

# *THE WASHINGTON OF THE NORTH: THE DESIGN AND CREATION OF AN INDUSTRIAL METROPOLIS*

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by Lucie K. Morisset

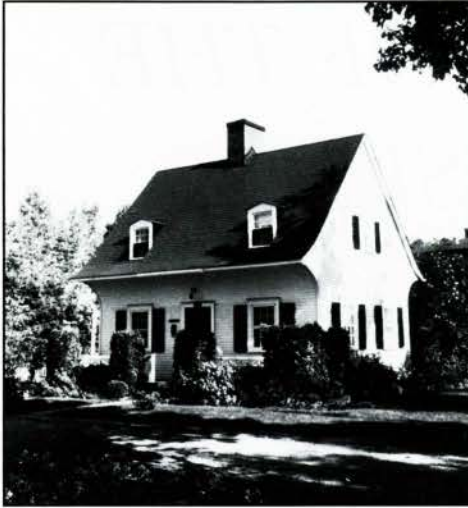


Figure 1 (previous page). Aerial view of Arvida, Québec, in 1945, planned and constructed by the Aluminum Company of America. (Alcan [Montréal], JON/45/2 #2)

Figure 2 (above). House designed by architect Léonce Desgagné (type "D-6") and built in Arvida about 1936. Photographed c. 1950 by Ellefsen. (Archives nationales du Québec à Chicoutimi [hereafter ANQC], fonds SHS, 12391)

1 More information on the subject discussed here, including full notes and a bibliography, can be found in my doctoral thesis, "Arvida : cité modèle, ville moderne, ville de l'aluminium," Université de Bretagne occidentale (Brest, France), 1996. Part of this research has been published in Lucie K. Morisset and Luc Noppen, "La ville de l'aluminium," in *Villes industrielles planifiées* (Montréal: Centre Canadien d'Architecture/Boréal, 1996), 177-239, 271-81.

2 Arvida is now a part of the city of Jonquières.

3 See, among others, Beth Ellison, "Model City Built by Aluminum Industry," *Engineering and Contract Record* 58, no. 7 (July 1945): 64; "Arvida, Pays de l'Aluminium," *La Revue Colombienne*, June 1944, 4; Fergus Cronin, "Arvida: Ace Company Town," *Saturday Night*, 13 December 1949; and Léonidas Belanger, *La ville de l'aluminium* (Rivière-du-Moulin, 1981).

4 In 1943 the population of Arvida was 12,280. Anne-Marie de Launière-Dufresne, "Arvida a 50 ans, comme le premier lingot d'Aluminium qu'on y a coulé," *Perspectives* 18, no. 26 (26 June 1976): 4; Camil Girard and Normand Perron, *Histoire du Saguenay-Lac-Saint-Jean* (Sainte-Foy, Qué.: IQRC, 1989), 341; and Census of Canada.

5 Hydro-Québec was created in 1944.

6 These are the Isle-Maligne power plant (402 MW in 1926, when it opened), Chute-à-Caron (224 MW, opened in 1931), and Shipshaw 2 (896 MW in 1941), for a total of more than 1,500 MW available to Alcan at Arvida in the 1940s. Hydro-Québec in 1944 had only 616 MW with 4 power plants.

7 Paul-André Linteau, André Durocher, and Jean-Claude Robert, *Histoire du Québec contemporain, tome 2: Le Québec depuis 1930* (Montréal: Boréal, 1989), 65.

8 Regarding the Saguenay Inn (the company's hotel) and l'Église Saint-Jacques, see Claude Bergeron, *Architectures du XX<sup>e</sup> siècle au Québec* (Québec: Éditions du Méridien, 1989), and Claude Bergeron, *L'architecture des églises du Québec 1940-1985* (Sainte-Foy, Qué.: Les Presses de l'Université Laval, 1987).

The town of Arvida,<sup>1</sup> located in the Saguenay region of Québec about 250 kilometres north of Québec City—or, as described at the time, "450 miles north of Boston"<sup>2</sup>—was founded in 1925 by the Aluminum Company of America. It was a *company town*: the multinational company that established it near its new aluminum plant took complete charge of every aspect of its planning, from the layout of the streets to the housing for its employees, down to the last detail.

Arvida stands out in the history of single-industry towns. It was designed by a prominent New York town planner at a time when very few company towns were being built according to an overall plan. The Aluminum Company of America intended to use striking perspectives and colour illustrations to publicize an ambitious urban project on the scale of a metropolis, like Washington or Chicago. Arvida was to be more than just another industrial town; it was intended to be a showcase of Canadian trends in architecture, and of the latest advances in North American town planning and urban housing. Eventually, it would stand as a paragon of architecture and town planning from 1925 to 1950. This essay draws a brief sketch of this "Washington of the North."

Twenty years after it was founded, Arvida was being acclaimed in the international press not only as a "modern city," but as a "model city."<sup>3</sup> It made headlines as the capital of a prosperous metallurgical industry, and the very embodiment of an effective Canadian war effort. Visitors to the so-called "aluminum city" could admire the striking panorama of charming, spacious, distinctive workers' houses, wide tree-lined avenues, magnificent modern buildings, and lavish public amenities (figures 1, 2). The aluminum plant, which provided a direct or indirect livelihood for Arvida's 10,000 inhabitants,<sup>4</sup> symbolized the success of industrialization at a time when plans were underway throughout Québec to bring the province's hydroelectric resources under state control.<sup>5</sup> Arvida, being connected to three of Québec's largest power stations,<sup>6</sup> was also, in a sense, the offspring of the hydroelectric industry.

It is therefore surprising that history seems to have forgotten Arvida. From a purely statistical perspective, the town's birth in 1925 constitutes one of the last milestones in the history of pre-Depression industrial colonization. Moreover, Arvida can claim one of the most spectacular demographic increases in Canada,<sup>7</sup> representing the birth of the "city" in the Saguenay-Lac-Saint-Jean region. Nonetheless, with the exception of the occasional reference to a few of the city's notable public buildings or other architectural landmarks (figure 3),<sup>8</sup> Arvida has not been the subject of a monograph, nor has it been included in any history of architecture or treatise on town planning. In spite of the apparent lack of interest in Arvida's carefully planned urban agglomeration, the attention paid by the company to all aspects of the planning of Arvida resulted in a large-scale urban venture every bit as worthy of interest as the hydroelectric and industrial facilities in the aluminum city.

### An unprecedented hydroelectric capacity; an ambitious industrial dream

The beginnings of industrialization in Québec and the lure of the hydraulic potential of the Saguenay-Lac-Saint-Jean region preceded the founding of Arvida. In Québec,

the dawning of the new century marked the transition of an agricultural society to industrialized life. The development of natural resources transformed the social and economic framework of the province in a matter of only a few years: colonization, migration, and urban development brought about by the mining, pulp and paper, electrometallurgical, electrochemical, and hydroelectrical industries fashioned a new demographic map—on which the Saguenay–Lac-Saint-Jean region would be one of the important centres. As these businesses flourished, power stations, factories, and, consequently, industrial towns sprang up in this region. With the founding of the new towns of Val-Jalbert, Kenogami (Jonquière), Riverbend (Alma), Dolbeau, Isle-Maligne, and Arvida between 1891 and 1931, the population of the Saguenay–Lac-Saint-Jean region grew almost fourfold in less than forty years, from 28,726 to 105,977 inhabitants.<sup>9</sup>

The history of Arvida actually began in 1920, when Sir William Price, owner of the paper mills bearing his name and founder of the industrial towns of Kenogami and Riverbend in the Saguenay region and at Lac-Saint-Jean respectively, entered into partnership with American industrialist James Buchanan Duke to build a new power station. Eying the colossal hydraulic potential of Lac-Saint-Jean, the two partners planned an ambitious project: to build the most powerful power station in the Western world. Work began in June 1920.

The Duke-Price partnership was a lucrative one. By working with Price, Duke could get around the barriers of Québec protectionism, which was vigorously defended by the Conservative opposition in the provincial government. As for Price, the partnership provided him with the energy needed to run his paper mills in Riverbend and Kenogami. But for a hydroelectric project of this scope to be profitable, it was essential to attract clients with needs much greater than those of Price's paper mills. In short, this monumental hydroelectric project necessitated a correspondingly Olympian demand for power.

On 20 March 1925, Duke signed a contract with the energy-hungry Aluminum Company of America. The local newspaper, *Le Progrès du Saguenay*, could then declare with pride that "this year, for the first time, the province of Québec has produced more electricity than Ontario, thanks to the Grande-Décharge dam. Québec's superiority will be even more obvious once Chute-à-Caron reaches its 800,000 horsepower capacity."<sup>10</sup> At that time, no industry had that much electrical power at its disposal, nor, in fact, did any industry need that much, with the exception of aluminum plants. The production of one kilogram of aluminum required 15 kilowatt-hours, or as much energy as it then took to produce twenty times as much paper.

Admittedly, the Aluminum Company of America operated on quite a different scale from the Saguenay industries. The integrated multinational enterprise "Alcoa" controlled assets of close to \$200 million and had more than 30 companies engaged in the electrolysis of aluminum, in the mining of bauxite, and in processing, energy, transportation, and sales in Norway, Spain, Italy, France, the United Kingdom, Germany, Latin America, Japan, the United States, and Canada. With interests in Shawinigan, Québec, since 1899, Alcoa was already using Canadian hydroelectric power. With the Saguenay project they had access, according to published reports, to "1,340,000 horsepower of probably the cheapest hydro-electric power on the North American continent."<sup>11</sup>

It was perhaps no surprise, then, that a company which operated on such a grand scale came up with a development scheme of almost megalomaniacal proportions for the Saguenay: an integrated aluminum plant—there were even plans to mine the bauxite found in the region—surrounded by a large, self-contained city worthy of the region's energy potential. On 24 June 1925 the company announced the creation of a new town that would accommodate a population of 25,000, or possibly even 50,000.<sup>12</sup> Arvida would be the third largest city in Québec, behind Montréal and Québec City and far ahead of Trois-Rivières.<sup>13</sup>

The choice of the site was influenced by three decisive factors. There was the proximity of Ha! Ha! Bay, where deep-water mooring and the presence of loading equipment made it possible to eliminate intermediate transshipping. There was the railway, built under the supervision of wealthy industrialist Julien-Édouard-Alfred Dubuc, a key figure in the industrialization of the Saguenay–Lac-Saint-Jean region, which was already serving the area. The train stopped three times a week at the little station at Ha! Ha! Bay Junction, situated more-or-less at the location where the Arvida station would be built. Dubuc had earlier taken an interest in the future site of Arvida, highlighting the potential of the area as early as 1911 in an attempt to attract prospective



Figure 3. The Saguenay Inn, the company's hotel, built in 1939 from plans by Montréal architects Fetherstonhaugh and Durnford. The building is a prominent example of the regionalist movement in Québec architecture. Photograph taken about 1940. (ANQC, fonds SHS, Alcan 10.1, p. E21)

9 Girard, 341.

10 *Le Progrès du Saguenay*, 27 July 1926.

11 "Montreal Star lauds Arvida district," *The Arvidian*, 19 September 1927, 1.

12 *Le Progrès du Saguenay*, 24 June 1925.

13 In 1921, 714,466 people lived on the Island of Montréal, 101,084 people in Québec City and its suburbs (95,193 in the city itself), and 22,267 in Trois-Rivières. Linteau, Durocher, and Robert, 474-75.

**Figure 4. Project for the Town of Arvida, Harry Beardslee Brainerd, architect and city planner, 1926. (Ville de Jonquière)**



investors. Finally, there were the tributaries of the Saguenay River, which offered the possibility of building a second power station close to the future establishment. Above the Saguenay River the clay-covered rock provided a suitable foundation for the future factories.

So, on 1 September 1925, the Aluminum Company of America acquired the railway leading to the site of the future transoceanic port, and bought a wharf where ships would deliver bauxite from British Guyana, raw cryolite from Greenland, and coal from New Mexico for the factory. Alcoa's aluminum would be exported around the world from there. The company then negotiated with about sixty farmers the purchase of the 2,400 hectares of land it needed to build its city.

### **An industrial metropolis**

From the chosen site to the acquired infrastructure, everything conformed to the recommendations of town planners for the layout of company towns with respect to the topography, the proximity of energy sources, and the transportation networks for the raw materials and the finished products.<sup>14</sup> Encircled by the industrial towns of Jonquière, Kenogami, Chicoutimi, Val-Jalbert, Riverbend, and Isle-Maligne, Alcoa's new town at Ha! Ha! Bay Junction had the potential to become the region's capital.

This future town was close to important industries, but far from large cities. Consequently, an infrastructure was needed to attract workers to the Saguenay industrial region and then to keep them there. Alcoa also had to find a way to win over investors if they were to find financing for this venture. For these reasons they announced a project of possibly 50,000 inhabitants at a time when most company towns had no more than 25,000. At almost the same time, the company announced the same population projections for their town of Alcoa in Tennessee. For the capitalists who were being courted, the magic figure of 50,000 could not help bring to mind the legendary success of the town of Gary, Indiana, whose population grew from zero in 1906 to 55,000 in 1920.

While most towns, whether new or redeveloped, had only a perfunctory set of regulations that passed for town planning guidelines, Arvida's charter was specifically adapted for the management of the urban landscape.<sup>15</sup> In addition, Alcoa had all the plans for Arvida, including the buildings, prepared by a town planner, Harry Beardslee Brainerd. Brainerd was a New York architect and member of the American Planning Institute who had worked for the Guggenheim brothers at the well-known firm of Harvey Wiley Corbett and George S. Koyl. He had acquired expertise in the field of town planning with Robert D. Kohn, who later prepared the influential Radburn city plan with John W. Pelt of the firm of Murphy and Dana and George B. Post. Harry Brainerd represented the new generation in a field established twenty years earlier by Daniel H. Burnham. An "Architect and City Planner,"<sup>16</sup> as he called himself, he was the ideal designer for the model company town planned by the Aluminum Company of America.

<sup>14</sup> See Alexander J. Walker, "Company Towns," *Journal of the Town Planning Institute of Canada* 6 (June 1927): 97-101 [part 1]; 6, no. 5 (October 1927): 158-63 [part 2].

<sup>15</sup> The incorporation Act differs from the standard act in the following clause: "The Council may make by-laws ... To regulate the height of all buildings, chimneys, stacks and other structures; to prevent the construction or maintenance of the buildings, walls, chimneys, stacks and other structures as are not of the required stability, and provide for their destruction; to prescribe the depth of cellars and basements ...; to regulate the location within the city of trades, businesses, industries and buildings designed for specific uses and the uses of real property within the city ...; to regulate and prescribe the architecture, dimensions, and symmetry of buildings therein ...." "An Act to Incorporate the City of Arvida," *Statutes of Quebec* 1926, 16 George V, chapter 78, 24 March 1926.

<sup>16</sup> The New York firm Harry Beardslee Brainerd, Architect and City Planner, was founded in 1926. George S. Koyl, ed., *American Architects Directory* (New York: American Institute of Architects, 1955), 69.

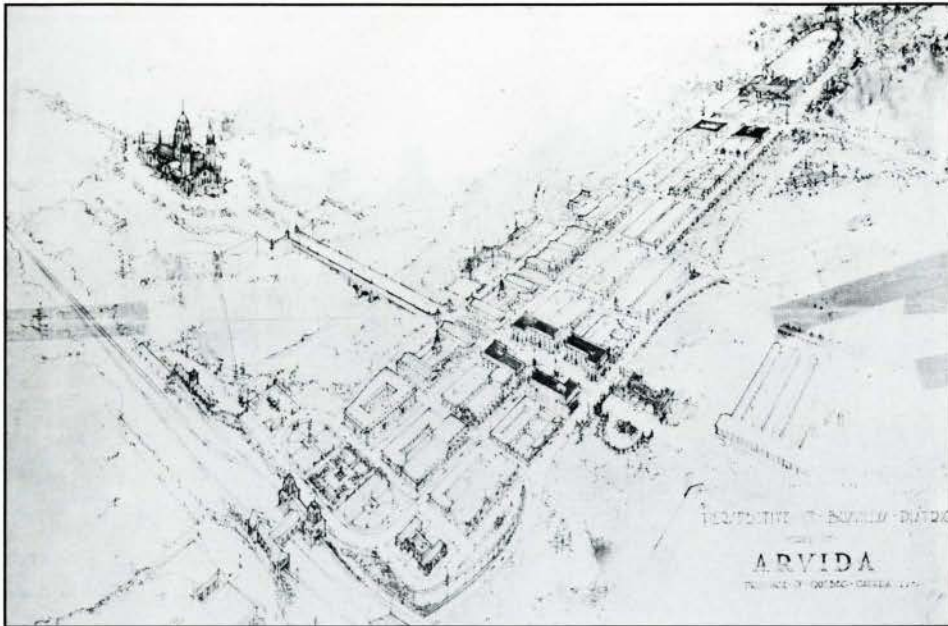


Figure 5. "Perspective of Business District, Town of Arvida," 1926. (Alcan [Jonquière])

Three known artifacts from the period illustrate the magnitude and vision of the Arvida development project: a drawing of the plan of the town published in the form of posters, both in colour and in black and white (figure 4); a scale model representing the proposed development as a whole, showing both the natural and built environment of the town; and an exceptionally fine perspective drawing of downtown Arvida (figure 5). The latter, which in its monumentality was clearly influenced by the "City Beautiful" movement, illustrates the scale of the Aluminum Company of America's model town. Arvida had to become much more than a mere company town; based on Brainerd's plans, the engineer in charge of the city's construction works referred to it as a worthy relation of Washington,<sup>17</sup> where Pierre-Charles L'Enfant's 1791 classical plan had recently been enhanced by a City Beautiful project.

Although a City Beautiful influence is apparent in Brainerd's plan, Arvida was nevertheless a city of the 1920s. This was a period when the purely aesthetic (and very costly) criteria of development proposed at the beginning of the century for Washington, Cleveland, and San Francisco were being challenged. The layout of Arvida, the antithesis of the orthogonal plan, demonstrated a thorough command of the most recent principles of town planning as published by John Nolen, Thomas Adams, Lawrence Veiler, and Morris Knowles. Arvida adopted elements of the Park System, Frederick Law Olmsted's contribution to the City Beautiful movement, and a complex layout that took into consideration the topography and the relative importance of the different kinds of traffic, as well as the residential, commercial, institutional, and industrial functions. It all added up to an unprecedented synthesis of functionalism—a term on everybody's lips in the 1920s—and the eminently aesthetic character of Beaux-Arts town planning, which came about precisely as a reaction to criticism of the ugliness of industrialized towns. It was for its time a perfectly beautiful town.

#### An innovative building site

By using standardized elements, the Aluminum Company of America made Arvida one of North America's most efficient building sites. Construction began early in the summer of 1926; 135 days later the press proudly announced the completion of the 270 houses belonging to the first phase of development.<sup>18</sup> Aware that other new town projects had collapsed under the weight of astronomical construction costs, the planners in Arvida paid as much attention to the actual construction site as to planning the town on paper.

All the components for the conventional North American balloon-frame construction were prefabricated in the temporary sawmills and carpentry shops set up on the townsite, so that no measuring or cutting was needed at the building sites. Concrete for the foundations was prepared in mixers placed at convenient locations around the townsite, after which the foundations were poured using prefabricated formwork. The superstructure materials were transported to each lot on rails installed

17 "Comment on peut construire une ville en 135 jours," *Le Lingot*, Arvida, 19 June 1952, 9.

18 The 270 houses were not those designed by the architect Brainerd, but revised models created by the engineers working for Arvida Works.

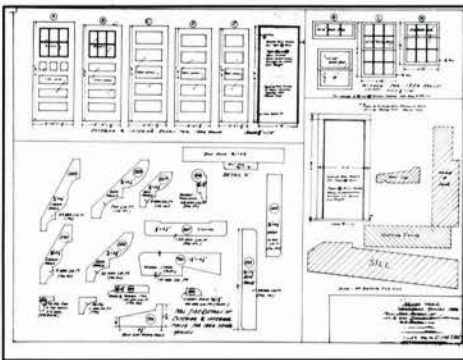
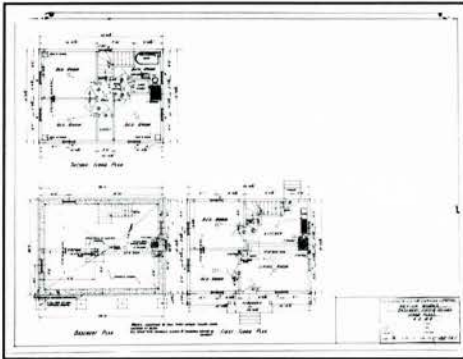


Figure 6 (right). The townsite under construction in 1926, with rails installed in the streets to transport the materials for the houses. (Alcan [Montréal], JON/26/2 #1)

Figure 7 (top). Perspective drawing for two of the houses built in 1926. For each house there was a basic set of six drawings: a perspective, probably made to attract potential investors, two elevations, and basement, ground, and second floor plans. All the houses built between 1926 and 1928 were also catalogued, with specifications for each type (cost, dimensions, heating system, etc.), floor plans, and a picture of a house built according to each model. (Ville de Jonquière)

Figure 8 (middle). Basement, ground, and second floor plans for one of the 148 house types designed for Arvida; type "A2-RH" ("right-handed," since the plans could be reversed), built in 1926. (Ville de Jonquière)

Figure 9 (bottom). Exterior and interior door and window details for workers' houses, 1926. (Ville de Jonquière)



in the streets (figure 6 and cover), branching out as indicated by the organizational charts and tables. These charts also recorded the construction progress for each house element—foundations, framing, flooring, sheathing, roof, chimneys, etc. As one journalist wrote at the time, "Houses are being built at Arvida in much the same fashion as Henry Ford builds automobiles, with the exception that the carpenters go to the work instead of having the work come to them."

Single-family dwellings were built, each set back from the street in suburban fashion, their forms varied to counter the visual monotony common to many industrial communities. Single-family homes were built for two reasons: to offer the employees a level of comfort they could never hope to attain in large cities, and to create a more interesting environment in order to attract investors. Each house model was carefully planned, right down to the last detail (figures 7, 8). The planners then used these blueprints to standardize the types of cornices, windows, doors, cupboards, and garages (figure 9). By reversing these elements in different models they created an impression of variety; even the four different sizes of foundations were placed in diverse ways on the lots to give the impression of a greater number of house models.

For Arvida, Alcoa disregarded the segregation between skilled and unskilled workers' housing that was typical of single-industry towns. Nothing in the appearance of the houses, some small and some larger, made it possible to distinguish from the street the homes of workers from those of executives (figure 10), though the latter enjoyed more comfort in the form of central heating or more luxurious accessories. The chief engineer explained that the houses built in 1926 were modelled on "the conventional style of the time in the province."<sup>19</sup> This statement has a particular significance with respect to standardization.

Arvida represents an alternative to, or perhaps a synthesis of, the theories of standardization for workers' housing then being advanced by architects. While economic necessity led Le Corbusier to opt for "une machine à habiter" and Walter Gropius for "l'homogénéité salubre," Arvida, with its varied landscape, took its cue from the regionalist movement, which maintained that making architecture an integral part of its surroundings would promote the blossoming of the individual. While these ideologies may appear contradictory, Arvida seems to have combined them: by being a credible reflection of the culture of the region, the town promoted a sense of belonging in its workers; and by prefabricating not the forms, as was the custom in Europe, but the architectural materials themselves, Arvida appeased those who championed standardization for reasons of economy.

### The forgotten city

By the summer of 1927, the Aluminum Company of America's grand project had moved well beyond the "paper city" stage (figure 11), where other similar projects of the time had stalled. What misfortunes, then, befell the "Washington of the Saguenay,"

<sup>19</sup> "Arvida, ville champignon," *Le Devoir*, 8 October 1926.

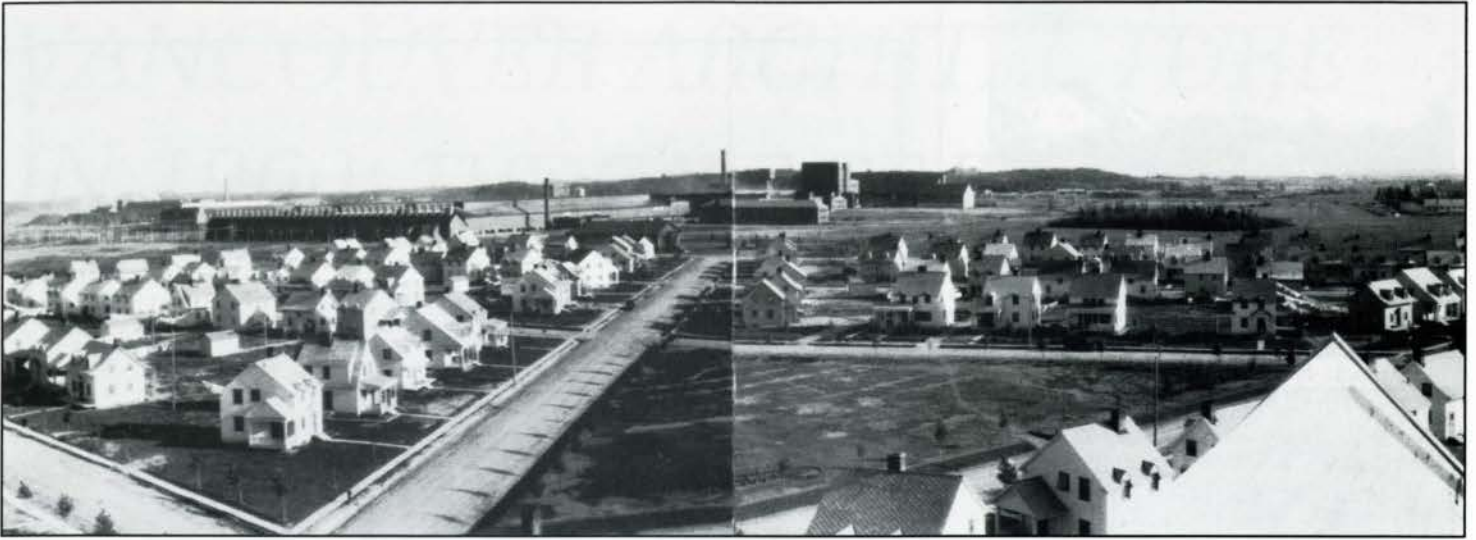


Figure 10 (above). View of the south part of the Arvida townsite shortly after construction, showing most of the house models built in 1926 for workers and executives. (Alcan [Montréal], JON/28/1 #8)



Figure 11 (left). Aerial view of the Arvida townsite in 1927. (Alcoa [Pittsburgh])

causing it to fail to gain the recognition one would expect of a venture of this scale?

In 1928, when the town already had 3,500 inhabitants, the Aluminum Company of America, suspected of monopoly by the American authorities, decided to create a new company, the Aluminum Company of Canada (Alcan). Alcoa separated completely from the new enterprise, relinquishing to it all its foreign properties, including Arvida. The Canadian company was in a vulnerable position when it found itself facing the cold fiscal realities of the Great Depression. The slump in the aluminum markets came very early; at the same time, experimental methods of producing aluminum employed in the Arvida plant failed dismally. In 1928 Alcan decided to put a halt to all construction in Arvida. Five years later, in 1933, the population of the city had fallen to 1,638. Under these circumstances, the city managers clearly had more urgent preoccupations than the creation of a prestigious image.

The Second World War, however, brought a new lease on life to Arvida. As early as 1936, Alcan was hiring workers in growing numbers due to the increased demand for aluminum, especially from an industrializing Japan, and so resumed the construction of homes. The plants were transformed into more effective production units, and before long the war effort made it necessary to set up a third power plant to accommodate the industry's increased operations. The period from 1939 to 1950 saw a fivefold increase in the population of Arvida. The city, once the symbol of the prosperity of the mother company, was now a remarkable textbook of architecture and urban form of the 1940s and 1950s.



Figure 12 (right). The “French Canadian” house model designed by architect Harold Lea Fetherstonhaugh in 1942. (McGill University, Canadian Architecture Collection, Durnford 2.0 Alcan)

Figure 13 (top). View of a street (Radin Road), c. 1945. (Ville de Jonquière)

Figure 14 (above). The Modernist Notre-Dame-de-l'Assomption school, Arvida, built in 1950 from plans by architects Desgagné et Boileau. (Paul Lalime, c. 1950, private collection)



From 1936, Alcan hired some of Canada’s most renowned architects, including Ernest Isbell Barott and Harold Lea Fetherstonhaugh, to design new workers’ housing (figure 12). Under the direction of a very innovative Town Planning Commission, Arvida slowly began to look like the typical towns that came after it, surrounded by residential suburbs of single-family bungalows on winding streets (figure 13). The new institutional buildings built or financed by Alcan represented the latest in modern trends. Some were commendable examples of international modernism (figure 14) while others displayed French Canadian roots.

With respect to the scope of the 1925 industrial plan, Arvida in 1950 could finally be considered completed. Admittedly, the city was a far cry from the one planned by Harry Brainerd in the 1920s—but it would have been considered absurd in 1950 to follow 30-year-old architectural plans. Nevertheless, the grandeur of its original plan and the first steps taken to realize the vision had set in motion the initiative for the completed city. Looking at urban form as a palimpsest of a series of interventions, each one explaining an existing, and sometimes misleading, state, Arvida can be considered as one of the most ambitious town planning projects in North America.

THERE IS A TEMPTATION HERE TO LOOK AT THE SIMILARITIES between the Aluminum Company of America’s industrial town project and the famous *Cité industrielle* by Lyons architect Tony Garnier. Both projects were for a “complete” city, from the layout of the streets and the distribution of the various zones to the design of each house. Garnier and the Aluminum Company of America both had in mind the creation of a metropolis worthy of the grandest capitals, with monuments and long perspectives, but nonetheless devoted to the efficient running of a prosperous industry served by impressive hydroelectric resources. Parallels can even be drawn between Tony Garnier’s avant-garde architecture and the traditionally styled buildings of Arvida. Garnier himself was an enthusiast of Patrick Geddes, the precursor of regionalism in Europe, and advocated the use of materials and architectural forms associated with the place where the building would be erected: in the mind of its creator, Garnier’s inspirational avant-garde housing was rooted in the south of France.

The architecture of Garnier’s project was widely disseminated by Le Corbusier and other authorities on modern architecture, to the critical misfortune of the Arvida project. Taking the comparison even further might confirm the similarity between these two extraordinary projects, and doing so might secure for Arvida a place in the western context, where the planners clearly meant it to belong.

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