measurement, VCMLC's then manager John Bryden acted as a representative for Dunsmuir to Premier A.C. Elliot, to coordinate government and Wellington in response to the strike (Dunsmuir [1877] 1878, 528). Collaboration between Dunsmuir and Bryden was apparently a topic of gossip. Hinde notes speculation that Dunsmuir and Bryden had conspired against VCMLC miners prior to 1880 (2003, 24).

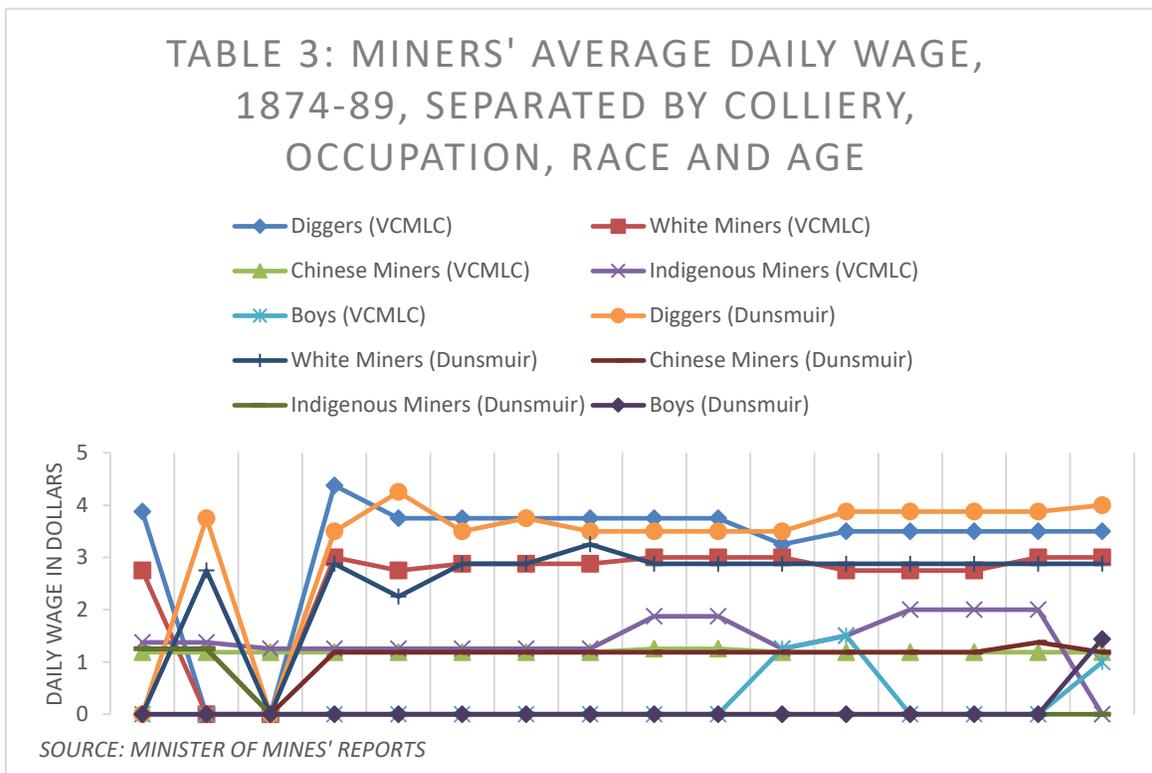


Table three shows the wages of miners at VCMLC and the Dunsmuir's mines as they're distinguished in the Minister of Mines' Reports. As mining moved away from HBC organization, the wages of miners became determined more exclusively by output, or output and distance mined across the coalface. The wage of diggers is an average

between high and low, while the wage of other miners is more consistent. The available data for the first handful of years are imprecise, with zero dollars registered in the graph where suitable numbers were not available. Workable numbers may nevertheless be gleaned from the report. From about 1878 onward, wages among workers appear to be basically consistent within and between firms. The work of diggers, at the top end, stabilized from the mid-1880s, with those at VCMLC earning between \$2.50 and \$4 per day and the most common earnings between \$3 - \$4. At the Dunsmuir mines, diggers' wages were most often between \$3 - \$4.50, with the bottom end moving up to \$3.50 in 1889. White miners, a distinction encompassing non-Asian or Indigenous workers engaged at places other than the coalface,¹³⁹ saw even more parity between the companies. Those at VCMLC earned an average of three dollars per day from 1882 to '84 and 1888 to '89, while the average number was \$2.75 from 1885 to '87. Dunsmuir's white miners had a more consistent wage and progressed in between the fluctuations of VCMLC. After 1882, each year their average pay was \$2.88 per day. Chinese runners had the steadiest yet most exploitative wage relation in the coalfield, averaging \$1.19 daily, well less than half of white-defined miners. Indigenous workers typically made about the same as those defined as being from China, though sometimes more. Boys from mining families entered the VCMLC mines in 1883 and Dunsmuir mines by the end of the decade.¹⁴⁰

To call the relationship between Dunsmuir and VCMLC a cartel or alliance would, again, likely overstate the level of coordination within mining capital on Vancouver Island. Yet the determination of a miner's wage by management followed a similar logic. In his time at VCMLC, Bryden is clear that he felt compelled to lower wages to "remain competitive," especially given the miners' frequent agitation for wage improvements. In 1878, following the DD&C strike in which Bryden coordinated with Dunsmuir and the

¹³⁹ The term "white" over codes what was in fact a great deal of fluidity within the racialization of European mine labour, including hierarchies marking the social construction of whiteness. In the VCMLC notebooks of John Bryden, for example, the manager wrote that he advised his striking miners that if they did not accept the proposed wage reductions, Italian miners who would accept a lower wage would be brought to Nanaimo from San Francisco.

¹⁴⁰ Reducing the official average wages of miners, submitted by mining capital, were deductions for company-supplied implements, like blasting or gun power and rent to stay in company cottages. The wages reported to the Minister of Mines also do not account for the sub-contracted wages paid to runners that some miners-*qua*-petite-bourgeoisie employed. Miners were, however, also given stipends for work in thinner and therefore more difficult seams.

provincial government, VCMLC was also successful in lowering the wages at Newcastle Island's Fitzwilliam mine, again for ostensible reasons for competition. The relationship between Bryden and Dunsmuir was well established by this point in time, with the former having married Robert and Joan's daughter Elizabeth Ann in 1866.

In the determination of Vancouver Island's mining wages, rivalry and coordination produced a complex amalgam during the period. An ostensible contradiction, a similar phenomenon is theorized in Lenin's *Imperialism, the Highest Stage of Capitalism*, written on the eve of the revolution ([1916] 1939, 20 – 2). In *Imperialism*, Lenin argues that the 1870s to the *fin de siècle* should be characterized as an interstitial phase between the competitive capitalism that Marx identified in *Capital* and the emerging imperialism of financial, cartel capitalism growing out of the 1873 financial collapse. "Competition becomes transformed into monopoly" (25) he writes, charting the consolidation and global movement of capital since the mid-nineteenth century. Among other occurrences, understanding and cooperation emerge regarding prices, including those of labour power. Lenin's impressive political economy in *Imperialism* doesn't map perfectly onto Vancouver Island coal mining—especially the discussion of colonial deterioration in the chapter "The Parasitism and Decay of Capitalism," which struggles to account for internal dynamics within colonized spaces—though it is an important, somewhat contemporaneous assessment applicable to the emergent duopoly. Nevertheless, following Lenin, the struggle of workers for better wages on Vancouver Island might more usefully be framed as one against a coherent mining capital, residing somewhere between competition and coordination, and its desire to pay as little as possible for labour-power, than company miners against VCMLC and Dunsmuir.¹⁴¹

If we do indeed follow Lenin in this way, the wage relationship, which previously appeared in this dissertation to emerge out of hierarchical struggle between workers and capital, is also now also horizontally determined, through coordination within mining capital. Both within and between Vancouver Island collieries, differences in the wages of workers performing the same jobs became a mechanism to depress wages in the name of competition. A similar process also took place through the on-going racialization of

¹⁴¹ Although particularities in management ideology are nevertheless evident in each firm.

exploitation, with Indigenous and Chinese-identified miners' wages depressing the overall price of labour power. Paradoxically, however, the sale price for labour power was both an active site of contestation during the 1870s and 1880s, with collieries attempting to lower its price and workers raise it, and remarkably stable between firms.¹⁴² The basic desire of capitalist management to reduce commodity inputs to a minimum, including labour power, produced a kind of implicit coordination, in addition to the real coordination between Bryden and Dunsmuir.

5.2 Competing Ideologies of Labour Management: Dunsmuir and Robins

Monopoly conditions established a stable price for labour, despite both a politically active working population, that by no means submitted to capital's efforts to depress wages, and evident rivalry within mining capital. Extraction on Vancouver Island saw an understanding emerge between mine managers toward this end. Relevant movements within the relations of production, at least in the determination of wage, then moved horizontally as well as vertically. This coordination suggests a kind of continuity within mining capital, in which economic forces overdetermined the wage relation. Yet the political understanding mine managers held of productive relations differed sharply between VCMLC and Dunsmuir after 1884, despite being very similar in the previous decade.

The pivot in this ideological departure was an 1880 strike at VCMLC, in which miners successfully halted extraction for over a month to oppose the wage reductions of mine manager John Bryden. Beginning in November 1879, Bryden informed Nanaimo miners that, in January, their pay would be reduced. This was to proceed by teams rather than simultaneously and system wide all at once. Most of VCMLC's mines at the time were worked by the pillar-and-stall method, in which about half the coal is left in place as pillars that support the mine's roof. This method uses a series of teams that work individual rooms created by the remaining coal. Nearing the end of 1879, Bryden's plan was to imbue this form of mining with an anti-solidaristic character, translating the physical separation of

¹⁴² For Marx's discussion of wages in *Capital Volume One*, see chapter 19, "The Transformation of Labour Power into Wages."

different mining crews into a form of political alienation from one another, as some crews would return to work at lower wages than others. This, Bryden believed, would hinder the kind of sustained collective action that required the repressive state apparatus to intervene on behalf of mining capital in 1877. Bryden's basic desire to keep miners apart was also evident in bargaining. He refused to meet in groups, writing to then VCMLC Secretary Samuel Robins that it was imperative to separate workers if the goal of depressing wages was to be realized.

In late February 1880, Bryden began moving stall by stall, refusing to give out work to any crew demanding more than 80¢ per ton, irrespective of seam width, and miners went on strike in March. Soon after, VCMLC's workshop and company store burned under suspicious circumstances. This hasn't been definitively shown to have been an act of collective bargaining by immolation, but the strike was settled on the miners' terms—\$1.00 for all coal in seams under 5 feet in width, 90¢ for 5 - 6-foot seams, and 80¢ for seams 6 feet and above—not long after the Board in London was made aware of the fires. Bryden then resigned to the Board, officially granted in July, going to work for his father-in-law at DD&C's South Wellington mine.

In terms of management style, the transition to Dunsmuir's mines made sense. Bryden's desire for worker separation was based in a strident anti-unionism, consistent with that of Robert Dunsmuir. It placed him at odds with Samuel Robins during the latter's time as Secretary for VCMLC, however. Recalling a meeting in which Wellington miners asked for recognition of a grievance committee to address dangerous working conditions, Bryden wrote glibly that

I told them if Mr. Dunsmuir has engaged you to run the mines you can do so but if I am to run the mines I want to run them. As to your [union] and grievance committee running the mines, I will dig clams for a living first (quoted in Orr 1968, 60).

Both Dunsmuir and Bryden considered any impingement upon the free reign of management to determine the course and composition of the labour process to be an affront. Robert had disciplined any miner who attempted to collectively organize the mines, as in 1877 and again in 1883, when all Wellington miners who unionized were fired,

leading to a strike (Bowen 1999, 118). The forceful anti-unionism of Robert Dunsmuir,¹⁴³ charitably characterized by Hinde as “self-interested paternalism” (2003, 146), and shared by Bryden, was also passed down to his son James. The younger was quoted in a government report as proclaiming that “I object to all unions... They simply take management of the mines” (quoted in McCormack 1977, 6). DD&C management—R. Dunsmuir & Sons by 1884¹⁴⁴—sought material control over the working day and wage wherever it could be established or hardened. It operated with an overriding concern that these aspects of production would be ceded to miners by the presence of unions or workers’ standing committees. A similar preference had been apparent in Robert Dunsmuir’s actions as a miner in the Nanaimo settlement. He refused work when it suited him but did not engage in collective demands, as shown in chapter three.

The antagonistic, conflictual style of DD&C management, imbued with a preference for individualism, was entirely different than the ideology that prevailed at VCMLC from the mid-1880s. Samuel Robins—superintendent from 1884 until the year after sale of VCMLC’s assets to WFC in 1903—advocated a form of class collaborationism guided by *noblesse oblige*, while promoting infrastructural and cultural development in Nanaimo. The relationship proceeded through frequent meetings with the miners’ executive branch and more generally open communication between the groups. In 1903, Robins would agree when prompted that he held a rapport of “mutual confidence” with Nanaimo’s miners (Canada 1904, 295).

For his efforts, Robins is fondly remembered in the city. One history of Nanaimo notes that its citizens dubbed the superintendent “the people’s friend,” highlighting his investment in public works (Niosi and Patterson 2004, 23). Indeed, Robins would help form a cricket club in 1889, lay the foundation for a Methodist church the same year, and open a waterworks in 1887. He planted unusual trees in the city for the benefit of its citizens and those to come. Another local history, remarking on Robin’s work in management and community, calls him the “godfather of Nanaimo” (Peterson 2003, 22 –

¹⁴³ Bizarrely, Reksten’s biography alludes to avian characteristics in describing Robert as an indignant capitalist. He writes that Dunsmuir was “[d]iminutive and fine-boned, a quick-to-anger bantam cock of a man” (1991, X).

¹⁴⁴ Diggle withdrew from the company in September 1883.

3). In the mines, management collaboration with VCMLC miners meant that no strikes occurred in the Nanaimo operation, 1884 – 1903.

More critical histories even speak glowingly of VCMLC's superintendent. Of his mining knowledge, Bowen writes that "there was no one as well informed about Nanaimo as Samuel Matthew Robins. Nor was there a man more likely to find a solution to the management problems plaguing the Nanaimo operation" (1987, 226). Hinde, perhaps indirectly summarizing the roots of this discourse, writes that

Under the eighteen-year-long stewardship of the popular Samuel Robins... the company actively pursued policies designed not only to ensure stable industrial relations and the long-term viability of their company but also to foster strong community. The VCMLC, the anchor of the local economy, created parks, encouraged the development of local cultural life, and sponsored sports (2004, 23).

The conditions for Robins' management style were in place by 1884. Bryden's Nanaimo tenure had been marked by open antagonism between mine management and labour, as the former attempted to reduce all its miners' wages. In keeping with their history of strikes and refusals, VCMLC miners rejected Bryden's proposals, forcing his departure after London refused to follow its manager's plans.¹⁴⁵

While Nanaimo during the Robins' years suggested a gentler, less antagonistic management style, it was nevertheless attendant to the needs of capital to increase output. From 1877 to 1883, VCMLC experienced significant declines in extraction due to strikes and "dullness of the trade," or underconsumption in the Pacific. In 1881, the company produced just 47,308 tons of coal, dipping to a low of pre-Robins' (but post 1874) output of 35,665, well less than half of 1877's 94,809 tons.

Robins' *noblesse-oblige* collaborationism was based in an idealist management philosophy common in the late nineteenth and early twentieth centuries. F.W. Taylor's

¹⁴⁵ Death was a tangible concern for miners too, with the Minister of Mines keeping the grim statistic in the 1870s and early 1880s 'tons raised per life lost'—12,712 tons in 1884. It was common for a handful of miners to die every year in accidents. This ballooned to dozens in years in which serious explosions occurred. On the latter, 150 were killed in one incident in 1887 in Nanaimo. The next year 82 fatalities were recorded after an explosion at Wellington.

Principles, for example,¹⁴⁶ repeatedly stresses that management needs to “kindly cooperate” with willing workers. This was possible, Taylor believed, because the interests of workers and owners were, at their core, matching.

The majority of [workers and owners alike] believe that the fundamental interests of employés and employers are necessarily antagonistic. Scientific management, on the contrary, has for its very foundation the firm conviction that the true interests of the two are one and the same; that prosperity for the employer cannot exist through a long term of years unless it is accompanied by prosperity for the employé, and vice versa; and that it is possible to give the workman what he most wants high wages and the employer what he wants a low labor cost for his manufactures ([1911] 1967. 10)

For Taylor, the statement of equivalency seems more nakedly defensive than coherently ideological—used to support and proliferate techniques to remove labour’s control of the working day, supposedly in exchange for wage improvements. Robins’ shared an equally strident belief in the fundamental equivalence of interests in capitalist society but had no such goals. He wrote in the *Nanaimo Free Press*, for example, that “the true interests of capital and labor are absolutely and unalterably identical” (quoted in Seager and Perry 1997, 63).

Whatever commonality Robins and Taylor shared in their premises, the devil in their details differed dramatically. At VCMLC, and diverging from Taylor, mine management was willing to negotiate away some additional control over the terms of the working day, with wages basically equivalent to Dunsmuir through the current period. Collaboration at the point of production was of primary importance within the wage relation at VCMLC, superseding miners’ wage demands and promoting a political dormancy. Part of this process, as the century was ending, was a simple acceptance of unionization under direction of the benevolent-managerial schema. Before a 1902 Royal Commission, Robins expressed his belief that “a wage [ought to] be paid to a man upon which he can live respectably and support a family respectably.” Beyond the miners’ wages, unions were important to this process of attaining respectability. Robins declared in his testimony that “most emphatically I prefer to deal with organized labour” (Canada 1902, 75 – 6). In July 1891, he would indeed enter into a memorandum of understanding with the Miners and

¹⁴⁶ Although published in 1911, *The Principles of Scientific Management* is based on case studies from the nineteenth century.

Mine Labourers' Protective Association (MMLPA), formed on the island in 1890, signing a closed-shop agreement that included VCMLC workers above and below ground, except engine drivers, managers and mechanics on the surface. Chinese miners were excluded from the formal arrangement (see Seager and Perry 1997, esp. 60 – 1).

The competing ideologies Robins and the Dunsmuir's deviated, perhaps most sharply, on the issue of pit committees. Legally guaranteed since 1877, pit committees in BC's mines were run by workers, sent to observe problems of safety and labour in mining on behalf of their comrades. The Dunsmuir's, fearful of ceding any control over extraction to miners, rejected out-of-hand attempts to introduce standing pit committees organized by miners. In at least one year, the Wellington colliery had formally allowed pit committees in the mines, but these were assembled at the company's discretion so that continuity in oversight would be disrupted annually had they gone forward. In 1890 and '91, Wellington miners under the MMLPA banner struck unsuccessfully and endured another lockout in part for the establishment of worker-controlled pit committees ("Editorial Comment," *The Daily British Colonist*, August 26, 1890). During a January 11, 1889 interview with *The Colonist*, a paper which gave management at Wellington ample support in their opposition to the committees throughout the years, Dunsmuir put his position bluntly: "I do not want to recognize any pit committees. A committee from the general body, if there is anything serious the matter, I shall always be willing to receive; but not standing committees."

VCMLC's Nanaimo mines were the only ones on Vancouver Island to recognize pit committees on an ongoing basis. In 1896, then Minister of Mines Archibald Dick noted with more than some dismay that the allowance for pit committees in the 1877 *Coal Mines Regulation Act* was "not followed in either the Wellington or [Cumberland] collieries by the employees," only "the miners of the Nanaimo colliery." Short-sightedly, Dick blamed their absence on Dunsmuir's miners, concluding that managers at collieries outside of Nanaimo would have likely been "pleased if their workmen would take advantage of the privilege" (Minister of Mines' Report 1896, 593 – 4). In addition to the Dunsmuir family's decades-long fight against collective organization of any kind, including standing pit committees at the beginning of the 1880s, Robert Dunsmuir with John Bryden and other mine proprietors had petitioned the Provincial Legislature in 1877 to reject the very regulations act (Bate, et al. 1877, 504) to which Dick now ascribed aspirational company compliancy.

The Dunsmuirs' ongoing refusal to recognize the functional autonomy of pit committees directly contravened provincial mine regulations. This much is clear from the legislation.

The persons employed in a mine may from time to time appoint two of their number to inspect the mine at their own cost, and the persons so appointed shall be allowed once at least in every month, accompanied, if the owner, agent, or manager of the mine thinks fit, by himself or one or more officers of the mine, to go to every part of the mine, and to inspect the shafts, levels, planes, working places, return air-ways, ventilating apparatus, old workings, and machinery (BC 1877, section 46, General Rule 41).

In BC, pit committees were a form of workers' control over the labour process, albeit a minor one. Mine safety was the explicit reason for their existence, but their potential to develop as a standing organization of workers, and the reports they could produce, represented an ongoing collective expression of the working class that might impede mining capital. Claims could be formed by a group independent of capitalist oversight yet supported by a legal superstructure. The references to old workings and machinery, moreover, suggest that miners could intervene to some degree in mechanical change to the labour process. The rejection of legislation by R. Dunsmuir & Sons is, then, basically consistent with their management practices, which continuously attempted to prevent or dissolve any collectivity company miners established as a class acting for their own interests in the mines.

Pit committees, allowed and encouraged by provincial legislation, were also a basic adherent of normal mine safety in period, as the Historian Jeremy Mouat writes (1988, 11). Similarly, Orr notes that Nanaimo followed the British custom of allowing pit committees to mediate disputes between bosses and miners, when the latter refused to accept decisions of the former (1968, 38). However common the practice, their presence in Nanaimo accurately expressed Robins' collaborationism. Their introduction was a moment in the larger shift in VCMLC policy toward softening the antagonisms between miners and managers, following Bryden's departure from Nanaimo. Indeed, Hinde writes that VCMLC miners, following 1884, were "more actively responsible for all aspects of mine safety, not just their stall, because they could form pit committees" (2003, 113).

By the decade's end, this expression of control over the labour process, in which miners played an active role in establishing and preserving safe working conditions in the mines, began to be coloured by a familiar opportunism. On May 3, 1887 the deadliest mine explosion in Canadian history prior to WWI occurred inside VCMLC's No. 1 Pit, Esplanade, in south Nanaimo. The sloped entrance to No.1 extended about a K under Nanaimo's harbour, south of Protection Island. The explosion occurred in a tunnel that branched from the main shaft about two-thirds of the way to access a coal seam 2.1 to 4.6 M thick. Fire inspectors worked each shift at VCMLC and one reported nothing out of the usual in the mines on May 3. Around six in afternoon miners on the surface became alarmed when smoke and lumber flew from no.1's ventilation and hoisting shafts. One official in Nanaimo that inspected the tramway's entrance shortly afterward found the large cars used to move coal from the mine by rail "piled up and twisted into every conceivable shape" (Minister of Mines' Report 1887, 283). The extent of the morbidity was quickly realized, as exploratory teams were only able to recover seven miners alive. In all, 150 were killed, the majority underground. Nanaimo had a fire department in 1887, which was able to respond, but most miners were killed in the initial explosion. Even with continuous efforts to extinguish it, the fire burned underground for two weeks.

A subsequent inquiry fixated on the presence of gas, whether it had accumulated in the high-ceilinged mine, and coal dust, if it had been watered to prevent ignition. Yet the simple presence of dust or gas should not have been enough to cause the blast. The verdict, reported on June 6, assigned no criminal responsibility to VCMLC, only recommended additional precautions be taken in "dry and dusty mines." It found that the explosion

was caused by the firing of an unprepared and badly planted shot in the face of the diagonal slope thereby igniting what gas had accumulated or was circulating the air in its immediate vicinity and intensified by the addition of coal dust ("The Verdict," *The Daily British Colonist*, June 26, 1887).

Months later, an explosion at R. Dunsmuir's & Sons No. 5 at Wellington killed seventy-seven, with the minister noting similarly suitable working conditions on the day as those at Nanaimo's Esplanade No. 1 (Minister of Mines' Report 1888).¹⁴⁷ The 1888 Select

¹⁴⁷ The pagination is incorrect in this year's edition of the Minister of Mine's Report. The above quote occurs in the section "No. 5 Pit, Wellington Colliery."

Standing Committee on Mines, exploring possible changes to the *Coal Mines Regulations Act*, heard several theories for the cause but safety concerns quickly began to coalesce around a scapegoat. All seven miners published in the committee report argued that Chinese miners posed dangers underground, with some indicating that blame for the January explosion should fall on the group. That this sentiment existed toward Chinese miners is consistent with the prevailing prejudices of Vancouver Island since the mid-1860s.¹⁴⁸ However, the massive explosions of 1887 and '88 brought the persistent anti-Chinese racism of white miners under an emergent trade unionism. The American Knights of Labor (KoL), operating on the island as an unlicensed secret society, had for several years advocated Chinese exclusion. Bowen writes that between the explosions in Nanaimo and Wellington membership in the KoL “had increased, largely because of [their] anti-Chinese agitation” (1987, 278). The society also played a supportive function in the aftermath of mining disasters, which no doubt helped to expand its membership. In Nanaimo, the KoL created and maintained a special fund to support white working families affected by the May 1887 explosion. Several months later, one official who visited the city noted that many of the families of deceased miners were in poor condition, but that the general fund was for the most part working as intended (Bailey 1887, 1295).

The KoL’s support function on the island was in line with its codified beliefs. By 1878 the organization had, as part of its *Declaration of Principles*, called for “[t]he adoption of measures providing for the health and safety of those engaged in mining and manufacturing, building industries, and for indemnification to those engaged therein for injuries received through lack of necessary safeguards” (1878). Yet an implication of anti-immigrant racism was likewise collected in the *Principles*. Article Sixteen asked that “the importation of foreign labor under contract be prohibited.” What was suggested by the *Principles* was stated outright by the Nanaimo local. In a statement for the 1885 Royal Commission on Chinese Immigration, representatives writing on behalf of KoL 3017 positioned the employment of Chinese miners as a phenomena of capitalist greed. Robert Dunsmuir, they write, “has avowed his belief in and determination to employ Chinese in every possible way.” Must we, it continues regrettably, “be forever compelled to endure

¹⁴⁸ See section 4.8.

the crushing competition of a race of degraded asiactics [*sic*], who are practically like serfs?" (Canada 1885, 157).

This form of white supremacist organizing was easily absorbed by Robin's *noblesse oblige*. VCMLC's management policies after 1884 sought the incorporation of labour into decision-making capacities in the mines under the auspices of cooperation in developing the mines and community. Yet the project of collaboration was expressly white supremacist. Nanaimo was to be a white city that tolerated Chinese miners and citizens only insofar as it was necessary, in management's view, to the mines at a given moment. This is abundantly clear from Robins' 1902 interview with the Royal Commission on Chinese and Japanese Immigration. For the "Godfather of Nanaimo," mining was part of a larger settler apparatus. Both in the mines and in the city, Robins sought harmony in collaboration with one group of miners. Uninterrupted productive activity would form the economic basis of an expanding municipal area that would in turn nurture VCMLC's workforce. In this reciprocal movement, conflicts between the bourgeoisie and a segment of the working class were absorbed within and softened by racial authority. The base antagonisms of capital were transmuted into white supremacy. Like the island KoL, Robins believed that Chinese miners should be removed from underground, especially after the 1887 Nanaimo disaster, which he saw as indicative of the need for expulsion. "For one reason," he wrote, "in time of accident, they become panic-stricken and can render no help whatever, whereas a white miner has always the reserve of courage to meet a calamity" (Canada 1902, 72). Chinese miners would indeed be excluded from working underground at VCMLC mines from 1887. Were it economically feasible, the people's friend would have removed Chinese workers from Nanaimo entirely. As it was, Robins refused to sell lots owned by VCMLC to Chinese people and destroyed Chinese-owned buildings (75). Chinese employment and settlement in Canada were for Robins a problem to be managed, if not eliminated. He had in this vein advocated that Chinese emigration be halted "by prohibition or by a prohibitive head tax" (72).

Through Robins' lens of white community management, the presence of Chinese miners was an existential threat to the colony that extended beyond mine safety. In 1885, he noted that VCMLC had previously "accepted the Chinese as a weapon with which to solve [strikes]" (Canada 1885, XVI). The collaborationism that Robins advocated was, by

contrast, premised entirely upon miners of different skill levels working with management. The city was to be a harmonious place for white working people, with labour incorporated into certain decision-making roles and paid, in Robins' terms, an amount that should support a family respectably. Chinese labour disrupted the accord of racialized social-democratic mining capital in Nanaimo. This was true even for the next generation that would enter the mines. Robins believed that the hyper-exploitation of labourers of colour suggested to young people in Nanaimo that manual, non-skilled mining labour was undesirable. Expanding the Chinese workforce, he feared, "would be utterly detrimental to the white labour class" (74).

There was a natural labour relation in Robins' management ideology. Collaboration was necessary to perpetuate output, and the wage was something determined by requirements of respectable white settlement, with, of course, allowance made for skill. The wealth generated by uninterrupted output would form the basis of the expanding municipality, which would in turn reward miners socially and culturally through various infrastructural developments. Yet the input over the composition of the working day that white miners were able to achieve at VCMLC was simultaneously a form of managerial control over production and the society, which was expressly racist. The 1885 Royal Commission on Chinese Immigration appears to have anticipated Robins' effective dehumanization, writing that the "Chinese in British Columbia... affecting the rapid development of the country are living machines" (LXX).

Unlike Dunsmuir's mines, then, the managerial strategy that prevailed had VCMLC attempted to mollify capitalist antagonisms for a privileged group of worker-citizens. In "French Intellectuals and Democrats and the Algerian Revolution," Fanon describes a similar phenomenon, in a much different colonial setting, as the emergence of an undifferentiated character of foreign capitalist domination ([1957] 1960, 81). Here, the structural antagonisms that form the basis of capitalism are displaced onto a racialized other and a tepid labour democracy emerges for white workers, a racial *noblesse oblige*. The disavowal of class inherent in this schema was echoed by the Nanaimo KoL. "We should have had the chance, at least, of becoming ourselves employers of labor, and in any case, there would have been a great many collieries in full operation" (Canada 1885, 157), meaning an incipient bourgeois socialism absent of white workers—an

embourgeoisement of a subsection of miner. Class relations were not dissolved at VCMLC, however much local KoL representatives sought a universal white bourgeoisie on the island. Workers were instead incorporated into decision-making bodies that could influence production, and a community was being delineated against the inclusion of miners of colour.

Chinese exclusion from underground mining spread from VCMLC shortly after the major explosions of the 1880s. Throughout February 1888, not long after the Wellington disaster, Chandler's East Wellington Colliery was on strike as workers sought to compel the expulsion of Chinese miners from underground, completed on the 27. More comprehensive Chinese exclusion proceeded in 1890. In April, the *Coal Mines Regulation Act* was amended to exclude the employment of Chinese miners beneath the surface. Although VCMLC's management ideology was particular to that company, it existed within an overriding anti-Chinese opportunism on the island.

The same opportunism affected mines and at Wellington and Cumberland, of course, however the company's prevailing ideology remained basically reducible to concerns of cost and control in their mines—eschewing the grand socio-racial project of Robins. One Dunsmuir mine had even employed an all-Chinese workforce underground. In 1885, Robert Dunsmuir argued that Chinese labour had been necessary to the expansion of coal mining and the province more generally (Canada 1885, XVI – XVII). Years later, the General Manager of Dunsmuir's mines Francis Dean Little would extend Robert's sentiment. Far from hindering white colonization, Chinese labourers were less expensive and supported the high wages of white miners. For his overwhelming brutality and anti-working-class positions, Robert correctly regarded the agitation against Chinese labour on the island as basically political in character (XVIII).¹⁴⁹ Against this, the labour of Chinese miners was viewed instrumentally by the Dunsmuir organization. Were the circumstances in place—where Chinese-exclusion legislation or white-labour hegemony could be circumvented—the company would employ Chinese miners underground in most positions. Asked in 1902: “if the Chinese came in sufficient numbers it would be best, I

¹⁴⁹ James Dunsmuir would take this assessment to heart. As Orr notes, James vowed as part of his election campaign for Premier of British Columbia to replace the entirety of his Chinese and Japanese workforce with white miners (1968, 30).

suppose you will say, to supersede the white miner?" Little replied: "it would," adding that "we would pay them just the same" (Canada 1902, 77).

Managerial ideology diverged sharply between the two major collieries on Vancouver Island after 1884. While wages remained basically consistent between the VCMLC and Dunsmuir, the companies differed over control of the working day and the place of racialized miners in extraction and wider society. Robins, unlike Dunsmuir, was willing to grant miners greater control over the terms of work—a seat at the table. Collaboration succeeded in softening the antagonisms inherent in mining capital, and the resulting pattern of uninterrupted output supported the expansion of Nanaimo as a social and cultural project. So too did the hyper-exploitation of Chinese miners, which stabilized the wages of other workers, and who were excluded from Robins' grand social project. This remained so even after Chinese exclusion from underground work at the end of the 1880s and early '90s, despite the percentage of Chinese miners at Wellington and Nanaimo dropping significantly.

The fondness with which Robins is remembered in Nanaimo indeed belies the clear politics of white supremacy operative within his collaborationism. It is alarming that histories of Nanaimo mining, 1884 – 1903, frequently fail to address that Robins was not a friend to all peoples—that benevolent paternalism proceeded only for those Nanaimo miners coded white, or at least non-Asian. The Dunsmuir operations, on the other hand, rejected miners' attempts to exert control over the working day or any collective organization more generally. These differing positions on worker control would hold ramifications for technical development in the mine systems.

5.3 Technical Improvements in Local Circulation and the Reification of Aboveground Topographies

If competing ideologies of labour management manifested as deviations in control over the labour process of island mining capital, so too did basic material necessity. The previous chapter demonstrated that technical advances in island coal mining were posed first against nature and distance through the process of reifying previously non-capitalist phenomena, although a uniformity of circumstance may have been assumed by readers because of the real monopoly conditions of HBC explored last chapter. Solving problems

that nature and distance presented to the accumulation of mining capital increasingly brought aboveground space into the production process as well.

Divergent topographic phenomena became issues of island mining capital after DD&C's establishment, as alternative technical solutions were posed for getting coal to tidewater. For HBC and VCMLC, the circulative system grew through baskets and canoes to include tramways, tipples, and wharves. For DD&C then R. Dunsmuir & Sons at Wellington, Ks of tramway brought coal to Departure Bay. Cumberland coal, then Union, was mined about 17 K from Union Bay, said to be the most accommodating harbour on the island. "Four of the longest ships could lie at the principal shipping wharf, and all be loading coal at any stage of the tide" (Minister of Mines' Report 1888, 336). A railway completed in 1888 spanned the distance.

The Harewood mine was situated about 5.5 K inland from its wharf at the Cameron Island peninsula in Nanaimo's Harbour, across from the southern tip of Protection Island. The intervening distance included the Chase River and ran through VCMLC pits and land. Harewood had its origins in a land purchase of the mid-1860s but extraction wouldn't proceed for a decade. In 1874, an exploitable coal seam was found on the approximately thirty-six K² land owned by Thos. A. Bulkley, and the mine began operating that year. A year later, local circulation from the Harewood pithead ensued by way of an aerial tramway system—the island's first. A steel line run through wheels and supported by a series of quadrapods took coal-filled baskets from the Harewood pithead to Cameron Island, where the coal could be loaded on ships. The system, capable of moving ten tons of coal per hour, was run by an engine at Nanaimo Harbour. Coal exiting the mine by mule was then loaded into the aerial tramway's baskets, which could hold about ninety KG each (Bowen 1987, 195). The Harewood mine accessed a seam of about 2 – 2.5 M thickness and was expected to produce roughly 36,000 tons per annum. Coal prices in the Pacific were, however, depressed even as the aerial tramway was completed. Despite the mine producing at a lower capital rate than most others in BC—\$8.75 per ton, where \$10 and \$11 prevailed elsewhere (Minister of Mines' Report 1876, 425)—it shuttered in 1877.

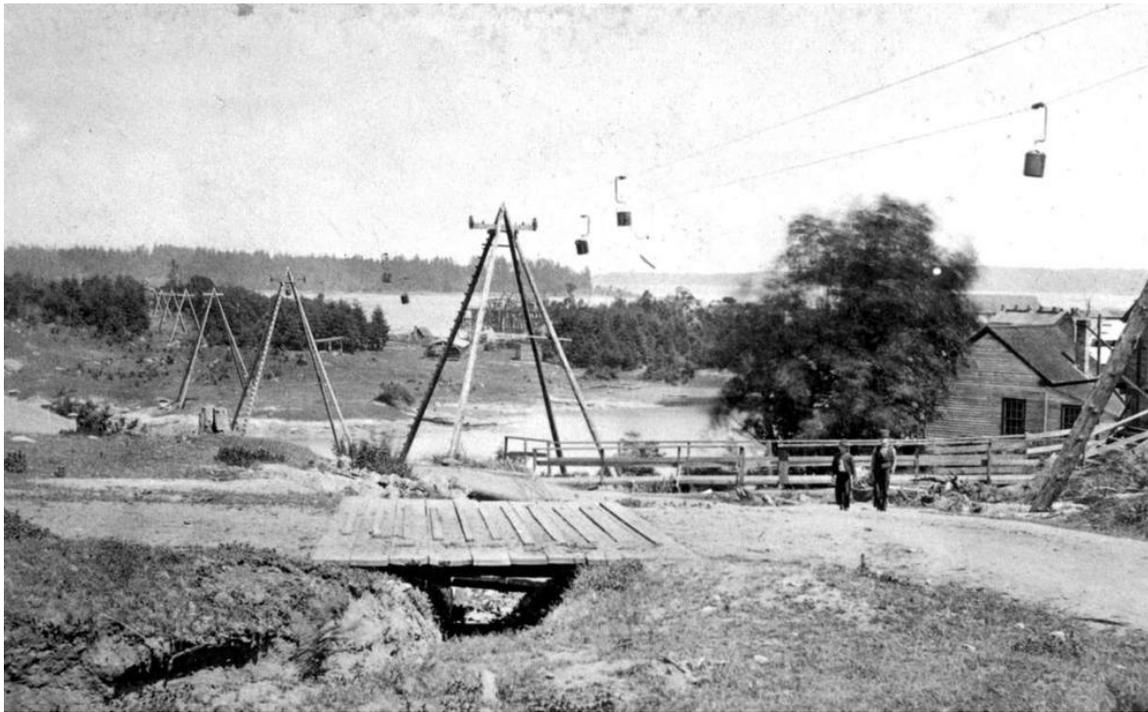


Image 7: Aerial tramway in Nanaimo. Photographer unknown, 1875. Image C-03713 courtesy of the Royal BC Museum and Archives.

In transporting coal to the Pacific Ocean, the aerial tramway accomplished what rail had previously. The engine-driven tram required no equivalent runners to push or supervise mules underground, while the job of loading coal at either end of the process was similar. The labour between the pithead and tidewater was, in short, generally reduced. Were Harewood, faced competition from other collieries with extant trade networks, to have made it through depressed prices, its aerial tramway system still lacked capacity. Running continuously during a sixteen-hour day, the system would transport less than 5,000 tons in a month, or 58,400 tons working two shifts every day in a hypothetical year. By 1880, DD&C at Wellington could, by comparison, transmit the 190,000 tons of coal it dug that year to Departure Bay through a system that included sixteen K of rail, five trains and 150 wagons.

The lack of capacity held in aerial transport should not obscure the efforts of mining capital on the island to valorize nature previously unenclosed by capital. Chapter two addressed what Marx termed of so-called primitive accumulation and its use to explain

intermediate historical moments, including the appropriation of natural resources. Chapter three showed that, as this process developed on Vancouver Island, nature and distance came to be understood as primary problems for capital. Both impediments to accumulation could, though in different ways, be overcome by advances in the circulative system, for local and wider transmission. Lacking access to tidewater, Harewood enclosed the sky and the ground below. It did so on land outside of its occupation, coordinating economic control with VCMLC as the tramway crossed its seams.

The expansion of local circulative systems for coal transmission, bounding land and dispossessing previous Indigenous tenure, reflected that of the mine system itself. Tramways spread like spokes, carving out and extending property regimes. Doing so was at the heart of value creation in mining. Marx is commonly misread to have proposed that only labour is the source of wealth in capitalist society. In 1875, he flatly rejected such an assertion as “bourgeois phrasing.” His “Critique of the Gotha Programme” is unequivocal though brief in assessment. It begins: “labour is *not* the source of all wealth. *Nature* is just as much the source of use-values... And insofar as man from the outset behaves towards nature,” Marx adds “the primary source of all instruments and objects of labour, as an owner, treats her as belonging to him [*sic*], his labour becomes the source of use values, therefore also of wealth” (Marx [1875] 1989, 81; emphasis in the original). No less definitively, Marx writes in volume one of *Capital* that capitalist production “only develops the techniques and the degree of the combination of the social process of production by simultaneously undermining the original sources of all wealth—the soil and the worker” ([1867] 1990, 638). In Marx’s assessment, then, nature is inextricable from the capitalist form of wealth creation, even if labour is the well-spring of exchange value.

Yet nature is appropriated unevenly by capital. Coal is clearly a use-value and when extracted for sale contains exchange value. The terrestrial and aerial transmission of coal to local harbours is a different use of nature. A useful distinction may be developed here through the theory of productive and unproductive labour in “Results of the Immediate Process of Production.” There, Marx considers labour that creates value against that which merely helps value to be realized—a discussion we may map onto nature in the absence of an extended analysis in *Critique of the Gotha Programme*. Every wage labourer, Marx notes, is not a productive labourer; all land utilized by capital is not, in turn,

wealth creating. Circulative lands and area would therefore seem to fall well outside of what Marx would consider productive. “*Labour is only productive, and an exponent of labour-power is only a productive worker, if it or [s]he creates surplus value directly*” (1863 – 6] 1990b, 1038). Any work, it appears, not performed on the commodity proper is secondary and unproductive, including the labour of transportation workers. Similarly, land and sea for transport is unproductive or secondary to the generation of wealth.

This is, perhaps, among the narrowest allowable readings of the concept of productive labour, and, in any event, local circulation is not equivalent to commodity circulation proper. Marx refines his distinction several pages later, writing that “*productive labour* is merely an abbreviation for the entire complex of activities of labour and labour-power within the capitalist process of production” (1043; emphasis in the original). The third and fourth chapters of this dissertation have already defined local circulation as a necessary part of coal production, created and developed on Vancouver Island by mining capital. Marx sanctions the inclusion of local circulation within the category of production, even going so far as to mention coal mining in volume 2, cited in section 3.6. There, he refers to “coal lifted from the pit to the surface” as an aspect of the production process ([1863 – 78] 1992, 227).¹⁵⁰ Local Vancouver Island tramway networks, then, expanded as part of the productive apparatus itself, if we follow Marx.

The dispossession at the heart of capitalist coal mining therefore expanded outward (and *upward*) to create wealth on and through Vancouver Island. It was not merely the coal itself through which wealth was derived. Exploitation and valorization of aboveground space was an important moment in the production process, bringing lands under the direction of capital and further reifying nature. At Cumberland, on entirely unceded territory,¹⁵¹ the cleaving of the land by tramways, outside of agreement with local First Nations, vividly recalls the original legal dispossession by the 1849 Charter of Grant. Now, however, development grew from underground.

¹⁵⁰ See section 3.6 or volume II two of *Capital* for the full quotation.

¹⁵¹ The 1854 treaty covering Nanaimo refers to land twelve miles up the Nanaimo River, which deposits at the lower end of the harbour. It’s difficult to tell if the Snuneymuxw nation would have included Wellington to the north in their interpretation of the agreement.

5.4 Communication, Settlement, and Productive Consumption: Rail, Dispossession, and the Further Development of Mining Capital

As with the *Harpooner's* transmission of property rights through bodies and across oceans, the most dramatic expropriation of island land after 1849 followed the development of circulative networks. Construction of The Esquimalt and Nanaimo Railway (E&N) in the 1880s¹⁵² brought the majority of Vancouver Island's southeast side under the *Island Railway Act*, which, in effect transmuted federal and provincial desires for enhanced settlement and communication through a physical expansion of the burgeoning Dunsmuir coal empire. E&N ran from the southern end of Vancouver Island to the Union Bay area, which R. Dunsmuir & Sons utilized by the late 1880s for maritime shipping. The construction and use of the rail lands entailed the privatization for improvement of a massive swath of land on the eastern side of the island. Signed in 1883 though under discussion since at least 1880, the act alienated the railway lands from the province, granting it to the Crown who in turn provided it to the newly formed Esquimalt and Nanaimo Railway Company (E&NRC). Excepted from the grant were Indigenous reserves, non-existent four decades earlier. So too were military bases.



Image 8: British Columbia Forestry Service. Esquimalt and Nanaimo Railway Land Grant [map]. Forest Cover Series. Map_49-24 N.E. No. 4, 1947 – 8.

¹⁵² The railway was completed to Nanaimo in 1886, Wellington in 1887 and Victoria in 1888.

The breadth of the grant was startling, about 2,000,000 acres. A decade and a half later, one school teacher in the province penned a pamphlet attacking the liberalization of the island. He wrote:

Have the Esquimalt and Nanaimo Railway Company managed their Land Grant for the country's good? Ask the farmer, who sees his [*sic*] children leaving the country in search of bread; that country with thousands and thousands of fertile acres—reserved; stolen by private greed from the use of the people (Fullagar 1898, 3).

Concern over the power given to capital by the grant was hardly unfounded. E&NRC was comprised, among others, of Robert and James Dunsmuir, John Bryden, and the American railroad magnates Collis P. Huntington and Charles Crocker. The capital stock of the company was established at \$3,000,000 with the majority going to the Dunsmuir enterprise. The Company was given \$750,000 by Parliament and \$10,000 annually for interest on their infrastructural investments. More than the money itself, the grant provided E&NRC with extraordinary control over what was underneath the surface, rivalling the 1849 British grant of Vancouver Island to HBC. Their contract with the Crown gave coal and other minerals under the Island to E&NRC, as it did the timber atop.

With the privilege of mining under the foreshore and sea opposite any such land, and of winning and keeping for their own use all coal and minerals herein mentioned, under the foreshore or sea opposite any such lands, in so far as such coal, coal oil, ores, stones, clay, marble, slate, mines, minerals and substances whatsoever and foreshore rights are owned by the Dominion Government (Canada [1883] 1884a, 184)

Within one year of its founding, well before the railway was complete, E&NRC had established the Alexandra colliery¹⁵³ less than two K from VCMLC, though extraction was halted in 1885. E&NRC used provincial legislation granting them uncultivated or unowned parts of the railway belt to acquire part of colliery area, purchasing the remaining land from settlers.

The *Island Railway Act* didn't give the federal government or E&NRC eminent domain over the entire space, which included VCMLC's mines, but granted authority over

¹⁵³ Bowen argues that the proper name of the colliery was the Alexandra colliery, not Alexandria (1987, 247 fn 3), as it is in the Minister of Mines' Report. I follow her lead.

any unclaimed settler lands needed for mineral extraction. The potential revenues from the gift were enormous. In 1880, Amor de Cosmos, founder and former editor of *The Daily British Colonist*, then Liberal Member of Parliament for Victoria City, estimated in the House of Commons that the coalfield encompassed by the land grant would ultimately be worth \$10,000,000 and implied that the federal government should receive rents on extraction. The act would make no such stipulation. Instead, “the Railway, with its workings, stations, and other necessary buildings and rolling stock, and also the capital stock of the Railroad Company” were exempted from taxation for the decade following completion. The railway lands were excused from taxation indefinitely, prior to sale or transfer (Canada [1883] 1884, 67).

In return for effective, if not eminent, domain over Crown lands, E&NRC would also construct a telegraph line alongside the railway. Telegraphy fell under most of the same stipulations as rail in the act, which continually referred to “Railway and Telegraph lines,” while requiring specific engineering models. Telegraphy had for decades been an important factor in the operation of train lines, especially in single-track areas, providing operators a means to communicate with trains, update schedules and track changes. From a purely practical standpoint, the expansion of the rail system required similar developments in communication.

Yet E&N’s rail and telegraphy brought south-island settlements into communicative relation, especially with Victoria. Nanaimo had had telegraphic communication with the capital since 1879 (“First Message Received Over Telegraph Lines from Victoria,” *Nanaimo Free Press*, May 15, 1879), but E&N brought rail and disembodied communication to smaller settlements in between. This bringing into communicative relation also referred to the island’s relationship with mainland. Section 9 of the act mentions, somewhat metaphorically, extending “said railway by ferry communications to the mainland of British Columbia” (Canada [1883] 1884, 65).

Through the *Island Railway Act*, the enclosure of land by transport went beyond physical infrastructure. The province had, by 1880, sought to legally authorize and enable further settlement on what would become the Crown land given of the grant. BC and the federal government had agreed to facilitate specifically agricultural settlement within the

grant lands at a rate of \$1/acre up to 160 acres, while ghettoizing First Nations on reserve lands. The stipulation of farming was set-aside for colonial squatters who had made “substantial improvements” upon their land, which could then be purchased at the farmers’ rate (62 – 3). The racialized, Lockean imputation in the act was summed up two decades earlier by then Chief Commissioner of Lands and Works in the Colony of British Columbia Joseph Trutch. In a letter regarding the establishment of reserve boundaries along the Fraser River, Trutch wrote that First Nations

regard these extensive tracts of land as their individual property; but of by far the greater portion thereof they make no use whatever are not likely to do so; and thus the land, much of which is either rich pasture or available for cultivation and greatly desired for immediate settlement, remains in an unproductive condition (Trutch [1867] 1876, 202).

Therefore, he adds, the “Indians [*sic*] have really no right to the lands they claim, nor are they of any actual value or utility to them” (*ibid*). The E&N settlement scheme appears to have had the desired result. The historian Elizabeth Norcross writes that, following the 1883 grant, “new people started to come in [to the area between Victoria and Nanaimo], people with the capital to buy land and the equipment and stock to work it.” The wave of settlement following 1886 “could almost be characterized as a flood” (1986, 141).

Technological advance in rail and telegraphic communication reinforced and expanded colonial settlement, enclosing and preparing for possession land unowned less than four decades earlier and further blanketing the island in a self-perpetuating colonial mode. Such was the terminus of the railway for the province and nation-state. The majority shareholder of E&NRC Robert Dunsmuir found yet more economic incentive than the almost 2,000,000 acres of legally accessible coal and timberlands. By 1883, Dunsmuir had helped to incorporate the Albion Iron Works foundry in Victoria, commonly referred to as “[t]he largest foundry north of San Francisco” (Reksten 1991, 61). Albion had been in existence since the early 1860s but was reorganized and purchased by Dunsmuir and others, including Trutch, as a limited-liability corporation. Ancillary capital could still be generated through E&N, Dunsmuir realized, which required completed industrial materials. Albion produced cars for the railway, among other industrial works, as Dunsmuir secured something approaching vertical integration via the established grant (70).

The grant land from the *Island Railway Act* and use of E&N consolidated the power of the Dunsmuir mining empire, as the deal provided the family and its partners with opportunities in mining and industrial manufacturing. More basic advantages for capital, mining and otherwise, were also generated through the expansion of rail. The processes that the railway suggested or allowed by overcoming space through technology have so far been read through the lens of the nation-state—settlements brought into communication with one another and the expansion of colonial populations within—with benefits for capital reduced to the grants lands, Albion aside. Yet the contemporaneous expansion of rail across the continent also promoted developments for the labour process of island mining capital. Expansion in railway infrastructure, including but not limited to E&N, brought new technologies to Vancouver Island mining, no longer reliant on maritime travel from California, England or the manufacture of implements in Victoria.

The expansion of the American transcontinental railway system during the 1870s and '80s, as well as the completion of the CPR in 1885, provided industrial producers in the Midwest access to capitalist consumers continentally farther afield, with Chicago acting as the rail hub. By 1887, the CPR and the Northern Pacific Railway (NP) gave access to the northwest coast, at the mainland city of Vancouver for the former and Seattle the latter, both within a short boat ride of south Vancouver Island. For island coal extraction, rail could therefore be counted upon to transmit machinery from manufacturers further east where manufacturing developed earlier.

Intercontinental trade by rail with the Midwest had proceeded since the 1870s, but the CPR and NP expedited the terrestrial flow of machinery closer to the forty-ninth parallel. Following the 1887 mine explosion at VCMLC, the company quickly imported a replacement ventilation system from Chicago, installed the next year. The Edison General Electric Company in Schenectady, New York could also access the Canadian Pacific via the Chicago rail hub. The company produced machinery for mining at the coal face as well as electric locomotives for passenger travel and mining haulage. A Schenectady visitors' handbook from the early twentieth century boasted that there are "650 General Electric mining locomotives in operation in various mines throughout the world" (American Institute of Electrical Engineers 1904, 41 – 4). In 1892, VCMLC installed an electric underground haulage system to the replace mules at the No. 1 Pit, Esplanade, from Schenectady. A

year earlier, the Jeffrey Manufacturing Company of Columbus, Ohio shipped four of its mechanical coal cutters on intercontinental rail for use in Cumberland's no. 4 slope.

Chapter three explored Marx's theories of transportation and communication as they developed during his life. For Marx, transportation, maritime and terrestrial, prefigured capital but also allowed it to proceed. In the absence of a suitable terrestrial road network for HBC to move workers and equipment near Fort Rupert, on the other hand, the company was forced to navigate by sea, which consumed time, money, and labour power in amounts that frustrated its officials. The expansion of rail across the continent facilitated the movement of machinery westward. Increasing technical sophistication in Vancouver Island mining flowed from east to west, where it had previously moved south to north. This flow provided island mining capital access to developments in the east capable of displacing labour power from the mines, significantly eclipsing the technical composition of the bilateral trade arrangement with California that characterized HBC's organizational tenure in island mining.

5.5 Methods of Extraction: Longwall Mining and Pillar and Stall Revisited

In chapter two and earlier in the present, I considered the development and use of the longwall and pillar and stall methods of mining, the principal approaches to extracting coal from Vancouver Island deposits. I showed that, in the application of mining methods, economic factors were coupled to natural phenomena. Longwall, for example, which required relatively excessive timbering compared to pillar and stall in order to hold the coal ceiling in place, was the preferred method for thin seams, despite carrying higher fixed-capital costs, because it allowed more coal to be removed from underground than pillar and stall, which left large coal pillars in place to support the roof (though pillar and stall would also make use of timber to stabilize extraction at the coalface, just less of it). Pillar and stall also became difficult to justify the deeper a mine went, as enhancing pressures required larger pillars for roof stability and therefore more coal left in place. The practice for unstable or fractured seams on the other hand, common beneath Vancouver Island, was to use pillar and stall. Image nine shows miners working a narrow Vancouver Island seam by longwall, with timber in place to support the low roof. Image ten depicts a miner

working a much broader seam south of Nanaimo by the pillar and stall method, flanked on either side by coal pillars.



Image 9: Face of a Stall off South Level East Incline #2 extension. Wellington Canadian Collieries (Dunsmuir) Limited. Photographer: Leonard Frank. [ca. 190-?]. C160-073, courtesy of Cumberland Museum and Archives.

Both longwall and pillar and stall also suggested to capital unique strategies of class antagonism. “In Britain,” Belshaw writes, “the peculiar requirements of each method of mining had observable consequence for labour and the community, including distinct divisions of labour... attempts to ‘de-skill’ the workforce... and mechanization drives” (2002, 81). Managers of mines working pillar and stall could put teams working different stalls or rooms into competition with one another, to lower wages and/or undercut solidarity, as Bryden attempted in 1880.¹⁵⁴ Longwall gathered together more miners at the coalface, under continuous supervision. As Hinde argues, however, the result was not necessarily greater power for mine management, all other things being equal (2003, 66 – 7).

¹⁵⁴ See section 5.2.

There are, we'll recall, some diverging opinions between historians of Vancouver Island regarding the trajectory and causes of mining methods. Belshaw believes that the Dunsmuir collieries incorporated longwall extraction more extensively than VCMLC. Unskilled workers in longwall mining could, he argues, be more completely insinuated in the labour process than possible in pillar and stall. This was particularly true of Chinese miners, whom the Dunsmuir family employed underground to great potential savings, namely at Wellington but also more generally (2002, 85, 90 – 1, 119, 122). Bowen and Hinde criticize this position. Bowen argues that Belshaw's analysis

ignores the fact that many Chinese miners worked in pillar and stall mines as backhands for white diggers. Chinese backhands learned by observation how to blast the coal and eventually worked as diggers themselves. They were then able to comprise the entire workforce of a mine (Number Two Mine in Cumberland) and, incidentally, to have the best safety record on Vancouver Island in the 1890s. [It] requires that the mines owned by the Dunsmuir family, a family notoriously opposed to organized labour, be worked predominantly by the longwall method, and the mines owned by the Vancouver Coal Mining and Land Company, a company with a more benevolent, if pragmatic, labour policy, be worked by pillar and stall. But since the choice of one method over the other was determined largely by the thickness of the seam and not by the labour policies of management, the methods were not used as exclusively by either of these employers (2004, 125).

Hinde arrives at a similar conclusion. The choice of technique depended on several factors, within which the employment of low-wage Chinese mining labour could not have been decisive. He criticizes Belshaw's supposition that racialized competition was advanced by the Dunsmuir family through their preference for the longwall method (2003, 66). There exists, rather, "no evidence to suggest that the decision to use longwall on Vancouver Island was made for reasons other than the thickness of the seam" (67), Hinde writes, adding that pillar and stall was dominant through North America until the early twentieth century.

Bowen and Hinde are correct, at least insofar as there is no available evidence that I know of which demonstrates that longwall supplanted pillar and stall as the industry progressed on the island, at the Dunsmuir mines or more generally, for political reasons of otherwise. Instead, the most important factor in the determination of method appears to have been output measured against labour power and fixed capital inputs, expressed as the natural phenomena of seam thickness. During Bryden's tenure at VCMLC, for

example, the Nanaimo colliery used both mining methods, sometimes within the same mine. Bryden, who approached the Dunsmuir in his antipathy for organized labour, wrote glowingly of longwall's use at the company's Fitzwilliam mine and the north level of No. 1 Pit, Esplanade but not because of the method's political potential. Instead, Bryden found longwall the most economical way to mine thin coal seams, while continuing to use the prevailing method in his mines for thicker deposits.



Image 10. Two Miners Working Underground, No. 2 mine at Extension. Photographer unknown, [ca.190-?]. 1920s. Image C160-073 courtesy of the Cumberland Museum and Archives. Two Miners Working Underground.

That the choice of method was irreducible to political intention should not, however, blind us to the fact that longwall and pillar and stall suggested different methods of class antagonism. In practice, mining method was part of a larger assembly containing unique natural phenomena, economic inputs and political antagonisms. Hinde identifies as much when he notices the leverage longwall miners held in job action. "Because successful longwall mining depended upon highly coordinated, uninterrupted production,

interruptions could cause the roof to become unstable or even collapse,” something of much less concern when the roof is upheld by pillars of coal. “Stoppages could therefore cause serious, expensive damage to the [longwall] mine” (ibid). In the absence of clear political or economic advantages found in one mining method that produced a status of generally recognized improvement technique, natural factors formed a significant part of causation in technical development, entangled more with productivity than antagonism, though the latter followed. In other words, outputs measured against inputs, determined in communication with natural phenomena like faults, aquifers and coal seam width, produced the choice of mining method. Longwall did not emerge as the superior technique on Vancouver Island at any point during the current period of study.

Nor did longwall necessarily suggest technical innovations. Prior to Robert Dunsmuir’s death, improvement in island extraction remained mostly confined to the means of circulation (at least before the entrance of coal cutting technology into James Dunsmuir’s Cumberland colliery in 1891). While some commenters placed longwall as potentially more profitable, inclusive of other factors (André 1876), this belief was not at all apparent in Vancouver Island mining.

Concern for efficient extraction techniques was of course abiding and serious among managers, yet it had not transformed mining at the coalface, nor had it produced a clear method for generalized improvement between the options of longwall and pillar and stall. Such was also the case in the most advanced mining nation, Britain, at the same moment. Despite the appearance of deskilling technology at the European face by at least the 1870s, there was little overall impact from coal-cutting machinery compared to advances elsewhere in mining processes. The tome *History of the British Coal Industry*, for example, notes that the primary technical advances in nineteenth century mining were in accessing coal—in drilling and establishing safe and expedient mining conditions, either in stalls or at the coal face—and transportation from underground workings to the pithead. Advances in loosening coal from the bed existed, yet these changes were relatively insignificant (Church 1986, 311).

Advancement in the productive forces of Vancouver Island mining had nothing to do with method, nor had mining techniques or technology been deployed to enhance fixed

against variable capital, the forces of production against its relations. Technical development was instead largely limited to the sphere of circulation as it had been prior to 1871. Given the ongoing labour shortages on the island, the best technical development could do for mining capital was allow it to move general workers around as needed. The skill of diggers therefore remained in-tact. Where capital attempted to cut wages, workers were set against one another, by race and working group, or class power decomposed by state militia, acting as a repressive device for capital, a means outside of the productive forces to stabilize production and capitalist class power.

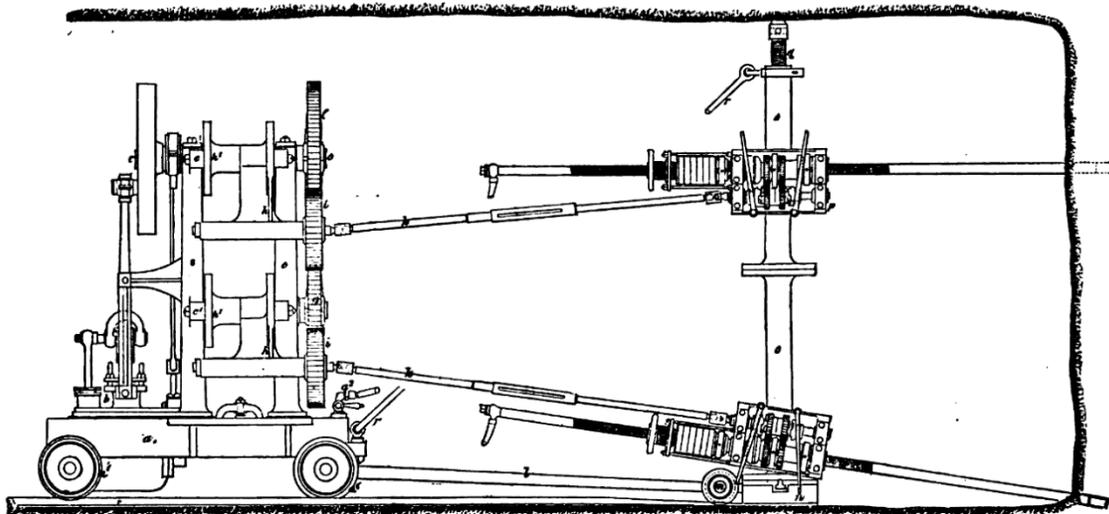
5.6 Technical Advances in Island Mining and the Failure of Mechanical Productivity

The scale of circulative infrastructure dwarfed other fixed-capital investments prior to 1889. In 1882, DD&C described their local circulation system as consisting of “10 miles of railway; 5 locomotives; 150 wagons; 5 stationary engines working; 2 engines not used at present [...] wharves for loading vessels, with bunker, &c,” while reporting 4 steam pumps, one furnace and one ventilating fan, the latter driven by two engines, as non-circulative fixed capital (Minister of Mines’ Report 1882, 372). In 1886, Robins submitted a similar account of VCMLC. The company had about ten K of rail, “8 hauling and pumping engines; 10 steam pumps; 4 locomotives; 112 coal cars (6 tons), besides lumber and ballast cars... wharves, 770 feet frontage, at which ships of the largest size can load at all stages of the tide” (1886, 248).

VCMLC’s other significant technical advances, in addition to local circulation, were in accessing coal and mine expansion, where the company used “a diamond boring machine for exploratory work (bores to 2,000 feet)” (ibid). The drill, based on a patent by Beaumont, had been with the company since 1875. Along with steam pumps fitted for removing water, the diamond-boring machine represented a development in the provisional expansion of mining. In the year he was elected Mayor of Nanaimo, the manager of VCMLC Mark Bate included separate plaudits on Beaumont’s drill in his report to the Minister of Mines, written by the manager of a British rock boring company named J. Ker Gulland. “Perhaps there is no branch of mechanical engineering where more rapid strides have, of late years, been made in machinery than boring rocks” (Gulland in Minister

of Mines' Reports 1875, 618), he writes, adding that the Beaumont and Appleby's drill used by the company is of a high standard.

Like Church's assessment of the British coal industry in the same period (1886, 311), technical advance in Vancouver Island mining during the 1870s and '80s remained limited to exploration, maintenance, and transmission. Despite restricted technical development, mining output had greatly increased on the island. Previous gains were most likely attributable to the growth of the mining population, though only inconsistent numbers are available. With the Minister's reports beginning in 1874, a somewhat clearer picture comes into view, in which the continued spread of rail for local circulation and other advances in circulatory as well as exploratory systems, may be accounted for in the progression of island mining. The question may be formed this way: did extending and expediting traversable space above and below ground increase the rate of output (productivity)—tons of coal measured against miners? Would what Marx calls "the productivity of the machine," or the "human labour-power [machines] replace" ([1867] 1990, 512), manifest as a positively expanding ratio of output to variable capital?



Side Elevation.
FIG. 104 $\frac{1}{2}$ (a).

BEAUMONT & APPLEBY'S ADAPTATION OF THE DIAMOND-DRILL TO TUNNELING.

Image 11: Sideview of Beaumont and Appleby's English-patented design. In Henry S. Drinker. 1883. *A Treatise on Explosive Compounds, Machine Rock Drills and Blasting*, 225. New York: John Wiley & Sons.

The answer is not especially straightforward but close to 'hardly'. Strikes in both 1877 and 1883 at Wellington and 1880 in VCMLC halted extraction. So too did explosions in 1887 and '88 stop the output of coal for periods of time. Individual fatalities and less calamitous injuries also halted extraction. Stoppages from explosions were typically short-lived, however—Dunsmuir's no. 5 Wellington mine was out for less than a month after the January 1888 disaster. DD&C also failed to submit a report of their trade in 1876, hampering more precise calculations of total mining capital for that year. Despite these issues, a few general observations may be made regarding constraining factors, output, and the productivity of machines in island mining.

Low prices for coal did not necessarily restrict output. In 1879, the year that saw the greatest expansion in output against variable capital—save output following the 1883 drop—the Inspector of Mines noted that “although far more coal has been won and sold... the prices obtainable have been undeniably lower” (247). Instead, as with the 1877 strike, low coal prices acted like a lever of class power, used by mining capital to depress wages. The surpluses of coal on hand at the island were rarely large, and attenuations in the annual output are attributable to other factors than international price.¹⁵⁵ More significant impediments emerged to extraction in the form of strikes and explosions, as noted, and natural phenomena too. An 1882 report argued, for example, that

if the operations at Chase River Mine had not been so much hampered by trouble by flooding, and other mining casualties, which prevented [VCMLC] from producing their usual output from the mine, the aggregate output for the year would have still further exceeded any former returns (Minister of Mines' Report 1882, 863).

A year later, the Minister expanded his analysis.

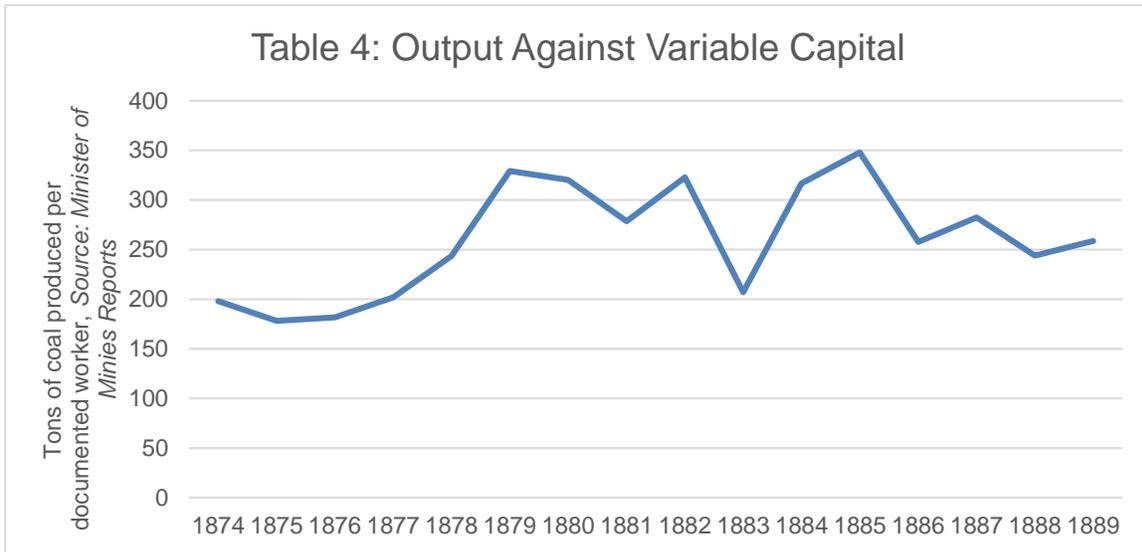
With regard to the decrease of output in 1883, I may say that when I last had the honour to present my annual report, the outlook and prospects were very promising for a greatly increased production of coal, but during the past year several of our mines have experience some of the vicissitudes to which coal mining is natural subjects, such as inflow of water, faults, 'pinch-outs'¹⁵⁶ and 'wants' in the seams, which you will find referred to in my remarks upon the respective mines,

¹⁵⁵ Low prices are sometimes cited as the cause of restricted output, as in the 1878 Minister of Mines' Report (385).

¹⁵⁶ A compression of the material surrounding a coal seam or in the seam itself, resulting in a 'pinching out' of the seam.

and those troubles have hampered mining operations and occasioned a considerable diminution in the yield of coal. The strike at the Wellington Colliery was also an unforeseen occurrence, and reduced the usual output of that colliery during a few months (1883, 414 – 5).

Additionally, productivity did not follow from increased labour in the mines, with the greatest expansion of labour power in the period happening from the mid-1880s to '89, during stagnant output, whereas the greatest output advances took place during the late 1870s.¹⁵⁷



From 1874 – 89, exploratory technologies allowed significant expansion underground. Steam engines facilitated this development as water-removal technology and rail. Circulative technologies moved coal more quickly around the mines and to ports. As shown, the impact of these changes on the valorization process is somewhat difficult to gauge, given disruptions to the labour process. It's unlikely, nevertheless, that productivity growth would have been immodest instead of stagnant throughout the decade. Changes to circulation could allow more coal to be extracted if surpluses bottlenecked at the coalface but little more. The same is true of expanded circulative capacity elsewhere in the mine system, below and aboveground.

Indeed, all the technical advances of 1870s and '80s produced only minor productivity gains. They were not displacing labour power while producing equivalent or

¹⁵⁷ See table two and table four.

expanded output, as Marx described mechanical productivity. If anything, developments in the circulative system facilitated growing workforces as the mine systems of Vancouver Island also expanded: coalface and circulative expansion were co-developmental. Deskilling machinery, in which workers are merely ‘minders of the machines’, was no more present in 1889 than ’49.

Toward fostering reproducible and expanding profit, capital attempted to control what it could, natural or social. The previous chapter dealt extensively with the reification of nature by capital—both natural phenomena and spatial distance. Where natural happenings could not be controlled, as in pinch-outs and quick floods, extraction lagged. Struggle from below, on the other hand, born of low wages and a lack of control over mining, especially before the mid-1880s, was being challenged by capital in two ways—collaborationism and authoritarian paternalism, the latter aided by an emerging repressive state apparatus. Yet mechanical productivity was basically absent throughout the period. The machinery used in Vancouver Island’s mines replaced very little living labour power—appearing as appendages to pre-existing labour processes rather than transforming what was there. Nor, we’ll recall, had one mining method developed to displace another.

5.7 Theories of Machinery in the Labour Process

The failure of Vancouver Island mining capital to achieve significant gains in mechanical productivity runs counter to much of the thinking at the time regarding technical change from the international left and organized labour. This discrepancy suggests not only how far the industry lagged accepted notions of technology within labour and socialist movements coming to terms with the relationship of workers to machinery—with none more advanced in their assessment of this relationship than Marx—but capitalist-engineering’s own standards for the displacement of variable capital by fixed. The literature that I discuss in this section is by no means without its faults. Much of it is characterized by a critique of property, at once cognizant that the spoils of machinery were hoarded within the capitalist class yet enamoured with technological change. In this view, a revolution in control over the mode production was the definitive and ultimate rupture needed for machinery. Precursors to Braverman’s critique of deskilling—or the alienation/dispossession of workers’ skills by machinery—are indeed mostly absent in the

era. The left-labour literature reviewed in this section is not meant to be a comprehensive analysis. Instead, I identify a reading consistent with what Feenberg calls property theory (2002, 45) and then uncover another, separate understanding in the Canadian labour press of the 1890s that in some ways anticipates developments in Marxist theory from the second-half of the twentieth century.

The Marxologist Marcello Musto (2014) has recently published writings from of the First International (1864 – 76)¹⁵⁸ that in part concern the position of machinery during the working day, including a recording of a short speech from Marx. Though generally brief, the speeches and position papers show a certain continuity in their assessment of capitalist machinery, emerging within a revolutionary European Left significantly comprised of trade unionists. With his characteristic skill, Marx blends insights from the “1844 Manuscripts” and his studies that led to *Capital*. Orating in 1868, he notes that, formerly, “there were wealthy employers of labour and poor labourers who worked with their own tools. They were to a certain extent free agents, who had it in their power effectually to resist their employers. For the modern factory operative, for the women and children, such freedom does not exist, they are slaves of capital.” He continues, the “influence upon those with whose it enters into competition is directly hostile” ([1868] 2014, 103 – 4). These hostilities were, for Marx, based in both exploitation, writing of “improved machinery and increased intensity” (103), and the estrangement of worker control over the implements of production:

There was a constant cry for some invention that might render the capitalist independent of the working man; the spinning machine and power-loom has rendered him independent, it has transferred the motive power of production into his hands. By this the power of the capitalist has been immensely increased (104).

In not so many words, Marx’s assertion is that capitalist machinery allowed owners and managers to shed workers and shift control over the content of production to management, alienating skill from working people and vesting it in the machine, while intensifying the labour process toward the removal of living labour.¹⁵⁹ This is the basic position on machinery in *Capital Volume One*.

¹⁵⁸ Or “The International Workingmen’s Association.”

¹⁵⁹ For a more detailed discussion of alienation as a theory of history and technology see Greaves (2016).

Others from the First International put forward similar, if more partial theories. In a session of the 1868 Brussel's Congress dedicated to questioning machinery, Eugène Steens of *La Tribune to Peuple*¹⁶⁰ presented a convincing report that aligned with Marx's critique of exploitation. The antagonism between labour and capital proceeded, Steens argued, through machinery. Capitalists "in anticipation of immense profits and the considerable reduction of their operation costs..." do "away with millions of workers," in their retooled factories (106).¹⁶¹ Machinery appeared as a technology to decrease wages, first in one shop, then generally as others caught up, and any diminution in the price of commodities would not, moreover, offset mechanically derived immiseration and destitution. The problem of antagonistic, exploitative machinery could, for Steens, be resolved through the inversion of control during the working day. Relief could be found in the socialization of the mechanical system. When the results of machinery are socialized, "it will render life sweeter and more agreeable by the large and constant diminishing of the hours of labour" (108).

A Swiss committee reporting to the 1867 Congress of Lausanne came to a similar conclusion, writing that only "through association can this state of affairs be remedied by the equal distribution of work and profit, which will eliminate labour by giving everyone a share" (Dupleix et al. [1867] 2014, 100). In the formulations of the committee and Steens, machinery is primarily exploitative when used by the capitalist, intensifying work and displacing living labour power toward gains in technical productivity. In the workers' state, on the other hand, machinery would appear as an expression of the social ownership over the forces of production, with output redistributed for the general betterment of the people. This is the property theory of technology that Feenberg identifies, in which machinery is

¹⁶⁰ See Musto's explanatory footnote on page 105 of Steens [1868] 2014.

¹⁶¹ The anarchist Pierre Fluse produces the most idiosyncratic view of the collection ([1868] 2014). Fluse agrees with the critique that machinery reduces the demand for workers, but the solution is rendered through a Proudhonian recourse to workers' solidarity associations—even the inventor would get their due! "No longer used in the interests of exploitation, machinery would represent, like any other labour, a value that the inventor would receive in selling it to the federated associations workers" (112).

perceived to be neutral and need only to switch economic contexts to become characteristically socialist.¹⁶²

Chapter two combined Lukács with Feenberg’s critical theory of technology and labour-process theory to put forward a bi-level methodology for understanding machinery and the labour process, in which structural but abstract economic tendencies circumscribe the world of acceptable developmental paths for the working day. Within this method, however, local conditions, including ideology, allow for a multitude of possible developments. The deskilling hypothesis, for example, growing out of the new left, in which machinery and the labour process develop to remove skill from workers, would then appear as a historically specific phenomenon within capitalism. Noble’s *Forces of Production* in particular, but especially the chapter “The Road Not Taken” ([1984] 2011, 144 – 92), does excellent work identifying the contingent ideological formations that move within the capitalist superstructure and promote the development of one technology or method of working over another.

Such analysis was basically absent for the First International, Marx aside. His unusual perception is perhaps because of the historicism at the heart of Marx’s philosophy. Maxine Berg writes that although Marx meant alienation to be an abstract model, he “included many historical signposts” (1994, 62), and elsewhere I have called this the “concrete historical character of alienation” (Greaves 2016, 51), where Marx’s concept aligns with his later development of the formal and real subsumption of labour capital, originally written for volume one of *Capital*, that follow the same signposts. Drawing from this work, chapter two stressed that both valorization and alienation are abstract tendencies of capitalism. Capitalists look to create reproducible and expanding profit while also attempting to control to as great a degree as possible the conditions under which this profit is created. While the form of deskilling is historically specific—responding to particular conditions and ideologies—the tendency to estrange workers from control over the labour process is consistent and escalating, something Marx showed in the theory

¹⁶² The property theory of technology (machinery, more specifically) would continue to animate international revolutionary praxis for decades. Lenin, for example, after 1917, viewed Taylorism as a requirement of the transitional phase of state capitalism in Russia. See Devinatz 2003.

of alienation. This is also clear in Marx's *Grundrisse* notebooks, whose critique of political economy would form much of the backbone of *Capital Volume One*.

The development of the means of labour into machinery is not an accidental moment of capital, but is rather the historical reshaping of the traditional, inherited means of labour into a form adequate to capital. The accumulation of knowledge and of skill, of the general productive forces of the social brain, is thus absorbed into capital, as opposed to labour, and hence appears as an attribute of capital, and more specifically of fixed capital, in so far as it enters into the production process as a means of production proper.

The point, in effect, is that capital follows abstract requirements of estrangement and profit, although the path that a given labour process takes is by no means fixed. Marx aside, the First International contended with only one of these abstract processes.

An interesting series of continuities and departures in the property theory that characterized much of the First International comes from the late nineteenth century trade-union press, specifically in Central Canada. *The Ontario Workman* (1872 – 5) was published during the First International's tenure in the United States, though the paper was well to the International's right. *The Workman* was largely bullish regarding the development of machinery, especially labour-saving technology. The paper displayed a basically liberal faith in technological progress, with machinery decoupled from social development. *The Workman* was published by the Toronto Cooperative Printers Association and edited by James S. Williams, Toronto Trade Assembly President, member of the Toronto Typographical Union, and promoter of the nine-hour movement (Buchanan[a]). A short piece published in *The Workman* on July 25, 1872 argued that labour-saving machinery, at its basis, generally improved the condition of working people—no revolution needed. Going further, on December 19 of that year the paper published a longer piece titled "The Past and Present, Or What We Owe to the Mechanic," in which the unknown author presents mechanical change as an aid to different social classes.

Since the days of Watt, Bolton, and Arkwright, all the great movements affecting the conditions of the different orders and ranks of society owe their origin, or have been made practicable, only by the introduction and use of machinery as aids to human industry.

Nine months later, the paper cited with tepid approval a suggestion from the Industrial Congress of the United States that workers were in control of technological development, an effectively petite-bourgeois reading (August 21, 1873).

By the 1890s, the Ontario-based *Labor Advocate* (1890 - 1), whose motto read “We Demand all the Reform that Justice can ask for, and all the Justice that Reform can give” (Buchanan[b]), modified the effectively neutral codification of machinery, apparent in both the First International and *The Workman* in different ways, revolutionary and reformist, into a theory of machinery that recognized the deformations and exchanges of skill that had accompanied the introduction of new machines to the labour process. Some mystified wonder is still apparent in *The Advocate*. On March 6, 1891, a short essay titled “The Scientific Spirit,” placed a great deal of faith in Enlightenment achievements, writing that science had destroyed humanity’s faith in witchcraft¹⁶³ and that, even it did not improve our lot as a species, humanity was no worse than we were before scientific developments. Yet *The Advocate* was less effusive in its praise of labour-saving machinery than *The Workman*. “The extensive use of machinery is making havoc with the trades... Many trades are not only profitless but in danger of becoming obsolete” (“Labor-Saving Machines: Its Use Affecting Labor in Various Ways,” *The Advocate*, April 17, 1891). Such obsolescence, according to the paper, limited skill during the working day to a handful of bodies, though these may have even been upskilled—in effect, a dialectic of skilling up and down, mediated by the mechanical form.

For their part, managers on Vancouver Island do not appear to have been particularly eager to identify and deploy significant labour-saving technologies, on the scale of anything suggested by *The Advocate*, prior to the 1890s. This is apparent not only from the limiting of technical advances to circulative, exploratory and maintenance technologies, but in the thinking of mine management. In spring 1879, the manager Bryden wrote in his journal that there was no need for anything “but old machinery” where “labour is high.” Unlike the available left and labour literature, Bryden had yet to view machinery, and the forces of production more generally, as an implement of managerial power. This may be somewhat surprising, given Bryden’s domineering management of

¹⁶³ On the persecution of witchcraft as an epiphenomenon of early capitalist misogyny, see Federici (2004).

VCMLC, yet it is entirely consistent with the technical development of Vancouver Island's mines. By contrast, the general manager for Cumberland, South Wellington, and Alexandra, Francis D. Little, was characterized in the 1894 edition of the Canadian Mining Manual as "a man holding advanced views as to the adoption of every possible mechanical means for colonizing labor and time" (Planta 1894, 308).

5.8 The Economic, Political, and Ideological Positions of Machinery in Island Mining by 1889

The weak productivity gains characteristic of mining on Vancouver Island prior to 1889 indicate that mining capital continued to struggle in the real subsumption of its labour force. The companies involved in island mining significantly increased output, 1871 – 89. However, the number of workers was, at its core, the cause of this expansion, just as it was prior to Confederation. Increased efficiency in circulating coal had been an aspect of mining since the 1850s. No real productivity gains were made at the coalface, however. The increase in components of constant against variable capital was indeed limited to certain areas of mining. In the absence of significant productivity advantages from labour-saving or deskilling technology, capital was compelled to increase its output by simple addition to the labour force. This was reflected in ideas, like those of Bryden, which considered machinery equivalent to but not antagonistic toward labour. The economic moment of Vancouver Island mining at the end of the 1880s was quantitative growth without intensified extraction—formal subsumption, in which the working day was extended without gains in relative surplus value. Machines to intensify the extraction of coal from the earth were well established in the local circulation of Vancouver Island coal but required further developments at the coalface to seriously intensify production.

This is not to say that expansions in the means of circulation, local or general, proceeded in politically insignificant ways. Aside from being the primary mode of technical development in mining before 1889, the growth of rail facilitated the sedimentation of fixed capital by allowing relatively timely access to industrial commodities produced in the Midwest. The means of communication and transportation, then, were a condition for qualitative change in the organic composition of capital.

On the island, the expansion of circulatory systems had several political economic consequences that solidified the power of capitalists. By vesting power and responsibility for E&N's construction and maintenance in Dunsmuir, among others, the federal government supported the consolidation and further integration of the family empire and mining capital generally.¹⁶⁴ Aside from the material wealth accrued by E&NRC through the deal itself, the grant provided legal access to unimproved coal and timber lands on the southeastern region of the island. Robert Dunsmuir also parlayed the development of E&N into further integration of regional industrial capital. Albion Iron Works in Victoria produced railway cars for E&N, as Dunsmuir moved toward controlling a significant portion of the fixed capital that comprised the island's circulative system.

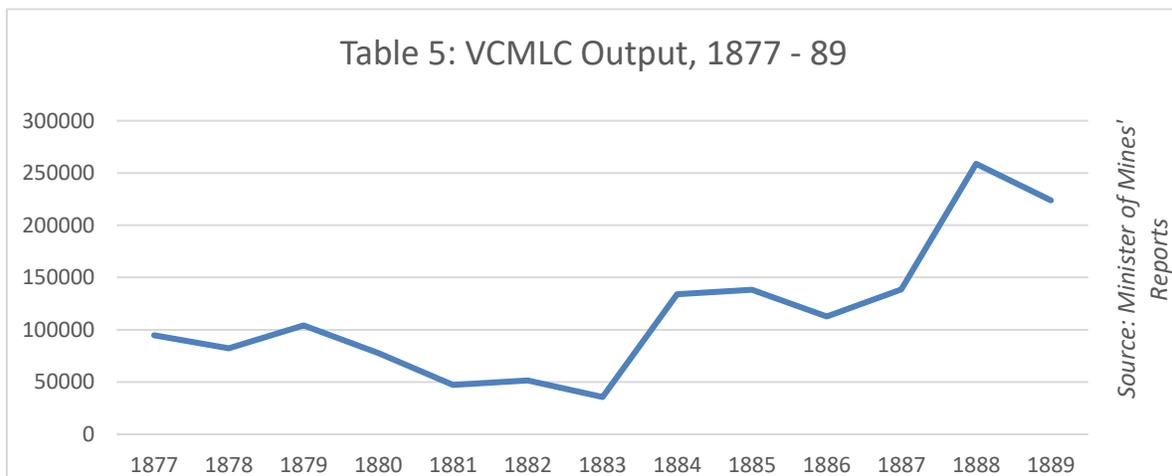
The E&N land grant also promoted further enclosure of land for non-Indigenous development and a related ghettoization of First Nations on reserves. The *Island Railway Act* set aside near indefinite lands for cultivation within the area comprised by the grant, while restricting First Nations' to limited spaces. The progression of rail and telegraph also brought communities other than Nanaimo and Victoria into communication with one another, producing in the space between what Norcross characterizes as a "flood" of settlement. Rail and telegraphy were therefore economic but also political technologies of white hegemony over the island, consistent with the 1849 British charter granting the island and its minerals to HBC.

Local circulative systems were also implicated in the ongoing enclosure of the island. Harewood's aerial tramway privatized the land and sky intervening between the mine, 5.5 K inland, and its Cameron Island port. As Cumberland developed at the base of the VIR, about seven K inland and seventeen K from its port, rail spoked the land in between, cleaving it for mining capital. Upon the island, communication and transportation systems were directly dispossession in the post-Confederation period. These systems established not only capacity for capital but coordinated control and settlement of the island south of Nanaimo on the east side of the VIR. The two moments of E&N, as a system of communication and transportation, were then the facilitation of capital flows and the further colonization of the island, which was simultaneously itself dispossession of

¹⁶⁴ The provincial government as well, given the alienation of the provincial rail lands to the federal government, then E&NRC.

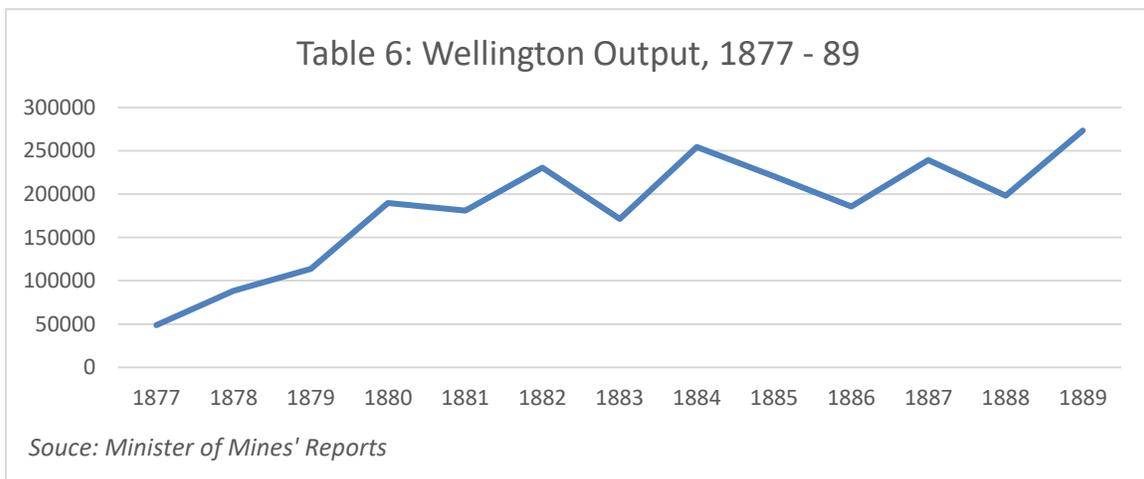
Ingenious land tenure and the isolation and marginalization of First Nations by the Canadian state.

The development of circulative capacity was coincidental with the maturation of capital and class power on the island. During the 1870s and early '80s, the antagonisms between capital and working miners had matured to a point where they threatened the ongoing stability of the industry. Despite reference to dull prices in the Minister of Mines' reports, the principle causes for VCMLC's reduction in output were found in nature and capitalist class dynamics. As table five shows, the reduction in output following the strike of 1880 is staggering. The company's output ends its freefall with the beginning of Samuel Robins' stewardship in 1884. Robins brought a species of social democratic community building to Vancouver Island, which promoted labour peace through collaboration between workers and management. His collaborationism appears to have worked well for VCMLC, which stabilized and expanded output 1884 to '89. Were this fluctuation entirely based on market price, we would expect to see Dunsmuir's mines suffer similarly prior to '84, but no comparable dip is apparent in table six. However, VCMLC's collaborationism and subsequent stabilization required intensified alienation within the working class between Chinese and white miners. The community of Nanaimo consciously excluded Chinese miners from property ownership to whatever degree it could, with VCMLC controlling much of the land that comprised the city. The low income of Chinese miners also supported what Robins saw as a decent wage for white families.



Robins mollified the natural antagonisms of capital for a select group of miners, bubbling to surface at Nanaimo through the 1870s and early '80s, by displacing them onto

an also labouring racialized Other. This was his management strategy—pacification through incorporation of white workers into a decision-making apparatus, including involvement in pit committees, amidst the hyper-exploitation of workers of colour. The Dunsmuirs, on the other hand, leaned into the class struggle against their workforce, enrolling the repressive state apparatus against company miners and heightening antagonisms from above. Although minor job actions occurred between 1877 and '89, the strategy of suppression meaningfully obstructed efforts to disrupt extraction throughout Robert Dunsmuir's final twelve years. By enrolling state power against striking miners, the Dunsmuirs were able to achieve their own labour peace, of sorts, and years prior to VCMLC. Declines at Wellington were indeed never as drastic as in Nanaimo. Though in slightly different time frames, the strategy of collaboration and that of suppression were therefore both able to accomplish the same ends for mine owners. Diverging managerial ideologies in island mining both sought to achieve the same ends: sustained and growing output. Deviations, perhaps wild deviations, in the content of control over the working day were allowable if capital was to be able to secure consistent output.



Shortly after Robert Dunsmuir's death, the antagonisms that had largely been suppressed from 1877 at Wellington emerged again, as company workers struck for an 8-hour workday, pit committees, and union recognition. As the 1890s progressed and turned into the 1900s so too did unionization efforts proceed at James Dunsmuir's mines, first to join with workers Nanaimo, then the Western Federation of Miners (WFM), with strikes and lockouts proceeding over the union and working conditions. The return of open struggle to Dunsmuir mines signals a departure in the political conditions of the mines

outside of Nanaimo, with collaborationism continuing to characterize mining in that city to 1903. While collective insubordination was returning to Wellington, mining capital was continuing to mature quantitatively and expand its circulative systems. A repressive state apparatus had also appeared to contain its contradictions.

6. Undercut and On-Track: Mining Capital Strengthens the Forces of Production to Respond to the Maturation of Class Dynamics, 1890 -1903

Science does not exist for the plebeian who has committed the heinous, unutterable crime of fighting this time for his own existence.

- Karl Marx, "The June Revolution"

Capitalism can never be dethroned and wage slavery abolished until the natural resources of the earth and the machinery of production and distribution shall be taken from the hands of the few by the political power of the many, to become the collective property of all mankind, to be utilized for the use and benefit of all humanity.

- Western Federation of Miners, "Resolution, 1903 Denver Convention"

Robert Dunsmuir's body was filling with uric acid. On April 10, 1889, the coal baron went comatose after his kidneys stopped filtering the poison now contaminating his blood.¹⁶⁵ Dunsmuir died two days later to the despondency of the bourgeois press in the province. On the 13, *The Daily Colonist* memorialized "the province's most prominent citizen," its "chief and truest friend," in foreseeably hyperbolic cant. Not only did "every British Columbian to-day feel that he has lost a friend," ... "it will never be known how much he has given to those who were less fortunate." "As the sad intelligence became verified," the *Victoria Standard* observed that "a sense of personal loss was evident to all" (Reksten 1991, 103). On the other side of the continent, Toronto's *Globe and Mail* was somewhat more restrained. The paper eulogized on April 15 that "great sorrow" followed the death of "the wealthiest capitalist in British Columbia."

More important to the state of island coal mining than the social loss of a capitalist,¹⁶⁶ real or invented, the death of Robert Dunsmuir marks a similar transition in

¹⁶⁵ For somewhat more detailed discussions of Dunsmuir's death, see Bowen 1999, 138 – 42 and Reksten 1991, 103 – 5. Reksten also gives a strong indication of the uncertainty that tore down the family in the wake of Robert's passing. "If the Dunsmuirs went from prominence to obscurity in three generations," he concludes, "it was largely Robert Dunsmuir's fault" (105).

¹⁶⁶ Even one that, to paraphrase *The Daily British Colonist*, the province may never see the sort of again (April 13, 1889).

the phase of class agitation and organization in island mining. In May 1890, 700 miners at Wellington began a strike that lasted 18 months, significantly more protracted and initially intense than previous conflicts at the colliery. James Dunsmuir, who managed the mining portion of the family empire after April 1889 (Reksten 1991, 113), refused to recognize the miners' union, the MMLPA, and an 8-hour workday from pithead to pithead (*The Daily British Colonist*, May 21, 1890 and Mouat 1988, 3), continuing his family's long-held and forceful anti-unionism past his father's death. Generally, the 1890s were a period of renewed union activity across the Vancouver Island coalfield, with efforts afoot to organize island miners under one big union proceeding through the turn of the century (Orr 1968), as well as the formal establishment of the first collective agreement (CA) in BC coal mining. Assessing the decade for labour somewhat differently, Hinde remarks in *When Coal was King* that the '90s was a period of "relative labour peace" in Vancouver Island coal mining, despite the 1890 – 1 strike at Wellington, pointing to the weakness of the MMLPA (2003, 132), presumably a reference to the union's inability to extract concessions from Dunsmuir, *inter alia*. Hinde sees the turn of the century as a more significant moment of working-class agitation, "culminating in the strike wave of 1903" (133).¹⁶⁷ While arguably correct, Hinde's characterization of the 1890s may nevertheless undersell the importance of evanescent control at Dunsmuir's Wellington mines. As labour peace continued to prevail in Nanaimo, struggles at Wellington around the end of the 1880s and early '90s mark a change in the dynamic between island-mining capital and workers. The 1890 – 1 strike was a reassertion of open class struggle, largely dormant on the island, and an early instance of the new union agitation.¹⁶⁸ The death of Robert Dunsmuir did not produce this return of the repressed at Wellington, yet the upswing of working-class organization around that moment is significant for bringing about the end of a prolonged period of basically uninterrupted extraction in Vancouver Island's mines.

Of the island's collieries, most transformed by the fallout of this new phase was Cumberland. The northernmost Vancouver Island mining community—though hardly an outpost given that E&N connected Cumberland to Nanaimo and Victoria from the mid

¹⁶⁷ Belshaw, on the other hand, sees miners divided in the period, with diggers' (hewers) interests over-represented in working-class politics, then white on-cost mine workers, and finally with no formal representation, mine workers of colour (2002, 139 – 49).

¹⁶⁸ Save for a strike in fall 1883 and a lockout and strike in winter '89, both relatively brief.

1880s—became a laboratory for capitalist experimentation on the organic composition of capital and the working day during and after the Wellington strike. By 1891, technical advance in coal extraction at Cumberland greatly exceeded contemporaneous systems at Wellington, VCMLC, or the smaller East Wellington Colliery owned by Chandler. Qualitatively significant technical development was occurring elsewhere on the island too, though in a different register. Where the collaborationism at the heart of white workers' previous labour relation with Robins persisted at VCMLC through the turn of the century, impressive technological changes also emerged in Nanaimo's mines. The targets and results of those changes in Nanaimo were, however, basically different than those at Cumberland. VCMLC advanced through electrification in a new underground tram system, while Cumberland introduced, for the first time in the province, electric cutters to slice beneath the coal, allowing for its relatively easy separation from the seam. The latter machine was in Braverman's sense a deskilling technology: it allowed capital to employ lower-paid wage labour at the coalface, as skill and knowledge previously embodied in coal diggers were vested in the cutting machine. The technology expressed the power of one class to intervene in the relations of production in its own interest. It granted the manager at Cumberland, Francis Little, and James Dunsmuir by extension, greater control over the working day and who was a part of it.

Cumberland was not the only colliery to use coal-cutting machinery by 1903. By 1893, there was some off-hand suggestion that Wellington began to use coal cutting machinery to expedite extraction (Minister of Mines' Report 1893, 1099). In 1899, the newly opened Coal Creek Colliery near Fernie, in the southern interior of BC near the provincial border with Alberta, deployed similar if more advanced chain-breast cutters¹⁶⁹ as part of its comparatively rapid technical development. At Nanaimo, coal cutting machinery was not used during the period of study. So, the question then arises as to why the labour process, augmented by new machinery, developed in the manner it did—unevenly within and between colliery owners—and whether the local particularities of technical change, understood within a totality, correspond to the theory of mechanical change elaborated in chapter two. The current, concluding chapter considers this irregular history of technological change in mining, 1890 to 1903. What follows departs somewhat

¹⁶⁹ See Dix 1988, 29 – 30.

from a narrative of Vancouver Island coal mining generally, though this was also true of chapter five, as the focus shifts to two systems of mining machinery and their implementation.

In the introduction, I outlined three related questions I wanted this project to answer: what role did coal extraction play in the expansion of capitalist social relations in what would become BC; how did transportation systems support empires operating on Vancouver Island; and what social and economic relationships conditioned technical change in the island's coal mines? To this point of the manuscript, I think that I can provide credible answers for the first two questions and lay the foundation for the third. On the first, coal extraction was the motive force in the emergence of capitalist social relations on Vancouver Island. In part, this played out through the importation of free-labouring Scottish miners, but the simultaneous introduction of tendencies of improvement and expansion were likewise crucial. Capitalist social relations proceeded through the Wakefield method of colonization, which tried to conjure a working class where previously none existed. Protests and escape began soon after miners arrived, however, as HBC attempted to mine coal somewhere in between capitalist free labour and the mercantile domination of working bodies that characterized its hitherto labour relation. At Fort Rupert, the extraction process itself mediated the mercantile organization of HBC and the coming of a fully proletarianized labour force, as the company struggled to put into practice policies and infrastructures for the subordination of labour, as well as nature, to capital. Although HBC was *the* key organization in the introduction of capitalist social relations to British Columbia, this hardly happened all at once, nor did company officials on the island necessarily have command of the social forces they had introduced.

On the second, the coming of the coal industry and the emergence of its trade networks was also central to the processes of dispossession that were both the precondition and ongoing reality of Vancouver Island, beginning with the 1849 charter granting Vancouver Island to HBC. As the century progressed and BC entered Confederation, the E&N railway stands out as a remarkable example of ongoing dispossessive techniques. The railway not only enhanced the power of landed, colonial capital, E&N also separated First Nations from Vancouver Island land. The railway further ghettoized First Nations under a parcellation scheme generous to settlers, while

consolidating Robert Dunsmuir's empire through both legal and technological apparatuses. In a different way, the maritime trade of coal in the 1850s with California perpetuated the capitalist tendency of improvement, developing from competition and the relations of production. The bilateral trade supported the ongoing colonization of Vancouver Island through the importation of tools and foodstuffs. This enmeshing of Vancouver Island within a world market for coal consumption thus supported both capitalist development in its infancy and ongoing colonization.

Through the rail lines cutting across the continent, east-west flows of machinery augmented the organic composition of capital in island mines. Mining capital consolidated its power through these flows, though in drastically different manners. As we saw from the emigration of miners from Scotland to displace the Kwagu'ł trade, transportation and communication were, at the origins of colonial capitalism in BC, dispossession, true also of E&N. As capital progressed, however, dispossession by communication was not only that of land. Island mining capital brought deskilling technologies from the Midwest. Transportation, as capital circulation, then also became the withdrawal of skill from miners, as capitalism further solidified and grew as a system of ongoing yet differential proletarianization. This latter story, that of deskilling machinery and those miners exposed to it (and miners not) on Vancouver Island, 1890 – 1903, comprises this chapter. The active social relations and historical moment in which mechanical change in the 1890s was realized are under consideration in these concluding pages. More than this, however, I also want to suggest that something like a general theory of mechanical change may be gleaned from Vancouver Island coalmining, in which abstract capitalist dynamics begin to bear upon the tools of capitalist production or extraction, though one in which implementation is specific. In this history, politically coded machinery follows other dispossessive techniques of capital accumulation. If dispossession was at the heart of empire, it was ongoing as capitalism proceeded. Dispossessive techniques and technologies, like the island railway, were part of the colonial-capitalist communicative system, so too undercutting machinery did travel along colonial rail. Communication therefore remained dispossessive, though expanding in a different way, as capitalism developed into the new century.

6.1 The Wellington Strike of 1890 – 1 and the Effort to Organize One Big Union Prior during the 1890s

It was the Dunsmuirs' policy to fire any miner found organizing a union, a strategy meant to ensure that control over the terms and wages of working day, to as great a degree as possible, rested with Robert, James, and their managers. The Dunsmuirs had in turn resolved to punish workers that struck their mines. A wage reduction followed the 1877 strike, while Robert threatened to fire and not reemploy any worker that participated in a collective walk out ("The Wellington Lock-Out," *The Daily Colonist*, January 10, 1889). One union official estimated that twenty to twenty-five were dismissed because of a one-week plus strike at Wellington toward the end of Robert's life (British Columbia 1891, ccxliii). These managerial efforts were a significant moment in a basically successful approach to thwart unionization at the family mines, which remained unorganized throughout the nineteenth century. When unions were established by miners, if not recognized by the Dunsmuirs, they were generally suppressed. Emergent unions at the Alexandra and Extension collieries, for example, were stifled when the company fired union officers as well as rank-and-file members (Canada 1904, 41, 379).

The 1890 – 1 Wellington strike, were it successful, would wedge open not only Wellington but Alexandra and Cumberland mines for further, perhaps durable working-class organization. Collective organization could stem, even rollback the wage losses that miners had experienced since 1877 and provide some comparable control over the working day to VCMLC. By 1890, the need to organize to first counteract then hopefully compel the Dunsmuir empire, which effectively held a provincial government and the repressive state apparatus at its disposal, would have likely been obvious to most Dunsmuir miners. In January 1889, unorganized miners at Wellington struck after Robert locked them out. The mine owner refused to grant a \$0.10 wage increase per ton¹⁷⁰ nor recognize standing committees ("The Wellington Lock-Out," *The Daily Colonist*, January 10, 1889 and "Returned to Work," *The Daily Colonist*, January 17, 1889). There was no need for capital to muster a militia in this instance, however. With restrained jubilation *The*

¹⁷⁰ Orr (1968, 63) cites a miners' demand of \$0.15.

Colonist noted on the 17 that miners were divided in the strike. Without significant support, strikers also appeared unable to sustain prolonged job action.

A basic problem for strikes and one that afflicted Wellington miners is the need for financial and administrative support during a protracted wageless period. By the turn of the century, island miners would join the international WFM to improve their position in the relations of production. Asked why miners at Extension joined the WFM in 1902, the Chairman of the local, James Pritchard, replied that he presumed their “reasons were that if they had trouble of any kind they would be supported better by being affiliated with some other body instead of being by themselves” (Canada 1904, 37). Thomas Shenton, secretary of the Nanaimo local of the WFM, stated in 1903, after the sale of VCMLC assets, that the reasoning behind WFM affiliation was that “as a local union we considered ourselves somewhat a small power, in dealing with any other company than the company we have been dealing with up to a recent date” (Canada 1904, 326; also cited in Orr 1968, 120). Without the guarantee of a defined collaborationism between workers and managers, affiliation with a supportive international union made sense in Nanaimo. The financial and administrative resources became desirable as the previous labour relation fell apart.

In the absence of international or even extra-local support, the January 1889 strike at Wellington was short lived. By 1890, however, solidarity began to emerge between miners at different collieries—mediated by MMLPA membership—keenly aware of the power that would be held in organizing the entirety of the island coalfield. As Orr argues, the strike propelled collective organization (1968, 63). Mouat adds to this by stressing that Nanaimo miners felt threatened by the poor working conditions at Wellington (1988, 9). Indeed, one union leader on the island often expressed to the rank-and-file of Wellington that “unless we lift you up to our level, you will drag [Nanaimo miners] down to yours” (British Columbia 1891, ccxlvii).¹⁷¹ This discourse noted, VCMLC miners’ enduring collaboration with Robins should militate against readings that foreground the influence of Wellington immiseration on Nanaimo’s self-interest.

¹⁷¹ The “us” in this quotation refers to organized miners at Nanaimo.

Whatever the case, Wellington miners' May 1890 demand for union recognition emerged out of their organizing efforts with Nanaimo. Asked whether union agitation in Wellington came from Nanaimo, the miner Richard Booth responded that organizers from Nanaimo went there at the request of Dunsmuir's miners (Canada 1904, 322). Antagonisms between James Dunsmuir and his miners were coming to a head; organization and dissent appeared as important means for the latter achieve their goals.

Wellington miners had been organized as a collective branch of the MMLPA since February 1890 (ccxlⁱⁱⁱ), in coordination with those in Nanaimo already under the union's banner. After two decades of basically unorganized work at Dunsmuir mines, the reasons for unionization coalesced at this time around two issues, control over the working day, including safety, and wages. The Wellington miner John Anderson believed in joining the union to preserve his command over his work. "A man coming into your place and telling this and that, and directing you how to fix the place. The way those men were trying to use me I had to get into an organization to support myself" (ccxlⁱⁱ). One union official also noted that the recognition of miners' legal right to pit committees, provided by the *Coal Mines Regulation Act* but rejected by the Dunsmuir's, was an important motive for unionization (ccxl^{iv}, ccxl^{vi}). Robert Jarvies worked the No. 4 shaft at Wellington and attributed unionization to concerns of wage and management tactics. Jarvies answered "never; no" to the question of whether Wellington could have been organized if its workers were treated properly and paid fairly. He replied simply "yes" when asked whether "unfair remuneration was one of the causes which led to this strike" (ccxl^{iv}). The issue of wage included problems from the incidental mining of dirt. Miners complained that Wellington produced especially dirty coal, for which they were not compensated, something Orr (1968) mentions at numerous points in his thesis. There was the possibility of making what one miner called "pretty good wages all the time" at Wellington (British Columbia 1891, ccxxxⁱⁱ), but this was by no means necessarily the case, especially for miners not favoured by management and therefore given dirtier coal to mine.

While the coalfield had changed immensely since Fort Rupert, wage and labour-process issues remained central flashpoints in the labour relation, suggesting the basic continuity of certain capitalist dynamics. The union was a means to shift power in the working day toward the labouring class. After years of relatively unencumbered Dunsmuir

control of work and wage, miners began to interpret the union as an important means for the redress of this circumstance. Hence the protracted struggle to force Dunsmuir to bargain with the local. Tully Boyce,¹⁷² who had mined in Pennsylvania and Wyoming (ccxlv) before becoming President of the island MMLPA by 1890, put it bluntly: “as far as I know, the cause of the strike is that the Company refuses to recognize their workmen as an organized body” (ccxlii).

Coming under the MMLPA banner carried with it not only financial and administrative support for Wellington, solidarity between collieries was channelled through its apparatus. Three other island mines were organized by the union—Nanaimo, East Wellington, as well as VCMLC’s Northfield mine near Departure Bay. Boyce estimated in May 1890 that MMLPA membership reached 900, and none could strike without the authorization of the district (ccxlili), simultaneously limiting the spontaneity of workers while further engendering the potential of mass, industry-wide job action. No such moment would emerge, although its signifiers certainly had and the potential existed. On the day that the strike began, in which miners were first locked-out, then struck as result, an MMLPA procession began in Nanaimo, picking up miners along the way until their numbers reached close to 800 at Wellington where a meeting was then held. Miners heard speeches and decided who would represent workingmen in the provincial election of 1890. Thomas Keith, first of Belfast, and William Forster of Northumberland were both endorsed by miners and later won seats in the Nanaimo area. So too did C.C. McKenzie, endorsed by farmers and represented at the meeting, who made by proxy a call for electoral solidarity between the classes. Members in attendance also issued collective demands to Dunsmuir, including a minimum \$3 per day wage for coal diggers and an 8-hour bank-to-bank working day (*Nanaimo Free Press*, “Labor Demonstration,” May 20, 1890). Mining labour was in this way acting as a political, if not revolutionary, unit. The union was beginning to transmute a portion of political activity into electoral demands.

From local calls for representation, Boyce also sought to make the strike international in scope. He attempted to organize boycotts of Wellington coal in the United

¹⁷² One historian of Nanaimo notes that Boyce is “credited as the founder of Labour Day in the Dominion” (Peterson 2002, 199).

States, through proposed solidarity action of unionized ship workers in and around San Francisco's docks (British Columbia 1891, cclxi).¹⁷³ The union leader shrewdly recognised the economic importance of the California market to Wellington. With most Vancouver Island coal shipped to San Francisco, all of it by sea, its port was a potential chokepoint in coal circulation. In 1890, California received about 350,000 of the 678,000 tons that British Columbia produced. Of the globally produced coal taken in that year statewide, slightly over 90% was unloaded in San Francisco (Minister of Mines' Report 1890, 381 – 2). In an 1891 interview with members of the Select Committee investigating the Wellington strike, Boyce is twice asked and admits to organizing boycott activity in San Francisco. It's unclear if his answers reference two events—although it seems most likely that it's only a single instance, given Boyce's importance to MMLPA organizing on the island. In any case, a port boycott of Wellington coal would be potentially devastating to Dunsmuir, who would lose access, however temporary, to his most important buyers. With Dunsmuir's mines remaining open during the strike, the MMLPA-directed boycott would have provided a similar result as their closure, while fostering even closer ties with Nanaimo's miners (British Columbia 1891, cclxi). Boyce's efforts were, however, ultimately unsuccessful.¹⁷⁴

Solidaristic politics tethered to the strike also spilled over the limits of the MMLPA—past the terms of union recognition, wage, and control over the labour process—taking on a gendered character. In March 1891, protests for women's suffrage emerged on the island. The *Nanaimo Free Press* reported on the twelfth that the women of Wellington would march the next day after the AG had read the Riot Act during a procession of Wellington miners, to which strikers responded with a “rousing rendition of the Marseille” (Mouat 1988, 23). Not only were the suffragettes seeking the franchise—about forty demonstrated on March 13—the demonstrators also demanded to be included in legislative matters (“Women's Suffrage!” *The Nanaimo Free Press*, March 13, 1891).

¹⁷³ Presumably the Coast Seaman's Union, which had been organized since the mid-1880s but this isn't articulated in the minutes.

¹⁷⁴ Mouat also reports that “On 13 June 1890 [MMLPA membership, perhaps Boyce] attended a council meeting of the Federated Trades, to request their help in settling the Wellington strike” (1988, 20).

Underscoring the basis of power in Nanaimo, the relatively progressive *Free Press* wrote excitedly:

This is an era of steam and electricity and wonderful changes take place with equally wonderful rapidity. Who can doubt the possibility that the reading of the Riot Act yesterday maybe be the means of propagating the germ of female suffrage that will grow into mighty form... The women's procession of to-morrow at Wellington may be the acorn from which the sturdy oak will grow ("Women's Suffrage!" *The Nanaimo Free Press*, March 12, 1891).

Likely by design, the demonstration for suffrage would "broaden the politics of the miners Insurgency" (Seager and Perry 1997, 58) and working-class politics more generally, complicating and deepening labour's pre-existing moves toward electoral power.

Despite the attempted organization of the coalfield farther south and growing anti-oppressive working-class politics, Cumberland miners withdraw from the organizing efforts of the MMLPA. Attempts were made to include Cumberland within the union's strike action of 1890 – 1, continuing through the *fin de siècle*, but these were basically unsuccessful during the nineteenth century. This division should not imply passivity on the part of Cumberland miners, however. According to Orr (1968, 62 – 3), from May to August 1889, shortly after Robert Dunsmuir's death, miners struck Cumberland, ending in defeat. Orr cites the loss as the reason miners from the Comox area did not participate in MMLPA organizing around the Wellington strike.

The failure of the miners to win the strike was the main reason why in February 1890 the Cumberland miners were conspicuously absent from the new movement to establish a district-wide organization of the Miners' and Mine Labourers' Protective Association (63).

Fragmented politics emerged through Cumberland's loss, a basic and sometimes stated goal of the Dunsmuir and Bryden for the period they had been owners and managers. Labour's defeat in the summer of 1889 weakened the miners' organization in Cumberland, then Vancouver Island, this at a moment in which the rest of the island's miners were beginning to act in solidarity.

If the effort to establish one big, island-wide MMLPA union faced reticence and fragmentation from a failed strike in the northern part of the active coalfield, internal

contradictions of the MMLPA undercut this attempt too. As Seager and Perry argue, “objectively speaking, the strike was not a clear-cut battle, but rather a sectional strike of white workers against objectionable employers (1997, 63). This quote perhaps collapses what was a complex and fluid racialized taxonomy,¹⁷⁵ but the reminder that solidarity was partial and not extended to all mine workers is an important one. Asian-identified labourers in the mines, attached or subcontracted to other miners, wouldn’t receive strike pay from the MMLPA. Indeed, Orr notes that protective associations generally, and on Vancouver Island in particular, had conservative hierarchies based upon skill written into their functioning. In times of job action, those at the top of the labour hierarchy were better served. He argues that assistant miners were universally uncovered by the MMLPA’s strike fund, unlike miners who earned \$17 per month, although this is not necessarily clear from the source material he cites.¹⁷⁶

The lack of universal solidarity among miners was a hindrance to the strike itself. Asian miners not afforded membership in or political commonality by the MMLPA continued to work the Wellington mines throughout 1890 and ’91. Extraction waned significantly in the first months after the strike began in May 1890. From May to December, only 47,401 tons were produced, less than one-third of the output over an equivalent period from the previous year. Yet output in 1891 significantly exceeded 1888, ’89 or ’90. Workers not afforded solidarity, and many that had been, continued working throughout the strike, producing few tons of coal at first, then more as additional workers entered the mines to replace the strikers.

¹⁷⁵ Miners identified as black in certain reports, for example, appear to have been considered white in the annual Minister of Mines’ Reports, or were collapsed into one of the other racial categories that the annual reports recognize, like Chinese. By 1895, Cumberland’s yearly employment submissions to the Minister of Mines begin to identify Japanese miners at work at the colliery. As with the practice of codifying race in the reports generally, the classification of ‘Chinese’ miners appears to have collapsed any number of nationalities. Aside from a variety of European nationalities, miners from Pacific islands and African Americans were categorized as either ‘White’ or ‘Chinese’, likely the former.

¹⁷⁶ On this discrepancy, see Orr 1968, 72 fn 43, 75 fn 51 and corresponding pages in British Columbia 1891, cccxxvi – cccxxvii. The numbering in my document differs from Orr, which presents obvious problems. When direct quotes are compared, however, I don’t necessarily see evidence that European mine workers employed by the company directly went without MMLPA support, something that seems strongly implied if not said by Orr.

Even miners in the relatively privileged position of receiving strike funds were having difficulties. A monthly strike wage of \$17 was rather insignificant compared to the \$3 or so dollars many had been receiving daily. To this hardship, Dunsmuir added eviction (Mouat 1988, 8), reviving militia-power to break the union and deny his miners' demands. Mouat figures that only three months after the strike began the number of Wellington miners on the line diminished from 700 at its beginning to 200, with the remaining 500 finding work elsewhere (1988, 20). The depletion in the rank of strikers was matched with the introduction of strikebreakers, and as new miners descended into Wellington extraction stabilized and soon grew. According to R. Dunsmuir & Sons' annual submission to the Minister of Mines, the number of miners employed by the company dropped in 1890 to 646 from 862 the previous year, nevertheless representing a substantial, relative influx of miners given that approximately 700 of 862 went out. In 1891, Wellington employed 957 miners, although that number dropped to 815 the following year.

It is a testament to the Wellington miners' personal strength that many continued the strike through the winter of 1890 and into '91, given the absence of significant pressure on R. Dunsmuir and Sons. The MMLPA represented a considerable, if unrealized, challenge to the family empire's supreme control of its mines. Tully Boyce's attempts to organize a boycott among coal handlers at the San Francisco port was unsuccessful but could have been a decisive interruption of trade flows to the island industry's most important port. Similarly, more complete industry-wide solidarity on the island could have thoroughly restricted access to the mines while providing strikers enhanced support, even if this was basically embryonic and totally inadequate during 1890 – 1. By November 1891, the strike was officially called off, though it had persisted as a merely formal job action for some time. Mixed in with *The Colonist's* usual anti-union bluster and more than one obvious falsehood¹⁷⁷ the paper noted with approximate correctness that “the strike has been alive in name only for a long time” (“The Strike Ended,” *The Daily Colonist*, November 15, 1891), something demonstrated plainly in the colliery's output.

¹⁷⁷ The referenced article states that the “Wellington miners did not complain of the wages they were paid of the hours they were required to work, or of the treatment they received.” This willfully ignores the statements of miners to the Special Committee investigating the Wellington strike, which were presented to the provincial Legislature in April 1891 (Mouat 1988, 25), well before the end of the strike. Regarding the bluster of *The Colonist*, the article continually refers to union organization and demands as “coercion.”

While the Dunsmuir mines were able to continue their basic management policy, the Wellington strike suggested to James and his manager Francis Little that new forms of control might need to be used. Miners were organizing across the island coalfield, in communication and solidarity with one another to address labour issues with management through collective action. The scale of coordination was unprecedented. While miners' demands were unrealized, the experience of the strike lingered, as it did through 1889. The price of labour power had been successfully reduced at Wellington throughout the previous 15 years, control over the working day remained with capital to a greater degree than at VCMLC, however the ability to stabilize or assure this situation was by no means granted. Strikes, protests, and demands for union recognition were the response to the class struggle from above of the Dunsmuir. Across the coalfield, labour power was acting decisively in its interests, in a more (if not totally) concerted manner, a phenomenon to which James Dunsmuir began to proactively respond.

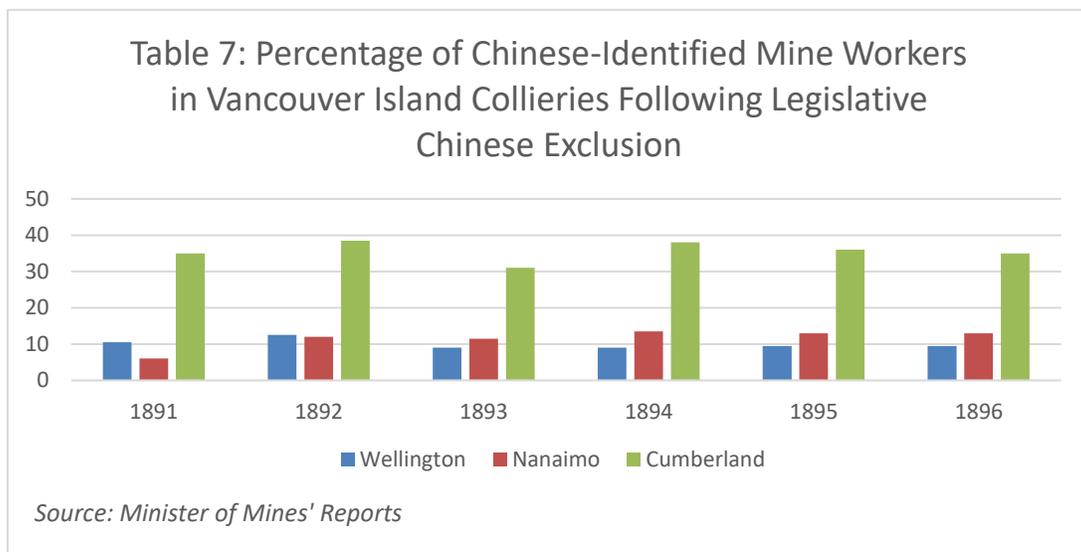
The resuscitation of significant class confrontation around the end of Robert Dunsmuir happened, moreover, within an unstable commodity market for coal, variably affecting producers on the island. In section 5.6, I argued that the termination of DD&C's contract with the Pacific Mail Steamship Company was used as a lever of class power by Dunsmuir, allowing for wage cuts around the 1877 Wellington strike. Going forward, however, technical solutions to capitalist desires of wage reduction (and control)—potentially less costly and more permanent than protracted battles with organizing labour—began to present themselves to R. Dunsmuir and Sons' management. Robins, on the other hand, having fostered collaborationism at VCLMC and allowing a certain degree of control over the working day, faced merely economic pressures. Throughout Robins' tenure, VCMLC had a relatively pacified labour force, willing to help organize Wellington but without significant desire to strike its own mines. Collaborationism softened the antagonisms at Nanaimo, but basic economic tendencies requiring profit and expansion continued to frame developments to the labour process. Into these differing situations, different technical solutions would present themselves.

6.2 A Laboratory of Labour Process: Cumberland, the Technical Augmentation of Racialization through the Introduction of Undercutting Machinery to BC Mines

In April 1890, Chinese-identified miners were forbidden from working beneath the surface by amendment of the *Coal Mines Regulation Act*. Section 5.2 of this dissertation dealt with the political conditions and history through which underground exclusion came about, including the prevailing argument among white-identifying miners that the excluded were an impediment to mine safety. Organization and legislation against Chinese employment in certain areas of mining produced rather dramatic changes in colliery employment. About 32.5% of those employed by Dunsmuir to mine Wellington coal were recorded as Chinese in 1885. By 1891, that number was about 10.5%. In Nanaimo the loss of work was even more dramatic. 38% of reported miners were Chinese identified in 1885, followed by about 6.5% only six years later, although that number would stabilize at around 13% during the next decade.

As discussed in 4.8, the displacement of First Nation's labour by Chinese miners came at the will of mining capital, which sought a more completely proletarianized low-wage workforce to labour in and around the mines. Begun in the 1860s, this transition in racialized exploitation was complete by the late 1880s, around the same time that Japanese workers begin to enter BC's mines. Chinese exclusion was led by a subset of the mining population itself, proceeding in the 1880s through the KoL's proto-unionization of white-identifying miners in Wellington and Nanaimo. Organization for the exclusion of Chinese miners was from its origins essentially a political demand from white miners playing out under the guise of safety concerns. White workers weren't only engaged at underground coalfaces, and there was concern that Chinese workers hindered wage demands and could even be used to displace the higher-wage labour of those working the face. For capital, Robins' grand project of social-democratic harmony had Chinese exclusion, from underground and owning property, as a cornerstone of Nanaimo's development. Despite the increasing displacement of Chinese miners underground following 1887, the project was nevertheless sustained by the hyper-exploitation of Chinese labour, which remained common in Nanaimo if less so and only above ground.

Where Chinese exclusion underground had proceeded in the Nanaimo area, Cumberland experienced no similar phenomena during the same period. Prior to the mine explosions of the late '80s, which acted as a catalyst for Chinese expulsion, it was common for more than 30% of the official labouring population to be comprised of Chinese miners in Wellington and Nanaimo. By 1887, about 46% of reported miners were identified as Chinese across the island coalfield. Yet the decline in the Chinese mining population by about two-thirds to three-quarters of the overall workforce at VCMLC and Wellington through the 1890s came about amid strong Chinese employment at Cumberland, comparable to pre-1887 numbers farther south on the island.



Following the 1888 Wellington explosion, Robert Dunsmuir agreed to remove Chinese labourers from work underground in his mines (Grover and Lambertson 1994, 10). Dunsmuir seemed to believe, however, that this agreement did not apply to Cumberland (Ibid, 10 – 11, Hinde 2003, 25)¹⁷⁸ and began to employ a substantial number of Chinese miners at the new colliery. There is no great mystery as to why this was the case. In 1888, white-identified miners at Wellington earned roughly double the daily pay, \$2.00 to \$3.75, to that of Chinese-identified miners, \$1.00 to \$1.75 (Minister of Mines' Report 1888, 341). In 1887, Wellington employed 258 Chinese miners, with 149 working in the mines but paid by miners (Minister of Mines' Report 1887, 292), while in 1889 only 100 workers identified as Chinese worked there. The Manager Little lamented that

¹⁷⁸ Hinde cites Grover and Lambertson, but I've been unable to find the page for the latter's source.

productivity was higher with Chinese miners employed and even broke with James Dunsmuir on his qualified and partial support of Chinese exclusion (Canada 1902, 76). Wellington had even been experimenting with an exclusively Chinese labour force underground at one of its mines. “We have worked a mine, No. 2, with all Chinese, and never a man killed in it,” Little noted.

It ran for eight years. The Chinese did all the work in connection with the mining, except one overman and two firemen to examine for gas. There were about one hundred fifty Chinese working there and only required the three white men. We found it quite satisfactory in every way (Canada 1902, 76).

The relative adherence to exclusion would play a crucial role in the development of the labour process through the 1890s as well. The ability to hyper-exploit Chinese miners underground suggested particular technical augmentations to the labour process not found at Dunsmuir’s other mines or in Nanaimo. Following Robert Dunsmuir’s death, then, work appeared not only a conglomeration of racialized exploitation within the relations of production, as it had been since shortly after the 1849 land grant, and technical advance in the forces of production, the latter increasingly began to reflect and embody the local conditions of the former. Section 6.4 of this chapter will explore mechanical change to the labour process of BC coal mining prior to 1903. I trace an opposition between the emergence of alternative electrification technologies at Nanaimo and Cumberland, each of which suggest the culmination of different tendencies and struggles, contained by some basic economic parameters set by capitalist accumulation. In anticipation of 6.4, the next section revisits the philosophy of mechanical developed produced in chapter two.

6.3 Development and Dispossession: A Reassessment of the Conceptual Labour Process Theory Introduced in Chapter Two

The first two research questions posed in this dissertation have been answered. The third—what social relationships produced technical change in island coal mining and what did this change look like—has had a good deal of theorization proposed toward doing so. Chapter two explored Western-Marxist theories of technology in capitalism from Lukács and Feenberg to labour-process theory, producing a unique theory of mechanical change, what I called the *critical theory of mechanical development*. Storey’s work on a

theory of socially-constructed labour control was particularly helpful among the labour-process theorists discussed. For Storey, management is always interested in the regulation of what workers do when they labour. Yet the terms of this control are indefinite in practice: negotiated or struggled over, dynamic and sought at multiple levels. If much of the interest in Braverman's work has concerned deskilling machinery, the control that he conceptualizes certainly exceeds the merely technical, a tendency that Storey follows. Along with Feenberg and Lukács, Storey emphasizes totality and contradiction in this process, and, along with the former philosopher, social construction. The result is a theory of control and technology, situated within capitalist totality, that allows historically specific forms of work to travel down multiple paths as they develop. Added to this, Feenberg's critical theory provides a more precise model for considering the local particularities of technological change than Braverman suggests. All this means to account for alternative dispossessive techniques of managers and similarly uneven responses by labour.

Relatedly, the discussion of alienation in 5.7 established the phenomenon as something both abstract and concrete. That is, Marx identified alienation as a tendency of capitalism generally, though one in which we may see various developmental paths based in local conditions, strategies and opposing tactics. This is true of each of the four moments that he identifies in workers' experience—alienation from the fruits of their labour, in the labour process itself, from one another and from our socially productive existence—for which Marx drew from historical markers. As the estrangements and losses that Marx identified in history were codified as theory, however, they were also treated as ongoing.

[T]he worker is related to the product of his labour as to an alien object. For it is clear that, according to this premise, the more the worker exerts himself in his work, the more powerful the alien, objective world becomes which he brings into being over against himself, the poorer he and his inner world become, and the less they belong to him (Marx [1844] 1992b, 324).

Here, Marx calls our attention to alienation through the intensification of exploitation, but losses mount in other ways and the details are left open for history to fill. While estrangement from control over what's produced is a necessary condition for capitalism to emerge and the basis for the other three characteristics, it is also an adaptive process rooted in expansionary tendencies of capitalism. Through Harvey (2003), I noted in 2.6

that many social processes contributed to Marx's view of primary dispossession—or so-called primitive accumulation—including the enclosure of lands, suppression of indigenous ways of life, and the appropriation of formerly common natural resources (145). On Vancouver Island, the E&N land grant and railway facilitated each of these, while further consolidating the power of Robert Dunsmuir. Transportation and communication appeared as dispossessive techniques of capital—alienating land for the purposes of technologically aided colonial settlement and accumulation. This furthered the originary dispossession by grant of the island to HBC as well as the Douglas treaties.

These dispossessions were external yet constitutive of and complementary to the labour process of mining. Nevertheless, much of what chapters four and five established was the failure of capital to intensify exploitation internal to extraction in any meaningful way, despite considerable technological augmentation in mine systems through the 1880s. What machinery entered island mining, under and aboveground, from the 1850s to the '80s primarily aided in the transmission of coal, expediting local circulation as mine systems expanded, without intensifying extraction. Tramlines above and beneath the land were, for example, certainly labour-saving technologies, but these expansions failed produce greater output at lower variable-capital prices, all other things being equal. Where wage reductions were achieved by capital, this took place either through direct forms of class struggle and coordination within mining capital, as in Wellington 1877, collaborationism between management and workers, which prevailed at VCMLC and resulted in very similar mining wages to the Dunsmuir mines, or the lowering of total variable capital by paying less to miners or colour.

In Wellington, Robert Dunsmuir had been basically capable of reducing miners' wages when he saw fit. Yet the 1890 – 1 strike and emergent trade-unionism across the coalfield represented a more cohesive effort on the part of workers at re-establishing previous wage norms and enhancing worker-lead control of extraction. Meanwhile, at VCMLC, racialized collaborationism continued. The culmination of the island's divergent management techniques at the end of the 1880s was basically equivalent, as the threat of strikes and work stoppages had been significantly curtailed. These differences would, however, continue to ramify into the '90s, structuring technical changes to the labour process.

6.4 Technological Changes at the Coalface and Elsewhere

Since the decease of Mr. Dunsmuir his son, Mr. James Dunsmuir, a thoroughly practical man, has succeeded to the presidency of the company, and has continued the energetic policy of his father in the introduction of modern machinery, and not least the power of electricity, to make the Union colliery [at Cumberland] second to none on the Pacific slope for the possession of modern appliances and improvements in mining (Planta 1894, 307).

In 1891, James Dunsmuir's Union Colliery Company of B.C. Limited began using coal cutters made by the Jeffrey Company of Columbus, Ohio. Cumberland had four in its No. 4 Slope by summer (Minister of Mines' Report 1891, 587) and moved forward with the same number until at least '94. The machines were specifically undercutters, or underminers, of the bar-type. Powered by electricity, the Jeffrey Bar Cutters first at use in Cumberland worked by slicing holes at the bottom of a coal seam. A series of teeth made of tool steel attached to a cutter bar would begin to enter the coalface at the seam bottom, powered by engines on surface. The toothed cutter bar was driven by chain and measured ninety-nine C in length,¹⁷⁹ the entire machine was about three-and-one-third M long, or eleven feet, and it took around four minutes to make its cut. In that time a hole ninety-nine C deep, 183 C wide and ten C high would be in the face.¹⁸⁰ The cutter bar was then pulled out of the cavity and the machine assembly moved across to make an identical cut in the face adjacent to the previous and so on down the line. Within No. 4 Slope, two cutters on either end of a given stall were often used, moving toward each other at the middle with every cut. When the undercutting was complete, shots were set into cavities at the edges of the cut series and the slab would fall into pieces after firing to then be removed from the mine. The bar cutters were worked by two miners, one driving the machine and another acting as a helper, especially in moving it from cut to cut¹⁸¹ (ibid and *Canadian Mining and Mechanical Review* 1891, 19 – 20).

There is some confusion over the type of Jeffrey machine used in 1891, likely stemming from the fact that the Minister of Mines refers only to cutting machines made by

¹⁷⁹ Or 39 inches (Minister of Mines' Report 1891, 587).

¹⁸⁰ 183 C is six feet. Ten C is four inches.

¹⁸¹ Jeffrey also produced motorized cars and locomotives for haulage, coal screens, and chain-belted coal elevators, among other coal-mining devices.

Jeffrey and used at Cumberland without ever mentioning the type of cutter. In his description of the first coal-cutting machinery on Vancouver Island, Hinde mistakes the bar cutters at Cumberland for a chain-type of cutter also made by Jeffrey (Hinde 2003, 79). Unlike the equipment described by the Minister as a “cutter bar three feet, three inches long” where “at regular distances from each other is set teeth” (1891, 587), chain cutters operated like a more contemporary chainsaw (Dix 1988, 30), with a rotating chain or disc undercutting the coal seam, usually with a broader cut. The type of undercutting machinery is worth establishing because Jeffrey’s bar system struggled in spaces less than about 2 M in height (Snell 1894, 688), while the chain-type cutter, used in 1899 in the provincial interior, would be much more conducive to the longwall method used in the province’s narrower seams. No. 4 Slope at Cumberland, by contrast, held a typical height of about 213 C, or seven feet, and was generally worked by the pillar and stall method, despite dipping to under 100 C in some places.

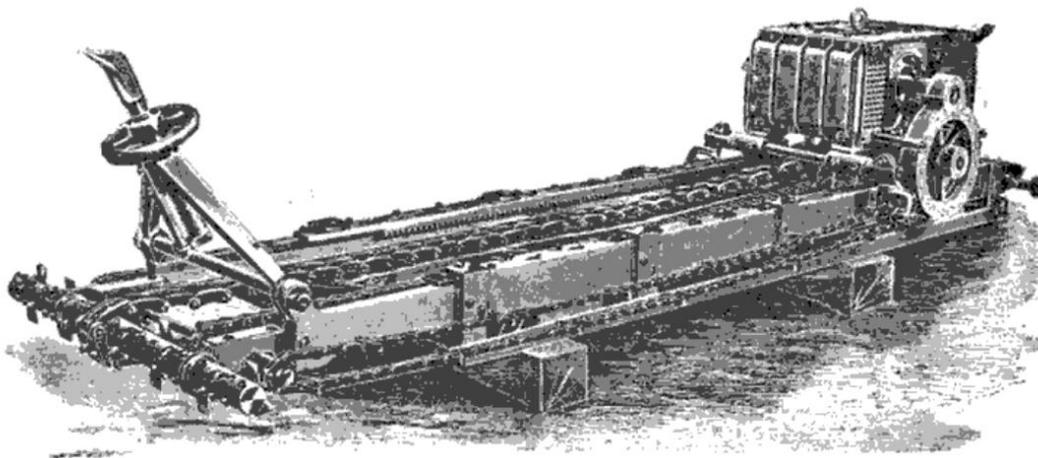


Image 12: Drawing of the Jeffrey Bar Cutter. Artist Unknown. In Snell 1894, 687.

In use, the bar cutter represented an advance in absolute and relative output from several of the modifications it made to the extractive process. With only two charges set, the coal released from its tether was in better condition than in hand mining: less coal was destroyed in the loosening blasts. More useable, saleable coal could be extracted over equivalent space. “They do good work,” the Minister of Mines noted, “and, what is about the hardest to do, Viz., undermining” (Minister of Mines’ Report 1891, 587).

More significant than the savings of coal were the bar cutter’s deskilling and labour-saving properties, its simplification of “what is about the hardest” work in mining and

reduction of costs per ton of output. If more coal was being removed in the same space, it was also being done in less time. Indeed, the Jeffrey Bar Cutter reduced the amount of work required of coal diggers to separate slabs from the face. It is, nevertheless, difficult to measure the exact quantitative improvement in Cumberland's output from the use of the cutters. The 1891 Minister of Mines' Report states that in early use cutters were able to undermine about 27 M of coalface in a day, but this doesn't explain much given that output was measured in tonnage. Annual output reports to the Minister of Mines were also listed by colliery rather than individual mines within the colliery system—say Cumberland no. 4 and no. 2—which would affix a considerable 'all other things being equal' to any quantitative assessment looking to attach an exact number to mechanical productivity. Yet some observation may nevertheless be helpful, if not for determining the precise measure of output advanced by the technology, then more simply as a general marker of intensification in digger output (in addition to producing less damaged coal).

Toward establishing something like an expected increase in productivity, one European colliery owner estimated that his bar cutters, at use in single shifts across the working day, could easily produce 60 tons (Snell 1894, 687 – 8). As Belshaw notes, pillar and stall would generally require one to two coal diggers with another two or three involved in moving the loosened coal from the face and supporting digging more generally (2002, 81), with little variation necessary for the addition of bar cutters. At ten tons per individual shift, the bar cutters represented a considerable expansion. At Cumberland in 1891, the most productive diggers were producing six tons per day, at a pay rate of \$0.75 ton for a total of \$4.50. A 40% increase for stalls using the bar cutter seems, on the face of it, to be rather dramatic. The same mine owner quoted in Snell conservatively saw a 15% advance in output from the Jeffrey bar cutter used in a seam of about 1.5 M or feet thickness (1894, 688). In terms of cost savings, the *Canadian Mining and Mechanical Review* noted, speaking generally, that "that the saving on average is from 25 to 33.33%" (1891, 20). At Cumberland, following the relatively stagnant year of 1891, in which workers were becoming accustomed to the bar cutters, and 1892, in which the colliery was idle for half the year (Minister of Mines' Report 1892, 556), output per miner substantially increased, from about 200 tons in 1890 and '91 to well over 300 from 1893 to '95, working out to a 63% increase in output per worker, 1890 to '95. Some of this percentage gain is no doubt attributable to general conditions common to any new and expanding mine system.

However, that output would surpass the 15% cited by Snell is perhaps not a surprise given that Cumberland's No. 4 seam was generally 40% thicker.

Increased output at Cumberland from the use of four Jeffrey Bar Cutters ranges somewhere from significant to exceptional.¹⁸² Yet the importance of undercutting technology to Vancouver Island mining generally has been questioned. Hinde—whose account of the cutters is the most complete of labour-saving technology in the island's mines to date—has correctly reasoned that the Jeffrey machinery didn't necessarily revolutionize island extraction, especially given that it was only in use efficaciously at Cumberland through 1898.¹⁸³ Given what seems to be the bar cutter's obvious technical superiority for mining capitalists and management—a labour-saving device that would “tend to their own profit and interest” (*Canadian Mining and Mechanical Review* 1891, 20)—why didn't undercutting machinery become universally deployed across the island? Hinde provides several reasons: potential bottlenecks emerged because loading loosened coal for removal from underground still took place by hand; the Jeffrey machines represented high fixed-capital expenditures; unstable geological conditions prevented the use of mining machinery for safety reasons, and the machinery also created other dangers for miners; the machines were destructive of valuable coal; and, related to the emerging bottlenecks, the Jeffrey cutters failed in practice to significantly increase productivity (2003, 81 – 2).

While concerns over the stability of island coal seams have been frequently noted, in practical accounts on the functioning of the coalfield and in subsequent histories, several of the other reasons that Hinde mentions seem overstated. Essentially the focus of technical change from the 1850s, advances in underground haulage had created local-circulative capacity throughout the island coalfield as it developed. Robert Dunsmuir had also been manufacturing rolling stock in Victoria since the 1880s. With Albion Iron Works

¹⁸² By the end of the century, the capacity of the more advanced Jeffrey Chain Breast Cutter was listed in one B.C. mine system at about 100 tons per day (Minister of Mines' Report 1899, 825) at whichever wall or stall it worked, greatly surpassing estimates of output with comparable living-labour inputs.

¹⁸³ Upcoming pages will discuss the limited use of electric-cutting technology at Wellington beginning in 1893.

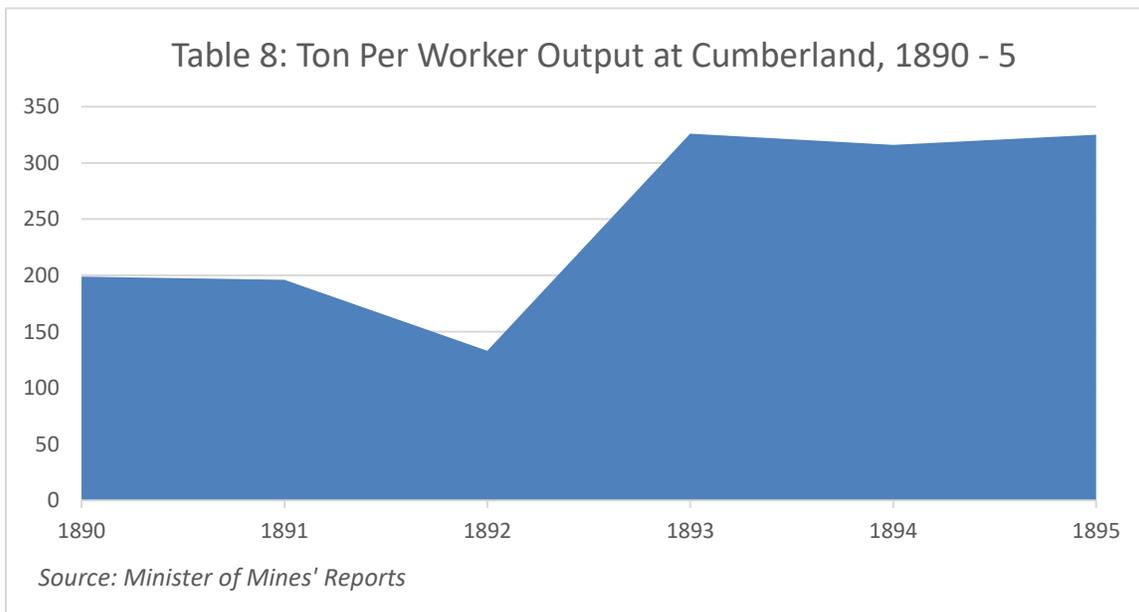
also producing mining equipment (Minister of Mines' Report 1987, 617), the empire could easily obtain any additional railway cars needed. While coal was loaded by hand, simple addition of more on-cost miners could also alleviate bottlenecks. Jeffrey cutters did indeed destroy some coal during the undercutting process. On the other hand, they saved a significant amount that would have been destroyed from the more intense blasting associated with hand drilling.¹⁸⁴ The high fixed-capital investments that came along with heavy machinery like the Jeffrey Bar Cutters would be prohibitive, of course, if they failed to produce some tangible benefit for mine owners. Yet the previous paragraphs demonstrated that productivity increases at Cumberland were, at the very least, significant when the cutting machinery was in use for an entire year. Indeed, the *Canadian Mining Manual* noted of the Jeffrey Bar Cutters at Cumberland's No. 4 that the "work done has proved a saving of powder,¹⁸⁵ coal, and labor, and in places where such machinery can be used, its use may be economical" (Planta 1894, 308).

Unlike Hinde, I believe that the use of undercutting machinery developed on the island as it did because of basically concrete social factors unique to the colliery. In practice, there were three reasons why the introduction of undercutting technology happened first and prominently at Cumberland, not at all at VCMLC, and barely if at all at Wellington: (1) managerial ideologies manifest in the level of development in island mining, (2) the inconsistent realization of racist legislation that excluded Chinese miners from work underground, and (3) the uneven spread of unionization and working-class organizational power within island coalfield. Like Hinde, I believe that we need to account for *why* the technology did not develop universally. I want to emphasize that while the Jeffrey machines worked very well in the specific context into which they were introduced on the island, under their own particular social horizon, they would likely have exceeded the output of hand mining in most circumstances.

¹⁸⁴ See section 4.7 for a discussion of blasting.

¹⁸⁵ Powder seems, however, to have been generally purchased by the miners themselves.

At Cumberland, the mechanical productivity of the Jeffrey Bar Cutter was indeed even more pronounced than it would have been elsewhere on the island, all other things being equal. Reductions in variable capital from the Jeffrey machinery need to be understood in conjunction with the work of Chinese miners underground, unique in the province to Cumberland during most of the 1890s, following Chinese exclusion elsewhere on the island. Increases in technology relative to labour proceeded through a hyper-racialized labour process on the island. Section 6.2 showed that a massive transfer of Chinese-identified mining labour from Nanaimo and Wellington to Cumberland occurred in the three-or-so years preceding the introduction of Jeffrey cutters. From 1891 – 6, over 30% of the workforce at Cumberland were Chinese-identified while that number hovered around 10% at Nanaimo and Wellington. I've noted at several points throughout that Chinese on-cost workers made about half their white-identified counterparts, even less than that against diggers' pay.



Of the implementation of cutters, Bowen writes “electrical coal cutting machines” at Cumberland’s No. 4 Slope “run by Chinese labour effectively reduced the number of skilled white miners required” (1987, 326). I have been unable to determine whether Chinese-identified miners at Cumberland had indeed been using the Jeffrey cutters, although it is highly probable. The manager Francis Little believed he could run mines with an entirely Chinese workforce, except for machinists and blacksmiths (Canada 1902, 77). In running the mines this way, Little found that Chinese miners with much less training

than white miners were able to produce at about 60% of the rate of the latter (79), while Jeffrey cutters enabled miners without the hard-won skill of diggers working by hand to accomplish the same task, whether white or Chinese. In 1891, the *Canadian Mining and Mechanical Review* put it this way:

The construction is very simple, so that any person of ordinary intelligence can understand and handle it with a few days' instructions. Some of the advantages of its use may be thus summed up: The saving in the reduced cost of mining; the saving and better condition of coal; it cuts away but four inches of the seam; the work is concentrated in the [?], requiring but one-third the number of rooms to produce a given number of tons of lump coal, as compared with hand labour... (20).

Even without a transition from white-identified to Chinese-identified diggers, the machinery represented a significant savings in variable capital costs, undercutting the social wage of Cumberland by reducing cumulative labour and allowing for hitherto non-diggers to separate coal from the seam. Given labour saving at the coalface, more workers could be employed in related though less expensive on-cost work—loading and moving coal around the mines, even laying track. In this way, the displaced Chinese miners of Nanaimo and Wellington were being used as a kind of co-technology at Cumberland, along with the bar cutter, to reduce the overall price of coal through relative labour savings. Cumberland's No. 4 was, in effect, a racist co-constitution of machinery and miner that reduced the latter to the former toward increasing productivity.

Interestingly, there do not appear to have been any significant protests among white miners regarding the introduction of cutters at Cumberland. Hinde writes that the

mechanization of mine operations on Vancouver Island was rarely if ever a source of conflict and tension. Most of the improvements in ventilation, haulage, and lighting directly benefited practical miners as well as the on-cost workforce. In addition, few men complained about the introduction of cutting machines. The main source of discontent came from the operators' attempts to reduce labour costs, their primary method of ensuring production and profits (2003, 82).

The cutters did reduce variable capital costs, however. They enabled fewer coalface workers to remove more coal, with hyper-exploited Chinese miners and runners making up a higher percentage of the workforce. Relative to Wellington and Nanaimo, the MMLPA

was weak in Cumberland throughout the 1890s.¹⁸⁶ The “union spirit,” to borrow a phrase from Bowen’s book, was severely hobbled in the Comox area. Miners that may have protested the introduction of deskilling and labour-saving machinery at the coalface retained less collective power to do so compared to others further south. Indeed, by the end of the century, Cumberland’s miners had effectively begun cooperating with capital in the hyper-exploitation of Chinese miners, employing Chinese-identified helpers underground (326). By 1903, Little was charged for promoting the practice of employing Chinese miners below ground.

Mines Inspector Thomas Morgan went to Cumberland in early June [1903] and reported that because of the employment of so many unskilled Chinese workmen many safety precautions were ignored in the mines. Acting through the Attorney-General's office, Inspector Morgan laid a charge against F.D. Little, general manager of the company's operations at Cumberland (Orr 1968 175 – 6).

This was in stark contrast to Nanaimo which continued Chinese exclusion into the twentieth century (Canada 1904, 406).

At Dunsmuir’s other major colliery, Wellington, the ‘90s represented the last decade of significant extraction. By 1900 the only work left was in robbing the underground pillars left standing of their coal. Most of the Wellington miners’ work by the end of the century had moved to Extension, which had begun to take shape by 1896. However, it was not simply that the Wellington mine system closed, instead the colliery town of Wellington itself would have to move, and the location of the new miners’ town was not at all clear.¹⁸⁷ It was unknown if the new company town would be in Extension, where the new mines were, or Ladysmith, about twenty K south on the island. Following a protracted battle with Robins at VCMLC, Dunsmuir’s port would change from Departure Bay, 5.5 K north of Nanaimo, to Oyster Harbour, about twenty-three K south of the city, effectively ensuring the move. The Extension mines were roughly eight K from Nanaimo, but E&N connected the locations. Some Wellington miners had relocated their homes to Extension, at considerable expense, but this proved to be a mistake when Dunsmuir decided he

¹⁸⁶ See section 6.1. Bowen notes that Cumberland attempted to organize again in 1895 (1987, 327), but that this effort was ultimately short-lived.

¹⁸⁷ Hinde’s *When Coal was King* (2003, 28 – 34) provides an excellent description of the move, and I follow his account unless otherwise noted.

would erect his company town in Ladysmith. The owner gave several reasons for choosing the site, including the quality of drinking water, health and surroundings for his miners (Canada 1904, 243).¹⁸⁸ Proximity to Nanaimo was also a factor, which Dunsmuir perceived as “the reason of a lot of trouble between our workmen” (ibid), presumably meaning union organizing efforts centered in the city. Hinde concludes that the decision to move to Ladysmith was basically an issue of control, influenced by the proximity to Nanaimo but also because “Dunsmuir had failed in an earlier bid to purchase the land surrounding the Extension mines, and hence was unable to erect a company town there” (2003, 33).

Some electrical coal-cutting machinery had been introduced at Wellington (Minister of Mines’ Report 1893, 1099), but the Minister of Mines’ Reports indicate that it was generally far less impactful than at Cumberland. Productivity at Wellington remained basically stable 1892 - 7, a far cry from the near-doubling at Cumberland, as shown in table eight. It seems, therefore, fair to speculate that the level of fixed-capital investment in the electric coal cutters at Wellington was far less than in Cumberland. Within the trade press, there was indeed no comparable level of praise for innovation at Wellington, if any at all. Productivity in the collieries was, moreover, quite similar by 1893, suggesting that the most preferential conditions for the machinery were found in coordination with the lower variable-capital inputs from hyper exploitation at the Union Colliery Company. The cutters allowed more coal to be separated from the face in a shorter period. More significant productivity gains were found, however, in the combination of the technology with immiserated labour of Chinese runners.

The exclusion of Chinese miners from underground work at Wellington, as well as the more cohesive organization of its miners, resulted in the muted introduction of electric-cutting technology there. The co-determination of labour-saving machinery and racialized hyper-exploitation that emerged at Cumberland was impossible further south on the island after 1890, where Chinese employment was limited to surface work, as detailed in section 6.2. In effect, the gains that would be realized from transferring variable capital from high-

¹⁸⁸ Hinde points out that James Dunsmuir had no problem with miners at Wellington living near the pithead (2003, 33).

skilled hewing to loading and running would be halved, at least, given the wage discrepancy between white and Chinese-identified miners.

The labour movement in the mines remained relatively cohesive if exclusionary in Wellington, even after 1891—perhaps partly due to the proximity to Nanaimo that aggrieved Dunsmuir—and Chinese prohibition had a tradition among the labour aristocracy of the colliery's white diggers. Week-long strikes took place in 1893 and '94. By contrast, only a minority of more radical miners from Britain attempted to stop extraction at Cumberland throughout the decade, where a conservative 'lodge' culture dominated. Speaking of developments during the decade and into the new century, Orr writes that "Cumberland became a company dominated camp; a conservative employer, his manager and foremen, the town merchants and their newspaper, established with the cooperation of the most settled and conservative miners" (Orr 1968, 93). Wellington miners also had political representation, at least from 1890 - 4. From the Nanaimo area, all three elected representatives—two miners, Forster and Keith, and one farmer, McKenzie—were MMLPA endorsed, each of whom also backed Chinese exclusion from underground (Hinde 2003, 131). In effect, the organization of Wellington miners, continuing to reflect ideas like those of the island KoL in the '80s, cultivated the conditions for Chinese exclusion and sustained the practice. Such ideas were nakedly racist of course. Their appearance in provincial legislation was nevertheless a fact that slowed the expansion of electrified coal-cutting machinery at Wellington, manifested in the labour process.

Electrification and mechanical change in Nanaimo's mines reflected very different conditions than either Wellington or Cumberland. Section 5.2 dealt extensively with the competing managerial ideologies of the Dunsmuirs, Bryden and Little against VCMLC with Robins as the superintendent. I described the difference as one of the domineering paternalism of the former and the racial *noblesse oblige* paternalism of the latter. Dunsmuir's control over the composition of the Cumberland mines, operating outside of provincial legislation where Wellington did not, supported the effectual introduction of coal-cutting machinery as implements of mechanical productivity where it stumbled

elsewhere.¹⁸⁹ In Nanaimo, collaborationism between miners and management led to a protracted labour peace and, in 1891, the first CA in the province. Miners, to much greater degree than at Wellington or Cumberland, had input into the day-to-day functioning of mines. This proceeded through the formation and maintenance of pit committees as well as bi-yearly meetings between miners' representative and Robins to discuss work and wages (Canada 1904, 295).

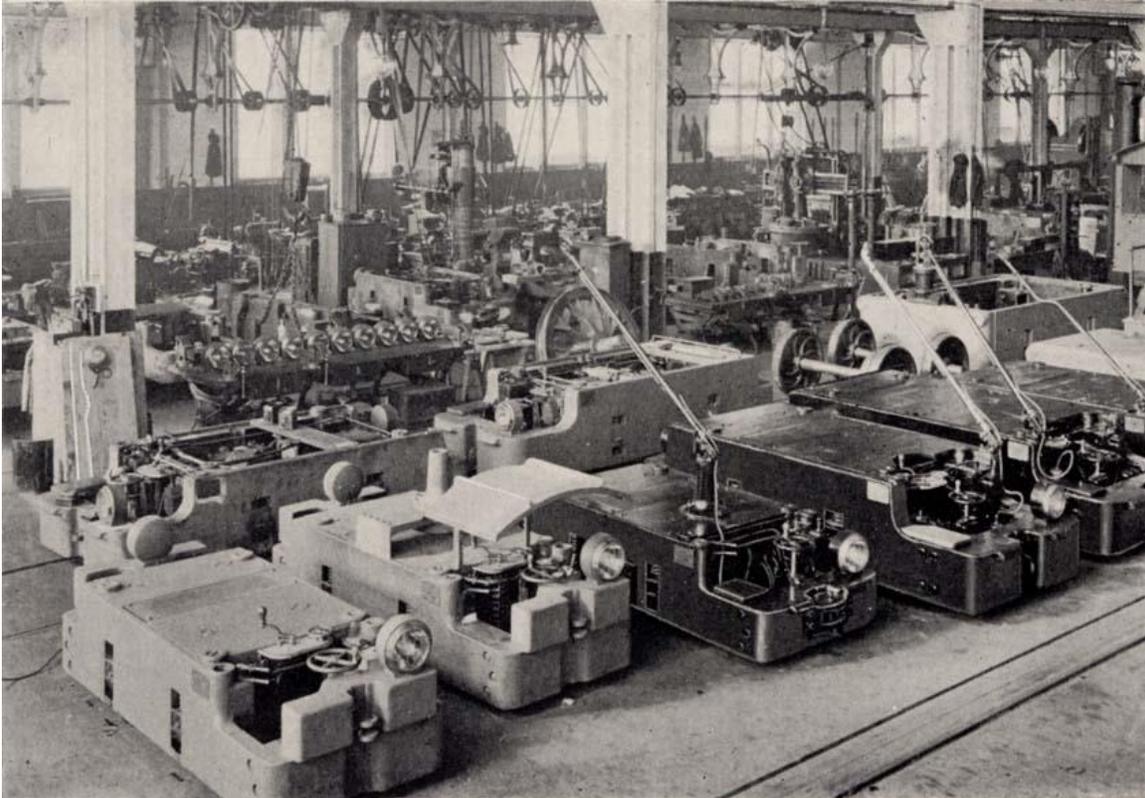


Image 13: Electric locomotives for underground mining assembled by General Electric in Schenectady, NY. American Institute of Electrical Engineers, 1904.
http://www.schenectadyhistory.org/resources/seh/locomotive_dept-200.jpg

In 1892, VCMLC, like Cumberland, electrified mine work. Electrification proceeded in Nanaimo through the introduction of a haulage system at the company's No. 1 Pit, Esplanade, working in levels one and three, wherein in the predominant motive power for haulage prior to 1892 was mule. The Edison-designed system consisted of three

¹⁸⁹ It may be interesting to note here that the 1899 introduction of chain cutters to the Coal Creek Colliery, in the interior of BC, took place *only* a year after the colliery first appears in the Minister of Mines' Reports, where Nanaimo hadn't, and Wellington was only marginally invested.

locomotives and cars running on tracks, with power coming from a dynamo on the surface, which converted steam engine derived energy from an imposing building erected near the pithead. Two of the locomotives produced about thirty HP, the third about fifteen, and each could travel at about ten kilometres per hour. The heavier locomotives could easily carry about sixty tons at a time (Minister of Mines' Report 1892, 550 – 1). Image thirteen shows electric locomotives produced by General Electric¹⁹⁰ around 1904 that are similar in design to those used for underground haulage in the early 1890s.

In Nanaimo, the introduction of the haulage system followed shortly after the first CA between VCMLC and its miners, signed July 24, 1891. While the memorandum of agreement fails to make explicit mention of worker participation in the terms of mechanical change or the labour process, it officially vested Nanaimo's miners with power over the working day nevertheless. Legislation within the *Coal Mines Regulation Act* granting miners the ability to form pit committees had already brought mechanical change under the concern of the province's miners. In full the memorandum agreement reads:

1st. The Company agrees to employ miners and mine labourers only who are already members of the Miners and Mine Labourers' Protective Association, or who, within a reasonable period after employment, become members of the Association.

2nd. The Company agrees to dismiss no employee who is a member of the Association without reasonable cause.

3rd. The Association agree that under no circumstances will they stop work by strike without exhausting all other means of conciliation available.

4th. The Association agree that they will not interfere with the Company in employing or discharging employees.

5th. The Association shall comprise all men employed underground, excepting officials and engine drivers, and above ground all day labourers, not officials, engine drivers or mechanics.

¹⁹⁰ Both Edison and Jeffrey produced cutters and haulage systems. It wasn't as though there existed divergent preferences for one manufacturer over the other in Nanaimo and Cumberland.

6th. This agreement can be terminated by 30 days' notice on either side (cited in Canada 1902, 76).

Of most significance to the labour process are the first and second items, which established a closed shop in the mines. With these conditions, MMLPA miners at VCMLC could assert a degree of control over who joined their ranks, while deepening extant collaborationism with Robins. Although union miners agreed in item four not to intervene in employment decisions, they were nevertheless in control of their membership. New miners, not already MMLPA members, were required to join after a time or look elsewhere for work. This was not so much a significant departure in labour practice than the codification or expression of existing, sedimented collaboration that had characterized Nanaimo since the mid-1880s.

Though already entirely racialized toward white supremacy, collaboration did not benefit white diggers and on-cost workers equally.¹⁹¹ “The MMLPA included not only hewers but also less skilled or unskilled mine labourers,” Belshaw writes. However, “leadership figures came almost exclusively from the ranks of the former” (142).¹⁹² Control over the labour process and who could become a digger and mine worker generally buttressed the position of Nanaimo’s diggers at the exact moment deskilling machinery was entering the coalfield, in summer 1891. The deskilling aspect of the Jeffrey Bar Cutter—its ability to reduce the work of diggers from high-skilled to that which “any person of ordinary intelligence can understand” and accomplish with little instruction—represented a significant threat to their position atop the labour hierarchy, their wage, and continuing necessity to mining capital. If it didn’t solve the problem machinery posed for high-skill diggers, the 1891 CA nevertheless limited VCMLC’s ability to train on-cost workers on the Jeffrey machines, hyper-exploit racialized labour below the surface, or so

¹⁹¹ As the union’s name makes clear.

¹⁹² This was, in part, also about high wages for diggers. William Stocker, MMLPA President in the early twentieth century, testified in 1902 that “more in the purchase of supplies. I would be better off if the Chinamen [*sic*] were not here. I consider the more money I am able to [make?] the better member of the community I will be, and would be able to do better by my family in the way of giving my little girl education and in affording my wife more luxuries—all-round living better and spending more in the community, yet still saving and making a little home for myself and settling down as a good citizen” (Canada 1902, 87). Belshaw also cites Stocker’s self-interested views (2002, 142).

the co-determination of racialized labour with undercutting machinery in its mines, if the company so wished.

Yet labour savings remained within the view of Robins and VCMLC. The large-scale transfer of Chinese on-cost workers out of Nanaimo's underground in favour of white mine labourers represented a significant variable-capital cost increase for the company. This, around a time when Dunsmuir and VCMLC mines were shutting down for periods, sometimes months at a time because of low international coal prices (Minister of Mines' Report, 1892, 551, 6). Chinese exclusion (and low international coal prices) indeed produced a barrier to accumulation and—in Nanaimo, therefore—white, municipal-socialist hegemony. It is this problem that Edison's electrified underground tram system in Nanaimo's mines was introduced to solve.

Electrified underground haulage machinery was introduced to account for the economic fallout of racial exclusion, as Chinese-identified workers had been most of the island's coal runners. Racialized and classed mechanical development was therefore established in two predominant lines of development on Vancouver Island, exclusion and inclusion, antagonism and instrumentalism. These lines of development in the labour process were, moreover, the culmination of class struggle and economic imperatives that had for years been developing alternative histories in the island's collieries.

These were the social and economic relationships that produced technical change in Vancouver Island's coal mines. Mining capital was a system of fluid and discriminating inclusion and exclusion as the labour process developed through models of control structured by exploitation and alienation. The industry was, in other words, able to support contradictory management techniques and alternative technical histories. Capitalist extraction allowed these paths while being ultimately constrained by economic imperatives and a general need for control, something both Storey and Feenberg understand about more recent aspects of work and technology. Changes to the labour process in Cumberland 1891 and Nanaimo '92 were indeed part of larger techniques to dispossess workers' power in different forms. In Cumberland, the Jeffrey Bar Cutter was straightforwardly deployed to deskill work at the coalface and reduce mining costs. Organizationally, the labour movement had been weak in Cumberland since 1890, and

the introduction of the cutter was both a result and, moving forward, agent of this weakness. In Nanaimo, Edison electric haulage machinery produced no comparable threat to the skill and employment of coal diggers. Technological change was instead introduced to solve the problem of Chinese exclusion from the job of underground coal running, while expediting local circulation. If anything, the added capacity of No. 1 Esplanade's electrified locomotives suggested *additional* work for diggers.

In Nanaimo, the problem of extraction without interruption by labour that mining capital faced had been temporarily solved by the negotiated relationship miners held with Robins. Even the president of the miners' union in Nanaimo, Thomas Keith, signed on to a public address that praised Robins at his retirement ("Presentation to S.M. Robins," *The Daily Colonist*, March 1, 1903).¹⁹³ Labour struggles under John Bryden in the late 1870s and early '80's no doubt helped to produce the subsequently mollified labour relation, as the company's board was dissatisfied with the results of Bryden's direct antagonisms. Yet this softening was, all the same, a moment in which the strength of mining labour, particularly of diggers, saw the class antagonism of capital displaced onto a racialized Other.

That the natural antagonisms between labour and management were only assuaged temporarily became clear shortly after the turn of the century. Following the sale of VCMLC to WFC, miners were instructed that "for the future a different policy will be insisted upon by those who own the property; labour must be considered a commodity" (*Nanaimo Daily Herald*, August 19, 1902, quoted in Orr 1968, 118). The 1902 sale to the California syndicate encouraged the sort of agitation that was previously dormant in Nanaimo. By early 1903, Robins was no longer superintendent of the Nanaimo mines, having enjoyed a late February send off. Between his departure and testimony to the Royal Commission on Industrial Disputes in May, miners had gone on a week-long strike to preserve a 25¢ head-lamp allowance, which WFC management sought to rollback contrary to the CA ("More Evidence at Ladysmith," *The Daily Colonist*, May 23, 1903). Here, however, Nanaimo miners went out around the time of their counterparts elsewhere in the province. WFC miners had joined the more powerful American WFM before those

¹⁹³ Robins was also presented with a silver waiter by miners formerly of VCMLC, now WFC.

at Ladysmith and Cumberland. The latter had signed in March and April, and Dunsmuir mines were closed by latter mid-month—within a week or so of Cumberland affiliating—as miners sought recognition of their new union. 1903 indeed marked the beginning of a new cycle of labour struggles against island mining capital. Although strikes proceeded through the organization of the American WFM, their reasons were entirely internal to the coalfield, as Orr has shown (1968).

Mechanical development in the island's mines would also continue, of course. The general view has, however, been that dramatic changes in mechanization were delayed until the twentieth century. Hinde is correct that the introduction of Jeffrey deskillling machinery was rather unremarkable in terms of total coal mined on the island during the nineteenth century and, for that, in Canada generally. He notes that in the "United States, where 24.9% of coal was machine-mined by 1900, in 1915 only 10.43% of provincial coal output was mined by machine, and 89% of that was produced by the Western Fuel Company in Nanaimo" (2003, 81). Substantial mechanization occurred, though this took time. Extraction in Vancouver Island would only be "truly revolutionized," Hinde continues, in the 1930s when haulage and loading systems were mechanized (82). Although the provincial reports do not give an annual account of hand-produced and machine-produced coal, by 1935 over 60% of the provincial coal mined was machine-mined (Minister of Mines' Report 1935, G10). Likely referencing the same dynamics, Burrill writes that

Coal mining in general, and on Vancouver Island in particular, is an industry in which the real subsumption of labour did not take place until the twentieth century. Until that time technological innovation, the application of machinery, was confined to methods of moving coal from the underground workings to the surface, from the pit mouth to its destination, pumping water and circulating air (1987, 96).

Quantitatively, if not qualitatively, I hope that this penultimate section showed the limitations of this thinking. If mechanization at the coalface only became considerable in subsequent decades, undercutting machinery nevertheless represents the entrance of deskillling technology into island mines. The mechanization of the mines during the first decades of the twentieth century, which Burrill and Hinde cite, have their political-economic and technical antecedents in the changes to the labour process during the 1890s.

6.5 Conclusion: Circulation, Dispossession, and the Labour Process of Coal Mining on Vancouver Island, 1849 – 1903

From the January 1849 Charter of Grant, coal mining on Vancouver Island progressed through a series of stages.¹⁹⁴ At Fort Rupert, HBC struggled to resolve its mercantile history and methods of social control with Scottish miners' experiences of free labour and the necessities of capitalist mineral extraction. Protests and desertions began not long after settlement, as the Ayrshire miners believed that the company had broken its contract and forced labour upon the men for which they were unaccustomed. The protests concerned control of the labour process. A skilled group of workers struck an essentially mercantile firm ignorant in their actions of the division of labour within capitalist mining. Insubordination had in fact begun on the voyage from Britain, in which the terms of social life and social reproduction were strictly regulated. Ultimately, miners' ongoing protests, and the more general lack of available labour power at Fort Rupert, worked in conjunction with inadequate terrestrial transportation to severely limit coal discovery and extraction. From this, HBC was forced to reckon with the power miners held to disrupt extraction and the requirement of adequate transportation networks, including local circulation.

From 1849 to '53, the labour of Kwagu'ł miners working the north end was formally subsumed by capital only in the most rudimentary manner, with the Suquash field never reorganized. The company made use of Kwagu'ł skill in mining, transportation and the local knowledge of individuals regarding coal seams or outcroppings. That HBC didn't

¹⁹⁴ And island coal mining would persist well into the second-half of the twentieth century, despite significant increases in the consumption of petroleum in the crucial California market. By the turn of the century, there was concern among mine owners that the gains made throughout the 1890s were unsustainable given the advances by the internal-combustion engine. With some trepidation, the Minister of Mines' Report from 1902 observes that "when it is considered that a large portion of the output of the Coast mines is used in California, and that petroleum fuel has been introduced into that State to so great and extent, it is remarkable that the falling off has been so slight" (H264). Robins, shortly before his tenure ended at VCMLC, had also noticed the encroachment of oil on California. "We are beginning to feel the effect of coal oil competition. San Francisco is our largest market. The price of domestic coal is governed largely by the consumption of railway and steamship owners, but there is very little fluctuation in the price of coal" (Canada 1902, 74). In general, though, the coal industry in the province and on the island was stable, though without evident growth, from 1909 until the Great Depression, then falling into a rather gradual decline through World War Two.

attempt to appropriate the Suquash represents a contradiction with the charter, which granted it all the minerals beneath the island, suggesting that the colony's administrators recognized the centrality of Kwaguł miners to the industry before '53, especially amid ongoing protests by its Scottish miners.

Nanaimo would be different. The work of mining was, from the outset, separated from other colonial jobs, even if in practice the distinction could be transgressed. This was only one of the developments that marked the pre-Confederation Nanaimo period. The establishment of a bilateral trade with California brought money, food, and mining implements back to Nanaimo in exchange for coal. The trade for foodstuffs with nearby and not-so-nearby First Nations was also expanded. Enhanced circulation and the closer integration of Nanaimo into a world market and local First Nations' trade systems promoted liberalization in social reproduction, even if the company store continued to mediate these trade systems and local consumption, over-charging its miners.

The early Nanaimo years also continued the formal subsumption of First Nations' labour in mining and transportation. First Snuneymuxw miners then groups from other First Nations acted as mine labourers and in local circulation. First Nations workers also comprised capital's first reliable communication network on the island. Express canoes allowed Douglas to coordinate Nanaimo's coal trade from Victoria, moving people, messages, and smaller objects. They formed a transmission system that supported the company's coal trade and with-it globalizing capitalism, by facilitating the communicative needs of HBC's management of the mines at least at a distance.

The subsumption of labour to capital in Nanaimo prior to confederation was matched by a reification of natural phenomena. Prior to Confederation, technical advance was interested in controlling two things, nature and space. Industrial fans removed flammable gas from underground and steam-driven pump systems aided the exploration and functioning of mines. Natural forces adjacent to the commodity became objects of capitalist instrumentalization as mining progressed in Nanaimo, to which calculation was applied in a way that surpassed Fort Rupert's efforts or the mining of Suquash coal. Nanaimo also saw a significant progression in the quality of technology in place to facilitate the transmission of coal. Within a year of Douglas' first letters to McKay, a wharf and jetty

system was established to more quickly load ships in the harbour with coal. Tramways were constructed a few years later and by 1870 a massive tippie was in place to sort coal, itself a kind of analog automation of coal classification.

With little improvement made in the forces of production toward reducing variable capital inputs in the pre-Confederation period, VCMLC turned toward lowering its costs by changing the composition of its workforce. The company had begun to hyper-exploit its Chinese miners, who on average made about 41.5% the wage of white miners when provincial records began to be kept. In doing so, the company also fostered a potential cleavage that white-identified miners exaggerated. As a political force against capital, labour power became estranged in itself and the latter took full advantage, employing Chinese miners during strikes, weakening the solidarity of those out by their separation from those in. Anti-Chinese sentiment continued throughout the period of study, culminating in legislative exclusion from underground work in the early 1890s. Although self-separated from their Chinese coworkers in working-class politics, white miners had nevertheless been able assert themselves toward collective organization. Yet Robins at VCMLC and the Dunsmuir had succeeded in undercutting wage demands during the 1880s, although through very different means, collaboration and struggle respectively.

In the mines, technological change continued in local circulation through the decade—surface rail expanded to facilitate settlement, dispossession, and commodity circulation. Yet the technical advances of the period failed to raise productivity in any significant manner. Where this occurred, it had been to reify and hold back nature, move it more quickly through the mine system, and in finding coal beneath the surface. At a time in which the workers were gaining or expressing power in the relations of production, the forces of production had yet to be wielded by capital against this power; mining machinery remained basically apolitical to this point.

In this way, the introduction of the Jeffrey Bar Cutter to Cumberland's No. 4 Slope in summer 1891. The machinery represented a response by the James Dunsmuir to the power that his miners had been wielding. Cumberland was different from Wellington in two important respects. At the time, its miners were disengaged from MMLPA efforts to organize the island coalfield. More importantly, the colliery was operating under the belief

that provincial legislation restricting the employment of Chinese miners to aboveground work did not apply north of Wellington. Cumberland became a laboratory for augmentations to the labour process. Chinese miners had been utilized in the island's mines for two-and-a-half decades to lower variable-capital costs, and Cumberland expanded and technologized this tradition. Their labour underground was combined with the Jeffrey cutter to enhance productivity. The machine allowed fewer diggers with less experience—and clout within the labour hierarchy—to separate coal from the seam. The cutter was a deskilling and labour-saving machine, which was part of a larger assembly at Cumberland's No. 4 Slope in which racialized labour was central. Indeed, the vaunted cutters at Cumberland only saw very limited use at Wellington and none at Nanaimo through 1903.

The General Electric haulage system introduced by VCMLC at No. 1, Esplanade also reflected the power of island miners, although in a much a different manner. If the antagonistic managerial style of James Dunsmuir suggested the cutter as a reply to labour organization, the electrified underground locomotives materialized and made durable the better part of a decade's collaborationism and more recent Chinese exclusion at VCMLC. The trains expedited local circulation underground, replacing much of the work formerly accomplished by Chinese-identified runners. They also posed no threat to the skill and therefore livelihoods of company diggers at the top of hierarchies in the labour process and MMLPA. As the representatives of the union to Robins, diggers were also predominant among miners in defining the daily operations of the collieries and the interpretation and life of the CA. It was this mollified power relation for some, with the direct antagonisms of capital displaced onto miners of colour, that produced the electrified underground tram system at Nanaimo.

The introduction to this chapter noted with some confidence that I've been able to successfully answer the first two research questions I posed for this project. The coal industry fostered the development of capitalism through colonization of Vancouver Island and the introduction of a working class, eventually under capitalistically oriented mine management, as the coal trade of Kwagu'ł was quickly displaced through an admixture of colonial decree and formal subsumption. Inadequate transportation networks delayed this process, at least at Fort Rupert. At Nanaimo, an information network of First Nations

canoes and the circular trade with California supported colony and capital, as transportation slowly became of secondary importance to commodity production—from the producer of wealth to its mode of realization—a phenomenon that Marx associated with capitalist transition.¹⁹⁵ Rail on the continent brought the electric technologies of the 1890s to the island, advancing the power and wealth of island capitalists by connecting them with industrial producers in the Midwest. Locally, Dunsmuir was further enriched by the development of rail along the island, further consolidating the family empire. By carving up the land for private consumption and settlement, E&N benefitted mining and colonization generally.

Transportation networks largely constituted dispossession on Vancouver Island from 1849 to 1903—from objects commodified to land taken to skill rendered unnecessary. This is the thread of alienation that runs between each research question. The history of coal mining, circulation, and capitalism on the island is that of a series of compounding deprivations, generally beneficial to a relative minority that occupies dominant economic positions. The dispossession of the Kwagu'ł coal trade was preceded by formal colonial decree and was at the beginning of ongoing efforts to remove the power of workers to oppose management, which proceeded by means of varying brutality. The alienation of Indigenous land in 1849, and the subsequent Douglas Treaties, was repeated in the E&N land grant and through the railway itself. The management techniques that dispossessed workers of their collective opposition to capital echoed this history in alternative ways. The introduction of electrified deskilling and labour-saving machinery in the mines during the early 1890s was, ultimately, a culmination and figuration in non-human form of the history of dispossession on the island.

The original dispossession of the 1849 charter, transmuted, repeatedly reappears. The gambit sought at the origins of the colony in which class relations among colonists were supposed to be ameliorated and transferred upon the colonized, then the hyper-exploited, brought with it a host of alienating forces colonial workers could not escape, removing power and skill from white-identified diggers. Capitalism on the island was and continues to be a system disparate yet stable deprivation. Exploitation and control were

¹⁹⁵ See sections 3.5 and 3.6 for more on the relationship of transportation and capitalist development in Marx.

inherent in the process of capitalist development, while the devil in the details was particular to local articulations. The Political Economist David McNally writes that “just as proletarianization is key to creating a fully capitalist market, so that market, once created, will continually reproduce proletarianization—and on a growing scale” (1993, 31; also quoted in Brophy 2017, 87). It is, he might have added, only a question of how.

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