

# Modern Living “hewn out of the unknown wilderness”: Aluminum, City Planning, and Alcan’s British Columbian Industrial Town of Kitimat in the 1950s

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Résumé de l'article

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# *Modern Living “hewn out of the unknown wilderness”: Aluminum, City Planning, and Alcan’s British Columbian Industrial Town of Kitimat in the 1950s*

*Brad Cross*

*As a new town on the Northern British Columbian frontier, Kitimat represented mid-twentieth-century ideas of industrial resource development and town planning. Alcan executives saw Kitimat’s town design as crucial to the recruitment and retention of a workforce for its megaproject of the 1950s and 1960s, which became the crown jewel of its global enterprise. The combination of high-tech aluminum production and town planning techniques promised employees a family-oriented lifestyle in a state-of-the-art town. Kitimat spearheaded this push for a new kind of frontier experience.*

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Kitimat, British Columbia, starred as a model for frontier progress in North America’s leading popular magazines of the 1950s. *Harper’s Magazine*, *Life*, *National Geographic*, *Saturday Evening Post*, *Architectural Forum*, and *Fortune* all featured stories about Kitimat, celebrating it as the embodiment of high-modern development. *Harper’s Magazine* gushed in its 1953 feature, “Kitimat: Colossus of the Northwest,” “The mammoth size of the undertaking makes the project a unique symbol of the vast industrial boom that nowadays is tapping the resources of the Canadian Wilderness ... Kitimat is a Rube Goldberg gadget of sublime proportions ... This fabulous undertaking is being done with the latest technological equipment, yet the frontier is still very near ... A race of supermen are roaming

across our continent today without the rest of us being aware of them ... Their handiwork dots the face of America—dams, railroads, suspension bridges, canals, air bases, and now the Kitimat project.”<sup>1</sup>

*Saturday Evening Post* joined the chorus with “Incredible New Frontier,” saying, “Nothing was ever quite like this ‘dream’ community in the wilderness.”<sup>2</sup> Still other magazines marvelled at Kitimat’s dual identity as a high-tech industrial centre and comfortable frontier town. Clearly Kitimat enjoyed some special treatment from a host of popular magazines.

The Aluminum Company of Canada (Alcan) introduced Kitimat to North Americans as its new flagship industrial town by using the glossy pages of the day’s most popular illustrated magazines. Kitimat embodied the company’s global reach, fusing its ambition to demonstrate social virtue with British Columbia’s provincial call to spur industrial development in the hinterland. Town planning, meanings of aluminum, and the metal’s production each contributed to Kitimat’s community identity as a modern-day industrial town.<sup>3</sup> Taking into account what a place produces can be centrally important to understanding the meanings of that place. At Kitimat the reputation of aluminum as “the metal of the future”<sup>4</sup> alloyed with progressive city planning ideas to promise a comfortable suburban lifestyle on the rugged northwestern frontier of Canada’s Pacific Coast. Rich with boosters’ rhetoric, Alcan promoted Kitimat as a transforming agent of its remote wilderness.

## *Aluminum’s Expansion*

What happened at Kitimat is a particular example of how global aluminum production stood at the vanguard of twentieth-century notions of progress.<sup>5</sup> Kitimat was one node in a web of production that tied Canada to British Guiana, Jamaica, and eventually Australia.<sup>6</sup> In each of these locations willing governments invited Alcan to remake landscapes into industrial frontiers. These frontiers served diverse functions in supply chains for materials

and manufacturing, but they were also flashpoints that affected Indigenous and local peoples, bringing them into (or pushing them out of) global processes that might be overlooked if focusing only on a single place.<sup>7</sup> Consequently the history of Kitimat as a mid-twentieth-century industrial town is incomplete without tying it to the history of aluminum production in Canada and around the world. The conditions of expanding aluminum production triggered the creation of Kitimat itself. And Kitimat came to embody many aspects of aluminum's production requirements, especially the need for immense electrical energy consumption. Aluminum's expanding role in the twentieth century provides some context for the specific case study of this company town.

Aluminum stood as new industrial material in the early twentieth-century, yet it quickly became ubiquitous in a wide range of consumer products and transportation technologies. Helmut Maier argued that aluminum's industrial production came as a result of “scientific research and thus part of the scientific age” that associated aluminum with an “ideological notion of progress” and embedded meaning in the metal itself.<sup>8</sup> Historians have noted that in the late nineteenth century, “electricity, high-speed trains, and ‘very lightweight metals’ were ‘the most commonly mentioned scientific marvels of the future.’”<sup>9</sup> Eric Shatzberg has suggested we should consider the symbolic meanings of aluminum as a way of connecting culture with history, in order to understand how such meanings “propel new technologies ... [and] influence consumer demand.”<sup>10</sup> Aluminum satisfied the turn-of-the-century criteria for a futuristic material.

The history of industrial aluminum production is inextricable from the development of electrical power generation.<sup>11</sup> Without abundant and cheap electrical power there would be no large-scale industrial aluminum production. Hydroelectric generation technology by the early twentieth century could produce enough electrical energy to satisfy the needs of the aluminum industry. Environmental historians have noted how hydroelectric projects remade landscapes of the last century.<sup>12</sup> In North America alone hydroelectric dams sprang up across the continent in almost every state, province, and territory, and the global spread of hydroelectric projects is just as apparent, whatever the continent. For historians of North America, the massive Niagara Falls project of the early twentieth century and the Tennessee Valley Authority projects of the 1930s offer two narratives of large-scale electrification, but they also offer up discourses of progress and modernity.<sup>13</sup> These narratives of regional electrification entail stories of centralized planning, utilities regulations, municipal reforms, and regional or other governmental initiatives. Electrification is usually credited with “advancing” societies and easing the lives of the people touched by its magical properties, and aluminum production fits into this narrative nicely. Electrification in British Columbia followed this pattern.

Private aluminum manufacturing corporations initiated hydroelectric development in many parts of the world. In Canada,

Alcan began in Montreal as an international subsidiary of the Aluminum Company of America (Alcoa) in charge of “foreign” and “overseas” aluminum production, outside the United States.<sup>14</sup> Ostensibly independent in 1928 under the name Aluminum Limited (formally renamed Alcan in 1947),<sup>15</sup> the company built the new industrial town of Arvida in the mid-1920s along the Saguenay River valley (north of its confluence with the St. Lawrence River in eastern Quebec). Arvida, named after Alcoa's patriarch, Arthur Vining Davis, consisted of a hydroelectric dam project, aluminum smelter, shipping port, and company-owned worker housing.<sup>16</sup> The navigability of the St. Lawrence and Saguenay Rivers made it relatively easy for ocean-going ships to deliver bauxite ore (primarily from Jamaica, British Guiana, and Brazil) to Arvida's smelter. In what had seemed a relatively remote rural site only a decade earlier, Arvida was suddenly linked with the Caribbean basin, western Africa, Europe, and the rest of North America through the production of aluminum.<sup>17</sup>

The growth in demand for aluminum in the second quarter of the twentieth-century seemed unlimited. Transformations in aviation and defence technologies, electrical and domestic consumer products, and construction practices of the last century provided Alcan and other aluminum producers with a huge market. Alcan alone produced about 45,000 metric tonnes of aluminum by 1928, representing one-fifth of the world's annual aluminum output.<sup>18</sup> When Canada entered the Second World War in 1939, demand for aluminum jumped yet again.<sup>19</sup> As a strategic material for aviation and defence industry production, Alcan sought ways to increase aluminum output throughout the war and afterwards.<sup>20</sup> By mid-century Alcan increased production to about 380,000 metric tonnes per year.<sup>21</sup> While this represented more than an eight-fold increase in output from only twenty years earlier, Alcan produced only about one quarter of the total global supply of aluminum (excluding the USSR).

Aluminum production is segmented into discrete operations, usually spanning the globe. Alcan's own experience was typical; extracting bauxite ore from mainly tropical locations (in the Caribbean and South America, Africa and monsoonal Australia), refining it into an intermediate material, and finally extracting pure aluminum in a few smelting facilities adjacent to a site of abundant electrical generation. By the 1960s Alcan had become a truly global company, with bauxite mines, primary processing facilities, reduction plants, or finishing mills on five continents.

Alcan looked to build a second major smelting site in Canada in the early 1950s (its primary site was in Quebec), hoping to gain the majority share of the rapidly expanding global aluminum market.<sup>22</sup> The company sought to double its total production capacity, projecting its new smelter to reach an output of 500,000 metric tonnes per year.<sup>23</sup> It looked to areas of Canada where it could construct a hydroelectric generating facility that had access to a deep water port and had land suitable for a

townsite that could house as many as 50,000 workers and residents.<sup>24</sup> Alcan executives chose a location in the mountainous northwestern region of coastal British Columbia because of its topography, but also because of the province's development-oriented political culture.<sup>25</sup> By bringing aluminum production to the west coast of Canada, Alcan strengthened its links to the Pacific hemisphere and gave renewed attention to its raw material operations in Asia.

### *Selling Aluminum as Selling Progress*

Alcan sold a substantial portion of its primary aluminum production to secondary manufacturers who specialized in rolling or milling the aluminum ingots for use by tertiary manufacturing industries. Alcan and most other aluminum producers also manufactured items for direct household consumption, such as kitchen wares, light fixtures, and aluminum siding. Using popular advertising in print and television media, Alcan and its American counterparts promoted the wonders of aluminum and sold their products on the basis that the material properties of the metal were as strong as steel, but feather-light by comparison. Whenever Alcan appeared as a subject in popular magazines, the company did its best to highlight the aluminum industry as a modern and even futuristic enterprise, associating aluminum production with nearly mystical properties of the “scientific” metal itself.<sup>26</sup> It represented aluminum production as *the* high-tech, cutting-edge industry of the future, even if the objects themselves were banal.

Television provided Alcan with an effective means to sell the meaning of aluminum as a modern metal. Alcan sponsored television programs beginning in the 1950s, along with Alcoa and other heavy industrial manufacturers. As principal or even exclusive sponsors of short drama or variety shows, these corporations supported programs that explicitly promoted corporate messages.<sup>27</sup> In the case of Alcan and Alcoa, their messages sold the benefits of aluminum to modern living. Pushing television advertising into the grey area between entertainment, information, and commerce was “the ‘advertorial’ termed ‘educative films’ when they first appeared on TV in the early 1950s.”<sup>28</sup> Alcoa sponsored Edward R. Murrow's *See It Now*, a journalistic public affairs show, and used this venue to promote aluminum with news-like authority. Historian Lawrence R. Samuel recounts, “On an April 1952 show, Murrow discussed fan mail about an Alcoa advertorial concerning an aluminum PT boat, thereby effectively promoting his sponsor during the ‘news’ part of the show.”<sup>29</sup> Given current controversies over corporate or state forays into packaged “news” segments provided to television networks, these early advertorials seem remarkably familiar. The intent was clear: to sell the idea of aluminum in a credible and authoritative context. News programming was the perfect vehicle.

Hand-in-glove with promoting its product as useful and modern, Alcan promoted its corporate identity by selectively highlighting

its business activities. Alcan boasted of its frontier-breaking plans to bring civilization to northern British Columbia in the form of a new smelter and industrial town at Kitimat. This dovetailed nicely with both the provincial and national agendas of postwar economic development and resource exploitation.<sup>30</sup> The British Columbia government granted Alcan unprecedented water rights and territory with the Industrial Development Act (1949) for its massive development project in BC's northwest.<sup>31</sup> In a speech at Victoria's Chamber of Commerce in 1952, Eric West (vice-president of Alcan) associated aluminum production with the potential for economic and social progress of British Columbia itself: “Just as British Columbia is young and at the beginning of an expanding contribution to the economy of Canada and the free world, so the metal we aim to produce is likewise a young metal with unforeseen potentialities and with an essential contribution to make for the benefit of mankind.”<sup>32</sup>

Alcan associated the proposed production facilities with regional development. For example, the Kemano (Kenny Dam) hydroelectric project that powered the Alcan smelter became the largest privately owned hydroelectric facility in North America, with a maximum generating capacity of 1,680,000 kilowatts, which exceeded the total capacity of all the TVA electrification projects, and was 25 per cent greater than the Hoover Dam.<sup>33</sup> At its height, power sales alone made Alcan \$1 million each month because it could not use all of the electricity it generated in its aluminum production.<sup>34</sup>

Alcan was becoming a privately owned power company in an age of public utilities. Both the Kitimat and Arvida facilities made money for Alcan because they sold surplus hydroelectrical power to surrounding regions in British Columbia and Quebec, and internationally to the United States.<sup>35</sup> Electricity became the catalyst for growth and development, and hydroelectric turbines literally provided the engines for this process. Read more abstractly, electrical generation defined the limits of a new frontier, and provided corporate and government actors with a euphemized language for resource development and “modern” settlement.

This pioneering doctrine was charged with millions of kilowatts of electrical energy, and Alcan's project became a benchmark for development built around hydroelectricity. As Tina Loo found in her work on the Arrow Lakes region of British Columbia, the provincial government under W.A.C. Bennett made electricity the heart of its modern resource development.<sup>36</sup> Alcan's press release on the Kenny Dam and Kitimat projects gave the sense of the company's ambition, and also a taste of its modernizing and civilizing rhetoric:

A frontier that is like no other newly-opened in history ... The spur for civilization's march into this fog-ridden, mountainous wilderness is one of the largest single efforts ever made by man to turn natural water resources into productive power. It is the Aluminum Company of Canada's colossal Project British Columbia—a development which will reverse the flow of a



5,000-square-mile drainage area and tap a 110-mile chain of lakes via a 10-mile tunnel to generate hydro-electric power from a “waterfall” sixteen times as high as Niagara. Ultimately, more than two million horsepower will be developed in the immense subterranean powerhouse now under construction and will flash through the cables of a 50-mile long transmission line across mile-high mountain passes and lofty glaciers to a huge aluminum reduction plant to be built on a tidewater arm of the Pacific at Kitimat, some 400 miles north of Vancouver ... everything considered, Alcan’s new city of Kitimat may well set a pattern for similar communities as civilization moves back the frontiers.<sup>37</sup>

Granted, one might expect optimistic boosters to throw around mind-boggling numbers as they sketched out a development of this scale. Yet the statistical projections for the Kenny Dam hydroelectric project and its companion town of Kitimat were more or less in line with what Alcan ultimately built.<sup>38</sup> The estimated cost for this enormous undertaking carried with it nearly astronomical numbers, and Alcan would have to sell a lot of aluminum to pay for it. *Fortune* magazine seemed unconcerned about Alcan’s economic future when the world price for aluminum dropped, following the conclusion of the Korean War in 1953.<sup>39</sup> While Alcan depended on the world price of primary aluminum for a large portion of its profits, its value-added consumer products divisions produced additional revenues in addition to the sale of hydroelectrical energy.

It seemed to elude the official attention of Alcan managers and its planners that Kitimat and the region was already settled by some people. In the early 1950s, scant recognition was given to indigenous inhabitants who traditionally made their home there. Near the proposed townsite, the 200 or so “Kitimaat Indians” (Haisla people living at Kitimaat Village) received only cursory official attention, and usually only garnered fleeting mention in most cases.<sup>40</sup> At the site of the Kenny Dam on the Nechako River, many people of the Cheslatta T’en First Nation were displaced by the subsequent flooding of their traditional territories.<sup>41</sup> Even when the British Columbia Provincial Legislature turned over massive water and land rights to Alcan, it made no mention of the Native population. This frontier, like the mythical American West, had its own indigenous people. And similarly, they were conveniently absent from the landscape when it was deemed convenient for development.

Alcan was not the first company to attempt development on the site. The Grand Trunk Railway proposed a railway terminus for the location in the first decade of the twentieth century, hoping it would be useful for logging and mineral extraction.<sup>42</sup> The site development included a survey of the region, “a wharf and hotel of sorts ... built on the shore of Kitimat Arm, a ‘tote’ road was hacked through to Terrace, a grid subdivision plan was registered and a score of lots were sold,” but nothing further thrived when the Grand Trunk and Pacific Railway instead picked Prince Rupert for its terminus.<sup>43</sup> Only after the Second World War did the site again attract the attention of potential developers, who (again) thought of themselves as pioneers.

Pioneering language associated with the Kenny Dam carried over to the Kitimat townsite project too. Alcan executives saw the development of the townsite as an equally important feature of the smelter’s future success, and they searched for a town planning consultant who could give them a modern community designed for comfortable living. R.E. Powell, Alcan vice-president for Canadian operations in the early 1950s, appointed Eric West, then an Alcan sales manager for the U.S. market, to manage the Kitimat project.<sup>44</sup> But picking a town planner seemed a complicated business. Powell had entertained the idea of employing Canadian planners, but doubted there were any with the experience he sought to accomplish Kitimat.<sup>45</sup> Powell was aware of the charismatic Robert Moses, New York’s planning czar. Indeed, few other names had become so associated with grand planning schemes as his, despite the fact that he did not produce any industrial town plans. Yet it was Moses’s name that Powell championed after consulting with the likes of the Rockefellers and others in high circles of power.<sup>46</sup>

Ultimately Alcan announced a planning competition for the Kitimat project and more than seventy proposals arrived. Project Manager Eric West needed help for this undertaking, which he eventually sought from veteran town planner and writer Clarence S. Stein. According to one account, West wanted him to merely help in selecting the winning proposal.<sup>47</sup> But ultimately West appointed Stein to serve as the director of planning for the new town in early July 1951.<sup>48</sup> This decision played a key role in ensuring that Kitimat served not only as a place of high-tech industry but also as a symbol of that modernity.

### *Kitimat as a Model City of Tomorrow, Today*

Clarence Stein and his partner Henry Wright planned one of the most influential American model towns of the twentieth century, Radburn, New Jersey, in 1927. Part of the progressive Regional Planning Association of America, Stein and Wright, along with other RPAA members such as Lewis Mumford, sought to demonstrate the best that modern planning had to offer for America’s metropolitan future. Stein and Wright planned Radburn as the first town built explicitly for the motor age—with the problem of the automobile taking centre stage in their design program. While Stein and Wright were part of the mainstream planning profession, their “Radburn Idea” struck their peers as a novel approach to designing modestly sized new towns that integrated the walking city with the emerging automobile metropolis. Radburn had separate traffic circulation systems that kept cars away from pedestrians and cyclists. Pedestrian underpasses, green-space corridors for foot traffic, and common green spaces that linked residential neighbourhoods in an efficient network of cells comprised the core innovations of the “Radburn Idea.” Radburn also modelled a variety of housing styles for nearly every income, and provided recreational and functional amenities increasingly employed in comprehensive planning schemes.<sup>49</sup>

Clarence Stein quickly educated Kitimat's project manager, Eric West, in the planning paradigms that underpinned Radburn and a series of American “Green Towns”<sup>50</sup> After receiving a letter soliciting his services, Stein sent West sections of his just-published *Towards New Towns for America* (1951)<sup>51</sup> and arranged a briefing meeting in New York. Stein then took West to Radburn for a first-hand experience of his planning practice.<sup>52</sup> Stein framed his understanding of “Kitimat [as the] direct descendant” of the towns outlined in *Toward New Towns for America*,<sup>53</sup> and explicitly placed it in a lineage of ideas originating in the English Garden Cities that had been adapted to Radburn and the Greenbelt Towns of the U.S. federal New Deal of the late 1930s.<sup>54</sup> Although his explicit duty to Alcan was to provide the company with an industrial town plan, the Kitimat commission gave Stein a chance to carry out the realization of his matured thinking on the Radburn model he and Wright created decades before.<sup>55</sup>

The Kitimat project was located in a context fundamentally different from that of Radburn, since Alcan's site lay on a relatively isolated northwestern frontier of the BC hinterland, not on the “crabgrass frontier” of suburban New Jersey in the New York City–Philadelphia metroplex.<sup>56</sup> Stein approached the project in a way quite different from Radburn because of its remote location and dramatic topography. The Kitimat townsite was nowhere near a large metropolitan population, nor was it served by pre-existing highways or infrastructure. Quite unlike the gently rolling semi-rural farmland of Radburn's greenfield development site, the steep sides of the fjords, the deepwater inlet at Kitimat, and the surrounding wilderness created clear physical boundaries to the townsite. There was little need to hem in development with greenbelts and other planning techniques that had been emblematic of Radburn.

West invited Stein to tour the proposed townsite for Kitimat and the companion Kenny Dam/Kemano hydroelectric project. The scale of the mountainous topography impressed Stein, but he was put off by the rain, snow, and mud that already beset the landscape by late October.<sup>57</sup> Nevertheless, this commission represented to Stein an unprecedented opportunity to conceive of a regional plan from first principles: from his perspective there were no settlements of any appreciable influence within the entire Kitimat area. He had ambitions to provide the model for transforming northwestern British Columbia by setting it on regional planning lines.<sup>58</sup> While Stein was never commissioned to develop a sophisticated regional plan, apart from the townsite for Kitimat, he alluded to the town as an anchor for surrounding future regional development. The project required Stein to account for the construction of the town, dam, smelter and harbour facilities, and attendant residential requirements for 10,000 construction jobs alone.<sup>59</sup> The spinoff effects of such development anticipated a need for long-term regional plans for northern coastal British Columbia beyond the locality of Kitimat itself.

Stein proposed to Alcan that he should be awarded a contract for \$25,000, in exchange for providing the total devotion of his

office and staff for six months to planning Kitimat. In addition, he requested that Alcan cover the expenses related to travel and communication, as well as any specialist consultation required of the project.<sup>60</sup> In the end, Alcan offered him a more modest six-month contract in October 1951 to direct the planning for the Kitimat town project.<sup>61</sup> He drew upon his extensive experience and a wide network of associates that he would designate with the actual execution of the masterplan. Roger Wilcox, a project manager of Stein's New York office, and the New York architectural partners of Julian Whittlesley and Albert Mayer did much of the day-to-day work of drafting the details of the plan, but Stein oversaw the project as director of planning.<sup>62</sup>

Alcan offered to extend Stein's connection with Kitimat from March 1952 until the end of 1953, with “an equivalent of six months' working time during twenty months.”<sup>63</sup> As it turned out, Stein worked on Kitimat under a formal contract for a little more than a year. After telephoning Alcan to request a bit of time off in December 1952,<sup>64</sup> he finally cut short his anticipated tenure in February 1953 on the advice of his doctor.<sup>65</sup> This came as a result of “fatigue,” a condition that periodically afflicted Stein for most of his professional life. Stein suffered from what would be diagnosed today as a bipolar disorder for which he sought electrical shock treatment and counselling.<sup>66</sup> Periods of high activity were followed by lows filled with sadness and doubt in his work. Stein lamented in a letter to his wife that he “need not tell you how much this [Kitimat] job means to me—it leaves things rather empty.”<sup>67</sup> By having to cut short his direct involvement with Kitimat, Stein turned over one of his last planning projects to the team he and Alcan had assembled, giving him time to deal with his mental health. It was certainly a letdown for this esteemed planner, that he was not capable of finishing this career-capping project.

Having to leave this large-scale project was one of Stein's major disappointments, both professionally and personally. He considered Kitimat one of his most significant projects because he tried to extend some of his Radburn planning ideas to a larger scale and in a frontier context. Kitimat fuelled Stein's hope that this plan would be completed as designed, rather than only partially realized. Radburn, begun just before the Great Depression, was never fully built, and remains even today only partially fulfilled according to Stein's intentions.

### *The Kitimat Experience*

Some early Kitimat streetscapes looked different from typical housing subdivisions, as Stein used the Radburn Idea to face houses inward across green spaces, placing streets at the back. The decision to front houses on gardens and parks with pedestrian pathways, keeping the backs of houses and apartment blocks on road networks for motorized vehicles, was intended to separate vehicular traffic from pedestrian circulation, and to create a green network of safe space for public encounters in residential neighbourhoods. Wright and Stein's plan for

Radburn championed this “reversed” housing orientation to subordinate automobiles in increasingly car-centred commuting communities (which was not really a problem in Kitimat). But it also made Radburn’s streetscapes slightly counter-intuitive to read. Normally one approached the front doors of houses from the street, reserving the back portions of the property for private space. At Radburn *both* the front and back doors became public.<sup>68</sup> In this articulation of detached residential housing, Radburn looked and felt different from its contemporary developments.

Alcan’s ultimate vision for Kitimat as a city of 50,000 people signalled to Stein there would be a reasonable level of traffic volume and, given its remote location, much of that traffic circulation would be confined within the community. Stein’s concerns for creating the maximum opportunity for interaction among neighbours in an entirely new and instant community dictated the Radburn housing/street plan in order for managed neighbourly contact and interaction.<sup>69</sup> Alcan executives lauded Stein’s plans for their workers’ housing because it demonstrated to them the sense of innovation that they sought to showcase. This reorientation of houses on their lots gave Alcan’s otherwise architecturally unremarkable housing stock a distinctive feature that might enhance their sales, or at least provide promotional value as an innovative concept.

Even after Stein had to give up direct involvement in Kitimat’s planning and its subsequent implementation, he kept abreast of developments through his associates. One of his main frustrations came with Kitimat homeowners who “reversed” their house orientations by fronting them towards the roads instead of the greenways. Stein tried to educate the residents of Kitimat about their special place in planning history. He wrote to Kitimat resident Stanley Rough in 1955, to explain that “no matter how good a city is planned or built, it will never do its job unless the people who live in it understand its unique qualities, for the people are the city. All we planners can offer is a stage that will best fit modern acting and give the performers the maximum freedom to live as full a contemporary life as individuals and as a community as is possible.”<sup>70</sup>

Kitimat was not supposed to become a typical paternalistic company town. Decades before Kitimat, Alcan built its first “model” industrial town of Arvida, Quebec, providing housing, municipal government, and local services.<sup>71</sup> The company initially controlled all housing in Arvida, which it rented to workers and their families. Subject to a relatively benign corporate paternalism typical of the first half of the twentieth century, the residents of Arvida nevertheless created consumer cooperatives and cultural organizations that they controlled directly. And by the mid-century, Alcan began offering company housing for sale to Arvida workers and their families, but it maintained the corporate control of civic duties.<sup>72</sup>

At Kitimat most housing was for private sale at the beginning, with the company owning some rental apartment buildings

and a few houses for its own use. Alcan also moved quickly to turn over Kitimat’s government to an elected municipal council by 1953. Although the municipal government was elected, the company retained some official representation on council, so it was only partially independent of the company.<sup>73</sup> Alcan encouraged a workforce of men who were married and wanted families, assuming this would result in a stable and reliable cohort of workers.

The company encouraged the single-family detached house to become the dominant residential building. The variety of detached housing stock in Kitimat fell into typical postwar North American models: a one and one-half-story Cape Cod with a steep roof angle, a single-story ranch with a moderately pitched roof (called bungalow), a raised ranch house, and a few conservatively modern flat-roofed or low-sloped houses.<sup>74</sup> These family homes typically came with three bedrooms, a kitchen, and open-plan living room/dining room. Most had two bathrooms, and a few had carports.

Memoirs provide some early impressions of life in Kitimat, such as Jack Fossum’s account of his “pioneer days” as an early resident. He remembered attending a promotional meeting in Vancouver that featured house plans before moving to Kitimat: “It sounded too good and promising to be true. Homes would face open greens and walkways at the rear instead of dingy back alleys.”<sup>75</sup> Fossum himself clearly identified the fronts of houses to address the street. The greenspaces were *not* the fronts, but instead he saw them as pleasant backyards opened up to public use rather than dingy alleys. Whatever gap existed between Stein’s planning ideas and residents’ understanding of Kitimat’s design principles, Fossum reported that some of those who came to Kitimat appreciated “visualizing their future dream houses in this utopian setting.”<sup>76</sup> Fossum liked how Kitimat was laid out, however skeptical he was of its supposed planning virtues.

Another “pioneer” resident, Gisela Mendell, kept a diary of her thoughts of Kitimat’s housing and the architecture of her community. Like many houses in Kitimat and subdivisions elsewhere, Mendell’s house was modular. As she wrote about her experiences of Kitimat in 1956,

The house looked ugly to me. I was the daughter of an architect who had always been exceptionally sensitive to how his creations would fit into the natural surroundings. No such worries here. Our house was called a “sky bungalow!” It was erected on concrete pilings, which supported the lower and unfinished part of the house; a carport, a children’s play area, a utility room ... Our house had arrived at Kitimat on a barge as a prefab consisting of three parts. It was just nailed together ... The house in 1956 looked so ugly because it stood in a sea of mud with the other new houses. Around the houses nothing grew. All our properties had been bulldozed clear.<sup>77</sup>

Mendell and her family might have been in a suburban subdivision almost anywhere in North America. She dismissed the

generic design she saw in her house and those of her neighbours, and she questioned the building practices used in this supposedly vanguard community. We can see from her diary that she had pretty strong opinions about Kitimat's architecture:

Criticism should have been directed to architecture. Canada was yet unprepared to support this type of development; to build a new city in the northern wilds. All houses were designed by architects from the States, mostly California. Some houses of our acquaintances had large windows that reached to the ground. Most of the year they were covered by snow. None of the houses had insulation, an idea in house construction that had taken root already in the 1950's. Our houses had double walls, one layer of boards outside and one layer of sheeting inside. In between was a layer of aluminum or Alcan foil (originally designed to reflect heat).<sup>79</sup>

Mendell's views certainly countered the presentation of Kitimat in the leading popular architecture magazine in North America. *Architectural Forum* cast a particularly positive, if slightly apocryphal impression of Kitimat in 1954 when it noted, “FORUM is privileged to present a first complete twentieth-century ‘new town,’ completely new, completely modern, in North America. Every word in that long list of adjectives is necessary to the description.”<sup>79</sup> To its stylish readership, *Architectural Forum's* portrayal of Kitimat made the town out to be the most avant-garde company town made for the working classes. The voice of the *Forum* writer followed the notes Clarence Stein prepared for press coverage: “At Kitimat the setting for a good life must be hewn out of the unknown wilderness. Pioneers must become old-timers, bound to Kitimat by enthusiastic love of their town and its unusual qualities.”<sup>80</sup> Even at a glance the cover story's layout on Kitimat communicated Stein's message with contemporary typeface and smartly arranged photos of sleek houses and modernist building complexes.

Gisella Mendell may have been dissatisfied with Kitimat based on what she was expecting from the hyperbole, but she did enjoy some of the creature comforts of her new Kitimat house on 24 Brandt Street:

The new house was something to behold. There was a “thermostat.” When one turned the knob the heat would come on and it would get warm all by itself. We had an oil furnace with forced-air heating system. I was now married eleven years and now there would be no more woodcutting. No more carrying of wood to the bedrooms to let it dry faster ... This was the life! We had three bedrooms and a bathtub with running hot water, a fully equipped kitchen with cupboards and a sink with a tap. We all had a bath the first night.<sup>81</sup>

Despite her critiques of the relationship between the houses and their environment, her “sky bungalow” offered a cozy home in a harsh climate. She did complain about the exorbitant costs associated with supplying the furnace with heating oil, and the frequent electrical outages. So unreliable was the electricity that she actually bought a propane kitchen stove to ensure she could continue to cook while her neighbours suffered through blackouts. Such events were ironic in a town that had its own

massive hydroelectric generators and whose main employer operated a de facto electric company.

Kitimat's identity was very carefully constructed by Alcan to be its modern flagship industrial town, yet there were some special ironies here. For one, Kitimat was accessible only by sea, air, or rail for the first several years of its genesis—meaning that automobiles had to be shipped into the town and travelled only locally. Yet this was a town planned for the motor age, according to the Radburn Idea. Car traffic was not a reported concern in the early years, and it remained absent as a reported condition of life in Kitimat until the town had been connected to other BC communities with a modest highway to Terrace and beyond in 1957.<sup>82</sup> Eventually the car did take its place as the dominant form of transportation in Kitimat, but automobiles did not exert such overwhelming force on the town that it challenged Stein's designs for separate traffic systems for cars and pedestrians.

A second irony had to do with the role that aluminum products actually played in the construction and subsequent material history of Kitimat itself. While the town became a principal site for Alcan's aluminum smelting, builders and architects found little use for aluminum in the physical town of Kitimat. Indeed, Alcan's attempts to introduce aluminum products were rebuffed from a number of angles. For example, the company subsidized the installation of aluminum plumbing in only ten houses, because builders found aluminum to be more expensive than conventional plumbing materials. There is little evidence to suggest that aluminum plumbing was used anywhere else in the town. Moreover the Sales Division and its Laboratories Division tried on more than one occasion, in the words of the project architect, “to shove aluminum down the throats of the Kitimat builders.”<sup>83</sup> At almost every turn, contractors rejected aluminum as a building or furnishing material in Kitimat; builders used cedar shingles and wooden boards for exterior house cladding; kitchens they fitted with steel cabinets (supplied by the Hudson's Bay Company); and window frames they made of wood.<sup>84</sup> Many of Kitimat's builders stuck with the materials they were more comfortable using. While aluminum played a central role in branding Alcan's new industrial town, it was not a significant material in the physical structure of Kitimat's buildings.

Kitimat generally reflected trends found in other contemporary industrial towns, despite its portrayal as a unique frontier town. Its overall plan focused on a central hub that held commercial and retail activities. Schools and recreational facilities anchored groups of residential neighbourhoods. And the neighbourhoods, divided more or less by economic class, fanned out in gentle curves from the town centre. Larger and more expensive homes had commensurate lots in areas distinct from the general bulk of worker housing.<sup>85</sup>

## **Conclusions**

Industrial towns were nothing new to the twentieth century. Model industrial towns in the United States, Great Britain, and



Canada provided abundant precedents for organizing and housing corporate workforces. In Canada, Thomas Adams planned a series of resource towns for the federally funded Canadian Commission of Conservation in the 1910s and 1920s.<sup>86</sup> Similar to Kitimat, many of these industrial towns enjoyed the support of provincial governments looking for regional development in more remote environs of the provincial territories. Rex Lucas studied single-industry towns in Canada, generally dividing them into one of three categories (mining, milling, and railway towns).<sup>87</sup> His discussion of post-1945 social and economic conditions revealed that the urge to develop resource hinterlands was a national phenomenon, exemplified in Kitimat. To use Lucas's categories, Kitimat was a milltown, yet this characterization has limited applicability, given that the raw materials for Kitimat were shipped from the Caribbean (and later Australia), and its main activity focused on hydroelectrical generation for smelting aluminum. Robert Robson's numerous studies of Prairie industrial towns all revealed that the fortunes of these communities followed the peaks and troughs of the resource economy.<sup>88</sup>

The “Radburn Idea” had its roots in Garden City planning, but also in the earlier tradition of planned company towns such as the railway-car manufacturing town of Pullman<sup>89</sup> on Chicago's South Side, and in the English model industrial towns of Port Sunlight (Lever soap) and Bourneville (Cadbury chocolate).<sup>90</sup> Canadian resource town examples include Alcan's own town of Arvida, but also Tadanac (Consolidated Mining and Smelting Company, 1917), near Trail, BC, and Canadian Copper's (later, Inco) company towns of Copper Cliff and Creighton, Ontario, in the first decades of the twentieth century.<sup>91</sup> Even into the twentieth century, company towns carried with them a reputation “that ha[s] been associated with ‘paternalistic dictatorship’ and ‘modern feudalism.’”<sup>92</sup>

Kitimat's economy was more diverse than some single-industry towns, for a few reasons. Alcan produced aluminum at its smelter, but it also generated profitable quantities of electricity it sold to the provincial power commission. When world prices for primary aluminum fell, electricity rates buoyed up the town's fortunes. Furthermore, the abundance of cheap power and the deepwater port fostered other commercial and industrial development. Morrison Knudsen (civil engineering), the Royal Bank of Canada, Anderson Creek Sawmill, Hudson's Bay Company, grocery stores, and a handful of cafes and restaurants, service clubs, and social clubs augmented the local economy.<sup>93</sup>

Kitimat's identity stemmed partly from its origins as a planned town and partly from the aluminum it produced. Alcan did its best to present Kitimat not as a company town but rather as a new kind of industrial town.<sup>94</sup> Perhaps this was a distinction without a difference, yet Clarence Stein and his associates planned Kitimat's layout to carefully ensure that the new town would become a model of its kind with suburban-style ranch

housing and a list of amenities to attract a large and stable workforce to this industrial town. The reputation of Kitimat as a modern planned community became almost a fetish for Alcan and its agents.<sup>95</sup> The company's high-tech industry of aluminum production associated Kitimat with a multinational corporation that drew bauxite from the Caribbean, Africa, and Asia, enticed workers from North America and Europe, and produced a versatile metal for global use. Alcan used these associations to assign Kitimat an identity that distinguished it from other industrial housing developments, both past and present.

Alcan featured Kitimat as its crown jewel because it represented some of the highest achievements the company wanted to celebrate. Producing aluminum was to produce “the modern,” and its consumption symbolized scientific progress. Kitimat's residents could experience frontier wilderness directly or from behind their suburban picture windows. The perspective from Kitimat's frontier outpost took in only part of the picture. Kitimat tied workers and executives in Canada with people and places on four other continents. Yet Alcan's BC project was more locally described as an attempt to bring better living to these “pioneers” on a modern BC frontier. Hydroelectrical generation, bauxite mining, aluminum refining, city planning, and suburban living were all part-and-parcel of progress on this tamed frontier that had been heroically “carved out of the unknown wilderness.”<sup>96</sup>

### *Acknowledgment*

Many thanks to the generous, patient, and helpful suggestions offered by the three anonymous readers.

### *Notes*

- 1 Richard L. Neuberger, “Kitimat: The Colossus of the Northwest,” *Harper's Magazine* (January 1953): 56, 57, 59. See similar stories of Kitimat in *Fortune*, June 1954; *Life Magazine*, 23 August 1954; *National Geographic Magazine*, September 1956; *Saturday Evening Post*, 9 February 1957.
- 2 William L. Worden, “Incredible New Frontier,” *Saturday Evening Post*, February 1957.
- 3 Alan Gordon suggested some benefits that cultural history approaches may bring to urban history in “The New Cultural History and Urban History: Intersections,” *Urban History Review* 33, no. 1 (Fall 2004): 3–7. Sociologists Pollo Diaz and Paul Gingrich noted some social and identity-forming relationships between commodities produced in certain communities in Canada and their inhabitants, suggesting that community identity formation could be understood by what a community produces, as much as by its own sense of collective habitation. See David A. Hay, *Rural Sociology in Canada* (Toronto: Oxford University Press, 1992), s. 2.
- 4 Eric Shatzberg, “Symbolic Culture and Technological Change: The Cultural History of Aluminum as an Industrial Material,” *Enterprise and Society* 4 (June 2003): 227.
- 5 For a discussion of scientific progress related to resource exploitation, see James C. Scott, *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press, 1998), chap. 1, “Nature and Space.”
- 6 Bradley Cross, “White Metal: Bauxite, Labour and the Land under Alcan in Twentieth-Century Guyana, Jamaica, and Australia,” in *Aluminum Ore: The*

- Political Economy of the Global Bauxite Industry*, ed. Robin S. Gendron, Mats Ingulstad, and Espen Stori, chap. 11 (Vancouver: UBC Press, 2013).
- 7 There is a fast growing literature on the history of globalization, such as Alex MacGillivray, *A Brief History of Globalization: The Untold Story of Our Incredibly Shrinking Planet* (London: Robinson, 2006). Concepts of webs or networks as economic and idea frameworks is best articulated by J.R. McNeill and William H. McNeill, *The Human Web: A Bird's-Eye View of World History* (New York: W.W. Norton, 2003).
  - 8 Helmut Maier, “‘New Age Metal’ or ‘Ersatz’? Technological Uncertainties and Ideological Implications of Aluminum up to the 1930s,” *Icon: Journal of the International Committee for the History of Technology* (March 1997): 182.
  - 9 Ibid.; D.E. Nye, *Electrifying America: Social Meanings of a New Technology, 1880–1940* (Cambridge: University of Cambridge Press, 1990), 149.
  - 10 Eric Shatzberg, “Symbolic Culture and Technological Change: The Cultural History of Aluminum as an Industrial Material,” *Enterprise and Society* 4 (June 2003): 226–7.
  - 11 Marie Boas Hall, “The Strange Case of Aluminum,” *History of Technology* 1 (1976): 143–57.
  - 12 Matthew D. Evenden, *Fish versus Power: An Environmental History of the Fraser River* (Cambridge: Cambridge University Press, 2004), esp. chap. 4, “The Power of Aluminum”; Donald Worster, *Nature's Economy: A History of Ecological Ideas* (New York: Cambridge University Press, 1994); Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Pantheon Books, 1986); Patrick McCully, *Silenced Rivers: The Ecology and Politics of Large Dams* (London: Zed Books, 2001), esp. chap. 1, “The Power and the Water.”
  - 13 Brian Black, “Authority in the Valley: TVA in *Wild River* and Popular Media, 1930–1940,” *Journal of American Culture* 18, no. 2 (1995): 1–14; Daniel E. Klingensmith, “‘One Valley and a Thousand’: Remaking America, India and the World in the Image of the Tennessee Valley Authority, 1945–1970” (PhD diss., University of Chicago, 1998).
  - 14 Duncan C. Campbell, *Global Mission: The Story of Alcan* (Montreal: Alcan Aluminum, 1985), 1:4–29.
  - 15 *Prospectus* Aluminum Limited (ALCAN), “Kitimat Townsite Report,” file 3, box 3, Clarence Stein Papers (hereafter CSP), Division of Rare Books and Manuscript Collections, Cornell University Library. In a comparison of the membership of the Board of Directors of Alcan and Alcoa well into the 1950s, Alcan was still very closely related to Alcoa.
  - 16 Lucie K. Morisset, *Arvida, cite industrielle: une épopée urbaine en Amérique* (Sillery, QC: Septentrion, 1998).
  - 17 The influence of Alcan on the “modernization” of a seemingly backward and sleepy rural Quebec since its inception in the 1920s has been reported (especially) during the 1940s in *Canadian Geographic*. See especially J.B. McGuire, “The Saguenay Valley—and Aluminum,” September 1943, 131–147; and J.B. McGuire and H.E. Freeman, “How the Saguenay River Serves Canada,” November 1947, 200–225.
  - 18 *Prospectus* Aluminum Limited (ALCAN), file 3, box 3, CSP.
  - 19 B.J. McGuire and H.E. Freeman, “How the Saguenay River Serves Canada: The Manufacture of Aluminum,” *Canadian Geographic Magazine* 35 (November 1947): 200. A metric tonne is approximately 1,000 kg.
  - 20 Ibid., 200–7. Robin S. Gendron, Mats Ingulstad, Espen Stori, eds., *Aluminum Ore: The Political Economy of the Global Bauxite Industry* (Vancouver: University of British Columbia Press, 2013).
  - 21 *Prospectus* Aluminum Limited (ALCAN), file 3, box 3, CSP.
  - 22 “Aluminum’s New Empire: U.S. and Canada Lay Plans to Triple Capacity,” *U.S. News and World Report*, 5 September 1952, 33–35.
  - 23 Eric West (vice-president, Alcan) to Clarence Stein 13 July 1951, box 2, CLS. Also see Richard Austin Smith, “Aluminium Ltd.: Unlimited Aluminum,” *Fortune* (June 1954), 104–11, 220, 222, 225, that predicted an output of 550,000 tons after 1957.
  - 24 Alcan’s subsidiary, International Harvester Company, issued the news release, enclosed in correspondence, 28 October 1952, 1, box 2, CLS.
  - 25 Alcan faced some brief competition over the BC site from the American-based Reynold’s Aluminum, but ultimately Alcan won out. Campbell, *Global Mission*, 2:65.
  - 26 While Alcan was the subject of at least two dozen feature articles in such magazines as *Harper’s*, *Fortune*, *Business Week*, *National Geographic*, and *Reader’s Digest*, for the Canadian market, a series of articles in *Canadian Geographic Journal* in 1943, 1947, and 1959 best exemplify the attempt by Alcan to associate its own business with the transcendent properties of aluminum itself.
  - 27 William L. Bird Jr., *“Better Living”: Advertising, Media, and the New Vocabulary of Business Leadership, 1935–1955* (Evanston, IL: Northwestern University Press, 1999), 201–2.
  - 28 Lawrence R. Samuel, *Brought to You By: Postwar Television and the American Dream* (Austin: University of Texas Press, 2001), 37.
  - 29 Ibid.
  - 30 Jean Barman, *The West beyond The West: A History of British Columbia*, rev. ed. (Toronto: University of Toronto Press, 1996), esp. chapter 12, “The Good Life.” Also David J. Mitchell, *W.A.C. Bennett and the Rise of British Columbia* (Vancouver: Douglas & McIntyre, 1983), 256–60.
  - 31 The negotiations, from Alcan’s point of view, are recounted in Campbell, *Global Mission*, 2:90–5. Soren C. Larsen places this development in a Fordist framework in “Place Identity in a Resource-Dependent Area of Northern British Columbia,” *Annals of the Association of American Geographers* 94, no. 4 (2004): 950.
  - 32 Eric West, vice-president and director of personnel, ALCAN, “Alcan’s British Columbia Project,” speech to Chamber of Commerce, Victoria, BC, 28 November 1952, 10, box 2, CLS.
  - 33 Neuberger, “Kitimat,” 56. Total wattage of the dam taken from Smith, “Aluminium Ltd.,” 110.
  - 34 Alcan sold the surplus electricity to the British Columbia Utilities Commission. Larsen, “Place Identity in a Resource-Dependent Area,” 950, and esp. n5.
  - 35 Ibid.
  - 36 Tina Loo, “People in the Way: Modernity, Environment, and Society on the Arrow Lakes,” *BC Studies* 142/143 (Summer/Autumn 2004), esp. 161–4.
  - 37 Alcan (International Harvester) news release, 28 October 1952. CLS Box 2. pp. 1, 4.
  - 38 Neuberger, “Kitimat,” 56–60.
  - 39 Smith, “Aluminium Ltd.,” 225.
  - 40 The exception is Janice Beck, *Three Towns: A History of Kitimat* (Kitimat, BC: Kitimat Centennial Museum Association, 1983), esp. chap. 1, “The First Peoples.” Other histories of Kitimat have sometimes included discussions of First Nations people in the area. See Ira Robinson, “New Industrial Towns on Canada’s Resource Frontier,” Program of Education and Research in Planning, Research Paper no. 4, University of Chicago, Department of Geography, 1962, 24. Duncan’s official history of Alcan, *Global Mission*, has only 1 page of nearly 1,500 that mentions the Kitimaat nation. See also Larsen, “Place Identity in a Resource-Dependent Area,” 950, for a recent account.
  - 41 June Wood, *Home to the Nechako: The River and the Land* (Vancouver: Heritage House Publishing, 2013), 18–19.
  - 42 Beck, *Three Towns*, 28–9.
  - 43 Robinson, *New Industrial Towns on Canada’s Resource Frontier*, 24.

- 44 West held various senior executive positions, including president of the Alcan Board of Directors. Campbell, *Global Mission*, 2:135, 2:431, 3:755, 3:1183.
- 45 Campbell, *Global Mission*, 2:135. This was despite the fact that Eugene Faludi had almost single-handedly revived the Town Planning Institute of Canada and begun a program of exhaustively promoting professional town planning (and its professionalization) in the postwar period. Faludi had experience in planning industrial new towns himself, as did several other planners in Canada. *Biographical Data, Eugenio G. Faludi, D.A., P.Eng.* (E.G. Faludi and Associates, n.d.), 3–6, file 1-1, vol. 1, MG30 B136, Library and Archives Canada. And also Bradley D. Cross, “New Jerusalem for a New World: The Garden City Idea in Town Planning Thought and Practice in Britain, Canada, and the United States, 1900–1970” (PhD diss., University of Cincinnati, 1997). See esp. chap. 6, “Community Planning in Canada, Post WWII.”
- 46 Campbell, *Global Mission*, 2:135.
- 47 Ibid.
- 48 Eric West of Alcan to Stein, 13 July 1951, box 2, CLS. This correspondence describes West as a vice-president of Alcan (then called Aluminum Limited). It is unclear from available documents how West came to know about Stein. Stein’s own papers make no mention of this, and West’s papers are the confidential property of Alcan, which has not granted the author access at the time of writing.
- 49 Daniel Schaffer, *Garden Cities for America: The Radburn Experience* (Philadelphia: Temple University Press, 1982). For a discussion of the development of comprehensive planning ideas, Robert B. Fairbanks, *For the City as a Whole: Planning, Politics, and the Public Interest in Dallas, Texas, 1900–1965* (Columbus: Ohio State University Press, 1998), esp. chapter 7.
- 50 Clarence Stein, “Kitimat Townsite Report,” 11 May 1952, 2, box 2, CLS.
- 51 Clarence Stein to Eric West of Alcan, 27 July 1951, 3, box 2, CLS. Clarence S. Stein, *Toward New Towns for America* (New York: Reinhold Publishing, 1951).
- 52 Stein and Wright’s plan was never fully carried out, given the onset of the Great Depression and the bankruptcy of the RPAA, but they promoted the project as a totally “modern” concept. See Stein’s account of Radburn in Stein, *Toward New Towns for America*, chap. 2.
- 53 Clarence Stein, *Toward New Towns for America*, rev. ed. (New York: Reinhold Publishing, 1957). The book offered a detailed examination of Stein’s planning repertoire, including examinations of Sunnyside Gardens, Radburn, Chatham Village, the three Greenbelt towns, and Baldwin Hills, among other places. He first published the book in 1951, then a revised edition in 1957.
- 54 Stein, *Toward New Towns for America*, rev. ed. See especially the foreword, in which he outlines Radburn’s influence on Kitimat.
- 55 Scholars elsewhere who have given analysis to Stein’s planning philosophy and practice in this period suggest that the planner continued to play a central role in developing regional planning ideas in the postwar period. In particular Kristin Larsen discussed Stein’s ideas on regional planning with respect to Kitimat in “Cities to Come: Clarence Stein’s Postwar Regionalism,” *Journal of Planning History* 4 (February 2005): 33–51.
- 56 Kenneth T. Jackson coined the term in his *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985).
- 57 Stein to Aline MacMahon (Stein’s wife), on the “Princess Nora between Kitimat and Vancouver,” 23 October 1951, folder 5, box 37, CLS.
- 58 Stein to Eric West, 27 July 1951, 4, box 2, CLS.
- 59 Jack Fossum, *Mancatcher* (Comox, BC: Lindsay, 1990), 125.
- 60 Stein to Eric West, 27 July 1951, 5, box 2, CLS.
- 61 Stein to J.B. White, 15 March 1952, box 2, CLS.
- 62 For biographical sketches of Mayer and Whittlesey, see Kermit Carlyle Parsons, ed., *The Writing of Clarence S. Stein: Architect of the Planned Community* (Baltimore: Johns Hopkins University Press, 1998), appendix C.
- 63 Stein to J.B. White, 15 March 1952.
- 64 Transcript of telephone conversation, Stein to J.B. White, 9 December 1952, file 38, box 2, CLS.
- 65 Stein to J.B. White, 5 February 1953, file 38, box 2, CLS.
- 66 See editor’s footnotes and letter to Aline MacMahon (Stein), 22 January 1952, in Parsons, *Writing of Clarence S. Stein*, 544–5; Larsen, “Cities to Come,” 33–51.
- 67 For example, Stein to Aline MacMahon (Stein), 8 February 1953, folder 6, box 37, CLS.
- 68 Stein, *Towards New Towns for America*, rev. ed., 44.
- 69 I have been unable to find any reference Stein made for the explicit decision to turn Kitimat’s houses inward to green spaces. The author assumes it was generally understood by the client that Kitimat would follow planning techniques employed at Radburn.
- 70 Stein to Stanley Rough, 12 October 1955, folder 19, box 3, CLS; and Parsons, *Writings of Clarence S. Stein*, 559.
- 71 José E. Iguarta, *Arvida au Saguenay: naissance d’une ville industrielle* (Montreal and Kingston: McGill-Queen’s University Press, 1996); Morisset, *Arvida, cite industrielle*. See also Campbell, *Global Mission*, vol. 1, chap. 4, “The Saguenay Region.”
- 72 E.H. Roberts, “Arvida and Kitimat: The Story of Two Industrial Community Properties,” *Canadian Labour* 3 (1958): 10–13. Roberts was a vice-president of Alcan, writing at the time for a special edition of this magazine published by the Canadian Labour Council.
- 73 Campbell, *Global Mission*, 2:140–1.
- 74 Diane Boucher, *The 1950s American Home* (Oxford: Shire Publications, 2013), 14–27.
- 75 Fossum, *Mancatcher*, 124.
- 76 Ibid.
- 77 The Mendel Family blog, [http://wiki.themendelfamily.net/index.php/Diary\\_of\\_Gisela\\_Mendel\\_%28nee\\_Heimbach%29\\_growing\\_up\\_in\\_Germany,\\_she\\_was\\_born\\_in\\_1922](http://wiki.themendelfamily.net/index.php/Diary_of_Gisela_Mendel_%28nee_Heimbach%29_growing_up_in_Germany,_she_was_born_in_1922). Gisela Mendel (b. April 1922, d. April 2008). Similar reflections have been included in Walter Thorne and Dirk Mendel, *Kitimat Chronicles*. Vol. 1, *Short Historical Sketches from Kitimat, BC’s Past—1787–1960* (Victoria, BC: Printorium Bookworks, 2011); Walter Thorne and Dirk Mendel, *Kitimat Chronicles*, vol. 2 (Smithers, BC: Bulkley Valley Printers, 2013).
- 78 The Mendel Family blog, “In 1956 We Had Forgotten about the War.”
- 79 “Industry Builds Kitimat: First Complete New Town in North America,” *Architectural Forum*, July 1954, 128.
- 80 “Industry Builds New Town,” *Architectural Forum*, July 1954, 134. This passage seems a paraphrase of Stein’s “Townsite Report,” 11 May 1952, 1, section 1.3, Planning Objectives for Kitimat, box 2, CLS.
- 81 The Mendel Family blog, “It Was a Big Decision to Move.”
- 82 Fossum, *Mancatcher*, 175.
- 83 Julian Whittlesey, project architect, to Clarence Stein, “Kitimat Notes,” 18 December 1953, 4, box 2, CLS.
- 84 See especially folders 27 and 28, box 3, CLS, containing photographs, captions, and descriptions of Kitimat housing and building materials.
- 85 Gilbert A. Stelter and Alan F.J. Artibise, “Canadian Resource Towns in Historical Perspective,” in *Little Communities & Big Industries*, ed. Roy T. Bowles, 47–60 (Toronto: Butterworths, 1982).

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- 86 Cross, “New Jerusalems for a New World”; Michael Simpson, *Thomas Adams and the Modern Planning Movement: Britain, Canada, and the United States, 1900–1940* (London: Mansell, 1985).
- 87 Rex A. Lucas, *Minetown, Milltown, Railtown: Life in Canadian Communities of Single Industry* (Toronto: University of Toronto Press, 1971).
- 88 Robert S. Robson, “Flin Flon: A Study of Company-Community Relations in a Single Enterprise Community,” *Urban History Review/Revue d’histoire urbaine* 12, no. 3 (February 1984): 29–43; Robson, “Wilderness Suburbs: Boom and Gloom on the Prairies, 1945–1986,” *Prairie Forum* 13, no. 2 (Summer 1988): 191–219; L.D. McCann, “The Changing Internal Structure of Canadian Resource Towns,” in Bowles, *Little Communities & Big Industries*, 61–81.
- 89 Stanley Buder, *Pullman: An Experiment in Industrial Order and Community Planning, 1880–1930* (New York: Oxford University Press, 1967).
- 90 Peter Hall, *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century* (Oxford: Basil Blackwell, 1988), 55, 89.
- 91 Stelter and Artibise, “Canadian Resource Towns in Historical Perspective,” 51–2.
- 92 Ibid., 51.
- 93 “Settling In,” Kitimat Museum and Archives,” <http://www.kitimatmuseum.ca/node/106>.
- 94 Eric West (vice-president, Alcan), to Clarence Stein 13 July 1951, box 2, CLS.
- 95 Yet to build any industrial town without a comprehensive town plan would have been very unusual by the 1950s. Stelter and Artibise, “Canadian Resource Towns in Historical Perspective,” 55–7.
- 96 Clarence Stein, “Kitimat Townsite Report,” 11 May 1952, box 2, CLS Box 2.