
Modernist Ultimate Thule

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Résumé

À partir de la Seconde Guerre mondiale, le gouvernement fédéral canadien s'est de plus en plus intéressé à ses régions nordiques et arctiques, au « pays du nord, puissant et libre », imaginé dans le texte anglais de l'hymne national du Canada. Ces terres lointaines ont fourni les ressources minérales nécessaires à certaines opérations militaires et ont servi de sites à des installations stratégiques. Le développement de nouvelles infrastructures comme l'Alaska Highway – traversant davantage le territoire canadien qu'américain – a également exposé la précarité de l'autonomie canadienne. Les stratégies

pour la canadienisation du nord ont été renforcées par la guerre froide et les politiques de développement, surtout sous le régime Diefenbaker. Des architectes comme Peter Dickinson et Ralph Erskine ont été invités à préparer les plans de nouvelles colonies, notamment Frobisher Bay (1958) et Resolute (1963), où l'on a déployé une technologie de construction de pointe à partir d'objectifs de planification issus du mouvement moderne. Cet épisode illustre la collusion ironique entre le mouvement moderne et les moteurs de la modernité que celui-ci avait l'intention de reformuler.

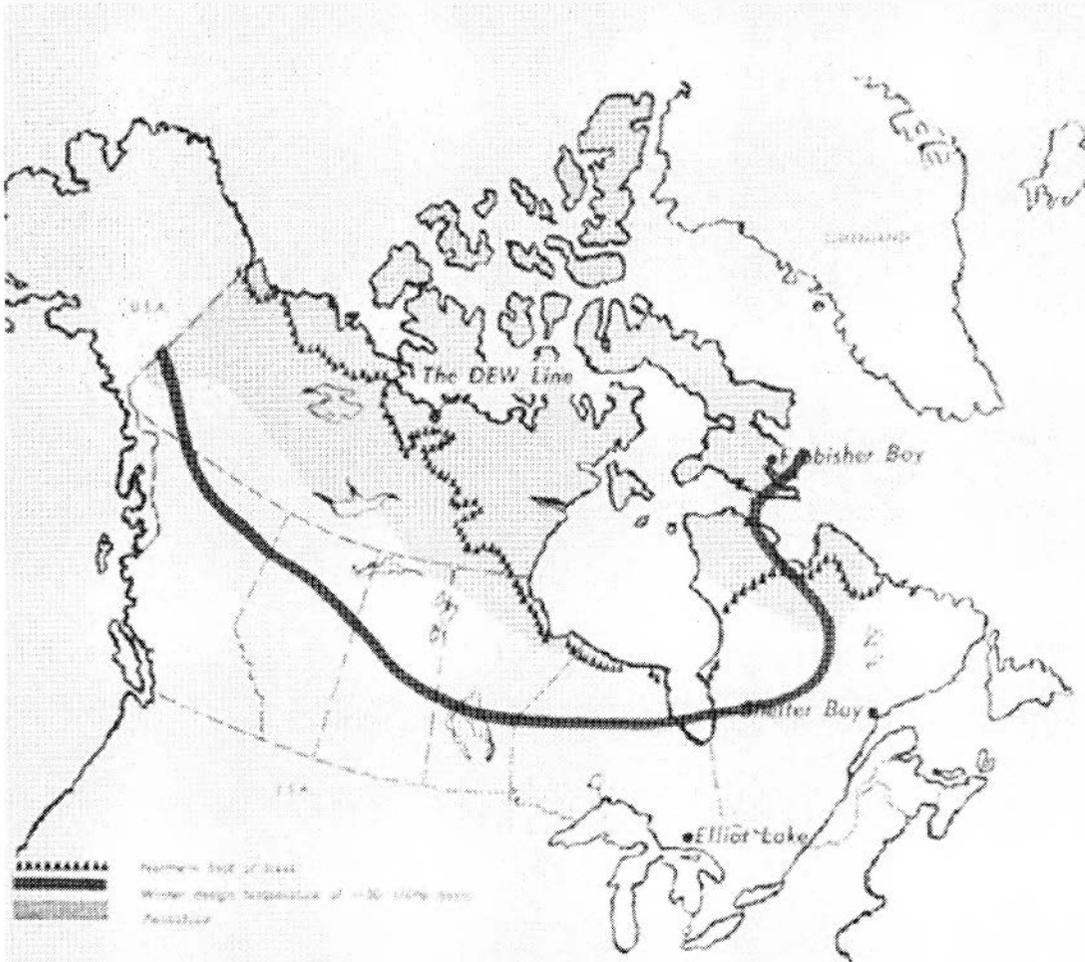
The vast, barely populated Arctic Region figured as a site of utopic imagining and dystopic intervention during the post-1945 reconstruction decades in Canada.¹ A distant objective of the imperial quest for new routes, resources, and regulation, the Canadian Arctic became the politicized object of the national myth of the defining “True North Strong and Free” (fig. 1).² In particular, the region became an arena for the anxious assertion of sovereignty amidst increasing Canadian dependence upon American power and technology during the aptly named Cold War.³ These policies mobilized the presumption of modernity to effect meaningful change irrespective of place or tradition. Ironically, they were enacted through the agency of Modern Movement assumptions about the potency of rational and technological processes to transcend differences of environment, ethnicity, and economy.⁴ One incidental aspect was the adoption in Canada of construction technologies devised for the development of arctic resources and military settlements in the U.S.S.R.⁵ With respect to Canadian architectural culture, the chimerical outcome of the presumptions and assumption is especially evident in the schemes for “new towns” at the settlements established at Frobisher and Resolute Bays. Respectively sited on Baffin and Devon Islands north of Hudson Bay, these miniature arctic reflections of current adaptations of transatlantic modernist town planning principles elsewhere in Canada were designed by governmental and individual architects during the mid-1950s and the late 1960s. They reveal Modernism's evolving constitutive dynamic, and its sometimes-inadvertent collusion with the hierarchical and colonial social forces it purported to disrupt. Nonetheless it will also be shown that the limitations of the modernist project were at least recognized in face of the unique demands of the arctic community and environment.

One broader argument about the nature of theory, applicable to both Modernism and its intellectual cousin, Utopianism, serves to introduce the historical context.⁶ That is the eventually opportunistic yet constrained operation of theory. Modern Movement architecture and planning, like the modernization of the

Canadian North, were coalesced by global conflict and the militaristic iteration of the later capitalist state. The shared fascination with technological capacity, performance, and aesthetic precipitated the devolution of modernist agency from ethic, to colonialist and consumerist operation. That agency's alliance with the systems it hoped to democratize included the projection of alien regime and structure onto the supposedly neutral terrain of the Canadian Low and High Arctic. Thus the more benign plans for Frobisher or Resolute extended procedures and even design features of the resource industry company towns that proliferated from the 1940s. Incidentally, some of the minerals and metals mined in the Canadian North were rendered socially acceptable by association with the aesthetic and ideological paraphernalia of Modernism (for example, uranium as a source for atomic generation of a cheap and clean electricity-based lifestyle, or asbestos as an inexpensive housing material, including its mixture with cement for northern construction) (fig. 2).⁷ The congruence between written, delineated, and material fabrication of societal form has a parodic representation in such circumstances as the naming of the major U.S. northern hemisphere airbase Thule (in Greenland, within the region of Ellesmere Island, where one group of Inuit were relocated 1953–55 at Grise Fiord) or the satirical stitching up of Canadian geography and history in Mordecai Richler's novel *Solomon Gursky Was Here* (1989).⁸ Gursky is supposed to have survived the Franklin expedition (in search of the Northwest Passage) thanks to a supply of kosher food and the help of the Inuit, prior to establishing what is palpably the fictional equivalent of the Bronfman dynasty.

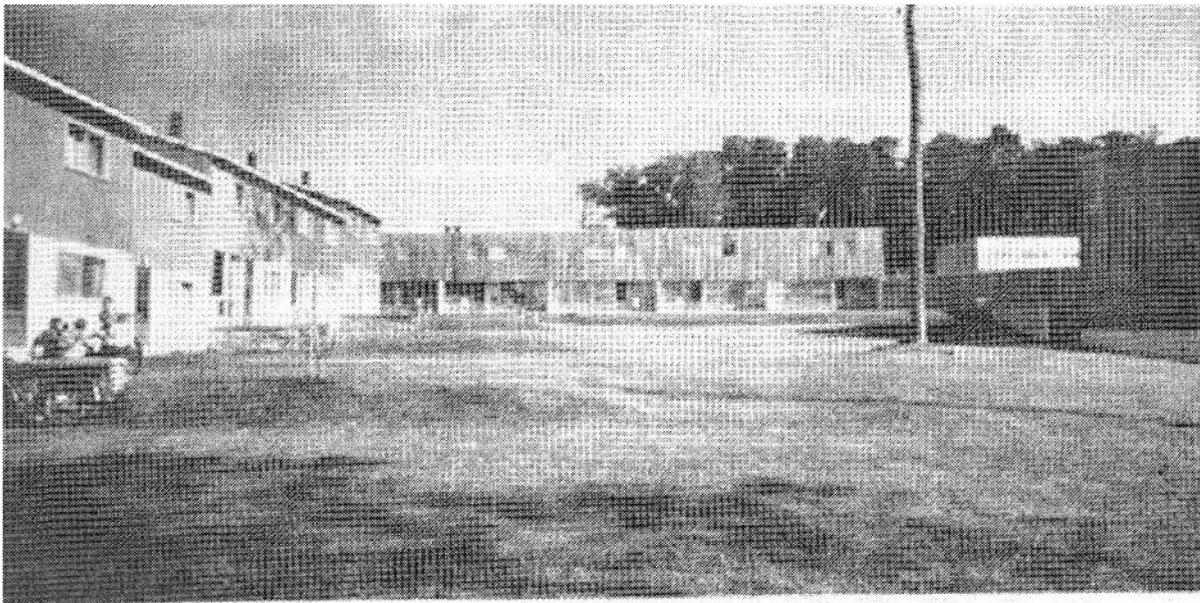
The arctic townsite projects reflected the colonialist and inadequately researched policies formulated by the Canadian government for northern and arctic development. Those policies retained Enlightenment and imperial tropes, such as geographic emptiness and the supposed absence of indigenous or competing people. The Northwest Passage had been the barely defined if potentially valuable northern margin of the Americas.⁹ In much the same manner the Arctic re-entered Canadian

Figure 1. Map of the North, published in *The Canadian Architect*, November 1958, page 36.



THE NORTH

Figure 2. View, and plans for housing at Stanrock Uranium Mine, Elliot Lake, designed by Jerome Markson, 1957, published in *The Canadian Architect*, November 1958, page 58.



ELLIOT LAKE

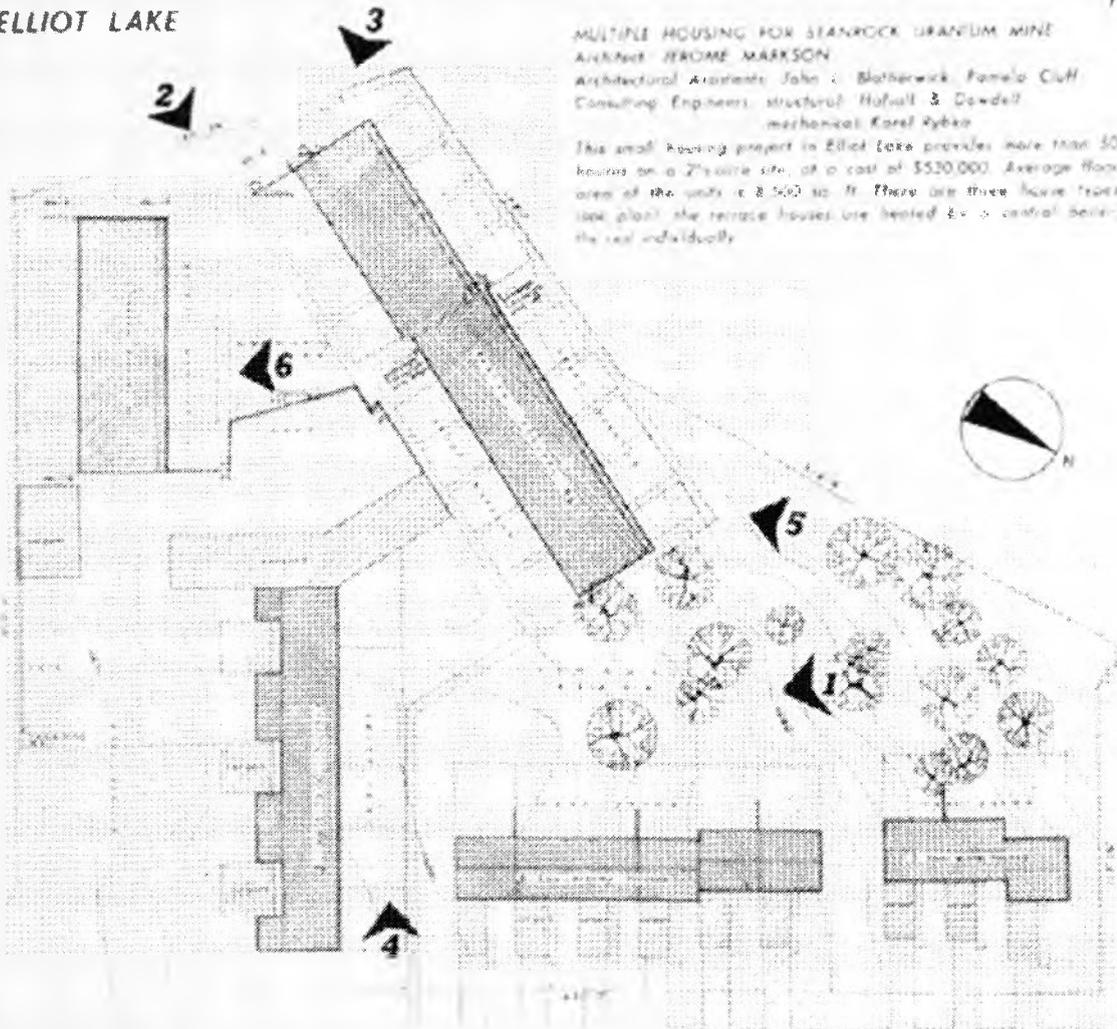


Figure 3. Photograph of Frobisher Bay [Nunavut] in 1958, published in *The Canadian Architect*, November 1958, page 38.



FROBISHER BAY, N.W.T.: FEDERAL GOVERNMENT PROJECT FOR A NEW TOWN

political consciousness as a boundary of control and a sphere of defensive surveillance. The narrative of Nanook of the North, generated around the filmic extension of the Hudson's Bay Company's trade myth of nomadic northern noble savages, was reconstituted to justify relocation of natives from southern Hudson's Bay to Grise Fiord and Resolute Bay in order to Canadianize the High Arctic.¹⁰ These natives – still cyphers of distant authority (being named Eskimo instead of Inuit) – were nonetheless regarded simultaneously as beneficiaries of Western progress and legitimation for new phases of economic and political exploitation of the North.

The North thus served as repository of futures fabricated from redefined pasts. The imprecise terminological and topographical definition of the North intrigued Canadian theorists of political economy, culture, and communication from Harold Innis to Northrop Frye and Marshall McLuhan.¹¹ It worried strategic planners either side of the 49th parallel, and it offered propagandist boon to Canadian politicians in search of a national idea.¹² The major interventions were military and bureaucratic. The former was exemplified by the wartime Alaska Highway or the Cold War DEW Line radar-cum-air force

installations, while the latter harboured strategic objectives, including the townsites at Frobisher and Resolute.¹³ Appropriately, Frobisher Bay had originated with the discovery of "fool's gold" but developed as the hub of the NORAD Early Warning network in 1955–57 (fig. 3).¹⁴ Resolute Bay had been expanded in 1947 from an HBC post into a joint U.S./Canadian weather station and airfield, before being chosen as a site for Inuit relocation in 1952.

The relocation of the Inuit ignored their protests about climatic extremes and insufficiency of sustenance in the northern ecology.¹⁵ In response the federal government claimed that their social and economic conditions would improve. But the government began the relocation without careful analysis of the geographical environments of the projected settlements, instead proceeding chiefly on the basis of prior RCMP detachment sites plus the symbolic assertion of territorial authority. Government policy was equally prompted by fears of rising federal welfare subsidies and complicated by bureaucratic schizophrenia about the desirability of residential or nomadic models of native life. One consequence was woefully inadequate provision for resettlement, compounded by the higher government expenditure

necessitated by the geographical remoteness of the relocation. Ultimately, as already indicated, the main reason for this action was Canadian political resistance to unequal strategic-cum-economic partnership with the United States. The assertion of sovereignty persisted in federally sponsored oil/gas exploration and mining, as at Resolute, along with a succession of governmental initiatives that reconfigured rather than replaced paternalistic paradigms (akin to the persistent application of conventionalized modernist paradigms in the built fabric). The pattern is reflected in the nomenclature of the federal departments responsible for daily policy: during the 1940s, that department was called Indian Affairs and Resources and Development; from 1953 it became the Department of Northern Affairs and National Resources; after the 1957 Gordon Commission on Canadian Economic Prospects policy-making resided in the Department of Indian Affairs; and thereafter in the Department of Indian Affairs and Northern Development.¹⁶ A major change, beyond the scope of this paper, occurred in 1974 with the creation of the Northwest Territories Housing Corporation, funded by the Canada Mortgage and Housing Corporation, and the formation of self-governing townships or municipalities, including Frobisher Bay.¹⁷ In addition, major development projects in Canada, such as the Mackenzie Valley Pipeline, became subject to resistance from ecological pressure groups as well from the regional indigenous populations, reflecting the reassertion of the traditional authority by native peoples across the nation. Interestingly, these diverse contestations of modernization paralleled the contemporary critique of modernist design (fig. 4).¹⁸ The ownership of the North was, to some extent, repatriated in conjunction with the reluctant recognition of aboriginal land claims, signified by the renaming of Frobisher Bay as Iqaluit, and the latter's establishment as the capital of the self-governing eastern arctic territory of Nunavut (Resolute Bay becoming Qausuittuq).

That rediscovery of traditional cultural space and of geo-social place can be partly attributed to the failure of the arctic new towns envisaged by the Canadian federal government in the late 1950s, at the height of the modernist enthusiasm for radical social and aesthetic reconstruction. The towns' fate corroded the broad professional and political consensus for the modernist agenda evident in the rhetoric of major policy documents. The optimism underlying that agenda was evident in, for example, the speech delivered in the Canadian Parliament on 8 December 1953 by the Liberal prime minister, Louis St Laurent, announcing the creation of a Department of Northern Affairs. He emphasized the need to impress upon non-Canadians (American service and business personnel) that they were in "Canadian territory ... that was administered by Canadian authorities." He further predicted that the *north* would replace the

west as repository of "a great future for the benefit of the Canadian nation."¹⁹ The 1957 Gordon Commission report also delineated the "northern reaches of the country" as "a new economic frontier."²⁰ Those ideations of the North were woven into the Conservative Party vision of Canadian modernity articulated by John Diefenbaker during a speech at Winnipeg on 12 February 1958 inaugurating his successful campaign in the federal election: "This national development policy will create a new sense of purpose and national destiny ... I see a new Canada – a Canada of the North," the development of which would give Canadians "a transcending sense of national purpose ... safeguard our independence, [and] restore our unity."²¹

On this regional reiteration of colonial liberal positivism, modernist precept and practice were activated, and were given the task of attaining that transcendence of space and time that adherents claimed was possible through the exercise of functionalist aesthetics and techniques.²² Acceptance of those claims is manifest in the idealist manipulation of site and structure proposed in the 1958 scheme for Frobisher Bay, devised by the chief architect of the Department of Northern Affairs, E.A. Gardner (fig. 5).²³ The recapitulation of the High Renaissance ideal and of modernist planning operates through the recovery of aspects of both explicit and implicit utopianism: a complete solution applied to a remote location that answers perceived needs while responding to the contemporary situation. Where the extant settlement was haphazard, dispersed, and meagre, Gardner and his newly minted modernist team anticipated the techno-sublimity of Archigram and the vast conglomerations of standardized units envisaged for European and Asian plug-in cities. And they referred to the current architectural idiom as exemplified by Thompson Berwick and Pratt's B.C. Electric Headquarters in Vancouver (1956–58) or Peter Dickinson's Canadian Imperial Bank of Commerce in Montreal (1958). Dickinson also drew up plans for Frobisher, akin to the federal project in their abstraction of function and symbolism.²⁴ The new architectonic effects offered by modernist aesthetic and allied building technology appealed to Gardner's generation because these seemed capable of surmounting the ramshackle colonial past and even the ingrained prejudice within the immigrant population; Diefenbaker's northern policy initiated recognition of aboriginal citizenship (fig. 6). To Gardner and his team the sheer geometry and surfaces of the Frobisher Bay scheme would, by invoking cognitive instead of associational response, create an environment that could register the multiple identities of its multifarious populace.

This interpretation of modernist procedure had been argued two years earlier by Anthony Roberts when he reviewed the Department of Public Works scheme for redeveloping Aklavik in *The Canadian Architect* in November 1956.²⁵ Entitled "De-

Figure 4. Aerial view of the Mackenzie River Delta, photographed in ca. 1965 by P. Burnell (Photo: Visual Resources Collection, Art History Visual Art & Theory, University of British Columbia).



Figure 5. Plans for the development of Frobisher Bay New Town designed by E.A. Gardner, Chief Architect of the Department of Northern Affairs, published in *The Canadian Architect*, November 1958, page 45.

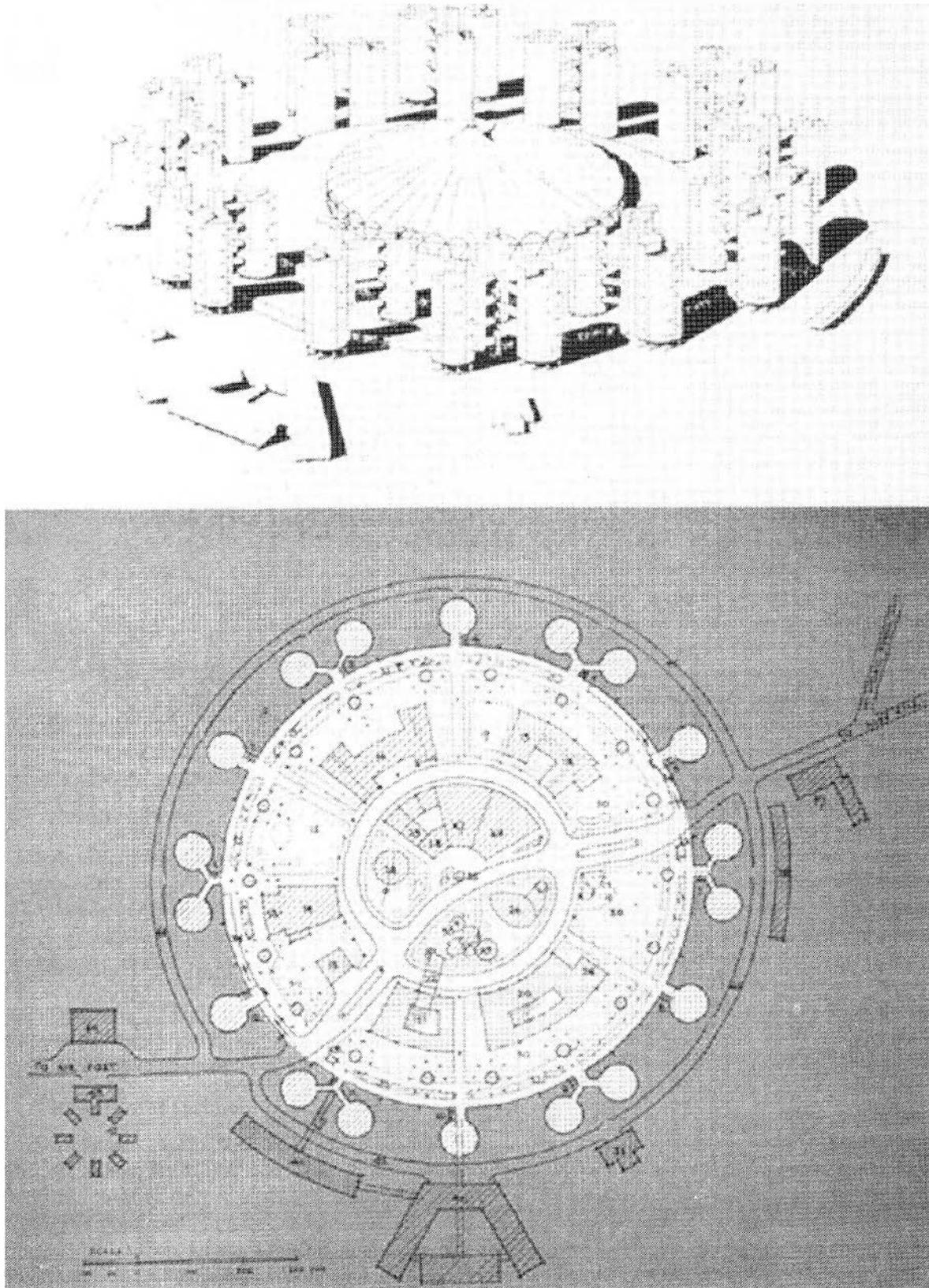
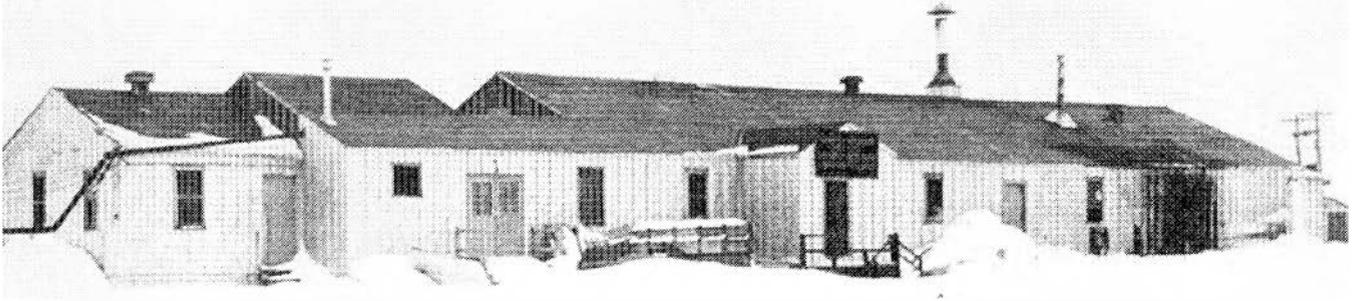


Figure 6. Laundry and dry cleaning plant at Frobisher Bay in 1958, published in *The Canadian Architect*, November 1958, page 47.



sign for the North” – Aklavik lies 68° north – Roberts’s article is prefaced by an aerial photograph of the town, with the caption “Nearly all the troubles of Northern towns stem from the fact that they just grew – like Aklavik, which, since 1912, has struggled and compromised itself into a situation that only complete removal can solve.” While acknowledging the dangers of uncritical reading of the texts of historical record, the phraseology imitates the supercharged rhetoric of post-First and Second World War modernist theory of urban renewal. Roberts reiterated the assertion of Modernism’s belief in the transference of diagnostics and solutions across space and time. Beyond accommodating diversity of population and climatic extremes, Modernism’s sophisticated spatial strategy could alleviate the acute problem of long confinement indoors. Moreover its rejection of precedent offered the chance to attain the elusive goal of national expression. “In this challenge of building the North,” Roberts declared,

Canada has a greater opportunity than any other country to provide a distinctive national architecture. It will be an architecture based not on a superficial style or on a tradition, but a new and pure form which to be successful, is bound to be unique. Its originality will stem from design based on a social pattern and a series of physical economic and political conditions which are not found collectively elsewhere in the world today.

To that end Roberts urged that “the Federal and Provincial Governments must carry out wide-spread research into the multitudinous unknowns which now slowed planned development in the North.”

The act of research, like the act of planning – whether ideal, utopian, or pragmatic – entails intervention and dictation of solutions, howsoever altruistic in intent the planning and

solutions may be. The northern recipients seldom figure in the intercourse of planning beyond being subjects of investigation and objects of reconstruction. The cover of the November 1958 issue of *The Canadian Architect* celebrates the imaginary achievement of analytic planning at Frobisher Bay (fig. 7). But the human presence is mere staffage to the concise embodiment of superstructure, defying the natural situation. The text similarly recasts the northern population as transient inhabitants of what is yet the greatest geographical component of the nation.²⁶ Unstated in the opening sentence of the article, “all Canada is a northern place,” was the fact that Canada’s sites of governance lay well below the 55th parallel. The projection of distant power (and the corresponding historicized figuring of advanced construction) is the manifest logic of the Frobisher scheme. The thirty-six apartment towers encircling the domical town centre were to be grouped in twelve groups of three, rising twelve stories, and built of “sliding-form concrete silo [double wall] construction with lift slab floors” (fig. 8). The logic extended into the arrangement of facilities, provision of infrastructure, and choice of synthetic materials favoured by Modernism. (In this respect, the movement reiterated an anti-ecological concept of natural value: nature could only realize its full worth in the act of transformative exploitation.) Steel, concrete, aluminum, glass, and plastic were each more serviceable and safe than stone or wood (wood burning rapidly at low temperatures), as had been proven by the prefabricated DEW Line structures: “trains of modular buildings ... formed in an H-plan, with one of Buckminster Fuller’s geodesic radomes, 55 ft in diameter sitting on a high platform above one end of one arm of the H.”²⁷ Significantly the landscaped community hub at Frobisher was to be covered by a simpler thin-shell concrete protective dome, and heated by atomic power.

The basic problems of transportation costs and volatile economic activity aborted the Frobisher Bay new town. Modest

Figure 7. Cover of *The Canadian Architect* for November 1958, illustrating two of the residential high-rise towers designed by E.A. Gardner for Frobisher Bay New Town.

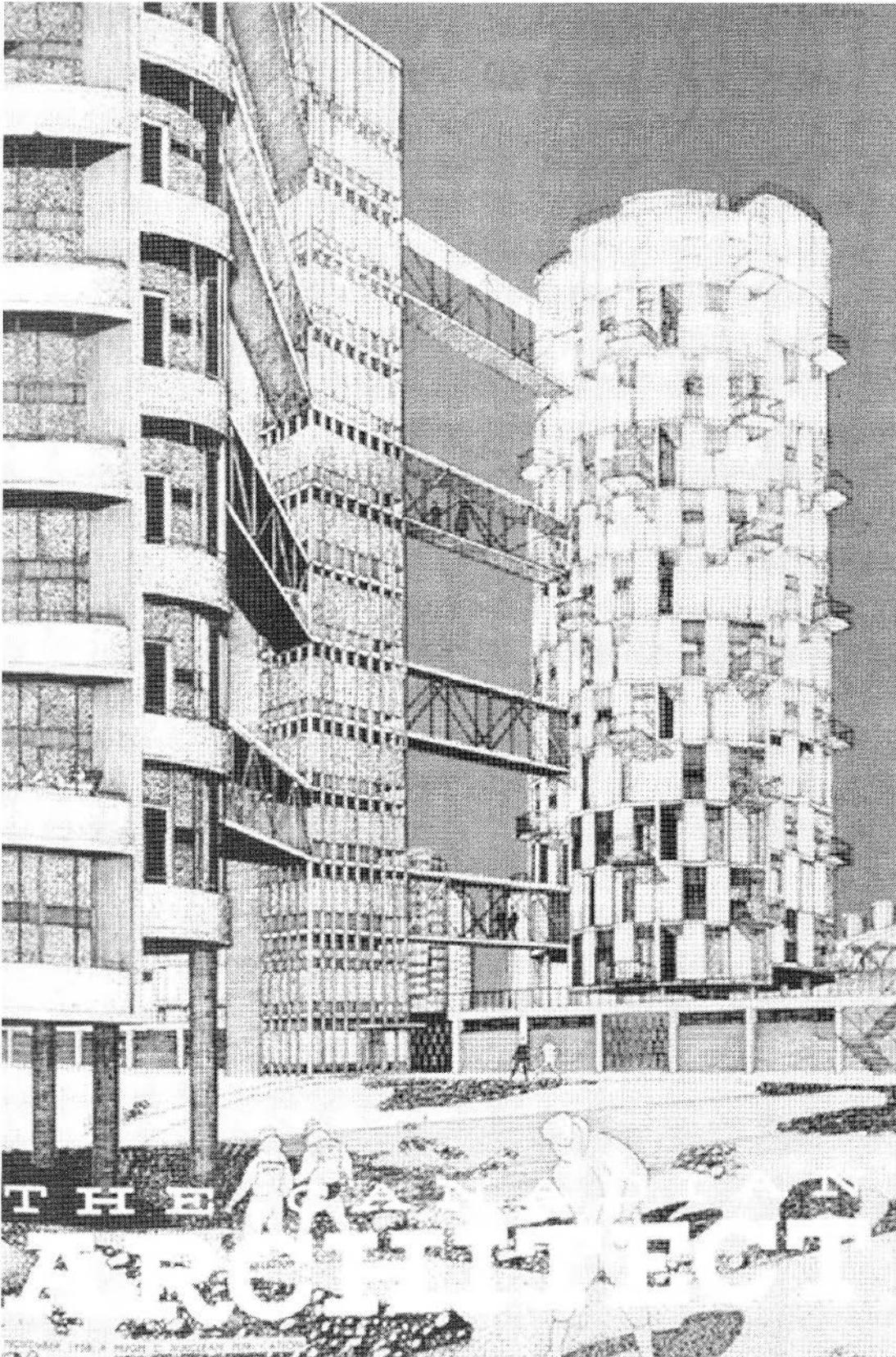


Figure 8. Elevations of designs for the community space, church, and restaurant in Frobisher Bay New Town, published in *The Canadian Architect*, November 1958, page 49.

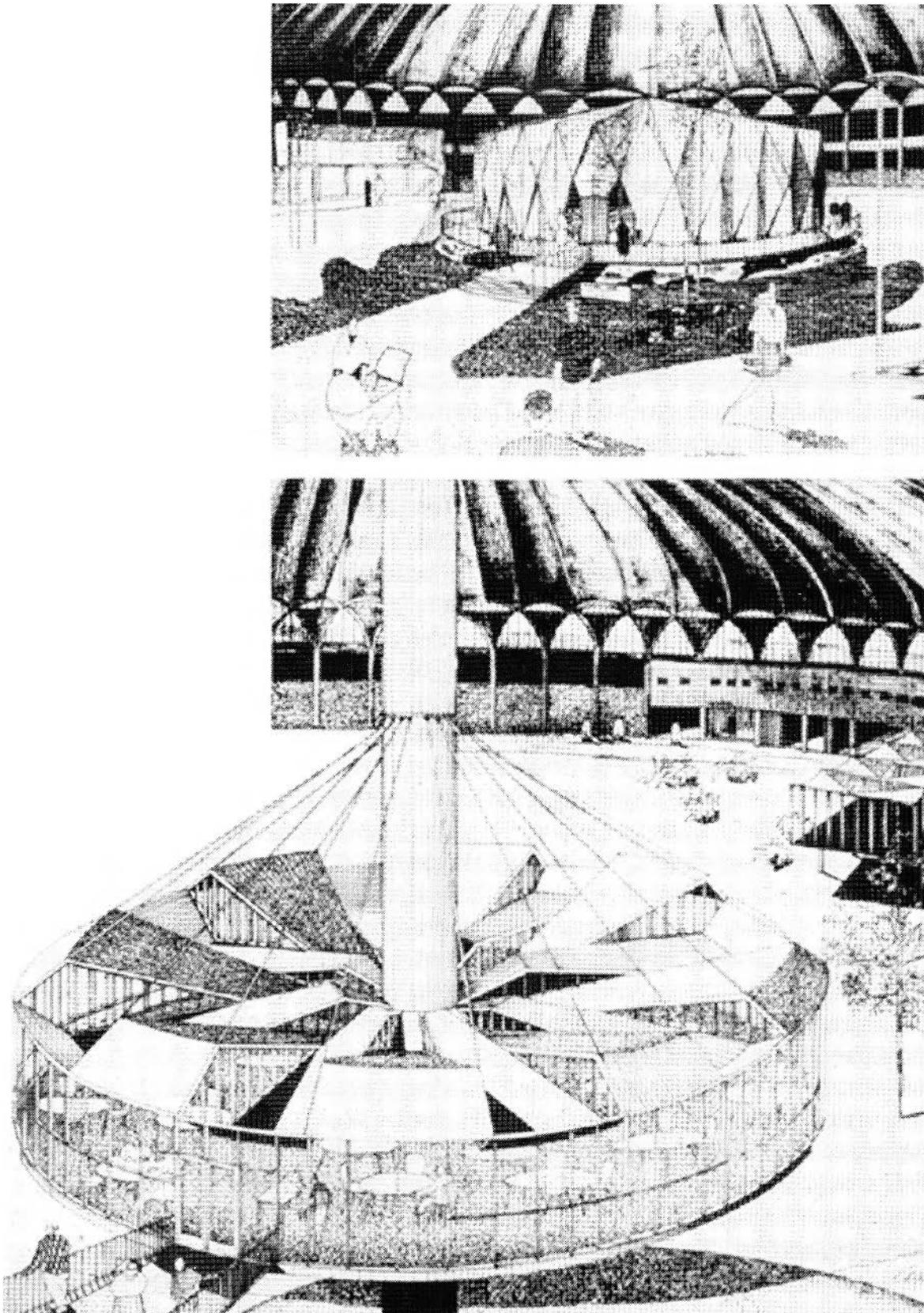


Figure 9. Papineau, Gérin-Lajoie, Leblanc, Edwards, Academic and Occupational School, Frobisher Bay, 1970, published in *The Canadian Architect*, July 1970, page 33.

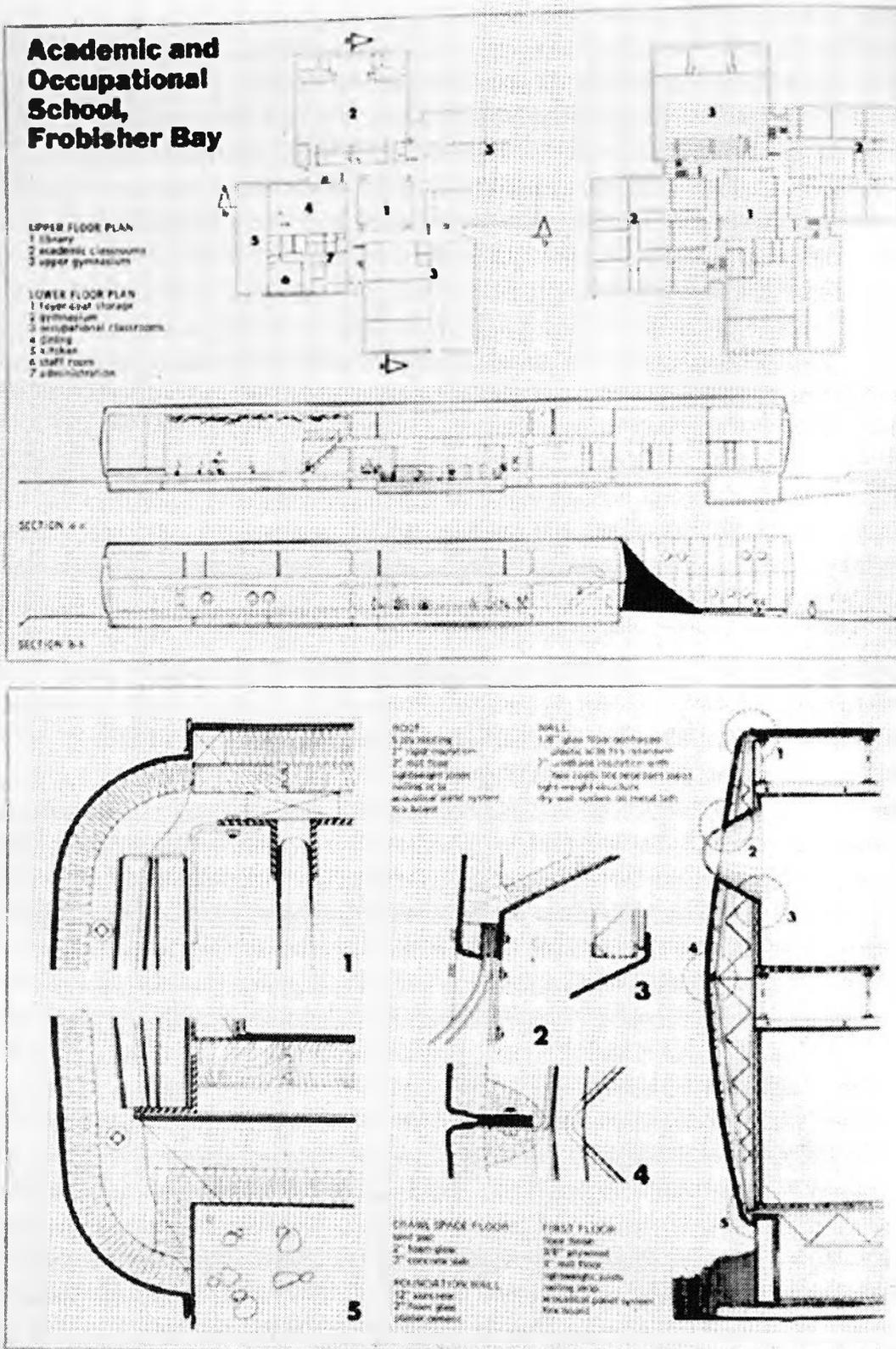


Figure 10. Papineau, Gérin-Lajoie, Leblanc, Edwards, Arctic Research Laboratory, Igloolik NWT, 1973 (Photo: reproduced from Leon Whiteson, *Modern Canadian Architecture*, Edmonton, 1983).



incremental development occurred, including Papineau/Gérin-Lajoie/Leblanc/Edwards's 1970 high-tech modular steel and fiberglass-reinforced plastic panelled Academic and Occupational School.²⁸ The illustrations published in the Canadian professional journals recall the transcendent, electric vision of mid-1950s Modernism (fig. 9). The canted curved walls and polygonal openings, luminescent in the spectral northern lights, appear to hover above the tundra and to be suffused with spiritual light, attracting the townspeople to its sanctuary. The modernist fabric asserts conceptual and material authority but with greater emphasis on the comprehension of user function. The effect and affect is even more evident in the firm's Arctic Research Laboratory built in 1973 at Igloolik in the then Northwest Territories (fig. 10). This recovery of the participatory sensibility also harboured in Modern Movement thought had already occurred in Ralph Erskine's 1967 scheme for Resolute Bay.²⁹

Aware of the tragic consequences of the Inuit relocation, Erskine prepared his plans with the benefit of extensive experience in northern Scandinavian urban development. In 1959 he had presented a study for an arctic town at the terminal conference of the *Congrès internationaux de l'architecture moderne*.³⁰

His solution differed radically from the triumphant utopian Modernism of the recent Frobisher Bay proposal. Erskine constructed his irregularly disposed and scaled town, equally replete with modernizing technology, into the irregular terrain. The relative protection afforded by topography was buttressed by a perimeter wall, which reconfigured Le Corbusier's concept of highway housing into a picturesquely functional allegory of communal shelter.³¹ Both natural environment and local population predominated in his formulation of the overall plan and component architecture for the new town. Erskine articulated his participatory, rather than authoritarian, understanding of the modernist project in an article titled "Architecture and Town Planning in the North," published in 1968 by *The Polar Record*:

When considering the problems of building in the north to talk of an architecture of elements would be to tell only half of the story. It is the people in the climate, the cities and the landscape, in families or crowds that count ... For it is surely buildings, and streets, gardens and trees, not economy, technique and aesthetics that people dream about when they

Figure 11. Ralph Erskine, elevations and plan of a redevelopment scheme for Resolute Bay, 1973 (Photo: reproduced from Mats Eglius, *Ralph Erskine, Architect*, Stockholm, 1990).



seek a home, or a place in which to work or play ... [and further echoing Heidegger] I hope that we architects could give such a dwelling in form, make a space with a potential for contentment. But in the final count it is the inhabitants who will give the same dwelling its meaning and change our architectural space to place.³²

That ethic prompted him to insist on involving Inuit and Canadian residents in the planning process for Resolute.³³ They were consulted on the choice of site, the configuration of the

township, and the design of individual buildings. Nonetheless, the will-to-form inherent in architectural practice affected both the openness of Erskine's organization of the consultative phase and the level of non-expert design input. He removed the new town from the commercially driven settlement around the air-strip, and situated it at the site of best resolution of function with topography. He arranged the township buildings in clusters that reflected contour lines, using more traditional building materials. Although functionalist in aesthetic, the utilitarian elements created picturesque effects that repeated the diverse visual scenery

Figure 12. Ralph Erskine, photographs of a derelict residential block built at Resolute Bay, 1973 (Photo: reproduced from Mats Eglus, *Ralph Erskine, Architect*, Stockholm, 1990).



and village scale of the whole town. Those communal characteristics, formalizing everyday patterns of activity and society, are suggested by the imprecise rendering and narrative incident of many of Erskine's drawings. One, made in 1970 and inscribed 74 °43 N. 94 °59 W. RESOLUTE BAY, N.W.T., CANADA, is especially evocative of Erskine's empathetic reading of the texts of modernist and governmental imperatives (fig. 11).³⁴ For him, design solutions emerged from responses to local circumstances as much as from the pursuit of preconceived objectives. On one of his first visits to Canada in 1963, he had opened a lecture on "The Challenge of the High Latitudes" with this caveat: "I am not an expert on architecture for northern regions because I don't think there can be such a thing as an architect-expert at all."³⁵

Despite such a reflexive, humanistic, ecological, and participatory interpretation of modernist urbanism, Erskine's vision withered; only one section of his protective perimeter residential wall was completed. The recurrence of utopian ambition in post-war reconstruction-era policy succumbed to extremes of northern arctic climate, economy, and geopolitics. Erskine's aim of marrying technology with native environment and society to establish "livable winter cities" – solar cells, wind powered generators, and composting toilets releasing inhabitants from the shackles of cold and isolation – depended upon the imposition of defunct disciplinary ideology and technology. His single Resolute structure stands as forlorn relic of modernity's hubris and its disruption of the idealistic and humane intent of Modernism's theoretical project. Erskine's urbane and contextual scheme for a socially inclusive and technically advanced arctic community mobilized the utopic sublimity within the Modern Movement and the placeless spatiality embodied in modernist design ideology (fig. 12). Alas, his vision foundered on the political exigency and economic opportunism operative in the late modern formation of the Canadian North.

Notes

- 1 The reconstruction decades are examined with a particular emphasis on the Pacific region in Rhodri Windsor Liscombe, *The New Spirit: Modern Architecture in Vancouver, 1938–1963* (Montreal and Vancouver, 1997). For the broader architectural historical context, see Harold Kalman, *A History of Canadian Architecture* (Toronto, 1994); and Anthony G. White, *Canadian Architecture: a Selected Bibliography* (Monticello, 1990).
- 2 The literature on the political and cultural aspects of Canada's northern territory is extensive and reflects changes in policy as well as in critical inquiry. Among the most useful studies are Kerry Abel and Ken S. Coates, *Northern Visions: New Perspectives on the North in Canadian History* (Peterborough, 2001); Arthur Ray, "Recent trends in northern historiography," *Essays on Canadian Writing* 59 (1996), 211–27; Carl Berger, *Sense of Power: Studies in the Ideas of Canadian Imperialism, 1867–1914* (Toronto, 1970), and *Writing of Canadian History: Aspects of English-Canadian Historical Writing Since 1900–1970* (1st edn, 1976; Toronto, 1986). For the broader questions of strategy and economy involved, see Robert M. Bone, *Issues and Challenges: The Geography of the Canadian North* (Toronto, 1992); Keith Hindell, "Canada's Arctic claim," *Geographical Magazine* 58 (January 1986), 16–20; and William Leiss, "Political Aspects of Environmental Issues (Oil and Gas Development in Northern Canada)," *Alternatives* 8, no. 1 (1978), 23–32.
- 3 These issues are discussed in Jack L. Granatstein and Norman Hillmer, *For Better or For Worse: Canada and the United States to the 1990s* (Toronto, 1991); and John Honderich, *Arctic Imperative: Is Canada Losing the North?* (Toronto, 1987). Among several studies of the diplomatic (and economic) aspects are Richard Diubaldo, "The Canol Project in Canadian-American Relations," *Canadian Historical Association Historical Papers* (Ottawa, 1977); and *The Government of Canada and the Inuit, 1900–1967* (Ottawa, 1985). See also Maxwell Cohen, "The Arctic and the National Interest," *International Journal* 26 (1970–71), 52–63.
- 4 The origin and agency of the Modern Movement are examined in Kenneth Frampton, *Modern Architecture: A Critical History* (New York, 1980); and Alan Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historical Change* (Cambridge, 1981). See also Sarah Goldhagen, "Something to Talk About: Modernism, Discourse, Style," *Journal of the Society of Architectural Historians* 64, no. 2 (2005), 144–67.
- 5 The technology of arctic construction is discussed in Harold Strub, *Bare Poles: Building Design for High Latitudes* (Ottawa, 1996); and Paul F. Cooper Jr, "Application of Modern Technology in an Arctic Environment," *Polar Record* 14, no. 89 (1968), 144. See also Jean-Louis Cohen, *Le Corbusier and the Mystique of the USSR: Theories and Projects for Moscow, 1928–1936* (Princeton, 1992).
- 6 The utopian tradition is recounted in Ruth Eaton, *Ideal Cities: Utopianism and the (Un)built Environment* (London, 2002). See also Rhodri Windsor Liscombe, *The Ideal City* (Ottawa, 2004), with extensive bibliography; and Frederic Jameson, *Archaeologies of the Future: the Desire Called Utopia and Other Science Fictions* (London, 2005).
- 7 The intersection of modernist design and consumerism is analyzed in Thomas Hine, *Populuxe* (New York, 1986). See also John Brewer and Roy Porter, eds, *Consumption and the World of Goods* (London, 1994).
- 8 Mordecai Richler, *Solomon Gursky Was Here* (Markham, Ont., 1989). For Richler's work and career, see Kerry McSwecney, *Mordecai Richler and His Works* (Toronto, 1984); Elisa Morera de la Vall, *The Trickster, A Recurring Figure in Commonwealth Literature* (Barcelona, 1994); and Mordecai Richler, *Home Sweet Home: My Canadian Album* (New York, 1984).
- 9 The geo-political importance of the Northwest Passage is assessed in Richard Vaughan, *The Arctic: A History* (London, 1994). See also John Moss, "The Cartography of Dreams," *Journal of Canadian Studies* 28 (1993), 140–58; Sam Hall, *The Fourth World: The*

- Heritage of the Arctic and its Destruction* (New York, 1988); Franklyn Griffiths, ed., *The Politics of the Northwest Passage* (Montreal, 1987); and William L. Morton, "The North of Canadian History," *North* 7, no. 1 (January–February, 1960), 26–9.
- 10 Alan Marcus, *Relocating Eden: The Images and Politics of Inuit Exile in the Canadian Arctic* (Hanover and London, 1995). The wider issues of erasure and reassertion of voice are related in Julie Cruikshank, *Reading Voices: Oral and Written Interpretations of the Yukon's Past* (Vancouver, 1991), and *The Social Life of Stories: Narrative and Knowledge in the Yukon Territory* (Lincoln, 1998). See also Margaret Atwood, *Strange Things: The Malevolent North in Canadian Literature* (Oxford, 1995); John D. Hamilton, *Arctic Revolution: Social Change in the Northwest Territories, 1935–1994* (Toronto, 1994); Frank J. Tester and Peter Kulchyski, *Tammarniit (Mistakes): Inuit Relocation in the Eastern Arctic* (Vancouver, 1994); and Daniel Soberman, *Report to the Canadian Human Rights Commission on the Complaints of the Inuit People Relocated from Inukjuak and Pond Inlet to Grise Fiord and Resolute Bay in 1953 and 1955* (Kingston, 1991).
 - 11 The major book is Harold A. Innis, *Empire and Communications* (Oxford, 1950). Innis's work is set in the wider context in Matthew Evenden, "Harold Innis, the Arctic Survey, and the Politics of Social Science during the Second World War," *The Canadian Historical Review* 79 (March 1998), 36–67, and "The Northern Vision of Harold Innis," *Journal of Canadian Studies* 34 (1999), 162–86. For McLuhan and Canadian theory, see Richard Cavell, *McLuhan in Space: A Cultural Geography* (Toronto, 2002).
 - 12 The literature on the North and Canadian identity is extensive, including Ken S. Coates and William R. Morrison, "Northern Visions: Recent Writing in Northern Canadian History," *Manitoba History* 10 (1985), 2–9, and "Writing the North: A Survey of Contemporary Canadian Writing on Northern Regions," *Canadian Writing* 59 (1996), 5–25. See also William C. Wonders, ed., *Canada's Changing North* (1st edn, 1971; Montreal and Kingston, 2003), *The Arctic Circle* (Toronto, 1976), *The North* (Toronto, 1972); William L. Morton, *The Canadian Identity* (1st edn, 1961; Toronto, 1972); and more generally, Farley Mowat, *Canada North* (Toronto, 1967).
 - 13 These projects are recounted in Rick Ranson, *Working North: DEW Line to Drill Ship* (Edmonton, 2003); Kenneth C. Eyre, "Forty Years of Military Activity in the Canadian North, 1947–87," *Arctic* 40, no. 4 (December 1987), 292–99; and Nancy Fogelson, "Greenland: Strategic Base on a Northern Defense Line," *Journal of Military History* 53 (January 1989), 51–63. See also Canadian Arctic Resources Committee, "Sovereignty, Security and Surveillance in the Arctic," *Northern Perspectives* 22, no. 4 (1994–95), 1–2; and Morris Zaslow, *The Northward Expansion of Canada 1914–1967* (Toronto, 1988).
 - 14 James Eayrs, *In Defense of Canada: Appeasement and Rearmament* (Toronto, 1964). For a more detailed contemporary account, see Meteorological Division, Dept. of Transport, Canada, and U.S. Weather Bureau, Dept. of Commerce, United States, "Joint Canadian-United States Arctic Weather Station Programme," *A Review of the Establishment and Operation of the Joint Arctic Weather Station at Eureka, Resolute, Isachsen, Mould Bay, and Alert and a Summary of the Scientific Activities at these Stations, 1946–1951* (Washington, D.C., 1951).
 - 15 The relocation question has received considerable attention in more recent literature, and is exemplified by Ila Bussidor and Ustun Bilgen-Reinart, *Night Spirits: The Story of the Relocation of the Sayisi Dene* (Winnipeg, 1997); Louis-Jacques Dorais, *Quaqtaq: Modernity and Identity in an Inuit Community* (Toronto, 1997); and Alan R. Marcus, *Out in the Cold: The Legacy of Canada's Inuit Relocation Experiment in the High Arctic* (Copenhagen, 1992). See additionally Richard King et al., *Northern Aboriginal Communities: Economies and Development, Northern Studies Humanities Research Survey Final Report* (Ottawa, 1996); Royal Commission on Aboriginal Peoples, *The High Arctic Relocation*, 5 vols (Ottawa, 1994); William R. Morrison, *Under the Flag: Canadian Sovereignty and the Native People in Northern Canada* (Ottawa, 1984); and Hugh Brody, *The People's Land: Eskimos and Whites in the Eastern Arctic* (Markham, 1975).
 - 16 The changing structure of bureaucratic regulation is reviewed in Kirk Cameron and Graham White, *Northern Governments in Transition: Political and Constitutional Development in the Yukon, Nunavut and the Western Northwest Territories* (Montreal, 1995). See also Colin Campbell, *Canadian Political Facts, 1945–1976* (Toronto, 1977); and Edgar J. Dosman, *The National Interest: The Politics of Northern Development 1968–1975* (Toronto, 1975).
 - 17 The creation of the Northwest Territory Housing Corporation is recounted in *Consultation Paper on Housing Renovation* (Ottawa, 1987), and *Housing Issues in the 1980's and 1990's: Factors which Affect Structural Adjustment in the Residential Construction Industry* (Ottawa, 1986).
 - 18 The contestation of such mega-projects is described in Thomas R. Berger, *Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry*, 2 vols (Ottawa, 1977). See also Paul F. Cooper Jr, "Application of Modern Technology in an Arctic Environment," *The Polar Record* 14, no. 89 (1968), 141–63. For the criticism of conventionalized Modernism, see Windsor Liscombe, *The New Spirit*, and Diane Ghirardo, *Architecture after Modernism* (New York, 1996).
 - 19 Reprinted in *The Canadian North: Source of Wealth or Vanishing Heritage?* (Scarborough, Ont., 1977), 158–60. In addition, see *Debates of the Senate: Official Report (Hansard)* (Ottawa, 1958).
 - 20 *Gordon Commission Report* (Ontario, 1957).
 - 21 Reprinted in *The Canadian North: Source of Wealth or Vanishing Heritage?* (Scarborough, Ont., 1977), 160–62.
 - 22 These ideas were promoted by Siegfried Giedion in *Space, Time and Architecture: The Growth of a New Tradition* (1944; repr. Cambridge, Mass., 1967).
 - 23 Sheila K. MacBain, "The Evolution of Frobisher Bay as a Major Settlement in the Canadian Eastern Arctic," M.A. thesis, McGill University, 1970.
 - 24 These iconic Canadian modernist buildings are discussed in Windsor Liscombe, *The New Spirit*, and Kalman, *History of Canadian*

- Architecture*. Peter Dickinson's plan for Frobisher has been examined by Andrew Waldron, whose help the author gratefully acknowledges.
- 25 Anthony Roberts, "Design for the North," *The Canadian Architect*, November 1956, 20–22. The Northern populations were studied more objectively following the work of John J. and Irma Honigmann, who published *Eskimo Townsmen* (Ottawa, 1965).
 - 26 John Kettle, "The North," *The Canadian Architect*, November 1958, 36–43; the designs for Frobisher Bay are reproduced on pp. 44–49. See also Gabriella Goliger, "Arctic Housing Update," *Habitat* 24, no. 1 (1984), 24–28. The Frobisher Bay scheme was reproduced in revised form in the *Illustrated London News* in the 6 January 1960 issue, pp. 20–21, with the claim that the scheme had influenced recent development in the Arctic by the U.S.S.R. government.
 - 27 Fuller's dome is placed in historical design context in Michael John Gorman, *Buckminster Fuller: Designing for Mobility* (Milan, 2005). See also Fuller's *Critical Path* (New York, 1981); Athena V. Lord, *Pilot for Spaceship Earth: R. Buckminster Fuller, Architect, Inventor, and Poet* (New York, 1978); and Dale Casper, *Richard Buckminster Fuller, Architect: Twenty Years of Journal Reviews* (Monticello, 1988).
 - 28 Illustrated in *The Canadian Architect*, July 1970, 34. See also Leon Whiteson, *Modern Canadian Architecture* (Edmonton, 1983), 266–67.
 - 29 For Erskine's scheme and career generally, see Peter Collymore, *The Architecture of Ralph Erskine* (London, 1994); and Mats Egelius, *Ralph Erskine, Architect* (Stockholm, 1990). Further contextual information on the development of Resolute Bay appears in "General Development Plan, Resolute Bay, NWT," prepared by Underwood McLellan Associates Limited, 1980.
 - 30 Erskine's scheme is reproduced by Collymore, *Architecture of Ralph Erskine*, 23–30. For the 1959 C.I.A.M. conference, see Egelius, *Ralph Erskine*, 81–83.
 - 31 Le Corbusier envisaged the combination of residential accommodation surmounted by expressways in his schemes for replanning Rio de Janeiro and Marseilles, for which see Judi Loach et al., *Le Corbusier: Jeanneret: Architect of the Century* (London, 1987).
 - 32 Ralph Erskine, "Architecture and Town Planning," *The North*, 165.
 - 33 Marcus, *Relocating Eden*.
 - 34 Reproduced in Egelius, *Ralph Erskine*, 79.
 - 35 Erskine was invited in February 1963 to be the main speaker at a symposium organized at the University of Manitoba by the Manitoba Association of Architects on the theme of "Architecture for the Canadian pioneers." Two articles by Ralph Erskine titled "The Challenge of the High Latitudes" and "Community Design for Production, for Production of the People?" were published in *Journal of the Royal Architectural Institute of Canada* 41, no. 1 (January 1964), 33–41 and 42–52.