

A Machine for Governing: Technical Standardization,
Mass Housing Provision, and the State in Mid-Twentieth-
Century Canada

by

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Abstract

This thesis retraces the historical emergence of housing policy in Canada through a specific technology of power: national building regulations. This thesis argues that national building regulations were formative to the federal state's emergent claims upon the improvement of residential development during the mid-twentieth-century. Drawing upon and developing François Ewald's concept of the "technical norm," this thesis uses the case of national building regulations to examine how the federal state became a discursive and material site where mass housing development was governed. In seeking to benefit from standardization, various bureaucrats and industrial actors claimed, negotiated, worked around, and maintained the ostensible 'objectivity' of state regulation that national building standards could variably offer them. In this process, national building regulations were used to translate complex housing issues, work processes, and class inequalities into a seemingly technical "problem" of state management.

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This project probably hasn't convinced a number of family members, friends, and colleagues that Canadian history isn't boring. The history of Canadian building standards is at times a dull topic. Nonetheless, I am very fortunate to be surrounded by people who have actively supported me in researching and writing this thesis.

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Introduction: A Machine for Governing

The actual needs of the dwelling can be formulated and demand their solution. We must fight against the old-world house, which made a bad use of space. We must look upon the house as a machine for living in or as a tool.¹

What are the essential elements of housing? Of prime importance is the amount of space provided for each family. This may be expressed as the number of habitable rooms in a residence, but more effectively as the total floor area of usable space that a home contains. Closely associated with space is the equipment for essential services that is provided integral with the residence – for heating, cooking and washing, for personal sanitation, and (in these days) possibly for the disposal of household waste... Finally, although not so obvious a factor, but one of great importance, is the location of the housing – in a developed city area, in an outlying suburb or in a rural community.²

Who decided how the ‘essential elements’ of Leopold Arsenault’s future family home would be arranged? On 28 August 1964, Arsenault, a working-class homeowner living in Quebec City, sent a letter to Prime Minister Lester B. Pearson appealing the federal government’s rejection of his mortgage application.³ Desiring to build a new home, Arsenault had self-drawn building plans approved by his city’s building department. He then sent the plans as part of a mortgage application to the Central Mortgage and Housing Corporation (CMHC), a crown corporation created after World War II to finance and insure the housing projects of builders and homeowners. Arsenault contacted the Prime Minister after his plans were rejected by the federal housing agency for not conforming to the federal state’s building standards. In the letter, he described at length how the government’s minimum requirements, particularly those involving space and privacy, were incompatible with his family’s day-to-day home life. He called on the CMHC to amend their building standards or, at least, to accept deviations from them, noting that the state’s mortgage assistance “should be for us the poor people” who did not

¹ Le Corbusier, *Towards a New Architecture*, trans. Frederick Etchells (New York: Dover Publications, Inc., 1986 [1931]), 240.

² Robert F. Leggett, “What Do We Mean By ‘Housing’?,” *Queen’s Quarterly* 68 (1961): 631.

³ Leopold Arsenault to Lester B. Pearson, Library and Archives Canada, Central Mortgage and Housing Corporation (CMHC) fonds, Central Registry Administrative Files series, Box 116, File 112-1-1-A, 18 August 1964. It should be noted that the CMHC had translated Arsenault’s message from French to English.

intend to plan for the large living rooms required by the standards.⁴ Arsenault's letter was redirected to John R. Nicholson, a federal minister who reported to Parliament on matters involving federal housing legislation, but in a generic reply Nicholson did not acknowledge Arsenault's concerns.⁵ In a meeting with Arsenault at the CMHC's Quebec City office, a senior appraiser also dismissed his appeal. After the meeting, the appraiser informed CMHC head office that he was prepared to teach Arsenault how to re-draw his home plan in accordance with the federal government's national building standards.⁶

This bureaucratic drama between a working-class, Québécois would-be homeowner and federal state officials was situated in a broader change in Canadian society regarding how housing and its construction was financed, regulated, and evaluated on an everyday basis. With the onset of the Depression and its negative effects on the supply and maintenance of housing throughout Canada, the definition of housing provision as a distinct field of national intervention became increasingly accepted as Canada's "housing problem."⁷ This 'problem' was further intensified during and after World War II, with the return of veterans to Canada, an increase in new family formation, and the demand for new housing that resulted. As housing increasingly became a 'national' issue, the domestic lives of middle-class families were scrutinized through a number of emergent expert knowledges. The promotion of 'home economics' among women, the blending of country and city through planned suburban development, social guidance films aimed at teenagers and parents, and various other 'scientific' interventions into middle-class domestic life idealized the 'health' and vitality of an imagined white, heterosexual, nuclear

⁴ *Ibid.*

⁵ John R. Nicholson to Leopold Arsenault, LAC/CMHC, Central Registry Administrative Files series, Box 116, File 112-1-1-A, 7 October 1964.

⁶ N. Guilbault to A.R. Pitt, "Re: Leopold Arsenault Complaint," LAC/CMHC, Central Registry Administrative Files series, Box 116, File 112-1-1-A, 29 September 1964.

⁷ F.W. Nicolls, "Housing in Canada, 1938," in *Housing Yearbook* (Presented at National Association of Housing Officials, Chicago, IL, 1938).

family life.⁸ Expert knowledge pertaining to the governance of the ‘housing problem’ was promoted in large part by the CMHC, which was created after the war to administer financing for prospective builders and homeowners who sought to build or buy mass-built “CMHC homes.” Millions of Canadians’ housing prospects were transformed by the activities of this state corporation, but not just because of the financing it offered. In alliance with other federal agencies, the CMHC also sought to expertly guide the provision of state-assisted, marketized mass housing through written standards of architecture, servicing, subdivision and city planning, construction, research, and more.

Leopold Arsenault’s encounter with federal officials thus points to one significant, if oddly neglected, aspect of Canadian housing policy. This involved the use of national building standards meant to improve housing conditions across the country. Starting with the *National Building Code* in 1941, which formed the basis of the *Building Standards* enforced by the CMHC, these documents contained and cited various standards of construction, planning, and materials.⁹ The national building code served as a non-binding ‘model’ code for cities across Canada seeking to improve their own standardization practices. More broadly, both of these documents were meant to modernize building practices and materials which differed widely within and among localities in order to accommodate and promote an ‘improved’ standard of housing development. As they became adopted by many cities and mandated for CMHC-financed homes, national building regulations directly and indirectly shaped much of Canada’s

⁸ Bettina Liverant, “From Budgeting to Buying: Canadian Consumerism in the Post War Era,” *Past Imperfect* 8 (2008): 62-92; Mary Louise Adams, *The Trouble with Normal: Postwar Youth and the Making of Heterosexuality* (Toronto: University of Toronto Press, 1997); Margaret Hobbs and Ruth Roach Pierson, “‘A Kitchen That Wastes No Steps...’: Gender, Class and the Home Improvement Plan, 1936-40,” *Histoire Sociale/Social History* 21, no. 41 (1988): 9-37; Patrick Vitale, “A Model Suburb for Model Suburbanites: Order, Control, and Expertise in Thorncrest Village,” *Urban History Review / Revue D’histoire Urbaine* 40, no. 1 (2011): 41–55.

⁹ Government of Canada, *National Building Code* (Ottawa: National Research Council, 1941); Government of Canada, *Central Mortgage and Housing Corporation Building Standards* (Ottawa: CMHC, 1944).

mid-twentieth-century residential development. It would appear that the standardization of house-building was a significant goal of state action upon ‘the housing problem.’

How might we make sense of this historically novel attempt to standardize housing and its provision on a national scale? Leopold Arsenault’s encounter, and the historical context in which it occurred, could potentially lead us to ask about the varied cultural experiences of mass housing in postwar Canada. It might also be used to study how certain provisions of federal housing legislation were applied, and which individuals and groups benefited from that application. But this encounter between a working-class resident and the federal state does more than inform us about mass-built houses, or about legislation. For what was Arsenault doing in his encounter with the CMHC? It seems he was contesting an attempt to fit residential environments into a one-size-fits-all standards regime, one which he recognized largely catered to an imagined, ‘national’ middle-class family. The responses to Arsenault are especially significant, suggesting that the authority of the state’s building regulations was largely unquestioned among CMHC officials in their relations with the public. These officials were engaging, it seems, in what Pierre Bourdieu calls the “work of universalization,” one that routinizes and naturalizes the authority of bureaucratic procedures.¹⁰

I believe that this encounter at the margins of the CMHC’s authority prompts an inquiry into the state’s emergent attempts to govern housing provision in a certain time and place. But before outlining this inquiry and how I intend to pursue it, I want to discuss how I arrived at it. I came upon the topic of building regulations after reading about post-WWII mass housing projects, which I had been introduced to during my undergraduate studies. I began to wonder how something as site-specific, intimate, and mutable as housing could be standardized by the

¹⁰ Pierre Bourdieu, *The Social Structures of the Economy*, trans. Chris Turner (Cambridge, MA: Polity, 2005), 106.

physically and often socially distant bureaucracies which financed and regulated mass housing. How did the state and its industrial allies decide on how housing ought to be deemed ‘standard’? What were the power relations involved in this value judgment? In researching this topic in the Canadian and American contexts, I learned about efforts to scale up the standardization of house-building that took place during the mid-twentieth century. Largely serving the interests of corporate builder-developers, mortgage lenders, and their allies within the federal government, the promotion of debt-based housing provision was reinforced by mandating and promoting certain standards of residential building and development through the state.¹¹ Historians and housing scholars have thus discerned that the middle-class character of postwar suburbs, some of which had previously been socially, politically, and aesthetically diverse, is one of the legacies of national building regulations. Based on this finding, I found it odd that building standards and specifications are considered little more than ‘technical’ documents today. In academia, this notion is perhaps attributable to Max Weber, who influentially sought to understand the attributes of a rationally functioning bureaucracy. Although Weber wrote much about bureaucratic instruments such as files and paperwork, the ‘technical’ artifacts and the ‘social’ processes of a bureaucracy were separate matters of consideration to him.¹² Similar attitudes about technical documents are commonplace among publics beyond academia, including professional experts affected by standardization. As Rob Imrie notes, even architects who work

¹¹ Richard Harris, *Unplanned Suburbs: Toronto’s American Tragedy, 1900 to 1950* (Baltimore: Johns Hopkins University Press, 1996); Harris, *Creeping Conformity: How Canada Became Suburban, 1900-1960* (Toronto: University of Toronto Press, 2004); Marc Denhez, *The Canadian Home: From Cave to Electric Cocoon* (Toronto: Dundurn Press Ltd., 1994); Michael Doucet and John C. Weaver, *Housing the North American City* (Kingston: McGill-Queen’s University Press, 1991); Max Foran, *Expansive Discourses: Urban Sprawl in Calgary, 1945-1978* (Athabasca: Athabasca University Press, 2009).

¹² See Matthew Hull, *The Government of Paper: The Materiality of Bureaucracy in Urban Pakistan* (Berkeley: University of California Press, 2012), 18-19 for a more thorough critique of Weber’s rather essentialist approach to documentation and bureaucracy in general. For Weber’s stance on ‘the technical’ of bureaucratic relations as independent from norms, see Max Weber, *Economy and Society* (Berkeley: University of California Press, 1978), 988.

daily with building regulations tend to black-box them as ‘technical’ rules that are value-neutral and exterior to their own design practices.¹³

When I formed this thesis topic, it appeared to me that technical standardization deserved to be studied as an element of Canada’s housing system which is more than *merely* technical. This is not to imply that we ought to dismiss analytical boundaries such as ‘the technical,’ either when we encounter them in our evidence or when we use them to interpret evidence. Categorization is an obviously indispensable tool of research (and in our everyday lives, as ethnomethodologists have shown).¹⁴ As Georg Simmel has noted, our separation of the past into “psychic unities” of investigation makes coherent historical accounts possible in the present. But without an awareness of the limits of these unities, and how they “mark out the banks and currents of becoming... into ‘history,’” the researcher becomes something of a servant to what may appear to be natural and commonsensical categories.¹⁵ For Simmel, the scholar’s task is to disturb enduring categorical boundaries in order to critique their boundedness.¹⁶ In doing so, we may come to discover that these boundaries are not politically or morally innocent, and that they shape our relations with ourselves and with others. As Mary Poovey has shown in the context of Victorian Britain, the separation of the world into discrete realms of the cultural, the economic, the political, and so forth is not transhistorical but is a relatively recent attempt to make the world sensible and manageable.¹⁷ This ability to define the messiness of social relations thus has consequences. We can observe this in how the CMHC administrators translated Leopold

¹³ Rob Imrie, “The interrelationships between building regulations and architects’ practices,” *Environment and Planning B: Planning and Design* 34, no. 1 (2007): 926.

¹⁴ Harold Garfinkel, *Studies in Ethnomethodology* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1967).

¹⁵ Georg Simmel, “How is History Possible?,” in *Georg Simmel on Individuality and Social Forms*, ed. Donald Levine (Chicago: University of Chicago Press, 1971), 5.

¹⁶ Siegfried Kracauer, “Georg Simmel,” in *The Mass Ornament: Weimar Essays*, trans. Thomas Y. Levin (Cambridge, MA: Harvard University Press, 1995), 225-258.

¹⁷ Mary Poovey, *Making a Social Body: British Cultural Formation, 1830-1864* (Chicago: University of Chicago Press, 1995).

Arsenault's appeal into a seemingly technical issue of correctly applying the state's building regulations. Knowledge and power, as Michel Foucault has most prominently argued, can no longer be considered separately.

Thus, this thesis project arose from my conviction that the past is a 'condition of possibility' for inquiries and debates that are possible in the present.¹⁸ If building regulations are now seen as value-neutral and 'technical,' it might be useful to question this categorization and its potential consequences. The approach I am taking here is partly inspired by the one taken by James C. Scott, who has demonstrated how the will to standardize and thereby 'improve' human and non-human environments became rooted in the "high modern" visions of twentieth century state planners.¹⁹ For Scott, the power relations of standardization schemes are attributable to a certain way of seeing complex issues as 'technical' problems to be solved from the ostensibly synoptic view of bureaucratic offices. To understand the authority of this historically-specific vision, this thesis suggests that we examine how and why this vision took material and discursive form in response to particular issues. How did state officials within the Canadian government eventually claim a privileged authority over how housing ought to be standardized? And how did those with a stake in the market-based provision of mass housing benefit from making and negotiating this claim? What has yet to be understood in the Canadian context, and what

¹⁸ The term 'conditions of possibility' was coined by Immanuel Kant, who was concerned with unearthing the limits of analytical categories through which knowledge of the world is produced. Kant's concept was appropriated by Michel Foucault, and subsequent Foucauldian scholars, to get away from the attempt to find ultimate or essential causes that animates much of social scientific research. In *The Order of Things*, Michel Foucault argued that the effects of disciplinary knowledges on power relations should not be traced through a linear causal analysis (i.e. 'event A directly causes event B'). Rather, he focused on the contingent conditions that make particular forms of power/knowledge historically possible. Foucault later used the method of investigating "conditions of possibility" in his governmentality lectures and writings, which will be discussed in the subsequent chapter. See Kant, "Prolegomena to any Future Metaphysic that can Present itself as a Science," *Early Modern Texts*, trans. Jonathan Bennett, 2007, <http://www.earlymoderntexts.com/pdfs/kant1783.pdf>; Foucault, *The Order of Things* (New York: Pantheon Books, 1971), 167; Alan Hunt and Gary Wickham, *Foucault and Law: Towards a Sociology of Law as Governance* (London: Pluto Press, 1994), 6-7.

¹⁹ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press, 1998).

ultimately concerns this thesis, is how the endeavour to create a nationally uniform system of building standards helped shape the power/knowledge of the federal state during the mid-twentieth century.

The title of this thesis, *A Machine for Governing*, is an allusion to French architect Le Corbusier's dictum, quoted at the beginning of this introduction, that the house is "a machine for living." Le Corbusier's 'scientific' vision of city planning, which gained international influence throughout the twentieth century, entailed that the most fundamental elements of housing could be distilled to a definable essence, ideally stated in the form of a technological problem.²⁰ The second introductory quotation indicates that Robert Leggett, a Canadian engineer, geologist, and head administrator of Canada's national building code, was similarly fascinated with governing housing as a technical artifact with knowable "essential elements." Both of these figures shared a concern with not only the provision of 'modern' housing, but with defining how this housing ought to be made amenable to standardization. While not as idealistic or utopian as Le Corbusier, Leggett and his allies within the federal civil service and the housing industry were optimistic that a single, universal document of building regulations could standardize housing construction in all of Canada. This thesis explores how this attempt to standardize house-building, encapsulated by a conception of the dwelling as a 'machine for living,' became bound up with the formation of another kind of idealized, 'national' machine. This was the bureaucratic assemblage of government divisions, committees, experimental sites, state and industry officials, workers, and documents that made up the emergence and use of national building standards in mid-twentieth-century Canada.

²⁰ Nigel Cross, "Designerly Ways of Knowing: Design Discipline versus Design Science," *Design Issues* 17, no. 3 (2001): 49-55.

Research problem

This thesis's research question can be summarized as: *how were national building regulations involved in the emergence of a federal housing administration? Specifically, how did certain actors use building regulations to make discursive claims upon how this administration governed and was governed?* While the phrase 'mid-twentieth century' is unfortunately vague, it encompasses a formative period in the formation of a federal housing administration in Canada. As I indicated in the second paragraph of this introduction, the decades spanning the Depression and the post-WWII period formed the apex of federal intervention into housing issues. Housing policy scholars, historians, and geographers have thoroughly demonstrated how and why the first housing acts were largely decided during this period.²¹ In turn, this period was also significant to the solidification of a national system of building standards in Canada. During the Depression, when 'the housing problem' became an urgent topic of national discussion, it was not self-evident how and whether the federal state ought to intervene in the standardization of house-building. But after organizing the mass provision of housing for over a decade, state and industrial officials' dream of a single, universal housing code was largely accepted as accomplished.²²

I should indicate why I chose to focus on federal housing administration in Canada specifically. The first reason is merely logistical. As a student living in Ottawa, I had regular access to the Canadian government's central registry records located at the national archives, which I will further describe in the next section. Without convenient access to records that were locally accessible, this project might have been impossible as a master's thesis. But there is also

²¹ This scholarship will be discussed more fully in chapter one.

²² Robert Leggett, "The National Building Code of Canada: A General Review," *The Engineering Journal* 49, no. 3 (1966): 38-41.

a historical reason for why I chose to focus on Canada. In the US and the UK, for instance, the centralized standards bureaux, industrial networks of advocacy and financial support, and national/regional building codes were largely in place by the time the Depression-era ‘housing problem’ had confronted various nations. At least in these contexts, we might say that large-scale standardization had approached what Michel Callon calls ‘irreversibility,’ meaning that it became politically and economically costly to change these infrastructures when national intervention into ‘the housing problem’ was imminent.²³ The question of whether, and how, to standardize housing on a national scale was approached differently in Canada, where the administrative conditions of standardization were more *ad hoc*. There was little industrial support for a set of national building regulations prior to the 1930s, which reflected the general *laissez faire* attitude towards technical standardization and industrial integration that had been customary in Canada.²⁴ It was not until a network of bureaucrats, engineers, and industrial officials took on the task of creating a national building code, largely in response to the crisis of Depression-era housing provision, that a centralized standards infrastructure was attempted. This observation is not to suggest that the Canadian case of national building standards was entirely unique, as it was heavily influenced by developments elsewhere. As I will indicate in chapter one, the emergence of national building regulations helps us to situate the particularities of Canadian housing administration in a longer and geographically broader history of state formation which goes beyond the context of housing policy. Nevertheless, the birth of national building standards in the Canadian context seems to have been uniquely bound up with the state

²³ Michel Callon, “Techno-economic networks and irreversibility,” *The Sociological Review* 38, no. 1 (1990): 132-161.

²⁴ O.J. Firestone, *The Organization of the Construction Industry and the Construction Labour Force* (Ottawa: Advisory Committee on Reconstruction, 1943), 40-59; James Hull, “Technical Standards and the Integration of the U.S. and Canadian Economies,” *American Review of Canadian Studies* 32, no. 1 (2002): 123-42.

governance of the mid-twentieth-century ‘housing problem.’ As such, the case of Canada is an optimal one for this thesis’s particular inquiry, in that it provides a glimpse into how a “science-in-the-making” came to shape the emergent governance of housing provision.²⁵

On tracing (and not tracing) a “normative spiral” in the archive

This thesis’s research question was investigated primarily through an engagement with federal archival collections, containing published and non-published materials that were contemporary to the period under study. It is an axiom of academic research that one must be selective in deciding what evidence to interpret and use. In this respect, my investigation of technical standards schemes in the archive raises a particular challenge. Francois Ewald has noted that large-scale technical standards projects appear on the historical scene as a “normative spiral” of actors, institutions, regulations, bureaucratic practices and procedures, and forms of expert knowledge and training.²⁶ While Ewald is largely making a theoretical point – a point that will be elaborated on in chapter one – his image of the ‘spiral’ usefully highlights the unending endeavour that is technical standardization. In navigating this spiral through archival records, I found it exceedingly difficult to retrieve evidence that informed my inquiry about the historical relations of standardization. This challenge was compounded by the issue of records preservation. Not unlike the “federal bulldozer approach” that Jane Jacobs attributes to the practice of ‘slum’ clearance,²⁷ the logic of technical standardization often entails the removal of anything seen as superfluous or an obstacle to the efficiency, uniformity, and progress of the

²⁵ Latour, *Science in Action: How to Follow Scientists and Engineers Through Society* (Cambridge, MA: Harvard University Press, 1987). For a thorough consideration of how scientific practices and state-building processes emerge alongside one another, see Bruce Curtis, *The Politics of Population: State Formation, Statistics, and the Census of Canada, 1841-1875* (Toronto: University of Toronto Press, 2002); Patrick Carroll, “Water, and Technoscientific State Formation in California,” *Social Studies of Science* 42, no. 4 (2012): 489-516.

²⁶ François Ewald, “Norms, Discipline, and the Law,” *Representations* 30, no. 1 (1999): 138-161.

²⁷ Gert-Jan Hospers, “Jane Jacobs: Her Life and Work,” *The Preservation Institute*, <http://www.preservenet.com/theory/Jacobsbiox.html> (accessed 2 July 2016).

standards scheme. This secretarial prudence has often meant that many records produced during the historical evolution of large-scale standards infrastructures have not been stored, or have simply been destroyed.²⁸ For example, it was apparent in my investigation of the first national building code committees that, although the meeting minutes have fortunately been preserved, records pertaining to its early organization are scarce. The “error-strewn path” upon which many decisions regarding how to arrange, classify, circulate, and revise national building standards is often not clear, and was perhaps never recorded in the first place.²⁹ I have thus decided to leave an examination of this path for another project in light of the difficulties posed by the archive. More modestly, I have settled on examining primary sources for the discourses of and about standardization they reveal.

What this focus of analysis entails will occupy the remainder of this section’s discussion. But first, a more mundane note about the actual sources used. This thesis draws on a number of primary sources that I retrieved from research sites located in Ottawa. These sites include the MacOdrum Library at Carleton University; the Library and Archives Canada (LAC) facilities on Wellington Street; the library at the CMHC’s head office; and the archive of the Institute for Research in Construction at the National Research Council’s Montreal Road location. Published sources retrieved, analyzed, and used in this thesis most prominently include books, meeting minutes, pamphlets, technical notes, recorded speeches, and trade journals. Non-published sources generally include letters, reports, and memos transmitted between and among federal government departments and agencies, as well as industry officials. The LAC collections that I retrieved non-published materials from included the central registry files of the CMHC, the

²⁸ Geoffrey Bowker, “The ICD as Information Infrastructure,” in *Sorting Things Out: Classification and its Consequences* (Cambridge, MA: MIT Press, 2000), 111.

²⁹ *Ibid.*

central registry files of the Department of Finance, and the central registry files of the National Research Council's Division of Building Research (DBR). A number of personal files were also consulted at LAC, including the files of Robert F. Leggett, the first director of the DBR and first chairman of the Associate Committee of the National Building Code (ACNBC); Sam Gitterman, an architect who was involved with the CMHC's Development Division throughout the postwar period; R.S. Ferguson, an engineer and prominent member of the ACNBC; and David Mansur, the first president of the CMHC.³⁰

My approach to these sources can be characterized as a Foucauldian discourse analysis. The later works of Michel Foucault, particularly *The History of Sexuality: An Introduction, Volume I*, have been germane to which research materials I have chosen to use and which to leave aside.³¹ This methodological approach has allowed me to unearth the 'how' of national building regulations, connecting it not merely to the institutional history of the document but to the broader question of power relations that inspired this thesis's research question about state bureaucracy. Foucault provides us with a specific understanding of written text as 'discourse,' which links what can be said and how it can be said to the power relations that characterize a particular historical moment. In positioning subjects and objects in certain ways through language, discourse makes certain aspects of everyday life "intelligible" for regulatory interventions.³² As such, discourse is not to be studied as an immaterial realm of ideas that stands above or outside of practice, but as deeply enmeshed in and constitutive of how subjects are ruled, and how they rule themselves. Discourse certainly does not determine how power relations

³⁰ I acknowledge the generous assistance of Dr. Richard Harris and Jay Parsons in helping me track down sources during the early stages of this project. They pointed me to a number of trade journals at LAC, and to the existence of the Institute for Research in Construction archive at the National Research Council.

³¹ Foucault, "Method," in *The History of Sexuality: An Introduction, Volume I*, trans. Robert Hurley (London: Penguin Books, 1990 [1978]), 92-102.

³² Foucault, "Method," 93; Judith Butler, "Sexual Inversions," in *Foucault and the Critique of Institutions*, ed. John Caputo and Mark Yount (Pennsylvania: Pennsylvania State University Press, 1993), 86.

unfold in advance, but it makes power as well as resistance possible in a certain time and place. Based on this interpretation of discourse, I selected sources for analysis which indicate how and why standardization, through a particular set of ‘national’ documents, came to be idealized by federal officials. Instead of looking for a “primordial intention” lurking beneath what is said in written records, I took up Foucault’s approach to more simply look *at* how national building standards were discussed, why and how they were linked to the issue of national housing provision, and the historical contingencies surrounding this linkage.³³ How this style of analysis relates to the broader theoretical assumptions of this thesis will become evident in chapter one.

This project’s use of discourse analysis, it should be noted, is generally limited to the viewpoint of the federal government official, whose perspective is prominent in the records I have used. This is potentially problematic because, as Andrew Barry suggests, evaluating the authority of a standard is contingent upon observing the litany of actors who make what bureaucrats deem ‘standard’ into a reality.³⁴ The views and practices of many other actors, including municipal building officials, small-scale house-builders, trades workers, owner-builders, and residents who were influenced by federal housing standards are often, albeit not always, absent within the federal collections I examined. That the records I analyze tend to privilege the viewpoint of federal officials and their state and industrial allies does not merely indicate a ‘bias’ to be overcome, but it risks presenting power relations as one-sided, contrary to the Foucauldian approach.

In the chapters that follow, I have tried to methodologically reckon with this thesis’s stance that standardization is never entirely carried out over-and-above the workers, residents,

³³ Michel Foucault, “Nietzsche, Genealogy, and History,” in *The Foucault Reader*, ed. Paul Rabinow (New York: Pantheon Books, 1984), 88.

³⁴ Andrew Barry, *Political Machines: Governing a Technological Society* (New York: Athlone Press, 2001), 70.

local administrators, and industrial users whose relations of self-to-self and self-to-others it reshapes. Simon Gunn usefully points out that the decision to rely on sources produced by prominent actors does not mean that we must read these sources through an “abstractionist eye.”³⁵ Whether intentionally or habitually, and regardless of the type of source used, academic research tends to privilege “rationality over messiness.” In turn, we risk using sources to present accounts of power as a smoothly operating, top-down function of ‘prominent’ actors.³⁶ Although this thesis cannot deeply explore the actions of those whose voices are absent from the federal archive, this does not mean that the resistances, contradictions, and messiness of power must be completely ignored. The published and non-published material which I have examined does at times reveal resistance to standardization and the failures of its application, an issue which is directly relevant to my inquiry about the tensions involved in claiming to ‘objectively’ standardize. This project makes an attempt to indicate where resistance, among local builders, workers, and residents affected by national standards but also intra-bureaucratic resistances among federal officials themselves, was relevant. I use the recorded traces of resistance to national building regulations to understand how and why this practice eventually became authoritative. But for the most part, I have had to limit my conclusions to how national building standards were created, used, and negotiated among federal officials and other ‘prominent’ actors whose involvement in standardizing mass housing provision is researchable. My argument, which is ultimately about the claims of power formed in and through a bureaucratic administration, points to but does not attempt to closely examine how this administration

³⁵ Simon Gunn, “From Hegemony to Governmentality: Changing Conceptions of Power in Social History,” *Journal of Social History* 39, no. 3 (2006): 716.

³⁶ *Ibid.*

affected the lives and practices of those whose voices are generally (at least, to my knowledge) absent from the federal archival record.

Thesis statement

I now want to indicate the central argument of this thesis. First, I reiterate that this thesis is not really about national building regulations as technical documents. Rather, I seek to question the impression of standardization as essentially ‘technical’ that endures in the present. This thesis does this through a twofold argument, the first element of which is largely empirical. This thesis argues that national building regulations emerged from a heterogeneous assortment of actors, institutions, and regulatory concerns in mid-twentieth-century Canada, eventually becoming bound up with the governance of mass housing provision. These two phenomena of state-building and standardization were mutually configured in response to various housing issues that will be identified, including the Depression-era crisis of housing supply, the class exclusivity of postwar housing provision, and the industrialization of mass housing. It will be demonstrated that the governance of these historically contingent issues was, in part, made possible through the discourses and interventions that shaped and were shaped by the creation and use of national building standards.

The second part of this argument is more theoretical, and will be developed further in the first chapter. While much of the historical housing literature focuses on who benefited from the emergence of housing administration in Canada – an important focus which I take up – the governance of this administration itself has tended to escape critical scrutiny. This thesis suggests that we pay more attention to *how* state and industrial actors shaped and have been shaped by the conduct of the federal state in its mid-twentieth-century (re)formation. In this respect, this thesis argues that the case of national building regulations provides a glimpse into

how the state became a significant discursive and material site where the mid-twentieth-century ‘housing problem’ was defined and governed. In seeking to benefit from the regulation of housing provision, various actors claimed, resisted, worked around, and maintained the apparent objectivity and universality of state regulation that the use of national building standards could variably offer them. Consequently, national building regulations became authoritative not only because of who they benefited, but in how they were used to translate complex housing issues, bureaucratic and industrial work processes, and class inequities into a seeming technical ‘problem’ of the national state.

Chapter organization

Chapter one develops the theoretical approach that is taken in the thesis. It aims to accomplish two tasks: (1) providing an outline of the historical housing literature (focussing on Canada), and (2) demonstrating how a theoretical engagement with standardization as a contingent form of power can contribute to this literature. The remainder of the thesis provides the historical account, organized thematically. Chapter two begins the account with investigating how the issue of housing provision was problematized at certain historical moments. Rather than treating the mid-twentieth-century ‘housing problem’ as pre-defined, this chapter traces the emergence of national building regulations to argue that the ‘housing problem’ was discursively and materially configured. National building regulations, in the process of their creation, shaped and were shaped by a discourse of technocratic regulation that sought to make housing provision into a target of state management. Chapter three enriches this conclusion with a more thorough consideration of how national building regulations were routinely used by state officials and builders in providing mass housing to the national population. It argues that the day-to-day

enforcement of building regulations became formative to the state's claim upon the 'objective' regulation of mass housing provision. I conclude the thesis with a summary of its contribution.

Chapter 1: Forming a conceptual nexus of housing provision, standardization, and the state

“The modern project in postwar Canada,” Joy Parr succinctly observes, “was not only about change, but about making change supportable.”¹ During and after the devastations of the Great Depression and World War II, attempts to bureaucratize housing provision, as well as family allowances, health care, pensions, hydro-electricity, sex education, and more, were aimed at transforming and ‘modernizing’ the social and economic circumstances of Canadians.² But embarking on these projects was one thing; making them ‘supportable’ was another. Parr directs our attention to how political projects do not unfold in a linear or progressive fashion, but have to be made supportable by a variety of actors and practices in multiple, minor ways that we typically overlook. Parr shows us, for example, how the functionalist ideal of modern mass housing pursued by the Central Mortgage and Housing Corporation (CMHC) was promoted, interpreted, and reconfigured through families’ negotiations with various domestic artifacts during the postwar period.³

While Parr’s interest in the histories of consumer objects is empirically quite different from mine, her broader concern with the supports that make large-scale projects of modernization possible provides a starting point for this chapter. I suggested in the introduction of this thesis that Canadian officials’ claims upon the management of housing provision was not given, but was actualized in part through the mundane instrument of national building

¹ Joy Parr, *Domestic Goods: The Material, the Moral, and the Economic in the Postwar Years* (Toronto: University of Toronto Press, 1999), 164.

² Mary Louise Adams, *The Trouble with Normal: Postwar Youth and the Making of Heterosexuality* (Toronto: University of Toronto Press, 1997); Dominique Marshall, *The Social Origins of the Welfare State: Quebec Families, Compulsory Education, and Family Allowances, 1940-1955*, trans. Nicola Doone Danby (Waterloo, ON: Wilfrid Laurier University Press, 2006); Matthew Evenden, *Allied Power: Mobilizing Hydro-Electricity During Canada’s Second World War* (Toronto: University of Toronto Press, 2015); Doug Owsram, *Born at the Right Time: A History of the Baby Boom Generation* (Toronto: University of Toronto Press, 1996).

³ Parr, *Domestic Goods*, 161-164.

regulations. National building regulations were one of the many institutional supports of Canada's 'modern project,' yet they are oddly neglected in historical discussions of mid-twentieth-century housing provision. Bureaucratic tools, in general, form what Dwight Waldo has famously called the "stuff of administration."⁴ The *means* of the state, not simply its grand ideological positions, are how state officials configure and act upon their objects of intervention.⁵ This insight is concretized by Patrick Joyce, who analyzes how the modernization of Britain's colonial administration in India was made possible not just through high technology but more "low-tech" elements of state power, including intra-bureaucratic standards.⁶ There is now a literature, largely within the fields of organizational sociology and social studies of science (but also beyond), which seeks to understand the seemingly banal practice of standardization as a discourse and technique of bureaucratic power.⁷ Yet in relation to Canada's 'modern project' of state-supported housing provision, standardization is not well theorized. This is despite its acknowledged role in reinforcing the goals of the state and the housing industry during the mid-twentieth century.

As such, this chapter hopes to conceptualize the link between mass housing provision and state standardization -- making change, and making change supportable -- that was highlighted in the introduction of this thesis. The view of technical standardization I develop in this chapter focuses on its historical appearance as a distinct technique through which bureaucracies govern

⁴ Dwight Waldo, *The Administrative State: A Study of the Political Theory of American Public Administration* (New York: Ronald Press, 1948); Dwight Waldo, "The future of management," *Bureaucrat* 6, no. 3 (1977): 101-113.

⁵ David Garland, "The Welfare State: A Fundamental Dimension of Modern Government," *European Journal of Sociology* 55, no. 3 (2014): 335.

⁶ Patrick Joyce, *The State of Freedom: A Social History of the British State since 1800*, (Cambridge: Cambridge University Press, 2013), 42.

⁷ For a review of this literature, see Vaughan Higgins and Wendy Larner eds., *Calculating the Social: Standards and the Reconfiguration of Governing* (New York: Palgrave Macmillan, 2010); Stefan Timmermans and Steven Epstein, "A World of Standards but Not a Standard World: Toward a Sociology of Standards and Standardization," *Annual Review of Sociology* 36, no. 1 (2010): 69-89.

and are governed. First, this chapter provides a review of pertinent areas of the Canadian housing literature. After outlining one particular area for development, namely the theme of historical contingency that this literature often considers, the remainder of the chapter outlines how a theoretical consideration of standardization can hopefully contribute to this literature. I outline a conceptual approach to standardization as a discursive practice of power, drawing primarily on Foucauldian theorist François Ewald's concept of the 'technical norm.' I then further develop Ewald's concept with insights from two other literatures, actor-network theory (ANT) and the growing poststructuralist literature on the state, in order to further grapple with the contingencies of standardization as an element of state power. As such, this chapter's inquiry is twofold: how do attempts to standardize become formative to the power of state bureaucracies? And how might we use this inquiry to illuminate, and thereby contribute to an understanding of, attempts to improve and modernize the provision of housing through the federal state in mid-twentieth-century Canada?

Historical literature on mid-twentieth-century housing provision

While there are very few studies in the Canadian context on the emergence of national building regulations, there is nonetheless a directly relevant body of literature that discusses the link between mass housing construction and postwar state regulation. Two overarching (and often overlapping) themes are especially relevant to a critical and historical understanding of mass housing: studies that examine the obdurately market-oriented nature of housing regulation in Canada, and studies that investigate how postwar mass housing became a cultural, social, and political norm. I indicated in the introduction to this thesis that these literatures shaped my inquiry about the role of standardization in regulating mass housing provision. But the further I read about the political and social contours of the mass housing provision in mid-twentieth-

century Canada, more questions about the power relations involved in standardizing mass housing through the state emerged. If, as Sean Purdy notes, officials with differing political visions agreed on the necessity of house-building standards, what kinds of power relations went into maintaining this ‘agreement’?⁸ What forms of bureaucratic intervention were privileged in the process? And what does this process say more broadly about how the federal state was being governed in relation to the promotion and regulation of mass housing? These are questions about state power that are addressed to some extent by the housing literature, but are often not prioritized. Before indicating how a study of the birth of national building regulations in Canada can contribute to a more nuanced understanding of the federal governance of mass housing, I use this section to review the historical housing literature.

There is an extensive literature on the policy battles and political struggles involving Canada’s first housing acts. Many scholars examine the story of Canadian housing programs as a victory of conservative business and political interests over the social concerns of civic reformers and their supporters. Examinations of the conservatism of early federal housing policy often focus on which interest-groups drove the creation of these programs, detailing how industry officials, middle-class reformers, and federal bureaucrats defended and contested the dominant policy of financing owner-occupied single-family dwellings.⁹ As John Bélec’s study of the 1935

⁸ Sean Purdy, *Industrial Efficiency, Social Order and Moral Purity: Housing Reform Thought in English Canada, 1900–1950*. *Urban History Review* 25, no. 2 (1997): 30.

⁹ Notable examples include, but are not limited to: John Bélec, “Origins of State Housing Policy in Canada: The Case of the Central Mortgage Bank,” *The Canadian Geographer/Le Géographe Canadien* 28, no. 4 (1984): 377–382; John Bacher, “W. C. Clark and the Politics of Canadian Housing Policy, 1935-1952,” *Urban History Review* 17, no. 1 (1988): 4-15; Margaret Hobbs and Ruth Roach Pierson, “‘A Kitchen That Wastes No Steps...’: Gender, Class and the Home Improvement Plan, 1936-40,” *Histoire sociale/Social History* 21, no. 41 (1988): 9-37; Bacher, *Keeping to the Marketplace: The Evolution of Canadian Housing Policy* (Montreal: McGill-Queen’s University Press 1993); H. Peter Oberlander et al., *Housing a Nation: The Evolution of Canadian Housing Policy* (Vancouver: Prepared by Centre for Human Settlements, the University of British Columbia for Canada Mortgage and Housing Corporation, 1992); Richard Harris and Doris Forrester, “The Suburban Origins of Redlining: A Canadian Case Study, 1935–54,” *Urban Studies* 40, no. 13 (2003): 2661–86; Kevin Brushett, “Where Will the People Go: Toronto’s Emergency Housing Program and the Limits of Canadian Social Housing Policy, 1944-1957,” *Journal of Urban History* 33, no. 3 (March 1, 2007): 375–99.

Dominion Housing Act suggests, Department of Finance officials and Liberal Party politicians privileged the actuarial priorities of major life insurance companies.¹⁰ The DHA's provisions nominally recognized issues of urban poverty, 'slum' housing, and the lack of a coordinated strategy for residential planning that social scientists and reformers were calling attention to in the midst of the Great Depression. But the primary function of the bill was to increase the liquidity and security of insurance companies' mortgage loans. This was done in order to promote homeownership as a dominant form of tenure in Canada, and thereby make market-based housing provision into an attractive commercial and industrial endeavour. As Bélec states,

It is difficult to imagine an outcome at greater odds with what was being demanded by the expanding body of social reformers in the depths of the depression, as was the DHA. Throughout the period, municipal surveys in some of Canada's largest cities documented the extent of housing decay. A variety of reform groups presented proposals for massive federal building programs. What they wanted was social housing; what they got in the DHA was the promotion of home ownership and the associated values of individualized consumption.¹¹

Bélec's conclusion that the DHA set a market-oriented precedent for Canadian housing policy is corroborated by studies which examine the exclusion of low-income housing provisions from housing bills continuing into the postwar period. John Bacher frames these developments as a pattern of the federal government "keeping to the marketplace" with respect to housing issues, attributing the conservatism of federal housing policy to the lack of political willpower among federal politicians to prioritize social housing programs.¹² Jill Wade further claims that this outcome was not inevitable.¹³ In her examination of direct federal investment in wartime rental housing, she notes that Canadian housing policy was caught between a reform approach and a business stimulus approach, the latter taking priority throughout the postwar period. More

¹⁰ John Bélec, "Dominion Housing Act," *Urban History Review* 25, no. 2 (1997): 53–63.

¹¹ *Ibid.*, 54.

¹² Bacher, *Keeping to the Marketplace*, 1993.

¹³ Jill Wade, *Houses for All: The Struggle for Social Housing in Vancouver* (Vancouver: University of British Columbia Press, 1994).

unusual, but nonetheless significant, are studies which trace this precedent to the first housing act in Canada that was created after World War I.¹⁴ These studies draw a similar conclusion: amid demands to maintain property values and house the ‘desirable’ classes, what could have been reformist measures ended up serving the interests of local developers, municipal governments, and various professionals. David Hulchanski more recently summarizes the significance of housing policy and its history in Canada, arguing against the commonplace association of housing programs with anti-poverty goals.¹⁵ He notes that housing programs in Canada originated in a federal state administration that sought market stabilization rather than poverty reduction, in turn serving the interests of mortgage companies, corporate builders, and homeowners.¹⁶ With some exceptions,¹⁷ the housing policy literature is critical of how the federal state’s housing programs were primarily aimed at solving ‘market’ as opposed to ‘social’ problems.

Another research theme focuses on the emergence of modern mass housing as a norm, spanning the genres of social, cultural, urban, and business history.¹⁸ Specifically, this literature has often been concerned with how the housing circumstances and experiences of mid-twentieth-

¹⁴ Michael Simpson, “Thomas Adams in Canada, 1914-1930,” *Urban History Review* 11, no. 2 (1982): 1-16; Matt Sendbuehler and Jason Gilliland, “...to Produce the Highest Type of Manhood and Womanhood’: The Ontario Housing Act, 1919, and a New Suburban Ideal,” *Urban History Review* 26, no. 2 (1998): 42-55.

¹⁵ David Hulchanski, “What Factors Shape Canadian Housing Policy? The Intergovernmental Role in Canada’s Housing System,” in *Municipal-Federal-Provincial Relations in Canada*, eds. Robert Young and Christine Leuprecht (Kingston: McGill Queen’s University Press, 2005), 221-250.

¹⁶ *Ibid.*

¹⁷ For instance, John R. Miron, *House, Home, and Community: Progress in Housing Canadians, 1945 -1986* (Kingston: McGill-Queen’s Press, 1993).

¹⁸ Notable examples include, but are not limited to: Leonard J. Evenden, “Wartime Housing as Cultural Landscape: National Creation and Personal Creativity,” *Urban History Review* 25, no. 2 (1997): 41-52; Peter Ennals and Deryck Holdsworth, *Homeplace. The Making of the Canadian Dwelling over Three Centuries* (Toronto: University of Toronto Press, 1998); Sean Purdy, “Framing Regent Park: The National Film Board of Canada and the Construction of ‘outcast Spaces’ in the Inner City, 1953 and 1994,” *Media, Culture & Society* 27, no. 4 (2005): 523-549; Richard Harris, *Creeping Conformity: How Canada Became Suburban, 1900-1960* (Toronto: University of Toronto Press, 2004); John Bélec, “Underwriting Suburbanization: The National Housing Act and the Canadian City,” *The Canadian Geographer / Le Géographe Canadien* (2015): 1-13.

century urban and suburban dwellers was reconfigured by increasing suburbanization. Patrick Vitale suggests that much of this literature has been concerned with dispelling the myth that suburbs are intrinsically middle-class spaces, revealing suburbanization to be a more diverse and complex process than is typically supposed.¹⁹ While this socio-spatial question of who inhabited suburbs, when, and why (and why not) is an important inquiry, I have tended to draw from studies such as Vitale's which focus more on how and why certain discourses of the residential environment became authoritative during the mid-twentieth century. For example, Richard Harris's extensive work on suburbanization in North America traces the norm of single-family homeownership throughout the twentieth century, situating state-led housing provision within multiple contexts of historical and geographical change.²⁰ For Harris, the promotion of this norm involved large builders and federal state agents in alliance to sell standardized houses on large tracts of suburban land, as well as ideas about how the ideal, middle-class suburban home ought to be lived in and built. Marc Denhez's history of 'the Canadian home,' although limited by its methodological nationalism, also highlights the various forms of expertise and administrative intervention that characterized the endeavour of state-led housing provision.²¹ These geographically and temporally broad studies do not always focus on the intersection between state governance and mass housing, and usually use state intervention more as a context through which to understand why and how mass housing and the ideals associated with it became dominant in North America.

¹⁹ Patrick Vitale, "A Model Suburb for Model Suburbanites: Order, Control, and Expertise in Thorncrest Village," *Urban History Review / Revue D'histoire Urbaine* 40, no. 1 (2011): 41–55.

²⁰ Richard Harris, "The impact of building controls on residential development in Toronto," *Planning Perspectives* 6, no. 1 (1991): 269–296; Harris, "More American than the United States Housing in Urban Canada in the Twentieth Century," *Journal of Urban History* 26, no. 4 (2000): 456–478; Harris, *Creeping Conformity*, 2004; Harris, *Building a Market: The Rise of the Home Improvement Industry, 1914–1960* (Chicago: University of Chicago Press, 2012).

²¹ Marc Denhez, *The Canadian Home: From Cave to Electric Cocoon* (Toronto: Dundurn Press Ltd., 1994).

Drawing on and building upon these sweeping accounts, many studies consider the increasing significance of ‘modern’ ideals of housing by tracing the rising influence of scientific rationalism, centralized planning, and standardized consumption and production methods; in short, the expertise of housing provision. These studies often consider the emergence of influential housing experts, such as reformers, architects, mortgage lenders and appraisers, and developers in rationalizing the building and domestic management of modern homes.²² While it is easy to take this rationalization for granted, black-boxing it as an outcome of ‘technology’ or industrial advancement, these studies are generally more critical. They examine the use of certain discourses and tactics in order to understand how and why the provision of housing increasingly became the domain of professional experts. Sean Purdy, for instance, provides insight into the role of technical expertise in early- and mid-twentieth-century Canadian housing reform.²³ He notes that, by the postwar period, the technical standardization of house-building was a shared ideal among housing reformers who otherwise disagreed on policy matters.²⁴ Purdy concludes that these reformers mobilized a middle-class ideology of “community” to construct a national identity, which constructed the issue of working-class housing as a matter of amelioration within existing relations of capitalism. Other studies have examined the history of housing discourses by examining the development of certain neighbourhoods and cities. Ryan James, for instance, links the ‘slum’ clearance of Regent Park, Toronto during the 1940s and 1950s to planners’

²² Examples include, but are not limited to: Marc A. Weiss, *The Rise of the Community Builders: The American Real Estate Industry and Urban Land Planning* (New York: Columbia University Press, 1987); Sean Purdy, “Industrial Efficiency, Social Order and Moral Purity: Housing Reform Thought in English Canada, 1900–1950,” *Urban History Review* 25, no. 2 (1997): 30-40; Guy Stuart, *Discriminating Risk: The U.S. Mortgage Lending Industry in the Twentieth Century* (Ithaca, NY: Cornell University Press, 2004); Ioana Teoderescu, “Building Small Houses in Postwar Canada: Architects, Homeowners, and Bureaucratic Ideals, 1947-1974” (PhD Dissertation, McGill University, Montreal, 2012).

²³ Purdy, “Industrial Efficiency, Social Order, and Moral Purity,” 31-41.

²⁴ *Ibid*, 36.

claims of expertise upon the moral ‘improvement’ of its residents.²⁵ Similar claims were aimed at the middle classes albeit in a much different fashion, as Vitale’s account of Thorncrest Village, Toronto demonstrates.²⁶ Thorncrest’s creators fashioned their own planning expertise by promoting ‘national’ norms of middle-class suburban living and ordering the lives of residents towards this end. In sum, studies of mid-twentieth-century housing norms broadly unravel why and how ‘modernization,’ as it was negotiated at multiple scales from the domestic to ‘the nation,’ reshaped the provision and social experience of housing.

Literature evaluation: benefits, limitations, and next steps

Now that I have outlined some of the claims and concerns within the historical housing literature in Canada, I want to highlight one theme which is apparent in many of these accounts. This is the theme of *contingency*. Fundamentally, this involves the implication or claim that Canada’s system of housing provision did not inevitably evolve the way it has. Scholars within the first theme of literature I identified discuss how the federal state’s approach to housing has historically served corporate builder-developers, homeowners, and lending institutions at the expense of organizations and families which provide and rely on the provision of low-cost rental housing and public housing. Justifiably, scholarship on housing policy is critical of Canada’s market-oriented housing system in which the provision of owner-occupation is privileged. Much of the literature approaches the historical question of why the state intervened into matters of housing provision through evaluations of what policies or policy approaches could or should have been adopted.

²⁵ Ryan K. James, “From ‘slum Clearance’ to ‘revitalisation’: Planning, Expertise and Moral Regulation in Toronto’s Regent Park,” *Planning Perspectives* 25, no. 1 (2010): 69–86.

²⁶ Patrick Vitale, “A Model Suburb for Model Suburbanites,” 41–55.

This concern with the contingency of housing administration in Canada, as a historical outcome of interests and ideologies, came to form this thesis's research problem. But although I share this literature's concern with the state's privileging of a certain form of housing provision, I think it can be further developed. A limitation of these accounts is that they generally explain the administration of housing policy as simply a tool of specific interests. Insofar as research into housing policy and administration focuses on why federal legislation benefits certain actors at the expense of others, it would make sense to consider building regulations (assuming they are considered at all) as part of this broader policy approach. But if we are interested more specifically in the power relations involving the emergence of a particular bureaucratic instrument, this view is less useful. The issue here is not simply that historical accounts of housing policy have not paid enough empirical attention to administrative practices such as building standards, but that they have seldom situated their political significance within the broader governance of housing issues. The historically-specific vision of ideal administration which I pointed to in the introduction – which, as I will further show in the case of national building standards, generally aimed at classifying and administering housing environments as 'universally' as possible -- is usually overlooked. The focus on who became dominant through housing reform needs to be developed further to explain *how* the birth and administration of national building regulations in Canada helped shape the state governance of mass house-building.

The second research theme I identified, which directs attention to how mass housing projects were idealized and actualized, extends the theme of contingency to what Joy Parr calls Canada's 'modern project' more broadly. This literature brings context to the seemingly stable and 'technical' status of national building regulations that we take for granted today. It is not just

the specific empirical findings of these studies that are germane, but the insight that the modernization of mass housing during the early and mid-twentieth century was an ideal that was fought for in various ways. We are shown that ‘modernization’ was based not primarily on technological advances or the introduction of more efficient business practices into the housing industry, but on how actors within and outside the state such as architects, planners, builder-developers, civic leaders, and housing consumers positioned housing schemes as benefiting ‘the nation.’ In their connection to broader norms of proper building, planning, code-writing, inspection and more, this literature aids in examining building regulations as one of the many schemes that sought to modernize housing, and which had to be justified and defended within the particular circumstances of mid-twentieth-century Canada. But returning to the question of bureaucratic rule at the centre of my inquiry, studies within this research theme typically do not theorize the links between the idealization of housing schemes and the authority of bureaucratic administrations. There are notable exceptions which examine the bureaucratization of practices such as ‘slum’ clearance, home improvement, and architectural design, as well as their involvement in shaping administrative interventions into housing issues.²⁷ These studies usefully indicate how certain techniques of intelligibility were deployed, but they do not conceptually reckon with standardization, or many other bureaucratic procedures for that matter, as a historically specific intervention into Canada’s ‘housing problem.’

In sum, both research themes I identify tell us much about the contingencies of mass housing provision throughout the mid-twentieth century period, but they have generally not extended this critical focus to the specific bureaucratic instruments which made this political project realizable, imaginable, and ultimately supportable. This literature provides useful insights

²⁷ Tina Loo, “Africville and the Dynamics of State Power in Postwar Canada,” *Acadiensis* 39, no. 2 (2010): 23-47; Harris, *Building a Market*, 2012; Teoderescu, *Building Small Houses in Postwar Canada*, 2012.

into the interests, ideologies, and political structure of housing provision in mid-twentieth-century Canada that are indispensable to this thesis's account of national building standards and their emergence. But as a *discourse* – as a way of making housing provision into an actionable object of state intervention – standardization as well as other bureaucratic interventions have a tendency to appear in this literature as a black-box of power, whose contingency is not questioned nearly as often as the state's policy approach. This is despite the acknowledgment in much of the literature that standardization, and other administrative practices which were used to rationalize residential space, played a discernible role in supporting the market-based, individualized form of housing provision pursued by federal officials and their various allies. The task ahead, then, will be to outline the “rarity” of technical standardization as a discursive practice of power.²⁸ The purpose will be to justify standardization as a worthwhile site of inquiry into the relationship between state power and mass housing in mid-twentieth-century Canada.

Michel Foucault and “the history of governmentality”

This thesis adopts François Ewald's concept of the “technical norm” as an entry point to understanding the power of technical standardization.²⁹ Before outlining the technical norm concept, which occupies the following section, it is important to start from Ewald's basic point that technical standardization, as well as the litany of other norms he investigates in his genealogies of the welfare state, has a distinctive history.³⁰ This is not to make the banal point that ‘history matters,’ but to suggest that the past is a condition of possibility for certain relations of power that endure in the present. Our existence as subjects of power – how we govern

²⁸ Paul Veyne, “Foucault revolutionises History,” in Arnold I. Davidson ed., *Foucault and his Interlocutors*, (Chicago: University of Chicago Press, 1997), 146–182.

²⁹ François Ewald, “Norms, Discipline, and the Law,” *Representations* 30, no. 1 (1999): 138-161.

³⁰ See Ewald, “Insurance and Risk,” in *The Foucault Effect: Studies in Governmentality*, eds. Graham Burchell et al. (Chicago: The University of Chicago Press, 1991), 197-210.

ourselves, and how we govern others -- is situated in manifold histories that are not reducible to any one essential cause.³¹ To fully appreciate Ewald's identification of the technical norm as a technique of power, we need to identify its basis in a broader intellectual project: what Michel Foucault has called "the history of governmentality," and what is now referred to as "governmentality studies."³²

Foucault introduced the notion of governmentality, in part, to decentre the role of sovereign control that is prominent in liberal and Marxist theories of the state.³³ He sought instead to trace the emergence of the modern state and its relation to society as a historically-specific problem of political reflection and bureaucratic intervention. The reason for this shift in analysis for Foucault is historical: state sovereignty has not remained unchanged throughout the history of state formation, but became reshaped when "the problem of population" emerged during the eighteenth century.³⁴ The government of population reconfigured the relationship between 'state' and 'society' as separate domains, with individualized subjects (such as 'the citizen' or 'the client') increasingly governed through population processes (such as 'disease' and 'mortality') which they came to be seen as naturally submitted to.³⁵ In turn, state officials and various others continue to be increasingly concerned with making the 'mass' of population amenable to programs of intervention. Public health campaigns, census taking, city planning schemes, welfare administration – these and other dull yet enduring features of our day-to-day life enable and constrain the possibilities for how social relations can be discursively defined and

³¹ Michel Foucault, "The Subject and Power," *Critical Inquiry* 8, no. 4 (1982): 777–795.

³² Foucault, "Governmentality," in *The Foucault Effect: Studies of Governmentality*, eds. Graham Burchell et al. (Chicago: The University of Chicago Press), 102.

³³ Colin Gordon, "Governmentality: An Introduction," in *The Foucault Effect: Studies of Governmentality*, eds. Graham Burchell et al. (Chicago: The University of Chicago Press), 3.

³⁴ Michel Foucault, "1 February 1978," *Security, Territory, Population: Lectures at the Collège de France, 1977-1978*, ed. Michel Sennelart, trans. Graham Burchell (New York: Picador, 2007), 99.

³⁵ *Ibid*, 105.

governed. Projects of governmentality continue to rule through “the conduct of conduct,” seeking to reconfigure (not replace) the means through which state sovereignty governs and is governed.³⁶ Studying governmental projects as projects of state power thus requires that we trace the history of specific techniques, especially forms of calculation, observation, and standardization, which are directed at populations and which are deployed in variable ways to shape their ideal conduct.³⁷

What is germane in Foucault’s concept of governmentality is, for this thesis, its historicization of state power. As Pat O’Malley observes, an enduring benefit of the governmentality approach is that it “dispenses with epochal analysis” in favour of a more grounded, historically-specific conception of power.³⁸ Its focus on how conduct is acted upon, rather than how people and things are determinately and generically ‘controlled,’ makes it more open to shifts and novelties in how we are ruled on an everyday basis. I believe this pursuit is important for reconsidering the power of state administration as it is typically viewed in the housing literature. For if the power of standardization is a set of historically-specific relations, rather than a ‘thing’ that is pursued and won by interests and institutions, then we can deepen attempts to demystify the inevitability of the system of housing provision that emerged in mid-twentieth-century Canada. While certain techniques of power that are discussed in the housing literature endure in the present, what is less often recognized is that they are historically variable, being subject to shifts in discourse and practice which can be rather unpredictable and difficult to

³⁶ To be sure, Foucault’s focus on the seemingly more ‘indirect’ aspects of power – of shaping, regulating, and guiding individuals and groups through the mass of population – does not mean that more coercive and interventionist aspects of power have become less historically significant. On the contrary, as Foucault suggests, the emergence of governmentality “made [the problem of sovereignty] more acute than ever” and enlisted disciplinary practices that were used to manage population “in all its fine points and details.” This is a point that will become relevant in some aspects of this thesis’s empirical analysis. See Foucault, “1 February 1978,” 107.

³⁷ Colin Gordon, “Governmentality: An Introduction,” 3.

³⁸ Pat O’Malley, “Governmentality and Risk,” in *Social Theories of Risk and Uncertainty*, ed. Jens O. Zinn (Wiley-Blackwell, 2009), 52–75.

reduce to an essential cause. There was no pre-existing mandate or metaphysical law of proper administration that prompted federal housing officials to create and enforce national building regulations. Examining how and why they went about doing so can possibly tell us much about how these officials' vision(s) of ideal housing provision were actualized and made bureaucratically supportable. In order to further specify this research task, I now turn to an examination of the technical standard as a technique of power.

The “technical norm”: objects, subjects, and networks of governmentality

With Foucault's conception of power as government in mind, we can understand technical standardization as a historically emergent practice. This thesis develops Ewald's concept of the “technical norm” through three aspects of its history and epistemology: the *objects*, *subjects*, and *networks* of the technical norm. Specifically, this thesis approaches the technical norm as a discursive and material practice, which involves making industrial production/consumption intelligible for intervention; shaping the conduct of subjects towards this end; and assembling the bureaucratic networks in and through which the organization of these power relations occur.

Objects

First, Ewald helps us identify the primary object of the technical standard: industrial production and consumption. Similarly to how Ian Hacking traces modern-day statistical practice to the nineteenth century “avalanche of numbers,”³⁹ François Ewald roots the distinctiveness of the technical norm in the proliferation of standards organizations, standards documents, and advocates of standardization during the twentieth century. During the contexts of World War I and II, particularly the mass production and the centralization of industry they entailed, the

³⁹ Ian Hacking, “How Should We Do the History of Statistics?,” in *The Foucault Effect: Studies in Governmentality*, eds. Graham Burchell et al. (Chicago: University of Chicago Press, 1991), 181-196.

technical standard began to “appear as the essential structure that would provide the framework” upon which economic productivity would be based.⁴⁰ In turn, as Georges Canguilhem notes, technical standardization has become premised on a “technocratic myth” that the needs of entire societies can be planned for and administered in advance.⁴¹ Towards this end, state/industrial officials have created centralized systems of technical classification which had generally not existed prior to the twentieth century. Large-scale, all-encompassing technical standards projects emerged not to achieve a mastery over the absolute – as with a sovereign tasked with issuing decrees – but a command over the means through which a society’s production and consumption can be indefinitely surveilled and judged. This was marked by a more general historical shift towards normalization techniques in modern societies, which are aimed not solely at correcting individual behaviours but on foreseeing and acting upon the requirements of an entire population. As Foucault suggests, normalization practices have entailed an attempt to define ‘normal’ and ‘abnormal’ objects and activities through “different curves of normality,” the purpose being “to bring the most unfavorable in line with the more favorable.”⁴²

Thus, standardization is not a simple matter of issuing abstract rules and enforcing them. The governmental purpose of standardization is to fashion and negotiate procedures through which standards documents can maximize the comparability of people and things. Judgments about comparability are ultimately political decisions, aimed at producing what Alain Desrosières calls “equivalencies” that can be used to both compare and differentiate the (ab)normalities of a population.⁴³ The attempt to govern populations through comparability is not

⁴⁰ Ewald, “Norms, Discipline, and the Law,” *Representations* 30, no. 1 (1999): 150.

⁴¹ Georges Canguilhem, *The Normal and the Pathological*, trans. Carolyn R. Fawcett (New York, NY: Zone Books 1991 [1966]), 247.

⁴² Foucault, “25 January 1978,” in *Security, Territory, Population*, 63.

⁴³ Alain Desrosières, “How Real Are Statistics? Four Possible Attitudes,” *Social Science Research* 68, no. 2 (2001): 339-355; Desrosières, *The Politics of Large Numbers: A History of Statistical Reasoning* (Cambridge, MA: Harvard University Press, 1998).

unique to the technical norm; it forms part of the broader history of governmentality. But what makes the genealogy of the technical norm distinct from, say, the normalization of risk that Desrosières discusses is its claim of expertise. The model of the technical norm entails translating “the language of the engineer” into a “common language” of communication that can be understood by a heterogeneous ‘society’ of interests.⁴⁴ Whereas the mathematized statistic emerged to capture the regularities of a population through the statistician’s model, the technical norm sought to achieve interoperability for the model itself. The technical norm is premised not on the expertise of any single professional, but universalized communication achieved through the participation of various interests in this model-making endeavour. By scaling up the means through which industry is governed and can govern itself, the technical norm has thus entailed a distinctive way of making the industrial economy a seemingly universal, comparable object of government.

Subjects

The technical norm’s emphasis on making essentially every aspect of the industrial economy comparable also means that the subjects of standardization – the ‘society’ of interests that make up a large-scale standards project – are enabled and constrained by it in novel ways. Ewald identifies *objectivity* as a discourse through which standards-makers and users produce the authority of the technical norm. As Ewald suggests, those actors who seek to govern their own and others’ conduct through technical standards typically come to privilege it as a sort of “perfect common language of pure communication,” which is completely efficient and free from superfluous language or arbitrary rigidity in its ideal form.⁴⁵ This type of bureaucratic

⁴⁴ Ewald, “Norms, Discipline and the Law,” 149.

⁴⁵ *Ibid*, 151.

objectivity, Theodore Porter explains, has specific contours.⁴⁶ It is neither the “truth to nature” or realism that we associate with the natural sciences, nor is it simply an illusory screen behind which political interests conspire.⁴⁷ Those who use standardization to configure their knowledge claims will typically assert the value of objectivity in relation to what it is not: interpretation, or “subjectivity.” Standardizers unendingly battle to remove any indication of subjectivity that they perceive as hindering the uniformity of a standardized/standardizing scheme.⁴⁸

In this respect, objectivity has real power effects. These struggles for objectivity can lead to a number of issues and conflicts, constraining conduct as much as they enable state and industrial actors to govern one another and their targeted populations. As James C. Scott reveals, political projects that seek to render populations comparable, particularly when imbued with a will to expertly ‘improve’ these populations, encounter a kind of paradox. Techniques which aim to scale up and standardize site-specific ways of working, living, and making sense of the world – in the case of this thesis, building and inhabiting housing – almost impossibly seek to maximize the visibility of populations while constraining the means through which this visibility is achieved.⁴⁹ This knowledge claim, which Scott calls ‘legibility,’ can constrain or even do violence to the populations which planners seek to ‘improve.’⁵⁰ Although Scott has been rightly critiqued for sometimes taking the synoptic view of improvement schemes for granted, he nonetheless shows us that certain quests for objectivity are not intrinsically successful or

⁴⁶ Theodore M. Porter, “Quantification and the Accounting Ideal in Science,” *Social Studies of Science* 22, no. 4 (November 1, 1992): 633–51.

Theodore Porter.

⁴⁷ *Ibid*, 633-634.

⁴⁸ *Ibid*, 639.

⁴⁹ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998), 111.

⁵⁰ *Ibid*, 3, 320.

smooth.⁵¹ The value of making populations legible for a specific project is a claim that has to be made by subjects, and the consequences of this claim can be (but, as Scott reminds us, are not necessarily) tragic.

As such, this thesis is concerned with revealing objectivity to be a historically variable *effect*, rather than a given feature, of attempts by the many technicians of standards documents to govern populations as well as their own conduct.⁵² This is not to suggest that objectivity is an invention of any one technique in isolation; there are obviously conceptions of legal, technical, and scientific objectivity that pre-date and overlap with the technical norm. If this knowledge claim that we refer to as ‘objectivity’ has multiple histories, as Lorraine Daston demonstrates, it is potentially worthwhile to empirically examine its potency (or lack thereof) in particular circumstances rather than taking its apparent dominance in ‘Western culture’ for granted.⁵³ On this point, Ewald’s conception of the technical norm has less to offer. Like many scholars who contributed to the field of governmentality studies during its infancy, Ewald tells us much about standardization as a “mode of thought” but little about how to investigate the relations and struggles involving particular standardization projects.⁵⁴ To understand the potential historical conflicts and negotiations that result from technical standards schemes, we need a way to ground the actual relations in which the technical norm, as a ‘mode of thought,’ is actualized. In order to

⁵¹ For a fresh and critical engagement with Scott, see Tina Loo, “High Modernism, Conflict, and the Nature of Change in Canada: A Look at *Seeing Like a State*,” *Canadian Historical Review* 97, no. 1 (March 2016): 34-58.

⁵² In making this point, I also follow Bruno Latour, who has noted that knowledge claims which become premised on a narrative of ‘rationality versus interpretation’ are more often internalized than critiqued by researchers. In doing so, we risk taking for granted the very divide that James C. Scott views as potentially destructive: the assertion of abstraction over site-specific ways of working, living, and making sense of the world (which Scott calls *metis*). See Latour, *Science in Action: How to Follow Scientists and Engineers Through Society* (Cambridge, MA: Harvard University Press, 1987), 210-213.

⁵³ Lorraine Daston, “Objectivity and the Escape from Perspective,” *Social Studies of Science* 22, no. 1 (1992): 597-618.

⁵⁴ Ewald, “Norms, Discipline and the Law,” 151.

indicate what such an investigation entails, I turn to a more processual methodology: actor-network theory (ANT).

Networks

The field of actor-network theory (ANT) can supplement this thesis's analysis by reminding us that discursive claims have to be made authoritative in and through minor relations that are, upon scrutiny, quite fragile. ANT scholars, particularly Bruno Latour, have shed light on how the messiness and eventfulness of socio-technical endeavours can be taken more seriously through an analysis of 'actor-networks' rather than the dichotomy of agency/structure. Latour and Michel Callon have developed the concept of network, in part, as a methodological tool to avoid essentializing the power of actors prior to investigation.⁵⁵ They suggest that instead of relying on macro-categories as *a priori* tools of explanation, we instead trace the relations in which certain macro-structures come to be authoritative and thereby take on the impression of being 'macro.' In this sense, the concept of network -- or 'work-net,' as Latour has also used the term -- is an analytical lens which stresses that power does not pre-exist relations between and among people and things but is made *in* them. Viewing power as a macro-structure risks confirming the inevitability of inequities that continue to make some actors seem naturally authoritative or 'big.'⁵⁶ ANT directs our attention to the sheer heterogeneity and fragility of administrative relations that are often excluded or forgotten about in accounts which presume the authority of macro-structures, including standardization. A technical standard, Latour and Emilie Hermant note, does not merely impose upon our subjectivities as a 'structure' but *binds* relations

⁵⁵ Bruno Latour and Michel Callon, "Unscrewing the big Leviathan: how actors macro-structure reality and how sociologists help them to do so," in *Advances in social theory and methodology: Toward an integration of micro- and macro-sociologies*, eds. K. Knorr-Cetina and A.V. Cicourel (Boston: Routledge & Kegan Paul, 1981), 277-303.

⁵⁶ *Ibid*, 286.

of people and things, creatively enlisting them to maintain or disrupt a standard's seemingly given authority.⁵⁷

If networks are heterogeneous and fragile, how are they held together? One tactic which this thesis considers is the circulation of “immutable mobiles.”⁵⁸ The immutable mobile is a material manifestation of what James C. Scott calls *techne*, allowing administrators to freeze their classifications and observations into forms which can travel physical and social distances, while variably perpetuating these distances.⁵⁹ Graphic artifacts such as reports, files, checklists, and codes can be used to translate the messiness of the world ‘out there’ into an ordered, observable, and ultimately transferable form.⁶⁰ In turn, the ability to hold bureaucracies together as seemingly universal entities, with the ability to act upon conduct at a distance, is contingent upon not just the ideas and assertions of bureaucrats but their use of humble yet powerful artifacts of measurement in keeping administrative networks together.⁶¹ The key here is that the authority of the technical norm needs to be analyzed not just in its initial creation, but as it is launched into circulation and its authority maintained. For example, Laurent Thévenot indicates the importance of specific documents and procedures to the early-twentieth-century emergence of “scientific management,” showing it to be more than a mere ‘idea’ or ‘belief’ which bolstered the authority of middle-class managers. To Thévenot, there was a networked basis to F.W. Taylor’s scheme of standardized labour, whose appearance as a seemingly universal theoretical model was based on a heterogeneous network of documentary tools and techniques used to

⁵⁷ Latour and Emilie Hermant, *Paris ville invisible [Paris: Invisible City]*, trans. Liz Carey-Librecht (2006), virtual book. <http://www.bruno-latour.fr/virtual/EN/index.html>.

⁵⁸ Latour, “Visualization and Cognition: Drawing Things Together,” *Knowledge and Society* 6, no. 1 (1985): 1-40.

⁵⁹ Latour, “The Fifth Dimension of Time and its Fabrication,” *Common Knowledge* 6, vol. 3 (1996): 170-191. For a description of Scott’s notion of *techne*, see Scott, *Seeing Like a State*, 319-320.

⁶⁰ Latour, *Science in Action*, 248-252.

⁶¹ Joseph O’Connell, “Metrology: The Creation of Universals by the Circulation of Particulars,” *Social Studies of Science* 23, no. 1 (1993): 129-173.

govern workers.⁶² To study standards as networked, then, we need to situate them in what Georges Canguilhem has called the “correlativity” of norms, keeping their heterogeneity in mind to avoid reifying their authority.⁶³ To be sure, this thesis does not have the space or research materials to explain the material agency of networks which concerns many ANT scholars,⁶⁴ and these same limitations have prevented me from ‘following the actors’ in the detail that Latour typically suggests.⁶⁵ Nonetheless, ANT helps this thesis illuminate moments when bureaucratic networks were held together by standardization and, importantly, moments when its ‘universality’ was challenged or in peril.⁶⁶

Now that I have outlined the technical norm concept, it is worth summarizing how this thesis uses it. Viewing standardization as a practice of governmentality appears to me to warrant a closer look into the link between standardization and housing provision in mid-twentieth-century Canada. The purpose of this approach is to deepen an understanding of how a certain intervention into the governance of important and even urgent issues of housing provision became authoritative. Insofar as we focus on ‘who benefits’ from a certain policy approach to housing issues, as well as who does not, we can dispel taken-for-granted notions that the marketization of housing provision has been inevitable. But highlighting the question of *how* certain issues came to be known and governed, a question inspired by Foucault’s broader project of the “history of governmentality,” develops this concern with the contingency of ‘who

⁶² Laurent Thévenot, “Rules and Implements: Investment in Forms,” *Social Science Information* 23, no. 1 (1984): 7.

⁶³ Canguilhem, *The Normal and the Pathological*, 249.

⁶⁴ See Matthew Hull, *The Government of Paper: The Materiality of Bureaucracy in Urban Pakistan* (Berkeley: University of California Press, 2012) for a fresh analysis of the dilemmas involved in investigating the material agency of bureaucratic tools.

⁶⁵ For a more detailed explanation regarding this latter reservation, see my discussion of the archive in the introductory chapter of this thesis.

⁶⁶ Jacqueline Best and William Walters observe that the *limitations* of technical experts’ attempts to hold networks together is a theme that is less commonly explored in more recent uses of ANT’s conceptual toolkit. For this reason, I tend to draw on Latour’s and others’ earlier work that maintains this sensibility. See Best and Walters, “Translating the Sociology of Translation,” in *International Political Sociology* 7, no. 3 (2013): 345-349.

benefits' from state power. This means shifting empirical attention to issues that involve the conduct of state conduct, such as what kinds of housing can and should be standardized in and through a national building standard, who will be trained to enforce this standard, what forms of knowledge will be developed and employed in the process, and how such a project will be organized. These are not organizational functions that were intrinsic to mid-twentieth-century housing provision, and ignoring them as such simply risks perpetuating the notion that standardization was an inevitable, unproblematic, or merely 'technical' function of the state. Taking standardization seriously forces us to consider how the state's approach to housing provision was not only made, but made *possible* and supportable by the formation of a federal housing bureaucracy.

In developing the question of 'who benefits' from standardization, there is one particular 'who' that appears in much of the historical housing literature, as well as my account in this thesis, which requires attention before concluding this chapter. This actor is the state, to which I now turn.

A note on 'the state' and 'its' ontology

So far, I have conceptualized technical standards with the aim of analyzing the relationship between practices of government and the power of state. But we need to be clearer about this actor/institution called 'the state' as it is discussed in this thesis's analysis. In the media and in academic research, we are accustomed to reading and hearing about the state as a thing, an actor in its own right that possesses an essence of sovereign authority. This is also how the federal state is generally referred to in the Canadian housing literature. There is nothing glaringly incorrect about this notion of the state; to some extent, this thesis has already and will unavoidably continue to refer to 'the state' in these terms. But if we return to Foucault's point

that the modern state is an *emergent* entity, whose claims to authority have come to encompass much more than sovereignty, then this conception of the state deserves to be acknowledged as simplistic. A number of post-Marxist and poststructuralist anthropologists, sociologists, historians, and geographers are further deepening the arguments of those such as Foucault who have questioned the epistemological and ontological foundations of the modern state.⁶⁷ Historical sociologist Philip Abrams was perhaps the first to outline a more nominalist conception of the state with great clarity:

The state is not the reality which stands behind the mask of political practice. It is itself the mask which prevents our seeing political practice as it is. There *is* a state-system: a palpable nexus of practice and institutional structure centred in government and more or less extensive, unified and dominant in any given society. There *is*, too, a state-idea, projected, purveyed and variously believed in in different societies at different times. We are only making difficulties for ourselves in supposing that we have also to study the state – an entity, agent, function or relation over and above the state-system and the state-idea.⁶⁸

Abrams directs our attention here to two mutually reinforcing ways in which the state can be investigated. The state is, first and foremost, a system of social relations characterized by the exercise of class domination. We know this much from the Marxist and neo-Marxist accounts of state formation that Abrams is primarily responding to. But the state is also a hypostatization of this ensemble, a “state idea” that comes to be reified as a basis for political action. Consequently, the power of ‘the state’ appears to be even more contingent, fragile, and ultimately fictional than we might suppose. In this vein, Timothy Mitchell has developed the significance of Abrams’s

⁶⁷ For examples, see Patrick Carroll, “Water, and Technoscientific State Formation in California,” *Social Studies of Science* 42, no. 4 (2012): 489–516; Thomas Lemke, “An Indigestible Meal? Foucault, Governmentality and State Theory,” *Distinktion: Scandinavian Journal of Social Theory* 8, no. 2 (2007): 43–64; Chandra Mukerji, “Jurisdiction, Inscription, and State Formation: Administrative Modernism and Knowledge Regimes,” *Theory and Society* 40, no. 3 (2011): 223–45; Aradhana Sharma and Akhil Gupta eds., *The Anthropology of the State: A Reader* (Malden, MA; Oxford: Blackwell Pub., 2006); Joyce, *State of Freedom*; Tina Loo, “High Modernism, Conflict, and the Nature of Change in Canada: A Look at *Seeing Like a State*,” *Canadian Historical Review* 97, no. 1 (2016): 34–58.

⁶⁸ Philip Abrams, “Notes on the Difficulty of Studying the State,” *Journal of Historical Sociology* 1, no. 1 (1988 [1977]): 58.

approach to the state for empirical research.⁶⁹ Mitchell enjoins us to critically examine the claim that ‘the state’ is an entity that is somehow separate from ‘society’ and its historical iterations (particularly ‘the national economy’).⁷⁰ As Mitchell suggests, the state/society boundary is actively created and re-created as a “resource of power” that provides certain actors with political-economic benefits, such as legal protections and financial support.⁷¹

The purpose of Mitchell’s and other scholars’ inquiries into the ontology of the state is not to expose it as a mere illusion that conceals power – as *purely* an idea or reification -- but more simply to show that its fictional uniformity (as *the* state) is not an analytical given. It is, instead, an empirical problem. This insight is particularly relevant to the historical development of standardization, simply because not all standards evolve as recognizably ‘state’ documents. Many standards schemes are created by businesses or non-profit industrial organizations, and a number of them take on the technocratic insignia of a ‘public-private partnership.’ As the ongoing neo-liberalization of standards organizations has shown, the role of the state in standards-making as ostensibly separate from the operations of industry is never really clear and has certainly not been laid out in advance.⁷² Thus, while this thesis preserves ‘the state’ as an important category of empirical analysis, it does not seek to attribute the creation, maintenance, and consequences of national building regulations to ‘the state’ as a unitary actor. Such an attribution would risk reproducing the questionable liberal notion that many political-economic inequalities and injustices are caused solely by ‘state intervention.’⁷³ It is perhaps most urgent

⁶⁹ Timothy Mitchell, “Society, Economy, and the State Effect,” in *State/culture: state-formation after the cultural turn*, ed. George Steinmetz (Ithaca, NY: Cornell University Press, 1999), 76-97.

⁷⁰ *Ibid.*, 84.

⁷¹ *Ibid.*

⁷² W. Higgins and K. T. Hallstrom, “Standardization, Globalization and Rationalities of Government,” *Organization* 14, no. 5 (2007): 685–704.

⁷³ This notion can be observed in (neo)-liberal texts such as F.A. Hayek’s *The Road to Serfdom*. In the book, Hayek famously critiques the kind of technocratic planning that came to be adopted by many European governments throughout the early and mid-twentieth-century. While questioning the utopian aspirations of government planners,

today, amid neoliberal expressions of what Foucault has called “state phobia,” that we resist easy confluences of bureaucratic power with a homogenizing impulse emanating from ‘the state’ and the state alone.⁷⁴ In this regard, standardization cannot be assumed to be a coherently ‘public’ or ‘private’ activity. Following Mitchell, it is in the negotiation of these taken-for-granted divisions where networks of power are potentially formed (and not merely ‘restricted’ or controlled by the state, as liberal accounts might have it).

With respect to the technical standard as a practice of government, this thesis attempts to take seriously the process through which the state comes to take on a discursive role – a ‘state idea,’ in Abrams’s terminology – through a network of actors, institutions, documents, procedures, et cetera. I believe that sensitizing the technical norm concept to a consideration of the state and ‘its’ role can add to the worthwhileness of this thesis’s inquiry. If a marketized housing system in Canada was not inevitable, as housing scholars have shown, what about the state itself through which this system emerged? How and why did a certain arrangement of building standards, primarily benefitting federal housing officials and corporate builders situated in a particular bureaucratic network, come to be seen as a universal and objective ‘system’ of state regulation? We can perhaps respond to these questions by emphasizing the macro-social: the power of corporate builder-developers to influence national standards, the market ideology of state officials, et cetera. Although these responses do factor into this thesis’s analysis, none of them really question the ontological basis of ‘the state’ itself or ‘its’ claims of objective authority, nor do they centre the practices that make these claims possible. A key assumption of

as I do throughout this thesis, Hayek’s discussion of the price system indicates his commitment to the idea of an autonomous civil society of financiers that needs to be preserved and kept free of ‘interference’ by the state. In turn, Hayek’s conflation of central planning with *state* planning ontologizes the state in the same manner as the socialists and liberal reformers he opposes. See Hayek, *The Road to Serfdom* (London: Routledge, 2001 [1944]), 52 for his aforementioned discussion of market-determined pricing as enabling entrepreneurial freedom.

⁷⁴ For a discussion of Foucault’s concept of state phobia, see Matthew Hannah, “State knowledge and recurring patterns of state phobia: From fascism to post-politics,” *Progress in Human Geography* 40, no. 4 (2015): 476-494.

this thesis, then, is that state power is in part exercised through the discursive and material maintenance of routine procedures such as standards, which perform the state and its authority.⁷⁵

If we can unpack how the practice of standardization became partly constitutive of the state's discursive and material role, we can hopefully gain a richer appreciation for the claim that mid-twentieth-century housing provision could have been otherwise.

Concluding Remark

It is intended that this thesis's conceptual approach to the history of national building regulations in Canada will contribute to accounts of how state and industrial actors have exercised power over mass housing provision. By tracing the birth of federal housing administration in Canada through the creation and use of a specific technique of power, this thesis develops and nuances concerns about the contingency of market-oriented housing regulation in Canada. I now turn to an empirical demonstration of this claim.

⁷⁵ Sharma and Gupta, "Introduction: Rethinking Theories of the State in an Age of Globalization," in *The Anthropology of the State: A Reader* (Malden, MA; Oxford: Blackwell Pub., 2006), 13.

Chapter 2: The “housing problem” and the birth of national building regulations in Canada, 1919-1960

Many accounts of housing policy suggest that the federal state began to regulate house-building in response to a number of issues affecting Canadian cities, which included metropolitan immigration and population growth, substandard ‘fringe’ development intensified by land speculation, and housing shortages brought on by economic decline during the 1930s. These and many other issues came to be understood as ‘the housing problem’ in mid-twentieth-century Canada.¹ Housing scholars have usefully shown how a clear and comprehensive understanding of these issues is needed if we are to meaningfully evaluate the federal state’s response to them (or lack of a meaningful response). But what is missing from this kind of analysis is how these issues were understood by housing officials themselves when they came to frame them as a ‘problem’ of administration. Mitchell Dean refers to this process as *problematization*. As Dean suggests, there is a contingency to how political issues become named and translated into ‘problems’ when “governing is called into question” in a certain time and place.² Problematizations are “relatively rare” in that they involve “particular techniques, language, grids of analysis and evaluation” which both enable and restrict the possibilities for how states govern and are governed.³ Following Dean, it seems we can gain a deeper understanding of the state’s response to the ‘housing problem’ by investigating the techniques through which various actors came to define and act upon it. How were the complex and often urgent issues involving mid-twentieth-century housing provision made knowable and governable within the cabinet offices, committees, corporate divisions, and laboratories that made up the

¹ F.W. Nicolls, “Housing in Canada, 1938,” *Housing Yearbook* (Presented at National Association of Housing Officials, Chicago, IL), 1938.

² Mitchell Dean, *Governmentality: Power and Rule in Modern Society* (London: SAGE, 2010), 38.

³ *Ibid.*

federal state? How might we use the case of national building regulations to illuminate the mid-twentieth-century transformation of how housing issues were both administered and defined?

This chapter will consider this inquiry by contextualizing the ‘housing problem’ as an object of government, one which the organization and use of building regulations helped configure. A focus on the birth of national building standards in Canada can illustrate how a mundane, yet authoritative technique of power made it possible to discuss and debate the ‘housing problem’ as a target of federal state regulation. National building regulations did not determine the governance of house-building in a progressive manner. Nor did they emerge as or remain a passive, ‘technical’ tool of the federal state’s given housing objectives. Rather, I argue that the emergence of national building regulations was a condition of possibility through which housing provision, along with the political-economic issues associated with it, came to be constructed as a ‘problem’ of the federal state in the mid-twentieth-century. This chapter’s analysis shows that national building standards came to be premised on a discourse of technocratic regulation, in which the expertise of federal housing officials became contingent upon a seemingly objective and universal approach to the standardization of house-building. This expertise was often contested, precarious, and unevenly defined throughout the decades-long project of creating a national building code, but it nonetheless became politically authoritative. In enabling various actors to define, differentiate, and produce knowledge about housing as a national ‘problem,’ the creation of national building regulations also constrained who was allowed to build, inhabit, and oversee the construction of housing within many Canadian towns and cities.

In three sections, I outline the means of normalization through which the ‘problem’ of housing provision was gradually, and variably, defined. The first two sections are largely

contextual, and consider the pre-WWII birth of national building regulations in Canada. The final section considers how the technique of national building standards became linked up to the creation of a federal housing bureaucracy, an endeavour that was more thoroughly pursued during and after WWII. Section one discusses the public health origins of national building regulations, tracing them to the development of a Depression-era housing committee where ‘the housing problem’ became more firmly associated with urban working-class poverty. The second section discusses the role of municipal building codes in this regard, suggesting that the attempt to reform these codes both enabled and constrained federal officials in configuring house-building into a national ‘problem’ of governance. Section three discusses how these two goals – the normalization of house-building, and the standardization of building regulations – were linked up in and through a network of federal standards administration.

National building regulations and the problem of residential growth

To understand how national building regulations emerged in Canada, it is useful to locate their origins in the British town planning movement of the mid- to late-nineteenth century. British planning legislation, and the standardization schemes included in it, was rooted in Victorian concerns with the ‘public health’ of urban environments. As major cities became more populous throughout the nineteenth century, the ‘slums’ of the urban poor became targeted as a problem of governance. Middle-class reformers came to associate the proliferation of slums with the circulation of disease, violence, alcoholism, and other societal ailments. Whereas previous municipal regulations sought to individually correct the behaviours of the poor, new assumptions about the biological health of bodies as determined by one’s surroundings laid the foundations for a ‘scientific’ approach to the planning of living environments.⁴ Patrick Joyce, in describing

⁴ Patrick Joyce, *The Rule of Freedom: Liberalism and the Modern City* (London: Verso, 2003), 174-75.

the significance of the birth of town planning in Britain, notes that the discourse of (un)healthy urban growth was also a reorientation of how the state was imagined in relation to urban populations. The new relationship between states and living environments “involved the realization that the state must work through the characteristics of society in a much more direct way than hitherto.”⁵ Nationally uniform building regulations, supported by late-nineteenth and early-twentieth-century British town planners, was one way that “the housing question” was configured in such a manner.⁶

The idea to nationally standardize house-building in Canada emerged at the start of the First World War, and was directly inspired by the British town planning movement. Britain had been, as one Canadian planner would later note, the “laboratory of the world for housing problems, or the solutions to those problems” since the turn of the twentieth century.⁷ It is perhaps not surprising, then, that Canadian town planners imported from Britain both the idea of national zoning and building laws and a discourse of (un)healthy residential development. The chief advocate of uniform housing standards in early-twentieth-century Canada was Scottish-born planner Thomas Adams, who set up a Town Planning Institute in Canada as he previously had in Britain.⁸ Adams saw the prospects of healthy housing in Canada as dimmed by the existence of poorly constructed housing in Canadian cities, which he saw as intensified by increasing European immigration.⁹ Departing from the reformist strain of town planning known as the “City Beautiful” movement, Adams saw the unhealthiness of Canadian living

⁵ *Ibid*, 176.

⁶ *Ibid*, 175.

⁷ Government of Canada, “Special Committee on Housing,” *Report to the House of Commons* (Ottawa: King’s Printer, 1935), 7.

⁸ Michael Simpson, “Thomas Adams in Canada, 1914-1930,” *Urban History Review* 11, no. 2 (1982): 1-16.

⁹ Thomas Adams, *Present Scope for Practical Work in Improving Civic Conditions, 1916* (Ottawa: Commission of Conservation Canada, 1916).

environments as requiring objective, social scientific solutions.¹⁰ The ‘science’ of town planning was thus framed as the primary solution to “the housing question,” defined as the lack of uniformity in urban growth.¹¹

Adams explained the necessity of planning in a 1916 report to the Commission of Conservation, set up as an arm of the federal state in 1914 to deal with unplanned, and typically speculative, house-building. To Adams, a major aspect of the housing problem was the issue of “shacktowns” arising from uncontrolled building that resulted in shoddy construction and ‘unhealthy’ housing.¹² Adams noted, “one of the most serious causes of bad sanitation is the absence of effective control over new developments just outside the boundaries of cities,” and that “until we have a uniform sanitary standard for all urban growth, whether within the city or just over its borders, we shall continue to have unhealthy conditions.”¹³ Both land use and housing construction were seen as requiring coordination. Ottawa planner and engineer John M. Kitchen noted that uniform classifications of zoning, separating residential from non-residential areas, “will assure orderly growth and permanence” and “insure healthy and sanitary homes for [the city’s] citizens.”¹⁴ Naulon Cauchon, an Ottawa planner and follower of Adams, similarly argued for a technocratic ideal of housing governance. He suggested the creation of “a Super Health Act... that obviates the physical slum which breeds the moral one.”¹⁵

Having observed a national population increase following the end of the First World War, Adams used his leadership role within the Commission of Conservation to create a patchwork of provincial ordinances standardized through a national model. This attempt was largely a failure

¹⁰ Simpson, “Thomas Adams in Canada,” 11.

¹¹ Adams, *Present Scope for Practical Work in Improving Civic Conditions, 1916*, 5.

¹² Richard Harris, “The impact of building controls on residential development in Toronto,” *Planning Perspectives* 6, no. 1 (1991): 272.

¹³ Adams, *Present Scope for Practical Work in Improving Civic Conditions, 1916*, 7.

¹⁴ John M. Kitchen, “What It Means to Zone,” *Town Planning Institute of Canada Publications* 1, no. 1 (1926): 11.

¹⁵ Noulon Cauchon, “Town Planning for Canada,” *Social Welfare* 8, no. 5 (1926): 92.

due to the complexity of language within the model ordinance, as well as the existing preference of real estate speculators and surveyors for simpler zoning practices aimed at making exclusively middle and upper class communities.¹⁶ More generally, Adams's schemes, based on a British ideal of planning for entire cities, failed to capture the interest of those suburban builders who carried them out. This failure was exemplified in Adams's 'model suburb' of Lindenlea, Ontario, where he sought to demonstrate the usefulness of planning housing construction on a comprehensive basis. Using funds from a 1920 provincial housing act, Adams sought to plan an entire community in order to demonstrate the "national importance" of regulating construction through scientific planning. But this task failed when the local administrators and builders of Lindenlea located houses without Adams's supervision.¹⁷ This disorganization was endemic to the Ontario plan more broadly, and was criticized for intensifying the issue the act was created to address: that of 'disorderly' and poorly built housing.¹⁸ Subsequent attempts at uniform classification systems, such as Ottawa's system of symbols which was "easily comprehended by the most inexperienced" official in separating residential and industrial districts, had some local success but were not united in a common national project.¹⁹

The alliance between planners and the state in governing cities through building and planning standards was strengthened during the Depression. It was during this period that the aforementioned moral concern with 'slum' growth became even more intensified. The housing issues of poor urban families were becoming more urgent, with evictions increasing and homelessness becoming more rampant. Cities were often unable to provide adequate emergency shelters or public housing, leading heterogeneous groups of charities, churches, civic officials,

¹⁶ Simpsons, "Thomas Adams in Canada," 9.

¹⁷ *Ibid*, 10.

¹⁸ Government of Canada, "Special Committee on Housing," 20-21.

¹⁹ Kitchen, "What It Means to Zone," 9.

and business leaders to seek solutions through legislation.²⁰ The urgent, place-specific concerns of housing inequality in cities thus became an object of ‘national’ reflection when the 1935 House of Commons Special Committee on Housing (also called the “Ganong Committee”) was called. Planners and other middle-class local representatives were tasked with studying the manner and extent of ‘the housing problem’ in order to produce federal legislation to address the joblessness, homelessness, and worsening housing conditions brought on by the Depression. In their testimonies, planners abnormalized Depression-era housing conditions through the concept of “congestion,” introduced to the Committee by Naulon Cauchon as “the crux of the problem of housing” in Canadian cities.²¹ The notion of congestion entailed that aspects of the living environment – the housing structure, its occupants, and its surrounding environment – had been poorly planned, and so were ‘unfit’ for the biological needs of humans. Citing indicators from a social survey, including room dimensions, the presence of sunlight, and other minima of public health, one Toronto surveyor noted that the congestion issues of thousands of houses in the city were “chiefly structural” and were the direct consequence of a lack of scientific planning at the outset of their construction.²²

Many of the witnesses directly involved with, or at least sympathetic to, town planning recommended a federal program to help cities fund and manage building programs throughout Canada. Economist E.J. Urwick, for instance, suggested a federal housing commission which would supervise “and in some cases order” the ‘improvement’ of housing through the submission of community plans, which would be approved by an advising body of federally-

²⁰ Stefan Epp, “Class, Capitalism, and Construction: Winnipeg’s Housing Crisis and the Debate over Public Housing, 1934-1939,” *Histoire sociale/Social History* 43, no. 86 (2010): 393–428; Ryan George, “The Bruce Report and Social Welfare Leadership in the Politics of Toronto’s ‘Slums’, 1934–1939,” *Histoire sociale/Social History* 44, no. 87 (2011): 83–114.

²¹ Government of Canada, “Special Committee on Housing,” 7.

²² *Ibid*, 143.

appointed architectural and planning experts.²³ Social scientists at the Ganong Committee typically sought a state similar to the technocratic one that town planners such as Adams had envisioned, hybridizing local administration with the national expertise of appointed middle-class professionals. But the translation of these suggestions into a national house-building program, entailing both the construction of sanitary houses and the destruction of ‘unhealthy’ ones on a mass scale, resulted in a different kind of state regulation than what reformers and social scientists had pressed for. The Dominion Housing Act of 1935 (DHA) did not create an independent housing body intended to inspect and approve municipal master plans; rather, it was used to centralize the administration of federally-assisted mortgaged house-building within the Department of Finance. W.C. Clark, the Deputy Minister and chief administrator of the act, was largely responsible for this outcome. As one of the “mandarin” civil servants, an influential group of liberal social scientists within the Liberal Party who had connections to Queen’s University, Clark was chiefly interested not in town planning but in increasing the liquidity of mortgage lending through federal aid.²⁴ This priority was also shaped by Clark’s connections to members of the Dominion Mortgage and Investments Association, notably Sun Life mortgage inspector David Mansur, with whom Clark regularly consulted when crafting the first federal housing act.²⁵ Clark, in turn, claimed at the Ganong Committee that the “immediate housing problem” was not slum clearance and its replacement with sanitary housing, but “using housing as a stimulant of business recovery and as an absorber of unemployment.”²⁶

²³ *Ibid*, 148-9.

²⁴ John Bacher, “W. C. Clark and the Politics of Canadian Housing Policy, 1935-1952,” *Urban History Review* 17, no. 1 (1988): 4-15.

²⁵ *Ibid*, 5.

²⁶ Government of Canada, “Special Committee on Housing,” 354.

But the exclusion of a serious provision for town planning from the DHA did not signal a lack of interest among Canada's first housing bureaucrats in normalizing housing through the national state. This was indicated in Clark's advocacy for a federally-mandated insurance corporation to manage national house-building standards. At the Ganong Committee, Clark noted the necessity of "rigid standards to insure soundness of construction, proper requirements as to light and air, and so forth" created by the federal government, which would be used to monitor the conduct of lenders who issued mortgages with federal aid.²⁷ Although such a corporation was not created – one would not be until 1945 – the Department of Finance's newly created National Housing Administration did attempt to standardize house-building in the manner Clark recommended. The Department, advised by a small group of national trade associations, created a document of minimum construction standards in order to do this.²⁸

Through the DHA standards, and the negotiations leading up to their creation, the discourse of the technical norm identified in chapter one began to appear the concerns of business-oriented housing officials within the federal civil service. This link was evident in how the DHA standards, the first federal housing standards document in Canada, were used by Department of Finance officials. The standards were enforced through a system of "double protection" in which lenders, after inspecting the borrower's construction plans, submitted the plans to the Department for a final inspection.²⁹ The participation of lenders in the DHA scheme required them to agree to enforce the national standards, and federal housing bureaucrats made the final decision to lend based on whether the project fit the DHA minima.³⁰ Consequently,

²⁷ *Ibid*, 356-7.

²⁸ Nicolls, "Housing, 1938."

²⁹ *Ibid*.

³⁰ John Bélec, "The Dominion Housing Act: A Study of the Origins of Canadian Housing Policy" (PhD Dissertation, Queen's University, Kingston, 1988), 171.

some lenders complained that projects should be assessed on the “individual merits” of the builder. While allied lenders did not seem to openly reject the use of the national standards document, lenders noted in a submission to revise the DHA that its inflexible use by federal officials would “exclude a number of desirable building propositions.”³¹ One participating lender, the London Life Insurance Company, unsuccessfully tried to work around the standards altogether. In a letter to the company, Clark reaffirmed the necessity of national standards, noting, “one of the real elements of unsoundness... in housing development in this country has been the lack of attention paid to proper planning and specifications for houses, and proper supervision during the construction period.”³²

The housing officials’ advocacy for a document of national building regulations, while similarly concerned with the issue of non-rationalized building that motivated town planners, was to some extent at odds with much of the testimony at the Ganong Committee. Clark’s vision of house-building as an economic lever does not, on the surface, resemble the ameliorist arguments of the town planning movement for ordering residential growth. We can see in the resulting administration the business conservatism that would shape federal housing policy for years to come. But we should also recognize how the importance placed upon federal house-building standards was not simply a reflection of the business priorities of the Department of Finance. Building standards, in how they were argued for, shaped the way that Clark and other housing bureaucrats imagined the role of a ‘national’ housing bureaucracy. In this respect, these bureaucrats were not diametrically opposed to those at the Ganong Committee who called for the mass improvement of housing on a national scale. The discourse of ‘the housing problem’ was

³¹ “Memorandum of Changes Made in Original Draft of Agreement,” Library and Archives Canada (LAC), Department of Finance (DoF), Box 705, File 203-1A, 1936.

³² W.C. Clark to G.F. England, LAC/DoF, Box 711, File 203-2-L, 1936.

similarly used by social scientists, civic leaders, and housing bureaucrats such as Clark to justify normalizing residential construction on a national basis. To officials within or close to the federal government, there was no outright disagreement on the necessity of a federal bureaucracy that normalized housing construction through standards of federally supervised building. As Sean Purdy states, both liberal bureaucrats and reform-minded social scientists favoured the standardization of construction methods and materials as a solution to the ‘housing problem,’ which was linked to a broader assumption “that there were technical solutions to profound social and economic problems.”³³

Yet it should be noted here that attempts to justify national building standards through a discourse of the ‘housing problem’ did not inevitably make the federal state what Michel Callon has called an “obligatory passage point” through which a network of builders, mortgage lenders, and municipal officials could be governed.³⁴ Indeed, the DHA, like previous attempts at standardizing housing construction on a national scale, was generally regarded as a failure due to its limited geographical reach. The DHA was rarely used by lenders beyond Ontario, and was frequently criticized in the press for confining loans to wealthy neighbourhoods where lending institutions had already been active.³⁵ This class-exclusive lending was only reinforced by the DHA standards that formed federal bureaucrats’ loan approval decisions. As Mayor A.K. Grimmer of Temiscaming, Quebec noted, “further modification of standards will be necessary” to solve the issue of DHA lending discrimination towards working class families living in the

³³ Sean Purdy, *Industrial Efficiency, Social Order and Moral Purity: Housing Reform Thought in English Canada, 1900–1950.*” *Urban History Review* 25, no. 2 (1997): 36, 38.

³⁴ Michel Callon, “Some Elements of a Sociology of Translation: The Domestication of the Scallops and the Fishermen of St. Brieuc Bay,” in *Technoscience: The Politics of Interventions*, eds. Kristin Asdal et al. (Oslo: Oslo Academic Press, 2007 [1986]), 57-78.

³⁵ Bélec, “The Dominion Housing Act,” 177-8.

urban cores of Canadian cities.³⁶ And it seems that lending institutions, albeit prioritized by the act, were not enticed by or even largely compliant with attempts to enforce the DHA standards.

To Department of Finance officials, however, the main obstacle to normalizing construction through the DHA standards was pre-existing local ones. Municipal building codes, legal documents meant to control the materials, manner, and type of construction in localities, constitutionally took precedent.³⁷ While it is likely that local builders encountered few problems using the national standards in localities that seldom enforced their building codes, Department of Finance officials nonetheless saw the situation as a national problem. Throughout the administration of the DHA, federal housing officials observed that the problem of shoddily built and unaffordable housing was directly caused by poorly written and ‘unscientific’ building codes which varied greatly across Canadian localities.³⁸ If concerns of urban growth had discursively linked residential construction to the normalization of cities through national standards, it seems the expertise of this normalization also formed a facet of how ‘the housing problem’ became imagined in mid-twentieth-century Canada. To understand how arguments for national building regulations authoritatively problematized house-building as a technical problem of state regulation, we need to further examine how the goal of uniformity in building codes was pursued.

National building regulations and the problem of municipal building codes

By the time the town planning movement emerged in Canada, concerns about the expertise behind municipal building codes were well known. Building codes were observed to be

³⁶ A.K. Grimmer, “Housing the Low Wage Earner,” in *Municipal Review of Canada* (November 1938): 7.

³⁷ J.M. Robertson, *Building Law in Canada* (Ottawa: National Research Council, 1961), 1-6.

³⁸ A.F. Gill, “The National Building Code” (paper presented at the Twenty-Second Annual Convention of the Canadian Construction Association, Royal York Hotel, Toronto, ON, 16-18 January 1940); Bélec, “The Dominion Housing Act,” 184-5.

of little use in regulating housing development.³⁹ A number of reasons, spanning various concerns, were put forward for this and similar claims. Building codes were alleged to be protective measures for small builders with political influence in certain localities, thereby obstructing the goals of larger builders and manufacturers to transport particular materials and use certain methods of building.⁴⁰ This led to a situation where houses were built not on the principle of ‘economy’ or public health but on profit-making, with local builders regularly accused of having an overly political influence on the lack of adequate standards.⁴¹ The rigidity and perceived arbitrariness of many codes prompted not only liberal concerns about the economic conditions of house-building, but also perpetuated a laxity of enforcement. While little is historically known about the nature of codes enforcement in cities, the economic context of the Depression seems to have amplified the unwillingness of officials, builders, and residents to enforce and comply with building codes that observers noted to be problematic. It is possible that building inspectors during the Depression, for instance, refused to condemn ‘unsanitary’ housing given their unwillingness to see the homes of the urban poor destroyed and likely making urban dwellers homeless.⁴² In various cases prior to the 1940s, particularly in rural and suburban areas, building codes did not exist, were applied unevenly throughout the area, and were seldom enforced.⁴³ In Depression-era Toronto, poor residents themselves also resisted codes, which likely contributed to the haphazardness of enforcement. Many residents resisted attempts to

³⁹ Harris, “The impact of building controls on residential development in Toronto,” 272.

⁴⁰ Scanada Consultants Limited and Clayton Research Associates, “Working Paper Two: The Evolution of the Housing Production Process” (Ottawa: Canada Mortgage and Housing Corporation (CMHC), 1989), 17.

⁴¹ Marc Denhez, *The Canadian Home: From Cave to Electric Cocoon* (Toronto: Dundurn Press Ltd., 1994), 116-17.

⁴² Government of Canada, *A Better Place to Live: A Study on Minimum Standards of Occupancy and Maintenance of Dwellings* (Toronto: Ontario Department of Municipal Affairs, 1962),

⁴³ Harris, “The impact of building controls on residential development in Toronto,” 279-80.

condemn their houses by claiming in court testimonies that municipal inspectors had exaggerated the poor state of their housing.⁴⁴

By the end of the 1930s, various individuals and associations concerned with the inadequacy and flimsy enforcement of local building codes were calling for a national building code, one that would help secure the expert planning of increasingly populous towns and cities. Although the planning profession had been an “ailing infant” in the 1920s,⁴⁵ failing to secure its proposals of nation-wide legislation, the discourse of ‘planning’ for the future needs of cities was nonetheless becoming an imperative of building regulations among numerous groups during the Depression. Of the industrial and civic associations that made up these groups, fire marshals’ associations were particularly influential.⁴⁶ This was likely, in part, due to historically entrenched concerns of municipal fire departments and various sovereign authorities with ensuring the use of fireproof building materials in urban areas.⁴⁷ But fire marshals’ support for improved standards was also due to a novel concern, one that had been developing since the late nineteenth century, with standardizing the ways that fire was made governable within cities. As Stephen Pyne notes, the alliance among municipal fire interests and insurance companies in pursuing this goal has brought otherwise unenforced building codes “under the regimen of capitalism and the discipline of a market. As fire protection improved, so did insurance, and the two together, embedded in codes... have remade the environment of urban fire.”⁴⁸ For one fire marshal, national building regulations would continue this project of normalizing fire safety on a national

⁴⁴ Ryan George, “The Politics of Low-Income Housing in Depression-Era Toronto” (PhD Dissertation, McMaster University, Hamilton, ON, 2011), 66-67.

⁴⁵ Simpson, “Thomas Adams in Canada,” 10.

⁴⁶ Richard Harris, *Unplanned Suburbs: Toronto’s American Tragedy, 1900 to 1950* (Baltimore: Johns Hopkins University Press, 1996), 156.

⁴⁷ Richard L. Sanderson, *Codes and Code Administration: An Introduction to Building Regulations in the United States* (Chicago: Building Officials Conference of America, 1969), 6.

⁴⁸ Stephen Pyne, *Fire: A Brief History* (Seattle: University of Washington Press, 2001), 109.

scale, and would link it to the expertise of planning. Ontario fire marshal W.J. Scott suggested that “building regulations should include not only specifications for building and placing individual structures but they should have to deal with the problem of building and developing a town or city as a whole.”⁴⁹ He contrasted the actuarial and fire risks of municipal “growth,” seen as “merely a ‘spreading out’ or increase in area of a population,” with the desirable goal of “development,” which would insure “substantial and well-ordered construction of a city” and consequently the safety, wealth, and welfare of its citizens.⁵⁰ Scott suggested that a model national building code would help achieve ‘development’ across Canada, given that no local codes were “currently worth reviewing.”⁵¹

While significant, fire marshals were one among many municipal and industrial actors whose interests were translated into a federal body tasked with creating a national building code. Given that construction could only legally be regulated through provincial or municipal administrations, the national building code was advocated as an advisory ‘model’ for builders, municipal officials, manufacturers and suppliers, architects, and various others with a stake in the housing industry.⁵² Having created the first (albeit largely failed) national building regulations in Canada with the DHA, Department of Finance housing officials led the task of creating a National Building Code Conference (NBCC) in 1937 for these interests to convene. For housing bureaucrats, aligning various local interests through a national code would standardize the conditions of construction throughout Canada. John Bélec notes that Minister of Finance C.A. Dunning, who was involved with creating the conference, believed that national building

⁴⁹ W.J. Scott, “Building Regulations and Fire Protection,” *Municipal Review of Canada* (March 1938), 19.

⁵⁰ *Ibid*, 18.

⁵¹ *Ibid*, 19.

⁵² Robert Leggett, “The National Building Code of Canada: A General Review,” *The Engineering Journal* 49, no. 3 (1966): 38-41.

standards “would provide the solution to the housing problem” because they would help to maximize construction efficiency while minimizing costs of building decent, low-cost houses.⁵³

While the national building code would encompass more than just housing standards, it was following the creation of the DHA that the idea to create a national building code first emerged. During the first meeting of the NBCC, Dunning noted that in his administration of the act, he was “constantly reminded of the chaotic and unscientific conditions which exist in connection with present building codes in this country.”⁵⁴ In aiming to ameliorate the ‘unscientific conditions’ of building codes in Canada, Department of Finance officials formed an alliance with the National Research Council, a government corporation formed during World War I to fund scientific research in Canada.⁵⁵ Federal officials used the Council’s “associate committee” system to invite various technical and administrative experts to voluntarily provide input on how the national code ought to be written.⁵⁶ For NBCC publicist A.F. Gill, the final result would be a hallmark of high modernist planning, dealing with “all the intricate technical considerations that enter into modern building -- from the simplest frame house to large office buildings or factories.”⁵⁷

Within the society of interests that NBCC officials sought to govern through a centralized secretariat, building officials who were responsible for either writing or enforcing municipal codes were the primary targets of the proposed national code. As some invitees were sceptical of a national code due to “conflicting interests in different parts of the country,” the objectivity of building officials needed to be ensured.⁵⁸ Making the NBCC an obligatory passage point thus

⁵³ Bélec, “The Dominion Housing Act,” 185.

⁵⁴ Quoted in F.W. Nicolls, “The Housing Problem in Canada and the Part of Municipalities,” *Municipal Review of Canada* (May 1938), 21.

⁵⁵ Wilfred Eggleston, *National Research in Canada: The NRC, 1916-1966* (Toronto: Clark, Irwin & Co., 1978).

⁵⁶ Gill, “The National Building Code” (Ottawa: National Research Council, 1939), 5.

⁵⁷ *Ibid*, 6.

⁵⁸ *Ibid*, 5.

involved targeting the expertise of local building officials and their codes (or, lack thereof) as a problem of improvement. Pointing to housing reform in turn-of-the-century New York City, Raphael Fischler suggests that “transforming the political-economic problem of the slum into a technical problem of building regulation” involved creating assumptions about the poor, as we have seen with concerns about the living conditions of urban and ‘fringe’ dwellers, as well as assumptions about the expertise of building administrators.⁵⁹ This was not just a matter of the professional qualifications of building officials, but their perceived “weakness” in failing to objectively enforce conditions of residential development amid influences that apparently hampered the public good.⁶⁰

This technocratic discourse similarly appeared in mid-twentieth-century Canada with respect to the influence of small local builders on municipal building codes, as I have indicated. But at the NBCC, this discourse differed in one important respect. In Fischler’s case, normalizing New York City’s urban housing started with the imperative of proper code enforcement, but federal officials at the NBCC were more concerned with the creation of codes. Assumptions about the causes and consequences of ‘unscientific’ local codes were tempered with the liberal notion that the federal state should only ‘advise’ rather than interfere with local building affairs. If a national codes secretariat could not legally legislate standards of construction on behalf of the municipalities enforcing them, it could nonetheless create a ‘model’ classification scheme through which local administrators could reform their building codes on an objective basis. Pointing to various conflicts in defining the parameters of a ‘fire hazard’ in municipalities, Gill claimed in an address to the Canadian Construction Association that the

⁵⁹ Raphael Fischler, “Linking Planning Theory and History: The Case of Development Control,” *Journal of Planning Education and Research* 19, no. 3 (2000): 238.

⁶⁰ *Ibid*, 238.

NBCC “is concerned with facts rather than the opinion of any particular group.”⁶¹ In pursuing this concern, the national building code “should place at their [building officials’] disposal the best consulting advice available in the country so as to establish an authoritative standard of reference” throughout the country.⁶² Thus, in the *Municipal Review*, F.W. Nicolls advised building officials who were considering adopting or changing their codes not to proceed until the first national building code had been published and circulated.⁶³

The benefits of a single code to normalize the many “chaotic and ineffective” ones throughout Canada seemed readily apparent to the federal officials who argued for it.⁶⁴ Technical skill and democratic governance, when joined together, would make the national building code “an essential cog in the wheel of improved housing in Canada.”⁶⁵ But the creation of a national building code was not simply a matter of democratizing local code-writing. It entailed reshaping the expertise of code-writing as a whole by standardizing how administrators used building codes as ‘scientific’ rather than ‘political’ documents. In pursuing this goal, federal officials at the NBCC advocated “performance” standards, based on idea that a proper building code ought to govern objectively defined goals of construction, such as ‘fire safety’ and ‘health,’ rather than instructing builders and trades workers on every single method and material used to achieve these goals.⁶⁶ The creation of standards aimed at broadly defined objectives rather than specific materials and techniques gained broad acceptance among standards bureaus and trade associations starting in the early twentieth century. As Amy Slaton and Janet Abbate state, ‘standardization’ during this period became associated with descriptive regulations mandating

⁶¹ Gill, “The National Building Code,” 1940, 10.

⁶² Gill, “The National Building Code,” 1939, 5.

⁶³ Nicolls, “The Housing Problem in Canada and the Part of Municipalities,” 22.

⁶⁴ Gill, “The National Building Code,” 2.

⁶⁵ *Ibid*, 10.

⁶⁶ Gill, “The National Building Code,” 1940, 12.

the ideal characteristics of finished goods, in contrast to “specifications” which took the form of a plan or contract outlining the specific instructions to be followed on a construction project.⁶⁷ Standards did not preclude the use of specifications in the same code, and federal officials expected that specifications within the NBC would be modified or rejected through the discretion of local code-writers. But performance standards were ideal to federal officials because they could be used to govern local administrators “at a distance” without attempting to directly legislate detailed specifications within local codes, the rigidity of which led to issues of enforcement.⁶⁸ In the case of fire protection, for instance, fire-resistance ratings would reconfigure traditional knowledge regarding the “particular properties” of building materials with translocal numbers generated in a national laboratory, and when used could avoid the intervention of ‘interests’ in influencing the inclusion or exclusion of specific materials and building techniques.⁶⁹

Yet as exemplified by early disputes over the obstacle of differing local conditions and interests throughout Canada,⁷⁰ it was not self-evident how the hybridization of local codes with national standards, whether performance or specification, would create an ideal model of comparability for every locality. Not all complaints in this regard were taken seriously, which further indicates the tension among local administrators and national standards-makers that was apparent at the outset of the NBCC. Some local officials’ concerns with the benefits of a national code were simply dismissed by federal officials at the NBCC as “invalid” after being

⁶⁷ Amy Slaton and Janet Abbate, “The Hidden Lives of Standards: Technical Prescriptions and the Transformation of Work in America,” in *Technologies of Power: Essays in Honor of Thomas Park Hughes and Agatha Chipley Hughes*, eds. Michael Thad Allen et al. (Cambridge, MA: MIT Press, 2001), 100-101.

⁶⁸ Peter Miller and Nikolas Rose, “Governing Economic Life,” *Economy and Society* 19, no. 1 (February 1990): 1–31.

⁶⁹ Gill, “The National Building Code,” 1940, 9.

⁷⁰ Gill, “The National Building Code,” 1939, 6-7.

investigated.⁷¹ What was nonetheless evident to federal officials was that the NBC's standards required technical knowledge about the performance of new materials and construction techniques which the federal government was, according to secretarial officials, not equipped to handle on a nation-wide basis.⁷² This was perhaps attributable to a general attitude towards standardization taken by state and industry officials. As James Hull shows, many technical standards in early- and mid-twentieth-century Canada were imported on an *ad hoc* basis from the United States by the Canadian Engineering Standards Association.⁷³ Whereas the US had a national Bureau of Standards that liaised with laboratories and construction trade interests, Canada had no such state agency that undertook research for construction standards prior to the postwar period.⁷⁴ Hull indicates that this arrangement was not inherently disorganized or 'irrational'; the continental hodgepodge of technical standards in Canada tended to benefit those industrialists and officials who sought economic integration with the US. Yet the lack of a central standards body to produce knowledge for code-writing purposes meant that, like with the DHA standards in 1935, the nation-wide objectivity that federal officials sought for the NBC was precarious. For this reason, NBCC officials believed that the first edition of the code, published in 1941, "should be reviewed if it was to fulfill its intended national purpose" in the postwar period.⁷⁵ This 'review' was significant not only to the perceived success of the national building code, but also to justifying the project of normalizing house-building across Canada that the code was initially conceived for. Anticipating the need for new housing following World War II, federal housing economist O.J. Firestone claimed that a more significant federal role in

⁷¹ *Ibid.*, 7. I could not find records indicating the nature of these dismissed concerns.

⁷² Leggett, "The National Building Code of Canada," 4.

⁷³ James Hull, "Technical Standards and the Integration of the U.S. and Canadian Economies," *American Review of Canadian Studies* 32, no. 1 (2002): 123–42.

⁷⁴ O.J. Firestone, *The Organization of the Construction Industry and the Construction Labour Force* (Ottawa: Advisory Committee on Reconstruction, 1943), 57.

⁷⁵ Leggett, "The National Building Code of Canada," 4.

standardizing building codes was needed for a “well-planned postwar housing policy.”⁷⁶ To what extent did federal officials imagine postwar housing administration as ‘well-planned’ in the process of reorganizing the NBC?

National building regulations and the problem of postwar bureaucratization

The postwar period was perhaps the most significant to the emergence of national building standards in Canada, involving a transformation of both state administration and federal officials’ discourse of housing provision. By the postwar period, ‘the housing problem’ was becoming redefined as a matter of not just improving the economic and social conditions of housing and house-building, but actively and permanently regulating its provision on a mass scale. The main catalyst of this redefinition was the anticipation of a massive population increase following the war, spurred by the return of war veterans demanding decent housing and a general growth of new family formation. Consequently, the suburb was increasingly viewed as an ideal space of middle-class living. Builder-developers and various other professional experts planned and marketed postwar suburbs as vital living spaces for its expected inhabitants: the white, heterosexual, middle-class nuclear family.⁷⁷ Suburbanization, in this sense, became a matter of not only housing an increasing population, but of nation-building. For the federal state, planning the regulatory schemes that would make this nation-building project possible was a mammoth task. At a federal committee in 1944, social scientists and bureaucrats determined just how daunting this task was, deciding on a number of quotas for immediate and future housing

⁷⁶ O.J. Firestone, *The Organization of the Construction Industry and the Construction Labour Force*, 57.

⁷⁷ Peter Ennals and Deryck Holdsworth, *Homeplace. The Making of the Canadian Dwelling over Three Centuries* (Toronto: University of Toronto Press, 1998), 212; Patrick Vitale, “A Model Suburb for Model Suburbanites: Order, Control, and Expertise in Thorncrest Village,” *Urban History Review / Revue D’histoire Urbaine* 40, no. 1 (2011): 41–55; Mary Louise Adams, *The Trouble with Normal: Postwar Youth and the Making of Heterosexuality* (Toronto: University of Toronto Press, 1997).

production in Canada.⁷⁸ This reduction of housing needs into production quotas was intended to involve the slum clearance and public housing schemes for the poorest of the population that many social scientists and civic reformers had pushed for. In practice, as with the 1935 housing act, such schemes were only marginally involved in the creation of the new National Housing Act (NHA) of 1944.⁷⁹ The financing and construction of middle-class, owner-occupied homes became the crux of a solution to ‘the housing problem’ for federal officials.

Yet in actualizing a national housing plan, there was no obvious or inevitable form of organization through which the conduct of federal state conduct would be governed. The federal bureaucracy of postwar housing provision entailed neither the centralization of housing construction through government ministries as in postwar France, nor a department for housing and planning as had been advocated at the 1935 Ganong Committee.⁸⁰ The ideal housing administration, as envisioned by W.C. Clark and his close-knit network of allies within the financial industry and the civil service, would indirectly aid the provision of housing for the middle classes of the population while allowing ‘private’ builders and lenders to govern their own conduct amid the rather urgent task of providing postwar housing. This approach was actualized through the Central Mortgage and Housing Corporation (CMHC), a crown corporation created to help finance the rapid construction of cheap and modern housing primarily for new families. The CMHC was part of the broader reconstruction project led by so-called “minister of everything” C.D. Howe, Minister of the Department of Reconstruction and Supply,

⁷⁸ Michael Dennis and Susan Fish, *Programs in Search of a Policy: Low Income Housing in Canada* (Toronto: Hakkert, 1972), 128.

⁷⁹ *Ibid.*, 128-33. The totalizing gaze of the production quota to plan for postwar housing was not unique to Canada. Non-binding quotas were also used by the ruling Labour Party in the United Kingdom, and as Peter Malpass suggests, they formed the basis for a similarly technocratic (rather than reformist) postwar housing policy in the UK. See Peter Malpass, “The Wobbly Pillar? Housing and the British Postwar Welfare State,” *Journal of Social Policy* 32, no. 4 (October 2003): 589–606.

⁸⁰ Nicole C. Rudolph, *At Home in Postwar France: Modern Mass Housing and the Right to Comfort* (New York: Berghahn, 2015); Government of Canada, “Special Committee on Housing.”

who used Canada's wartime experience with crown corporations as proof of their administrative prowess to channel practical, industrial knowledge towards solutions for planning objectives.⁸¹ Howe, along with the Ottawa network of Department of Finance bureaucrats who had administered the DHA, created the corporation to regulate house-building in a "more businesslike" manner, in the words of Finance Minister J.L. Ilesley.⁸² With a corporate headquarters in Ottawa built two miles away from Parliament in 1952, the CMHC was imagined to be a politically neutral administrator of housing policy with an 'autonomous,' rather than political, operation. In 1960, for instance, an administrative summary of the CMHC's activities boasted that the corporation's "autonomy" from Parliament to hire workers through the corporation had only been compromised twice.⁸³ As such, the leadership of the corporation – former mortgage inspector David Mansur as president, and military general Hugh A. Young as vice president -- was selected not for their knowledge of the housing or planning needs of particular localities, but for their ability to use the presumed autonomy of the CMHC to maximize housing starts throughout Canada.⁸⁴

There is more to be said about how the CMHC's ideal of housing regulation was actualized (and failed to actualize) through the intra-bureaucratic relations of the corporation. What I want to discuss in the remainder of this chapter is that, as federal officials recreated the division between the state and 'the housing problem,' they used national building standards to reorganize the federal administration in which this 'problem' would be governed. There are a

⁸¹ Dennis and Fish, *Programs in Search of a Policy*, 128; Robert Bothwell et al., *Canada since 1945: Power, Politics, and Provincialism* (Toronto: University of Toronto Press, 1989), 50-51.

⁸² Government of Canada, *House of Commons Debates* (1945), 1472.

⁸³ CMHC, *Administrative Handbook* (Ottawa: CMHC, 1960).

⁸⁴ Marc Denhez, *The Canadian Home: From Cave to Electric Cocoon* (Toronto: Dundurn Press Ltd., 1994), 51.

number of contingent administrative practices that were significant in this regard, four of which I want to indicate in this section: revision, research, notation, and experimentation.

Revision: Enrolling a 'National' Network of Standards-Making

The revision of the 1941 NBC through the Associate Committee of the National Building Code (ACNBC) in Ottawa linked the management of building standards taken up by the National Research Council to the new ambitions of federal housing bureaucrats within the CMHC. The ACNBC re-organized the Depression-era building codes conference, bringing together CMHC officials, local administrators, and a variety of technical and scientific experts under a permanent committee to make the national building code into a continually updated “living document.”⁸⁵ Members of the ACNBC, composed of federal bureaucrats and appointed technical experts who had final approval for every national building regulation, continued to aspire towards a “really ‘national’” code which administrators and builders who were most intimately involved with construction projects could use.⁸⁶ An early priority of the ACNBC, so decided by the federal membership, was the translation of the scientifically detailed, jargon-laden provisions of the NBC into a smaller document for the needs of builders and building officials specifically for the construction of new housing. While federal housing and codes officials still prioritized ‘performance’ standards based on broad objectives and scientific data,⁸⁷ ACNBC members – and some local building officials themselves – admitted that such standards remained difficult for administrators and builders to interpret given their unfamiliarity with them.⁸⁸ As one member

⁸⁵ “Building Code – Bulletin No. 1” (Ottawa: Associate Committee of the National Building Code (ACNBC), April 1950), 5.

⁸⁶ *Minutes of the First Joint Meeting of the ACNBC, Provincial Advisory Committee* (Ottawa: National Research Council, 19 September 1949), 11.

⁸⁷ “Re: Building Codes,” LAC, Central Mortgage and Housing Corporation (CMHC), Central Registry Administrative Files, Box 350, File 115-4-1, 1948.

⁸⁸ *Minutes of the Ninth Meeting of the ACNBC* (Ottawa: National Research Council, 17 May 1951), 7.

claimed, “the practical man, as distinct from the engineer or architect” would benefit from a smaller and simplified housing code.⁸⁹

What appeared as a ready-made division between the ‘practical’ uses of codes and the theoretical knowledge of national codes experts was thus fashioned in the process of “selling” a newly created small housing code through the ACNBC, particularly to officials in smaller localities where building codes seldom existed.⁹⁰ Local officials in smaller localities were observed upon being approached by ACNBC members to not be doing enough to standardize their codes with the goal of transitioning to a postwar economy.⁹¹ Initially, these officials tended to resist the ACNBC’s attempts to advise them on ‘technical’ principles of code-writing and enforcement, refusing to participate in ACNBC research and conferences. One ACNBC member went as far as to suggest that building officials did not want to expose themselves to criticism based on their lack of knowledge about “safe and healthy living.”⁹² In this regard, CMHC president David Mansur sent a letter to Robert Leggett, chairman of the ACNBC, stating that the CMHC would undertake an “organized promotional campaign” through its regional offices to convince new mayors and building officials to standardize their building codes through the NBC.⁹³ With complete uniformity in codes defined as the ultimate goal of the ACNBC, a building officials’ conference was set up to allow local officials to openly discuss the provisions and arrangement of the small code with ACNBC members. In an introductory address to the conference, CMHC vice president Hugh A. Young urged the cooperation of municipalities in adopting the NBC to more easily accommodate the CMHC’s low-cost veterans’ housing, which

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*, 6.

⁹¹ *Minutes of the First Joint Meeting of the ACNBC, Provincial Advisory Committee*, 3.

⁹² *Ibid.*

⁹³ David Mansur to Robert Leggett, 23 September 1952, via *Minutes of the Twelfth Meeting of the ACNBC* (Ottawa: National Research Council, April 1953), Appendix B.

“demanded uniformity not only in type of house, but also in methods of construction throughout the country.”⁹⁴

“Selling” the NBC was no longer a matter of simply informing localities about its existence. During the 1950s, attempts to convince local experts of the utility of national building standards went hand in hand with the production of knowledge about what codes they used, and how to improve them. This attempt to make the NBC into an ideal ‘model document’ for local users embodied a dilemma that Simon Schaeffer identifies with modern standards-making: the more a standard is used to claim an objective distance from practical issues of governance, the more standardizers insist on the intensive governance of the standards-making process itself.⁹⁵ As such, despite their frequent insistence on the legal status of the NBC as a standalone ‘model’ to be adopted as local users saw fit, ACNBC members employed practical techniques of their own to govern the NBC’s adoption. For example, the members of the ACNBC endeavoured to make the characteristics of building codes in growing localities comparable by surveying local building officials. Surveys of the use of the NBC were used to accommodate the high modernist goal of normalizing development (the ‘development’ of both cities and building codes), translating the survey returns into a cartographic view of whether and how each locality had adopted the NBC (and, if not, which codes they were using).⁹⁶ Robert Leggett, chairman of the ACNBC, used the returns of the first building officials’ survey in 1950 to claim that, despite perceptions of the NBC as “so outdated as to be of little use,” its increasingly widespread

⁹⁴ R.S. Ferguson, *Proceedings of the 1949 Building Officials Conference* (Ottawa: National Research Council, May 1949), 6.

⁹⁵ Simon Schaeffer, “Modernity and Metrology,” in *Science and Power: The Historical Foundations of Research Policies in Europe; A Conference Organised by the Istituto E Museo Di Storia Della Scienza (Firenze, Italy); Firenze, 8 - 10 December 1994*, eds. Luca Guzzetti et al. (Luxembourg: Office for Official Publ. of the European Communities, 2000), 71-92.

⁹⁶ “Building Code – Bulletin No. 1,” 21-22. See Appendix A for figure.

adoption was evidence of the code's progress.⁹⁷ Although clearly more concerned with the NBC's use in the writing of building codes, ACNBC members also sought to produce knowledge about the character of codes enforcement in relation to housing development, particularly in smaller localities where house-building was expected to increase rapidly.⁹⁸ As "little was known... about the application of such a code in small places," 'small' being defined as localities with fewer than 5,000 residents, ACNBC member M. Chevalier of the Canadian Federation of Mayors and Municipalities recommended that a sociologist surveil the development of small communities throughout Canada and observe how they use the smaller housing code over the next three to four years.⁹⁹

Research: The 'Systems' Ideal

The ACNBC thus became a significant site where the 'problem' of building normal housing was defined, dealing with how the standardization of housing ought to be locally governed as well as how localities ought to govern their own 'development.' The ACNBC's emphasis on creating totalizing yet superficial knowledge about building codes brings us to another historical shift, bound up with the reorganization of the NBC, which shaped how standardization defined the governance of house-building as a 'problem' of efficient national administration. This entailed the appearance of a discourse of building regulations as instruments within house-building as a "system" of knowledge. The modern "systems approach" to building regulations, as named by ACNBC engineer R.S. Ferguson in a study of Ottawa's building bylaws, had a broader emergence in mid-twentieth-century industrial science and

⁹⁷ *Ibid*, 14-15.

⁹⁸ *Minutes of the Second Meeting of the ACNBC* (Ottawa: National Research Council, 24 June 1949), Appendix B.

⁹⁹ *Minutes of the Seventh Meeting of the ACNBC* (Ottawa: National Research Council, 5 October 1950), 5.

administration.¹⁰⁰ The notion of administrative ‘systems’ and ‘systemless’ administration was not novel to the mid-twentieth century, as Patrick Carroll’s historical study of “engineering governmentality” in California indicates.¹⁰¹ Yet it was articulated through a new concern with integrating the expertise of middle-class technical professionals into the administrative operations of government and industry during and after World War II. The systems approach to administration was popularized through wartime “operations research” (also called “operational research”) within the American and British militaries, beginning with Britain’s integration of radar technology into the activities of civilian engineers and scientists tasked with maintaining an air defense system.¹⁰² As Erik Rau indicates, the view of administrative projects as “systems” was significant not merely for the technological innovations it fostered, but in how it was used to “represent the world in terms of interrelated technological systems” that exist within “abstract structures” which could be mapped, modelled, and made predictable and efficient.¹⁰³

Having migrated to government departments, non-profit organizations, and businesses throughout the mid-twentieth century, approaches to housing construction as an overall ‘system’ led to new expectations for the regulation of house-building in North America. Perhaps the most significant federal official in linking the “systems” discourse of house-building research to the creation of national building standards was Robert Leggett, a federal engineer, geologist, and prolific essayist who wrote much about the history and theory of technical standardization. Leggett was both founding chairman of the ACNBC and founding director of the National

¹⁰⁰ R.S. Ferguson, “Ottawa Study,” in LAC, National Research Council fonds, Division of Building Research series, “R S Ferguson,” Box 17, 1950.

¹⁰¹ Patrick Carroll, “Water, and Technoscientific State Formation in California,” *Social Studies of Science* 42, no. 4 (2012): 510-511.

¹⁰² Erik Rau, “Technological Systems, Expertise, and Policy Making: The British Origins of Operational Research,” in *Technologies of Power: Essays in Honor of Thomas Park Hughes and Agatha Chipley Hughes*, eds. Michael Thad Allen et al. (Cambridge, MA: MIT Press, 2001), 215-252.

¹⁰³ *Ibid.*, 215, 244.

Research Council's Division of Building Research (DBR), which funded the ACNBC and housed it within its Montreal Road facilities in Ottawa. Before taking up these positions in the late 1940s, Leggett spent time in the UK touring its national building research facilities.¹⁰⁴ Being particularly interested in British attempts to make research on building construction more scientific, Leggett returned to Canada with ideas on how to progress what he referred to as "the physical development of the Dominion." He claimed that the mass program of house-building needed in the postwar period required a scientific approach to building problems, which ought to be directed by a national research facility tasked with removing the "many wasteful building practices being followed at present."¹⁰⁵ Leggett convinced C.J. Mackenzie, president of the National Research Council, to fund such an organization in 1948, arguing that the future of scientifically-based construction work would require the identification of all issues affecting new housing construction and the technical expertise required to solve them.¹⁰⁶ Such research would be directed not by house-builders or trades workers, who were seen to be stuck in a "conventional" stage of "stick building" based on local building methods, but by nationally-appointed "Research Officers of different grades" with an engineering or architecture background.¹⁰⁷ Leggett summarized the priorities of postwar building research in an address to Canadian architects:

At the present time... problems of residential construction are of such a critical character that housing problems must naturally be given every priority, even in the very limited work which the Division is already able to do. In all housing matters the Division will always work very closely with the Central Mortgage and Housing Corporation, which it is to serve as a research wing on all the technical aspects of house and residential construction. There has already been formed a very happy agreement as to the method of

¹⁰⁴ Eggleston, *National Research in Canada*, 331.

¹⁰⁵ Quoted in Eggleston, "National Research in Canada," 331-332.

¹⁰⁶ *Ibid.*, 332-333.

¹⁰⁷ Clayton Research Associates Ltd. and D.G. Wetherell Associates Ltd., *Two Decades of Innovation in Housing Technology, 1946-1965* (Ottawa: CMHC, 1994), 29, 37; Robert Leggett, "Building Research in Canada" (Presented at the Forty-First Annual Meeting of the Royal Architectural Institute of Canada, Ottawa, 24 February 1948), 5.

this joint operation in the housing field. The Division will be concerned with investigation into special technical problems, the provision of technical information and with all questions concerned with building codes and regulations. All other aspects of housing practice, from the national point of view, are the responsibility of the Corporation. In association with the Corporation the Division looks forward to carrying out research work on actual housing projects in Canada of an “operational” character. Correspondingly, joint study will be made of new materials and [sic] new processes when these are seen to be of any possible practical value to the solution of the vital housing problem.¹⁰⁸

Leggett was making it clear that the DBR would use its limited resources to integrate building research and knowledge about building codes into the governance of “the vital housing problem.” The ‘systems’ discourse was further exemplified in a chart that Leggett created to present a synoptic view of housing research in Canada. As a “diagrammatic picture of housing in Canada,” the chart showed the responsibilities of the CMHC and DBR as well as the separate ‘needs’ (defined as ‘economic,’ ‘social,’ and ‘financial’) that each agency would address.¹⁰⁹ Many of these housing studies were undertaken to improve the CMHC’s own building regulations, which were based on the ACNBC’s small housing code and often incorporated data and information generated from DBR research.¹¹⁰ Through a research agreement between the DBR and CMHC, federal funds were used for laboratory and field studies aimed at creating standards of materials and construction that would maximize the efficiency of building new housing. Notably, these research projects focused only on ‘national’ issues of building applicable to the improvement of construction in any locality.¹¹¹ In keeping with this national scope, Leggett argued that the future of building research would be secured through projects on standards for what he called the most “conventional” residential form: the single-family,

¹⁰⁸ Leggett, “Building Research in Canada,” 5.

¹⁰⁹ Leggett, “Development of D.B.R., 1947-52” (Ottawa: National Research Council, 1953), 9. See Appendix B for chart.

¹¹⁰ “Building Code – Bulletin No. 1,” 6; CMHC, *Annual Report* (CMHC: Ottawa, 1946).

¹¹¹ “Memorandum of Agreement between Central Mortgage and Housing Corporation and the National Research Council,” CMHC fonds, Box 353, File 115-7-1, 1947.

detached dwelling. As Leggett claimed, the DBR would focus its resources on what he (and most, if not all, CMHC officials) saw as the housing type in greatest demand and in most need of building standards that minimized housing and construction costs for Canadians.¹¹² When “unusual building” practices were studied, it was done in order to create knowledge that could make abnormal techniques and materials, which were abundant after WWII, follow a “normal course” of construction.¹¹³

Notation: Classifying like a State

As with any ideal, ideals of bureaucratic administration have to be actively promoted and maintained to be effective as discourses of government. Making building regulations part of a universal administrative ‘system’ meant, for Leggett and his state and industrial allies in Ottawa, integrating the practice of codes-writing into the day-to-day administration of housing provision in Ottawa. The integration of building code-writing into the national administration of house-building was accompanied by the introduction of a novel form of notation into CMHC and NBC regulations. For federal engineer R.S. Ferguson, the notational arrangement of building codes by ‘subject’ facilitated a “systems approach” to building regulations that “modern” administrations demanded.¹¹⁴ This approach was actualized on a national scale in 1958, when an advisory housing committee was created as an arm of the ACNBC. A number of CMHC officials, architects, planners, builders, and various others were invited to the sub-committee to discuss how to improve the notational arrangement of house-building standards in Canada.¹¹⁵ In keeping with the emphasis federal officials placed on ‘performance,’ seen as a more flexible principle of

¹¹² *Building Research in Canada: A Progress Report* (Ottawa: National Research Council, December 1952), 125.

¹¹³ *Building Research in Canada: A Progress Report* (Ottawa: National Research Council, June 1951), 2.

¹¹⁴ R.S. Ferguson, “Ottawa Study,” 1950.

¹¹⁵ *Minutes of the First Meeting of the Special Committee on Housing* (Ottawa: ACNBC, 25 September 1958), preface.

standards-making than had hitherto been used, officials generally agreed that arranging each section of the NBC by subjects such as ‘foundations’ and ‘room sizes’ made the code relevant to any building task, housing type, or local setting in Canada.¹¹⁶ By contrast, the popular form of notation known as the “situation type” confined provisions to particular hazards or building types, and was seen as unable to accommodate the development of a growing locality.¹¹⁷

To “achieve order out of disorder” in the arrangement of subjects in the national housing code, Leggett submitted a report to the housing committee outlining a classification scheme which he suggested would further make code arrangement “technical” rather than “editorial.”¹¹⁸ Leggett’s suggested classification model, called the Universal Decimal Classification (UDC) system, had first been developed in late nineteenth century Belgium as a bibliographic system for lawyers.¹¹⁹ It was a system intended to compile “everything that had appeared in print, a *Repertoire Universel Bibliographique*,” and was soon recognized by social scientists for its ability to efficiently combine categories in a way that Melvil Dewey’s predominantly used decimal notation system could not.¹²⁰ After being translated into multiple languages, the UDC was taken up by the building industry (among other organizational groups) starting in the 1950s, when an *Abridged Building Classification* was created for international use by the International Committee of Decimal Classification in the Netherlands.¹²¹ While it is unclear how or when the UDC was first brought to Canada, it is probable that Leggett’s liaison with international standards organizations through the DBR played a role. In the report, Leggett claimed that the

¹¹⁶ Leggett, “The National Building Code of Canada,” 4-5.

¹¹⁷ Ferguson, “Ottawa Study.”

¹¹⁸ *Minutes of the Fourth Meeting of the Special Committee on Housing* (Ottawa: ACNBC, September 1961), Appendix B.

¹¹⁹ Ian C. McIlwaine, “The Universal Decimal Classification: Some Factors Concerning Its Origins, Development, and Influence,” *Journal of the American Society for Information Science (1986-1998)* 48, no. 4 (1997): 331-339.

¹²⁰ *Ibid*, 332-334.

¹²¹ *Ibid*, 333.

UDC's ability to create flexible decimal notations to accommodate the adoption of future building standards, visualized on a 9x9 grid (beginning from 0), made it worthy of use by the ACNBC housing committee.¹²² While Leggett acknowledged that the use of such a complex classification system was only effective if standards-makers understood the theory behind it, he suggested that a "technical" arrangement of the national housing code through the UDC was ultimately justified in its ability to "average the various users' demands."¹²³ Leggett remained confident in this form of notation after the housing committee had unanimously decided to adopt it. He proclaimed that the ACNBC's housing code "was the first of the sections of the Canadian Code to reach complete 'performance' style" after a review of the document in 1962.¹²⁴

As indicated by their unanimous adoption of the UDC, local officials, builders, and other members generally responded favourably to attempts to 'systematize' building standards. As Rau indicates, organized resistance to 'systems' thinking became significant mainly during the late 1960s, caused in part by the spread of countercultural ideas and movements.¹²⁵ Nonetheless, the translation of local development needs into specific model housing standards was never immune from contestation. The tacit understanding of 'dwelling types' as *completed* dwellings at the ACNBC was questioned by architect M.G. Dixon of the Department of Public Works, who noted that officials had not considered standards for low-income families who moved into their homes before construction was completed as a cost-saving tactic.¹²⁶ W.G. Hoyle of the National Research Council suggested, along with a number of other ACNBC members, that the NBC ought to accommodate the needs of varying types of housing which technical experts had not

¹²² *Minutes of the Fourth Meeting of the Special Committee on Housing* (Ottawa: ACNBC, September 1961), Appendix B. See Appendix C for figure.

¹²³ *Ibid.*

¹²⁴ Leggett, "The National Building Code of Canada," 4.

¹²⁵ Rau, "Technological Systems, Expertise, and Policy Making," 218, 244.

¹²⁶ *Meeting of Steering Committee of Special Housing Committee of the National Building Code* (Ottawa: November 1958), 2.

hitherto considered. A classification system, differentiating “Class 1,” “Class 2,” “Class 3,” et cetera housing, was proposed by Hoyle as suitable for this end.¹²⁷ No such system was agreed to, although a sub-committee on lot planning was created to consider the question of multiple housing types and their relation to house-building standards.¹²⁸

The apparent contradictions in creating standards for the ‘practical’ needs of local users, while aspiring towards the universalization of a model code, indicates just how ambitious and precarious the governance of a national codes secretariat was during the postwar period. At the same time, it should be emphasized that federal officials’ totalizing yet superficial attention to building and planning at the ACNBC and the CMHC did not simply reflect an attempt to restrict the actions of codes users and enforcers. Indeed, the progress of national standards had always been seen in its ability to configure the judgments and (albeit limited) input of users. As such, the tensions that arose in attempting to make a ‘systems’-like building code formed part of the governmental problem of creating an ideal secretariat, one which could direct the conduct of house-building in the most ‘economical’ and efficient way possible. For instance, engineer R.S. Ferguson suggested that, whichever provisions the committee agreed to introduce into the housing code, they needed to be the “same for all houses” across Canada.¹²⁹ Any rule or classification that could not be applied to the construction of any house, in any locale or region, did not belong in the code.

Ferguson’s emphasis on ‘building’ as a distinct and unifying category of knowledge might not have been unusual at the time, even if different ideas about the purpose of a national

¹²⁷ *Ibid*, 10.

¹²⁸ *Minutes of the First Meeting of the Subcommittee on Lot Planning (Special Committee on Housing)* (Ottawa: June 1959).

¹²⁹ *Meeting of Steering Committee of Special Housing Committee of the National Building Code* (Ottawa: November 1958), 3.

housing code were apparent at the ACNBC. The now commonplace notion of ‘built environments,’ which highlights the ecological interactions of built forms at multiple geographical scales, did not emerge as an element of systems theories of building until the 1970s.¹³⁰ While it appeared obvious to Ferguson and likely other federal officials that national building regulations should govern only what is common to the building of houses in all of Canada, the means through which ‘all houses’ were categorized through specific technical standards were not. Decisions about how this equivalency ought to be governed were politically meaningful, as Alain Desrosières reminds us.¹³¹ The appearance of equivalents as the givens of state administration – whether they take the form of an income bracket, a safety hazard, or in this case acceptably built housing -- are the product of political decisions about what *ought* to be made equivalent.

Experimentation: The Politics of the ‘Minimum House’

If the decisions made at the ACNBC about how to classify, arrange, and distribute the standards were political ones, the ‘objectivity’ they were premised upon was not innocent. These decisions had ramifications upon how urgent issues of housing provision were dealt with in and through the federal state. While the subsequent chapter will discuss the uses of national building regulations in more detail, I want to end this chapter by highlighting that the ‘view from nowhere’ that federal officials came to privilege was not immune from political struggle.¹³² During the late 1950s, national building regulations were implicated in a conflict involving the class exclusivity of postwar housing provision. This conflict took place as land shortages and a

¹³⁰ Uta Hassler and Niklaus Kohler, “Resilience in the Built Environment,” *Building Research & Information* 42, no. 2 (2014): 119–29.

¹³¹ Alain Desrosières, “How Real Are Statistics? Four Possible Attitudes,” *Social Science Research* 68, no. 2 (2001): 339–355.

¹³² Donna Haraway, “Situated Knowledges: the Science Question in Feminism and the Privilege of Partial Perspective,” in *Simians, Cyborgs and Women: the Reinvention of Nature*, ed. Donna Haraway (London: Free Association Books, 1991), 183–201.

reduction of mortgage lending were observed to slow down the construction of housing throughout Canada, an issue which particularly affected those families who were barely eligible for CMHC financing to begin with.¹³³ Some critics within the building industry, but also within the CMHC, suggested that the CMHC standards were partly responsible for this exclusionary effect. The rigidity of the national standards (as well as local building codes which, by this period, had increasingly been standardized on the national model) was criticized as increasing housing costs, contributing to the unavailability of CMHC-financed housing among the working and lower-middle classes of the national population.¹³⁴ William M. McCance of the National House Builders' Association speculated that the federal government's standards-makers had focused too much on creating standards for larger homes, meaning that "small and economical houses could not be constructed" under existing national and local building standards.¹³⁵ Robert Leggett disagreed, attributing the exclusionary effects of CMHC house-building not to building standards but to suburban builders' own decisions to build and market homes that were out of reach for the working and lower-middle classes.¹³⁶

National building standards thus became implicated in the longstanding issue of suburban exclusion, one which federal officials could no longer ignore by the late 1950s. Regardless of the extent to which building standards were responsible for this issue, what is more interesting for this chapter is how they were used to both define and intervene in what Rex Opie, head of the CMHC's Standards Compliance Department, called "the housing problem of the low-income families."¹³⁷ The CMHC did acknowledge concerns about the rigidity of national building

¹³³ "Ottawa Letter," *National Builder* (May 1957), 4.

¹³⁴ William M. McCance, "Do We Really Want Low-Cost Houses?," *National Builder* (January 1959), 15.

¹³⁵ *Ibid.*

¹³⁶ Leggett, "What do we mean by 'housing'?"

¹³⁷ R.P. Opie to L.E. Wade, LAC/CMHC, Central Registry Administrative Files, Box 110, File 110-3-1-3-2, 3 December 1959.

standards, inviting builders to “draw up standards which they feel would be acceptable” to more easily enable the construction of low-cost housing.¹³⁸ In the meantime, one of the means through which CMHC administrators attempted to make the provision of housing less exclusionary on a mass scale was through the experimental introduction of a new, CMHC financeable house, called “the minimum house.” As an exercise in the burgeoning science of building research, which I discussed in a previous section, the minimum house experiment was undertaken by the CMHC Development Division as an attempt to create a nationally transferable design to be bought and lived in by the “sub-economic group” of the national population.¹³⁹ The houses were to be designed to the bare minimum of the CMHC standards, with the designs being distributed to builders who were willing to build and market them. Given the assumption that many builders were accustomed to building above the national minima, the minimum house experiment was done in close cooperation with the builders’ national trade association. As one CMHC official involved with the experiment described:

Possibly the minimum house should be built eliminating those features only where the requirements of our Building Standards [are] not contravened. In such a case, the house could be financed by an insured loan, that is if an approved lender could be found who would take the application. It would be more or less sponsored by the National House Builders’ Association. The Association would decide on the cities or towns across Canada where these houses would be built and, in all cases, the lots chosen for these houses would be comparable to those on which a normal conventional house for the area was being built. The experiment, if it could be called such, would give an indication of purchaser reaction to the stripped-down house.¹⁴⁰

Thus, the experiment was to test whether rural and suburban families throughout Canada would be able and willing to live in housing built as affordably as possible to the minimum of

¹³⁸ “Ottawa Letter,” *National Builder* (May 1957), 4.

¹³⁹ J.S. Hodgson to F.F. Field, “The Minimum House,” LAC/CMHC, Central Registry Administrative Files, Box 126, File 112-1-1-9, 8 August 1957.

¹⁴⁰ G.S. Smith to R.P. Opie, “Low Cost Housing,” LAC/CMHC, Central Registry Administrative Files, Box 126, File 112-1-1-9, 18 July 1957.

CMHC standards. CMHC president Stewart Bates noted in 1959, in an address to builders, that the minimum house could potentially be built in urban areas as well as suburban and rural ones. He suggested that “such a house... will help to meet the social responsibilities of getting decent housing for the lower third of the income scale. It will provide a market not hitherto catered to by the building industry.”¹⁴¹ In this respect, there was a political and moral purpose to the use of national building regulations in providing a benchmark for just how ‘minimal’ the low-cost house would be. This is further revealed in the historical emergence of the “minimum house” concept itself, which originated in the ‘international style’ of architecture promoted in interwar Europe. As Rob Imrie describes,

The ‘minimum house’ was outlined by the *Congres Internationaux d'Architecture Moderne* (CIAM) in Frankfurt in 1929 to describe the possibilities of producing functional living spaces derived from standard measures relating to human biological and psychological needs. Thus, bodily performance was translated into technical standards (design criteria), or the minimum spaces required to facilitate efficient (bodily) functions. In this sense, design was no more than the application of technical standards to specify the rational disposition of physical layout and function in dwellings.¹⁴²

In the postwar Canadian context, the minimum house was meant to ensure that the CMHC’s market-based housing provision could be as ‘universal’ as possible for both human habitation and socially just provision. The CMHC’s building regulations, when applied to design, would hypothetically make this universality achievable. Yet as Ted William Rutland observes, the seemingly egalitarian vision of planning discourses such as these is messier and more contradictory than we might suppose. They are often premised on ‘improvement’ through disruptive and sometimes violent means, harming populations through what might be sincere attempts to empower them.¹⁴³ In this respect, the CMHC’s rather functionalist approach to issue

¹⁴¹ “Mr. Bates sees no quick cure for major problems,” *National Builder* (February 1959), 22.

¹⁴² Rob Imrie, “The Interrelationships between Building Regulations and Architects’ Practices,” *Environment and Planning B: Planning and Design* 34, no. 5 (2007): 927.

¹⁴³ Ted William Rutland, “‘We are damaged’: planning and biopower in Halifax, Nova Scotia, 1880-2010” (PhD Dissertation, University of British Columbia, Vancouver, 2012).

of so-called ‘sub-economic’ families is reminiscent of Thomas Adams’s attempts, decades previous, to rationally plan residential environments through the removal of rural and suburban ‘shacktown’ housing. A memo that was circulated within the CMHC Development Division thus described the minimum house as an “effective alternative to the large shacktown settlements on the fringes,” anticipating the relocation of families who were living in such settlements.¹⁴⁴

We can further observe what George Canguilhem calls the “technocratic myth” of the technical norm in how the minimum house experiment was promoted by CMHC administrators, as well as their provincial allies, in Gander, Newfoundland.¹⁴⁵ CMHC officials typically did not concern themselves with issues involving specific towns. Gander was an exception. CMHC officials had developed relations with Gander when Newfoundland entered Confederation, and provincial officials had asked the CMHC to invest in airport workers’ housing in the town. During the late 1950s, CMHC officials were alerted to a rural ‘slum’ settlement on the town’s fringe, called Union East, which was seen to threaten the prestige and value of nearby housing developments within the town’s borders. Provincial officials had met with CMHC officials in St. John’s to aid them with the ‘problem’ of Union East.¹⁴⁶ It was eventually agreed that the residents of Union East would be relocated to a protected “low-cost housing area” in Gander, in which the National Building Code would be enforced.¹⁴⁷ The matter was rather urgent for provincial officials, who observed that Union East residents were intentionally avoiding the enforcement of building regulations. One CMHC administrator noted that “if the people are not moved out of Union East there may be additions to their numbers in spite of the best efforts of

¹⁴⁴ J.S. Hodgson, “Re: The Minimum House,” LAC/CMHC, Central Registry Administrative Files, Box 126, File 112-1-1-9, 29 May 1957.

¹⁴⁵ Georges Canguilhem, *The Normal and the Pathological*, trans. Carolyn R. Fawcett (New York, NY: Zone Books 1991 [1966]), 247.

¹⁴⁶ Homer Borland to J.A. Jones, “Minimum House,” LAC/CMHC, Central Registry Administrative Files, Box 126, File 112-1-1-9, 21 June 1956.

¹⁴⁷ Homer Borland to P.S. Secord, “GANDER,” 5 June 1957.

the Province to prevent its growth.”¹⁴⁸ CMHC officials were hoping to use the planned relocation as an opportunity to build a number of minimum houses for Union East residents, and observe its construction and use.¹⁴⁹ Yet it is unclear from the federal correspondence how or whether the relocation project was eventually carried out, and the extent to which the province’s interventions disrupted the lives of Union East residents themselves. For CMHC administrators who were active in Newfoundland, it would appear this mattered less than aiding provincial officials with their myriad ‘slum’ clearance schemes, Union East being but one of them.¹⁵⁰

The ‘minimum house’ experiment was eventually regarded as a failure throughout much of Canada, and was discontinued. Indeed, a number of CMHC officials themselves had been sceptical of its value in addressing the pressing issue of housing families who could not afford CMHC housing. For Robert Leggett, the failure of the experiment revealed the lack of demand for the minimum house among ‘Canadians’ on a national scale.¹⁵¹ Yet in framing the failure as merely one of economic demand, Leggett was apparently less concerned with the particularities of where the minimum house was built, or the residents whose homes and lives were affected by the experiment as in the case of Union East, Newfoundland. As I have approached it here, the experiment reveals more about how state administrators envisioned their own role in problematizing the provision of housing than it does about the economics of building codes. In this former respect, national building regulations were not trivial. They had formed an authoritative and taken-for-granted basis for enabling and constraining decisions about what normal as well as abnormal housing entailed. This authority is not merely attributable to the

¹⁴⁸ *Ibid.*

¹⁴⁹ *Ibid.*

¹⁵⁰ For an examination of these schemes, see Keith Collier, “Clearing the Slums: The Evolution of Public Housing in St. Johns, Newfoundland, 1910-1956” (master’s thesis, Memorial University, St. John’s, 2011).

¹⁵¹ Robert F. Leggett, “What Do We Mean By ‘Housing’?,” *Queen’s Quarterly* 68 (1961): 333.

‘technical’ prowess of the standards; rather, it was an outcome of how federal officials and housing experts involved with the scheme unyieldingly strove to conflate economically and politically desirable housing standards with an objectively ‘national’ secretariat. Thus, industrial official William McCance, despite his aforementioned reservation that building regulations were an obstacle to the construction of low-cost housing, was ultimately optimistic about the bureaucracy which created the standards. In 1958, McCance told readers of the *National Builder* with optimism that Canada’s “building standards situation” was only improving, and that the partnership between builders and federal officials was doing much to ensure the affordability of the “average house.”¹⁵²

Conclusion

This chapter has argued that the birth of national building regulations in Canada helped shape how the mid-twentieth-century ‘housing problem’ was configured and negotiated, and in turn how the political project of building houses for Canadians on a mass scale was made knowable. Having emerged from a British-Canadian town planning movement as a largely unrealized public health ideal, national building standards eventually became a technical norm used to regulate house-building within Canadian cities. Within the contradictions and power relations involved in normalizing standards of house-building, various federal bureaucrats and their allies, from local builders and administrators to federal engineers, helped place the governance of house-building into a narrative of technical progress driven by a national bureaucracy. This discourse was used to assemble a network of people and documents, led in large part by Robert Leggett, in which the objectivity of federal officials, local administrators, and various codes users was governed, negotiated, and resisted. As I have stressed, this goal of

¹⁵² William McCance, “Round Table on Residential Building Codes,” *National Builder* (June 1958): 22.

simplification, endemic to modern standards-making, was an ideal rather than a realized outcome attributable to any one form of knowledge or policy position. The divergent interests and resistances of local and federal experts, the difficulties of forming a durable network of technical research on a national basis, the defense of ‘scientific’ over ‘unscientific’ standards, the thorny issue of class exclusivity, and various other interventions show that the creation of national building standards was a matter of problematizing, rather than simply responding to, housing needs and the expert capacities expected to govern them. As such, this chapter broadly indicates that we ought to reconsider how seemingly ‘technical’ bureaucratic tools were bound up with the re-imagination of housing and its provision during the transformative years of the mid-twentieth-century.

In claiming that the shaping of house-building into a ‘problem’ of federal management emerged through certain discourses of standards-making, this chapter has only briefly examined the use of national building regulations by various interests who made decisions about the actual provision of mass housing. As Slaton and Abatte suggest, opening the historical black-box of a standard to examine how it authorizes and maintains a certain social order requires an examination of how it gets taken up, resisted, and re-shaped through the labours of using it.¹⁵³ As such, the next and final chapter examines an administrative practice – standards enforcement – to analyze how a number of interests involved with providing mass housing mobilized national building standards.

¹⁵³ Amy Slaton and Janet Abbate, “The Hidden Lives of Standards.”

Chapter 3: National standards enforcement and ‘the state’ of mass housing provision, 1945-1960

The birth of national building standards in Canada, I argued in the previous chapter, was variably premised on making the national ‘housing problem’ knowable for intervention. The remainder of this thesis examines this intervention itself, focussing on how national standards were enforced in an attempt to improve the housing circumstances of millions of Canadians. The CMHC’s own standards booklet, which was revised at ACNBC meetings to conform to the ACNBC’s small housing code, was the primary document through which national building regulations were directly used in the provision of mass housing.¹ The CMHC’s standards were understood to make CMHC housing developments adequately built for long-term mortgage financing, explicitly prioritizing the protection of “mortgage security” as the main purpose of the standards booklet.² At first glance, this confirms Canadian housing scholars’ claim that mortgage lending has historically formed the basis of the federal government’s political priorities in relation to housing. For Michael Dennis and Susan Fish, the CMHC’s building standards reinforced the market-based goals of the housing industry, being narrowly directed towards the “economics of building” rather than the equitable planning of cities and communities.³

I think housing scholars are largely correct to suggest that the housing policies of the federal state have been enmeshed in the market-driven goals of the housing industry. But insofar as these scholars view ‘the state’ as a conduit of specific interests, they resolve the authority of housing policy into the wills of these interests. When ‘the state’ appears in these accounts as an

¹ “Building Code – Bulletin No. 1” (Ottawa: Associate Committee of the National Building Code (ACNBC), April 1950), 11-12. The reason for this so-called “dichotomy” was due to the CMHC’s insistence that some of its standards conform to the demands of mortgage companies, particularly as they related to regularly increasing the standard room dimensions of houses, as well as the CMHC’s own administrative provisions that had no relevance to the NBC.

² CMHC, *Building Standards* (Ottawa: CMHC, 1949).

³ Michael Dennis and Susan Fish, *Programs in Search of a Policy: Low Income Housing in Canada* (Toronto: Hakkert, 1972), 7.

already-formed actor or institution, there is a risk that the authority of ‘the state’ also appears stable. As such, what is typically not recognized in accounts of housing policy is how the habitual naming of ‘the state’ as a unified actor comes to structure relations of power in certain times and places. As I indicated in chapter one, a richer and possibly more critical explanation for how various interests benefit from state regulation arises when the state’s seemingly unified authority is viewed as an *effect*, rather than a given basis, of state policy.⁴ For Philip Abrams, the state’s authority is contingent upon this naming effect. As he notes, “the state is at most a message of domination - an ideological artefact attributing unity, morality and independence to the disunited, amoral and dependent workings of the practice of government.”⁵ I believe that approaching the seemingly united power of ‘the state’ as a recursive claim, rather than as a stable possession of sovereignty, can potentially contribute to exposing the market-based rule of the CMHC as a contingent outcome of power relations. What might examining the day-to-day practices of standards enforcement further reveal about how mass housing provision was acted upon by ‘the state’?

If chapter two showed that ‘the housing problem’ was variably defined, this chapter intends to explore how acting upon this ‘problem’ involved another assortment of contingencies relating the state regulation of middle-class “CMHC housing.” This chapter argues that the everyday relations surrounding the enforcement of CMHC standards were formative to how certain interests sought to benefit from postwar housing provision. Drawing largely on the work of Timothy Mitchell, I suggest that these negotiations contributed to what Mitchell calls the

⁴ Timothy Mitchell, “Society, Economy, and the State Effect,” in *State/culture: state-formation after the cultural turn*, ed. George Steinmetz (Ithaca, NY: Cornell University Press, 1999), 76-97.

⁵ Philip Abrams, “Notes on the Difficulty of Studying the State,” *Journal of Historical Sociology* 1, no. 1 (1988 [1977]): 81. As I emphasized in chapter one, I am not trying to advance a discourse-determinism of state power. As I will suggest throughout this chapter, there are specific institutional conditions in which the fiction of the state as Leviathan is created and re-created (which the latter part of Abrams’s quotation implies).

“apparently metaphysical” appearance of the national state, in which the state came to be seen as an objective and detached regulator of mass housing construction in postwar Canada.⁶ In this interpretation, the interests that benefited from the use of national housing standards did so not simply through a given policy approach, but through the maintenance of an imagined boundary between ‘the state’ of standards enforcement and the ‘private’ realm of industrial house-building. There were, to be sure, a plethora of techniques and political dynamics that went into forming this boundary, so I do not intend to make a reductionist argument that federally-led standards enforcement was the only or even most important technique. I choose to examine the use of CMHC standards in order to further this thesis’s broader argument that standardization was not simply a technical tool exterior to the political negotiations surrounding the emergence of housing policy in Canada. The use of national building regulations helped make mass housing provision, as well as its everyday regulation, into an objectively knowable ‘problem’ of the state.

I develop this argument in three sections. The first section contextualizes the standardization of house-building during the mid-twentieth century, outlining some of the significant alliances and discourses upon which national standards enforcement was premised. The next two sections then attempt to enrich this account, suggesting that the regulation of mass housing development through CMHC standards enforcement involved constituting and governing the conduct of the postwar state itself. The second section indicates how the surveillance of house-building through standardization was premised on a specific ideal of objectivity, in which CMHC administrators organized standards enforcement as uniform and non-arbitrary in relation to ‘the industry’ which built NHA housing. In the third section, I suggest that this boundary-making between state and industry was not smoothly maintained,

⁶ *Ibid*, 89.

particularly in the initial years of the CMHC's founding. I focus on the role of inspection to show that standards enforcement was rather messy and *ad hoc*, and we can see in attempts to configure the expertise of the NHA-housing inspector just how contingent the authority of standards enforcement was as a practice of 'the state.'

The state and industrial context of CMHC standards enforcement

Rather than beginning this section with the state and 'its' institutions, I want to follow Philip Abrams in starting from a "sense in which the state [did] not exist" in mid-twentieth-century Canada: that is, as an actor that regulated a 'nationally' unified housing industry.⁷ There has not always been a 'housing industry' that regularly liaises with the federal state as there exists today in Canada. For much of Canadian history, the practices and organization of the business of house-building have been illegible to state and industrial planners. Largely rooted in place-specific networks of contractors and sub-contractors, house-building has eluded conventional definitions of industrial organization based within the model of the centralized firm.⁸ As a 1962 study of the Canadian house-building industry conducted by Solomon John Rawin argued, one of the peculiar aspects of house-building that distinguished it from other industries during that period was the lack of a clear boundary between the worker and the firm manager or supervisor.⁹ Given the complexity of craft skills required to build a house, most builders sought to pluralize their skills. Forming a local network of sub-contractors and assigning them to the myriad work tasks involved in a house-building project was a typical strategy, but in many cases builders did trade tasks themselves. The power relations of occupational house-

⁷ Philip Abrams, "Notes on the Difficulty of Studying the State," *Journal of Historical Sociology* 1, no. 1 (1988 [1977]): 59.

⁸ Micheal Buzzelli, "The Canadian Urban Housebuilding Industry: Firm Size Structure and Production Methods in Ontario, 1945-2000" (PhD Dissertation, McMaster University, Hamilton, 2001).

⁹ Solomon John Rawin, "The Contractor in the House-Building Industry: Worker or Businessman?," *Canadian Review of Sociology* 1, no. 2 (1964): 69-78.

building were thus unlike those of the industrial factory, involving “worker-contractors” acting as both foremen and trades workers depending on the demands of the project. Consequently Rawin observes that “there was little room for complex equipment and technological investment” in the house-building industry, meaning that “traditional craftsmanship,” rather than industrial rationalization led by middle-class managers, remained the norm.¹⁰

What is essential to this chapter is not the sociological nuances of house-building as an occupation, an inquiry that is beyond the scope and purpose of this study, but the historical appearance of attempts to transform house-building from a place-based practice into a nationally coordinated industry. Just as ACNBC chairman Robert Leggett temporalized “the physical development of the Dominion” as a matter of techno-scientific progress, house-building during the mid-twentieth century came to be seen as a ‘backwards’ practice requiring industrial improvement. Indeed, Rawin himself presented the house-building industry in a series of progressive stages, with “big construction” and speculative house-building comprising the final “managerial stage” of industrial evolution.¹¹ Similar concerns about the technical and business expertise of house-builders had existed since the first Depression-era federal building programs, when cases of incompetent construction that were financed through the programs led to public controversies among builders, city councils, and the federal government.¹² The issue of the perceived poor quality of government-financed housing became particularly acute during World War II, when the Canadian government undertook a “wartime housing” campaign. By the end of the war, the wartime houses, built on a low-cost rental basis for war workers and their families, became massively unpopular. They were stigmatized as ‘slum’ housing, with many federal

¹⁰ *Ibid*, 70-71.

¹¹ *Ibid*, 77.

¹² Jill Wade, *Houses for All: The Struggle for Social Housing in Vancouver* (Vancouver: University of British Columbia Press, 1994), 73-74.

opposition MPs, local officials, civic leaders, and builders contesting their presence as encouraging a low standard of housing in the communities they were built.¹³ It was within this context that the evolution of house-building into an independent, technologically advanced business became viewed as a desirable means of addressing Canada's postwar 'housing problem.' The Royal Bank of Canada, quoting Deputy Minister of Finance W.C. Clark in a monthly letter, claimed as much toward the end of WWII:

Individual builders are caught in a web of complex relationships with manufacturers, dealers, labourers and buyers. Instead of the integration which would make for cheaper houses and more steady employment, there is lack of standardization, with attendant localization of operations, and backwardness in technology. Dr. Clark remarked that the building industry is relatively unchanged in form of organization and in technical processes from that which catered to our forefathers prior to the Industrial Revolution. 'During a period,' he said, 'when machine production, standardization, and technological advance have been revolutionizing every other important manufacturing process, the building of houses has remained a localized, handicraft process.'"¹⁴

How was this 'backwardness' governed? It is clear enough that attempts to industrialize house-building were "congenitally failing," to use Nikolas Rose and Peter Miller's term.¹⁵ In both Canada and the US, the federal government's attempts to govern house-building through a uniform housing industry saw persistent failure. Adherents of modernization within the building industry and the federal government often saw small builders, who lacked the labour force and building research teams to carry out industrial building practices, as intensifying this failure.¹⁶ At the same time, local builders in Canada pointed to a number of issues, many of which affected certain regions such as the high cost of freight shipping to the Prairies, which posed a continuous obstacle to national industrialization.¹⁷ Nevertheless, industrialization was continually attempted

¹³ *Ibid*, 124.

¹⁴ *The Royal Bank of Canada Monthly Letter* 25, no. 11 (November 1944).

¹⁵ Peter Miller and Nikolas Rose, "Governing Economic Life," *Economy and Society* 19, no. 1 (1990): 1–31.

¹⁶ Richard Harris, *Creeping Conformity: How Canada Became Suburban* (Toronto: University of Toronto Press, 2004), 144; Barry Checkoway, "Large builders, federal housing programmes, and postwar suburbanization," in *The City: Land Use, Structure, and Change in the Western City*, ed. Michael Pacione (London: Routledge, 2002), 37–60.

¹⁷ Marc Denhez, *The Canadian Home: From Cave to Electric Cocoon* (Toronto: Dundurn Press

by both state and industry officials, and it did have significant political effects even though a fabled ‘end stage’ of housing industrialization has never been reached. There were a number of instances where national building standards were used to form a unified housing industry. I want to point to three alliances between state and industry that were key: the state and institutional mortgage lenders, the state and corporate ‘community builders,’ and the state and modernist architects.

Institutional mortgage lenders

First, the mid-century regulation of the housing industry through building standards was bound up with the use of approved mortgage lenders to finance builders’ construction projects, and purchasers’ homes, after World War II. As I discussed in the previous chapter, the CMHC’s early leadership tried to fashion the state corporation as a modernizing force in the economic affairs of housing. This was perhaps most vigorously applied to mortgage lending, a field in which CMHC president David Mansur, according to CMHC researcher Humphrey Carver, sought “the Holy Grail” of a mortgage that would remove lenders’ financial risk altogether.¹⁸ Having little prior interest in mortgage loans as secure investments, reluctant financial institutions were enticed by CMHC officials to enter into mortgage lending agreements with the corporation under the National Housing Act (NHA) of 1944.¹⁹ Administered by the CMHC, the act offered joint lending arrangements with lending companies, and mortgage insurance a decade later, to promote and increase the construction of middle-class mass housing across the country. As such, the stated purpose of CMHC standards was to offer lenders “mortgage security”

Ltd., 1994), 97.

¹⁸ Humphrey Carver, *Compassionate Landscape: People and Places in a Man’s Life* (Toronto: University of Toronto Press, 1975), 109.

¹⁹ Richard Harris, “From ‘Black-Balling’ to ‘Marking’: The Suburban Origin of Redlining in Canada, 1930s–1950s,” *The Canadian Geographer/Le Géographe Canadien* 47, no. 3 (2003): 338–350.

through the construction of what the CMHC standards defined as ‘habitable’ housing.²⁰ The CMHC’s ultimate concern with mortgage risk and maintaining the insurability of CMHC housing through a national housing code was summarized by a memo circulated among CMHC managers:

The Building Standards, as prescribed, are for the purpose of improving housing conditions, safety of the occupants and providing housing that will not deteriorate unduly or become substandard during the term of the mortgage due to poor materials or design. Our Building Standards constitute a minimum, below which both items of construction and design are not acceptable. When any item falls below the prescribed Standards, it is known as an “infraction” and basically infractions must be corrected otherwise a loan is either not insurable as a whole, is not acceptable or the loan may be reduced.²¹

For state officials, at stake in normalizing “substandard” housing was its marketing and financing. ‘Mortgage security’ was thus a significant category through which the state’s alliances with lenders were created and maintained. If standardization of mortgage and mortgage insurance ‘risk’ was historically contingent, as Francois Ewald’s genealogical analysis of insurance suggests, so too was its governance through the use of national building standards.²² This link between technical and actuarial norms with respect to housing was forged in North America beginning in the 1930s, when institutional lenders began to further withdraw from mortgage lending in response to Depression-era investment crises. Lending companies and state agencies developed standardized real estate appraisals as part of their decision-making process to grant mortgages in an attempt to avoid economic risk.²³ Alongside these appraisals, which relied on standardized criteria of housing quality and neighbourhood factors, emerged a notion that

²⁰ John R. Miron, *Housing in Postwar Canada: Demographic Change, Household formation, and Housing Demand* (Kingston: McGill-Queen’s University Press, 1988), 266-67.

²¹ “Standards Compliance and Inspection,” Library and Archives Canada (LAC), Central Mortgage and Housing Corporation (CMHC), Central Registry Administrative Files, Box 297, File 112-14-3, 26 June 1957.

²² Francois Ewald, “Insurance and Risk,” in *The Foucault Effect: Studies in Governmentality*, eds. Graham Burchell et al. (Chicago: The University of Chicago Press, 1991), 197-210

²³ Guy Stuart, *Discriminating Risk: The U.S. Mortgage Lending Industry in the Twentieth Century* (Ithaca, NY: Cornell University Press, 2003), 56; Harris, “From ‘Black-Balling to ‘Marking,’” 341-342.

standardizing the built form of residential environments could protect the value of new housing. This conception of risk was largely rooted in the assumption that the coexistence of “mixed uses” of residential and commercial property, and different forms of both, in the same neighbourhood would reduce property values.²⁴ In turn, state and commercial agents’ preference for uniform development was meant to ensure that building and/or buying an NHA-financed house came with a guarantee of certain lot layouts, design schemes, interior room dimensions, building performance and other criteria of quality and structural sufficiency. With the mortgage interests of lenders in mind, CMHC administrators insisted that state-insured and state-assisted financing be given to *new* housing construction.²⁵ This was seen to ensure a certain minimum standard of construction at the outset of development and made CMHC standards (as well as the national building code, if it had been adopted municipally) a significant basis of mortgage-based development.

Corporate community builders

Yet lenders, despite benefiting from the assurance of standardized building and development, were not always a reliable ally for state officials enforcing national building regulations. As I will explain in the third section, many lending institutions and mortgage agents remained sceptical of standardized CMHC housing as an investment even into the postwar period. It was ultimately large-scale corporate builders, many of whom were financed by CMHC approved lenders, who actualized the state’s new standards of residential building. Builders formed the second state-industrial alliance I want to outline. Builders of various occupational

²⁴ Harris, “From ‘Black-Balling to ‘Marking,’” 341-342. In the United States in particular, there was a racialized context to the ‘mixed uses’ argument that, while important to the origins and lasting socio-spatial effects of appraisal standards, is beyond the scope of this study. See Stuart, *Discriminating Risk*, 29-70.

²⁵ Roger Keil et al., “Modalities of Suburban Governance in Canada,” in *Suburban Governance: A Global View*, eds. Pierre Hamel et al. (Toronto: University of Toronto Press, 2015).

backgrounds increasingly relied on CMHC-approved lenders to finance their projects, and obtained construction loans through the corporation.²⁶ In structuring the financialization of mass housing development in this manner, the state administration of house-building throughout the mid-twentieth century was aimed primarily at a certain kind of builder, which Marc Weiss has called the “community builder.” The community builder is a corporate entrepreneur who does not only ‘build’ but “designs, engineers, finances, develops, and sells an urban environment” with the commodity of land as their primary basis.²⁷ The norm of the “Levittown” was instrumental in shaping the practices of community builders. Prominent New York builder Abraham Levitt attempted to translate Frederick Taylor’s turn-of-the-century techniques of ‘scientific management’ from the industrial factory to the construction site during World War II.²⁸ Like Taylor, Levitt emphasized a division of labour which was premised on a boundary between the builder-developer as project manager and tradesmen as workers, who carried out specialized tasks quite unlike the more regionally-specific and pluralistic organization taken by the builder-contractors who made up much of the housing industry.²⁹ In Canada, both corporately organized community builders and federal state officials benefited from attempting this kind of standardized management. Builders and state officials used the enforcement of building standards through inspections of the construction process, examinations of design and subdivision plans, and mandated services to provide marketability and prestige to the ‘product’ of mass-built homes and communities.³⁰

²⁶ Harris, *Creeping Conformity*, 143.

²⁷ Marc A. Weiss, *The Rise of the Community Builders: The American Real Estate Industry and Urban Land Planning* (New York: Columbia University Press, 1987), 145.

²⁸ Checkoway, “Large builders, federal housing programmes, and postwar suburbanization,” 42.

²⁹ Harris, *Creeping Conformity*, 142.

³⁰ *Ibid*, 143; Clayton Research Associates Ltd. and D.G. Wetherell Associates Ltd., *Two Decades of Innovation in Housing Technology, 1946-1965* (Ottawa: CMHC, 1994), viii. It should be noted that although the use of the Levittown norm was central to remaking expectations about residential development during the postwar period, large corporate builders did not become prolific. Small house-builders who relied on place-based trade knowledge,

Architects

As Jonathan Massey states, discussing twentieth-century American housing policy, a novel convergence of state and industry formed the “financial architecture” of the mass-built home. Federal housing standards, in linking the standardization of house-building to the assumption of institutionalized mortgage debt, prioritized a certain ‘modern’ housing aesthetic through which every aspect of the mass-built house – from the land it sat on to the installation of appliances within it – could be pre-arranged on a speculative basis.³¹ This aesthetic aspect of standardization leads into the final alliance between state and industry I want to point to, involving CMHC officials and professional architects. But first, it should be noted that architects had a rather ambivalent relationship to technical standardization, one which became contingent upon shifts within the profession. Before the mid-twentieth century, architects had, much like corporate builders such as Levitt, typically offered their housing design services to upper-class clientele. The standardization of interior spaces and materials for mass production stifled those architects who saw their profession as an artistic craft, specifically those in Canada professionally attached to the decorative ‘Beaux-Arts’ tradition.³² Yet beginning in the 1930s, a “gadgeteering” ideal slowly replaced this decorative tradition in the housing field with the promotion of standardized, reproducible plans. Architects began to design plans for the

albeit individually accruing a small share of the benefits of housing industrialization, remained (and to this day remain) the political-economic basis of housing construction throughout Canada. See Buzzelli, “The Canadian Urban Housebuilding Industry.”

³¹ Jonathan Massey, “Risk and Regulation in the Financial Architecture of American Houses,” in *Governing by Design: Architecture, Economy, and Politics in the Twentieth Century* (Pittsburgh: University of Pittsburgh Press, 2012), 37. I do not wish to give the impression that speculative building and mass consumption singly determined the housing experiences of postwar Canadians. For instance, the industrialization of ‘modern’ domestic technologies happened more slowly in Canada than in the US. Despite various differences that this thesis regrettably does not explore, the link Massey makes between state policy and housing production usefully illuminates the Canadian context too. See Joy Parr, *Domestic Objects: The Material, the Moral, and the Economic in the Postwar Years* (Toronto: University of Toronto Press, 1999) for a discussion of how domestic modernization through consumer technologies took place slowly and unevenly in Canada.

³² Harold Kalman, *A History of Canadian Architecture: Volume 2* (Oxford: Oxford University Press, 1994), 749-750.

construction of middle and working class housing, many of which centred on ‘scientific’ standards of “space, light, air and privacy.”³³ By the postwar period, some Canadian architects, including those employed by the CMHC, had become popular promoters of mass middle-class housing, fuelling attention to the efficiency and ‘economy’ of housing that families were expected to build and purchase with their observed postwar affluence.³⁴

The CMHC standards, as with community building and appraisal-based lending, were significant to actualizing the ideal of spatial economy in modernist architects’ plans. As Ioana Teoderescu describes, CMHC officials made alliances with architects through the corporation’s design contests. The contests generally attracted architects who sought to integrate their profession into the business of modern housing, believing the contests to be a worthwhile source of national recognition from the state.³⁵ Upon entering the contests, each architect had to study and apply the CMHC’s incredibly detailed building regulations to each submitted plan, and those who did not were disqualified. Winning plans became “CMHC plans,” which were then sold to builders and owner-builders partly in order to streamline the use of CMHC standards into the building of mass housing.³⁶ For those on the CMHC plans selection committee, requiring architects to conform to minimum dimensions contained within the CMHC standards was an attempt to realize the ideal of spatial economy that was promoted by various postwar tastemakers.³⁷ Winners ultimately benefited from studying and using the CMHC standards in

³³ David Brain, “Cultural Production as ‘Society in the Making’: Architecture as an Exemplar of the Social Construction of Cultural Artifacts,” in *The Sociology of Culture: Emerging Theoretical Perspectives*, ed. Diana Crane (Cambridge: Blackwell, 1994), 210.

³⁴ Joy Parr, *Domestic Goods: The Material, the Moral, and the Economic in the Postwar Years* (Toronto: University of Toronto Press, 1999), 163.

³⁵ Ioana Teoderescu, “Building Small Houses in Postwar Canada: Architects, Homeowners, and Bureaucratic Ideals, 1947-1974” (PhD Dissertation, McGill University, Montreal, 2012), 154-56.

³⁶ *Ibid*, 154.

³⁷ *Ibid*, 154-156.

designs, which provided them with publicity and gave them an income through royalties.³⁸

Architectural design and the idealization of middle-class housing had thus been conjoined, in part, through state standardization.

Creating a state/industry boundary

So far, I have tried to contextualize some of the alliances and discourses that the standardization of NHA housing was built upon. CMHC standards enforcement was heterogeneous, affecting multiple interests in different ways. At the same time, standards enforcement tended to benefit those who had a stake in the marketization of middle class housing, specifically larger builders, institutional lenders, and modernist architects (among other actors I have not discussed). Each of these actors benefited from the normalization of state-assisted housing provision and, in turn, the abnormalization of housing that was deemed ineligible or unfit for financing and construction. But there is another aspect of the CMHC's involvement in the regulation of house-building which I want to highlight in the remainder of this chapter. This entailed CMHC standards enforcement as a way of discursively and materially forming the state itself.

I indicated in chapter one that state power involves more than the exercise of sovereignty over a given field of interests. In this respect, Timothy Mitchell argues that the impression of 'the state' as existing outside 'private' market relations is configured in a contingent way, and is not a ready-made basis through which state and industrial actors benefit from state policies. As Mitchell suggests, we need to take seriously the seemingly "metaphysical" appearance that the state takes on as a powerful basis of state-society alliances.³⁹ On my reading of Mitchell, it seems that the question of interests and alliances that I have so far considered can be deepened by

³⁸ *Ibid*, 98-99.

³⁹ Mitchell, "Society, Economy, and the State Effect."

paying closer attention to how standards enforcement helped *produce* a state that claimed authority over the regulation of the housing industry. In turn, we need to forego the common assumption that technical standards stand outside the housing industry, merely restricting the ‘free’ activities of market actors. As James Hull argues, twentieth-century technical standards were not passive expressions of the authority of middle-class bureaucrats. They have helped to discursively produce the state “as an agent of democratic control” in industrial affairs, with a specific authority over what comes to count as ‘standard’ work practices and forms of organization.⁴⁰ Following Mitchell and Hull, I now want to consider how standards enforcement actively shaped the authority of the postwar state in this manner. In standardizing postwar mass housing development through the alliances which I have outlined, how did CMHC officials and ‘private’ actors seek to fashion the “democratic control” of the state itself? Three sites of boundary-making are observed in this section: the intra-bureaucratic governance of CMHC officials, the claim of ‘self-policing’ made by industrial officials, and the attempt to govern the expertise of both builders and CMHC officials through the artifact of the design plan.

Boundary-making through intra-bureaucratic governance

We can begin addressing the question above with how CMHC officials discursively positioned the role of the corporation in relation to the housing industry. In 1945, president of the CMHC, David Mansur, insisted that the CMHC would find “ways and means for private enterprise to look after needs in the economic field.”⁴¹ Considering the question of whether the CMHC would directly construct public housing, Mansur wanted to ensure that the ‘economy’ of

⁴⁰ James Hull, “Working With Figures: Industrial Measurement as Hegemonic Discourse,” *Left History* 9, no. 1 (2003): 62-63.

⁴¹ LAC, Wartime Prices and Trade Board, David Mansur to W.A. Mackintosh, Box 700, 30 July 1945 via John Bacher, *Keeping to the Marketplace: The Evolution of Canadian Housing Policy* (Montreal: McGill-Queen’s University Press 1993), 177.

house-building, as a *private* activity, did not face any ‘interference’ from the state. While talk of a boundary between the state and society of industrial interests seems facetious based on the account of alliance-making I presented in the previous section, it cannot be dismissed as merely rhetorical. CMHC-financed public housing projects, for instance, were built to the bare minimum of CMHC standards to signal that the state had no intention of competing with the quality of housing offers by builders in the ‘private’ market.⁴² CMHC officials were clearly concerned with ensuring that ‘the state’ did not interfere with the housing industry, asserting a boundary between them as necessary for the regulation of NHA house-building.

The organization of the CMHC itself is especially indicative of how the state/industry boundary fiction was created in postwar Canada. I mentioned in the previous chapter that CMHC directors sought a “businesslike” role for the corporation in the fields of house-building and mortgage lending. This was made possible not simply through an organizational mandate, but also the actual organization of the CMHC offices. Humphrey Carver, a researcher hired by the CMHC after WWII, remembers how Mansur intended the CMHC’s Montreal Road building to “look like the head office of an insurance company.”⁴³ To do this, Mansur asked for a design “in red-brick American Colonial style” that eschewed “the conventions of Canada’s federal government buildings.”⁴⁴ Mansur also placed the offices of the board of directors in a separate room on the third story of the Montreal Road headquarters, which to Carver was “a stereotype that may fit the image of a private corporation... a form quite alien to the true political nature of a federal government agency in urban affairs.”⁴⁵ The figurative and actual association of the CMHC with corporate business activity thus blurred any discernible division between the state

⁴² Dennis and Fish, *Programs in Search of a Policy*, 135.

⁴³ Humphrey Carver, *Compassionate Landscape*, 112

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

and the housing industry. Nonetheless, much was at stake for CMHC directors in policing such a division, in which the dream of progress for a ‘backwards’ industry was pursued.

An important aspect of this idea that ‘the state’ was a self-contained entity, existing exterior to the industry it regulated, appeared in how the CMHC standards booklet was idealized as *objective* by state officials. An unsigned memo attached to an early draft of the standards, entitled “Objective Building Standards,” reveals how the booklet was idealized:

The standards set forth in this booklet are purely objective and indicate what is required to promote housing which will conform with good practice... It is not to be considered final or restrictive particularly in respect of [sic] new building materials and techniques. We consider it as a first step in establishing a handbook of basic housing requirements and contemplate periodic revision to improve, correct, and keep up to date the basic points covered.⁴⁶

What Mitchell calls the “metaphysical” appearance that the state takes on is attempted in this memo. The CMHC standards, albeit legislatively mandatory for the construction of every CMHC-financed house, were envisioned as an objective framework that guided rather than dictated the ‘private’ operations of the housing industry. Yet the “purely objective” status of CMHC standards was never inherent to the regulatory provisions of the booklet, which the unnamed author of the memo seems to have recognized. Maintaining the objectivity of standards enforcement was an infinite task of unifying how administrators used the standards to evaluate the construction of NHA homes. Objectivity, as Theodore Porter reminds us, is “not truth to nature” but a moral commitment by a community of practitioners to remove subjective judgments from their communications.⁴⁷

The institutional form of the CMHC as a public corporation was significant to this objectification of the state. As Porter explains, the objectivity of corporate operations during the

⁴⁶ “Objective Building Standards,” LAC/CMHC, Central Registry Administrative Files, Box 342, File 115-5-2, 1 November 1946.

⁴⁷ Theodore M. Porter, “Quantification and the Accounting Ideal in Science,” *Social Studies of Science* 22, no. 4 (November 1, 1992): 646.

twentieth century became premised on a spatial division between local and regional offices and a central head office. “Centralized control with decentralized responsibility,” in the words of American business magnate Alfred Sloan, became the norm of organization for large-scale corporations during the interwar period.⁴⁸ This management style, to be sure, was not the sole invention of private businesses. The use of national, state-owned corporations became a distinct way of binding a ‘national’ citizenry through the promise of public service through impersonal administration.⁴⁹ This promise was materially pursued through the bureaucratic organization of state corporations, a field of inquiry which fascinated both state and industrial officials in North America and Western Europe. These officials were primarily interested in the corporation as an easily transferable model of efficient administration for large-scale political projects.⁵⁰ In its ideal form, the mid-twentieth-century corporation gave discretion to lower-level administrators to use trusted measurements to account for their everyday operations.⁵¹ In turn, the standardization of administrative operations within the modern corporation was to provide a basis for non-arbitrary decision-making, through which lower-level administrators could be trusted to carry out responsibilities assigned by head office managers.

As aforementioned, it is quite clear that the CMHC’s early leadership was allured by the modern model of the corporation. The use of national building regulations was significantly shaped by the deployment of this model in practice. The CMHC was organized through a number of head office departments that maintained surveillance over the standards enforcement activities of regional and local offices.⁵² Maintaining ‘purely objective’ building standards was

⁴⁸ *Ibid*, 643.

⁴⁹ William Walters, *Unemployment and Government: Genealogies of the Social* (New York: Cambridge University Press, 2000), 101.

⁵⁰ *Ibid*.

⁵¹ Porter, “Quantification and the Accounting Ideal in Science,” 643.

⁵² CMHC, *CMHC: an outline of its purposes* (CMHC: Ottawa, 1946).

premised on transmitting standards from head office through which lower-level officials could be trusted to judge housing projects consistently throughout the country. A significant measurement that local/regional officials were trusted to maintain was the CMHC standards infraction. Infractions were recorded by field inspectors and plans examiners, and were tabulated and summarized on a monthly basis by lower-level officials. The purpose of this measurement was to monitor the loan security of building projects, as well as keep regional offices, head office, and lending institutions informed of the general quality of workmanship in areas where NHA building was active.⁵³ CMHC directors actively sought to maximize the informational control of head office, so much so that they invited an international accounting corporation, Price Waterhouse, to help reorganize the procedures, forms, and staffing of inspections and other administrative services.⁵⁴ A “Corporation Study Group” was formed between CMHC officials and Price Waterhouse executives, and it was concluded that the CMHC’s network of offices should be organized on a “functional rather than geographical” model.⁵⁵ Local and regional offices continued to be used, but many were shut down in order to make uniform administration more easily attainable at a minimal cost.

Yet national building standards were not passive instruments in this ceaseless pursuit of administrative objectivity. They also actively shaped day-to-day negotiations among CMHC officials regarding how to define the boundaries between the CMHC and the ‘private’ operations of builders. This was exemplified in an early discussion about making the CMHC standards trustable to builders, a responsibility of the local and regional offices. In December 1948, CMHC supervisors at a number of regional offices circulated a number of proposed standards revisions

⁵³ “Standards Compliance and Inspection.”

⁵⁴ “Modified Procedure for Compliance Inspection,” CMHC/LAC, Box 297, File 112-14-3, 17 July 1957.

⁵⁵ CMHC, *Administrative Handbook* (Ottawa: CMHC, 1960); Dennis and Fish, *Programs in Search of a Policy*, 135.

and questioned whether builders would see their future enforcement as arbitrary. Pursuant to this task, Harold Glover, head office supervisor of the CMHC Loans Department, created a table that was intended to track reactions among CMHC officials to the proposed list of revisions.⁵⁶ Glover noted that his “preliminary survey” of standards revisions through the table was primarily intended to gauge the “effect on local building practice” that the revisions could be expected to have. What James C. Scott calls “state simplification” seems to be at work in the table’s synoptic view of the CMHC’s administrative territories, which Glover used to finalize the standards revisions as quickly as possible for the upcoming building season.⁵⁷

Glover, leaving the task of direct surveillance of building projects to local and regional officials, was much less interested in the nuances of how the new standards might differently affect local builders. The survey, Glover hoped, would prompt builders and local state agents to become “conversant” with the improved standards as soon as possible, but not at the cost of controversies that might result. Thus, when Glover circulated the list of proposed revisions to local and regional offices, he noted that they “are forwarded not only to bring you up to date on present views but to provide an opportunity for comments based on the actual experience of our field inspectors.”⁵⁸ Glover translated CMHC officials’ observations about the changes into a grid, placing reported observations regarding each revision under their respective administrative locale. Speculations about the acceptability of revisions among builders were listed as simplified categories such as “yes,” “no,” and “controversial,” indicating that Glover’s overall interest was in the removal of any local idiosyncrasies of standards enforcement that might arise with the

⁵⁶ Harold Glover, “Building Standards,” LAC/CMHC, Central Registry Administrative Files, Box 342, File 115-5-2, 3 December 1948. See Appendix D for figure.

⁵⁷ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998), 3.

⁵⁸ Glover, “Building Standards.”

changes. The production of this table, then, was not just about evaluating local officials' opinions on the proposed revisions – it does not appear that the place-specific knowledge, building traditions, or social networks of any particular locale mattered much to Glover -- but was an attempt to ensure that complaints about arbitrary revisions from builders (and, it seems, inspectors) would be minimized in the future. In a broader sense, these intra-bureaucratic relations among CMHC officials were part of the performance of standards enforcement, in which the limits of what could be deemed universally 'standard' were made legible for administrative intervention. Forming a boundary between the administration of CMHC standards and what Glover had called the "local building practice" of NHA builders appears to have shaped how managers governed their own claims to authority.

Boundary-making through 'self-policing'

There is more to be said in the final section of this chapter about how lower-level administrators, particularly inspectors, governed and were governed through CMHC standards enforcement. Here I want to move to a second point: that the use of standards to produce the objectivity of standards enforcement was not a unidirectional affair, imposed on 'non-state' actors from above. The enforcement of CMHC standards produced opportunities for NHA builders, but primarily community builders who benefited most from NHA financing, to negotiate the conduct (as well as perceived misconduct) of state conduct. Negotiations with the CMHC regarding standards enforcement were part of a broader attempt to unify the housing industry through an industrial organization, called the National House Builders Association (NHBA).

The NHBA was created in 1943 out of the belief among builders affiliated with local building associations, as well as housing officials within the federal government, that a single

trade association could bring unity to the occupational and geographical diversity of builders throughout Canada.⁵⁹ Membership in the NHBA prominently included house-builders, but also architects, realtors, manufacturers, and other professional groups that had a stake in the market-based provision of housing.⁶⁰ With a leadership interested in increasing standards of building and promoting large-scale community building, the standardization of housing construction had been a central priority of the NHBA from the outset of its creation.⁶¹ Even though this mandate formed the basis of many technical research partnerships that were jointly funded by the NHBA and the federal state, the NHBA leadership sought to maintain that it was a ‘self-policed,’ industrial organization.⁶² As Alex Watson, contributor to the NHBA’s trade journal called the *National Builder*, wrote in 1958, negotiating with the CMHC and their approved lenders required a “corporate front” that would ostensibly protect not any single builder or group but “the industry as a whole.”⁶³ Actualizing such a ‘front’ through the leadership of the NHBA was just as ambitious as the technical innovations that corporate builders and government officials sought for the housing industry. At an NHBA convention, Maurice Joubert, president of the NHBA, revealed a “master plan” of industrial organization that would integrate all industrial practices involved in mass house-building into one advocacy organization. Although the plan was never quite realized, the discourse of self-policing in the imagined scheme was clear: a wholly unified industrial organization would, according to *National Builder* editor Clifford Fowke, “govern its own destiny and solve its own problems.”⁶⁴

⁵⁹ Clayton/Wetherell, *Two Decades of Innovation in Housing Technology*, 17.

⁶⁰ *The National House Builders’ Association Submission to the Royal Commission on Banking and Finance* (NHBA, Ottawa: 1962), 1.

⁶¹ Buzzelli, “The Canadian Urban Housebuilding Industry,” 46, 62; Denhez, *The Canadian Home*, 85.

⁶² Clayton/Wetherell, *Two Decades of Innovation in Housing Technology*, 17.

⁶³ Alex Watson, “What About Togetherness?,” *National Builder* (September 1958), 52.

⁶⁴ Clifford Fowke, “Joubert unveils plan to unify housing,” *National Builder* (January 1959), 12.

Much like CMHC officials' attempt to create a boundary between the CMHC standards and builders' operations, the 'corporate front' pursued by the NHBA was clearly fictional when we consider the NHBA's congenial alliances with the federal state and its allied financiers. But this fictional boundary was not trivial. For NHBA executives, the ethos of 'improving' the housing industry through the leadership of large corporate builders entailed a profound concern with the national uniformity of standardization pursued by the CMHC. All manner of normalizing procedures – appraisals, plans examinations, inspections, and more – which involved the enforcement of CMHC building standards were routinely distrusted and scrutinized for their 'national' uniformity. Members of the NHBA's technical research committee, which dealt with matters of codes and technical standards, thus negotiated the enforcement of CMHC standards on a 'national' basis on behalf of the industry. One proposal from the NHBA suggested that CMHC head office managers were not capably directing officials on how to deal with local disputes involving the CMHC standards. They recommended that head office produce reports on solutions to these issues that would be issued to local officials and the NHBA as public guidelines.⁶⁵

The NHBA's contestation towards standards enforcement was not merely as an illusion concealing the 'reality' of a state-industry alliance. They were performances of this boundary, the continual maintenance of which benefited both corporate builders and CMHC managers who sought to promote builders' industrialization. In this respect, builders' scrutiny of CMHC standards potentially had the effect of *constituting* rather than weakening the objectivity of the state. As Michael Power has shown, trust is not an *a priori* starting point from which communities of practice establish authoritative measurement systems. Regulating the threat of

⁶⁵ *National Builder*, "Special Report of the NHBA-CMHC Meetings in Ottawa, November 1955" (December 1955), 30.

distrust often characterizes the achievement of objectivity, making a “simply dichotomy of trust and distrust” facile.⁶⁶ In this sense, state power was shaped, and not simply ‘kept in check’ (as liberal theories of the state might have it), through negotiations regarding standards enforcement. In one fairly routine instance, community builder and NHBA executive W.H. Griesenthwaite sent a complaint to his local CMHC office about a recent spate of standards infractions he claimed to have observed in Burlington. He drew attention to the expectation that the CMHC standards be “enforced consistently in all areas throughout the country.” He then proposed holding a meeting in Ottawa between a group of NHBA executives and CMHC officials who could be trusted to address the ongoing issue “without prejudice.”⁶⁷ While Griesenthwaite clearly had an entrepreneurial interest in maintaining his company’s privileged local position, this expectation of mechanical objectivity from the state, and its day-to-day negotiation, made it possible for builder-executives to position themselves as leaders of a ‘national’ industry. The ability of builder-executives such as Griesenthwaite to regularly travel to Ottawa to liaise with CMHC officials was formative to how they negotiated the industry’s ‘self-policing.’ As Marc Denhez remarks, “virtually every meeting with [NHBA and] CMHC turned into a row over its housing standards.”⁶⁸

Boundary-making through the governance of expertise

The last point I want to make in this section pertains to the use of CMHC standards to abnormalize the conduct of builders perceived to be incompetent. These were builders whose ‘wasteful’ building practices were seen to threaten the national unity of the housing industry, as

⁶⁶ Michael Power, “Counting, control and calculation: Reflections on measuring and management,” *Human Relations* 57, no. 6 (2004): 765-783.

⁶⁷ W.H. Griesenthwaite to John Caulfield Smith, LAC/CMHC, Central Registry Administrative Files, Box 297, File 112-14-3, 27 September 1955.

⁶⁸ Denhez, *The Canadian Home*, 109.

well as the uniform regulation of the state. It appears that the boundary-making which characterized relations of CMHC standards enforcement was woven with liberal anxieties about governing the housing industry ‘too much.’ Recall that Foucault’s conception of liberal governmentality involves the totalization of subjects belonging to a political, social, or economic body, who come to be seen as ‘free’ entities capable of governing their own conduct. Yet there was nothing coherently liberal about the egalitarianism through which builders and state officials claimed to govern house-building. We need to keep in mind that liberal governmentality, as Barry Hindess notes, also *individualizes and differentiates* populations, seeking to normalize those subjects whose conduct is singled out as requiring special disciplinary interventions.⁶⁹ In the case of NHA builders, these subjects ranged from the small builder who used ‘outdated’ building practices belonging “to an earlier scale of production,” to fraudulent “jerry-builders” who benefited from evading the enforcement of building standards altogether.⁷⁰ Builders who were seen to threaten the progress of the industry compromised the NHBA’s claims to ‘self-policing,’ and in tandem state officials’ ability to maintain the CMHC standards across the country.⁷¹

This impulse to normalize builders viewed as unskilled was evident in Mansur’s likening of the CMHC’s standards to a ‘licensing system’ between the housing industry and the state. At a Toronto builders’ meeting in 1954, Mansur suggested that “enforcement of a reasonable level of compliance [with the CMHC standards] will have the same effect that a licensing system would have in weeding out the bad builders.”⁷² That Mansur compared the enforcement of CMHC

⁶⁹ Barry Hindess, “Liberalism—what’s in a name?,” in *Global Governmentality: Governing International Spaces*, eds. William Walters and Wendy Larner (New York: Routledge, 2004), 23-39. See also Michel Foucault, “The Subject and Power,” *Critical Inquiry* 8, no. 4 (1982): 777-795.

⁷⁰ “What Can We Expect?,” *National Builder* (June 1956), 8.

⁷¹ Denhez, *The Canadian Home*, 85.

⁷² “News of Local Associations,” *National Builder* (April 1954), 17.

standards to a licensing procedure between builders and the state was probably not incidental, particularly considering the politics of professional organizing among house-builders that took place during the postwar period. Debates about the NHBA's 'self-policing' of the industry, which can be observed in the pages of the *National Builder* since the magazine's launch, frequently involved discussions about licensing agreements with the state. Aside from predictable complaints about the cost and burden of overbearing regulations, at stake in the practice of 'licensing,' as Mansur and various local builders and builders' associations presented it, was the requirement that builders and contractors submit "proof of competence" to a government agency.⁷³ The NHBA leadership seemed to favour the 'licensing' pursued through CMHC standards over the prospect of municipal or provincial licensing, the latter of which Fowke claimed would "play for voter interest rather than industry improvement."⁷⁴ Through configuring an imagined boundary, premised on the fiction of the CMHC as a national 'licensor' of house-building, both the NHBA and CMHC leadership sought to normalize which builders' were allowed to build with NHA financing.

An attempt to actualize this broader aspiration to 'license,' and thereby normalize, the postwar house-builder was apparent in the CMHC's attempt to standardize design plans. In employing architects and modernist architecture, an alliance that I pointed to in the previous section, the CMHC used design to take on the task of producing a standard of 'habitable' housing for the imagined nuclear family unit.⁷⁵ Housing design, like most (if not all) aspects of the housing industry, was seen by CMHC officials as a problem to be improved. In a statement to a Parliamentary commission in 1956, the CMHC noted: "Unlike many of the leading

⁷³ See *National Builder* (November 1957), 20 for an example of one such discussion regarding whether builders should be government-licensed.

⁷⁴ Clifford Fowke, "Here's a job we must do ourselves," *National Builder* (October 1960), 56.

⁷⁵ Miron, *Housing in Postwar Canada*, 266-7.

industries, the housing industry has not applied itself to the stimulation of new markets by a progressive concern for excellent design.”⁷⁶ As this quotation indicates, CMHC officials were not merely concerned with the aesthetics of new housing, but the marketability and ‘national’ reproducibility of design schemes that builders used. The CMHC’s concern with ‘excellent design’ had prompted the formation of many government and industry committees devoted to improving housing design.⁷⁷ The design issue was also dealt with in the aforementioned production of stock ‘CMHC plans’ that were sold to builders through the CMHC’s local offices. But it was ultimately in the more mundane activity of evaluating builders’ submitted design plans where designs were deemed to be acceptable for financing. These plans were graphic specifications of a housing project that were used by builders to supervise the construction of NHA housing. They were initially evaluated by the CMHC, which mandated the submission of design plans and specifications, as well as other project documents that eventually were bundled into a final site plan, to the corporation’s local offices for inspection.⁷⁸ CMHC officials treated design plans as a vehicle to educate those who they saw as ‘peripheral’ actors, including design contest entrants, builders, and tradesmen, on the “common language” of CMHC standards.⁷⁹ Paul Meschino, a CMHC employee and architect who designed plans in St. John’s, Newfoundland, indicates that plans that followed national standards made it possible to govern builders and

⁷⁶ CMHC, *Brief to the Royal Commission on Canada’s Economic Prospects* (Ottawa: CMHC, 1956), via extract in *National Builder* (June 1956), 8.

⁷⁷ Denhez, *The Canadian Home*, 110.

⁷⁸ CMHC, *Housing and Urban Growth in Canada: A Brief from the Central Mortgage and Housing Corporation to the Royal Commission on Canada’s Economic Prospects* (Ottawa: CMHC, 1956), 28-29. As part of the final site plan, the CMHC also typically required the submission of subdivision plans if a tract of land was being speculatively built and developed with NHA financing. The issue of subdivision planning and examination was much more complex than the account I present here, involving relations with municipal governments and land development companies that are beyond the scope of this project’s research materials and analysis. See Max Foran, *Expansive Discourses: Urban Sprawl in Calgary, 1945-1978* (Athabasca: Athabasca University Press, 2009) for a nuanced case study of the federal state’s role in subdivision planning in Calgary, Alberta after World War II.

⁷⁹ Teoderescu, “Building Small Houses in Postwar Canada,” 121.

workers in the industry who were viewed as unskilled.⁸⁰ In an oral history interview conducted by Christopher Sharpe and Jo Shawyer, Meschino remembers the significance of approved plans: “We were faced with people/workers who weren’t able to do anything and we had to show them how to do it. [These] were not contract drawings, they’re instructions... You wouldn’t have to have too many people to read the drawings. You would only have the person read the drawings that was directing the workers.”⁸¹

The procedure of plans examination, and its translation of plans into ‘instructions’ in this particular instance, points to how the power of the state to (ab)normalize proposed housing projects was *produced* through the direction of builders’ and CMHC officials’ conduct. The procedure was not merely applied to worksites ‘out there.’ As Matthew Hull suggests, the ability of bureaucratic documents to project a view of processes ‘in the world’ – a view from nowhere, supposedly reflecting rather than mediating messy and site-specific relations -- is artefactual to the efforts of bureaucrats to maintain this view.⁸² As such, the attempt to normalize builders’ expertise through plans examination was also bound up with CMHC officials’ own claims of objectivity. In the case of CMHC plans examination, much trust was placed in builders’ plans to accurately represent the details of a building project. For G.S. Smith, chief of plans examination at the CMHC’s head office, the builder’s design plan was simply “the house projected on paper before construction commences.”⁸³ If design plans were to be useful to CMHC examiners as a view-from-nowhere, through which builders’ proposed projects in any part of the country could be approved through the same standards booklet, examiners had to be trained to adopt this view.

⁸⁰ *Ibid.*

⁸¹ Paul Meschino. Interview by Christopher Sharpe and Jo Shawyer, St. John’s, Newfoundland, Summer 2000. Via Teoderescu, “Building Small Houses in Postwar Canada,” 121.

⁸² Matthew Hull, *The Government of Paper: The Materiality of Bureaucracy in Urban Pakistan* (Berkeley: University of California Press, 2012), 5.

⁸³ G.S. Smith to R.P. Opie, “Recent Visit to Various Branches in the B.C. and Prairies Region,” LAC/CMHC, Box 297, File 112-14-3, October 17, 1956.

For this reason, Smith recommended to a fellow head office manager that a thorough reading of a builder's plan, taking from four to five hours by an examiner or appraiser, was the best way of maintaining uniform standards enforcement throughout the CMHC's network of offices.⁸⁴ Yet in the same vein, poorly inspected plans, which potentially led to standards infractions during the building process, could damage the trust that builders had in the conduct of local CMHC offices. This became an issue when a number of 'CMHC plans' produced by contest-winning architects were noticed to contain standards infractions. As Smith dryly noted, the "estimation of Central Mortgage and Housing Corporation will drop" among builders if the poorly examined CMHC plans continued to be circulated.⁸⁵

To summarize this section: normalizing the practices and procedures of builders through standards enforcement entailed claiming and negotiating the objectivity of the state. Interpreted in this way, the power of 'the state' to forge alliances with specific industrial actors was not ready-made during the critical years of the postwar period. On the contrary, the authority of the state was made in and through an endless process of defining and governing the ideal (that is, objective) use of national building regulations. Yet the everyday, intra-bureaucratic struggles involving CMHC standards enforcement centred not only on the actions of high-ranking officials and prominent builders which I have so far focused on, but on a specific low-ranking official: the NHA field inspector. It was through the practice of field inspection, carried out by inspectors hired by lending companies as well as the CMHC, that knowledge about the conditions of mass house-building – and about the local operations of the federal state -- was produced. Yet throughout the corporation's rule, the role of the field inspector was not always clear, and was a matter of much dispute. What, then, of these inspectors, whose work and conduct is neglected in

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

most accounts of postwar mass housing development? To what extent were inspections, and the knowledge produced by them, used to maintain the boundary between state and industry sought by bureaucrats and builders? In order to emphasize the contingency of standards enforcement as a state-making practice, which is central to this chapter's argument, I end with an examination of NHA field inspection.

Struggling to define 'the state': the case of NHA field inspection

In the *Annual Reports* of the CMHC, published as a yearly summary of the corporation's activities for the Department of Reconstruction and Supply, much is written about the progress of building standards-making and accompanying technical research but very little is revealed about the actual inspection of NHA houses. Except for in 1946 and 1954, when the CMHC attempted to organize and re-organize field inspections, most of the reports do not mention inspections. While we might conclude from these reports that NHA inspection was a politically inconsequential, 'technical' procedure, this was not the case for officials who governed NHA house-building on an everyday basis. What was not apparent in any of the *Annual Reports*, which were written primarily for Parliamentary officials outside the corporation, was the issue of whether the NHA field inspector was a trustworthy and technically proficient official. From the outset of the CMHC's rule, it was hoped that inspectors would actively normalize the construction of NHA housing on a regular basis. In a draft memo, the responsibilities and expertise of the NHA field inspector, as well as builders whose work was inspected, were outlined in detail.⁸⁶ The inspector's job involved following bureaucratic procedure on reporting

⁸⁶ "Inspection and Supervision of Construction," LAC/CMHC, Box 183, File 112-2-5, December 12th, 1944 [revised April 14th, 1945]. I did not find a finalized version of the memo in the central registry files of the CMHC. I could not find much finalized material outlining the duties and skill required to be an NHA inspector created before 1966. Many letters and memos among CMHC workers mentioned a universal CMHC worker's manual, but such a manual could not be located at LAC.

and site visitation, but there was more to the inspector's imagined expertise than this. As "the prestige of the N.H.A." was seen to "rest on a successfully built home," the inspector was "a man sent to help and guide" the builder in addition to recording infractions. The inspector was to "feel that he is part of the building force and endeavour to have faults corrected or avoided before work proceeds too far." The NHA inspector's expertise was significantly defined in relation to the NHA builder-contractor, most of whom were assumed to be "not competent in running a job" and "may need some direction from the Inspector."

It appears that this memo was an attempt to normalize inspectors and NHA builders in tandem, differentiating the latter through the expertise and paternalism of the former. The boundary between inspectors' judgment and NHA builders' operations – between state and industry -- seems to have involved what Foucault has called the "medical gaze" of the nineteenth century traveling doctor. The medical gaze involves not simply an attempt to rationalize medical procedures through scientific models, or a brute force application of abstract rules to concrete practice, but also the cultivation of the doctor's ability to make diagnoses based on habitual observation.⁸⁷ Objectivity and discretionary judgment, in this instance, are not intrinsically opposed. Similarly, it seems that inspectors were expected to use the standards to evaluate builders' projects through technically sound knowledge about the specificities of these projects, developed through observation. While a memo on reporting procedures makes it clear that inspectors were not to exercise discretion in recording and reporting standards infractions, they were nonetheless expected to use their own judgment in deciding whether to consult with builders about their projects in order to prevent infractions from occurring.⁸⁸ Disciplining the typical NHA builder involved not just correcting abnormal conduct – what Foucault has called

⁸⁷ Andrew Barry, *Political Machines: Governing a Technological Society* (New York: Athlone Press, 2001), 56-57.

⁸⁸ "Inspection and Supervision of Construction."

‘normation’ -- but actively regulating it on a mass scale through the paternalism and technical skill of the inspector.⁸⁹

But what is interesting about the use of inspections to police the boundary between the CMHC and the ‘private’ relations of house-building was that, despite the normalizing ambitions of CMHC managers, inspections were initially *not* a trusted technique of monitoring CMHC house-building. This was not due to a lack of interest among CMHC officials in making national building standards realizable, but more likely due to the administrative conditions of the CMHC’s emergence. In the immediate postwar period, organizing the practice of inspection to serve localities across the country had been, as with the administration of the CMHC more broadly, quite suddenly thrust upon the small number of bureaucrats who had previously led the Department of Finance’s national housing administration. While they aspired towards a coordinated inspection service, among other administrative services, the CMHC was initially barely equipped with the lower-ranking administrative staff and decentralized local and regional offices to make the CMHC into a modern, multi-divisional corporation.⁹⁰ Not just a lack of workers, but a lack of *trained* inspection workers was a routine complaint among CMHC administrators. The inspector, while “presumably a specialist,” could not perform tasks as apparently basic as interpreting a design plan for infractions when required.⁹¹ But it seems CMHC managers themselves did not have a coherent vision of what, precisely, the inspector was a ‘specialist’ of. The physical inspection of CMHC housing was one among many responsibilities that inspectors were saddled with. For instance, when Ontario regional managers

⁸⁹ Michel Foucault, “25 January 1978,” in *Security, Territory, Population: Lectures at the Collège de France, 1977-1978*, ed. Michel Sennelart, trans. Graham Burchell (New York: Picador, 2007), 56; 62-63.

⁹⁰ R.H. Douglas to A.F.B. Knight, LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-5, 11 March 1946.

⁹¹ W.S. Jacques to Harold Glover, “Plans Examining and Inspections,” LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-52, January 1950.

assigned inspectors to create statistics on housing starts for the Dominion Bureau of Statistics, inspectors began to neglect their inspection duties.⁹² Given the impossibility of submitting ‘the field’ to total administrative capture, a paradox of high modern planning that James C. Scott has highlighted, it is perhaps not surprising that the gaze of NHA inspection was unevenly realized. High modern aspirations and high modern governance rarely align in coherent ways, especially in situations when resources such as staff and funding are scarcely available to put the aspirations of administrators into practice.⁹³

Yet a lack of trained personnel and resources was not the only reason that CMHC officials found it difficult to fashion the CMHC into a modern state corporation. Normalizing the inspection of mass house-building was fraught with intra-bureaucratic conflict. These struggles began with institutional mortgage lenders, who had always been the main point of contact between federal housing bureaucrats and state-financed house-builders. Beginning with the 1935 Dominion Housing Act (DHA) standards, discussed in the previous chapter, federal housing bureaucrats typically relied on inspectors employed by the lending institutions to carry out on-site evaluations of federally-assisted housing. Lenders, however, had often resisted attempts to govern NHA housing through national building regulations since the Depression. To CMHC bureaucrats’ chagrin, inspections were often not carried out; lenders, preferring middle-class clientele who built and bought housing in areas already serviced and which were expected to exceed the standards of local building codes, seemed to view inspection as an unnecessary expense. This was even despite the incentive of an inspection fee paid to lenders for inspecting

⁹² R.H. Spencer to R.P. Opie, “NHA Inspection Ontario Region,” LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-5, 22 September 1953.

⁹³ Tina Loo, “High Modernism, Conflict, and the Nature of Change in Canada: A Look at *Seeing Like a State*,” *Canadian Historical Review* 97, no. 1 (2016): 34–58; James Ferguson, “The Anti-Politics Machine,” in *The Anthropology of the State: A Reader*, Aradhana Sharma and Akhil Gupta eds. (Malden, MA; Oxford: Blackwell Pub., 2006), 270–286.

areas outside their usual lending jurisdictions.⁹⁴ Consequently, CMHC administrators were often confused about how lenders' mortgage activities, a 'private' matter which lenders guarded from any perceived interference from the federal state, could be governed through inspections.

Perhaps due to the difficulties of organizing a national inspection service through a newly 'autonomous' administration, CMHC officials did not appear to succeed in re-organizing the federal state's inspection service along the lines of the 1944 memo. Officials continued to rely on the Depression-era norm, discussed in the previous chapter, of governing inspections through the use of lenders' inspectors. In turn, as NHA financing was issued and NHA housing developments began to be built across Canada, there was much concern among CMHC administrators regarding how to standardize house-building through the less-than-trustworthy conduct of lenders' inspections. The primary tactic that local and regional CMHC offices used was the deployment of "policing" inspections, which involved sending CMHC inspectors to worksites to verify that lenders' inspectors were supervising builders and workers properly. The purpose of these 'inspections' was to produce monthly summaries of infractions that CMHC inspectors detected and which lenders may have overlooked, and then sending the summaries to lenders with the hope that they would reform their own inspectoral conduct.⁹⁵ Yet the means through which these summaries were produced – the inspection report – was seen as an inadequate basis through which to produce knowledge about conditions of workmanship. Despite the aspiration that the inspection report provide a "complete picture" of workmanship upon completion, it was observed that overworked CMHC inspectors routinely overlooked infractions

⁹⁴ Harris, "From 'Black-Balling' to 'Marking,'" 345-346.

⁹⁵ W.S. Jacques to H. Woodard, "Re: Inspection Policy," LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-5, 30 August 1950.

they were expected to ‘police.’⁹⁶ Moreover, the forms themselves were a matter of constant confusion, containing columns and classifications which were difficult to use and interpret.⁹⁷ In an undated commentary on proposed inspection reforms, one CMHC official, J.E. Dudley, summarized the limits of the state’s attempts to produce knowledge through inspections:

It seems to me... that we have been building up this highly efficient machine, designed for the accumulation of information as to existence of deficiencies, without any clear idea as to what we are going to do with the information. For that matter, I am not sure that we have adequately established the nature and extent of the information we require the organization to produce. Obviously, what the organization is to produce will determine its most suitable size and make-up.⁹⁸

The CMHC is idealized here as an efficient producer of knowledge about the operations of the housing industry. Dudley indicates in his final sentence that the CMHC’s propriety as a state agency was contingent upon this knowledge. Yet paradoxically, Dudley, as well as many other CMHC administrators, realized that the ostensibly efficient ‘machine’ that was the federal state was failing to make house-building intelligible and governable. Dudley’s concerns were to some extent addressed by reforms to the NHA in 1954, which gave the CMHC more funding to hire and organize its own inspection staff.⁹⁹ The NHA inspector became more recognizable as a ‘state’ agent with these reforms. Yet the sheer messiness of NHA field inspection in its emergence suggests that the state, and ‘its’ authority to claim objective knowledge over housing conditions, is only brought into being recursively. The intra-bureaucratic confusion and conflict surrounding the stewardship of NHA field inspection was itself a site where the boundaries of ‘the state’ were defined in relation to the housing industry.

⁹⁶ F.S. Martin to C. Payette, “Building Inspection Report C.M.H.C.20/9/50,” LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-5, 22 December 1950; G. Ross Brown to W.S. Jacques, “Plans Examining and Inspections,” LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-5, 27 January 1951.

⁹⁷ B.E. Shaver to J. Allan Jones, “Re: Inspections,” LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-5, 23 January 1949.

⁹⁸ J.E. Dudley to W.S. Jacques, “Re: Inspection Policy,” LAC/CMHC, Central Registry Administrative Files, Box 183, File 112-2-5, n.d.

⁹⁹ CMHC, *Annual Report* (Ottawa: CMHC, 1955).

Conclusion

It appears that those actors who benefited most from NHA financing similarly benefited from the enforcement of national building regulations upon NHA-financed housing. This is consistent with current accounts of Canadian housing policy, which emphasize that the CMHC's postwar governance primarily benefited those actors who had a stake in the market-based provision of housing. But *how* was it that one particular actor, 'the state,' via the CMHC, came to claim a uniform command over the regulation of these seemingly separate 'market relations'? And how was this fictional boundary maintained and struggled over? This chapter has attempted to address these questions by arguing that standards enforcement, a typically neglected aspect of housing policy, was a significant basis through which postwar mass housing development was governed. In forming a network of builders, lenders, architects, inspectors, and more, the use of federal building regulations through the CMHC did not just passively further these actors' interests. They were an active means through which the state came to be configured as an ostensibly objective and detached evaluator of house-building throughout Canada. It was through defining the state itself that various actors sought to benefit from the provision of postwar mass housing provision.

I have not tried to argue that the negotiations and practices involved in standards enforcement *alone* brought the state into being, or that the CMHC standards contained some intrinsic characteristic that made it authoritative. Such arguments would risk the kinds of reductionism and essentialism that this thesis has tried to avoid. More modestly, I have tried to show through the case of CMHC standards enforcement that the authority of even the most seemingly commonsensical of bureaucratic procedures are thick with power relations, which involved not just the administration of a market-based policy structure but the creation of a

certain way of imagining the state regulation of housing issues. An analysis of the role of standards enforcement in NHA housing development thus suggests that ‘the state’ is even more fragile and contingent than studies of housing policy and administration acknowledge. Studies concerned with explaining the ongoing power relations produced by various housing programs might reconsider ‘the state’ not only as an actor or institution that develops and applies policy, but an entity that is defined in relations of power: what Timothy Mitchell has called the ‘state effect.’¹⁰⁰

¹⁰⁰ Timothy Mitchell, “Society, Economy, and the State Effect.”

Conclusion

On January 4th, 2012, the *Globe and Mail* published an article outlining concerns about the federal state's energy efficiency provisions in the National Building Code of Canada.¹ Builders and owners of traditional log homes are increasingly worried that the state's measurement of thermal efficiency – the R-value – is going to disallow the conventional construction of log homes. If the new measurement standards become legally adopted by the provinces and municipalities, it is claimed that the “authenticity” of log homes and their construction will erode. What I think is interesting about this article is not the issue of preserving a certain architectural style, as important an issue as this is. Nor am I concerned with whether a compromise can be struck between “modern” and “traditional” ways of judging the residential environment. It is this distinction itself, and the way in which a powerful bureaucratic practice has helped form the bureaucratic infrastructure for making this distinction. ‘Modern’ measurements are almost unconsciously conflated here with a national benchmark, the National Building Code of Canada. While the article points to disagreements regarding provisions within the code, there appears to be little doubt that the code itself, and the measurements it is based on, is an objective and universal means for discerning the modern from the traditional. In this respect, building standards seemed to have passed an “ontological threshold” beyond which their objectivity and ‘technical’ status has become tacitly accepted and taken for granted.² The bureaucratic network in which national building standards are created, arranged, distributed, and used has largely become a black-box of power. How has this circumstance come to be?

¹ James Bradshaw, “Will log homes be felled by modern building codes?,” *Globe and Mail* (4 January 2012), <http://www.theglobeandmail.com/news/national/will-log-homes-be-felled-by-modern-building-codes/article4085358/>.

² William Walters, “The Power of Inscription: Beyond Social Construction and Deconstruction in European Integration Studies,” *Millennium-Journal of International Studies* 31, no. 1 (2002): 100.

This thesis has sought to address this question by complicating the knowledge claims that shaped and were shaped by the use of national building regulations in mid-twentieth-century Canada. This thesis has suggested that the historical significance of technical standardization need not be confined to a realist discussion of how or whether it serves a given ‘technical’ objective. In this respect, I have not sought to critique any particular provisions within the National Building Code. Rather, this thesis has explored how and why national building regulations were first used to make claims upon the ideal governance of housing provision on a national scale. The political stakes of standardizing house-building were much higher during the mid-twentieth century than we might assume today. Originating in the ‘scientific’ practice of early-twentieth-century town planning, national building regulations emerged to normalize the ideal home and its inhabitants on an unprecedented scale. In response to the Depression-era and post-WWII crises of housing provision, a burgeoning class of housing officials based in Ottawa created a set of ‘national’ standards documents that were used to govern economic risk, promote a certain style of industrial expansion, and ultimately make housing provision amenable to the surveillance of the federal state. Federal officials believed that these goals could be achieved through the ‘objectivity’ of a universal housing code. Yet this thesis has shown that this objectivity was a claim, rather than a feature, of national building regulations in their emergence. What James C. Scott has called the ‘legibility’ of human and non-human environments had to be fought for. In this regard, this thesis has argued that the relationship between state-building and the standardization of housing during the mid-twentieth century was a contingent one. In analyzing a number of obstacles, workarounds, resistances, and instances of illegibility, this thesis has attempted to show that consequences of national building regulations were not just administrative or technical, but epistemological. As they were used to form a network of federal

housing administration, national building regulations aided a number of actors in translating complex, historically-specific housing issues into an all-encompassing “problem” of state management. The conditions of possibility in which housing issues could be addressed and governed were thus, at least in part, shaped by the creation and use of national building regulations.

This thesis’s argument and analysis intends to make a contribution to historical research on housing provision. In focussing on the Canadian context, I found that much of the Canadian housing literature discussed either the first federal housing acts or the norms that shaped the suburban, middle-class, and market-based housing provision enabled by these acts. Much of this literature asks who benefited and who was affected by the promotion of mid-twentieth-century mass housing. Drawing on but also developing these strains of analysis, I focused more on the question of *how* a particular actor – ‘the state’ – shaped and was shaped by an emerging bureaucratic practice, which was claimed to be capable of governing housing provision on a mass scale. The purpose of this shift in analysis was to deepen the claim in many housing studies that mid-twentieth-century housing regulation in Canada could have evolved differently. This thesis has shown that the contours of state administration itself were at stake in the definition and governance of the ‘housing problem.’ The case of national building regulations demonstrates that the formation of a national housing bureaucracy was contingent upon the ways in which certain ideals of objectivity, expertise, and ‘national’ knowledge production were adopted.

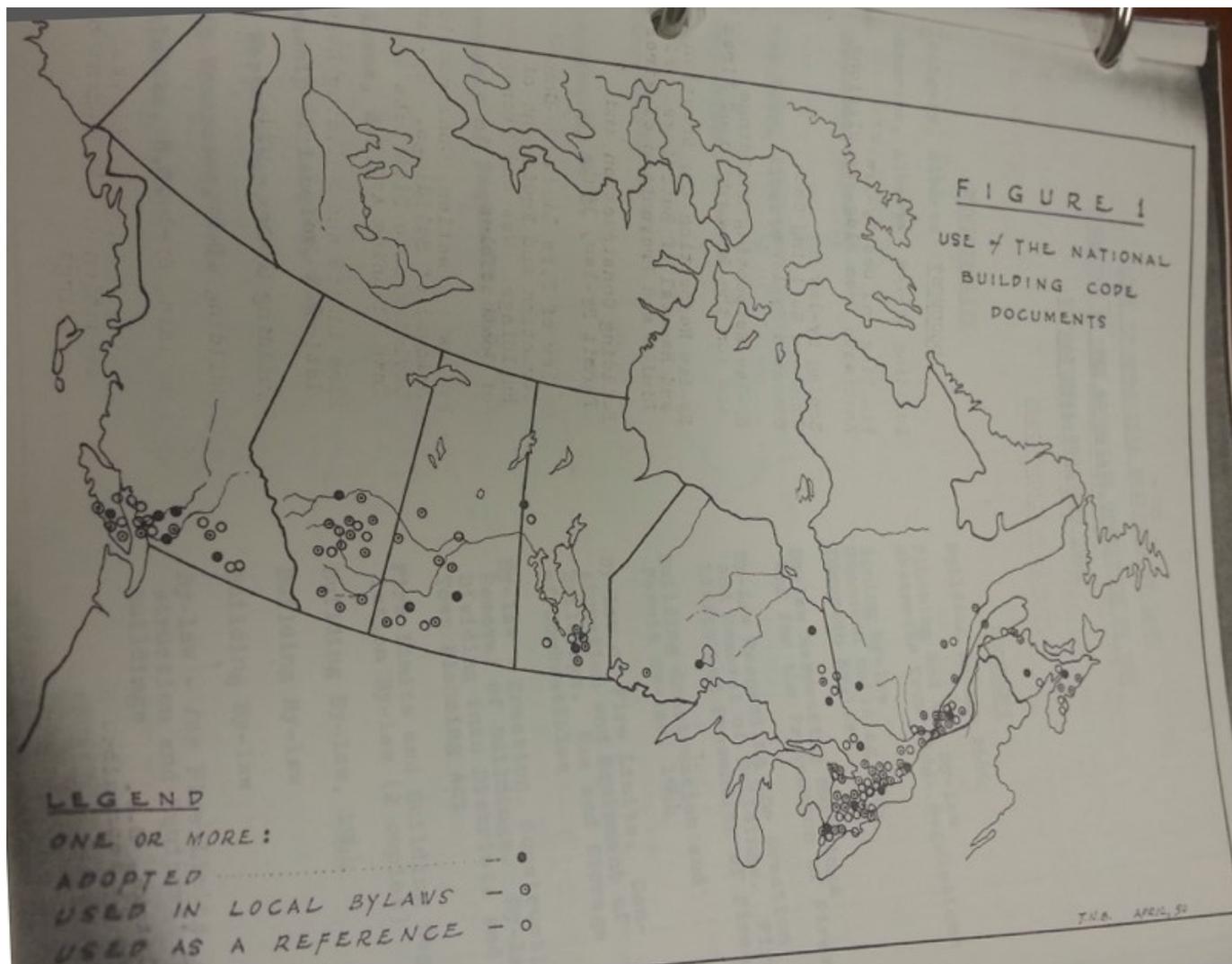
I introduced this thesis with a quotation from an article written by Robert Leggett, chief administrator of the first National Building Code committee. His article asked: “what do we mean by ‘housing’?”³ When compared to the commentaries of most observers during his period,

³ Robert F. Leggett, “What Do We Mean By ‘Housing’?,” *Queen’s Quarterly* 68 (1961).

Leggett's response to this question appears to have been unusually sophisticated. He sought to define the "essential elements" of housing, suggesting that knowledge about how to govern these elements was increasingly being revealed by new disciplines such as "building science" and "building economics." But as this thesis has suggested, Leggett's optimism in administrative sciences such as national building regulations was not power-neutral or politically innocent. It was shaped by authoritative yet also fragile claims regarding how housing ought to be built, provided, and inhabited on a mass scale. In a dialogue with Leggett, this thesis has sought to reframe his question: what *can* we mean by 'housing'? What have been the modes of knowledge and administration that have shaped our residential environments in certain periods and places? This thesis has very partially and non-exhaustively addressed this inquiry. It is nonetheless hoped that this thesis makes a case for a conceptual shift in housing scholarship, one which emphasizes the conditions of possibility through which housing provision has been defined and governed.

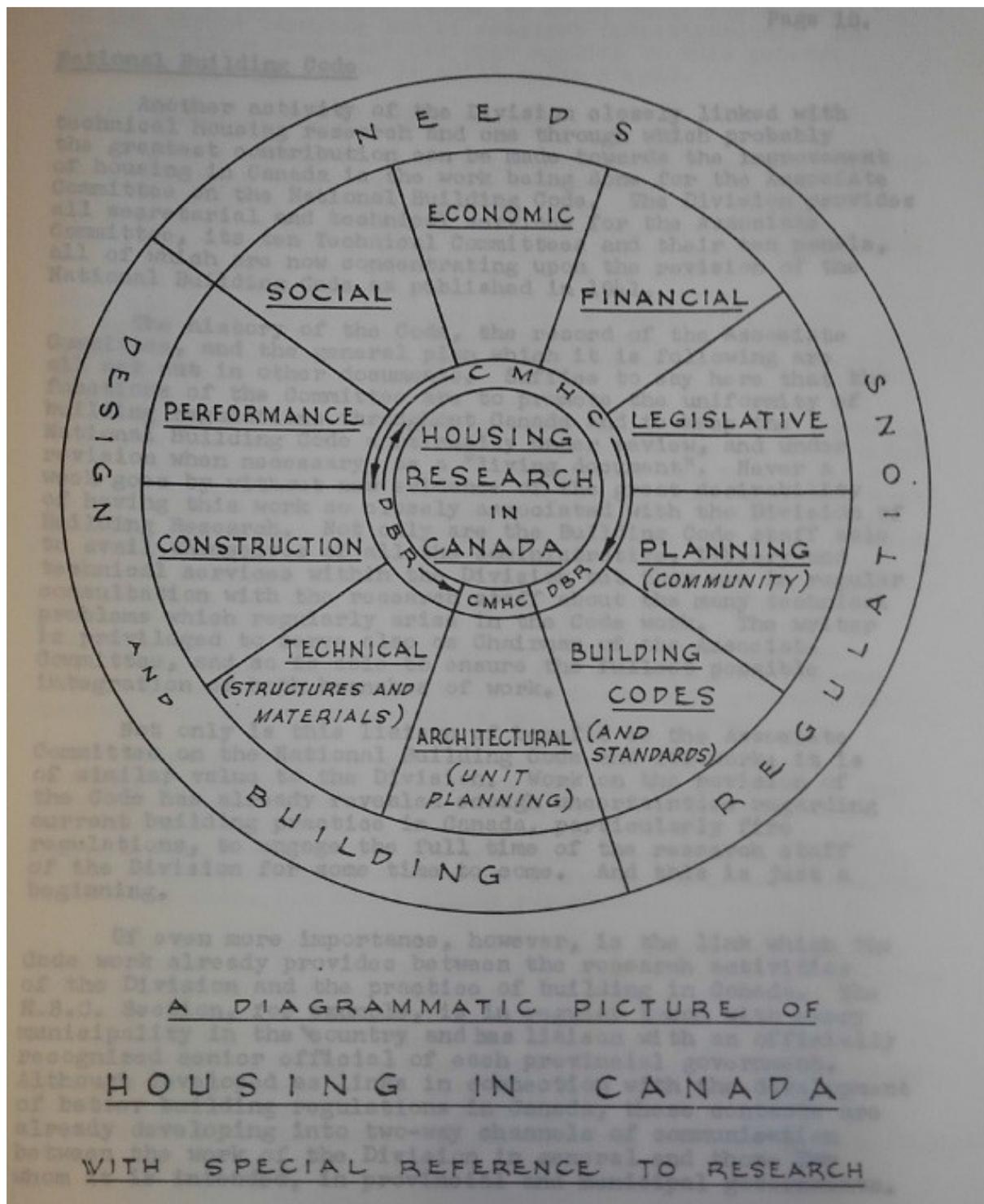
Appendix A

Source: "Building Code – Bulletin No. 1" (Ottawa: Associate Committee of the National Building Code (ACNBC), April 1950), 22.



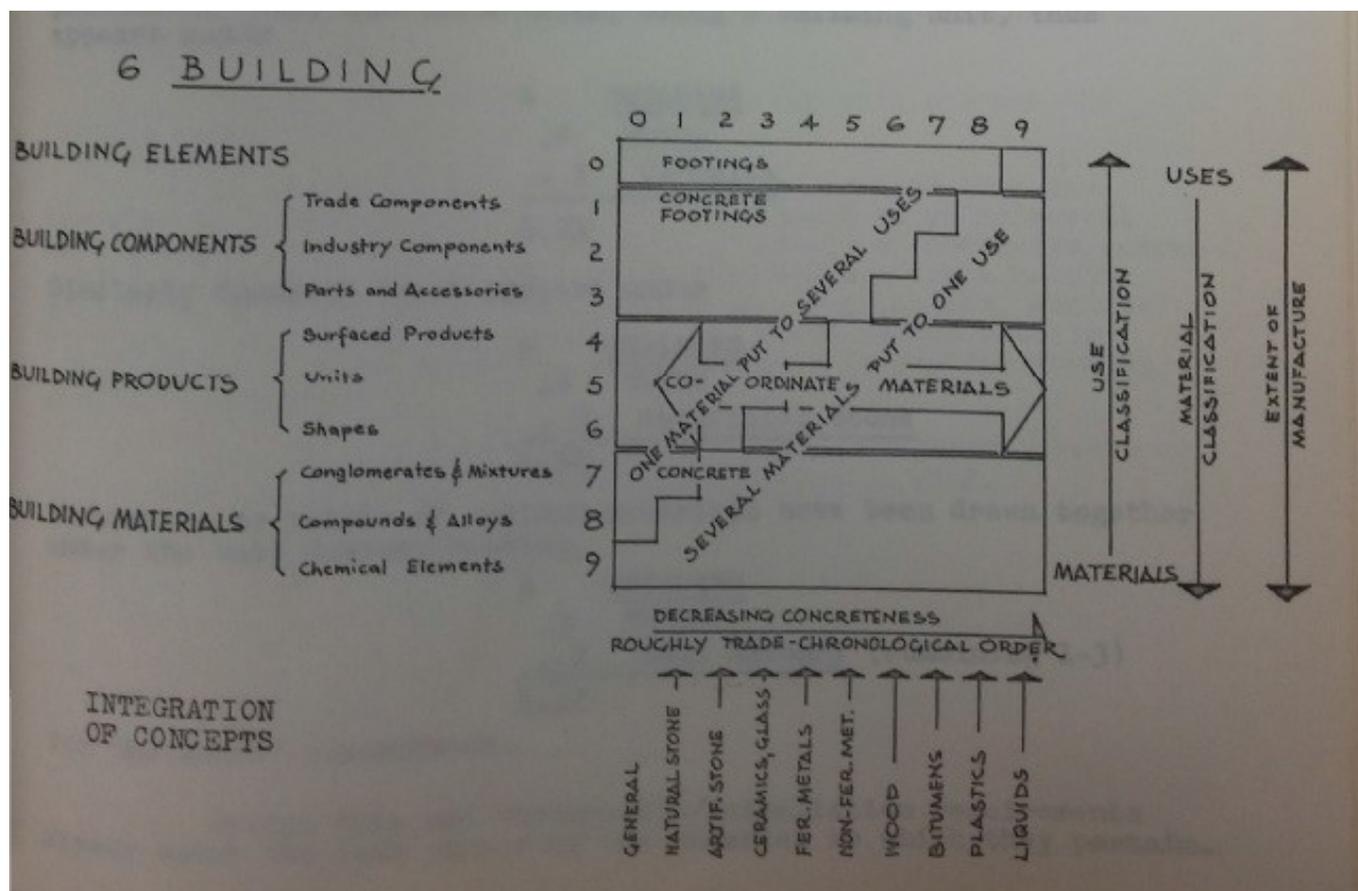
Appendix B

Source: Robert Leggett, "Development of D.B.R., 1947-52" (Ottawa: National Research Council, 1953), 9.



Appendix C

Source: *Minutes of the Fourth Meeting of the Special Committee on Housing* (Ottawa: ACNBC, September 1961), Appendix B.



Appendix D

Source: Harold Glover, "Building Standards," LAC/CMHC, Central Registry Administrative Files, Box 342, File 115-5-2, 3 December 1948.

	QUEBEC REGION	SHERBROOKE	ONTARIO REGION	HAMILTON	OTTAWA	RAIRIE REGION	EDMONTON	CALGARY	REGINA	B.C. REGION	GENERAL REACTION
1. AREA REWARDS	Controversial	Min. frontage Single Family 40' 5"	Controversial	no change	no change	No change	-		yes	Controversial	No change - some controversy further details are desirable
2. Definition of (a) Slope Run		no change	Classification needed	Classification needed	Imp. ⁴ / ₁₀₀ slope	possibly	-		yes	No.	
3. Multiple Cupboards to R.R.	No	No	?	No	yes	No			No	No	No
4. Size of L.R. to R.R.	Controversial	No	No. min. 170'	yes	yes	No change			No	No	majority No.
5. Size of (a) Utility Rm	min. 50'		yes.	yes	yes	N.A.	yes		No	No	
6. Requirements for Basement Habitable Rm		yes	yes	yes		yes	-		yes	yes	yes
7. Basement stairs			yes	yes	no change	yes	yes		yes	yes ?	yes
8. Glass area Basements		yes		yes	yes	yes			yes	yes	yes
9. Garage to be 20' 0"		19' 0"	20' 0"	20' 0"	20' 0"	20' 0"			22' 0"	20' 0"	yes - 20' 0"
10. Water proofing		yes	yes	yes	yes	no change	yes		yes	yes	yes
11. Proving penetration in basement		yes	yes	yes	yes	no. (Winnipeg)	-		yes	yes	yes
12. Stair Construction	insist on glazing & wedging	no	no change	no change	no change	yes	-		yes	yes	50 - 50
13. Windows at corners		yes	yes	yes	yes	yes	-		yes	yes	yes
14. Moisture contact	No		yes	No	No	No	No		No	No	No
15. Mechanical equipment new		No	yes	yes	yes	yes	-		yes	yes	yes
16. Min. no. of Plumbing Fix.	No.	yes	?	yes	yes	yes	-		yes	yes	yes
17. Min. no. Elec. outlets		yes	yes	to be shown on plans	yes	yes	-		yes	yes	yes

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