

An Agent of Change:
William Drewry and Land Surveying in British Columbia,
1887-1929

by

Darby James Cameron
B.A., Malaspina University/College, 2000

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of

MASTERS OF ARTS

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ABSTRACT

In 1887, following the completion of the CPR to the Pacific, William Stewart Drewry took part in the Topographical Survey of Canada's first experiment with photographic surveying, which he applied to the Rocky Mountain Railway Belt. He then surveyed the rich mining districts of BC during the Kootenay hardrock mining boom (1893-1909). In 1909, he became BC's first and only Chief Water Commissioner and, in 1911, he returned to surveying as BC's Inspector of Surveys. From 1913 until his retirement in 1929, he surveyed for government and in private practice. Throughout his career, Drewry operated between two land systems: first, a system based on customary rights and local obligations; and, second, a system based on private property and market exchange. Drewry implemented the latter capitalist system, attempting to empower the settlement society, which had the effect of ensuring corporate dominance and, to Drewry's dismay, monopolization of the BC landscape.

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Chapter I

“A Great Silent Country”: An Introduction

In 1912, William Stewart Drewry, a Dominion and Provincial Land Surveyor, surveyed land in the Cariboo District of British Columbia (BC). Later, in his report to the Survey Branch of the BC Department of Lands, Drewry described the region as “a great silent country waiting for the advent of road and rail to bear the population whose footsteps are even now approaching.”¹ The excerpt from Drewry’s report gives us a glimpse of surveyors’ capacity to anticipate change and superimpose ideology over space.² The example here, that North America was a “great silent country” or a *terra nullius* (empty land) waiting for appropriation and settlement, permeated Anglo-American ideology during the nineteenth-century.³ As a result, Anglo-Americans saw customary and local claims to land only dimly, if at all, abstracting that which pre-existed the Dominion or provincial survey.⁴ Moreover, in anticipating Anglo-American exploitation, Drewry’s statement works to obscure the invasiveness of both Canada’s and BC’s colonial land policies over the sustainability and welfare of native flora and fauna, including humans. The excerpt above displays Drewry’s capacity to use language to appropriate space, reshaping it with limited, if any, local consultation and negotiation. In this way, surveying has been influential—if not paramount—in restructuring power relations in the world today.⁵

Surveying is a “mathematical science used to determine and delineate the form, extent, and position of features on the surface of the earth for control purposes.” In order to align land and

¹ W. Drewry, Inspector of Surveys, “Report on Connection Surveys in Lillooet and Cariboo Districts”, *Report of the Minister of Lands*, Government of BC (December 31, 1912), D 248-52.

² “Space” is that which contains and surrounds all material bodies, and is where all events occur. John Walsh and Steven High, in “Rethinking the Concept of Community,” state that social experience and relationships gain meaning and value through space. *Histoire Sociale/Social History*, 17, 64 (1999), 258.

³ The vast majority of colonial settlers perceived land as *terra nullius* (“a place that belonged to no one and was therefore free to be taken over by any interested settler”), and largely discounted the “resource rights and beliefs” of Aboriginals. Kilyali Kalit and Elspeth Young, “Common property conflict and resolution: Aboriginal Australia and Papua New Guinea”, edited by Peter Larmour, *The Governance of Common Property in the Pacific Region* (Canberra: National Centre for Development Studies and Resource Management in Asia-Pacific, 1997), 186.

⁴ First Nations were not the only pre-existing peoples whose local and customary land practices were affected by land surveying. As Andro Linklater states, “The race that developed between the surveyors and squatters marked the entire history of the land survey, and it was rare for a surveying team to measure productive country that had no settlers at all.” *Measuring America: How an Untamed Wilderness Shaped the United States and Fulfilled the Promise of Democracy* (Markham, Ontario: Fitzhenry and Whiteside, 2002), 163.

⁵ P. Sinclair’s and R. Ommer’s definition of “power” is used for the context of this thesis. They define “power” as “the capacity to create (and to some degree control) an outcome of behaviour.” “Introduction”, edited by P. Sinclair and R. Ommer, *Power and restructuring: Canada’s coastal society and environment* (St. John’s: ISER Books, 2006), 15.

construct boundaries, and to provide checks of construction dimensions, “land boundaries are set or measured for proper descriptions” in field books, and the topography of landforms and natural or artificial objects are depicted on maps.⁶ Surveyors like Drewry have used this practice to appropriate settlement, administration and transportation routes, playing a fundamental role in Anglo-American state building and economic development ambitions. The essential nature of their practice has empowered surveyors to leverage status among the learned professions such as medicine, law and engineering. In 1849, the United Provinces of Canada first licensed surveyors, and later in 1874 surveyors officially adopted the title Dominion Land Surveyor (DLS) after establishing a system of examination. In April 1891, the British Columbia Legislative Assembly passed the *Provincial Surveyors’ Act*, which established a Board of Examiners and set policies for articling pupils. However, not until 1905, with the passing of the *Provincial Land Surveyors’ Act*, did legal surveys become mandatory under a common standard of practice by the newly named Corporation of Lands Surveyors of British Columbia (BCLS). Drewry became instrumental in the development of both the DLS and BCLS associations during this critical institution-forming period in North America at the turn of the twentieth century. Together with his associates, Drewry became part of a larger process that has resulted in what Cole Harris describes as “the elimination of distance” or, in other words, the abstraction of local geographical and ecological complexities to make nature governable.⁷

Drewry’s representations of land and resources, whether delineated, written, or spoken, and his physical construction of boundaries, such as cairns, absorbed and solidified land within the territorial claims of the Dominion of Canada and the Province of BC.⁸ Drewry and his surveying practices are particularly important because, as Robert Young states, “colonialism above all involves the physical appropriation of land.”⁹ To ensure Canada’s and BC’s self-declared sovereignty over and legal possession of land, Drewry fixed parcels of land through techniques of measuring, describing

⁶ MSN Encarta, http://encarta.msn.com/encyclopedia_761576060/surveying.html

⁷ This thesis uses the definition of “surveying” in the broadest sense in order to be as inclusive as possible of information that may have remained outside the scope of previous literature; “Surveyor” is derived from the French “sur” [over] and “voir” [see]; *Provincial Surveyors’ Act* [54 Vic., c. 17]; *Provincial Land Surveyors’ Act* [5 Ed. 7, c.7]; Cole Harris, *The Resettlement of British Columbia* (Vancouver: UBC Press, 1997), 182-193.

⁸ Surveyors constructed cairns for sightings through transits. The measurements were then triangulated and used to delineate maps with consistent scale. The cairns, thereafter, were used for tying in township plans. “Cut lines” were paths literally cut in a straight line through forest for a chain to be used to measure distances.

⁹ Robert Young, *Colonial Discourse: Hybridity in Theory, Culture and Race* (London: Routledge, 1995), 172.

and mapping. The state then consolidated its control by selling land, almost exclusively to European and American immigrants, in return for state-building revenue. Drewry's allotments defined and secured private property rights, backed by the state, which extended considerable power and freedom to individual and corporate landholders.¹⁰ At the same time, the state maintained, states Douglas Harris, "the possibility of centralized control (state-defined, -distributed, and -enforced rights)".¹¹ Drewry empowered the governments of Canada and BC to control land, but he also integrated that land into the global economy.

Surveyors have changed power relations during colonial and post-colonial encounters, contributing to social, ecological and economic struggles that continue today. These struggles have resulted from surveying not so much representing the landscape as surveyors perceived it, but rather what it might become. Drewry envisioned and appropriated an anticipatory geography based on the Eurocentric conceptions of space. This reterritorialization has given Anglo-American interests extensive powers to create new, and sometimes control, social, ecological and economic relations.¹² Throughout his career, Drewry operated between two land systems: first, a system based on customary rights and local obligations; and, second, a system based on private property and market exchange. This thesis argues that, almost without concessions, Drewry implemented the latter capitalist system, attempting to empower the settlement society, which had the effect of ensuring and maintaining corporate dominance and, to Drewry's dismay, monopolization of the BC landscape.

In order to make this argument, this thesis employs both general and more precise questions. It explores the faith, or lack of faith, that people hold in surveyors' representations of space. More specifically, this thesis asks how surveying has fashioned knowledge and power. What were the intentions behind surveyors' representations? What circumstances, authority, and control did

¹⁰ Douglas Harris defines private property as "the owner's principal claim ... to a right to exclude others from occupying, possessing, or otherwise using the thing claimed." *Landing Native Fisheries: Indian Reserves and Fishing Rights in BC, 1849-1925* (Vancouver: UBC Press, 2008), 10.

¹¹ D. Harris, "Colonial Territoriality: The Spatial Restructuring of Native Land and Fisheries on the Pacific Coast", ed. by P. Sinclair & R. Ommer, *Power and restructuring: Canada's coastal society and environment* (St. John's: ISER Books, 2006), 35.

¹² David Nye, *America as Second Creation: Technology and Narratives of New Beginnings* (Cambridge, The MIT Press, 2003), 11; Brian Harley, "Rereading the Maps of the Columbian Encounter", *Annals of the Association of American Geographers*, 82, 3 (September 1992), 522.

surveying create and abstract? How did surveying condition and influence people and events?¹³ How has surveying empowered certain people to make transformations? Conversely, how has it supported local strategies, networking, power sharing, and respect for diversity?¹⁴ Such questions can illuminate important historical subject matter that may remain in the periphery, or outside the scope, of existing academic scholarship.

The primary sources for this project are superb. In 2001 Joanna Drewry, William Drewry's granddaughter, tackled the vast collection of letters, photographs, maps, diaries, and publications in the basement and attic of her parents' house in Oak Bay, Victoria. Royal BC Museum curator Dr. Lorne Hammond placed part of the collection at the Museum and the BC Archives. The BC Archives has the Corporation of Land Surveyors of British Columbia fonds, which include records such as minutes of meetings, oaths of office and allegiance, letter books, and financial reports. Early Canadiana Online has the Dominion Land Surveyors fonds. The BC Land Title and Survey Department and Library and Archives Canada hold many of Drewry maps and the latter has Drewry's original photographic plates from his photo-topographical surveying in the Rocky and Selkirk Mountains.

Before exploring the particularities of Drewry's work, this chapter considers theory and methodology utilized throughout the thesis. Then, the chapter examines some of the vantage points from which scholars have viewed the history of surveying over time, before concluding with political and philosophical problems and directions. This study seeks to contribute to the project of bringing the history of surveying into sharper focus by drawing out features too often neglected and encouraging further analysis.

Making Space: Theoretical & Methodological Problems and Direction

A history of Western surveying fits neatly into post-colonial theory, but theory must not preordain the outcome of analysis.¹⁵ As post-colonial philosophers such as Edward Said argue, cartographers

¹³ Daniel Clayton, *Islands of Truth: The Imperial Fashioning of Vancouver Island* (Vancouver: UBC Press, 2000), 203.

¹⁴ Stephen Tomblin, Rosemary Ommer, and Peter Sinclair, "Conclusion," edited by Peter Sinclair and Rosemary Ommer, *Power and restructuring: Canada's coastal society and environment* (St. John's: ISER Books, 2006), 289.

¹⁵ "Western" is used in this thesis to denote Anglo-American ideology.

(including surveyors) certainly “narrate” or, as historian Dan Clayton puts it, maps give the “capacity to build and sustain some truths about land and people, and to denigrate and marginalize others”.¹⁶ The argument that surveying has constructed and maintained Western dominance certainly conforms to post-colonial theory. However, these theories have largely been constructed around Western imperialism in Asia and Africa rather than North America and they should not be applied universally to all regions. For example, in Canada and the United States, unlike countries in Asia, Anglo-Americans had, by the 1890s, outnumbered the indigenous population.¹⁷ Demographic, geographic, and cultural differences have led to different colonial strategies. Therefore, this thesis will, as historical cartographers Brian Harley and David Woodward recommend, attempt to go beyond “a narrative of a dichotomous negotiation between the West and East in which one dominates and the other resists” in order to better de-construct and investigate the complexities and conditioning of knowledge and power specific to the geographical region under study here.¹⁸

This case study seeks to connect what is specific to an individual surveyor, Drewry, to the larger colonial project of land surveyors as a whole in BC at the turn-of-the-twentieth-century. Hopefully, narrating the story of William Drewry between 1886 and 1929 gives the reader a better sense of the powers that have brought us to where we are today. This thesis adopts nuanced methodologies that examine maps, plans, official reports and fieldbooks as historical texts to uncover what may remain obscure in previous literature. This method of analysis, according to historian Abindin Kusno, can further uncover the “contingency of colonial relations, and consequences of that contingency for the formation of postcolonial identity.”¹⁹ Moreover, an examination of the language and dimensions that the map-users or makers employ to represent their world further broadens the scope of analysis. These approaches will further elicit the complexity of power relations and will

¹⁶ Edward Said, *Orientalism* (New York: Vintage Books, 1978), 20; Clayton, xiv.

¹⁷ Clayton, xv; Bernard Cohn, *Colonialism and Its Forms of Knowledge: The British in India* (Princeton: Princeton University Press, 1996), 3.

¹⁸ J. Harley and David Woodward, *The History of Cartography: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, 1 (Chicago: University of Chicago Press, 1987), i-xix. Harley and Woodward use the term “East” to generally designate economically “developing” or “Third World” nations, the later term coined by Franz Fanon, a Martinique-born revisionary. “West,” in contrast to “East,” denotes “developed” or “First World” nations.

¹⁹ Abindin Kusno, “Professional Dreams: Architecture and the Imagery of ‘Indonesia’ in the Late Colonial Netherlands East Indies”, *Colonialism and the Modern World: Selected Studies*, edited by Gregory Blue, Martin Bunton and Ralph Croizier (New York: Library of Congress Cataloguing-in Publication Data, 2002), 265-6.

display how Drewry's influence went far beyond what lay on the surface of maps. In order to represent the influence surveying has had over power relations more broadly, this thesis also utilizes plans, official reports, and field books. Of course, these sources must be read with care. Certain assumptions and biases always exist in the particular way that surveyors perceive the world around them or in their language. Surveyors have constructed their representations of the landscape in a manner that implies objectivity but, in fact, these sources are highly subjective and individualized. This thesis also analyses all sources—even if graphic—as “texts” or, in another word, “arguments” in order to display how surveyors, and those that utilized their work, have used these sources to refashion power relations.

Drewry's construction of knowledge is particularly important because colonial states such as Canada exploit not only gunboats and militias to secure control over land, but also less obvious instruments such as surveyors and their representations.²⁰ As Edward Said has argued, the ability to measure, to categorize, and to name—the fundamental basis of Drewry's work—reconstructed cultures, not in a “merely decorative or ‘superstructural’” manner, but in a highly powerful and historically under-analysed one.²¹ This thesis not only explores the larger colonial land appropriation project but also displays the degree of influence that the work of an individual surveyor can have on the world.

An analysis of surveying needs to focus on the authoritativeness of language. Language is not only the means through which people communicate with each other but it is also the means by which people have constructed power relations, usually in their own interests. States, such as the Crown, and corporations have exploited language to control land, natural resources and people. Whether surveyors used printed, spoken, or cartographic language, it has formed the foundation of land laws through which power relations have been dramatically reworked.

While the analysis of how Drewry used cartographic dimensions, the printed word, or spoken language is extremely useful to understand changing power relations, such analysis must also take

²⁰ Matthew Edney, “Origins and Development of J. Harley's Cartographic Theories”, Special Issue of *Cartographica* 40, nos. 1 & 2: Monograph 54 (Toronto: Toronto University Press, 2005), 113-4.

²¹ Edward Said, *The Palestine question and the American context* (Beirut: Institute for Palestine Studies, 1979), 25.

care to limit the re-inscription of the narratives that this thesis is attempting to dismantle. Historical analysis must re-evaluate the contexts of production without actually reconstructing the same meaning. This thesis attempts to avoid this inevitable repetition of biases by constantly challenging the objectivity and neutrality of sources. Because lived experiences change over space and time, language can never absolutely reproduce them. Nevertheless, this thesis assumes that critical analysis is the best methodology for representing lived experiences.

Surveyors are of particular importance to power relations because they have ultimately been agents operating at the margins of change. They have extended and have moderated control over land. Surveyors have accomplished this task by evaluating and identifying resources; they have not only measured but have also put value on land and natural resources. Their work and the choices that they have made continue to influence our lives today, and nowhere is this influence more evident than on a map of a nation. The names given to the regions have been part of the process of change or reterritorialization. Drewry has a park, Canadian Pacific Railway (CPR) point, lake, and mountain named after him, and such renaming has supported the endurance of Anglo-American dominance.²²

Despite the great value of theory for historical analysis, this thesis does not simply attempt to superimpose the complexity of Drewry's lived experience into any one theory. Rather, it challenges existing concepts of meaning by adopting nuanced assumptions (such as that Drewry's representations of space are highly subjective and individualized texts) and methodologies of analysis (such as examining how surveyors envisioned and communicated the landscape) in an attempt to re-evaluate conventional understandings of surveying. Yet, this study does not wish to use relativist arguments to de-value theory and break everything down into universalism or, in other words, a universal range of knowledge, interests, or activities. Rather, while keeping in mind that using theory to simply invert the imperial equation of colonizer and resister does not necessarily do justice to either party, re-evaluating conventional understandings can uncover alternative histories. Therefore, with consideration of the methodological problems set out in this chapter, this thesis uses theory as a

²² "BC Geographical Names Information System Search Options", <http://srmwww.gov.bc.ca/bcgn-bin/bcg05b?493100+1170100+491900+1163700>

critique of sources.

Re-envisioning the History of Surveying: A Historiographical Review

For some time historians have narrated surveying as a vehicle for nation building—in other words, a story that reveals the progress of human development or Whig history. These Whig historians reinforced the narratives of the earliest surveyors in North America, who described themselves as explorers, discoverers, and pioneers. However, revisionist approaches assert that, in order for discovery to be made possible, pre-existing knowledge must be denied. Someone cannot first discover something if that something is already known. “Discovery is also a personal vision,” states Simon Ryan, “the individual’s pleasure and reward being pre-eminent.”²³ As a result of this desire to discover, prior knowledge is abstracted—a consequence that the progressive narrative has upheld and furthered.

Despite such revisionist approaches, the image of surveyors as founding fathers, unsung nation-builders, like statesmen or soldiers, continues today. Katherine Gordon’s recent “popular history” called *Made to Measure*, for example, celebrates well the “awe-inspiring” story of land surveyors and their influence on the “vast wilderness” of BC.²⁴ Whig historians continue to celebrate surveying as a means of describing the landscape, ensuring secure land transactions and ownership, and supporting, even facilitating, the production of capital. Many scholars, depicting the economic dominance that surveying has supported as a model of success, blame the growing global disparities of wealth on certain cultures failing to comply with land systems based on Anglo-American ideology. Peruvian economic historian Hernando de Soto, for example, attributes the economic division between nations today to certain countries and cultures not adopting Anglo-American forms of land management.²⁵ From this perspective surveying is a scientific and rational approach to the “chaos” of communalism and nature. Most commonly, in celebrating surveyors as creators of national space that governments and citizens alike could visualize as their own, both Whig

²³ Simon Ryan, “Discovering Myths: The Creation of the Explorer in Journals of Exploration”, *Australian-Canadian Studies*, 12, 2 (1994), 1, 8, 10.

²⁴ Katherine Gordon, *Made to Measure: A History of Land Surveying in British Columbia* (Winlaw: Sononis Press, 2006).

²⁵ Hernando de Soto, *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else* (New York: Basic Books, 2000), 182. Prominent authors, such as the journalist Thomas Friedman, have supported de Soto’s argument.

historians and surveyors have made the progressive narrative dominant within historical literature.

Undoubtedly, surveying has played a fundamental role in the formation of nations and the maintenance of domination over territory. Unfortunately, specific interests have also used surveyors' representations to condone the ignorance of alternative views of the landscape. Palestinian philosopher Edward Said describes representational practices like mapping as acts of "geographical violence". Surveying was a process of aggrandizement and state expansion that empowered the practitioner to seize "and devour... space from a distance." Space was objectified as something to be "delineated and carved up."²⁶ These delineations have been particularly powerful due to the faith that social and economic elites have placed in the progressiveness, universalism, and objectivity of surveyors' cartographic dimensions.

This faith in surveying has, until recently, sheltered surveyors' cartographic dimensions and representations of the landscape from critical analysis. However, important interdisciplinary work is now freeing the history of surveying from assumptions that surveyors' fashioning of space is neutral. This work is especially difficult due to the success surveyors and Whig historians have had in entrenching the narrative of objectivity in the consciousness of the general public. The recent critical analysis has largely resulted from scholars re-envisioning surveyors' work as analogous with texts, rather than as miniature forms of reality.²⁷ Increasingly, scholars such as historian Matthew Edney argue that maps do "not only denote spatial facts, as had long been understood, but can also connote a variety of social and cultural meanings."²⁸ This critical perspective has been fundamental in raising questions about the truth status of maps. Faith in surveyors' representations of the landscape is often challenged once people stop perceiving them as all encompassing. The broader perspective has led scholars to discover analytical linkages exposing the inability of universalism to account for the diversity within our world. As a result, people can no longer easily ignore the presence of customary and informal representations of the world.

Over the past few decades, historical literature has also problematized the manner in which

²⁶ Edward Said, *Culture and Imperialism* (New York: Knopf, 1994), 271.

²⁷ Michael DeMers, *Fundamental of geographic information systems* (New York: John Wiley & Sons, Inc., 1997), 50.

²⁸ Edney, *Cartographica*, 113-4.

surveyors, and their objectives, have fashioned knowledge and invented common but selective identities. For example, historians are increasingly displaying this conditioning of knowledge to be central to the transformations within Canada and the United States from customary Aboriginal land practices to land title derived from the state. Land management practices are intricately connected to a culture's identity, and this transformation or reterritorialization has had dramatic and, most often, devastating effects upon those cultures that pre-existed survey. Historian Ian MacKay recognizes surveying as a state tactic of divide-and-conquer, arguing that the liberal construction of knowledge has too often gravitated from "unfettered individualism" to an even more "hegemonic ideology" of the state.²⁹ To legitimize this power, states have narrated surveying as neutral or unbiased; they have emphasized the democratic nature and individualism that surveying has supported. Arguments for individualism have often justified the displacement of communalism and community—a fundamental structure of colonialism that creates what Dan Clayton calls the "loss of locality."³⁰ Surveying has enabled states to limit locality and, instead, to benefit from the integration of land and natural resources into the national and global market. The fashioning of surveying as universal and democratic has played a fundamental, but complicated role in allowing states to claim sovereignty over space.

Due to this complexity, more scholarly attention is needed on surveyors' spatial appropriation of land and their influence on power relations in BC, especially during the rapid expansion of industrial capitalism at the turn-of-the-twentieth century. Historian Martin Sklar describes this period as "the directly formative birth-time of basic institutions, social relations, and political divisions" in North America.³¹ Dramatic change took place in transport networks (such as the introduction of trains, steamships, and other motorized vehicles), resource extractions (such as mining, forestry, and fishing), irrigation (such as diversions and dams), and surveying practices (such as photogrammetry). Moreover, the work of surveyors made resources increasingly available to large,

²⁹ Ian MacKay, "The Liberal Order Framework: A Prospectus for a Reconnaissance of Canadian History," *The Canadian Historical Review* 81, 4 (December 2000), 638.

³⁰ Clayton, 234-5.

³¹ M. Sklar, *The Corporate Reconstruction of American Capitalism, 1890-1916: The Market, the Law, and Politics* (New York: Cambridge University Press, 1988), 1. For BC context see J. Mouat, "Nationalist Narratives and Regional Realities: The Political Economy of Railway Development in Southern BC, 1895-1905," John Findlay and Ken Coates, *Parallel Destinies: Canadian-American Relations West of the Rockies* (Seattle: University of Washington Press, 2002), 123.

often multinational corporations. In addition, surveyors made changes not only through the restructuring of land but also through the organization of their profession.

In North America, power relations are growing more complex due to litigation over land claims, which has encouraged research on the division between Anglo-American and Aboriginal claims to land. This analysis is extremely valuable and must continue, but historical analysis must also continue to expand linkages both beyond and within this dichotomy. In BC, surveyors have given the governments of Canada and BC, as well as industrial capitalism, considerable power over not only First Nations, but also rural and working-class settlers. A broader analysis has only just begun to uncover the extent to which land surveyors have constructed people's perceptions of the landscape, enabling political and economic elites to aggrandize the holders of private property, to fuel market exchange, and restructure power relations.

The Meaning of Space: Political and Philosophical Problems and Directions

The manner in which surveying has allowed Anglo-Americans to dominate the landscape has become one of the most pressing issues of our time. In BC, litigation over title to land has prompted historians, among others, to question surveyors' construction of identity and space. Historical literature over the past few decades has increasingly urged reconciliation—or, at least, recognition—of past differences or tensions in the hope that people will then be able to jointly identify with the present. For too long anxieties about the present have influenced people to construct narratives that smoothed over or abstracted tensions in the past.

The values of land, and capital invested in it, have not been the only contributors to anxieties about the historical analysis of surveying. Anxieties have also been a result of land's centrality to cultural and national identities. Land gives people a means of identifying themselves. First Nations have successive systems of oral and, at times, textual (such as maps) history that link their cultures to geographical locations, "land" and "culture" often being indistinguishable terms in First Nations' languages. The land has had not only cultural importance but also economic importance, which First Nations' traditional practices, almost universally, maintained through sustainable resource

extraction. European settlers also identified with land, however, not so much with what they called the “New World”, which was strange and alien to them, but rather with the European world that they had recently left behind.³² Historian Patrick Dunae states, “Few of the gentlemen settlers turned their backs completely on their heritage or severed their emotional and spiritual ties with the Old Country.”³³ In order to claim sovereignty over the land, Anglo-Americans had to make North America more European. In this process, they abstracted the legitimacy of Aboriginal peoples’ claims to land in North America in spite of *The Royal Proclamation of 1763*, which upheld Aboriginal claims to traditional territory and decreed that they were to be compensated for the use of their land.³⁴ In order to satisfy European settlers’ desire for land, early European scholars gave Anglo-Americans the conceptual tools to abstract Aboriginal title to land. Anglo-American land laws adopted the theories of European philosophers such as John Locke, who reasoned that settlers could purchase land from the state—not from Aboriginals—if settlers transformed the land into something modelled more after European space.³⁵ Anglo-Americans used linguistic devices such as describing their land-use practices as “improvements” to justify the dispossession of Aboriginal land, despite the equity of customary land use practices.³⁶ Moreover Anglo-American anxieties over land remain especially strong today because First Nations within BC, with the exceptions of the Douglas Treaties on Vancouver Island and Treaty 8 in the northeast corner of the province, as well as a few more recently, such as the Nisga’a and Tsawwassen treaties, have not modified their title to land. Understanding the history of colonial land policy is central to resolving issues over title to land and reducing the growing social and economic divides in the world today.

Surveyors were particularly important to change in land status because, when they imposed Crown land policy, they initiated the transformation of the land, empowering economic and political elites to create and, over time, re-make the landscape. The Anglo-American desire to gloss over the

³² G. Malcolm Lewis, “Introduction”, edited by G. Malcolm Lewis, *Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use* (Chicago: The University of Chicago Press, 1998), 2-3; Ted Steinberg, *Down to Earth: Nature’s Role in American History* (Oxford: Oxford University Press, 2002), 16-7, 20, 38.

³³ Patrick Dunae, *Gentlemen Emigrants: From the British Public Schools to the Canadian Frontier* (Vancouver: Douglas & McIntyre Ltd., 1981), 12.

³⁴ Brett McGillivray, *Geography of BC: People and Landscapes in Transition* (Vancouver: UBC Press, 2000), 55-79.

³⁵ James Tully, *Strange Multiplicity: Constitutionalism in an age of diversity* (Cambridge: Cambridge University Press, 1995), 72-5; Clayton, 184.

³⁶ The Government of BC did not play any role in the negotiation of Treaty 8.

invasiveness of the surveying project—which, in Canada, obscured the largest claim of sovereignty over customary Aboriginal land in history—led surveyors to narrate themselves as founders of a progressive tradition in the New World. Anglo-American scholars (like Locke) and surveyors (like Drewry) invented an Anglo-American landscape where settlers could justify the state’s imposition of change over pre-existing land use in the belief that the landscape was almost certainly changing for the better.³⁷ The state constructed this belief by defining pre-existing land practices as under-utilizing or incorrectly utilizing land.

A humanistic approach to the history of surveying holds the promise of enhancing broader cultural recognition. Academic cartographers such as R. Skelton, Brian Harley and David Woodward have called for an interdisciplinary study of mapmakers and map-users, based not upon an empirical approach, but rather a humanistic philosophy of cartography.³⁸ This approach would employ a broad category of active inquest into ethical attitudes, statements, and judgements to affirm the dignity and worth of all people. A humanistic approach to cartography endorses “universal ethics”—that is, ethics that apply universally to all humans regardless of culture, race, gender, religion, nationality, and sexuality. Skelton believed a humanistic cartography could eventually transcend its parochial Eurocentric outlook. Furthermore, Woodward and Harley took the crucial step to recognize that cartography, when viewed as a human activity, has the ability to raise “cultural literacy”. In their views, scholars can better understand the human perceptions of the world in certain periods through “the study of maps, mapmakers, and mapmaking techniques in their human context through time.”³⁹ The study of the history of surveying will benefit from a humanistic approach, but historians need to broaden this philosophy still further.

A social-ecological approach to the history of surveying can even more dramatically expand the scope of historical analysis. Historian Donald Davis argues that historians have been too preoccupied with “human history” and “have largely overlooked the role that nature has played in shaping American life and cultures.” Not only does an “enormous intellectual gap” exist between

³⁷ Robert Wiebe, *Who We Are: A History of Popular Nationalism* (Princeton: Princeton University Press, 2002), 56.

³⁸ R. Skelton, *Maps: A Historical Survey of Their Study and Collecting* (Chicago: The University of Chicago Press, 1972), 109; Harley and Woodward, *The History of Cartography*, xvi, xvii, xix.

³⁹ J. Harley and D. Woodward, “Why Cartography Needs its History,” *The American Cartographer* 16 (1989), 8.

human history and the natural environment, Davis argues, but Anglo-Americans have arrogantly exaggerated the differences between human cultures, such as Aboriginal/Anglo-American.⁴⁰ A philosophical appreciation of the natural world that includes all biodiversity—including human—can dramatically broaden the analytical scope of the history of surveying.

Scholars are increasingly using socially and environmentally minded counter-narratives to re-envision how surveying has made change. Drewry operated in a critical space and time for unveiling the links and patterns that promise to uncover the silences that remain in the language of surveying. In order to jointly identify with the present, we must, at the very least, recognize the history that lies in the “great silent country” of the past. To do so, we must continue to ask ourselves about the nature and history of surveying.

Structuring Space: The Scope

This thesis has been organized in an attempt to elicit the role surveyors have played in making change, focusing on BC and William Drewry over his lifetime as a case study. Yet, this thesis, as a whole, locates BC and Drewry within the larger international historical literature of land surveying. Chapter II narrates chronologically Drewry’s life as a surveyor, which, together with the historiographical chapter here, provides a foundation to expand historical analysis thematically thereafter. Chapter III examines how Drewry classified the landscape, which included his use of techniques of measurement, such as photogrammetry, and how he envisioned nature as a commodity. Chapter IV explores how Drewry communicated his classifications, focusing particularly on the manner in which he constructed his representations of space in order to convey an impression of objectivity. Chapters III and IV both describe how Drewry’s representations were highly subjective and individualized, but nevertheless dominated by Eurocentric conceptions of space. Together these two chapters demonstrate how Drewry made change. To tackle the “So what? Question”, Chapter V displays how states, commerce and associations attempted to control the use of land and natural resources on the basis of Drewry’s classification. These three thematic chapters underscore the subjectivity of

⁴⁰ Donald Davis, *Where There Are Mountains: An Environmental History of the Southern Appalachians* (London: The University of Georgia Press, 2000), 201.

surveying, which gave Drewry the linguistic capacity to make change. Overall, the themes within these chapters are organized to display the capacity of surveying to support state building and the integration of communities into the international market, but, first and foremost, how surveying has conditioned knowledge and power. The concluding chapter provides a summary of the conclusions made within the thesis and considers some of the implications for today.

Chapter II

Drewry's "Very Active Professional Life": A Biography

John Haworth Drewry was humble in describing his father, a fellow British Columbia Land Surveyor, as having a "very active professional life."⁴¹ His father, William Stewart Drewry, was a bright and popular student, who learned quickly from his engineering and surveying mentors and gained practical experience in the United States and Ontario. Upon becoming a Dominion Land Surveyor in 1883, he participated in the extension of a new land system westward, contributing to, on the one hand, the building of Canada as a nation while, on the other hand, resistance to that project in the Red River Rebellion of 1885. In 1887 Drewry and fellow famed surveyor/mountaineer James McArthur were the first North Americans to experiment with a new survey technique called photo-topography. That same year Drewry established the Coast Meridian.⁴² From 1888 to 1892, Drewry was part of the unprecedented exploitation of photo-topography to survey the Rocky Mountain Railway Belt, enabling the governments of Canada, British Columbia (BC), (eventually) Alberta, and the Canadian Pacific Railway (CPR), among others, to divvy up *terra nullius* amongst themselves.⁴³ Between 1893 and 1908 he played an equally significant role during the Kootenay hardrock mining boom, contributing to BC becoming the leading mining province in the Dominion.⁴⁴ In 1909 Drewry turned his attention to "white coal", becoming BC's first and only Chief Water Commissioner.⁴⁵ In 1911, he returned to surveying as BC's Inspector of Surveys, and from 1913 until his retirement in 1929 he surveyed for both the BC government and in private practice. Over this latter period, Drewry was instrumental in development of the British Columbia Land Surveying Association (BCLS). Throughout his professional career, Drewry acted as an agent of change by appropriating and making an inventory of land and natural resources, and then communicating those classifications

⁴¹ John H. Drewry, "William Stewart Drewry", Eulogy (c. 1940), MS 2259, BCA.

⁴² The Province of British Columbia originally surveyed the Coastal Meridian at 122° 45' 39.6" in 1874-5 as part of its "fifth survey". Drewry remade the meridian the eighth meridian in the Dominion survey system. Robert McKercher and Bertram Wolfe, *Understanding Western Canada's Dominion land Survey System* (Saskatoon: Division of Extension and Community Relations, University of Saskatchewan, 1986), 24.

⁴³ Alberta did not become a province until 1905.

⁴⁴ Martin Robin, *The Rush for Spoils: The Company Province, 1871-1933* (Toronto: McClelland and Stewart Limited, 1972), 16, 17.

⁴⁵ "White coal" was a common expression for water in early twentieth century BC, which had become viewed not so much as a common resource but rather a commodity for irrigation and waterpower.

through his fieldbooks, maps and reports. In order to better display how surveyors made this change over time, this chapter will narrate the background and context of Drewry's life, and its historical geography.

Drewry's Early Life

Glorianna Climie, the wife of John Burnham Drewry, gave birth to William (she called him "Will") on January 20, 1859 in Belleville, Ontario.⁴⁶ As a young man Drewry proved a most capable and exemplary student. In Oswego, New York, where his father had established a lumber firm, a local newspaper described Drewry as "a bright young man and a great favourite" at E. J. Hamilton's Boys English and Classical School.⁴⁷ On October 8, 1878, upon returning to Ontario, Drewry received the Provincial Land Surveyor Board of Examiners' Certificate of Preliminary Examination.⁴⁸

Drewry immediately began building the qualifications and experience he needed to become a professional land surveyor. He articulated for John Dunlop Evans of the firm Evans and Bolger in Belleville for three years. He first saw the prairies in 1880, participating in a survey party, going to St. Paul and up the Red River to Winnipeg. For two years, Drewry helped lay out the colonial land system that the Métis had resisted in the 1869 Red River Rebellion and would do so again in the Northwest Rebellion of 1885 further west in Saskatchewan. In 1882, while studying for his final examination as a PLS, he gained more practical surveying experience as an instrument man on the northern extension of the Picton to Trenton Railway. After spending the next ten months working with the Chief Engineer of the project, John Evans, in the spring of 1883, he passed the Ontario PLS examination, and then in October, the DLS examination. In 1884, the firm of Evans and Bolger dissolved and Drewry entered into partnership with Bolger. This partnership, however, lasted only a few months due to Bolger accepting the position of the City Engineership of Kingston.⁴⁹

⁴⁶ W. Drewry, Autobiography, Box 93-6553-3, BCA.

⁴⁷ Gray Scrimgeour, "Postal History of a Pioneer Western Canada Family: The Drewry Find", *Postal History Society of Canada*, No. 131 (September 2007), 5; Newspaper Clippings (c1878), Box 93-6553-3, File 13, BCA.

⁴⁸ Ontario, Provincial Land Surveyor Board of Examiners, Certificate of Preliminary Examination, Box 93-6553-3.

⁴⁹ W. Drewry, Autobiography, Box 93-6553-3, BCA; John H. Drewry, "William Stewart Drewry", Eulogy (c. 1940), MS 2259, BCA; The Central Ontario Railway ran between Picton and Trenton in 1880; Autobiography (c1878), Box 93-6553-3, BCA; Drewry passed his qualification Examination as DLS on November 1883 and took Oath of Allegiance and Office; (Name illegible), Clerk of the Privy Council, to the Minister of the Interior, "Memorandum for the Establishment Book of

Figure 1: William Stewart Drewry.
Source: Joanna Drewry's personal collection

Between 1885 and 1886, Drewry worked privately as a surveyor and engineer, constructing a dam and bridge across the Trent River at Trenton, Ontario, for the Gilmour Company. He also subdivided a number of townships west of the 3rd Initial Meridian, and did all the topography for the location of seventy miles of the Central Ontario Railway.⁵⁰ In a reference letter dated January 16,



1886, John Evans recommended Drewry as a “young man of exemplary character and well qualified to undertake any work within the scope of a civil engineer either in connection with drainage works as well as in the ordinary duties of a Provincial Land Surveyor.”⁵¹ In another reference letter dated June 10, Thomas Bolger, by then Professor of Civil Engineering at Alberta University, Belleville, described Drewry as “thoroughly trustworthy, honest...reliable...well educated, clear headed and well posted in all the ordinary branches of civil engineers”. Moreover, Drewry was “an excellent

the Department of the Interior, May 5, 1893”, *Department of the Interior, Menu for Establishment* (Nov. 14, 1896); On September 2, 1884, Drewry received his permission to practice as an Ontario Land Surveyor. L. Rorke to W. Draper (March 7, 1940), MS 2259, Box 9, File 27, BCA.

⁵⁰ W. Drewry, Autobiography, Box 93-6553-3, BCA; Canada, “Schedule (No. 16) showing Dominion land Surveyors employed and Work accomplished by each, during the year 1885” *Sessional Papers of the Dominion of Canada* (Ottawa: S. E. Dawson, 1892), 13-74; Drewry completed sub-divisions of Townships 50 and 51, in Ranges 23; Township 23; Township 50 in Range 24, and Township 49, in Range 25, west of the 3rd Initial Meridian. The DLSs established meridians across the Prairies as reference lines in order to lay out the grid system (townships running east and west, and ranges running north and south). Meridians run north-south at 4° intervals westward, from the first meridian (established in 1869) at 97° 27' 28.4”, up until the coast meridian at 122° 45' 39.6. A “township” is a square tract of land about six miles (9.7 kilometres) on a side, containing thirty-six sections. McKercher and Wolfe, 2-3; W. Drewry to D. Pitt (May 30, 1923), Box 93-6553-3, File 1, BCA.

⁵¹ John Evans, Personal reference (January 12, 1886), Box 93-6553-3, File 14, BCA.

draughtsman”, who Bolger had “no hesitation in recommending...as a first class professional man.”⁵² By 1886 Drewry was a well educated, trained, and experienced land surveyor and civil engineer, highly regarded by prominent professionals in these fields.

“A Merited Appointment”: Experiment in Photo-topography

In 1887, the skills, qualifications, and experience that Drewry had gained impressed Édouard Gaston Deville, Surveyor General of Canada. Consequently, he chose Drewry “to develop” a method called “photo-topographical surveying” in BC.⁵³ The *Belleville Intelligencer* celebrated Drewry’s “merited appointment” as “honourable to the government and highly credible to himself”.⁵⁴ Drewry described his appointment to the photo-topographic experiment as follows:

This method was wholly unknown on this continent at that time but a little had been done in Italy and by the French in Algiers. That had attracted Captain Deville’s attention, and in 1886 he had sent J. J. McArthur, D. L. S., to the Rocky Mountains to experiment in taking photographs. As a result, he [Deville] made up his mind that with modified instruments and a small party, the method was applicable to the Railway Belt in the mountains. Consequently, in the summer of 1887, he sent Mr. McArthur into the Rocky Mountains and I was ordered to the coast in British Columbia.⁵⁵

The experiment was not a whimsical desire to test this new technique but a product of Deville’s need to find a practical method of survey in the extremely precipitous Rocky Mountains. In an 1887 report, Chief Inspector of Surveyors W. F. King pointed out to Deville that the recently completed Railway Belt through the Rocky Mountains—which Robin Martin describes as the key factor in the “emergence of the new economy” in BC—included many fertile valleys that would attract settlers.⁵⁶ However, King also noted that wide expanses of rugged mountains often separated these good farming lands. In order to facilitate the “new economy”, Deville needed to create a new geography through land surveying. To do so, he had basically two choices: laying out isolated townships, which, without an interrelated system, risked overlap and insecurity of title; or continue the system of adjoining rectangular townships that surveyors had already extended across the Prairies.

⁵² Thomas A. Bolger, Personal reference (June 10, 1886), Box 93-6553-3, File 14, BCA.

⁵³ W. Drewry to D. Pitt (May 30, 1923), Box 93-6553-3, File 1, BCA; A. Wheeler, “W. Drewry” (c1940), MS 2259, BCA.

⁵⁴ Newspaper Clippings, Box 93-6553-3, File 13, BCA.

⁵⁵ W. Drewry, Autobiography, Box 93-6553-3, BCA.

⁵⁶ Martin Robin, *The Rush for Spoils: The Company Province, 1871-1933* (Toronto: McClelland and Stewart Limited, 1972), 16.

The problem with the latter system was the expense, inaccuracy, and often impossibility of chaining base lines and township outlines across the mountainous terrain.⁵⁷ However, Deville learned of a technique developed in 1849 by French scientist Colonel Laussedat “for taking photographs from which perspectives could be drawn.”⁵⁸ Deville realized photo-topographical surveying had at least the potential of establishing base lines in which to tie secondary surveys in mountainous regions, but he did not know the cost or how accurate the technique would prove in the Rocky Mountains. He reasoned the potential of the photo-topographic technique merited experimentation.

In 1887 Deville supplied Drewry with special instructions in a pamphlet he had written on photo-topography, with the assistance of Laussedat, for both Drewry’s and McArthur’s guidance. Deville instructed Drewry to begin the experiment “working near the line of the Pacific railway from Port Moody [near Vancouver] eastward.” Heading a two-man party, Drewry was to use the “astronomical traverse of the Canadian Pacific Railway...as base” and to extend “a triangulation...back into the mountains, the stations occupied being generally the highest peaks.” If necessary, they were to construct signals (cairns) but “more often the readings were taken on the peaks themselves.”⁵⁹ These reference points would then be used to calculate the relative position from the CPR railway reference markers. At each station, McArthur and Drewry needed to take readings on the surrounding peaks or the stations they had previously occupied, establishing their position and altitude in relation to the levels previously established by the CPR surveyors.⁶⁰ Deville also directed Drewry to obtain information “as to the mountain passes and the natural resources of the country.” Deville stated that the object of the photo-topographical work was to “provide points from which townships may be laid off”—independently of the CPR surveys—“to accord with the Dominion Land system without surveying continuous lines to connect with the base lines and Initial

⁵⁷ W. Drewry, Chairman, “Report of Standing Committee on Topographical Surveying, to the President and Members of the Association of Dominion Land Surveyors”, *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884; Don Thomson, *Men and Meridians: The History of Surveying and Mapping in Canada*, 2 (Ottawa: Queen’s Printer, 1967), 93. Base lines (or baselines) are the principal east-west lines that divide survey townships between north and south. McKercher and Wolfe, 2.

⁵⁸ Judy Larmour, *Laying Down the Lines: A History of Land Surveying in Alberta* (Brindle & Glass Publishing, 2005), 62.

⁵⁹ W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884; K. B. Atkinson, “Deville and Photographic Surveying”, *Photogrammetric Record*, 15, 86 (October 1995), 190; Newspaper Clippings, Box 93-6553-3, File 13, BCA.

⁶⁰ Larmour, 126.

Meridians”.⁶¹ Drewry and McArthur would physically mark out a system of triangulations throughout the Rocky and Selkirk mountains.

Prior to the photo-topographical experiment, Deville had developed equipment for “taking the topographical features of the country.” He furnished the parties with small prismatic transits, and Eastman Kodak cameras with drop shutters, roll film, and levels on the base, which were mounted on a tripod. They were to use the transits to determine the “height of stations...by reading angles of elevation or depression from station to station”.⁶² The cameras would be used to take “photographs embracing the surrounding country...by time exposure, from each of the instrument stations occupied.”⁶³

The *Belleville Intelligencer* foresaw Drewry’s work as “very arduous”, involving “scaling the mountains, measuring their heights above sea level, and photographing prominent objects.”⁶⁴ Complicating the work, Drewry found smoke from forest fires “so dense that mountains not more than two miles away were entirely invisible”. As a result, Drewry was unable to begin triangulating and photographing Harrison Lake and the surrounding Coastal Mountains until September 16, about two months after their arrival at the lake.⁶⁵ Then, once they began their work, the Eastman Kodak roll film, “proved unsatisfactory”.⁶⁶ As a result of these difficulties, the photographs proved to be not “as good as hoped for”.⁶⁷

Despite the troubles, Drewry concluded that they had “plotted” the landscape “quite

⁶¹ E. Deville (March 6, 1891), “Report of the Surveyor General, Department of the Interior, Topographical Survey Branch, No. 1”, *Sessional papers of the Dominion of Canada*, Vol. 14, first session of the seventh Parliament, session 1891 (Ottawa: B. Chamberlin, 1891), 17-43.

⁶² Atkinson, 190; W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884; A. Birrel, *Into the Silent Land: Survey Photography in the Canadian West, 1858-1900: A Public Archives of Canada Travelling Exhibition* (Ottawa: National Photography Collection, 1975); Newspaper Clippings, Box 93-6553-3, File 13, BCA.

⁶³ W. Drewry (Belleville, Ont., Dec. 27, 1887), “Report of W. Drewry, D.L.S., No. 24,” *Sessional papers of the Dominion of Canada* (Ottawa: A. Senecal, 1888), 110.

⁶⁴ Newspaper Clippings, Box 93-6553-3, File 13, BCA; See Drewry’s aneroid in Chapter V.

⁶⁵ W. Drewry to E. Deville (October 12, 1887), Box 18, File 2, GR-437. Drewry usually attributed forest fires “to hunters, Indians, pioneer settlers and parties of travellers who carelessly leave behind their camp fires still burning” but also inappropriate spark arrestors on train engines, and prospectors setting fire to mountainsides in an attempt to expose mineral seams. Drewry recommended that surveyors impress “some patriotism” in reducing forest fires. W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

⁶⁶ Birrel.

⁶⁷ Newspaper Clippings, Box 93-6553-3, File 13, BCA.

accurately by methods worked out by Captain Deville.”⁶⁸ He described the experiment as:

...sufficiently good to show the feasibility of the work, and the great advantage in cost over any other method. We consider that to make as accurate a survey of the same country by the ordinary methods would cost from ten to fifteen times as much; while much of it could be done by no other method, of which we have knowledge, than photography.⁶⁹

Not only did the experiment display how photo-topography was quicker, “sufficiently” accurate, and less expensive than sketching, it even made the survey of some precipitous areas possible.⁷⁰ Deville celebrated the success of the experiment:

The plans of these explorations are now being prepared here, under my immediate supervision, and although they are not yet complete, I am to say that the results so far achieved fully confirm my anticipations. Instead of the rough and imperfect sketches which such explorations generally furnish, we will have, without extra cost and with but little extra office work, complete maps of the country, which, if made with the usual methods, would absorb very large sums of money.⁷¹

Despite the impediments of smoke, bad weather, and equipment problems, a few days taking clear views using the photo-topographical technique proved worth weeks of “running long survey lines across the mountains”.⁷² Drewry’s work ultimately satisfied the object of the experiment: to economically supply a number of reference points to which the extension of more detailed sectional surveys “will ever be made” and from which administrative maps could be produced.⁷³ In addition, he assisted in the establishment of the Coastal Meridian as part of the Dominion survey.

Upon completion of his work, Deville instructed Drewry to return to Ottawa to delineate the topography on plans at the office of the Department of the Interior.⁷⁴ Drewry and McArthur could then use the prints and principles of perspective Deville laid out in his instructional pamphlet to calculate topographical details between the triangulation stations visible in the photographs. This allowed them to “render topographical maps with annotated mountain elevations, but with no real

⁶⁸ *Ibid.*

⁶⁹ W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

⁷⁰ Larmour, 126.

⁷¹ E. Deville, *Sessional papers of the Dominion of Canada* (Ottawa: A. Senecal, 1888), 51.

⁷² A. Burgess, Deputy Minister of the Interior (February 7, 1898), “Report of the Surveyor General”, *Sessional papers of the Dominion of Canada* (Ottawa: S. E. Dawson, 1893), 13-4.

⁷³ E. Deville, *Sessional papers of the Dominion of Canada* (Ottawa: A. Senecal, 1888), 51; “Minerals Other Than Coal”, *Province of BC, Legislative Assembly, Sessional papers*, No. 13, 13-5; Larmour, 125.

⁷⁴ E. Deville to W. Drewry (June 3, 1887), GR-437, Box 18, File 2, BCA.

contour lines to define the shapes, pitches, or other characteristics of individual mountains.”⁷⁵

Drewry and McArthur would ultimately create a new, albeit general, cartographic geography.

Photo-topographical Surveying in the Rockies and Selkirks

His expectations satisfied, in the spring of 1888 Deville directed Drewry to use photo-topography formally “to run line of levels between Lethbridge and the mouth of Crow’s Nest Pass”, while James McArthur was sent to the Rockies in the vicinity of Banff.⁷⁶ Deville made only a few changes to the photo-topographical technique: English Cameras (Ross), with Dallmeyer lenses, using glass plates with fixed frames, replaced the Eastman cameras; and triangulation angles were all double checked to avoid errors and to promote greater accuracy. Drewry described the results as “satisfactory, the photographs turning out well, and about seven hundred square miles of the country being covered.”⁷⁷

For the next four years Drewry continued photo-topographical surveying for the Dominion in the Rocky Mountains as part of the Railway Belt Survey. In the spring of 1889 Deville directed Drewry to take charge of the triangulation survey of the Railway Belt extending from the 5th Meridian near Calgary, westward, up the Bow River valley and over the Great Divide to the Beaverfoot River. Surveyor Arthur O. Wheeler recalled that Drewry and McArthur extended the triangulations “a considerable distance on either side” of the Railway Belt “and a series of fine contour maps [were] published [see Figure 2].”⁷⁸ Each one displayed about 60 square miles and the topography was obtained from an average of 16 camera angles, giving from 70 to 120 views. The average cost of the survey and production of the maps was about \$7.50 per square mile. Their work established the north and south boundaries of the Railway Belt through the Rocky Mountains, which extended 20 miles (32.18 km) on each side of the CPR tracks. After a year devoted to continued triangulations and the publishing of contour maps, in 1891, Drewry completed “the astronomical work” on the Fifth Initial Meridian at 114° west longitude, corrected a survey in the neighbourhood of the Morleyville

⁷⁵ I. McLaren, *Mapper of Mountains* (Edmonton: The University of Alberta Press, 2005), 27-8.

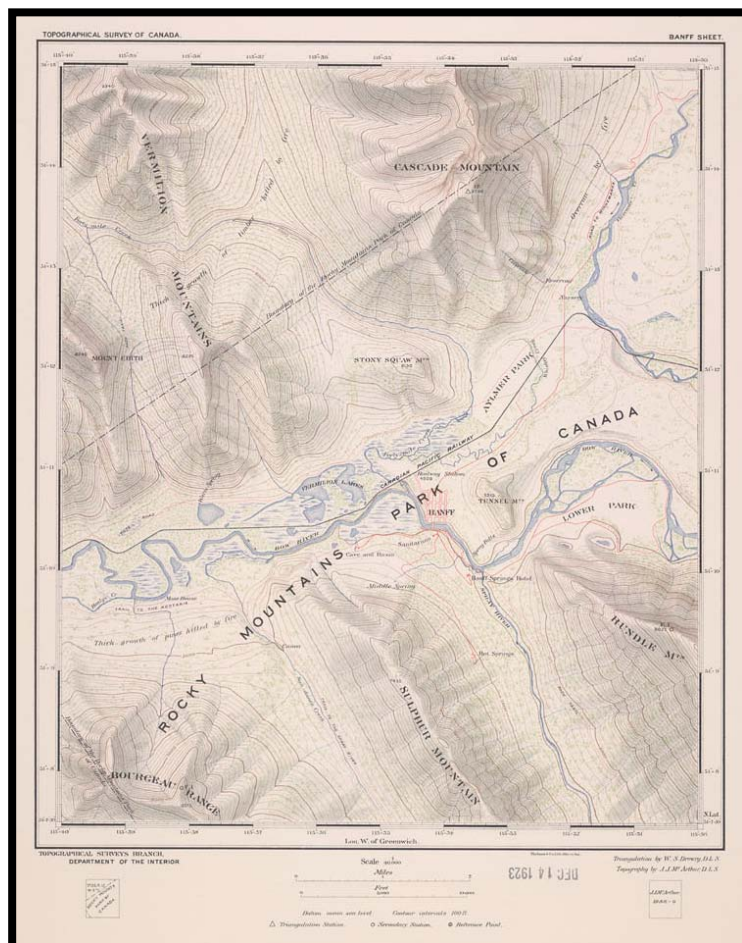
⁷⁶ E. Deville to W. Drewry (September 24, 1888), Box 93-6553-1, File 2, BCA.

⁷⁷ W. Drewry, Autobiography, Box 93-6553-3, BCA; W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884; McLaren, 27-8.

⁷⁸ W. Drewry, Autobiography, Box 93-6553-3, BCA; A. Wheeler “W. Drewry” (c1940), MS 2259, Box 9, File 27, BCA.

Settlement, surveyed the road from Canmore to the boundary of the Rocky Mountains Park (Banff), and made a reconnaissance survey to select suitable stations within the area bounded by the Columbia, Beaver and Spillimacheen Rivers in the Selkirk Mountains. In 1892, Drewry continued the phototopographical survey for the Dominion into the Selkirk Mountains, covering about a thousand square miles.⁷⁹

Figure 2: Drewry supplied all triangulations for this topographic map displaying the Rocky Mountains Park (later Banff), one of 21 sheets produced between 1888 and 1892 that represented Canada at the World's Exposition in Chicago in 1893. Source: LAC, MIKAN no. 375471



In 1893, however, Drewry resigned from the Department. Several recent changes and opportunities influenced Drewry's decision. First, the Department of the Interior decided to direct more of their funds to subdivision work in the Prairies and, as a result, Drewry's wage was reduced.⁸⁰ Second, and perhaps partly due to his displeasure with the Dominion Government, on October 5, Drewry passed the examination to become a Provincial Land Surveyor (PLS) of BC.⁸¹ Finally, the Government of BC offered him work in the Kootenays—just as the hardrock mining boom was beginning. Despite his resignation, Drewry's unprecedented work in the Rocky and Selkirk

⁷⁹ Don Thomson, *Skyview Canada: A Story of Aerial Photography in Canada* (Ottawa: R.B.W., Ltd, 1975), 14; E. Deville to W. Drewry (July 29, 1890), GR-437, Box 20, File 3, BCA; "Minerals Other Than Coal", *Province of BC, Legislative Assembly, Sessional papers*, No. 13 (1892), xv11; Arthur Wheeler, "W. Drewry" (c1940), MS 2259, Box 9, File 27, BCA; E. Deville, Surveyor General, "Report of the Chief Astronomer, December 31, 1892", *Sessional papers of the Dominion of Canada* (Ottawa: S. E. Dawson, 1893), 13-10.

⁸⁰ The Minister of Interior recommended A. Brabazon take Drewry's position. [Name illegible], Clerk of the Privy Council, to the Minister of the Interior, "Order in Council, 1334" (May 5, 1893), *Department of the Interior, Menu for Establishment* (November 14, 1896).

⁸¹ BC, Board of Examiners, Provincial Land Surveyors, MS 2259, Box 2, BCA; Drewry became PLS 14.

mountains had satisfied Deville's original objectives. A. J. Birrel states that the International Boundary Commission decided to carry out its reconnaissance survey of the Alaskan coastal mountains using the photo-topographical method exclusively because the results in the Rockies and Selkirks were so successful.⁸² In addition, historians Judy Larmour and Don Thomson concur that photo-topographical surveying in the Rocky Mountains at the end of the nineteenth century—a technique that had “challenged surveyors across Europe”—was “unexceeded in extent by any other country in the world.”⁸³

In the spring of 1893, Drewry began photo-topographical work upon Crown Land Surveys in the Kootenay Mining District, this time for the Government of BC. The previous year the province had granted charters to two railways in the region, the Nakusp & Slocan Railway and the Kaslo & Slocan Railway. Both Drewry's maps and the railways opened the Slocan to national and international investors. He began at Nelson and continued the surveying technique until the fall of 1895, mapping some 2400 square miles.⁸⁴ Not unlike his work in the Rockies, the object of the photo-topographical work was to establish points to tie in surveys of mineral claims, farming lands, timber limits, and other such property boundaries, and assist in the production of plans.

Triangulating “Mining Centres”

In 1896, the Province sent Drewry into “the Slocan country, siting mineral monuments to which scattered groups of mineral claims might be tied” [see Figure 3].⁸⁵ Drewry carried on his triangulation as before but, instead of using the CPR railway or a meridian as base, he expanded from a base of his own creation—one in which he measured “carefully.” Thomas Kains reasoned that this slightly altered system would “probably cover the desirable sections of the country with a net work [sic] of triangles somewhat more rapidly and at less expense than the photo-topographical method”.⁸⁶ As a result, Drewry became largely responsible for establishing a new study of the earth and its

⁸² Birrel; A. Birrel was the Chief at the Acquisition and Research Section, National Photography Collection.

⁸³ Larmour, 62; Thomson, 132. Drewry and the members of his survey parties were the first known Anglo-Americans to climb several mountains in the Rockies and Selkirks.

⁸⁴ Arthur Wheeler, “W. Drewry” (c1940), MS 2259, Box 9, File 27, BCA; Tom Kains to W. Drewry (June 26, 1896), Box 93-6553-1, File 4, BCA.

⁸⁵ W. Drewry, Autobiography, Box 93-6553-3, BCA.

⁸⁶ Tom Kains to W. Drewry (June 26, 1896), Box 93-6553-1, File 4, BCA.

features or, in other words, a new geography in the Kootenays. The exponential growth in the number of mining claim registrations in the Slocan made this new system particularly important. Cole Harris states that between the fall of 1891 and 1896, more than 3000 claims were recorded in the Slocan valley.⁸⁷ In the spring of 1896 Drewry began at Nelson and work “was carried on in all directions until the dense smoke of forest fires stopped operations in August.” He then went to Ainsworth to tie “a great number of mineral claims in, mostly by triangulation, although it was sometimes necessary to run connecting traverses”. He also established mining monuments, and made “road traverses, etc.” After the summer, “remarkable” snowstorms in September actually allowed Drewry “to get over considerable country, living and working much of the time in snow from one to two feet deep.”⁸⁸ By the end of 1896 Drewry reported, all “the surveyed claims in this vicinity were tied in”.⁸⁹ The Provincial Government recognized the importance of surveyors such as Drewry because, as BC Surveyor General Tom Kains informed Drewry, mining interests in the Slocan were becoming “more and more important” as time proceeded.⁹⁰

⁸⁷ C. Harris, “Industry and the Good Life around Idaho Peak”, *Canadian Historical Review*, 66, 3 (September 1985), 329.

⁸⁸ W. Drewry, “Photo-topographical Survey of Kootenay”, *Province of BC, Legislative Assembly, Sessional papers, 1896, Crown Land Surveys*, 811. Mining monuments, also referred to as mineral monuments, were located no more than four miles apart in a prominent point of visibility and consisted of a conical mound of stones four feet high and six feet wide. A cross marked the “exact” point of survey line connection. Tom Kains to W. Drewry (June 26, 1896), Box 93-6553-1, File 4, BCA.

⁸⁹ W. Drewry, “Ainsworth and Slocan Mining Divisions Survey,” *Province of BC, Legislative Assembly, Sessional papers, 1896, Crown Land Surveys*, 813.

⁹⁰ Tom Kains to W. Drewry (June 26, 1896), Box 93-6553-1, File 4, BCA.

Figure 3: Map of Part of Slocan Mining Camp, West Kootenay, BC, compiled by W. S. Drewry, 1897. Source: LT&SA of BC, 13T12 Old Maps.

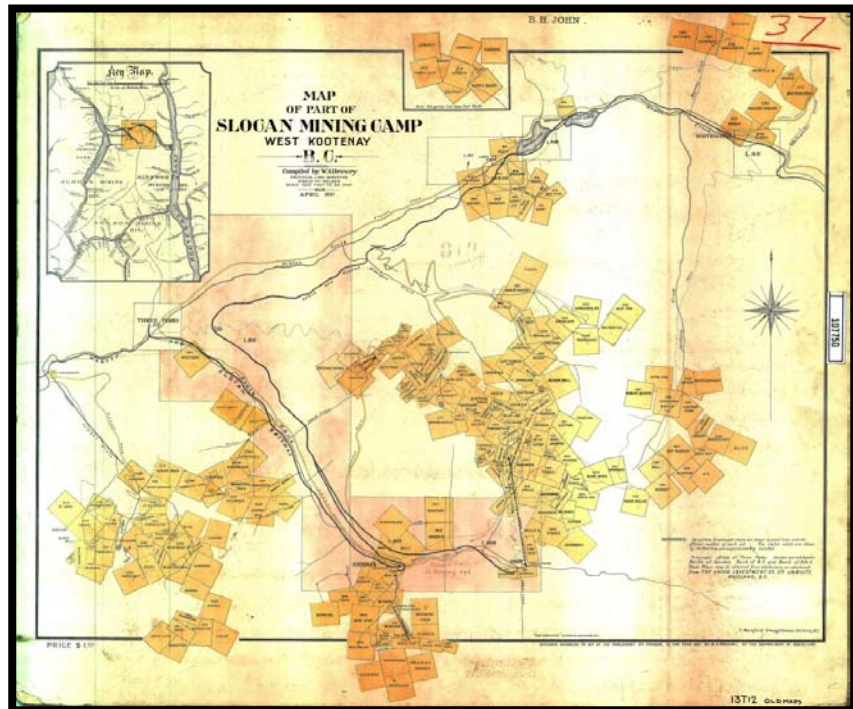


Figure 4: Portion of map “Mineral claims area near Slocan Lake (1905).” Note the change from Figure 3 above. Source: LT&SA of BC, 6 Locker V.



In 1897, after establishing the primary mining monuments, Drewry resigned from government work and went into partnership with Herbert Twigg as mine surveyors. With the hardrock mining boom reaching its peak, mining interests and investors had great demand for their services.⁹¹

Drewry stated their “work consisted almost wholly of mining work, both surface and underground, at which they acquired a considerable reputation.”⁹² Drewry exploited his prior establishment of the primary monuments and tied in what Cole Harris called “a patchwork tangle of claims superimposed on steep mountainsides.”⁹³ Moreover Drewry stated that they worked:

⁹¹ Drewry and Twigg stationary, Box 93-6553-1, File 4, BCA; Harris, “Industry and the Good Life around Idaho Peak”, 327.

⁹² W. Drewry, Autobiography, Box 93-6553-3, BCA.

⁹³ Harris, “Industry and the Good Life around Idaho Peak”, 317.

...in [the] Slocan, Ainsworth and Nelson Mining Divisions. For ten years was pretty constantly engaged in mining surveys of all classes for various mining companies. Worked when required for nine years for Slocan Star Mine (B. N. White Co.), Idaho Mine, Last Chance Mine including contour survey of whole property to locate vein apex and drive cross cut at one thousand feet depth, Minnesota Silver Co., Bosun Mine, and many others for most of which contour surveys were made to a considerable or lesser extent.⁹⁴

Drewry and Twigg acted as agents who dramatically extended speculative capitals' capacity to maximize profit from natural resource exploitation.

By 1896 Drewry had taken a more direct part in the mining boom in the Slocan, investing in various claims in the vicinity of Bear Lake, Slocan Mining Division West Kootenay, which later included Sandon and Hooker Creek. Moreover, he bought or sold mining and timber claims as an agent for companies and individuals based in Canada, the United States, and England. Whether Drewry served a government, a corporation, or his own interests, he brought land and natural resources into the expanding network of world trade, his work normalizing what historian Jeremy Mouat calls Anglo-Americans' specific attitudes about property, land, and wealth.⁹⁵

In order to maximize his ability to act as an agent for speculative capital, Drewry became a "citizen" in the Kootenays, a status family residence played a role in establishing. "Although loosely used," Cole Harris explains, "the term 'citizen' referred to acceptable people who had settled in the valley. Mining promoters briefly in the Slocan were hardly citizens".⁹⁶ In 1898 Drewry moved his practice from Kaslo to New Denver. He brought his wife, Claire L. Hazard and son, John (Jack), from Victoria, and settled in a house on 7th Street. Continuing with his busy professional life, he and Twigg surveyed land for the planning and construction of electrical power plants, railways, roads, bridges, and mines. They also surveyed for the government. Moreover, Drewry utilized family connections in taking an influential role in the speculative Kootenay hardrock mining boom. At this time, both of Drewry's brothers, John (Jack) Climie Drewry, who became manager of the Canadian Gold Fields Syndicate, and Andrew Joseph Drewry, who would soon be in charge of the Syndicate's

⁹⁴ W. Drewry to D. Pitt (May 30, 1923), Box 93-6553-3, File 1, BCA.

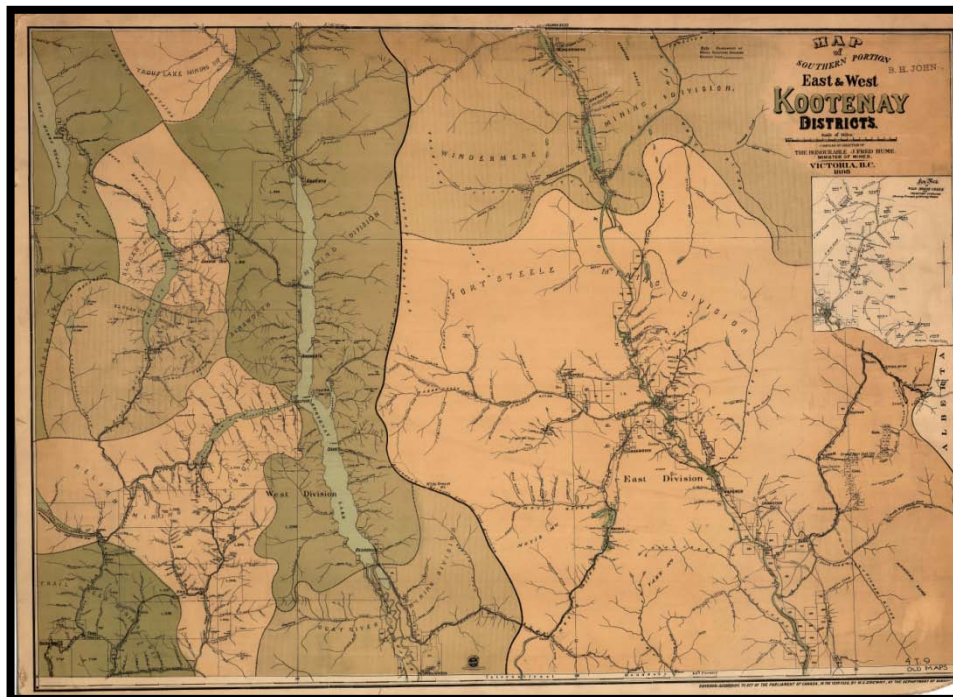
⁹⁵ William Syan and John Keen to W. Drewry (May 14, 1897), Box 93-6553-1, File 6, BCA; Province of BC, "Morning No. 4", mineral claim, purchased by W. Drewry, sold by I. David Woodhead (November 10, 1896), Box 93-6553-3, File 4, BCA; W. Drewry, Statement of Assets, Box 93-6553-3, File 14, BCA; J. Lallie to W. Drewry (January 21, 1897), Box 93-6553-1, File 6, BCA; W. Drewry to J. McIntosh (May 27, 1924), Box 93-6553-3, File 1, BCA; A. Mc. L. Banting to W. Drewry (February 14, 1898), Box 93-6553-1, File 8, BCA; Jeremy Mouat, *Roaring Days: Rossland's Mines and the History of British Columbia* (Vancouver: UBC Press, 1995), xii.

⁹⁶ Harris, "Industry and the Good Life around Idaho Peak", 329.

main operation, the Sunset No. 2, worked for The Walters Company in Rossland. Drewry was sporadically in contact with them, generally in regard to either mining ventures or family matters. The

Drewrys, as members of the Kootenay middle class, had become “citizens.”⁹⁷

Figure 5: BC Department of Mines, “Map of southern portion East & West Kootenay districts, 1898” by W. Drewry. Source: LT&SA of BC, 4T9 Old Maps.



Drewry’s status as a citizen allowed him to participate in exclusive clubs. On August 30, 1898, Sandon Club Secretary E. Sandilands informed Drewry that he had been elected a non-resident member of their club.⁹⁸ On April 4, 1901, Silver Lead Mines Association Secretary David Heap informed Drewry that he had been “unanimously” elected as a member.⁹⁹ Drewry was also a member of the Nelson Conservative Association, the Civilian Rifle Association in New Denver, the Grand Lodge of the Ancient Order of United Workmen of Ontario, the Masonic Order, the Canadian Mining Institute, the Alpine Club of Canada, the National Geographic Society, the Canadian Society of Civil Engineers, and the BC Association of PLSs.¹⁰⁰ Drewry was particularly influential in the establishment of the Provincial Mining Association of BC [see Figure 5] and the Association of Lead

⁹⁷ W. Drewry, Autobiography, Box 93-6553-3, BCA; On November 26, 1884, he married Claire L. Hazard in Belleville. Marriage Certificate (November 26, 1884), Box 93-6553-3, File 14, BCA; F. Twigg, (March 13, 1940), MS 2259, Box 9, File 27, BCA; J. Keen to W. Drewry (February 18, 1898), Box 93-6553-1, File 8, BCA; Gray, 4; Harris, “Industry and the Good Life around Idaho Peak”, 329.

⁹⁸ E. Sandilands to W. Drewry (August 30, 1898), Box 93-6553-1, File 9, BCA.

⁹⁹ David Heap to W. Drewry (April 4, 1901), Box 93-6553-1, File 12, BCA.

¹⁰⁰ J. Potter to W. Drewry (August 16, 1903), Box 93-6553-1, File 13, BCA; W. Drewry to Nelson Conservative Association (February 18, 1909), Box 93-6553-3, File 1, BCA; [Author’s name absent] to W. Drewry (December 20, 1897), Box 93-6553-1, File 1, BCA; W. Drewry to H. Mortimer Lamb (November 27, 1907), Box 93-6553-3, File 1, BCA; W. Drewry to the National Geographic Society (November 1, 1898), Box 93-6553-1, File 9, BCA; W. Drewry to P. Ellison, GR 441, File 37, File 1, BCA.

Mines of BC. Drewry's associations allowed him to build a network in which to further his interests and the interests of those he wished to empower.

In the fall of 1906, with silver and lead production in the Slocan falling to its lowest level since the early boom in 1894, Drewry resigned from the firm he held with Twigg and moved with his family to Nelson. There he engaged in the general practice of surveying, interspersed with mining work. Drewry also increasingly did roadwork for the government, such as the Pend O'Neill Road from Waneta to several miles beyond the mouth of the Salmon River.¹⁰¹

In Nelson, like the Slocan, Drewry's interests extended beyond surveying alone to encompass his private entrepreneurial activities. In addition to staking personal claims, he also speculated in timber and land.¹⁰² Perhaps Drewry's greatest passion was fishing, and evidence suggests he was a good fisherman at that. On November 29, 1907, recently elected BC Surveyor General E. B. MacKay noted in correspondence with Drewry that he had seen one of Drewry's "Kootenay Lake trout in the Museum", which weighed in at an astonishing 28 pounds!¹⁰³ Drewry was also an avid mountaineer—the lone mountain that he did not climb in the Selkirks bearing his name.¹⁰⁴

Another one of Drewry's life-long passions was politics. On January 22 and 23, 1909, Drewry attended the Conservative convention in Victoria as a delegate for the Nelson Conservative Association, celebrating their leadership in BC during times of economic prosperity, which Drewry's facilitation of capital investment had supported. "The whole proceeding was enthusiastic," reported Drewry "and upon the entry of our leader, the Hon. Richard McBride, the convention received him with royal honours. 'He is there to stay'."¹⁰⁵ Indeed, the Conservatives enjoyed a long run in power, and Drewry, as a loyal Tory, would become part of McBride's reordering of BC politics.

¹⁰¹ W. Drewry, *Autobiography*, Box 93-6553-3, BCA; F. Twigg (March 13, 1940), MS 2259, Box 9, File 27, BCA.

¹⁰² Harris, 316; W. Drewry (August 14, 1907), Box 93-6553-3; W. Drewry, "Statement of Assets", Box 93-6553-3, File 14, BCA.

¹⁰³ E. MacKay to W. Drewry (November 29, 1907), Box 93-6553-2, File 2, BCA. This "trout" may have been a Kokanee: a land locked species of salmon.

¹⁰⁴ A. Wheeler, *The Selkirk Mountains: A Guide for Mountain Climbers and Pilgrims* (Winnipeg: Stovel Company, Engravers, Lithographers and Printers, 1912).

¹⁰⁵ W. Drewry, to the president and members of the Nelson Conservative Association (February 18, 1909), Box 93-6553-3, File 1, BCA.

Chief Water Commissioner

Just as popular views of the conservation movement were crystallizing in North America, largely upon the concepts of multipurpose river development and, ultimately planned and efficient progress, Commissioner of Lands F. J. Fulton asked Drewry to be the first to “undertake the position of Chief Water Commissioner for the Province” in the summer of 1909.¹⁰⁶ Fulton charged Drewry with the task of administrating the distribution of water tenure under the *1909 Water Act*, which included the definition of key terms, the adoption of standard units of measurement, the division of BC into management units based on existing land district boundaries, the establishment of priority to diverted water, and allowances for the co-operative organization of irrigation. While these were all important changes in the *Act*, the organization of the Water Rights Branch and appointment of a Board of Investigation to settle disputes over water tenure were Drewry’s most significant responsibilities. He also directed his staff to dutifully record all water claim records with mapped locations at which the water was to be used, measure streams’ flow capacity, use universal water record templates, and issue individual receipts of purchase.¹⁰⁷ His work securing title to water through more detailed records and administration contributed to the commodification of water, attracting settlement and speculative capital to BC [see Figure 6].

Drewry’s tenure as Chief Water Commission proved to be brief, however, lasting less than two years. Although the reasons for his 1911 resignation are unfortunately unclear, he did note a few issues, which may have contributed to his decision. By the time Drewry arrived in Victoria in December, he found that Fulton had resigned as Chief Commissioner of Lands and that Price Ellison had taken his place. Then, within months, Ellison became the Minister of Agriculture and W. R. Ross was appointed.¹⁰⁸ The differing expectations of these revolving ministers frustrated Drewry. On April 20, 1910, at Ellison’s request, Drewry resigned from the Board of the Corporation of Land Surveyors. In the resignation letter to the Association, Drewry stated: “I may say that this step is

¹⁰⁶ Samuel Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation movement, 1890-1920* (Pittsburgh: Pittsburgh University Press, 1999), 5; William S. Drewry, Autobiography, Box 93-6553-3, BCA.

¹⁰⁷ K. Wilson, “Irrigating the Okanagan: 1860-1920,” *Living Landscapes*, retrieved September 6, 2007, from <http://www.livinglandscapes.bc.ca/thomp-ok/irrigating-of-okanagan/index.html>; British Columbia, Water Rights, Branch, “The Water Board of the Province of British Columbia,” GR 884, File 21, BCA.

¹⁰⁸ Water Rights, Branch, File 21; W. Drewry, Autobiography, Box 93-6553-3, BCA.

taken with much regret, as my relations with the Board have been extremely pleasant”.¹⁰⁹ Drewry could not understand why identification with this Board, something he considered “a body of scientific men,” was more detrimental than his membership in the National Geographical Society, Canadian Mining Institute, or the Canadian Society of Civil Engineers.¹¹⁰ Despite Drewry’s role among the new administrative specialists in the Government of British Columbia, Robert McDonald describes most civil servant jobs of the era as still routine, demanding little skill beyond the capacity to read and write, poorly paid, and that administrative practices were highly inefficient.¹¹¹ In his autobiography, Drewry ultimately attributed his resignation to the refusal of his recommendations for “some radical changes” in the *Water Act*, which he argued would have made it “workable”.¹¹² Unfortunately, records are lacking about the changes that he desired.

Figure 6: This undated photograph is of Drewry at work in the Legislature in Victoria. Most likely he was working as Chief Water Commissioner, but he may have been acting as British Columbia’s Inspector of Surveys. Source: Joanna Drewry’s personal collection



Government Surveys & Private Practice

On the same day Drewry resigned as the first and only Chief Water Commissioner, he was appointed Inspector of Surveys for BC. From this point in time to 1913, he provided supplementary instruction for the correction of maps; examined the countryside for future surveys; inspected roads for necessary repairs; established the 52 Parallel; settled disputes over surveys in the East Kootenay, Lillooet, and Cariboo districts; and ran connecting surveys and short synopsis of the country he passed over.¹¹³

Between 1913 and 1922, Drewry carried out further government surveys, mostly in the

¹⁰⁹ W. Drewry to S. Robert (April 20, 1910), Box 93-6553-3, File 1, BCA.

¹¹⁰ W. Drewry to Price Ellison, GR 441, Box 37, File 1, BCA.

¹¹¹ Robert McDonald, “The Quest for ‘Modern Administration’: British Columbia’s Civil Service, 1870s to 1940s”, *BC Studies*, 161, 34 (Spring 2009), 16.

¹¹² W. Drewry, *Autobiography*, Box 93-6553-3, BCA.

¹¹³ Evidence is lacking as to the precise date Drewry became Inspector of Surveys in BC; W. Drewry, *Inspector of Surveys, “Columbia Valley, East Kootenay,” Province of BC, Legislative Assembly, Sessional papers, 1896, Crown Land Surveys, G 15*. Surveyors had to accurately calculate and demarcate parallels in order to facilitate secure land purchases. The 52 Parallel established the boundary between the Cariboo and Lillooet districts.

Lillooet and Kamloops Districts. In addition, he completed subdivision surveys, lot inspections, connection surveys, tied in district boundaries, and surveyed mineral claims, Indian Reserves, a school lot, and pre-emptions.¹¹⁴ He tied in his subdivision surveyors, which occupied the bulk of his time, to the Pacific Great Eastern Railway line, which began service between Squamish and Chasm in 1915. Throughout Drewry's career, his work consisted of adjoining remote corners of Canada to railways. In his 1916 report to the Minister of Lands, Drewry described his surveying as necessary "to meet the requirements of advancing settlement."¹¹⁵

From 1923 to 1928 Drewry operated a private surveying practise from his home in Victoria, carrying out most of his work on Vancouver Island.¹¹⁶ However, in 1925, he travelled to the Cariboo, where the Gang Ranch, the largest ranch in the world at the time, employed him to find a feasible route for bringing water from Churn Creek onto the ranch, contributing to what Wanda Story calls the "glory years" of the Gang Ranch.¹¹⁷ Unfortunately, Drewry's health began to deteriorate and he could no longer do what he called "the rough work I used to thrive on."¹¹⁸

In 1929, Drewry undertook a right-of-way survey of the Sooke and Renfrew districts, which proved his last professional undertaking.¹¹⁹ Advancing "years and failing health compelled him to retire completely from his very active professional life", stated John Drewry in a eulogy of his father written at the request of the BCLS Association. On the morning of December 2, 1939, William Drewry had died in Victoria at the age of 80.¹²⁰

¹¹⁴ John H. Drewry, "William Stewart Drewry", Eulogy (c. 1940), MS 2259, BCA; W. Drewry, Autobiography, Box 93-6553-3, BCA; W. Drewry, "Diary" (August 27, 1918), Box 93-6553-3, File 1, BCA; W. Drewry to E. Wheathey (February 21, 1927), Box 93-6553-3, File 1, BCA; W. Drewry, Inspector of Surveys, "Vicinity of Sheridan Lake, Lillooet District," *Province of BC, Legislative Assembly, Sessional papers, 1917, Report of the Minister of Lands* (December 29, 1916), L 41; W. Drewry, Inspector of Surveys, "Green Lake and 83-Mile Creek, Lillooet Districts," *Province of BC, Legislative Assembly, Sessional papers, 1918, Report of the Minister of Lands* (December 12, 1917), H 29.

¹¹⁵ W. Drewry, Inspector of Surveys, "East of 83-Mile House Lillooet," *Province of BC, Legislative Assembly, Sessional papers, 1916, Report of the Minister of Lands* (November 28, 1915), B 77.

¹¹⁶ W. Drewry (Mid-Jan. 1924), Box 93-6553-3, BCA; W. Drewry to Credit Foncier (March 18, 1924), Box 93-6553-3, File 1, BCA.

¹¹⁷ W. Drewry, Autobiography, Box 93-6553-3, BCA; Wanda Story, "Chronology of the Gang Ranch" (December 3, 2007), <http://www.rootsweb.com/~bc/caiboo/gang.html>

¹¹⁸ W. Drewry to John H. Drewry (June 25, 1928), Box 93-6553-9, File 5, BCA.

¹¹⁹ W. Drewry, Autobiography, Box 93-6553-3, BCA.

¹²⁰ John H. Drewry, "William Stewart Drewry", Eulogy (c. 1940), MS 2259, BCA.

Summary

Undoubtedly John Drewry's assessment of his father's life was correct. Whether training to become a land surveyor, experimenting with or implementing photo-topographical surveys, triangulating mining centres, acting as Chief Water Commissioner, or executing government or private surveys, Drewry was indeed "very active". His biography displays his contributions to what Martin Robin calls BC's scheme "to give birth to a business civilization, raised on the base of the extractive industries of mining, lumbering and fishing."¹²¹ Whether surveying, administering, collaborating, or managing, he appropriated a new space in the interests of government, capital and the Anglo-American settler society.

This chapter has given readers an opportunity to better acquaint themselves with the life of Drewry and within the historical geography of BC over Drewry's lifetime. Hopefully readers can now better situate themselves within this space. Many important questions remain unanswered however. A biography is insufficient to elicit how Drewry empowered change, how that change influenced other individuals and groups, or how specific interests exploited that change in their own interests or those of others. Therefore, to tackle these questions, the following chapter examines how Drewry classified the landscape.

¹²¹ Martin, 12.

Chapter III

“Correlation of Things”: How Drewry Envisioned Space



Figure 7: In 1888, Drewry took this photograph of the Crow's Nest Pass while using the photo-topographical technique to establish the Fifth Meridian. Source: BCA, Ann ten Cate unprocessed records

Ceci n'est pas une montagne [see Figure 7].¹²² If, on the contrary, this is a mountain, then why is it not possible to climb it? You cannot climb it because it is not a mountain but rather an image. The image or representation is much different from the mountain it represents.

This introductory paragraph is not a riddle or a play on words but rather an attempt to unveil the fiction of “reality” that exists around photographic representations of the landscape. In 1888, while using the photo-topographical technique to establish the 5th Meridian, Drewry took this picture of the Crow's Nest Pass in the Rocky Mountains. The photograph represents Drewry's visual image at the moment he took the picture. Yet, lived experiences can never be reproduced absolutely.

¹²² “Ceci n'est pas une montagne.” [This is not a mountain (French)] The idea for this introduction is borrowed from Rene Magritte's famous painting “Ceci n'est pas une pipe.”

Indeed, some interpretations may be better than others: the best interpretation being not so much “reality” but rather the most accurate knowledge of lived experience.

Drewry’s task as a surveyor, however, was not so much to represent the landscape accurately but rather to envision a new “reality.” Drewry’s vision, like that of any surveyor, was individualized and subjective; nevertheless modern imperial rationalizations, colonial legislation, and professional surveying associations acculturated the scope of their vision. This chapter categorizes this scope into four gazes: the scientific gaze exploited reason and the construction of knowledge to “perfect” vision; the panoptic gaze universalized space; the commercial gaze commodified the land and natural resources; and the aesthetic gaze promoted preservation and use. As a result of these acculturated gazes, Drewry classified the landscape in a manner that contributed to the larger colonial project, by sanctioning the ignorance of customary rights and local obligations and playing a pivotal role in the creation of a new capitalist economy based on market exchange and private property.

“Possibilities”: Drewry’s Acculturated Vision

Anglo-Americans in particular have depended on their faith in the objectivity of sight to create, and sometimes control, new cultural divides, crediting sight as less sensuous and more mechanistic than other senses. According to Giselle Byrnes, participants in the colonizing project argued that the viewer could use her or his faculties of reason to choose what was important and what was insignificant. They further contended that a systematic methodology of observation could reduce any inaccuracies in vision to trivialities. However, all eyes do not perceive passively but rather actively. Vision is an ideological and conceptual construct influenced as much by the expectations and intentions of the viewer as by the landscape being represented.¹²³ Thus, Drewry exploited an acculturated vision subjectively.

Contemporary imperial rationalizations sanctioned Drewry’s ignorance of pre-existing peoples, which he, in turn, furthered by appropriating an anticipatory geography. As political scientist James Tully states, it “is difficult to overestimate the influence” of modern British

¹²³ Giselle Byrnes, *Boundary Markers: Land Surveying and the Colonisation of New Zealand* (Wellington: Astra Print, 2001), 40-1.

philosophers like John Locke, who argued that the benefits of private property and commerce outweighed customary rights. Tully further argues that Anglo-Americans reasoned “the conqueror” should consider only the bigger picture when settling a new land. The potential of a new and large settlement in the near future outweighed the consideration of the smaller pre-existing population.¹²⁴ Accordingly, Drewry did not recognize pre-existing peoples as having any form of government, reasoning that neither settlers nor surveyors needed their consent to impose a new geography upon the land. Such ideological constructions also justified Drewry’s future vision. His vision did not so much construct existing knowledge, but rather classified the landscape as “Possibilities” or “Conditions Changing”.¹²⁵ Drewry practiced what historical geographer Ken Brealey calls “selective ‘re-presentation’.”¹²⁶ Drewry’s anticipatory geography homogenized space as Anglo-American and gradually broke down what historian Don Thomson calls “time-tested ideals and systems of morality.”¹²⁷ Modern imperial discourse influenced surveyors like Drewry to classify the landscape as vacant and justified encroachment on these lands as a necessary process that brought a better life to Aboriginal peoples and squatters.¹²⁸

Developed upon the theories of Locke and others, colonial legislation also significantly influenced Drewry’s classifications of land and natural resources. Governor of the Colony of Vancouver Island and later BC James Douglas implemented a system of pre-emption that was unique in the western provinces. Pre-emptions allowed any British citizen to locate and mark-out a piece of land in BC. If they occupied the land continuously for four years and made adequate change—“improvement”—to the land in advance of survey, after two years they could purchase a Crown Grant for a minimum of a dollar an acre, which gave them “indisputable title” to the land. The pre-emption system illegitimated title to land subject to seasonal land use, and Aboriginal peoples’ hunting and gathering practices, while encouraging Anglo-American settlement, limiting “squattening”

¹²⁴ James Tully, *Strange Multiplicity: Constitutionalism in an age of diversity* (Cambridge: Cambridge University Press, 1995), 73-4, 161.

¹²⁵ W. Drewry, Inspector of Surveys, “Columbia Valley, East Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, G 16.

¹²⁶ Ken G. Brealey, “Mapping Them ‘Out’: Euro-Canadian Cartography and the Appropriation of the Nuxalk and Ts’ilhqot’in First Nations’ Territories, 1793-1916”, *The Canadian Geographer*, 39. No. 2 (1995), 140.

¹²⁷ Don Thomson, *Skyview Canada: A Story of Aerial Photography in Canada* (Ottawa: R.B.W, Ltd, 1975), 2.

¹²⁸ Tully, 73-4.

on unsold land, and ensuring revenue for the state.¹²⁹ With regard to water policy, BC inherited the English common law of “riparian proprietorship”, a system that allowed anyone to exploit (not own) water “as long as they did not impede the natural flow to the detriment of others”. However, as the Province increasingly favoured industrial capitalism in the latter nineteenth-century, the courts shifted toward the doctrine of “reasonable use.” This led to the *Water Clauses Consolidation Act* of 1897, which denied all claims to riparian rights or right-to-access by claim of “length of use”, such as the “prior right” of Aboriginal peoples.¹³⁰ Anglo-Americans drew from Locke’s principles to change early English Common Law in a manner that illegitimated customary land and water use practices in favour of capital accumulation.

Two professional associations in particular played a significant role in acculturating Drewry’s vision. In 1888 Drewry became an active member of the Association of Dominion Land Surveyors (ADLS).¹³¹ First organized on April 24, 1882, the ADLS’s stated objective was “the promotion of the general interests, and elevation of the standards of the profession.”¹³² On December 1, 1890 the BC Association of Provincial Land Surveyors was launched with similar objectives, Drewry becoming a member early in 1892. These associations discussed a number of surveying issues, such as the definition of key terms, settlement, irrigation, nomenclature, and evaluation of surveying methods and instruments, deeply influencing Drewry’s classifications of land and natural resources.¹³³

Drewry did not recreate the landscape but rather created a socially constructed reality.

¹²⁹ Margaret A. Ormsby, “Forward”, Robert Edgar Cail, *Land, Man, and the Law: The Disposal of Crown Lands in British Columbia, 1871-1913* (Vancouver: The University of British Columbia, 1974), viii, 2, 20; Richard Mackie, *The Wilderness Profound: Victorian Life on The Gulf of Georgia* (Victoria: Sono Nis Press, 1995), 59.

¹³⁰ H. Grunsky, “Water Legislation and Administration in British Columbia,” in BC, Department of Lands, “Report of the Minister of Lands [1912],” BC, *Sessional Papers*, D 117; Ted Steinberg, *Down to Earth: Nature’s Role In American History* (Oxford: Oxford University Press, 2002), 57, 59; Being a crown colony, Vancouver Island inherited the English common law principle of “riparian proprietorship”. This system gave rights to those living on the banks of streams that flowed through or by their property. The resource could be exploited only to the point that nothing detrimental resulted for others. The system protected the affected landowners and made them responsible for their actions, because any sizable diversion was considered damage to adjoining property; A. White, *Water Powers of British Columbia* (Ottawa: Commission of Conservation, 1919), 79; Cole Harris, *Making Native Space: Colonialism, Resistance, and Reserves in British Columbia* (Vancouver: UBC Press, 2002), 191-2, 236.

¹³¹ Canada, *Proceedings of the Association of Dominion Land Surveyors* (ADLS), Fourth Annual Meeting (March 15 and 16, 1888), CIHM no. 01884.

¹³² Canada, *Proceedings of the ADLS*, First Annual Meeting (February 19, 20, 1884), CIHM no. 01884.

¹³³ Definitions were often narrow in meaning, such as “Geography simply describes the earth as the dwelling place of the human race.” The definition gives the human race ownership of the earth and makes no consideration of other species or the environment. Canada, *Proceedings of the ADLS*, Fourth Annual Meeting (March 15 and 16, 1888), CIHM no. 01884; Don W. Thomson, *Men and Meridians: The History of Surveying and Mapping in Canada*, 2 (Ottawa: Queen’s Printer, 1967), 74.

Modern imperial rationalizations, colonial legislation and surveying associations acculturated Drewry's classifications of land and natural resources, and, in the process, sanctioned ignorance of local and customary rights. Anglo-American interests accomplished this acculturation by constructing a number of ideological gazes through which Drewry viewed the landscape. The next section explores the scientific gaze.

“A More Exact System”: The Scientific Gaze

Drewry used reason and the construction of knowledge to classify land and natural resources. In 1887 the ADLS called for “a more exact system of survey than that in vogue”, expressing what historian Suzanne Zeller calls the desire “to increase and diffuse knowledge”.¹³⁴ The ADLS was also acting as an arm of what Thomas Richard calls “the epistemological extension of Britain into and beyond its empire.”¹³⁵ Surveyors were at the root of the Victorian era's preoccupation with “‘inventory science’, which highlighted the mapping and cataloguing of resources and other natural phenomena”.¹³⁶ Drewry's and his associates' classifications of the landscape reinforced the nineteenth-century Anglo-American shift from artistic conception to scientific law. For instance, Otto J. Klotz stated in his 1886 presidential address to the ADLS that “some people” felt the late nineteenth-century was “too ‘practical’ an age”. However, he argued, “probability” did not exist in nature but rather everything was “subject to fixed laws” that science could explain.¹³⁷ Drewry heard Klotz reinforce this argument in an 1889 speech to the ADLS. “The object of Science is the discovery of truth, and the practical man applies that discovery”, Klotz asserted.¹³⁸ In other words, only reason could construct knowledge; one could not exist without the other.¹³⁹ Surveyors were at the heart of Europeans' fascination with what historian Dan Clayton calls the “power of reason to

¹³⁴ Canada, *Proceedings of the ADLS*, Fourth Annual Meeting (March 8 and 9, 1887), CIHM no. 01884. If “exact” is defined “as correct and complete in every detail”, then how can anything be more exact than anything else? Surveyors exploited linguistic devices that abstracted the approximate nature of their measurements; Susanne Elizabeth Zeller, *Inventing Canada: Early Victorian Science and the Idea of a Transcontinental Nation* (Toronto: University of Toronto Press, 1987), 4.

¹³⁵ Thomas Richards, *The Imperial Archives: Knowledge and the Fantasy of Empire* (London: Verso, 1993), 15.

¹³⁶ Zeller, 4.

¹³⁷ Canada, *Proceedings of the ADLS*, Third Annual Meeting (February 16-17, 1886), CIHM no. 01884.

¹³⁸ Otto Klotz, “Report of Committee on Topographical Surveying”, Canada, *Proceedings of the ADLS*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

¹³⁹ Matthew Edney, *Mapping an Empire: The Geographical Construction of British India, 1765-1843* (Chicago: The University of Chicago Press, 1997), 51.

domesticate kingdoms of otherness and the capacity of ‘man’ to live contemporaneously, without the crutch of the past.”¹⁴⁰ Surveyors like Drewry used the scope of science—reason and the construction of knowledge—to classify the landscape as free for Anglo-American expansion.

In order to construct knowledge, Drewry depended on instruments designed for accurate measurement. In 1886, at the third annual meeting of the ADLS, Klotz emphasised that surveyors must “measure accurately” because “the progress of science ever demands more and more accurate measurements.”¹⁴¹ Drewry used an array of instruments for measurement, such as chains, theodolites, and protractors. He also recommended the use of small pocket aneroids [see Figure 9] to check the elevation obtained on surveys, and thermometers for “continuous” thermal record.¹⁴² In addition, Department of the Interior photographer H. N. Topley developed all negatives from Drewry’s work with photo-topography to four times the original size, a method called the Bromide process, so that Drewry could plot “more accurately.”¹⁴³ Drewry then used instruments to construct space as a mathematically knowable totality. Moreover, the ADLS promoted the camera [see Figure 8] as a “more perfect” terminus for vision than human vision in the field, reducing their reliance on memory.¹⁴⁴ Surveyors believed European nations’ scientific and mechanical inventions added greatly to the “sum of knowledge”, which created “material wealth and progress”.¹⁴⁵ Surveyors’ measurements, however, were not so much a logical construction but rather a means of distributing power. As Andro Linklater argues, “In its rawest guise, greater accuracy has given empires the power to explore new areas and to exploit them at the expense of the less accurate.”¹⁴⁶

¹⁴⁰ Daniel Clayton, *Islands of Truth: The Imperial fashioning of Vancouver Island* (Vancouver: UBC Press, 2000), xxii.

¹⁴¹ Canada, *Proceedings of the ADLS, Third Annual Meeting* (February 16-17, 1886), CIHM no. 01884.

¹⁴² W. Drewry (December 14, 1889), to E. Deville, Surveyor-General, “Report of W. Drewry, DLS: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14,” *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 46; W. Drewry, Inspector of Surveys, “Columbia Valley, East Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, G 18.

¹⁴³ W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, Canada, *Proceedings of the ADLS, Sixth Annual Meeting* (February 19-21, 1889), CIHM no. 01884.

¹⁴⁴ Edney, 1997, 3.

¹⁴⁵ W. Drewry, *Report of Committee on Geodetic and Topographical Surveying* (1892), Box 93-6553-3, File 3, BCA.

¹⁴⁶ Andro Linklater, *Measuring America: How an Untamed Wilderness Shaped the United States and Fulfilled the Promise of Democracy* (Markham, Ontario: Fitzhenry and Whiteside, 2002), 258.



Figure 8: A photograph of one of the cameras used for the topographical survey of Canada. Source: L&AC Mkan m. 3389791

Figure 9: Drewry's E. R. Watts & Sons altitude aneroid barometer and carrying case. Source: 999.115.32 RBCM



Surveyors recognized inaccuracies in their measurements, but argued that they could submerge uncertainty under systematic analysis.¹⁴⁷ “All measurements are subject to many errors,” stated Otto Klotz to the ADLS in 1886, “some of which may be foreseen and either avoided or eliminated by the process of observation, or corrected for afterwards in the final result.”¹⁴⁸ For instance, the ADLS celebrated the “more perfect” trigonometrical survey as a practice “all civilized” (European) nations exploited.¹⁴⁹ According to Matthew Edney, triangulation offered “a systematic technology whereby geographic information could be made truly certain and comprehensive.” In applying this technology, Drewry “carefully” measured baselines by chain so that he and proceeding surveyors could run “a net of triangles” adjoining selected mountaintops.¹⁵⁰ Surveyors could then

¹⁴⁷ Edney (1997), 51.

¹⁴⁸ Otto Klotz, *Proceedings of the ADLS*, Third Annual Meeting (February 16-17, 1886), CIHM no. 01884.

¹⁴⁹ W. Drewry, *Report of Committee on Geodetic and Topographical Surveying* (1892), Box 93-6553-3, File 3, BCA. The technologies and techniques that Drewry exploited are examined in the following chapter.

¹⁵⁰ Arthur Wheeler, “Irrigation Surveys, 1898: Report of Arthur O. Wheeler, D. L. S, In Charge”, *Sessional Papers of the Dominion of Canada*, Vol. 10 (Ottawa: S. Dawson, 1899), 13-58; W. Drewry, Inspector of Surveys (January 7, 1921), “Vicinity of Bradley Creek, Bridge Creek, and Timothy Mountain, North-East Lillooet District,” BC, Legislative Assembly, *Sessional Papers*, 1921, Report of the Minister of Lands, G 62; W. Drewry, Inspector of Surveys, “Connection Surveys in Lillooet and Cariboo,” BC, Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, D 249; *Canada, Proceedings of the ADLS*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884; *Canada, Proceedings of the ADLS*, Eighth Annual Meeting (February 17-18, 1891), CIHM no. 01884.

determine the geometry of the triangles by measuring their interior angles. Only one side of the triangles needed to be carefully measured on the ground; they used trigonometry to calculate all other triangle sides from the baselines. “The result”, Edney concludes, “is a rigorous mathematical framework in which all points are defined with respect to each other.”¹⁵¹ From this framework surveyors could quantify space by connecting secondary (sections) and tertiary surveys (legal subdivisions, which usually consisted of 40 acres; each section containing 16 legal subdivisions) to the triangulation points, which were marked by cairns. In order to qualify space, the ADLS instructed surveyors to evaluate and grade each legal subdivision.¹⁵²

The ADLS even extended their systematic analysis to the interpretation of non-members’ classifications, such as those of “old-timers” and Aboriginal peoples.¹⁵³ At the 1893 Annual Meeting of the ADLS, Drewry heard William Ogilvie make the following recommendations in his presentation on “Exploratory Surveys”. First, collect as many pre-existing maps as possible, which will “very probably” be “mere guesses based on hearsay”, however, the combination of maps could “build a tolerably done one out of them all”. Second, when obtaining cartographic information from Aboriginal peoples, whose maps lacked scale, learn of the environmental conditions at the time of mapping to better understand the time taken (as opposed to distance) between points; and have patience in order to limit the “general repugnance of the Indian to being questioned” and to ensure “he” did not “cut short the supply” of information, “which generally has some truth in it, but in the main is imaginary”.¹⁵⁴ Drewry applied such systematic methodology to recast pre-existing geography as a knowable, and sometimes controllable, Anglo-American landscape.

A number of influences, however, often severely hampered the quality of measurement and systematic analysis. For example, on October 29, 1889, Drewry complained to Deville:

¹⁵¹ Edney, 19.

¹⁵² Robert Kercher and Bertram Wolfe, *Understanding Western Canada’s Dominion Land Survey System* (Saskatoon: Extension Specialist, Division of Extension and Community Relations, University of Saskatchewan, 1986), 5; William S. Drewry, *Autobiography*, Box 93-6553-3, File 13, BCA; W. Drewry, Inspector of Surveys, “Columbia Valley, East Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, G 18; Doug Barnett, *Early Surveys and Settlements in Central Alberta* (Edmonton: Provincial Archives of Alberta and City of Edmonton Archives, 2001), 32.

¹⁵³ W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, Canada, *Proceedings of the ADLS, Sixth Annual Meeting* (February 19-21, 1889), CIHM no. 01884.

¹⁵⁴ Wm. Ogilvie, “Exploratory Surveys”, *Proceedings of the ADLS, Tenth Annual Meeting* (February 1893), Page 57, CIHM no. 01883.

I have tried measuring but for the last three days the wind has been blowing strongly and I find it impossible to hold the tape to within from one to two tenths of an inch of mark. This would give a much greater error than allowable and I have therefore decided to postpone measurement until a calm day.¹⁵⁵

Smoke and fog also made accurate measurement difficult, sometimes limiting vision to twenty feet. Snow concealed cairns and contributed to snow-blindness. The cold often made equipment inoperable and Drewry's hands so "stiffened" that he had to curtail work. During the bitter winter of 1896 he worked for a week in temperatures below -21°C (-5° F) (see Figure 10).¹⁵⁶ "Jungles" of brush, trees, windfall, nettles, devils club, and "clouds" of black flies and mosquitoes made life so miserable that canoemen and packers deserted (see Figure 11).¹⁵⁷ Drewry lost packhorses to poison while doing subdivision surveys near Timothy Mountain Lake and Mahood Lake, Kamloops District, and one was killed by a CPR train in 1889 while Drewry was carrying out his Railway Belt triangulation survey.¹⁵⁸ Likewise, in 1893, he almost lost two of his crew, a "snow-slide" carrying them away and injuring them.¹⁵⁹ People, animals, and the environment destroyed boundary markers. Drewry also experienced agency from the environment due to food shortages, raging streams, falling rocks, precipitous mountains, isolation, injury, sickness, and fire, such as the 1916 blaze that began in the crew's hotel in Ashcroft, which claimed some of their surveying equipment and razed much of the city.¹⁶⁰ Drewry and McArthur were the first surveyors in North America to reach over 10,000 feet,

¹⁵⁵ W. Drewry to E. Deville (October 26, 1889), GR-437, Box 19, File 4, BCA.

¹⁵⁶ W. Drewry, "Triangulation Survey in the Rocky Mountains," *Sessional Papers of the Dominion of Canada*, Vol. 14 (Ottawa: B. Chamberlin, 1891), 44; W. Drewry (December 14, 1889), to E. Deville, Surveyor-General, "Report of W. Drewry, DLS: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14," *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 44; W. Drewry, "Ainsworth and Slokan Mining Divisions Survey," BC, Legislative Assembly, *Sessional Papers*, 1896, Crown Land Surveys, 813.

¹⁵⁷ Thomson (1975), 245-6; W. Drewry, "Report of W. Drewry, DLS: Triangulation in the Railway Belt, British Columbia, No.13," February 4, 1893, *Sessional Papers for the Dominion of Canada*, Vol. 9 (Ottawa: S.E. Dawson, 1892), 40.

¹⁵⁸ W. Drewry, "Report of Standing Committee on Phototopography as applied to Topographical Surveying", Canada, *Proceedings of the ADLS*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884; W. Drewry, DLS, December 14, 1889, to E. Deville, Surveyor-General, "Report of W. Drewry, DLS: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14," *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 48; W. Drewry, *Diary* (September 6, 1921), Box 93-6553-3, File 1, BCA. The BC Government had already attempted to limit indiscriminate poisoning of animals to preserve community food resources with an 1877 ordinance. George Colpitts, *Game in the Garden: A Human History of Wildlife in Western Canada to 1940* (Vancouver: UBC Press, 2002), 86.

¹⁵⁹ J. McGregor to W. Drewry, "Mr. McGregor's Report to Mr. Drewry," BC Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, 792; W. Drewry, "Report of Standing Committee on Phototopography as applied to Topographical Surveying", *Proceedings of the ADLS*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

¹⁶⁰ W. Drewry to Credit Foncier F. G. (March 18, 1924), Box 93-6553-3, File 1, BCA; While working on the West Coast Highway from Sooke to Jordan River, Drewry took considerable time "hunting up old boundary-markers" because "most all the country" had been "logged over by the Milligans" and they appeared to have been "at some pains to destroy all traces of the old surveys especially if there were a few good trees outside the boundaries of the lots logged by them." W. Drewry to John H. Drewry (July 1, 1929), Box 93-6553-9, File 5, BCA; W. Drewry (Feb. 4, 1893), "Report of W. Drewry, DLS: Triangulation in the Railway Belt, British Columbia, No.13," *Sessional Papers for the Dominion of Canada*, Vol. 8 (Ottawa:

and Drewry stated, “Here a misstep means death.”¹⁶¹ Moreover, Drewry typically worked between twelve to fifteen hours under what he described as “the most severe physical exercise.”¹⁶² Despite the obstacles, Drewry was still expected to “somehow” [emphasis in original] complete work within time constraints, which frustrated him. “The trail being blocked,” Drewry told his brother Jack, Managing Director of the True Blue Mines, Ltd. in 1902, “the only way to reach the mine was to fly; and I have not yet grown wings.”¹⁶³ Hardships and time constraints contributed to significant inaccuracies, in one case resulting in Drewry producing a map with sections as far as two-miles out.¹⁶⁴ In addition, neither accurate measurement nor systematic analysis allowed Drewry to see the future.

He was offered land at Burrard Inlet but turned it down stating that only a fool would purchase that land. Shortly thereafter the railway was extended from Port Moody to Burrard Inlet and Vancouver was born.¹⁶⁵



Figure 10: Snow, ice, and cold temperatures made accurate surveying more challenging. Source: Richard Mackie’s personal collection

S. Dawson, 1893), 71; W. Drewry to Robert Fraser (November 3, 1922), Box 93-6553-3, File 1, BCA; W. Drewry to McPhillips and Heisterman (Oct 24, 1908), Box 93-6553-3, File 1, BCA; E. Deville to W. Drewry (May 16, 1892), GR-437, Box 21, File 1, BCA; W. Drewry (February 10, 1923), “Clearwater Valley, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1923, Report of the Minister of Lands, K 105; W. Drewry, “Triangulation Survey in the Rocky Mountains,” *Sessional Papers of the Dominion of Canada*, Vol. 14 (Ottawa: B. Chamberlin, 1891), 44; W. Drewry, Diary, to Department of Interior and Surveyor General’s (1887), Box 93-6553-1, File 1, BCA; W. Drewry, Diary (August 16, 1895), Box 93-6553-3, File 1, BCA; W. Drewry to Twigg (November 17, 1907), Box 93-6553-3, File 1, BCA; W. Drewry, Diary (July 15, 1918), Box 93-6553-3, File 1, BCA.

¹⁶¹ W. Drewry (March 5, 1892), “Report of W. Drewry, DLS: Triangulation Survey in the Rocky Mountains, No. 9,” *Sessional Papers for the Dominion of Canada*, Vol. 9 (Ottawa: S.E. Dawson, 1892), 32; W. Drewry (February 10, 1923), “Clearwater Valley, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1923, Report of the Minister of Lands, K 105; Dennis to E. Deville (July 3, 1889), GR-437, Box 19, File 4, BCA; John H. Drewry to Claire Drewry (July 15, 1916), Box 93-6553-9, File 1, BCA.

¹⁶² W. Drewry, Diary, to Department of Interior and Surveyor General’s (1887), Box 93-6553-1, File 1, BCA; J. McGregor to W. Drewry, “Mr. McGregor’s Report to Mr. Drewry,” BC, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, 792; W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, Canada, *Proceedings of the ADLS*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

¹⁶³ W. Drewry to J. C. Drewry (January 24, 1902), Box 93-6553-2, File 1, BCA; Thomson (1967), 93.

¹⁶⁴ E. B. MacKay to W. Drewry (September 10, 1907), Box 93-6553-2, BCA.

¹⁶⁵ Personal correspondence with Joanna Drewry (October, 17, 2005).



Figure 11: In the summer of 1913 or 1914 Drewry and his party set smudge fires to reduce torment from insects. Source: Richard Mackie’s personal collection

The scientific gaze was neither objective nor passive but rather subjective, individualized, and set within a common imperialist vision. In 1887, Deville instructed Drewry to be economical but otherwise the mode of surveying depended “so much on circumstances” that he wished to “leave it as much as possible” to Drewry’s “own judgement”. Deville gave Drewry “hints merely to show what is wanted.”¹⁶⁶ Surveying was not just an imperialist master plan but also highly disorganized—what historical cartographer Matthew Edney calls a “continuing collection of geographic information by many different officers.” Specific interests, like Deville, tried to control surveyors’ classifications of the landscape, but ultimately they had to rely upon the subjective and individualized perspective of the surveyor. No matter how accurately or precisely the world was measured, “that structure”, Edney argues, was “created through the surveyor’s ... experiential perception.”¹⁶⁷ Drewry’s classifications of land and natural resources were not objective but rather selective representations of

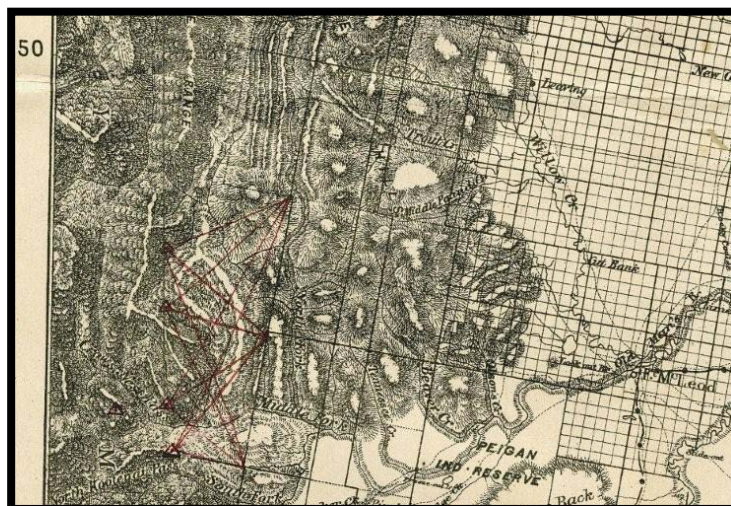
¹⁶⁶ E. Deville to W. Drewry (June 3, 1887), GR-437, Box 18, File 2, BCA; E. Deville to W. Drewry (October 18, 1888), Box 93-6553-1, File 2, BCA.

¹⁶⁷ Edney (1997), 96, 195.

what he saw.¹⁶⁸

Even the photographs Drewry used to reproduce perspective were not objective. Drewry stated, “Now a photograph, apart from small errors arising from the lens, is a true perspective.”¹⁶⁹ However, Drewry’s photo-topographical work required considerable planning. Drewry always conducted a preliminary reconnaissance to locate and configure the “best” stations for taking views, [see Figure 12] and took his photographs only after considerable preparation. As Matthew Edney argues, prior to surveyors’ representing the landscape, their classifications were “already a generalized and reasoned account.”¹⁷⁰ The views Drewry took with his camera were not so much driven by description as expectation.¹⁷¹

Figure 12: Portion of a map Deville gave Drewry for triangulation at Pincher Creek, between Lethbridge and the Crow’s Nest Pass in 1888. Drewry’s planned triangulation points and lines are faintly visible left of centre. Source: Box 93-6553-1, File 2, BCARS.



In order to reduce settler anxieties over Aboriginal peoples’ claims to land and entice future settlement and capital investment, Drewry used reason and the construction of “accurate” knowledge—the scientific gaze—to secure title to land. In practice, Drewry’s “rough work” often significantly complicated measurement and systematic analysis, which inevitably reduced accuracy.¹⁷² However, Drewry’s task was not so much to accurately recreate the landscape but rather to construct a new reality. The unitary and coherent representations of land and natural resources many believed surveyors created were rather malleable texts of ideas used to fortify

¹⁶⁸ Brealey (1995), 140.

¹⁶⁹ W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, *Proceedings of the ADLS, Sixth Annual Meeting* (February 19-21, 1889), CIHM no. 01884.

¹⁷⁰ Edney, 1997, 85.

¹⁷¹ A. Birrel, *Into the Silent Land: Survey Photography in the Canadian West, 1858-1900: A Public Archives of Canada Travelling Exhibition* (Ottawa: National Photography Collection, 1975).

¹⁷² W. Drewry to John H. Drewry (June 25, 1928), Box 93-6553-9, File 5, BCA.

the colonial state, prepare the way for private property rights and enhance industrial capitalism.¹⁷³ Despite Anglo-Americans' strong faith in this scientific reality, Drewry exploited yet more gazes.

“View From the Peak”: The Panoptic Gaze

Drewry utilized a panoptic gaze to give him a position of omnipotence to classify the landscape. For example, while making an 1891 reconnaissance survey in the Selkirk Mountains, Drewry selected suitable stations for such viewings and described one particular viewpoint from Bald Mountain as follows:

From a coign of vantage on the mountain a view of solemn grandeur was obtained. I must confess that the feeling of awe and impotence which the spectacle inspired will long remain with one...Not a living thing was visible and the sense of desolation and awful [sic] loneliness was over-powering. No where else in the mountains have I seen such immense masses of glaciers and icefields, and I believe that but little of the area in which these lie has yet been trodden by man.¹⁷⁴

Historian Giselle Byrnes terms this viewpoint “the panoptic gaze...to be a solar eye, looking down like a god.”¹⁷⁵ In precipitous regions, Drewry exploited elevated points to view and classify the landscape. The scope (distance) of the viewpoint limited Drewry to sight, reducing hearing, smell, and all varieties of other senses to non-factors. In addition, international scientists argue that humans do not as accurately perceive the landscape or distances from a vertical perspective because they have evolved perceiving space horizontally.¹⁷⁶ The position and dependence upon sight alone ultimately empowered Drewry to make space empty, to promote universalism, and to subsume difference.

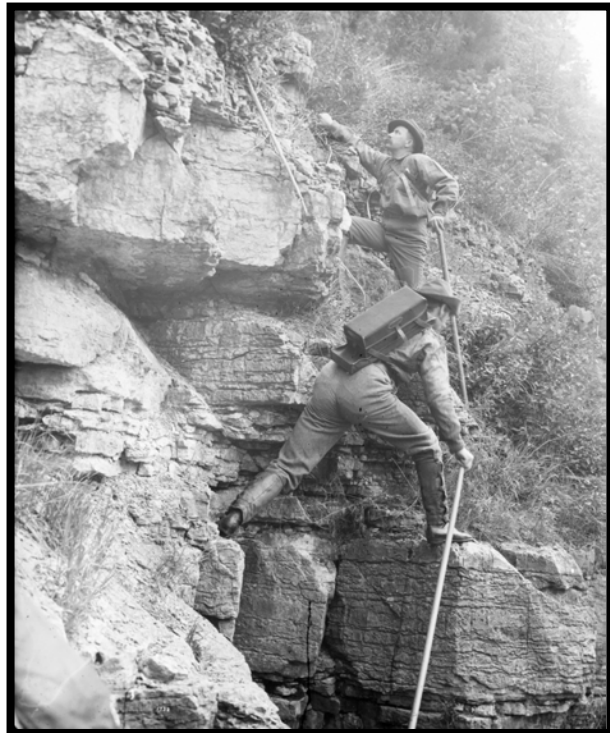
¹⁷³ Douglas Harris, *Landing Native Fisheries: Indian Reserves and fishing rights in British Columbia, 1849-1925* (Vancouver: UBC Press, 2008), 191.

¹⁷⁴ Arthur Wheeler, “W. Drewry” (c1939), MS 2259, Box 9, File 27, BCA.

¹⁷⁵ Byrnes, 62. I use the panoptic gaze to signify more than that Drewry utilized the unobstructed and wide mountain vantage to view extensive areas in all directions. The gaze also more broadly worked to service the purposes of the state by permitting one to, in their view, observe all parts or elements of any space and thereby create the desired preconditions for state control.

¹⁷⁶ “The Science of the Senses: Sight”, *The Nature of Things* (CBC NewsWorld: January 31, 2008).

Figure 13: Seeking a predetermined point to apply the panoptic gaze, Drewry leads an unidentified survey crew member up a precipitous slope while experimenting with the photo-topographical technique near Harrison Lake in 1887. Source: LAC PA-023141



The panoptic gaze made space *terra nullius*—empty land waiting for appropriation and settlement. “Not a living thing was visible” from such a vantage, Drewry wrote in expressing the theme of *terra nullius* from his mountaintop perspective. In 1894 Drewry stated, “I have been traversing the [Selkirk] mountains...not only along the main routes of

travel, but often in the very heart of the mountains seldom visited by civilized man”.¹⁷⁷ Drewry recognized that First Nations had been present within the region of BC since time immemorial; however his vision did not encompass “uncivilized” peoples. Drewry’s panoptic gaze abstracted pre-existing geographies so that he could reinvent the landscape.

The panoptic gaze subsumed difference, providing Drewry the distance from localities to overwrite existing knowledge with his own definitions and determinations, making him an omniscient narrator, with the power to abstract the plurality of pre-existing geographies.¹⁷⁸ Panopticism allowed Drewry to make sweeping generalizations that converted history into what James Tully called “unified science, capable (at least in theory) of looking at the whole of human life from a standpoint distinctly its own.”¹⁷⁹ The position of omnipotence permitted Anglo-Americans to believe surveyors were constructing “a single, complete, truthful, and ordered archive of geographical knowledge”.¹⁸⁰ Drewry believed his panoptic gaze brought knowledge to residents, even the “uncivilized,” but, in

¹⁷⁷ W. Drewry, “Photo-topographical Survey of West Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, 788.

¹⁷⁸ Chapter V will provide a number of examples of how specific interests subsumed difference within pre-existing geographies on the basis of Drewry’s classifications.

¹⁷⁹ Tully, 67.

¹⁸⁰ Edney (1997), 17.

practice, he often illegitimated those cultures that already existed. Aboriginal peoples experienced loss of access to resources, economic marginalization and institutionalized racism. Anglo-Americans celebrated the change but tension between Aboriginal peoples and non-Aboriginal peoples peaked over the period in which Drewry surveyed.¹⁸¹ Yet another gaze contributed significantly to change.

“Country Capable of Development”: The Commercial Gaze

Drewry’s surveying activities laid the groundwork for space with commercial opportunities, satisfying Anglo-Americans’ obsession with the possession of nature. To turn *terra nullius* into a space of commerce and facilitate ownership of land, Drewry defined, fixed, quantified, and qualified, ultimately leading to the valuation and marketability of land. His standard measurement of land and natural resources enabled supply and demand to determine the price of land, even if it had not been seen. Economics as they are today could not exist without surveyors like Drewry establishing such a system of property rights. “Land...is not a commodity in nature”, Eric Wolf observes, “it only becomes such when defined as such by a new cultural system intent on creating a new kind of economics.”¹⁸² Drewry set much of the foundation for this change in BC, his commercial gaze ultimately classifying the landscape into neat categories of irrigation, mining, timber, agricultural, fishing, and game resources, as well as grazing and dairy lands, and transportation routes—each of which promoted ideals of maximized yields and resource exploitation.

Seeing a vast, chaotic and untapped geography, Drewry proposed transportation routes to link it all together and facilitate resource utilization and settlement.¹⁸³ In planning roads he sometimes noted the location of pre-existing trails offering “the shortest and most secure line of communication

¹⁸¹ R. Galois, “The Indian Rights Association, Native Protest Activity and the ‘Land Question’ in British Columbia, 1903-1916,” *Native Studies Review*, 8, 2, (1992), 1; Wendy Wickwire, “‘We Shall Drink from the Stream and So Shall You’: James A. Teit and Native Resistance in British Columbia, 1908-22,” *Canadian Historical Review*, 79, 2 (June 1998), 209.

¹⁸² Eric Wolf, *Peasants of the Twentieth Century* (London: Faber and Paber, 1971), 277.

¹⁸³ W. Drewry, Inspector of Surveys, “Columbia Valley, East Kootenay,” BC Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, G 17; W. Drewry, Inspector of Surveys (November 28, 1915), “East of 83-Mile House Lillooet”, BC, Legislative Assembly, *Sessional Papers*, 1916, Report of the Minister of Lands, B 78.

over which men and supplies could be moved”¹⁸⁴ In 1889, while undertaking the triangulation survey of the Railway Belt in the Rocky Mountains, Drewry observed a low gap in the mountains to the west of Vermilion Pass that Aboriginal peoples used instead of coming up what was known as the “Big Hill” in Kicking Horse Pass. Drewry informed Deville that this pass “might” offer an alternative route for the CPR, enabling the company to avoid the excessively heavy grade on the Kicking Horse, as well as slightly shortening the line.¹⁸⁵ Shortly thereafter Deville informed Department of the Interior Deputy Minister A. M. Burgess of the route Drewry “discovered” that “may prove, on further examination, a better location for the Railway”.¹⁸⁶ While the route was not changed, this example—one of many—displays the value that the Department of the Interior placed on Aboriginal peoples’ routes at this time.¹⁸⁷ Despite recognizing the value of this pre-existing geography, and the fact that Aboriginal peoples had maintained some trails with “Considerable chopping”, Drewry still narrated these routes as “rough” and “old Indian hunting trails” that required “improvement”.¹⁸⁸ The need for change, in accordance with Locke’s theories, condoned disregard for Aboriginal peoples’ title to these right of ways.

Drewry anticipated change through the construction of what he called “the main lines of communication with the supply centres and markets of the world”.¹⁸⁹ Most of his work involved planning “secondary arteries” to permit a maximum load at a minimum operating cost for industrial capital. Drewry tied these secondary arteries onto whatever primary route offered the most competitive price.¹⁹⁰ However, his vision also contributed to main supply lines. In the Slocan,

¹⁸⁴ W. Drewry (February 10, 1923), “Clearwater Valley, Kamloops District”, Legislative Assembly, *Sessional Papers*, 1923, Report of the Minister of Lands, K 105; W. Drewry, Inspector of Surveys, “Columbia Valley, East Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, G 18. Surveyors widely used Aboriginal peoples’ knowledge of transportation routes in regions unknown to Anglo-Americans; D’Arcy Jenish, *Epic Wanderer: David Thompson and the Mapping of the Canadian West* (Ottawa: Doubleday Canada, 2003), 67.

¹⁸⁵ W. Drewry (December 14, 1889), “Report of W. Drewry, D.L.S.: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14,” *Sessional paper of the Dominion of Canada*, Vol. 11, (Ottawa: B. Chamberlin, 1890), 45.

¹⁸⁶ E. Deville, Surveyor-General, Department of the Interior, Technical Branch, Ottawa (December 28, 1889), “Report of the Surveyor-General, No. 1,” *Sessional papers for the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 4.

¹⁸⁷ W. Drewry, “Clearwater Valley, Kamloops District,” BC, Legislative Assembly, *Sessional papers*, 1923, Report of the Minister of Lands (February 10, 1923), K 105; W. Drewry to E. Deville (August 27, 1889), GR-437, Box 18, File 2, BCA.

¹⁸⁸ W. Drewry, “Report on Photo-topographical work in West Kootenay District,” BC, Legislative Assembly, *Sessional Papers*, 1893, 962; W. Drewry (December 14, 1889), to E. Deville, Surveyor-General, “Report of W. Drewry, D.L.S.: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14,” *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 44.

¹⁸⁹ *Ibid.*

¹⁹⁰ W. Drewry, Inspector of Surveys, “Vicinity of Sheridan Lake, Lillooet District,” *Sessional papers*, 1917, Report of the Minister of Lands, Victoria, B.C. (December 29, 1916), L 42. Drewry also made recommendations against certain routes

which by the late 1880s was proving to be the richest silver-mining district in Canada, the different varieties and grades of ores required transportation to smelters, such as the one at Trail, or often further afield, south of the international border. In 1893, complaining that all the routes from Sandon required transshipment via railway and steamship, Drewry proposed the construction of a railway down to and along Slocan Lake to connect with a road traversing southern BC or to some of the “great transcontinental lines to the south”. In this way, he envisioned the avoidance of transshipment and the saving of “a considerable sum of money” to the “producers.”¹⁹¹ A race commenced for railway access to Sandon between the CPR and the American-owned Great Northern Railway (GNR). The Kaslo & Slocan Railway, a subsidiary of the GNR, completed a line up to Sandon from Kaslo by 1895 and only a few weeks later the CPR, which had leased the rights to the Nakusp & Slocan Railway, completed its extension up from Slocan Lake.¹⁹² Together, the two lines fulfilled Drewry’s recommendations.

The competition between two lines also satisfied Drewry, who had reservations about giving any major corporation too much power. In 1903, Drewry and his fellow associates of the Nelson Mining Association passed a resolution unanimously to urge the Province to head off corporations like the CPR from “absorbing the Country.”¹⁹³ American railways, he warned, had largely failed to create cheap transportation due to “irresponsible and uncontrolled corporate management” becoming “simply great engines to accomplish unequal taxation and to arbitrarily redistribute the wealth of the country.” He recommended that the Province establish a commission to regulate freight rates and to insist the federal government put up protective tariffs for “the people” to gain “a certain control over organizations”, in other words, railways and smelters.¹⁹⁴ Drewry expressed sentiments common

because of the potential costs of their construction and in some cases he proposed the reparation of existing routes in favour of the construction of new routes. W. Drewry, “Triangulation Survey in the Rocky Mountains,” *Sessional papers of the Dominion of Canada*, Vol. 14 (Ottawa: B. Chamberlin, 1891), 43.

¹⁹¹ W. Drewry, “Report on Photo-topographical work in West Kootenay District,” BC, Legislative Assembly, *Sessional Papers*, 1893, 962. Drewry was to a large degree indifferent to the international border at this time and saw the Interior of the northwest quadrant of North America (the “Inland Empire”) as a single arena for resource exploitation. Jeremy Mouat, *Nationalist Narratives and Regional Realities: The Political Economy of Railway Development in Southern British Columbia, 1895-1905*, ed. by John M. Findlay and Ken S. Coats *Parallel Destinies: Canadian-American Relations West of the Rockies* (Seattle: University of Washington Press, 2002), 207.

¹⁹² Sandon Historical Society, “Ribbons of Steel in the Wilderness: The Rail War for the Slocan’s Wealth”, *Pack Trails and Railroads*, <http://www.slocanlake.com/sandon/transportation/transportation.html#railroads>

¹⁹³ G. Medander to W. Drewry (April 25, 1903), Box 93-6553-1, File 13, BCA.

¹⁹⁴ W. Drewry, “Diary” (January 23, 1903), Box 93-6553-2, File 1, pages 109, 963, BCA.

among settlers in the Kootenays at this time, a conviction that transportation should support a wide array of middling interests to promote relative equality rather than monolithic corporate domination.¹⁹⁵

Drewry explored and surveyed to locate, quantify, qualify, and secure timber for capitalization and industrialization, including identifying saw and pulp mill “possibilities” in the Clearwater Valley in 1923.¹⁹⁶ However, he also figured in the arrival of a continental conservation movement in BC.¹⁹⁷ As early as 1889, while undertaking the triangulation survey of the Railway Belt in the Rocky Mountains, Drewry reported to the Department of the Interior that CPR construction workers had “wantonly wasted” much valuable timber along the Kicking Horse Pass, leaving it “in the woods to decay.”¹⁹⁸ Over his career, in accordance with progressive era conservationist ideals, Drewry made several recommendations to the Province to “protect” forests. BC, he advised, should adopt the “proper” management and preservation of forests practiced by “modern civilized nations” such as Britain, Germany, Austria, France, and Norway, “educate a body of men in this branch of knowledge for the proper use of the public domain”, and employ the panoptic gaze by establishing look-out stations to spot and report forest fires. Drewry and his fellow conservationists ultimately encouraged efficient use of resources under scientific management, and were not against industrial capital exploiting forests. At an 1894 meeting of the BCLS Association, Drewry even quoted conservationist US President Theodore Roosevelt at length, praising Roosevelt’s creation of forest reserves and his efforts to direct the public’s attention to the “preservation and use of their forests.”¹⁹⁹

¹⁹⁵ Robert D. Turner, *West of the Great Divide: An Illustrated History of the Canadian Pacific Railway in British Columbia, 1880-1986* (Victoria: Sono Nis Press, 1987), 118; Jeremy Mouat, Nationalist Narratives and Regional Realities: The Political Economy of Railway Development in Southern British Columbia, 1895-1905,” ed. by John Findlay and Ken Coats *Parallel Destinies: Canadian-American Relations West of the Rockies* (Seattle: University of Washington Press, 2002).

¹⁹⁶ W. Drewry, “Report of the Minister of Lands: Clearwater Valley, Kamloops District,” Legislative Assembly, *Sessional papers 1923* (February 10, 1923), K 107.

¹⁹⁷ Gordon Hak, *Turning Trees into Dollars: The British Columbia Coastal Lumber Industry, 1858-1913* (Toronto: University of Toronto Press, 2003), 80.

¹⁹⁸ W. Drewry (December 14, 1889), to E. Deville, Surveyor-General, “Report of W. Drewry, DLS: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14,” *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 46. Drewry’s concerns over timber wastage may have been driven by not only ideals of conservation but also by racialization due to these CPR construction workers being overwhelmingly Chinese.

¹⁹⁹ W. Drewry, “Photo-topographical Survey of West Kootenay,” Province of British Columbia, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, 788-9; Hak, 82; W. Drewry, Inspector of Surveys (November 28, 1915), “East of 83-Mile House Lillooet”, BC, Legislative Assembly, *Sessional Papers*, 1916, Report of the Minister of Lands, 915, B 77. For more on plans for a look-out system to protect forest reserves, see Richard A. Rajala, *Feds, Forests, and Fire: A Century of Canadian Forestry Innovation* (Ottawa: Canada Science and Technology Museum, 2005), 16-19.

Drewry's brand of conservationism also recognized the value in withdrawing resources from commercial development and identified forests as more complex ecological entities than simple commodities.²⁰⁰ He recognized that "great" floods and water shortages in BC resulted from partial deforestation of "our" mountains, displaying the close connection between water supply problems and forest management in the evolution of the conservation movement.²⁰¹ He warned the Department of the Interior that, while forests rejuvenated themselves, successive fires had burnt down to the clay in some cases.²⁰² Moreover, less commercially valuable jack-pine and poplar tended to predominate after logging or fire. The "utter indifference of the people" to the economic and ecological losses caused by forest fires forced him to broaden his commercial gaze to make a rare historical comparison in support of future conservation.²⁰³ Spreading the blame around, Drewry observed that: "The Indians probably first burnt the forest to secure tillable land and pasturage; white men have followed their example in some cases; while many fires have very likely originated through sheer carelessness without thought of the far-reaching results."²⁰⁴ While Drewry's concerns did not extend to the plight of Aboriginal peoples, his desire to preserve forests drew in part on the insights they provided. In 1912, Drewry reported:

Indians and white men who have lived in the country for the best part of two generations tell of lakes at much higher level, plenty of water in streams now nearly dry in summer, and express wonder at what most probably is merely a result of wholesale destruction of the forest covering of the earth. For the forest conserves moisture, giving it up slowly, thereby regulating the flow of streams and evaporation, thus avoiding the extreme winter exposed to the full power of the sun."²⁰⁵

As an avid fresh-water fisherman, Drewry undoubtedly recognized how trees maintained water flow,

²⁰⁰ Hak, 81; Samuel Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation movement, 1890-1920* (Pittsburgh: Pittsburgh University Press, 1999), 23.

²⁰¹ W. Drewry, "Photo-topographical Survey of West Kootenay," BC, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, 789.

²⁰² W. Drewry (December 29, 1914), "Vicinity of Green and Horse Lakes", BC, Legislative Assembly, *Sessional Papers*, 1915, Crown Land Surveys, D 128. Drewry noted jack-pine and poplar tended to replace cedar and fir. The Mountain Pine Beetle epidemic in BC may largely be a result of these fires leaving forests primarily pine (a species that would have taken over from the shorter living poplar). See W. Drewry (December 14, 1889) to E. Deville, "Report of W. Drewry, D.L.S.: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14," *Sessional paper of the Dominion of Canada*, Vol. 11, fourth session of the sixth Parliament, session 1890 (Ottawa: B. Chamberlin, 1890), 46.

²⁰³ W. Drewry, "Photo-topographical Survey of West Kootenay," BC, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, 789.

²⁰⁴ W. Drewry, "Photo-topographical Survey of Kootenay," BC, Legislative Assembly, *Sessional Papers*, 1896, Crown Land Surveys, 811. As Nancy Turner et al. argue, colonists, like Drewry, did not regard Aboriginal peoples' ecological knowledge and wisdom as proper management and preservation of forests. Nancy Turner, "Traditional Ecological Knowledge and Wisdom of Aboriginal peoples in British Columbia," *Ecological Applications* 10 (Oct. 2000), 1275-1287.

²⁰⁵ W. Drewry, Inspector of Surveys, "Columbia Valley, East Kootenay," BC Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, G 19.

quality and temperature, protecting fish habitat and spawning gravels. The forest for Drewry was a “great sponge.”²⁰⁶

Ultimately, like most contemporary conservationists, Drewry saw nature in utilitarian terms, and he devoted considerable energy to promoting BC’s abundant storehouse of resources. Preservation of pre-existing ecosystems would “protect” valley lands so they could be appropriated and “improved” for agriculture. Drewry noted settlers and speculative capital had made little attempt at agriculture outside the lands contiguous to the CPR, and he worked to make these lands available to them. He promoted the Cariboo and Lillooet Districts as “among the best agricultural and pastoral areas of the Province.”²⁰⁷ In 1915 he envisioned radishes, lettuce, carrots, onions, turnips, meat, butter, and cheese as products that would find an outlet on the “soon to be completed” Pacific Great Eastern Railway.²⁰⁸ In his inventory work, Drewry also reported areas that offered wild food resources, such as berries, which could assist farmers to sustain themselves while they cleared land.²⁰⁹ However, Drewry reported regions inappropriate for agriculture as well. The vicinity of Green and Horse Lakes were “too high” to grow fruit profitably, and “possibly,” in part, for wheat.²¹⁰ He conveyed complaints that frost had injured potatoes at Bridge Creek, Lillooet District.²¹¹ In all districts he identified land appropriate for agriculture, like old beaver dams, which settlers could easily “cut” to let off the standing water. Drewry regretted the loss of the beaver, which had “multiplied greatly” and undoubtedly contributed to his favourite fishing holes, but he nevertheless saw encroaching “civilization” making their eradication inevitable.²¹² Like most of his

²⁰⁶ W. Drewry to R. McBride, GR 441, Box 37, File 3, BCA; W. Drewry, “Photo-topographical Survey of West Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, 789.

²⁰⁷ W. Drewry, Inspector of Surveys, “Columbia Valley, East Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1912, Report of the Minister of Lands, G 17, 19.

²⁰⁸ W. Drewry, “Vicinity of Green and Horse Lakes,” BC, Legislative Assembly, *Sessional papers*, 1915, Crown Land Surveys (December 29, 1914), D 129. Due to financial difficulties, the Pacific Great Eastern Railway only ran between Squamish and Chasm at this time and, falling into disuse, did not reach Prince George, as the Province had originally planned, until 1949. Jean Barman, *The West Beyond the West: A History of British Columbia* (Toronto: University of Toronto Press, 2007), 5, 168, 170, 185-6, 269, 288, 298.

²⁰⁹ W. Drewry, “Photo-topographical Survey of Kootenay,” BC, Legislative Assembly, *Sessional Papers*, 1896, Crown Land Surveys, 811; W. Drewry (February 8, 1922), “Timothy Mountain Lake, Lillooet District, and Mahood Lake, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1921, Victoria, BC (February 8, 1922), H 97.

²¹⁰ W. Drewry (December 29, 1914), “Vicinity of Green and Horse Lakes”, BC, Legislative Assembly, *Sessional Papers*, 1915, Crown Land Surveys, D 130.

²¹¹ W. Drewry, Inspector of Surveys (December 17, 1918), “Lillooet District,” BC, Legislative Assembly, *Sessional Papers*, 1919, Report of the Minister of Lands, N 51.

²¹² W. Drewry, “Lillooet-Kamloops Boundary,” Legislative Assembly, *Sessional papers, 1894*, Crown Land Surveys (November 25, 1913), D 326.

contemporaries, Drewry considered settlement and industrialization to be “progress” or “improvement” that overrode the need to preserve natural habitat.²¹³

Drewry also classified land for the ranging of animals. In 1892, despite Drewry’s previously noted concern for forest preservation, he observed that forest fires and snow-slides in the Bow Pass had cleared off much of the timber, which had been replaced by “a luxuriant growth of grass, affording excellent pasturage for horses.”²¹⁴ His constant search for “possibilities” led him to envision ecological change as adding value to range lands. In 1913, he described the Lillooet-Kamloops boundary region as well-watered and a first-class dairying and grazing country.²¹⁵ Drewry appropriated space for domesticated animals, a vision he extended to wildlife.

To attract hunters and settlers to the natural world within the boundaries of Alberta and BC, Drewry reported the type and quantity of “game”, often stressing the abundance of caribou, goats, mule deer and black bear. Drewry even noted the food sources that attracted game, such as blueberries and Saskatoon-berries for black bears and meadow grasses for deer.²¹⁶ Often returning to the same districts, Drewry was also able to report change. In 1914, in the vicinity of Green and Horse Lakes, Drewry stated, “Rabbits swarm everywhere,” but two years later predation had decimated the population.²¹⁷ This scarcity was particularly important to settlers because rabbits, like so many other wild animals, often provided subsistence.²¹⁸

In line with Progressive ideology, Drewry contributed to the increasing effectiveness of state intervention in the conservation of wildlife, transforming animals into a commodity for recreational

²¹³ Colpitts 37; Tina Loo, *States of Nature: Conserving Canada’s Wildlife in the Twentieth Century* (Vancouver: UBC Press, 2006), 16.

²¹⁴ W. Drewry, “Report of W. Drewry, DLS, Triangulation Survey in the Rocky Mountains”, BC, Legislative Assembly, *Sessional Papers*, No. 13, Victoria, March 5, 1892, 13-32.

²¹⁵ W. Drewry (November 25, 1913), “Lillooet-Kamloops Boundary,” BC, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, D 325; W. Drewry (December 29, 1914), “Vicinity of Green and Horse Lakes”, BC, Legislative Assembly, *Sessional Papers*, 1915, Crown Land Surveys, D 128.

²¹⁶ W. Drewry, Inspector of Surveys (November 28, 1915), “East of 83-Mile House Lillooet”, BC, Legislative Assembly, *Sessional Papers*, 1916, Report of the Minister of Lands, 915, B 80; W. Drewry (Belleville, Ont, Dec. 27, 1887), “Report of W. Drewry, DLS, No. 24,” *Sessional Papers of the Dominion of Canada*, Vol. 12, (Ottawa: A. Senecal, 1888), 109.

²¹⁷ W. Drewry (December 29, 1914), “Vicinity of Green and Horse Lakes”, BC, Legislative Assembly, *Sessional Papers*, 1915, Crown Land Surveys, D 130; W. Drewry, Inspector of Surveys (December 29, 1916), “Vicinity of Sheridan Lake, Lillooet District.”, BC, Legislative Assembly, *Sessional Papers*, 1917, Report of the Minister of Lands, L 43; He accounted this scarcity to the “boldness of coyotes”, who treated the survey party “to nightly serenades...causing the men to say anything but their prayers.” W. Drewry, Inspector of Surveys (November 28, 1915), “East of 83-Mile House Lillooet”, BC, Legislative Assembly, *Sessional Papers*, 1916, Report of the Minister of Lands, 915, B 80.

²¹⁸ Colpitts, 8.

purposes. Tina Loo states that early-twentieth century states like Canada or BC began to play a more active and “scientific” role in rural communities based on a bureaucratized set of policies that marginalized “local customary uses of wildlife” and instead centralized control.²¹⁹ Drewry was undoubtedly an early progressive and man of science in BC, but, perhaps surprisingly as an agent of the state, he resisted some of the loss of locality that underpinned the movement.

Drewry spoke out against conservation efforts that imposed restrictions on certain rural hunting practices, recommending re-establishing a bounty on “pests” such as the horned owl and coyote at 50 cents to provide revenue for those living in sparsely settled regions. Anglo-Americans reasoned that these “pests”, which included wolves, cougars, raptors and bears, had to be destroyed so that both domesticated animals and “game” could be preserved. However, due to bounties becoming one of the Province’s largest, if not the largest, yearly expenditure, the Government rationalized and regulated a gun and game licence system in place of bounties. But this form of conservation, Drewry argued, was responsible for wiping game birds “out of existence in a large area of country.”²²⁰ Speaking for rural populations that did not appreciate the restrictions imposed upon their hunting practices, Drewry’s conservation strategy centred on eradicating “pests”, despite the role that these predators had long played in sustaining healthy ecosystems.²²¹ While the Province increasingly systematized conservation, Drewry upheld the values of a group Richard Mackie describes as “bush gentry”, rural middle-class Anglo-Americans, and favoured limited state involvement in conservation.²²² Centralized bureaucratic systems imposed by outsiders could not, he argued, represent middle-class Anglo-American localities as well as the members of the communities themselves. Drewry, however, did not consider wildlife a common property and hunting a right of all people. Surveyors typically denigrated Aboriginal peoples’ traditional knowledge and hunting practices, and supported the emerging multi-million dollar sport-touring industry with racialized views that empowered bush gentry over First Nations.

²¹⁹ Loo, 6.

²²⁰ W. Drewry, Inspector of Surveys, “Vicinity of Sheridan Lake, Lillooet District,” *Legislative Assembly, Sessional papers, 1917, Report of the Minister of Lands* (Victoria: December 29, 1916), L 43, 153.

²²¹ Colpitts, 96; Aboriginal peoples also did not appreciate the hunting restrictions. Steinberg, 147.

²²² Richard Mackie, “Cougars, Colonists, and the rural Settlement of Vancouver Island”, in *Beyond City Limits: Rural History in British Columbia*, ed. R. W. Sandwell (Vancouver: UBC Press, 1999), 125; Loo, 6, 63.

Likewise, bush gentry guarded the act of fishing not only to conserve fish stocks but also to prevent what Douglas Harris called the “vices of idleness and indolence” that middle-class Anglo-Americans associated with the fishing practices of others.²²³ As an avid fisherman, Drewry devoted attention to fish as not so much a sustainable subsistence resource but rather a sport with nation-wide and international appeal—making fishing a middle-class pastime.²²⁴ He promoted locations such as Timothy Mountain Lake as “famed locally” and the Lillooet District as generally offering “some of the best stream-fishing to be found.” The large and “extremely lively” trout at Fawn Creek and Mahood Lake, Kamloops District, took “the fly readily”, he declared.²²⁵ Drewry even believed the natural state of fish could be improved for economic gain, recommending that waters with “poor food-fish” be stocked with preferred fish species.²²⁶ At the forefront of an emerging angling process within BC designed to expropriate Aboriginal fisheries, Drewry recommended remaking existing ecosystems to meet the imperatives of the settler culture.²²⁷ Despite Drewry’s love for fishing and his recognition that dams, logging and the introduction of alien species threatened existing fish habitat, he also reasoned that economic growth outweighed conservation. In 1928, Drewry informed his son:

There has been no fishing this year in Prospect Lake owing to the damming of the lake by Butchart Gardens to store water for summer use. They are holding it about ten feet above the normal level at which they have the right to hold it, but the gardens are such a public asset that we cannot start a row.²²⁸

In 1893 Drewry recommended that the Province “absolutely” prohibit any “other modes of

²²³ Douglas Harris, *Landing Native Fisheries: Indian Reserves and Fishing Rights in British Columbia, 1849-1925* (Vancouver: UBC Press, 2008), 7.

²²⁴ W. Drewry (February 10, 1923), “Clearwater Valley, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1923, Report of the Minister of Lands, K 105.

²²⁵ W. Drewry (February 8, 1922), “Timothy Mountain Lake, Lillooet District, and Mahood Lake, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1921, Victoria, BC (February 8, 1922), H 98; W. Drewry (December 29, 1914), “Vicinity of Green and Horse Lakes”, BC, Legislative Assembly, *Sessional Papers*, 1915, Crown Land Surveys, D 128; W. Drewry (February 10, 1923), “Clearwater Valley, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1923, Report of the Minister of Lands, K 105.

²²⁶ W. Drewry (December 29, 1914), “Vicinity of Green and Horse Lakes”, BC, Legislative Assembly, *Sessional Papers*, 1915, Crown Land Surveys, D 128.

²²⁷ J. Michael Thoms, “A Place Called Pennask: Fly-fishing and Colonialism at a British Columbia Lake”, *BC Studies*, no. 133 (Spring 2002), 69, 93.

²²⁸ W. Drewry to John H. Drewry (June 25, 1928), Box 93-6553-9, File 5, BCA. By the 1920s more than fifty thousand people came each year to Butchart Gardens. The Butchart Gardens: Over 100 Years in Bloom, <http://www.butchartgardens.com/the-gardens/our-history/our-history.html>

fishing than with rod and line”—deepening racialization and class division.²²⁹ Existing regulations already prohibited nets in non-tidal waters by all those except First Nations in BC and early the following year, new federal regulations specified that First Nations could not spear, trap, or pen salmon on “their” spawning grounds.²³⁰ Such restrictions, designed to reserve fish stocks for sport fishermen and cannery operators, were a fundamental part of the colonial project in BC, one Drewry supported.²³¹

Drewry also narrowed control over water, making it a “good” for irrigation and waterpower. He, like so many other Anglo-Americans at the beginning of the twentieth century, did not see what was called “white coal”, as having value in its natural stream.²³² Change was required. To do so, Drewry measured water discharge to further enable the planning of irrigation. He also identified locations for generating hydropower. Following the recommendations of American irrigation expert L. G. Carpenter in 1908, the Government of BC made amendments to the 1897 *Water Act*, allowing irrigation companies to consider water stored behind a dam to be private property. This legislation satisfied capital’s desire for control over water and contributed to large investment in dams.²³³ Becoming Chief Water Commissioner the following year, Drewry moved to maximize the potential of white coal, and to create ownership of water. Water was quickly becoming a “good” as valuable as land. In 1910 McBride enthused to his friend, Drewry, about the potential of the Fraser River.²³⁴ McBride described the river’s capacity for “irrigation as being well within the possibility of fructifying at least one million acres; which when water is put upon them will be worth Two Hundred and Fifty Million Dollars.”²³⁵ Drewry, accurately predicting the Province’s devotion to

²²⁹ W. Drewry, “Report on Photo-topographical work in West Kootenay District”, Legislative Assembly, *Sessional papers*, 1893, 965.

²³⁰ Dianne Newell, *Tangled Webs of History: Indians and the Law in Canada’s Pacific Coast Fisheries* (Toronto: University of Toronto Press, 1993), 53, 89, 90.

²³¹ Bocking, 167; Thoms, 78.

²³² David E. Nye, *America as Second Creation: Technology and Narratives of New Beginnings* (Cambridge: The MIT Press, 2003), 218.

²³³ W. Drewry (November 25, 1913), “Lillooet-Kamloops Boundary,” BC, Legislative Assembly, *Sessional Papers*, 1914, Crown Land Surveys, D 322; W. Drewry (February 8, 1922), “Timothy Mountain Lake, Lillooet District, and Mahood Lake, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1921, Victoria, BC, H 98; Kenneth Wilson, “Irrigating the Okanagan: 1860-1920,” *Living Landscapes*, retrieved September 6, 2007, from <http://www.livinglandscapes.bc.ca/thomp-ok/irrigating-of-okanagan/index.html>

²³⁴ McBride was Premier between June 1, 1903 and December 15, 1915. Joanna Drewry described McBride and Drewry as friends, Personal correspondence (October 17, 2005).

²³⁵ R. McBride to W. Drewry (1910), GR 441, Box 37, File 3, BCA.

hydroelectricity, shared this materialist vision. “Unless developed power can be utilised,” he replied, “it has no value; so that our great undeveloped water power is a natural resource, an asset, which will become valuable only with growth of the population and industries with it should attract.”²³⁶

Drewry and McBride sought to make water a commodity in BC to attract Anglo-American settlement and industrial capital.

Drewry’s commercial gaze largely reflected and contributed to BC’s evolving natural resource economy. His commodification of land and natural resources into narrow categories of irrigation, waterpower, transportation routes, game and wild animals, dairying and grazing lands, as well as mining, timber, agricultural, and fishing resources promoted settlement and industrialization of natural resources. He targeted his classifications to add dollar value to and secure ownership of land and water in the interests of the settlement society and capital. However, yet another gaze played a role in this process.

Upsetting “All Preconceived Ideas”: The Aesthetic Gaze

While Drewry constructed the Pacific North-West as *terra nullius*, he also somewhat contradictorily promoted an aesthetic gaze as another catalyst for settlement and capital investment. As Drewry began remaking the landscape, he increasingly recognized the great aesthetic potential of BC. In 1887, Drewry described the Coastal Mountains near Harrison Lake as follows:

On reaching the top of the peak, which presents a sheer precipice towards the lake, a view was presented to our gaze which upset all preconceived ideas of mountain tops; for here, to our astonishment, was a natural park spread beneath our feet; grassy glades dotted here and there with patches of sombre fir, among which gleamed ponds of limpid water, while in the back ground towered the hoary snow capped mountain peaks, grey with the age of centuries and deeply seamed from unceasing warfare with the forces of nature.²³⁷

Drewry narrates a contradictory vision to that of *terra nullius*, expressing a larger change in European attitudes toward nature. Thomas Richards and Bernice Gilmore describe this transformation during the colonial period as a shift from the Enlightenment’s depiction of nature as the foreboding and

²³⁶ W. Drewry to R. McBride (1910), GR 441, Box 37, File 3, BCA.

²³⁷ W. Drewry (Belleville, Ont, Dec. 27, 1887), “Report of W. Drewry, DLS, No. 24,” *Sessional Papers of the Dominion of Canada*, Vol. 12 (Ottawa: A. Senecal, 1888), 111.

monstrous into the sublime and spiritual in the minds of settlers.²³⁸

The aesthetic gaze, like the other gazes analysed above, was a dimension of the colonial vision as a whole—a dimension that Drewry based largely on the tourism potential of BC and Alberta. He filled his reports with descriptions of flora and fauna, combined with the beautiful landscape, to attract not only hunters, but also the fairly recent phenomenon of tourists, campers, and mountaineers, as we know them today.²³⁹ He recognized that old growth forests would bring some and, adding the opportunity to view wild animals, would draw many more. In 1892, Drewry reported “numerous goats on the mountain along the Blaeberry which, contrary to expectation, were not very shy, some of them permitting open approach to within two hundred yards.”²⁴⁰ Drewry was not reporting these animals as solely a commodity to be shot. Thirty years later the wardens of Banff would install salt-licks to make wild animals more readily available for tourists.²⁴¹ Thus Drewry recognized early the value of scenery and wildlife as a commodity for tourism and recreation. In 1887, Drewry made the following recommendation:

At the foot of the lake are the Harrison Hot Springs, famous for their medicinal properties, in connection with which is a commodious and comfortable hotel and sanatorium. These facts, together with the lovely and grand scenery, are sure to make the place a favourite resort for tourists, hunters and invalids; and I would respectfully recommend that all islands, together with the lands along the shores of the lake be reserved as a place of public recreation.”²⁴²

Likewise, in 1921 he described Bonaparte Lake, North-East Lillooet District, as “an extremely beautiful lake and well worthy of preservation to the people as part of a recreation-ground, the scenic, boating, fishing, and hunting requirements being of the highest order.”²⁴³ While Drewry shared anti-modernist views with some of the populace, disapproving of automobile use for hunting, he did recognize increasing public mobility and reported locations that would “offer a very charming

²³⁸ Richards, 71; Bernice Gilmore, *Artists Overland: A Visual of American Landscape* (Cambridge: Cambridge University, 1980), 17-18

²³⁹ E. Hart, “See this World before the Next”, ed. by Hugh Dempsey, *The CPR West: The Iron Road and the Making of a Nation* (Vancouver: Douglas & McIntyre, 1984), 152.

²⁴⁰ W. Drewry, “Report of W. Drewry, DLS, Triangulation Survey in the Rocky Mountains”, BC, Legislative Assembly, *Sessional Papers*, No. 13, Victoria, CB March 5, 1892, 13-32.

²⁴¹ Loo, 29.

²⁴² W. Drewry (Belleville, Ont, Dec. 27, 1887), “Report of W. Drewry, D.L.S, No. 24,” *Sessional papers of the Dominion of Canada*, Vol. 12 (Ottawa: A. Senecal, 1888), 109.

²⁴³ W. Drewry, Inspector of Surveys (January 7, 1921), “Vicinity of Bradley Creek, Bridge Creek, and Timothy Mountain, North-East Lillooet District”, BC, Legislative Assembly, *Sessional Papers*, 1921, Report of the Minister of Lands, G 62. As of 2008, Bonaparte Lake was not a park but several resorts and lodges provided recreational services.

drive.”²⁴⁴ Drewry recognized the capacity of BC to provide space, not to return to the “primitive”, but as an amenity, an object of leisure-time pursuit, a treatment to “the symptoms of modernity”, and thus a means of increasing human efficiency.²⁴⁵

Settlement however lay ultimately as the basis of Drewry’s aesthetic gaze. On December 21, 1929, Drewry, in his final report, wrote a synopsis of his survey of the Jordan River Road right-of-way from Sooke to Jordan River for BC’s Minister of Lands. He concluded:

There are other areas which may be in demand for summer homes, owing to the splendid panoramic views of the Strait of Juan de Fuca and the Olympian [sic.] Mountains obtainable at many points. The strait is becoming a busy thoroughfare, and passing craft of all descriptions, from giant ships to tiny fishing-boats, give a touch of life, while drifting clouds and sea-wrack, with ever-changing colouring, lights and shadows, give very beautiful and sometimes magnificent grand views.²⁴⁶

Here Drewry constructed space as aesthetically pleasing for potential affluent summer homebuyers, describing aspects of modernity as bringing “a touch of life” to the aesthetic beauty of the seascape. His vision, some eighty years later, is about to be realized. Forestry company TimberWest wishes to remove large portions of Sooke District, among other vast portions of their landholdings, from tree farm tenure for essentially the real estate purpose Drewry promoted.

Contrary to what one may assume, the aesthetic gaze contributed to ecologically detrimental practices. Towns and cities often failed to adequately maintain their infrastructure in the early twentieth century due to the rapid influx of settlers. Engineers, sanitation experts, and city officials, eager to encourage settlement and tourism, laid thousands of kilometres of pipes to ensure they did not, as Ted Steinberg states, “drown in their own filth” and instead maintained an aesthetically pleasing space.²⁴⁷ Unfortunately, the pipes usually only disposed of sewage raw into rivers, lakes, and harbours. As the Chief Water Commissioner and an avid sport fisherman, Drewry recognized the resulting algae blooms and fish kills. He proposed sewage treatment in Victoria—a city that, in the context of a gradual exodus of big business and industry to Vancouver with the arrival of the CPR

²⁴⁴ W. Drewry, Inspector of Surveys (December 29, 1916), “Vicinity of Sheridan Lake, Lillooet District”, Legislative Assembly, *Sessional Papers*, 1917, Report of the Minister of Lands, L 43.

²⁴⁵ Loo, 35; Steinberg, 246.

²⁴⁶ W. Drewry, “Highway Survey, Sooke and Renfrew Districts,” *Province of BC, Legislative Assembly, Sessional Papers*, 1929 (December 21, 1929), E 65.

²⁴⁷ Steinberg, 166.

in 1886, has been increasingly dependent upon tourism—but the refusal of his plan apparently contributed to his resignation as Chief Water Commissioner.²⁴⁸ A century later, the provincial government has yet to seriously re-address this high concentration of sewage contamination around the capital city.

Drewry’s aesthetic gaze created a space to which Anglo-Americans, with greater disposable incomes, would increasingly devote time and money. Visions like his set the stage for a huge post-World War II recreational exodus to the “woods” of BC and Alberta. Today tourism has emerged as a fundamental and continually growing sector of these provincial economies. Drewry recognized both the aesthetic opportunities within these provinces as well as many of the ecological and ethical consequences that their realization would bring.²⁴⁹

Summary

As a surveyor, Drewry was responsible for the “Correlation of Things”.²⁵⁰ He ultimately classified land and natural resources to empower the Anglo-Americans settler society and corporate interests. This vision was subjective and individualized; yet modern imperial rationalization, colonial legislation, and surveying associations acculturated Drewry’s scope, giving rise to an anticipatory geography.

Drewry’s scope can be categorized into four ideological gazes. First, Drewry harnessed a scientific gaze to classify land and natural resources. Surveyors like Drewry attempted to “perfect” their vision through instruments of measurement and systematic methodology. They successfully improved surveying techniques but by no means “perfected” accuracy. Of larger consequence, Drewry’s contemporaries constructed a discourse on the superiority of Anglo-American reason and accuracy at the expense of those they considered less reasonable and accurate. Second, whenever possible, Drewry planned positions of omnipotence to classify the land and natural resources with a panoptic gaze. This gaze made the landscape appear empty due to the scope subsuming difference.

²⁴⁸ Personal correspondence, Joanna Drewry (October 17, 2005).

²⁴⁹ W. Drewry to John H. Drewry (June 25, 1928), Box 93-6553-9, File 5, BCA.

²⁵⁰ W. Drewry (November 25, 1913), “Lillooet-Kamloops Boundary”, BC, Legislative Assembly, *Sessional Papers*, 1894, Crown Land Surveys, D 326.

Drewry could then classify space as universal, abstracting the diversity of pre-existing cultures. Third, Drewry classified land and natural resources with a commercial gaze. Drewry used measurement to secure title to land and attract capital investment. He envisioned land suitable for transportation routes, dairying, grazing, agriculture, and irrigation. Moreover, he planned the exploitation of minerals, timber, fish, and game. Drewry conceptualized the landscape in terms of its economic potential. Lastly, Drewry developed an aesthetic gaze to classify land and natural resources. He envisioned conservation of the landscape primarily to promote tourism but also, in at least one instance, to protect the environment.

Drewry classified the landscape in a manner that condoned the ignorance of pre-existing geographies and invented an anticipatory geography. However, in order for him to extend his new “reality” to settlers and speculative interests, Drewry had to convey it. The next chapter analyses how Drewry communicated his classifications of space.

Chapter IV

The Art of Making Space: How Drewry Communicated His Classifications

Surveyors remake space through the manner in which they communicate their classifications with physical markers, graphic delineations, and spoken and printed words, giving rise to a foundation for a new geography, history and reality. To better understand how surveyors make change, this chapter focuses on how Drewry used linguistic devices to reshape BC during what Jeremy Mouat has described as BC's fundamental institution-forming period at the turn of the twentieth century.²⁵¹ Drewry dramatically altered customary and local knowledge through methods of translation, naming (nomenclature), and finding the "right" description of things (orthology) that land-surveying associations had laid out. Surveyors justified the changes they made by arguing that their "more perfect" methodology represented space universally. Drewry fixed this new geography to the landscape with physical objects, such as cairns and survey pegs, to solidify it within the territorial claims of Canada and BC.²⁵² He then disseminated the anticipatory geography with written synopses, as well as field books and maps based on new topographical and grid formatted representations—making the landscape consumable by a wider audience. Provincial and federal agents, such as Drewry, solidified the new geography in legislation and through administration. Ultimately, however, Drewry's representations communicated space not universally but rather in a manner designed to empower settlement, and commercial and industrial interests, which has had and continues to have significant social, environmental and economic consequences within BC.

Making Spoken Space

By avoiding dialogue with certain localities, surveyors extended their ability to make change. Evidence does not exist of Drewry negotiating space with Aboriginal peoples, although he sometimes gathered their knowledge, codifying and translating it into the language formulated by his surveying

²⁵¹ Jeremy Mouat, "Nationalist Narratives and Regional Realities: The Political Economy of Railway Development in Southern BC, 1895-1905," John M. Findlay and Ken S. Coates, *Parallel Destinies: Canadian-American Relations West of the Rockies* (Seattle: University of Washington Press, 2002), 123.

²⁵² W. Drewry, "Columbia Valley, East Kootenay," Legislative Assembly, *Sessional papers*, Crown Land Surveys (1896), G 15.

associations. Despite the nature of Drewry's work—simply put, the encroachment upon, survey and confiscation of Aboriginal peoples' traditional lands without their consent—he did not report resistance from First Nations.²⁵³ Mind you, reporting resistance was neither in the interests of settlement, nor capital investment, and thus not in Drewry's interests. European diseases introduced to the northwest had shattered “vigourous, rich, diverse, and strong” First Nation cultures. Robert Boyd estimates a conservative pre-contact population of over 180,000 in the Northwest had been reduced to only about 35,000 to 40,000 by the nineteenth century. Despite diseases brought from Europe continuing to cause waves of epidemics of small pox, tuberculosis, scarlet fever, influenza, and measles that each decimated populations by as much as ninety percent, Aboriginal peoples were still very much present.²⁵⁴

Yet the precipitous nature of BC enabled Drewry to operate in largely uninhabitable areas, often at high elevations, distancing him from potential resistance to his surveying. In addition, photography enabled Drewry to carry out much of his work at a great distance, such as at the Department of the Interior in Ottawa, from the landscape. The techniques and technology Drewry used allowed him to create distance and avoid negotiation with certain remote localities. When he did communicate with groups or individuals, they were agents of the state or commercial and industrial interests. In 1891, Drewry spent a day walking the trail from Canmore to the boundary of the Rocky Mountain Park (later Banff) with the Trail Commissioner for the Calgary District before surveying a road right-of-way. Drewry often met with local Anglo-Americans and their organizations (frequently as a member), such as his December 24, 1896 attendance at a meeting of the Charter Members of the Union Club at Kaslo to discuss organizational matters.²⁵⁵ In sum, Drewry distanced himself from some, such as Aboriginal peoples, while actively engaging dialogue with

²⁵³ Drewry, however, did settle disputes between First Nations and settlers over surveyed land. W. Drewry (January 7, 1921), “Vicinity of Bradley Creek, Bridge Creek, and Timothy Mountain, North-East Lillooet District,” *Legislative Assembly, Sessional papers, 1921, Report of the Minister of Lands*, G 63; Due to the Government of Canada recognizing Métis as Aboriginal peoples, the term “First Nations” here differentiates between these Aboriginal peoples.

²⁵⁴ Robert Boyd, *The Coming of the Spirit of Pestilence: Introduced Infectious Diseases and Population Decline among Northwest Coast Indians, 1774-1874* (Vancouver: UBC Press, 1999), 2; Robert P. C. Joseph and Cynthia F. Joseph, *Working Effectively with Aboriginal Peoples*, second edition, (North Vancouver: Indigenous Corporate Training Inc., 2007), 17.

²⁵⁵ W. Drewry, “Report of W. Drewry, D.L.S., Triangulation Survey in the Rocky Mountains”, *Legislative Assembly, Sessional papers*, No. 13 (Victoria: March 5, 1892), 13-32; A. I. M. McClaire to W. Drewry (Dec 23, 1896), Box 93-6553-1, File 5, BCA.

economic and social elites.

So how did Drewry translate the information he gained from customary and local cultures? He broke the data he received from Aboriginal peoples (for instance, Drewry employed “Indians” as guides and assistants) down, not in an indigenous way of representing space, but rather to fit the geographic scheme that he and his surveying associations invented. In 1893, at the ninth annual meeting of the Association of Dominion Land Surveyors (ADLS), William Ogilvie’s paper on “Exploratory Surveys” directed surveyors how to systematically exploit pre-existing peoples’ (including “old-timers”) representations of the landscape.²⁵⁶ The presentation expressed the surveyors’ shared assumption of the superiority of Anglo-American representations. This, argues Barbara Belyea, led surveyors to find Aboriginal peoples’ representations, based solely upon fundamentally different ways of viewing space, wanting.²⁵⁷ Indeed, Drewry’s records display differing perspectives. On August 25, 1887, at Echo Island in Harrison Lake, Drewry appeared frustrated that the lake the “Siwashes” told him about was nothing but a small pond at the centre of the island.²⁵⁸ In addition, Giselle Byrnes argues that failures in communication undoubtedly existed due to Aboriginal peoples choosing the information they wanted surveyors to know. Therefore, the ideology of surveying associations, and resistance to it, contributed to their failure to accurately comprehend, record and re-present customary and local ways of representing land and natural resources.²⁵⁹

One means by which surveyors collected, scrutinized and filtered Aboriginal peoples’ representations of the landscape was through the ADLS’s systematic methodology of nomenclature and orthology. In 1888 Dr. G. M. Dawson of the Geographical Survey instructed ADLS members to adopt the “correct Indian name” for geographical features. Likewise, Thomas Drummond promoted the use of Aboriginal peoples’ languages and dialects as a means of avoiding the problem of

²⁵⁶ Wm. Ogilvie, “Exploratory Surveys”, *Proceedings of the Association of Dominion Land Surveyors*, Ninth and Tenth Annual Meetings (February 1892 and 1893), CIHM no. 01884.

²⁵⁷ Barbara Belyea, “American maps: the explorer as translator,” *Journal of historical geography*, 18, 3 (1992), 269.

²⁵⁸ W. Drewry, to Department of Interior and Surveyor General, “Diary” (1887), Box 93-6553-1, File 1, BCA. Being an avid fly fisherman, Drewry may have been particularly annoyed due the “lake” not materializing into the fishing hole that he had hoped it would be.

²⁵⁹ Giselle Byrnes, *Boundary Markers: Land Surveying and the Colonisation of New Zealand* (Wellington: Astra Print, 2001), 94.

duplication of English place names.²⁶⁰ Drewry's adoption of Aboriginal peoples' names for the landscape corresponded with the ADLS's emerging recommendations for nomenclature at this time. In 1887 Drewry reported to the ADLS that "Indians" in the Fraser Valley informed him of a "small sheet of water called 'Cultus Lake'", which the lake remains known as today. In another case he justified his adoption of an Aboriginal people's name for a waterfall due to its "peculiar and dreadful noise, resembling that sometimes made by a person in agony or distress". Learning that the "Indians" called these "sloolicum" or ghost falls, Drewry's crew thought the name "very appropriate."²⁶¹ At the outset, the ADLS appeared to implement a methodology of nomenclature making heavy use of existing Aboriginal peoples' names.

The ADLS, however, quickly (if not immediately) added exceptions to the use of Aboriginal peoples' place names in Canada. If unable to ascertain the "correct Indian name", Dawson instructed surveyors to give names "suggestive of some thing characteristic of the place, or of the time when the survey was made."²⁶² For example, Drewry's rationale for naming Fatigue Mountain is explicit. Moreover, descriptive names assisted surveyors to domesticate the environment.²⁶³ In 1888 Surveyor-General Deville directed surveyors not to use "unpronounceable Indian names", and Staff Commander W. J. Boulton gave instructions to use the English equivalent for Aboriginal peoples' names "considered to be too long for practical use".²⁶⁴ "Barbarous or morally objectionable" names, argued Drummond in 1889, "should be changed without delay." Surveyors also reasoned that "every explorer and map maker" had the "privilege" to originate new names.²⁶⁵ Drewry inserted his own place in history, a mountain, lake, park, and railway station being named after him. Surveyors too

²⁶⁰ Thomas Drummond, "Geographical Nomenclature", *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), 178, CIHM no. 01884.

²⁶¹ W. Drewry (Belleville, Ont., Dec. 27, 1887), "Report of W. Drewry, D.L.S., No. 24," *Sessional papers of the Dominion of Canada*, Vol. 12 (Ottawa: A. Senecal, 1888), 110.

²⁶² G. Dawson, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), CIHM no. 01884.

²⁶³ W. Drewry to E. Deville, Surveyor-General (December 14, 1889), "Report of W. Drewry, D.L.S.: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14," *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 6. Drewry's crew were the first known Anglo-Americans to climb Fatigue Mountain [2959m (9708ft)]; W. Drewry (Belleville, Ont., Dec. 27, 1887), "Report of W. Drewry, D.L.S., No. 24," *Sessional papers of the Dominion of Canada*, Vol. 12 (Ottawa: A. Senecal, 1888), 111; G. M. Dawson, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), 51, CIHM no. 01884; Byrnes, 86.

²⁶⁴ W. J. Boulton R. N., *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), 53, CIHM no. 01884.

²⁶⁵ Thomas Drummond, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), 178, CIHM no. 01884.

often failed to ascertain or to recognize the names of “prior right” and instead overlaid what they considered the “proper” names.²⁶⁶ In 1889, Drewry went as far as to state, “it would be well to avoid the use of local names with which the general public would not be familiar”.²⁶⁷ Surveyors, then, often created exceptions in their practice of nomenclature and orthology to make a space based on an Anglo-American “homogeneity”, abstracting local geographies and histories.²⁶⁸

Surveyors increasingly imposed rather than collected knowledge of the land and natural resources in naming geographical features.²⁶⁹ These “names are to be the property of our descendants as well as ourselves,” stated Drummond to the ADLS in 1889, “and will be perpetuated in the thousands of deeds and documents which will be executed, and in the numerous maps and books that will be published, in coming years, when change will become more difficult and impossible.”²⁷⁰ Likewise Paul Carter considers place names to be the “spatial and conceptual coordinates within which history could occur.”²⁷¹ Surveyors exploited the opportunity to create an Anglo-American history by accepting names applied by traders, settlers, and miners. Deville also instructed surveyors to name the landscape after distinguished people or remarkable occurrences. Accordingly, Drewry named the Harrop-Procter Waggon Road and Procter Creek after his friend and business associate, Kootenay Valley Company and the Balfour Brick Company Manager T. G. Procter, and Battle Creek after a prospector’s encounter with a grizzly bear.²⁷² By ignoring the “barbarous” in favour of the “civilized”, the ADLS empowered the “judgement of the explorer” to ensure that settlers could better identify and connect themselves and their history to the land using nomenclature

²⁶⁶ Thomas Drummond, “Geographical Nomenclature”, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), 178, CIHM no. 01884; Carter, 67.

²⁶⁷ W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

²⁶⁸ W. Drewry, *Association of Dominion Land Surveyors, Report of Committee on Geodetic and Topographical Surveying* (1892), Box 93-6553-3, File 3, BCA.

²⁶⁹ W. Drewry, *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884.

²⁷⁰ Thomas Drummond, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), 178, CIHM no. 01884.

²⁷¹ Carter, 46.

²⁷² G. Dawson, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), 51, CIHM no. 01884. The Association did not want nomenclature and orthology left to railway companies; Édouard Deville, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), 53, CIHM no. 01884; W. Drewry to H. Wright (June 25, 1908), Box 93-6553-3, File 1, BCA; T. Procter to W. Drewry (Sept. 8, 1898), Box 93-6553-1, File 9, BCA.

to memorialize and celebrate the Anglo-American presence.²⁷³

Surveyors' methodologies and rhetoric fostered what Matthew Edney described as a false "ideal of perfection."²⁷⁴ Surveying associations developed such a strong faith in this ideal that, for example, only after considerable deliberations on February 19, 1890 was Drewry able to move A. O. Wheeler's controversial but commonsensical submission for the inclusion of the words "more or less" in the description for a deed or patent.²⁷⁵ Surveyors, recognizing imperfections in their practice, also discussed allowances in measurement error. For instance, Drewry made allowances in calculations for curvature of the earth and refraction during his photo-topographical work.²⁷⁶ However dearly surveyors safeguarded their "ideal of perfection", in reality their work was often less precise. Drewry described the "detailed" topographic work in the Rockies as "precise, although not of the highest offer of precision."²⁷⁷ In other words, the work was sufficiently accurate to facilitate secure title to land and resources, which for surveyors was "perfection", but did not reproduce the landscape, which surveyors considered unnecessary, even unwanted.

Surveyors debated and invented spoken discourses to reproduce the landscape conceptually as universal, which, contradictorily, enabled them to make space in the interests of only those they wished to empower. They based these discourses on "more perfect" Euro-centric representations to make space Anglo-American. However, surveyors needed to attach this spoken space to the landscape.

Making Space Physically & Graphically

Drewry inscribed this new conceptual space upon the landscape with physical objects. Cairns became the foundation for the new geography in the Coastal, Rocky and Selkirk mountains. Drewry determined mountain-top locations where his crews located stones to construct these rectangular

²⁷³ Édouard Deville, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), 53, CIHM no. 01884.

²⁷⁴ Edney, 95.

²⁷⁵ W. Drewry, *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884.

²⁷⁶ W. Drewry, "Report of Standing Committee on Phototopography as applied to Topographical Surveying", *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

²⁷⁷ W. Drewry, Chairman, "Report of Standing Committee on Topographical Surveying, to the President and Members of the Association of Dominion Land Surveyors", *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884.

pyramid-shaped signals as a base for secondary and tertiary triangulation surveys. To maximize the visibility of the cairns for photo-topography, his crews attached truncated cones of tin, eighteen inches in diameter at the base, six inches on top, and with a height of eighteen inches, on top of each stone foundation.²⁷⁸ Due to “tremendous” gales occasionally blowing down the signals, the parties placed poles in the middle of the cairns from the top of which they ran copper wires to securely fasten the body of the signal to the stone foundation.²⁷⁹ This base was particularly important because, as Deville stated in 1907: “The whole system of Dominion Land Surveyors hangs on the baselines; if their accuracy is not perfect, every subsequent survey is bound to go wrong.”²⁸⁰ Furthermore, as Drewry noted, baseline work provided an “immense” saving in the survey of agricultural lands, timber limits, and especially mining claims.²⁸¹ Ultimately cairns, as well as survey pegs, represented the physical manifestation of the territorial claims of Canada and BC.

Professional surveyors were not the first to delineate territorial boundaries. Aboriginal peoples had forms of property rights marking such boundaries through culturally modified trees and rocks.²⁸² Nevertheless Drewry and his associates ignored systems that pre-existed their survey, and instead reclassified the landscape into something they considered much different: “private property.”

The most common medium through which any surveyor communicates their classifications of land and natural resources is the field book. “Invaluable and indispensable,” states Giselle Byrnes, the field book is a “constant companion” to any surveyor.²⁸³ In 1907, BC Surveyor General E. B. MacKay forwarded his most recent draft of general survey instructions to Drewry for his comments. Together they established that surveyors were to use field-books to note pre-emptions and timber or

²⁷⁸ W. Drewry (December 14, 1889), “Report of W. Drewry, D.L.S.: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14,” *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 44; Canada, *Manual showing the System of Survey of the Dominion Lands with Instructions for Surveyors* (Ottawa: MacLean, Rogers & Co., 1881), FB 30140.

²⁷⁹ W. Drewry, *Report of Committee on Geodetic and Topographical Surveying* (1892), Box 93-6553-3, File 3, BCA.

²⁸⁰ W. Drewry (December 14, 1889), to E. Deville, Surveyor-General, “Report of W. Drewry, D.L.S.: Triangulation Survey of Railway Belt in Rocky Mountains, No. 14,” *Sessional paper of the Dominion of Canada*, Vol. 11 (Ottawa: B. Chamberlin, 1890), 46, 48; Judy Larmour, *Laying Down the Lines: A History of Land Surveying in Alberta* (Brindle & Glass Publishing, 2005), 106.

²⁸¹ W. Drewry (March 5, 1892), “Report of W. Drewry, D.L.S.: Triangulation Survey in the Rocky Mountains, No. 9,” *Sessional papers for the Dominion of Canada*, Vol. 9 (Ottawa: S.E. Dawson, 1892), 41.

²⁸² J. E. Michael Kew and Julian R. Griggs, “Native Indians of the Fraser Basin: Towards a Model of Sustainable Resource Use”, in Anthony Dorsey, ed., *Perspectives on Sustainable Development in Water Management: Towards Agreement in the Fraser River Basin* (Vancouver: Westwater Research Centre, UBC, 1991), 29-30.

²⁸³ Byrnes, 78.

coal licences; to sketch diagrams of the land surveyed and give connection to existing surveys; to show centres of activity, topography and “improvements”; and to mark the number of stations, bearings, and distances and the acreage of every claim on any plan.²⁸⁴ Essentially, surveyors used their field-book to display change and their evaluations of the landscape.

Surveyors delineated the landscape in field-books and maps using “more perfect” trigonometrical surveying techniques. In addressing his associates at the 1892 ADLS meeting, Drewry urged that a “well matured and carefully considered scheme be first laid down, upon which to develop the whole” and “assure homogeneity”.²⁸⁵ A primary triangulation survey could adjoin formerly isolated surveys, providing a reference for future surveys and locations in field-books and upon maps in their “proper geographical positions.” The lack of survey, Drewry emphasised, resulted in graphic representations “so seriously in error as to render them useless”.²⁸⁶ The “accurate” trigonometrical foundation delineated in field-books and maps, he argued, was essential to anticipate future demand from the steady inflow of “land-seekers.”²⁸⁷

Settlers’ and speculators’ faith in these graphic representations drew upon what Matthew Edney calls the Enlightenment’s “‘cartographical illusion’ of the ‘mimetic map.’”²⁸⁸ Many people today would agree that maps produce accurate, objective, and universally applicable copies of the “real” world. However, the maps produced by people like Drewry and institutions like the Department of the Interior are reflections of the culturally determined way that their producers see the world. They are, as Graham Huggan argues, “subjectively reconstructed and historically contingent” models.²⁸⁹ Nevertheless, ideologies of scientism and the empiricism of the Enlightenment culminated at the turn of the twentieth century to make maps “true” and “correct” replicas of a knowable landscape. Surveyors used mapping to create a myth of order and “homogeneity” over the social, economic, and ecological turmoil that change was bringing to diverse pre-existing

²⁸⁴ E. MacKay to W. Drewry, “General Instructions” (March 1907), Box 93-6553-2, File 1, BCA.

²⁸⁵ W. Drewry, *Association of Dominion Land Surveyors, Report of Committee on Geodetic and Topographical Surveying* (1892), Box 93-6553-3, File 3, BCA.

²⁸⁶ W. Drewry, Inspector of Surveys, “Report on Connection Surveys in Lillooet and Cariboo Districts,” *Legislative Assembly, Sessional papers, Report of the Minister of Lands* (Victoria, 1913), D 248.

²⁸⁷ F. Kelley, “Taking Topography,” *The Daily Colonist* (April 1, 1935), MS 2259, Box 7, File 5, BCA.

²⁸⁸ Edney, 21.

²⁸⁹ Carter, 101, 135, Byrnes, 90; Belyea, 276; Huggan, 127.

geographies.²⁹⁰ Such maps drew settlers into participation in the colonisation of distant lands, providing both what Carter calls “rhetorical incentives to travel” and “conceptual places where the imagination might be enticed to settle.”²⁹¹ Drewry’s maps gave confidence to settlers to leave their communities and venture west into the “unknown.”²⁹² For instance, a settlement boom in BC, which began a year after Drewry published a map of the West Kootenays in 1896 [see Figure 14], was not just a coincidence.²⁹³ In contested spaces like BC maps were powerful instruments for colonisation and settlement, allowing those utilizing them to “exert ideological (if not actual physical) control over hitherto ‘unknown’ territories.”²⁹⁴ Drewry implemented a set of rhetorical strategies in the production of his maps to seize and classify land and natural resources, displaying information for the acquisition and assertion of colonial power.

To affirm Anglo-Americans’ faith in Eurocentric cartographic rhetorical strategies, Drewry promoted and practiced topographical mapping techniques. As chairman of the proceedings at the fourth annual meeting of the ADLS, during which he presented the *Report of the Standing Committee on Topographical Surveying*, Drewry was instrumental in the implementation of this cartographic technique in BC. In his presentation he used the roots of the term “topography” to distinguish between topographical and geographical: “the former meaning the description of a particular place and the latter referring broadly to the whole earth.” Topographical maps, he argued, displayed the natural and physical features of the landscape as well as bridges, roads, buildings, and other such structures. He considered existing maps of Manitoba and the North-West Territories to be geographical rather than topographical, their scale being too small to show anything more than the most prominent topographical features. Only topographical maps showed detail on a “sufficient scale” and displayed “accurately *all* topographical features.” [Italic in original] Drewry emphasised the shortcomings of “geographical” mapping with the following analogy: “In short, a milkman may

²⁹⁰ Edney, 57.

²⁹¹ Carter, 112.

²⁹² David E. Nye, *America as Second Creation: Technology and Narratives of New Beginnings* (Cambridge, The MIT Press, 2003), 24-5, 49.

²⁹³ George Colpitts, *Game in the Garden: A Human History of Wildlife in Western Canada to 1940* (Vancouver: UBC Press, 2002), 75, 77.

²⁹⁴ Ken G. Brealey, “Mapping Them ‘Out’: Euro-Canadian Cartography and the Appropriation of the Nuxalk and Ts’ihlqot’ in First Nations’ Territories, 1793-1916”, *The Canadian Geographer*, 39, 2 (1995), 141.

put a little milk into water but that does not entitle him to call the whole mixture milk.”²⁹⁵

The analogy, however, was hypocritical. Drewry was in fact only recommending adding a little more milk to the mixture. Reducing scale did not ensure that cartographers recorded “*all*” topographical details. The cartographic technique improved accuracy but the landscape was by no means reproduced. Topographical lines recorded the approximate relative elevation or depression at specific heights, creating a geodetic skeleton.²⁹⁶ What lay in between these lines remained unrepresented. Moreover, Drewry’s definitions actually narrowed cartographers’ ability to communicate knowledge of a place. By his definition, topography was limited to the science of describing the surface features of a place and “improvements”, while geography was inclusive of other features—like human life and the effects of human activity. The maps’ legends classified the landscape in a manner that worked well with the commodity objectives of business and government, embodying rhetorical strategies that focused on the physical features of the landscape, like natural resources, while at the same time abstracting human populations and change to those geographies.

Drewry promoted topographical maps as communicative “Aids to Development”, arguing that the “waste of rugged mountains, deep valleys and dense forest” and “totally unknown character” of BC deterred capital investment. Public money should, therefore, fund topographical mapping in that the “public” ultimately benefited from the attraction of “outside” capital. Drewry articulated a myriad of examples of how topographical maps supported capital investment, such as by penetrating the “vastness”; through the discovery and the exploitation of natural resources; by furnishing settlers and mountaineers with information regarding the natural features of the country; by encouraging pre-emption claims in remote regions; by rendering practical the expenditure on the survey of railways, and the “no less important” tramways, wagon roads and trails; and by reducing the location and construction costs of such transportation routes.²⁹⁷ Moreover, due to gravity providing what Drewry

²⁹⁵ W. Drewry, Chairman, “Report of Standing Committee on Topographical Surveying, to the President and Members of the Association of Dominion Land Surveyors”, *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884.

²⁹⁶ Don W. Thomson, *Skyview Canada: A Story of Aerial Photography in Canada* (Ottawa: R.B.W., Ltd, 1975), 2.

²⁹⁷ W. Drewry (March 5, 1892), “Report of W. Drewry, D.L.S.: Triangulation Survey in the Rocky Mountains, No. 9,” *Sessional papers for the Dominion of Canada*, Vol. 9 (Ottawa: S.E. Dawson, 1892), 38; W. Drewry, “Ainsworth and Slovan Mining Divisions Survey,” *Legislative Assembly, Sessional papers, Crown Land Surveys* (1896), 814; W. Drewry, Inspector of Surveys, “Connection Surveys in Lillooet and Cariboo,” *Legislative Assembly, Sessional papers, Report of the Minister of*

called “the first method of utilizing water supply”, topographical maps became a particularly powerful technology in irrigation planning, agricultural expansion, calculation of the area of basins, enhanced water rights administration, the avoidance of legal difficulties, and control of “otherwise wasted water.”²⁹⁸ Richard Bocking argues that such communicative technology satisfied Anglo-American dreams of “a hydraulic order...to correct past ills, raise wealth, to impose control over nature and others.”²⁹⁹ Drewry created a new order of previously unimaginable scope over rural areas in BC by first surveying land and then creating topographical maps—what he regarded as the “*only*” method that an “*accurate*” map could be made [italics in original].³⁰⁰

In 1896, Drewry published the first such map of a region of BC for the provincial government [see Figure 14].³⁰¹ Plotting the map on a scale of one mile to an inch, with contour intervals of 250 feet, he delineated roads, trails, Crown granted lands and mineral claims, in addition to the “geography of the country”. His geography included physical features such as Toad Mountain, and the basins of Crawford, La France, and Lockhart creeks, as well as industrial developments such as Ainsworth, and Hendryx mining camps, the Nelson-Fort Sheppard Railroad, and the location of the Pilot Bay and Hall Mines smelters. In making reference to this map in his 1896 report to the BC Legislative Assembly, he noted that many of the mining claims being worked “prove of great value.”³⁰² Drewry’s map, along with several that followed, were published and sold nationally and internationally. BC was open for business, and Drewry’s maps invited capital investment.³⁰³

Lands (Victoria: 1913), D 251; W. King to E. Deville (March 30, 1889), GR-437, Box 21, File 1, BCA; Martin concurs with Drewry’s assessment that the wagon roads and trails were fundamental to the growth of the Crowsnest and Kootenay mining industry. *The Rush for Spoils*, 63. Likewise, in a March 9, 1895, edition of the *Rossland Miner*, editorial remarks described roads as “everything to a new camp” and absolutely fundamental for a “town to progress”; W. Drewry, “Triangulation Survey in the Rocky Mountains,” *Sessional papers of the Dominion of Canada*, Vol. 14 (Ottawa: B. Chamberlin, 1891), 43.

²⁹⁸ Matthew Evenden, *Fish versus Power: An Environmental History of the Fraser River* (New York: Cambridge University Press, 2004), 2.

²⁹⁹ Bocking, 263-8; W. Drewry, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), CIHM no. 01884. Legal difficulties included parties claiming that their lands did not lie in the basin to be drained. Topographical maps helped settle such disputes.

³⁰⁰ W. Drewry, “Photo-topographical Survey of Kootenay,” Legislative Assembly, *Sessional papers, Crown Land Surveys* (1896), 812.

³⁰¹ Gray Scrimgeour, “Postal History of a Pioneer Western Canada Family: The Drewry Find”, *Postal History Society of Canada*, No. 131 (September 2007), 7.

³⁰² W. Drewry, “Photo-topographical Survey of Kootenay,” *Legislative Assembly, Sessional papers, Crown Land Surveys* (1896), 811.

³⁰³ A. Terry Turner and Susan Hulland, *Impressions of the Past: The Early History of the Communities of Crawford Bay, Gray Creek, Kootenay Bay, Pilot Bay and Riondel, on the East Shore of Kootenay Lake, British Columbia* (Riondel: The Riondel & Area Historical Society, 2002), 5.

Drewry's "accurate" mapping also made notable exclusions. While the first official census of 1881 recorded the indigenous Ktunaxa population at 625, down dramatically due to the waves of epidemics carried from Europe, Drewry nevertheless failed to delineate any evidence of this pre-existing people, such as an existing encampment in Galena Bay, or a rock and mineral mine not far from Cominco's Bluebell lead-zinc operation at Riondel. The Ktunaxa, who had numbered over 10,000 prior to contact, had prospected, mined and traded mostly flint but other rocks and minerals in this region long before the arrival of non-aboriginals.³⁰⁴ Surveyors were certainly aware of Aboriginal peoples' mineral interests, and as Richard Mackie observes, the late nineteenth century landscape was covered with the remnants of thousands of years of habitation and use, such as middens, trade beads, house remains, fishing weirs, arrowheads and other instruments. While some early surveyors made notations of deserted and uninhabited Aboriginal peoples' houses when making tertiary surveys, Drewry's new large-scale primary and secondary surveys only made reference to established reserve lands.³⁰⁵ Despite their knowledge otherwise, surveyors did not delineate non-Anglo-American uses or claims to natural and mineral resources.

³⁰⁴ *Ibid.*, 6-7.

³⁰⁵ Richard Somerset Mackie, *The Wilderness Profound: Victoria Life on the Gulf of Georgia* (Victoria: Sono Nis Press, 1995), 51-2.



Figure 14: In 1896, Drewry published this, the first coloured topographical map of a region of BC, which also displayed the “geography of the country”, such as wagon roads, trails, Crown granted lands, railways, smelters and mines. Source: BC LTS 26T1 Original Maps

Drewry practiced another technique of surveying and mapping—chaining and the grid—that can be traced back to Europe’s establishment of a cash economy. This new economic base made states much less interested in lands’ capacity to support people than how much rent the land could produce. Hence, in 1581 Welshman Edmund Gunter devised a 22-foot chain to measure land so that property owners could calculate rent. In addition to Gunter’s Chain, Canadian surveyors adopted the grid that United States (US) President Thomas Jefferson had directed US surveyors to extend west. Linklater credits Canada’s adoption of Gunter’s Chain and the grid to Canada’s and the US’s shared “faith in technology,” “respect for property,” and “greed for territory.” Both the instrument and the

technique made easy the measurement and computation of a numerical value for the land.³⁰⁶ While Drewry resorted to trigonometrical surveying and photogrammetry in precipitous regions, he otherwise relied on the simplicity and efficiency of Gunter's Chain and the grid to remake the landscape. Don Thomson and I. S. McLaren concur that the overlay of this "uniform" system of survey over the immense space that is now Canada is a feat "unequalled anywhere in the world" and is "one of the great civil engineering triumphs of all time."³⁰⁷

The practice of chaining and making the grid was straightforward. Surveyors took bearings on a distant mark with a compass and then sent an axman forward to clear a path for the chainman. With one man holding the chain at the starting stake, the chainman carried the rest of the chain forward toward the distant mark, unrolling the chain as they went. They worked like a caterpillar, hunching up and stretching out, in a straight-line. The surveyor recorded the details in his field book, for later plotting on map surfaces in grid formations. Finding the area of any lot was as easy as calculating the area of a square. The chain and the grid were effective until the horizontal nature of the land became irregular; then the surveyor resorted to increasingly sophisticated calculations and instrumentation.³⁰⁸

To attract settlers and capital investment to Anglo-America, the Canadian and the US governments narrated the grid as a scientific mastery of the landscape based on ideals of liberty, democracy, and accuracy. The apparent liberty of individual property rights justified surveyors' disregard for customary land-use practices, and Anglo-Americans were only too pleased to reap the obvious economic benefits.³⁰⁹ The grid proved to be the most practical and speedy method to re-create space, transforming it into a commodity, or, as Ted Steinberg states, "a uniform set of boxes easily bought and sold."³¹⁰ Surveyors used the grid to equalize difference and render everywhere the same. The fact that the simple square-shaped lots ensured surveyors and land registry officials could

³⁰⁶ Linklater, 5, 12, 13, 18.

³⁰⁷ Don W. Thomson, review of James MacGregor, *Vision of an Ordered Land* (Canadian Surveyor Supplement, March 1982), 11; I. S. McLaren, *Mapper of Mountains* (Edmonton: The University of Alberta Press, 2005), 24, with citation from Don W. Thomson, *Men and Meridians: The History of Surveying and Mapping in Canada*, 2 (Ottawa: Queen's Printer, 1966-1969), 26.

³⁰⁸ Linklater, 18, 166.

³⁰⁹ Benedict Anderson, *Imagined Communities: Reflections on the Origins and Spread of Nationalism* (New York), 65.

³¹⁰ Ted Steinberg, *Down to Earth: Nature's Role In American History* (Oxford: Oxford University Press, 2002), 60.

not shape lots in settlers' interests in return for bribes added to the narrative that the grid supported democracy. Like the Jefferson Administration, the Canadian government rationalized that the grid would enable surveyors to distribute land and natural resources evenly among settlers, while at the same time quickly absorbing space. In measuring and delineating the grid surveyors like Drewry predicated white migration as Canada's foreordained, logical, and inescapable destiny, and in inscribing the grid upon the land and upon maps, they transformed ideas into concrete reality.³¹¹ The grid, however, fell well short of its egalitarian principles.

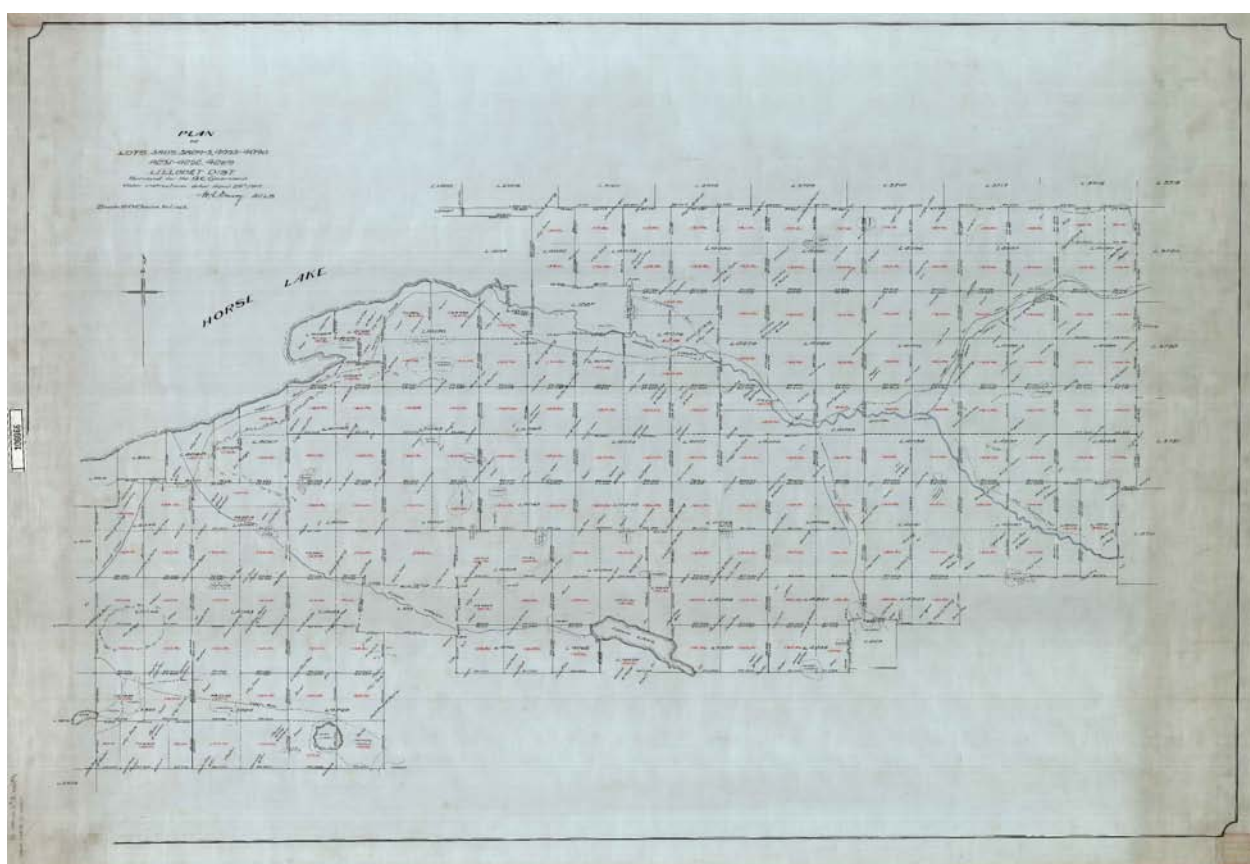


Figure 15: On April 25, 1914, Drewry delineated *Plan of lots 3383-3422, 3779-3780, 3782-3808, 3810-3830, 4035-4054*, displaying a grid formatted subdivision at Horse Lake, Lillooet District, and, extending out from the Great Eastern Railway, portions of the “no less important” wagon roads and trails. Source: LT&SA of BC, A2 Locker 6

In practice, the grid, whether on the Prairies or the valleys and plateaus of Pacific slope, denied local and customary rights, created social isolation, failed to provide sufficient knowledge of

³¹¹ Nye, 24, 247.

land and natural resources, and imposed inconvenient and ecologically detrimental boundaries.³¹² The “grid plan is characterized, like the map grid,” states Paul Carter, “by its ‘placelessness’, by its elimination of view points, of comings and goings, and indeed of history.”³¹³ Thus, as Aboriginal peoples and settlers gradually felt this erasure, they increasingly agitated for a system that fit the shape of their cultural diversity. The grid did not suit Aboriginal peoples’ complex relationship with the land, in which they relied on mobility to exploit seasonal natural resources. Likewise, the Métis resisted the grid, demanding confirmation of their land title in accordance with the river lot system survey, which culminated in the Northwest Rebellion of 1885. Furthermore, the grid’s emphasis on the individual over community often left prairie settlers feeling isolated on their individual 160-acre parcel, contributing to an alarming amount of insanity. The uniform set of boxes also failed to provide sufficient information for settlers or speculators to locate the land they desired; in precipitous BC, where only about ten percent of the land is appropriate for agriculture, they were only too aware that some parcels were better than others. The discourse of the “more perfect” detail of topographical maps only added to the grid’s inadequacy. Finally, settlers became increasingly aware of ecological constraints, as the grid often forced landowners to ignore natural water basins and irrigate dry plains, which eventually contributed to water shortages and the Great Depression.³¹⁴ In these ways, the grid failed to meet the ideals of liberty, democracy, and accuracy, instead abstracting pre-existing geographies and sapping the sense of locality in favour of artificial uniformity that served the interests of state managers and corporate elites.

Making Printed Space

Surveyors utilized printed texts to gloss over the gaps in their graphic representations, solidifying Anglo-Americans’ faith in the new conceptual space. Surveyors’ written synopses and contributions to legislation gave birth to massive capital formation, extending considerable powers to distant interests over localities within BC. Likewise, the introduction of the Torrens System to BC at the

³¹² *Ibid.*, 290.

³¹³ Carter, 204.

³¹⁴ James Tully, *Strange Multiplicity: Constitutionalism in an age of diversity*, (Cambridge: Cambridge University Press, 1995), 100, 197; Larmour, 47; Joseph and Joseph, 20; Nye, 289-90; Linklater, 232.

end of the nineteenth century established “indefeasible title” to land and eliminated the need to look backwards for possible flaws in the chain of title.³¹⁵ Surveyors created a printed space in the interests of Anglo-American settlers and capital, discounting all that had come before.

Drewry’s texts dramatically simplified the administrative role of branch-offices to operate together as a central land titles and transfer registry under the Torrens System in what was a dispersedly settled BC. The Colony of Vancouver Island became the second place in the world to adopt the Torrens System after Australia, where Sir Robert Torrens first had devised the method in 1858. It particularly appealed due to the Colony’s belief that secure land title would attract settlers away from the cheap land available in the United States. It received royal assent in the island colony on January 18, 1861 but was not adopted as quickly on the mainland. The Colony of British Columbia, with its greater nineteenth century focus on mineral extraction and the dispersed nature of settlement, could not as easily provide the essential access to a centralized registrar upon which the Torrens System was based. However, due to the combination of the success of the method on Vancouver Island and the shared interest of existing Anglo-American inhabitants and settlers in securing titles to land, the Torrens System came into existence throughout the new province in 1871 and remains in use in BC today.³¹⁶

The Torrens System makes all official land titles and documents registered by the province the custody of a government land titles office, thus guaranteeing “indefeasible” title. At its outset, the method imposed a fee of one-fifth of one percent of the value of the property so registered and the same upon the value of the property on any subsequent transfer in order to protect the “innocent purchaser from any mistake which may be made by the employees of the government in their dealings with the titles.”³¹⁷ It quickly grew so popular that no one actually needed the assurance fund.³¹⁸ The owner did not need to trace title back to the original deed or papers—further abstracting Aboriginal peoples’ “prior right” to land—but rather to the last certificate of ownership, which the

³¹⁵ Greg Taylor, *The Law of the Land: The Advent of the Torrens System in Canada* (Toronto: University of Toronto Press, 2008), 3, 10.

³¹⁶ Taylor, 32, 34, 57-59, 66; Province of British Columbia, to the Chief Commissioner of Lands and Works, “Minutes of Meetings of the Association of Provincial Land Surveyors of British Columbia” (1891), MS 2259, Box 1, File 2, BCA; Richards, 1-2.

³¹⁷ “The Torrens System”, *The Rossland Miner* (January 28, 1899), 2.

³¹⁸ Taylor, 49, 55.

government guaranteed to be “absolutely correct”.³¹⁹ The method addressed both Anglo-Americans’ complaints about the expense and delay required to demonstrate one’s title and their demands to vigorously sweep away “useless traditions and entrenched privilege.” As a result of the introduction of the Torrens System, full and secure title in BC changed at the end of the nineteenth century from “prior right” to registration.³²⁰

The work of surveyors formed the foundation of the Torrens System, which, in turn, facilitated capital development and change. Replacing BC’s previous chain-of-title system, the Torrens System, like the rest of Drewry’s representations of space, made holdings more easily marketable.³²¹ Due to increasing litigation in nineteenth-century BC, where “a single foot of ground” could be “worth thousands of dollars”, Drewry emphasized the need for secure registration of land.³²² His and his associates’ work re-presenting space in a secure and accessible form converted assets’ economic potential into capital, transferring land from the material world into the “conceptual universe where capital lives.” Therefore, surveyors like Drewry surveyed, mapped and recorded not only to open land for settlers but also to integrate the landscape into the Torrens System and give speculative interests the fungibility, bureaucratic machinery, and network required to produce capital. Drewry’s representations ultimately facilitated the huge European, Canadian, and American capital infusion that the “new extractive economy” in BC depended upon and continues to do so today.³²³

Summary

Surveyors did not communicate their classifications of land and natural resources to represent the existing diversity within BC. They invented instead a new geography and history for the settlement population. While they promoted the new space as universal, they ultimately based their representations upon linguistic devices to serve and empower Anglo-Americans.

Surveyors manipulated verbal, physical, graphic, printed and administrative devices to

³¹⁹ Doug Barnett, *Early Surveys and Settlements in Central Alberta* (Edmonton: Provincial Archives of Alberta and City of Edmonton Archives, 2001), 76; Linklater, 211.

³²⁰ Taylor, 15, 20, 66.

³²¹ *Ibid.*, 26.

³²² W. Drewry, “Photo-topographical Survey of Kootenay,” *Legislative Assembly, Sessional papers, Crown Land Surveys* (1896), 811.

³²³ De Soto, 46, 49, 50, 182; Martin, 18.

remake space for government, settlers, and increasingly, investors. Verbal devices included systematic methodologies of nomenclature and orthology that surveyors applied to codify and translate knowledge, not into customary or local ways of representing the landscape, but rather as surveyors and their associations laid out. Physical devices, such as cairns and surveying pegs, set the new geography within the territorial claims of Canada and BC. Finally, surveyors harnessed several different graphic and printed devices to disseminate space, making it widely consumable. Surveying associations developed several techniques, technologies, and rhetorical strategies to reinforce Anglo-Americans' faith in the objectivity of surveyors' textual representations: field-books and maps were based on new "more perfect" trigonometrical surveying and topographical mapping techniques; the grid was imbued with ideals of liberty, and democracy; and the Torrens System further abstracted pre-existing geographies and histories. In addition, legislation and administration enforced and solidified the reality that these devices constructed. While these new linguistic devices did not live up to their ideals and egalitarian principles, Anglo-Americans still accepted them as more "real" than the landscape. After all, they shared the culturally determined view of this new geography that surveyors designed specifically for their empowerment. Anglo-Americans harnessed the obvious economic benefits at heavy social, ecological and ethical costs for some. In other words, the massive capital creation that surveyors' representations facilitated in the emergence of BC's resource economy took precedence over long-term human and ecological well-being. To support the conclusion here, the following chapter will analyse how different interests exploited these devices to control the use of land and natural resources, and will demonstrate how the land and its inhabitants were affected.

Chapter V

“It should be to our advantage”: How Specific Interests Attempted to Control the Use of Space on the Basis of Surveyors’ Classifications

Through the strategies behind his vision and representations laid out in the previous two chapters, Drewry and his associates re-made BC in the interests of states, settlers, capital interests and their collective associations. They were able to utilize Drewry’s maps, fieldbooks, cairns, surveying pegs, spoken discourses, legislative contributions, and synopses to seize land and resources more cost-effectively; to simplify revenue collection; to attract settlement, tourism and capital investment; to reinforce individual and property rights; and to plan and make secure transactions—often leading to monopolization of vast spaces. In addition, the governments of Canada and BC, as well as distant national and international investors, employed Drewry as a remote agent to represent their interests through dialogue and interactions with certain rural localities. Drewry also participated in a couple of influential, mind you different, Anglo-American associations: the anti-labour, anti-regulation Silver-lead Mining Association during the Kootenay hardrock mining boom, and as a member of the professional Dominion and BC land surveying associations. Throughout his lifetime, Drewry participated in many associations that constructed a middle-class Anglo-American country, but he also reflected the populace’s widely held frustration over their diminished opportunity due to big business’s increasing monopolization of land and natural resources. He resented the extent of power that large corporations such as the Canadian Pacific Railway (CPR) gained over land, resources and production due to states’ pre-occupation with creating conditions favourable to capital accumulation. This chapter examines how states, commercial interests and surveyors’ professional associations attempted to control the use of land and natural resources on the basis of Drewry’s classifications.

“For the Government Officials”: State-Building

While exploring the eighteenth century Pacific Northwest, Britain and Spain recognized that symbols such as flags, mooring pegs, and gift exchanges had failed to secure the control that they desired over

distant lands, natural resources and people. Likewise, early continental-trading networks, such as that established by the Hudson's Bay Company, had connected a limited range of resources to the demands of international markets but had neither displaced, nor colonized Aboriginal peoples.³²⁴ Even treaties between imperialist nations were only just that—agreements over what Henry Reynolds calls “claims of priority” between rival nations without acknowledgement from local inhabitants.³²⁵ To establish sovereignty, if “open possession” through settlement was not (yet) an option, something else was needed. The answer proved to be the re-construction of knowledge of that particular space, a task entrusted to surveyors like Captain George Vancouver and, a century later, William Drewry.³²⁶

To extend influence over North America, the land survey became a race to construct knowledge in states' own geographical worldview prior to settlement and resource exploitation. Prior construction of knowledge had many significant benefits for the governments of Canada and BC: they could lay prior claim to the land and natural resources, and, in turn, encourage immediate revenue collection from leases, licences and sales; they could promote a landscape to investors and the preferred settlement population, making any competing worldviews, such as those of Aboriginal peoples, only violate what “seemed natural”; they could limit the number of “squatters”, who would otherwise be increasingly difficult to control or contain as they migrated into the periphery; and they could establish mining claims, townsites, timber reserves, and other such boundaries.³²⁷ By depending upon agents like Drewry to quickly construct knowledge of distant or rural spaces, the governments of Canada and BC extended their control, giving, as Cole Harris puts it, “abstract geopolitical space concrete political meaning.”³²⁸

Drewry's photo-topographical surveys of the Rocky Mountain Railway Belt proved

³²⁴ Matthew Evenden, *Fish versus Power* (Cambridge: Cambridge University Press, 2004), 7; Robin Fisher, *Contact and Conflict: Indian-European relations in BC, 1774-1890* (Vancouver: UBC Press, 1992).

³²⁵ Henry Reynolds, “Property, sovereignty and self-determination in Australia”, ed. by Peter Larmour, *The Governance of Common Property in the Pacific Region* (Canberra: National Centre for Development Studies and Resource Management in Asia-Pacific, 1997), 125.

³²⁶ Daniel Clayton, *Islands of Truth: The Imperial Fashioning of Vancouver Island* (Vancouver: UBC Press, 2000), 184, 211, 215, 227.

³²⁷ Andro Linklater, *Measuring America: How an Untamed Wilderness Shaped the United States and Fulfilled the Promise of Democracy* (Markham, Ontario: Fitzhenry and Whiteside, 2002), 163; Douglas Harris, *Landing Native Fisheries: Indian Reserves and Fishing Rights in BC, 1849-1925* (Vancouver: UBC Press, 2008), 10; Judy Larmour, *Laying Down the Lines: A History of Land Surveying in Alberta* (Brindle & Glass Publishing, 2005), 126.

³²⁸ Cole Harris, *The Resettlement of British Columbia: Essay on Colonialism and Geographical Change* (Vancouver: UBC Press, 1997), 193. Harris refers here specifically to the “elimination of distance” however surveyors' construction of knowledge was a fundamental dimension to this larger project.

particularly efficient in providing reference points and maps from which the Dominion could administer lands under its jurisdiction, expanding and maintaining control over what was at that time the most desirable land and natural resources in BC due to the dramatically improved accessibility provided by the CPR railway.³²⁹ In 1892 Drewry reported to the Department of the Interior on the quality, quantity and type of “considerable valuable timber” along the Illecillewaet and Incommapleux rivers in the Railway Belt.³³⁰ Photo-topographical surveying contributed to the Dominion collecting revenue from licences and permits covering 1,280,000 acres of partially timbered and arable land within the Railway Belt in 1910—roughly one-ninth the area of BC. The Railway Belt had already accounted for as much as half of recorded timber production in BC leading up to the turn of the twentieth-century, and not until the First World War did BC attempt a comprehensive inventory of natural resource reserves with the national Commission of Conservation, finding the reconnaissance of surveyors like Drewry sufficient for the re-territorialization project.³³¹

As part of this project, states adopted methods of scientific management in inventorying timber and water. In 1894 Parliament passed the *North West Irrigation Act*, ensuring federal control of water in the Railway Belt through elevation measurements and cartographic levels compiled by Drewry and his associates.³³² The task of gathering data on stream flow contributed significantly to the widely held view that water was a single resource of “the people”, one to be developed for the greatest benefit of “all”.³³³ The classifications supported the planning of massive irrigation systems for agriculture in both BC and what in 1905 became Alberta. Forests outside the Railway Belt, under provincial control, were similarly inventoried after passage of the 1912 Forest Act. The information could act as the foundation for a practical system of resource management designed to conserve resources while at the same time promoting industrial growth, maximizing resource

³²⁹ Allen Seager, “The Resource Economy, 1871-1921”, ed. by Hugh J. M. Johnston, *Pacific Province: A History of BC* (Vancouver: Douglas & McIntyre, 1996), 208; Larmour (2005), 125; Robert Cail, *Land, Man, and the Law: The Disposal of Crown Lands in BC, 1871-1913* (Vancouver: University of BC Press, 1974), 146.

³³⁰ Thomas Kains, “Forest Wealth of Canada”, *Sessional papers of the Dominion of Canada*, Vol. 5, fifth session of the seventh Parliament, session 1895 (Ottawa: S. E. Dawson, 1895), 8A-60.

³³¹ “Royal Commission on Timber and Forestry”, D17, N. 6, in Cail, 68; “Papers Relating to Dominion Lands within the Province,” BC, *Sessional Papers*, 4th Parl., 4th sess., 1886, 362, in Cail, 86 and 91; BC held jurisdiction over mineral rights throughout the province, even within the Railway Belt; Seager, 221, 224.

³³² BC constitutionally controlled water rights outside the federally designated lands. Seager, 218.

³³³ Samuel Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation movement, 1890-1920* (Pittsburgh: Pittsburgh University Press, 1999), 6, 9.

exploitation, and increasing revenues. The state claimed the people's share of profits from natural resource development, while the business community minimized the public's claim, but both shared enthusiasm for rapid industrialization. Therefore, government, often at the behest of business leaders, used public ownership as an instrument of economic development.³³⁴

The cost effectiveness of Drewry's surveying and mapping further extended states' control over the landscape. A "sufficiently exact" topographical survey enabled the governments of Canada and BC to provide "indefeasible title" to land "at trifling cost", rather than depending upon the "testimony of a few of the oldest inhabitants."³³⁵ The topographical survey considerably reduced government expenditures on infrastructure and facilitated massive capital investment. As Surveyor General Édouard Deville put it to Drewry in 1887:

Time and again in the past, industrial and other projects have been handicapped in this province through the lack of topographic maps. Huge sums of money would have been saved if certain information had been available, while fortunately in other instances there were maps, which supplied engineers with information that saved thousands of dollars in preliminary investigations. In mining areas, unless accurately mapped, there is endless confusion, both for the mining interest and for the Government officials; in timbered sections their proper administration and development requires correct maps; while for irrigation and water power projects the need is ever greater, as drainage areas should be known before expensive outlays for their development are considered...³³⁶

The information also enabled states to locate, plan and build "more solid and permanent" transportation facilities.³³⁷ In 1892, Drewry informed the Dominion Land Surveyors (DLS) that the State of Massachusetts could have saved \$20 million in public railway expenditures if they had had "good" topographical maps in 1836.³³⁸ The topographical survey, along with Drewry's other

³³⁴ J. MacGregor, *Vision of an Ordered Land: The Story of the Dominion Land Survey* (Saskatoon: Western Producer Prairie Books, 1981), 127; Thomas Roach, "Stewards of the People's Wealth: The Founding of BC's Forest Branch", *Journal of Forest History*, 28, 1 (Jan., 1984), 21; Seager, 222; Ted Steinberg, *Down to Earth: Nature's Role In American History* (Oxford: Oxford University Press, 2002), 154; H. Nelles, *The Politics of Development: Forests, Mines and Hydro-Electric Power in Ontario, 1849-1941* (Kingston: McGill-Queens's University Press, 2005), xviii.

³³⁵ W. Drewry, Chairman, "Report of Standing Committee on Topographical Surveying, to the President and Members of the Association of Dominion Land Surveyors", *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884. Drewry estimated the cost of the trigonometrical survey in BC by photo-topography to cost from two and one-half to four cents per acre; W. Drewry, "Report of Committee on Geodetic and Topographical Surveying (1892), Box 93-6553-3, File 3, BCA; D'Arcy Jenish, *Epic Wanderer: David Thompson and the Mapping of the Canadian West* (Ottawa: Doubleday Canada, 2003), 218.

³³⁶ E. Deville to W. Drewry (June 3, 1887), GR-437, Box 18, File 2, BCA.

³³⁷ W. Drewry (March 5, 1892), "Report of W. Drewry, D.L.S.: Triangulation Survey in the Rocky Mountains, No. 9," *Sessional papers for the Dominion of Canada*, Vol. 9, second session of the seventh Parliament, session 1892 (Ottawa: S.E. Dawson, 1892), 40.

³³⁸ W. Drewry, "Report of Committee on Geodetic and Topographical Surveying" (1892), Box 93-6553-3, File 3, BCA.

surveying responsibilities, reduced state expenditures, directly increased the dollar value of land and natural resources, and thus the revenue that the state could extract.³³⁹

Drewry's surveying practices made land and resources more accessible to settlers and capital investment, simplified assessment of lands, and tied settlers to individual parcels of land, all of which empowered states to more easily levy taxes. The governments of Canada and BC used Drewry's representations to turn "unproductive" lands into sources of tax revenues, to assist in the assessment of real estate taxes, and, according to Drewry, to do so in a potentially more "equitable" manner.³⁴⁰ Governments' ability to secure title to land also ensured that settlers were not so transient, and in this way taxes could more easily be extracted from them. In 1885, just prior to the completion of the CPR through the Rocky Mountains, Canada raised the upset price for land from one dollar an acre to \$2.50, and then to \$5.00 in 1891 once Drewry and McArthur had completed the topographical survey. Canada and BC also harnessed the conservation ideals of the day to justify revenue collection for the expansion of programs for the scientific management of Crown resources.³⁴¹

Throughout Drewry's career, he enabled the federal and provincial governments to attract settlers and corporations by planning, as he put it, to their "best advantage" and to divvy land and natural resources out amongst them.³⁴² At the turn of the twentieth century, the lure of "open" and legally possessable land triggered a sharp increase in immigration into BC, reflected in the number of inquiries sent to the BC Department of Lands.³⁴³ In 1890 the Department received 4,168 letters, which increased to 37,188 queries in 1910—over 100 a day.³⁴⁴ In similar fashion, in 1892 Drewry recommended that the Dominion use his maps to attract American miners to the rich mineral resources of the Kootenays. Their presence, he explained, "would far more than compensate for the small expense" of higher wages, avoiding potential resistance to Asian job competition from the local

³³⁹ de Soto, 219.

³⁴⁰ W. Drewry, "Report of Committee on Geodetic and Topographical Surveying" (1892), Box 93-6553-3, File 3, BCA.

³⁴¹ Cail, 57. Canada did not change the pre-emption price in 1885; Hays, 45.

³⁴² W. Drewry (February 8, 1922), "Timothy Mountain Lake, Lillooet District, and Mahood Lake, Kamloops District", Report of the Minister of Lands, *Sessional papers*, Legislative Assembly, 1921, H 97.

³⁴³ D. Harris, "Colonial Territoriality: The Spatial Restructuring of Native Land and Fisheries on the Pacific Coast", ed. by P. Sinclair and R. Ommer, *Power and restructuring: Canada's coastal society and environment* (St. John's: ISER Books, 2006), 35.

³⁴⁴ Cail, 58.

Euro-Canadian population.³⁴⁵ In 1884, while the Dominion and province exploited over 15,000 Chinese workers to complete the CPR railway through the Rocky Mountains, the Province made unlawful the issuance of any pre-emption record of any Crown land or the sale of “any portion thereof, to any Chinese’”. While Canada’s Secretary of State wondered whether such an act was unconstitutional, as soon as the Chinese completed the CPR line—which would make a massive contribution to the economic development of BC and Canada—Ottawa had Drewry use phototopographical surveying to, among other things, bar the Chinese from the land. The Government of BC also made unlawful the granting of authority “to any Chinese to record or divert any water from the natural channel of any stream, lake or river in this Province.” First Nations were likewise ineligible to pre-empt land.³⁴⁶ Surveying practices, backed by racialized policy, gave Canada and BC the ability to extend control over land and resources to Anglo-Americans almost exclusively.³⁴⁷ The governments had surveyors create the foundation for their property regime to both secure ownership and to radically and strategically expand communication about resources and their potential within a much broader network of capital and human circulation.

As an agent of the Province of BC, Drewry surveyed primarily in the interests of the regional Anglo-American business community, as well as that in Vancouver, Victoria and beyond. That role had its contradictions, however. Drewry, as a booster of smaller, regional mining interests, often resented big eastern capital, such as that behind the Trail smelter, which increasingly held a monopoly on ore processing in BC. He and his local business associates also resented how profit began in the late 1890s to run east on the Crows Nest Pass Railway rather than west to the coast or remain in the Kootenays. Larger forces were at play however, as both federal and provincial policies tended to favour concentrations of eastern capital, such as the CPR, to increasingly make inroads into BC through massive land grants and purchases.

The governments of Canada and BC attempted to control the use of land and natural

³⁴⁵ W. Drewry (December 1, 1891), “Report of the Superintendent of Mines”, *Sessional papers of the Dominion of Canada*, Vol. 9 (Ottawa: S. E. Dawson, 1892), 13-11.

³⁴⁶ Vivien Bowers, *Our Land: Building the West* (Toronto: Canada Publishing Corp., 1987), 201; BC, Statutes, 1884, 47 Vict., c. 2, s. 1, in Cail, 36.

³⁴⁷ Dempsey (1984), 56; Cail, 36.

resources on the basis of surveyors' representations. Surveys and maps offered a myriad of benefits: states could manage land and resources from great distances; new surveying techniques like photogrammetry significantly reduced costs to inventory and classify, which had the direct effect of increasing the dollar value of land and resources and the revenue that could be extracted as a result; states could more easily offer private property to settlers and capital investors in exchange for rents through land or water taxes, mining royalties, or timber leases; and they could control and limit Aboriginal peoples' and Chinese access to land and resources, while exploiting transient American labourers, among others. Nothing more than the opportunity to attain private land empowered the Dominion and Province to both attract settlers to BC and, at the same time, take control of what existing localities considered their collective resources.

“My politics are the Slocan first, last, and all the time”: Empowering Capital

Throughout his lifetime, Drewry supported capitalist interests, but he also shared the populace's widely held frustration at their diminished opportunity due to large corporations' increasing monopolization over space. His work consisted of tying in any “future surveys”; giving assessments on mineral claims; locating the “exact” position of chambers, tunnels, and drifts for planning purposes; making recommendations for cost reduction and mining “development”; and increasing return on the investments of speculative interests, attracted investment capital to BC.³⁴⁸ This work contributed to significant change in the Kootenays. An 1889 *British Columbia Mining Review* article stated that “where lands originally purchased from the government for two or three dollars an acre have been resold at \$10, \$100 and as high as \$400 per acre. One tract bought for \$5,000 was resold at \$16,000, then at \$160,000; and part of it again at \$450,000.”³⁴⁹ The resale values of these properties were largely dependent upon the security offered by Drewry's and his partner Herbert Twigg's mine surveying—which they became famous for in the Kootenays.³⁵⁰ Likewise, in 1896, the same year Drewry published the first coloured topographical map of the Kootenays, the *Canadian*

³⁴⁸ W. Drewry to J. MacMaster (May 8, 1901), Box 93-6553-2, BCA; David King to W. Drewry (August 30, 1898), Box 93-6553-1, File 6, BCA; *Proceedings of the ADLS*, Fourth Annual Meeting (March 15 and 16, 1888), CIHM no. 01884; Wm. Hale to W. Drewry (July 20, 1905), Box 93-6553-1, File 1, BCA.

³⁴⁹ “Provincial Mining Laws,” *The British Columbia Mining Review*, 1, 3 (Rossland: March 1889), 15.

³⁵⁰ W. Drewry, *Autobiography*, Box 93-6553-3, BCA.

Mining Review reported that a “wave of partial insanity” for mining speculation in the Kootenays had “broken loose” in Toronto.³⁵¹ Powerful timber lobbies likewise harnessed surveyors’ representations to seize control of forests from afar. In 1907 Drewry’s maps enabled his brother Jack C. Drewry, who became a rather wealthy man during the Kootenay hardrock mining boom, to make preliminary estimates of timber limits in the Lower Arrow Lake tributaries, on Vancouver Island and in the Kootenay River and Slocan districts from as far away as Montreal. The topographical maps enabled industry and investors to make more accurate estimates of costs and profits.³⁵² While Jack still needed his brother to report cruise timber figures, as Richard Rajala argues, the final determinations of surveyors and engineers became little more than actions already planned by distant interests.³⁵³ Companies exploited surveyors’ practices and representations to connect remote localities to the world market, allowing them to extend their control over ever more land and resources.³⁵⁴

Drewry’s work contributed to significant speculative interest in BC, which peaked a few years after his arrival in the Kootenays. Between Drewry’s arrival in 1896 and the end of the century, 620 of BC’s 1,101 issued certificates of purchases, largely mineral claims, were within this remote region alone. Drewry played several roles to satisfy this demand. On January 17, 1898, the Mayor of Kaslo asked Drewry to sell his and his two Klondike bound partners’ claims to the “Solomon”. In addition to acting as a transactions agent, settlers and mine owners had Drewry evaluate the cost of land and labour. Drewry was in regular correspondence about investment prospects with Kootenay Valley Company manager T. G. Procter, who gave Drewry all written authority to get the Wilson Brothers to sink a shaft on one of the company’s mineral claims. Mine owners also used Drewry as an administrator, having him acquire and handle fees and documentation like notices of “improvement”, Free Miners Licences, Crown grants, as well as locate records.³⁵⁵ Speculators and

³⁵¹ *The British Columbia Mining Critic*, 1, 1 (Rossland: 1896).

³⁵² Roach, 22; W. Drewry to J. C. Drewry (February 15, 1907), Box 93-6553-3, File 1, BCA; Seager, 212; W. Drewry, “Report of Committee on Geodetic and Topographical Surveying” (1892), Box 93-6553-3, File 1, BCA.

³⁵³ Richard Rajala, *Clearcutting the Pacific Rain Forest: Production, Science, and Regulation* (Vancouver: UBC Press, 1998), 63-4.

³⁵⁴ Cole Harris (1997), 193.

³⁵⁵ Cail, 49; The Mayor offered Drewry 10% on the \$2000 they were asking to sell the mineral claim. (Jan 17, 1898), Box 93-6553-1, File 8, BCA. In a June 5, 1901 letter marked “confidential”, Drewry agreed to make offers on mineral claims for W. Jeffrey, Box 93-6553-2, BCA. Many mine prospectors left for the Klondyke gold rush at this time, most of which returned to the Kootenays empty handed; Daniel Corgniff to W. Drewry (July 30, 1898), Box 93-6553-1, File 9, BCA; T.

industry employed Drewry as a remote agent who brought localities into the larger national and international marketplace.

Britons, Americans, and Canadians continued in the twentieth century to make often urgent requests and to rely heavily upon Drewry's services. On June 5, 1907, Crow's Nest Pass Lumber Company Ltd. Managing Director Peter Lund wrote Drewry from Warner, BC, to ask him to survey land near Creston Junction that the company went on to purchase from the CPR.³⁵⁶ For barristers MacDonald and Hall of Nelson, Drewry judged a six-acre parcel containing a "comfortable" log cabin with several outbuildings fronting a pool, which he described as one of the most famous fishing places in the Kootenays, to be worth approximately \$2,000.³⁵⁷ Drewry continued his correspondence with international investors such as J. R. McGoldwick of Spokane, Washington. Speculators, genuine industrialists and settlers depended upon the security of ownership that Drewry ensured to attain capital to start projects, depending upon Drewry's regular reports to assist them in deciding, in some cases having him decide, where to invest. The Western Ontario Commercial Travellers' Association borrowed one of Drewry's maps to make plans to purchase the Silverite mineral claim. Drewry served as an administrative informant, forwarding documents such as field-notes and maps, and supplying representations for litigation purposes.³⁵⁸

In most cases mine owners benefited legally from the "absolute" nature of the delineations and documents Drewry produced.³⁵⁹ However, in 1903, during a famous litigation case over mineral claims in the Kootenays, Drewry acted as an expert witness for the Slocan Star Mining Company, arguing successfully that the company had rights to a vein that extended into the White company's Rabbit and Herber fractional claims. The judge ruled that the "Black Fissure", which the plaintiff

Procter to W. Drewry (Sept. 8, 1898), Box 93-6553-1, File 9, BCA; J. MacMartin to W. Drewry (May 23, 1905), Box 93-6553-1, File 13, BCA; T. Reynolds Lane to W. Drewry (July 7, 1903), Box 93-6553-1, File 13, BCA.

³⁵⁶ P. Lund to W. Drewry (June 5, 1907), Box 93-6553-2, BCA; Crow's Nest Pass Lumber Company, GR 817, BCA.

³⁵⁷ W. Drewry to MacDonald and Hall (February 2, 1909), Box 93-6553-3, File 1, BCA.

³⁵⁸ W. Drewry to J. McGoldwick (March 24, 1909), Box 93-6553-3, File 1, BCA; Charles S. Rashall to W. Drewry (March 21, 1898), 93-6553-1, BCA; Wm. Hale to W. Drewry (January 16, 1907), Box 93-6553-2, File 1, BCA; F. Hazard to W. Drewry (Feb. 27, 1898), Box 93-6553-1, File 8, BCA; A. Robertson informed Drewry that they planned to purchase the Silverite mineral claim once the Government of BC implemented a duty on imported lead, placing "our people on a par [with] our Neighbors immediately to the South." (July 26, 1905), Box 93-6553-1, File 13, BCA; G. Wharton to W. Drewry (December 15, 1906), Box 93-6553-1, File 13, BCA; W. Drewry to T. Bear (June 12, 1908), 93-6553-3, File 1, BCA.

³⁵⁹ Pooley, Luxton, & Pooley, 1902, "N/No. 1 in the Supreme Court of BC. Between the Boble Five Consolidated Mining and Milling Company Limited, Plaintiffs, and the Last Chance Mining Company Limited, defendants" (April 29, 1902), Box 93-6553-1, File 12, BCA; Whealler and Martin to W. Drewry (March 24, 1900), Box 93-6553-1, File 12, BCA.

White company had argued cut off the defendant's vein, was "fiction", sustaining instead the contention of the Slocan Star Company and dismissing with costs the actions of the White company.³⁶⁰ Both Drewry and the mine owners for whom he worked utilized the knowledge of the landscape that Drewry constructed and at the same time were only too willing to overlook the apparent rigidity of survey boundaries when doing so helped them "win out."³⁶¹ Law was applied where useful and ignored when considered a hindrance or irrelevant, but in either case mine owners, especially big industry, benefited greatly from surveyors' representations.

The urgency with which industrial capitalists demanded records from Drewry did not always sit well with local residents or even Drewry. In 1898, records agent C. N. Saunders wrote Drewry to complain that Drewry's assistant Menzies had called on his house at "7:30 p.m." wanting copies of mining records. "I suppose you are aware that copies of any records are \$2.50 each, and after hours especially on Saturdays they should be double", remarked an annoyed Saunders.³⁶² [emphasis in original] Such urgency was a universal annoyance, however. On September 16, 1898, Andrew Joseph Drewry, of the Canadian Gold Fields Syndicate, Rossland, still had not received the Jennie Crown Grant that he had requested from William, his older surveyor brother. "The Toronto office are [sic] raising the Devil with me for not forwarding it to them. Am I to tell them that my Brother is a little careless, or that he is too busy? Send it to me at once."³⁶³ National and international competition and dependency on secure transactions of land and resources created urgent demand on Drewry's services.

The security Drewry provided helped promote the Kootenays as "British Capital's New Field", the *BC Mining Critic* observed.³⁶⁴ Investors benefited from Drewry's work as a remote agent, his representations of these localities enabling capital to gain control of resources from a distance, thus extending their "economic potential" within a larger economic and social network. The new legal property system set the foundation for expanded markets and the creation of capital involving a

³⁶⁰ "Slocan Star: Judgement of Chief Justice Hunter in the Famous Sandon Suit", *The Daily News*, Newspaper clippings of the "Star v.s. White Judgement", Box 93-6553-4, BCA.

³⁶¹ W. Drewry to J. MacMaster, Denver, Colorado, "Diary" (October 30, 1903), Box 93-6553-2, File 1, page 145-6, BCA.

³⁶² C. N. Saunders to W. Drewry (1898), Box 93-6553-1, File 9, BCA.

³⁶³ A. J. Drewry to W. Drewry (September 16, 1898), Box 93-6553-1, File 9, BCA.

³⁶⁴ "British Capital's New Field," *The BC Mining Critic*, 1, 4 (Rossland: May 20, 1897), 1.

vast number of stakeholders, promoting speculation in land and resources.³⁶⁵ On May 17, 1907, J. N. Lyon of Lyon & Gladstone, Financial Agents, City-Farm Lands, Winnipeg, wrote Drewry stating: “Kindly let us know how soon you could commence work as we are anxious to get the property on the market.”³⁶⁶ Drewry actually displayed distaste for this mania, despite speculating in land, minerals and timber himself.³⁶⁷ In a February 18, 1907, letter to A. R. Heyland of Kaslo, Drewry complained, “there is no reason why we should work change simply to allow speculators to make more money.”³⁶⁸

Drewry’s surveying practices helped usher in an entirely new era of industrial capitalism in the Kootenays. As gold and silver deposits that had supported a degree of small-scale enterprise diminished, and with superior transportation infrastructure planning capacity, mining moved to lower grade industrial minerals such as copper and zinc, which only large-scale integrated operations could make viable. The discoveries of silver-copper deposits on Toad Mountain near Nelson in 1886 and on Red Mountain near Rossland in 1890, as well as the silver-lead deposit in the Slocan north of Rossland in 1891, led to the establishment of smelters at Pilot Bay, Northport, Grand Forks, Greenwood and Boundary Falls. However, due to concern over the amount of ores being shipped south to the Northern Pacific and the Great Northern to be smelted in Washington State and Montana, the Dominion continued support of the CPR, which recast the economic landscape of the Kootenays in 1898 by acquiring the Trail smelter. Going on to purchase the valuable War Eagle, Le Roi, Centre Star and St. Eugene mines, the CPR’s vertically integrated Consolidated Mining and Smelting Company of Canada Limited (COMINCO) achieved dominance in the region.³⁶⁹

But Trail’s dominance was not immediate, as agents like Drewry routinely “put in a good fight” to secure the most competitive quotes from national or international ore processors for local

³⁶⁵ de Soto, 175.

³⁶⁶ Jno. N. Lyon to W. Drewry (May 17, 1907), Box 93-6553-2, File 1, BCA.

³⁶⁷ J. L. Wills, “Preliminary Report on the ‘Bobbie Burns’ Gold Mining Property and Milling’ (October 10, 1892), Box 93-6553-1, BCA; A. J. Drewry to W. Drewry (Oct. 14, 1899), Box 93-6553-1, File 3, BCA; W. Drewry to R. Renwich (February 24, 1908), Box 93-6553-3, File 1, BCA; Wm. Koch to W. Drewry (June 1, 1905), Box 93-6553-1, File 13, BCA; W. Drewry to J. Fraser (February 15, 1907), Box 93-6553-3, File 1, BCA.

³⁶⁸ W. Drewry to A. Heyland (February 18, 1907), Box 93-6553-3, File 1, BCA.

³⁶⁹ David Jones, “It’s All Lies They Tell You”, ed. by Hugh Dempsey, *The CPR West: The Iron Road and the Making of a Nation* (Vancouver: Douglas & McIntyre, 1984), 215; Eagle, 232, 259; Elsie Turnbull, *Trail: A Smelter City* (Langley: Sunfire Publications Limited, 1985), 66, 69.

mine operators in the Kootenays.³⁷⁰ Indeed, while Drewry did everything in his power to uphold the competition between smelters that served the Kootenays, Ottawa's favouritism of COMINCO and the fact that ore supplies were insufficient to sustain them, ensured COMINCO's victory. The competition all but ended in July 1905 when the Dominion introduced a duty on lead compounds, giving COMINCO the power it needed to dominate smelting operations.³⁷¹ Drewry, in fact, resisted the very economic order that he had helped create, finding the CPR's monopolistic power oppressive. In an August 18, 1905 letter marked "confidential" to Canadian Metal Company General Manager C. Fernau in Frank, Alberta, Drewry wrote in support of the company's new zinc smelter:

I do not want him [Trail smelter manager Michael W. H. Aldridge] to get it [ore], and do not write with the object of playing you against him, and undertake that he shall not know your price for ore. If in any way possible I can prevent his getting ore, I shall do so, providing it can be accomplished honourably.³⁷²

Despite Drewry's efforts to divert ores away from the Trail smelter, his support for the zinc smelter in Frank failed, as it never operated. Drewry nevertheless continued to encourage broader economic competition, this time attempting to influence Dominion policies. In late January 1907, Drewry wrote the Minister of Inland Revenue William Templeman, Ottawa, concluding:

It is therefore respectfully submitted that if any bonus is granted to encourage the production of zinc, it should be given directly to the producer irrespective of where the ore is smelted, because the Canada smelter [COMINCO] is naturally protected by the difference between a freight rate for a short distance and one for a very long distance on the waste contents of the ore amounting to about one half the whole.³⁷³ [emphasis in original]

To display support for his statement, Drewry circulated petitions amongst mine owners, merchants and professionals in Slocan City, New Denver and Sandon, which he forwarded to Ottawa.³⁷⁴ Drewry reported to the Department of Inland Revenue that COMINCO had been "trying to head off action" on the petition.³⁷⁵ He further urged the Dominion to bring in officials who were independent of the company to investigate smelting rates. Drewry and his associates argued that the Trail smelter, as the only purchaser of custom lead ores in Canada at the turn of the twentieth-century, was

³⁷⁰ W. Drewry to George Alexander (January 10, 1908), Box 93-6553-3, File 1, BCA; C. Fernau to W. Drewry (August 15, 1905), Box 93-6553-1, File 13, BCA; C. Fernau to W. Drewry (August 21, 1905), Box 93-6553-13, File 13, BCA.

³⁷¹ Turnbull (1985), 62, 66.

³⁷² W. Drewry to C. Fernau, Frank, Alberta, "Diary" (August 18, 1905), Box 93-6553-2, File 1, Page 196, BCA.

³⁷³ W. Drewry to W. Templeman (January 1907), Box 93-6553-2, File 1, BCA.

³⁷⁴ W. Drewry to W. E. Ginicky (February 1, 1908), 93-6553-3, File 1, BCA.

³⁷⁵ W. Drewry to J. J. Atherton (February 17, 1908), 93-6553-3, File 1, BCA.

“virtually” a public utility due to the “bounties” provided by Ottawa. He urged the government to regulate smelting prices like it did CPR freight rates, reasoning that COMINCO would still make a considerable profit with fixed rates.³⁷⁶

Drewry, as an SLMA member, urged government to resist COMINCO’s increasing monopoly over mining production in BC. Unlike many members of the SLMA, who strongly condemned and criticized any government regulation, Drewry had what he described as less “personal or selfish motives”, resisting only the government’s “very much biased” favour for the smelter at Trail.³⁷⁷ Mine owners in the Kootenays cared little whether their ore was processed in Canada or south of the border, as long as it was carried and processed at the lowest possible cost. At the outset of the Trail smelter operation in 1897, the SLMA urged manager Thomas George Shaughnessey, later Lord Shaughnessy, to guarantee smelting work at moderate profits but without success.³⁷⁸ Drewry expressed his frustration at the government’s support of Trail in a May 22, 1905 letter: “My politics are the Slocan first, last, and all the time, for there my interests lie; and if it is necessary to bludgeon the Government I am not afraid to take my share in doing it providing the object to be attained is not against the general welfare of the country.”³⁷⁹ Drewry protested Dominion acts passed at the behest of the Trail Smelter. For instance he hosted a meeting on October 11, 1905 at his New Denver home where he and “little” mine owners created a resolution against a free assay office, which they believed would favour COMINCO.³⁸⁰ Drewry even resigned from the SLMA due to fellow member John Ley Retallack, a strong COMINCO and CPR proponent, being appointed to the Zinc Commission. Drewry felt Retallack “may be very much biased in favour of certain properties”—the Trail

³⁷⁶ *Ibid*; Robert D. Turner, *West of the Great Divide: An Illustrated History of the Canadian Pacific Railway in BC, 1880-1986* (Victoria: Sono Nis Press, 1987), 104-5. In 1897 the CPR agreed to the establishment of maximum freight rates for transporting coal along its Crow’s Nest Lines. Eagle, 116, 258.

³⁷⁷ W. Thomlinson (October 11, 1905), Box 93-6553-1, File 13, BCA; W. Drewry to G. Alexander, Nelson, “Diary” (August 14, 1905), Box 93-6553-2, File 1, page 195, BCA.

³⁷⁸ Gordon (2004), 65; Eagle, 237.

³⁷⁹ W. Drewry (February 8, 1922), “Timothy Mountain Lake, Lillooet District, and Mahood Lake, Kamloops District”, BC, Legislative Assembly, *Sessional Papers*, 1921, Victoria, BC, H 98; W. Drewry to G. Alexander, Nelson, “Diary” (May 22, 1905), Box 93-6553-2, File 1, page 187-8, BCA. Many people considered the Slocan at this time to be part of the “Inland Empire”. Local, national, and international industries and business operated within the town. See John Fahey, *The Inland Empire: Unfolding Years, 1879-1929* (Seattle: University of Washington Press, 1986). For example, Drewry assisted speculative capital in the United States avoid duties. W. Drewry, to the Denver Ore Purchasing and Smelting Co., Denver, Colorado, “Diary” (April 29, 1903), Box 93-6553-2, File 1, page 119, BCA.

³⁸⁰ The “little” mine owners at this meeting included Comstock, Bosun, Hartney Group, Standard, Red Fox, Monitor, Wakefield, and Mercury Mines and 25 Free-miners, as well as chairman of the meeting (sgd.) W. Thomlinson (October 11, 1905), Box 93-6553-1, File 13, BCA.

Smelter.³⁸¹

Discourses of the liberty of individual property rights and the patriotism of nation building were constructed to celebrate the scale and extent of this new extraction economy, but often in actuality the decision making power of localities over their communities and the ideals of liberty, social equality and a free market eroded.³⁸² Companies and investors successfully built close ties with politicians, having lands thrown open to them through maps, from which they could choose the best. In this way, surveyors' representations actually contributed to the curtailment of settlement. Soon big business like the CPR controlled the majority of the most valuable lands and resources in BC. Drewry himself, according to colleague F. C. Green, spoke out against the "great evil" of land, water and transportation monopolies, reflecting the populace's widespread frustration over their diminished opportunity.³⁸³ While the right to own property expanded the sense of individualism, in actuality early twentieth century BC became a place of corporate monopolization, justified on the basis of "national interests."³⁸⁴ Thus surveyors' efforts did not so much create self-reliance among settlers, but rather the erosion of individual rights and community, allowing corporations, which were often distant to the region, to monopolize land.

Drewry resented the extent of power that the CPR gained over BC, which expanded after the completion of Crow's Nest Railway in 1898. As railway manager Shaughnessy remarked, "because of the province's rugged mountainous terrain, construction of railways in BC is in almost every instance expensive, so that we cannot have too much intelligent information about the territory to be served by every line we contemplated building."³⁸⁵ To Drewry's and many other British Columbians' dismay, the CPR utilized this intelligence to link Western Canada's resources with the central Canadian economy through the Crows Nest Pass Railway, while countering competition from the Great Northern, the Canadian Northern, and the Grand Trunk Pacific railways. Attempting to

³⁸¹ W. Drewry to G. Alexander, Nelson, "Diary" (August 14, 1905), Box 93-6553-2, File 1, page 195, BCA; Leo Panitch, "The Role and Nature of the Canadian State", ed. by L. Panitch, *The Canadian State* (Toronto: Toronto University Press, 1977), 4.

³⁸² Nye, 248, 267.

³⁸³ BC, "Defects of Mineral Act Explained: interesting Address is Given to Vancouver Island Prospectors' Association by Mr. F. C. Green: Claim Jumping is Condemned" (January 22, 1929), MS 2259, Box 7, File 4, BCA. Drewry complained that one owner in the Steward District held 87 mineral claims.

³⁸⁴ Nye, 291; Thomson (1967), 84.

³⁸⁵ Eagle, 121.

justify their monopolization, the CPR argued that only they could provide the long-term investment and stability necessary for more rational development.³⁸⁶

These large commercial interests exploited the new private property regime to dismiss pre-existing geographies. In 1892, just a year before Drewry began surveying in the Kootenays, a Mr. Harris from Virginia, USA, staked a townsite right underneath the numerous buildings in Sandon. He successfully fended off lawsuits and outrage, sold off existing plots and made further subdivisions, using his profits to buy up mines and businesses. Likewise, at Dublin Creek, just north of Trail, settlers established their houses along the road to Rossland in the late 1890s. However, this land was appropriated to the CPR as part of the massive railway land grants. The settlers claimed title to the land, demanding plots on the hillside in return for the railway right-of-way. Several houses were moved back and in 1903 disgruntled settlers had to buy the lots back from the City of Trail. Maps also allowed decision making over distant land and resources with little, if any, knowledge of that landscape, having dramatic—even devastating—effects on the people and ecosystems within those localities.³⁸⁷ Surveyors communicated space in a manner that business groups and the preferred settlement populations could profitably accumulate capital, while abstracting the history, politics, and “actuality” of existing localities.³⁸⁸

The members of the Association of BC Land Surveyors (BCLS) understood that “troubles” had developed due to the extent of control that surveyors and the governments of Canada and BC had extended to corporations. W. Mercator used field-books as invitations to a 1912 BCLS dinner event, inside of which was a mock map of BC. On the map [see Figure 16], Mercator wrote sarcastically that in the Fraser Valley, “the C.P.R. first took possession in 1885 [noting the same region that Drewry first applied photogrammetry and established the Coastal Meridian] on the free surrender of the Natives.”³⁸⁹ Of course, with the exception of a few treaties, almost exclusively on Vancouver Island

³⁸⁶ David H. Breen, “The CPR and Western Petroleum, 1904-24”, ed. by Hugh Dempsey, *The CPR West: The Iron Road and the Making of a Nation* (Vancouver: Douglas & McIntyre, 1984), 108; Eagle, 258; Hays, 20-1.

³⁸⁷ Gordon (2004), 54; Turnbull, 62; Richard Bocking, *Mighty River: A Portrait of the Fraser* (Vancouver: Douglas & MacIntyre, 1997), 141.

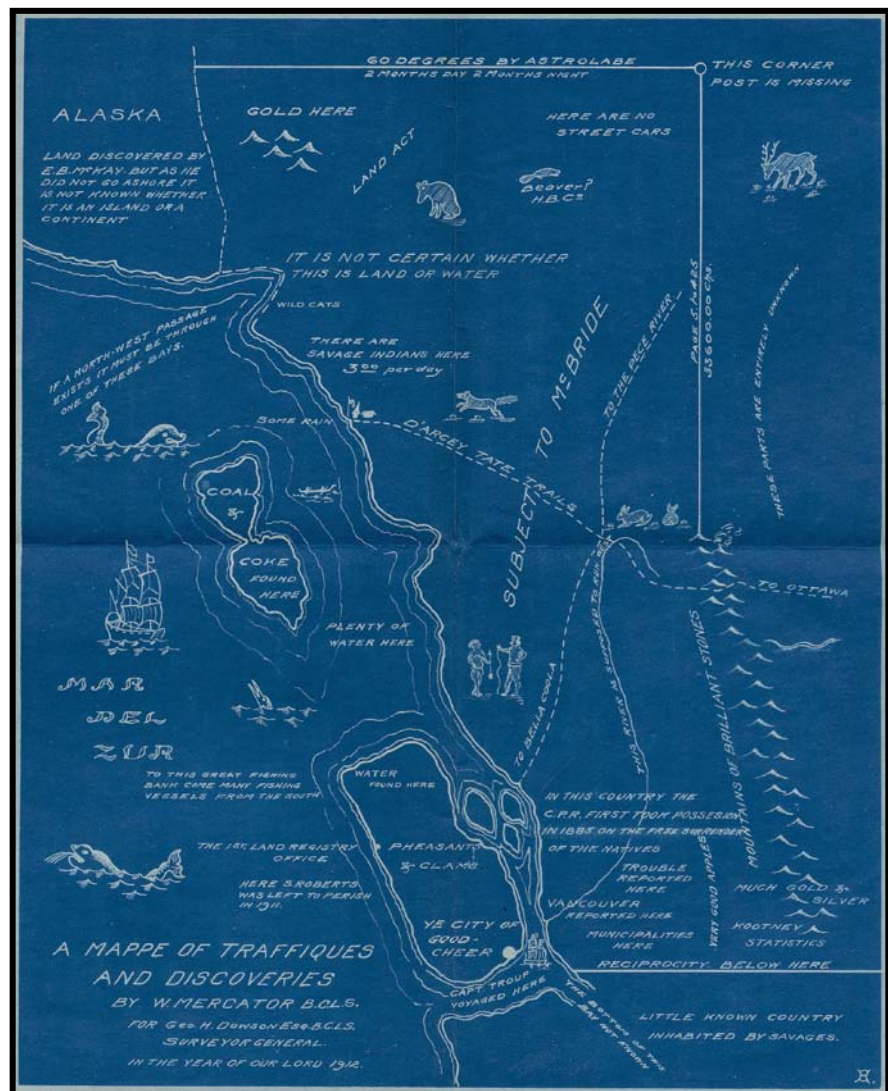
³⁸⁸ Panitch 8; Said (1979), 20.

³⁸⁹ W. Mercator, “A Mappe of Traffiques and Discoveries”, for G. Dawson (1912), Box 93-6553-3, File 1, BCA. While much of these field-books were meant to be humorous, someone was undoubtedly aware of the politics of this statement and

and the Peace region, First Nations in BC had not ceded their title to land. In the same region he did note, again sarcastically, that there were “some troubles here.” Surveyors knew only too well that their representation and practices allowed companies like the CPR to settle land on their own terms, to expropriate, to hold on to or to sell property when and where most profitable, and wherever they could to control the populace.³⁹⁰

Figure 16: A mock map of BC entitled “Traffiques and Discoveries” presented to a dinner event of the BCLS in 1912.

Corporations and investors employed surveyors to extend their power over space. Whether British, American or Canadian, they depended upon surveyors’ inspections, reports and surveys to gather knowledge of land and resources. This business community utilized surveyors primarily as



remote agents who brought localities into the larger national and international marketplace, utilizing discourse that surveyors’ representations “opened” land and natural resources, supported the liberty of self-reliance, built provinces and nations, and contributed to an international “free market.” The

appears to have later attempted to use an eraser to rub out this contentious statement; W. Drewry, *Autobiography*, Box 93-6553-3, BCA.

³⁹⁰ Robin Martin, *The Rush for Spoils: The Company Province, 1871-1933* (Toronto: McClelland and Stewart Limited, 1972), 21.

rhetoric figured in the abstraction of the actual erosion of small-scale enterprise, self-reliance and community due at least in part to surveyors overlaying a land system that allowed often distant companies and speculators to monopolize the landscape.

“IN UNITY IS STRENGTH”: Empowering Anglo-American Associations

Another group vying for more control over space based upon surveyors’ classifications, in this case professional space, was surveying associations themselves. They leveraged power from the governments of Canada and BC in return for the knowledge within surveyors’ practices and representations. These associations also lobbied the government, organized as professions, proliferated discourses of surveyors’ progressiveness, and narrowed membership with tests and measurements. While they recognized advantages in broader interconnectedness, they did so only within Anglo-American circles. Whether in the Kootenays during the hardrock mining boom or elsewhere in Canada, surveyors were well aware that the great expanses of land and natural resources in these regions ensured a need for their services. The knowledge that surveyors possessed and the power that they could disseminate affirmed “without contradiction”, stated President Thomas Fawcett to the Association of DLS in 1888, “that no class of professional men” were “more necessary or more important in the development of a country”.³⁹¹ Surveyors organized to assert their status along with other middle-class learned professions, such as medicine, law, engineering, and architecture.

Surveyors recognized that both states and large corporations had gained extensive control over North America as the new industrial society emerged during the nineteenth-century. To gain some of this control for themselves, surveyors, along with moderately prosperous businessmen, established farmers, skilled workers and other professional agencies, organized into collective agencies in the early twentieth-century. Through organization, surveyors were better able to exchange their classifications, which allowed states to re-distribute land, administer, and enforce state-defined rights, for government legitimization of their profession. While surveyors benefited significantly from the power that this arrangement entailed, it had the opposite effect of illegitimizing

³⁹¹ Canada, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), CIHM no. 01884.

the proprietary rights and the geographic knowledge of “old-timers”, “squatters” and Aboriginal peoples. Surveyors also adopted the ideals of the conservation movement, enabling them to reduce or eliminate debate over resource management. Resources, they argued, could only be distributed through surveyors’ technical determinations. By offering surveyors’ practices, skills, instruments, and representations to corporations and governments, as well as organizing as a profession, surveying associations participated in the larger Progressive Era reorganization of North American social structure in favour of educated middle-class Anglo-Americans and their collective associations.³⁹²

Both Dominion and provincial land surveyor associations lobbied for incorporation, the professionalization entailing much more than just the desire to improve practitioners’ qualifications. Édouard-Gaston Deville highlighted calculation errors in many privately surveyed township boundaries to convince Prime Minister John A. MacDonald that only trained and certified Dominion Land Surveyors should complete the survey of the Railway Belt.³⁹³ The Association of Dominion Land Surveyors (ADLS) argued that the Trigonometrical Survey would return any expenditure many times over due to the resulting security of land transactions and capital creation. On February 17, 1885 at the second annual meeting of the ADLS, President Otto J. Klotz stated that “no achievement can be attained without [...] unity of purpose” and that ““IN UNITY IS STRENGTH.”” [Emphasis in original] He called for surveyors to unite together and “as a body be one man with one end in view, ‘The Welfare of the Association.’”³⁹⁴

The BCLS Association gained sufficient membership and political standing to obtain incorporation on April 8, 1905, with *An Act respecting Provincial Land Surveyors* becoming law. Extremely active in the affairs of the BCLS Association, Drewry was elected to the Board of Examiners, acting as President on four occasions, and led the association through some difficult times, such as the First World War.³⁹⁵ “Much credit for the early organization of the Corporation [BCLS] is

³⁹² Hays, 3; Sklar, 5.

³⁹³ McLaren (2005), 22.

³⁹⁴ Canada, *Proceedings of the Association of Dominion Land Surveyors*, Fourth Annual Meeting (March 15 and 16, 1888), CIHM no. 01884.

³⁹⁵ Thomson (1967), 66, 75; A. S. G. Musgrave, “William Stewart Drewry” (c. 1940), MS 2259, Box 9, File 27, BCA; Katherine Gordon, *Made to Measure: A History of Land Surveying in BC* (Winlaw, BC: Sono Nis Press, 2006), 198.

due to his active brain”, A. Musgrave stated in a 1940 eulogy to Drewry.³⁹⁶

Surveying associations encouraged specialization and the division of labour to reinforce their domain as the exclusive re-presenters of private property. Frances Woodward argues that over the nineteenth-century, surveying shifted from a practice carried out by the “talented amateur” and the “individual with broad interests” to “teams of highly trained specialists.”³⁹⁷ A particularly significant shift took place when Drewry began experimentation with the camera. Photogrammetry and the implementation of the trigonometrical survey required not only a chainman and surveyor but also field parties consisting of other specialists such as topographers, geologists, levellers, photographers, triangulation assistants and astronomers. Specialized training, expensive equipment and delicate instruments ensured that only Dominion and provincial land surveyors could efficiently and “accurately” represent the landscape. Following the arguments of Scottish economist Adam Smith, surveying associations promoted specialization and the division of labour to increase efficiency, accuracy and capital but most of all wages.³⁹⁸

Surveyors organized to lobby government for better wages and job security due to business market and immigration fluctuations.³⁹⁹ Despite the DLS professionalization efforts, once the Dominion had the Railway Belt surveyed, a great many “good men” were laid off.⁴⁰⁰ Likewise, in 1893 Drewry’s wage working on the Topographical Survey of the Rocky and Selkirk mountains was cut by 25 percent and, despite an offer to continue the work establishing the coastal Alaskan-BC border, Drewry resigned from the Department of the Interior. Instead he continued his photo-topographical work for the Government of BC in the Kootenays as a BCLS. Drewry explained his decision to leave the Department of the Interior to Édouard Deville, stating that the reduced salary did not give him the opportunity to provide for his old age, and denied him the benefit of the

³⁹⁶ A. S. G. Musgrave (c. 1940), MS 2259, Box 9, File 27, BCA.

³⁹⁷ F. Woodward, “Exploration and Survey of the Kootenay District 1800-1918”, ed. by B. Farrell and A. Desbarats, *Exploration in the History of Canadian Mapping: A Collection of Essays* (Ottawa, Association of Canadian Map Libraries and Archives, 1988), 237.

³⁹⁸ E. Deville to W. Drewry (August 26, 1887), GR-437, Box 18, File 2, BCA.

³⁹⁹ Thomson, 66.

⁴⁰⁰ While women were occasionally in camp work, not until 1952 did Kittie Cotton become the first woman on the official payroll of a field crew in BC. In 1999 Teresa Myrfield (773) and Julia MacRory (775) were the first women to receive their BCLS commissions. Katherine Gordon, *Made to Measure: A History of Land Surveying in British Columbia* (Winlaw, BC: SonoNis Press, 2006), 333.

superannuation fund. He also complained about pay deductions due to sickness or health. Drewry failed, however, to mention in his resignation letter to Deville that the new BCLS Association just established a schedule of minimum fees and charges in April. Drewry would soon be making \$20 per day in the Kootenays, twice that of surveyors on the coast, a difference that had been justified on the shorter season in the mountains.⁴⁰¹

Surveying associations attempted to take their place among the “learned professions” by excluding competitors. In February 1889, at the sixth annual meeting of the ADLS, Robert Bell recommended that the “first practical work” of the association would be to “discover and weed out” non-members and self-constituted surveyors, who were more properly termed “parasite.” [sic]⁴⁰² This weeding out began in earnest, the next year, when DLS President E. J. Rainboth reported that the association had successfully convinced the Dominion to restrict the survey of Indian Reserves to DLS members. In 1891 the Department of the Interior agreed to only accept plans or notes of surveys if prepared by “duly authorized surveyors”.⁴⁰³

Dominion and provincial land surveying associations justified the exclusion of those they deemed unqualified as a matter of justice and the protection of public interests, upholding the economical and progressive nature of their practices.⁴⁰⁴ Acting as the Chairman for an 1890 report on topographical surveying to the BCLS association, Drewry stated that “our citizens on the Pacific slope were agitating the making of extensive surveys.” Drewry concluded that, if the BCLS displayed how their system of surveying (triangulation) would result in a “complete” map of BC and act as an “accurate” basis for future surveyors at less cost than any other method, “it should be to our advantage.”⁴⁰⁵ Likewise, in 1888, ADLS President Thomas Fawcett declared, let “us organize so as

⁴⁰¹ E. Deville to W. Drewry (March 29, 1893), GR-437, Box 21, File 1, BCA; W. Drewry to H. Wright (September 14, 1909), Box 93-6553-3, BCA.

⁴⁰² Robert Bell, Canada, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

⁴⁰³ E. J. Rainboth, President, *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884; Canada, *Proceedings of the Association of Dominion Land Surveyors*, Eighth Annual Meeting (February 17-18, 1891), CIHM no. 01884.

⁴⁰⁴ Larmour (2005), 165-6; Edney, 162; Robert Bell, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

⁴⁰⁵ W. Drewry, Chairman, “Report of Standing Committee on Topographical Surveying, to the President and Members of the Association of Dominion Land Surveyors”, *Proceedings of the Association of Dominion Land Surveyors*, Seventh Annual Meeting (February 18-19, 1890), CIHM no. 01884.

to work systematically, and our success will be assured.” As Ken Brealey argues, surveyors fostered a great faith in their representations of space, which they considered “tremendously persuasive, self-validating documents.”⁴⁰⁶

Surveyors produced tests to control entry to the surveying profession. The BCLS Board of Examiners drew upon Drewry’s extensive experience in the Kootenay mining region to make up examination questions for BCLS candidates. Questions tested candidates’ ability to lay out, divide and describe land, whether it was the surface itself or below the surface.⁴⁰⁷ In one question, Drewry provided several angles and measurements within a mine to the candidates, and then asked them to find “the point in the tunnel traverse where the boundary crosses it, and the angle which should be turned from the course which the boundary crosses to strike the boundary at top of ‘upraise’.” Drewry based other questions not solely upon measurement and mathematical calculations, testing instead the candidates’ knowledge of more subjective topics, such as when to use the “words ‘more or less’” in describing lands by metes and bounds and justify their answers.⁴⁰⁸ The boards of examiners swore in successful candidates.

Of course not all candidates were successful. In August 1898, Civil Engineer T. Fergusson had barristers and solicitors Crease & Crease forward the Board of Examiners a letter to ““demand”” [emphasis in original] his commission as a BCLS. In an August 20th letter Tom Kains explained to Drewry that Ferguson was “as mad as a hatter” due to failing the description part of the examination and that he promised “to play general h.l” [sic] with Kains, the Board of Examiners and “everybody.”⁴⁰⁹ The dispute displays an existing friction over professional space between civil engineers and surveyors. At the turn of the twentieth-century, land surveying boards of examiners applied the advanced Euro-centric studies of mathematics, geodetic astronomy, cartography, geodesy, gravity, geology, and other subjects, all of which they designed specifically around the land surveying system, to construct part of what Martin Sklar has called “new and sturdier ladders of success” among

⁴⁰⁶ Brealey, 153.

⁴⁰⁷ Tom Kains to W. Drewry (September 7, 1898), Box 93-6553-1, File 9, BCA.

⁴⁰⁸ “Descriptions”, W. Drewry, Box 93-6553-1, File 7, BCA.

⁴⁰⁹ Tom Kains to W. Drewry (August 20, 1898), Box 93-6553-1, File 9, BCA.

the learned professions.⁴¹⁰ However, boards of examiners did not apply the ladders universally, making both specific exclusions and exceptions. On October 5, 1893 Drewry and three other candidates wrote their BCLS exams, “all with the exception of Mr Drewry taking a thorough oral examination”, as well.⁴¹¹

Surveying associations proliferated a narrative of the exact accuracy of their land system to advance the status and power of their profession, drawing upon the increasing demand for what Don Thomson described as “reliable cartographic representations of the land, maps drawn to a uniform scale, properly orientated [sic] and embellished by readily understandable legends, including symbols identifying drainage, cultivation, communities, elevations and ground cover.” Yet the surveying associations promoted these representations as much more than this, with the Deputy Minister of the Interior A. Burgess stating in 1885 that the system of public land surveys had attained “perfection”.⁴¹² Then only a couple of years later the ministry introduced an “even more exact” system of survey with photogrammetry.⁴¹³ The new system led J. Harris to proclaim the following to members at the Sixth Annual Meeting of the ADLS in 1889:

That the profession of the Surveyor is entitled to rank among the first can be demonstrated by argument, as conclusively as it can be shown that we do not, at present, occupy the high position to which we are by right entitled, and which it is the aim of our Association to secure to us. The question of standing must necessarily be considered by comparison with the other learned professions—the Ministry, Law, Medicine, &c.—all of which have their several fields and special missions. It can be reasonably claimed that the theoretical portion of our profession affords a wider field for thought than can be found in any other profession. We have for a basis the most exact and absolutely correct foundation. The principles and correct applications of mathematical science admit of no uncertainty. No exceptions are necessary to prove the rule as in some other departments of science. In this respect we can fairly claim to be in possession of the only indisputably accurate profession.⁴¹⁴

While Harris was incorrect in including the “Ministry” in his list of learned professions, surveyors sought legal recognition of their knowledge and thus a monopoly over their practice in much the same fashion as participants in other fields.

⁴¹⁰ Barnett, 23.

⁴¹¹ Province of BC, Board of Examiners, BCLS, MS 2259, Box 2, BCA.

⁴¹² Thomson (1967), 39, 112-3.

⁴¹³ Canada, *Proceedings of the ADLS*, Fourth Annual Meeting (March 8 and 9, 1887), CIHM no. 01884.

⁴¹⁴ Harris, “The Status of Our Profession”, Canada, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

To extend their power over space, surveying associations encouraged their members to broaden the usefulness of their representations. In February 1889, acting as Chairman of the Sixth Annual Meeting of the ADLS, Drewry stated:

It is evidently the unquestionable and first duty of the members of our Profession, and especially of this Association, to jealously guard against any innovation of a nature to diminish the efficiency of the progression, or to impair, in the slightest degree, the standing of its members, or the privileges they have latterly been accustomed to enjoy; and it must also be evident that we can only maintain our present standing, and hope for still further advancement in the future, by striving to improve our methods of executing work, by adding to our scientific and practical knowledge, and by encouraging a feeling of friendliness towards all our associates, and of independence and manliness in our transactions with the public.⁴¹⁵

Drewry directed surveyors to add more detail to their representations of land and natural resources so that not only the “intending” settler and “general public” would benefit but also the “lumberer”, the miner and all those “interested in science.” Surveyors, for example, were to provide foresters with an inventory of the “important forest trees” such as fir or cedar.⁴¹⁶ By increasing not only the efficiency and accuracy but also the knowledge of land and natural resources to a broader interest group and, if possible, to do so without adding to the labour involved, Drewry argued, “an important advance has been made.” Indeed, as an early advocate of Progressive Era ideals, Drewry urged his associates to make their representations of the landscape for these broader interests so as to raise the professional standing of surveying.⁴¹⁷

Summary

Anglo-American governments, commercial interests, and surveyors’ own associations have utilized surveyors’ application of a unitary system of land and resource classification to extend their power and dominance. Governments were empowered to cost-effectively seize land and resources, directly increasing the dollar value and the revenue that they could extract as a result; to ensure that

⁴¹⁵ William Drewry, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

⁴¹⁶ *Ibid.* Alternatively Drewry considered pioneer species such as alder and pine to be undesirable and not worthy of representation. W. Drewry (Belleville, Ont., Dec. 27, 1887), “Report of W. Drewry, DLS, No. 24,” *Sessional Papers of the Dominion of Canada*, Vol. 12 (Ottawa: A. Senecal, 1888), 112

⁴¹⁷ W. Drewry, “Report of Standing Committee on Phototopography as applied to Topographical Surveying”, Canada, *Proceedings of the Association of Dominion Land Surveyors*, Sixth Annual Meeting (February 19-21, 1889), CIHM no. 01884.

once settlers arrived, land and resources had already been classified into inventories; and to secure private property and draw settlers and capital investment to BC, giving local effect to the larger colonial encounter and allowing easier assessments of land for tax collection. British, American and Canadian corporations were empowered to overcome distances and bring localities into the international market; to monopolize land and resources and collect often massive profits, which popular but largely false ideals of a “free market”, nation building, democracy, and the liberty of individual property rights apparently justified. The business community strategically applied property laws when useful and ignored them when a hindrance. Drewry acted as a strong business advocate but lobbied against the large eastern-based CPR and COMINCO corporations’ increasing monopolization of land, resources and production. Surveyors also empowered themselves in associations by creating tests to control entrance into their profession; specializing as the exclusive representatives of private property; proliferating a discourse of the “accurate” and progressive nature of their profession; and formulating their classifications in the interests of Anglo-Americans in return for recognition of their status among the learned professions. Ultimately, however, the governments of Canada’s and BC’s pre-occupation with creating conditions for capital accumulation based upon surveyors’ practices increasingly lent power to big business, enabling its monopolization of the vast majority of lands and natural resources within BC.

Chapter VI

An Agent of Change: Conclusion

Surveyors are agents of change. Drewry worked to transform space through mediums based upon what Graham Huggan has called “imaginative revisioning of cultural history.”⁴¹⁸ The application of technologies such as photo-topography dramatically extended the reach and extension of the cultural appropriation schemes within surveying. The resulting topographical maps served as vehicles by which many gained their first impression of BC, playing a significant role in the province’s development. This cultural appropriation did not, of course, begin and end with Drewry or even surveyors: individuals and groups, whether they were managers, speculators, governors, military commanders, field officials or associations, wielded strategically and tactically the information that surveyors provided. They were able to plan and administer land and resources without face-to-face cooperation or accommodation with the people within those localities, allowing revision and centralized power with limited, if any, resistance.⁴¹⁹ Surveyors have remade and continue to remake the world, lending much power to states, settlement society, and, perhaps most of all, commercial interests.

Drewry, like so many surveyors of his era, carried out this cultural appropriation throughout his “very active professional life.”⁴²⁰ After successful experimentation with photo-topographical surveying in the Coastal mountains in 1887, Drewry participated in the unprecedented application of the technique to create topographical maps of the Rocky Mountain Railway Belt for the Dominion between 1888 and 1892, and then in the Selkirk Mountains for the Government of BC until the fall of 1895. The following year the Government of BC had Drewry triangulate primary mineral monuments, setting a foundation for the Kootenay hardrock mining boom, during which he would tie

⁴¹⁸ G. Huggan, “Decolonizing the Map: Post-Colonialism, Post-Structuralism and the Cartographic Connection”, ed. by I. Adam and H. Tiffin, *Past the Last Post: Theorizing Post-Colonialism and Post-Modernism* (Calgary: Calgary University Press, 1990), 125.

⁴¹⁹ E. J. Hart, “See this World before the Next”, ed. by Hugh Dempsey, *The CPR West: The Iron Road and the Making of a Nation* (Vancouver: Douglas & McIntyre, 1984), 155; Daniel Clayton, *Islands of Truth: The Imperial Refashioning of Vancouver Island* (Vancouver: UBC Press, 2000), 192-3; James Tully, *Strange Multiplicity: Constitutionalism in an age of diversity* (Cambridge: Cambridge University Press, 1995), 15.

⁴²⁰ John H. Drewry, “William Stewart Drewry”, Eulogy (c. 1940), MS 2259, BCA.

scattered mining claims into a network of holdings as a private surveyor over the next decade. In 1909 Drewry, as part of the arrival of the North American conservation movement in BC, became the province's first and only Chief Water Commissioner, a position from which he ensured more detailed water records and administration through the *1909 Water Act* and the creation of the Water Rights Branch. Less than two years later he resigned due to the refusal of his recommendations for "some radical changes" in the *Water Act*, which he argued would have made it "workable".⁴²¹ He was immediately appointed Inspector of Surveys for BC and from 1913 to 1922 he carried out mostly subdivision surveys for the Department of Lands and the Department of Mines. His work took place largely in the Lillooet and Kamloops Districts, where he tied in the surveys, wagon roads and trails to the Pacific Great Eastern Railway. In 1923 Drewry began private practice from his home in Victoria. Finally, as his last professional undertaking, in 1929 he undertook a right-of-way survey of the Sooke and Renfrew districts.

Drewry re-envisioned a new landscape in BC based upon the acculturated scope of modern imperial rationalizations, colonial legislation, and professional surveying associations. This thesis categorized the scope of his vision into four gazes: the scientific gaze utilized reason and the construction of what Anglo-Americans considered "accurate" knowledge, a set of malleable ideas used to fortify the state and enhance industrial capitalism; the panoptic gaze depended upon a distant vantage point, such as the mountain-top positions that Drewry utilized, to subsume difference and create *terra nullius*; the commercial gaze commodified land and natural resources into narrow categories, proliferating the ideology of resource management and maximized yields; and finally the aesthetic gaze identified the tourism potential of BC. Anglo-American acculturated gazes framed Drewry's "correlation" of land and natural resources in BC.

Surveyors communicated their classifications with physical markers, graphic delineations, and spoken and printed words. They "perfected" systems of nomenclature and orthology to reformulate customary and local knowledge. Cairns and surveying pegs became the physical foundation for the cartographic space that surveyors invented in fieldbooks and on topographical and

⁴²¹ W. Drewry, Autobiography, Box 93-6553-3, BCA.

grid-formatted maps. Imbued with ideals of liberty and democracy, these instruments and techniques did much to attract settlers and appropriate knowledge for capital investment but also to deny local and customary rights, create social isolation, and impose inconvenient and ecologically detrimental boundaries. Economic development strategies formalized in legislation and through administration, such as the Torrens System, glossed over many of the gaps in the graphic representation, leading to the specialization of certain practices such as wood production rather than the preservation of forest ecosystems. Drewry's representations created a foundational springboard from which a new history could be made, replacing or over-riding existing systems, such as the time-tested ideals of riparian proprietorship or the sustainable seasonal resource extraction practices of Aboriginal peoples. Surveyors like Drewry did not misrepresent the landscape but rather grafted a new reality over an existing human geography and created a system within the modern imperial system designed to serve settlement and business interests.⁴²²

The governments of Canada and BC, industry, business, tourists, settlers and their collective associations benefited greatly from surveyors' classifications, exploiting them to varying extents in order to gather knowledge for several purposes: to manage land and resources often from great distances; to bring distant localities into the larger international market; to attract investment and settlers; to collect revenue; to reduce expenses; to facilitate capital accumulation; to professionalize; and to control or limit participation within the new space. Surveyors laid the foundation for BC's social and economic reorganization in favour of Anglo-Americans, although power ultimately resided with big business due to states' pre-occupation with promoting capital accumulation, often leading to corporate monopolization of land and resources.

To varying extents, surveying has acted as a form of geographical violence. While colonial empires may have dissolved today, colonial legacies remain ingrained within the geographical representation systems of post-colonial societies, which continue to marginalize certain localities, groups and individuals. The natural environment has also suffered. Surveying practices have

⁴²² Samuel Hays, *Wars in the Woods: The Rise of Ecological Forestry in America* (Pittsburgh: The University of Pittsburgh Press, 2007), 191; Ken G. Brealey, "Mapping Them 'Out': Euro-Canadian Cartography and the Appropriation of the Nuxalk and Ts'ilhqot'in First Nations' Territories, 1793-1916", *The Canadian Geographer*, 39. no. 2 (1995), 144.

constructed nature as primarily a commodity, amenity or something in the way of “progress.” Drewry occasionally warned of the economic and ecological consequences of destruction to certain fragile ecosystems, but he far more often constructed BC as an open landscape for the exploits of industrial capitalism. Surveyors’ construction of knowledge and space has structured people’s activities and resource consumption practices, contributing to many of today’s social, environmental and economic problems.

Drewry himself recognized this but the speed and magnitude of change that surveyors enabled over natural (including human) spaces allowed the process to proceed relatively peacefully. The peace, however, does not indicate consent with this change. Customary landowners were suspicious and resisted institutional change in landownership, recognizing that it was usually, if not always, constructed in the interests of the better-informed and the politically better-connected. As displayed by the CPR and its subsidiary COMINCO examples within these pages, equality of control over capital and production has not materialized, even within the middle-class Anglo-American interests for whom Drewry created space. The centralization of power that early surveyors facilitated continues to construct divisions around the world, despite marginalized individuals, communities and regions having long agitated for more control over and a greater share of the benefits gained from what they see as their collective land and resources. Ultimately, contested spaces have remained relatively peaceful due only to the radically unequal state of power between the colonizer and the colonized.⁴²³

Land surveyors, of course, have tremendous capacity to empower those positioned to take advantage of their skills. Surveyors’ representations of space, and the security of title that they offer, have enabled distant finance and investment. The representations have turned assets into capital, empowering their use as collateral for loans or to be used as shares against investments. Assets can be traded outside of local relationships, and land, equipment, and resources can be represented by a map and property document, connecting all assets to the global economy. Surveying has promoted

⁴²³ Satish Chand and Ron Duncan, “Resolving property issues as a precondition for growth: access to land in the Pacific Islands”, ed. by Peter Larmour, *The Governance of Common Property in the Pacific Region* (Canberra: National Centre for Development Studies and Resource Management in Asia-Pacific, 1997), 39; D. Harris, *Landing Native Fisheries: Indian Reserves and fishing rights in BC, 1849-1925* (Vancouver: UBC Press, 2008), 191.

the “gigantic movement away from life organized on a small scale”, states Hernando de Soto, “to life organized on a large one.”⁴²⁴ The shift, however, has focused society on economic prosperity rather than human welfare.

The addition of a more humanitarian scope to land surveying offers great promise for a more equitable future. James Tully argues that mutual recognition of the cultures of citizens can best engender allegiance and unity. As a fabricator of nationalism, surveyors’ representations can give citizens a sense of belonging to, and identification with, a mutual space in so far as, first, they identify with or have had a say in the formation and governing over that space and, second, they see their own cultural practices publicly acknowledged and affirmed in the state’s basic institutions. Surveyors can do more to represent societies, in all their diversity, and nurture a strong sense of pride in that space. Customary communal systems of land ownership, for instance, do not necessarily mean insecure access to land.⁴²⁵ Mutual recognition can give citizens a sense of belonging, a better opportunity to speak to governance, and a chance to see their culture and environment publicly acknowledged and affirmed in the basic institutions of their society. In 1887, for example, the Nisga’a turned away surveyors who had entered the Nass Valley, leading the First Nation to embark to Victoria to protest and demand recognition of their claims to land. However, in 2000, after concluding treaty agreements with the governments of Canada and British Columbia, the Nisga’a welcomed surveyors in the valley, with elders blessing the new posts and with the hereditary leaders each taking up the hammer to drive them into the soil. These posts display both the traditional provincial government crown and the Nisga’a Lisims government logos.⁴²⁶

Surveyors need to take up Michael Foucault’s call for “a reactivation of local knowledge” and reflect that action in their representations of space.⁴²⁷ Rather than continuing to reinforce existing colonial strategies, surveyors’ construction of knowledge can do much more to extend greater social

⁴²⁴ Hernando de Soto, *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else* (New York: Basic Books, 2000), 7.

⁴²⁵ Tully, 197-8; Ron Duncan and Rod Duncan, “Improving security of access to customary-owned land in Melanesia: mining in Papua New Guinea”, ed. by Peter Larmour, *The Governance of Common Property in the Pacific Region* (Canberra: National Centre for Development Studies and Resource Management in Asia-Pacific, 1997), 58.

⁴²⁶ Katherine Gordon, *Made to Measure: A History of Land Surveying in British Columbia* (Winlaw, BC: Sononis Press, 2006) 323-5.

⁴²⁷ Michael Foucault, “Two Lectures”, *Power/Knowledge* (New York: Pantheon Books, 1980), 81

equality; be more receptive to the remote, marginalized and informal voices; and help identify partnerships not only between peoples but also with the natural world, which will be an integral component of human adaptation to changing global conditions in the future. Land surveying can better fit into the cultural diversity of the landscape.

De Soto argues rightly that the historical analysis of land surveying can unravel “the mystery of how assets are transformed into live capital” and, as a result, better display the resulting division between the “East” and the “West”.⁴²⁸ Drewry’s representations, for example, can aid historical analysis by bridging today’s world and a space about to be remade in the interests of the settler society, industry and business. Displaying how surveyors set the foundation for a market-driven system of land and resource use that continues to reterritorialize from the outside looking in, around or over the landscape can expose the zones between inclusion and seclusion. Today, despite being well aware that resolving property issues is a fundamental pre-condition in raising efficiency, attracting investment, and ultimately providing prosperity, post-colonial states still cling to the power of the narrow conceptual world that surveyors invented for them. A better future lies in the identification of colonial power and the empowerment of localities’ capacity to represent their own spaces, such as the *Stó:lo-Coast Salish Historical Atlas* through which this Aboriginal cultural group meticulously documents their own history and customs.⁴²⁹

Historical analysis of land surveying can also encourage reconciliation—or, at least, greater mutual recognition of the past and present. The history of surveying is an important part of what Arjun Appadurai calls the “politics of pastness” or the exploration of the break from what is conceived as the past and the present.⁴³⁰ Setting a price on the relinquishment of the past or, in other words, a particular way of life, is difficult, if not impossible. In order to move forward together, Daniel Clayton argues, people must deal with the authoritativeness and circulation of evidence, ideas, and representations of human geographies within and between the past and the present.⁴³¹ Surveyors,

⁴²⁸ de Soto, 70

⁴²⁹ Keith Thor Carlson, *A Stó:lo-Coast Salish Historical Atlas* (Vancouver: Douglas & McIntyre, 2001).

⁴³⁰ Arjun Appadurai, *Modernity at Large: Cultural Dimensions of Globalization* (Minneapolis: University of Minnesota Press, 1996), 3.

⁴³¹ Clayton, xix.

as makers of history, can empower these processes by lending historical evidence. Perhaps no other area of historical analysis presently holds so much opportunity for supporting mutual recognition as surveying, but only if future historians, surveyors—indeed everyone—will heed Edward Said’s pragmatic statement that “it is better to explore history than to repress or deny it.”⁴³²

In sum, land surveyors have conditioned knowledge today and, as a result, contributed to significant change. Throughout his career Drewry re-appropriated space land and natural resources largely from a system based on customary rights and local obligations, to a system based on private property and market exchange. Even the Anglo-American middle class for whose interest Drewry primarily surveyed became marginalized, to some degree, however. Linked to the federal and provincial governments’ motives for creating conditions for capital accumulation, Drewry’s work increasingly lent power to big, usually distant, business like the eastern-based CPR. Surveyors’ refashioning of space, and the social, ecological and economic struggles that it bred, have largely resulted from surveyors like Drewry not so much representing the landscape as they perceived it, but rather what it might become.

So why then does the diversity of the world continue to be jammed into the same conceptual space, as if, according to James Tully, “the shape of human organisation must—somehow—fit into itself”, even though theorists such as Edward Said, Michael Foucault, among others, have shown that it does not fit?⁴³³ Much of the problem exists with scholars devoting too little attention to the role that the makers and users of cartographic texts have played. Brian Harley and David Woodward argue that deeper meaning can be elicited by considering the “historical context, the cartographic principle, the geography, the politics, and the complex human aspirations behind each map.”⁴³⁴ Scholars must not only celebrate land surveying as part of the progressive narrative. They should explore the zone between inclusion and exclusion, with an emphasis on the largely untold story of the latter, in order to balance the established narrative. Scholars, surveyors—everyone—must aim for mutual recognition rather than emphasize and, as a result, uphold the boundaries that have become so

⁴³² Tully, 197-8.

⁴³³ *Ibid.*, 201.

⁴³⁴ J. B. Harley and David Woodward, *The History of Cartography: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, Vol. 1 (Chicago: University of Chicago Press, 1987), xix.

deeply ingrained. Toward this goal, people must continue working to realize surveying's potential in promoting cultural awareness.⁴³⁵

⁴³⁵ J. B. Harley and David Woodward, "Why Cartography Needs its History," *The American Cartographer*, 16 (1989), 8.

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