

“A USEFUL ACCESSORY”

**The use of lightweight replica ornament to manage the
cultural heritage values of earthquake-prone buildings**

By

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A thesis submitted to Victoria University of Wellington in partial fulfilment of the
requirements for the degree of Master of Museum and Heritage Studies

Victoria University of Wellington

2015

Abstract

In NZ, some earthquake-prone heritage buildings have, historically, been restored with lightweight replica ornament to reconstruct decorative features that have been damaged or removed over time. But restoration has traditionally been a contested approach to conservation, particularly when heritage values and authenticity are considered to be intrinsic only to original or historic built fabric. This problem leads to the central research question addressed in this dissertation: ‘Can lightweight replica ornament be used to manage the heritage value of earthquake-prone heritage buildings?’ The research draws on Critical Heritage Studies which challenges the conventional stress on the intrinsic value of tangible heritage objects, and argues that heritage value is found in the intangible cultural processes that surround things. Consequently, authenticity is seen as pluralised and dependent on the cultural concerns, and aspirations, of local stakeholder communities.

Using the theoretical framework of critical heritage and material culture studies, this dissertation therefore examines a technical aspect of conservation practice by re-theorising the concept of 'restoration'. The research methodology employs an adapted model of Action Research to investigate current professional practice. After analysing the historical context of earthquake-prone heritage buildings in the first chapter, in chapter two qualitative interviews are conducted with professionals who have an interest in the management of earthquake-prone buildings. Through the analysis and discussion of this data, a new actor network model is developed which shows the wider context of the resolution of the earthquake-prone status of heritage buildings.

The findings suggest that professionals believe that heritage value is intrinsic to built fabric, and that the repair of existing built fabric is generally achievable. This means that replica ornament should only be considered for situations where reparability is unfeasible, and that lightweight substitute materials should only be used where traditional materials and technologies can longer be reproduced. Within these constraints it is possible to use lightweight replica ornament where it can be justified as a contributor to cultural heritage values. Furthermore, where professionals can reconcile the varying concerns of stakeholder communities in terms of safety and heritage value then lightweight replica ornament has the potential to add meaning to buildings and to become part of the narrative of place.

Acknowledgements

A great many thanks are due to the people who have helped make this dissertation possible. Particular thanks are due to my two supervisors, Dr. Conal McCarthy and Robert McLean to whom I am sincerely and unerringly grateful for their astute advice and endless encouragement. Thank you as well, to Annie Mercer and Pippa Wisheart, for your advice and practical assistance during the research process.

This research would not have been possible without the kindness and assistance of those who gave their time to meet and participate in interviews. Thank you to Alison Dangerfield, Bruce Petry, Cass Goodwin, Carole-Lynne Kerrigan, Myfanwy Eaves, Patrick Cummuskey and Peter Reed as your insights, wisdom and honesty are the foundation of this study.

Thank you to Alison Williamson for your patience and your proofreading skills, and I claim for myself any subsequent errors or omissions.

And finally, I would also like to thank my family for their support, patience and understanding. Thank you so much for everything.

Table of Abbreviations

AHD	Authorised or Authorising Heritage Discourse
ANT	Actor Network Theory
EH	English Heritage
HPT	Heritage NZ (formerly the Historic Places Trust)
GRC	Glass reinforced concrete
ICOMOS	International Council on Monuments and Sites
IEP	Initial evaluation process
NBS	New Building Standard
NZHPT	Heritage NZ (formerly the Historic Places Trust)
NZSEE	New Zealand Society for Earthquake Engineering Inc.
RMA	Resource Management Act (1991)
SPAB	Society for the Protection of Ancient Buildings
URM	Unreinforced Masonry – for example brick, stone or concrete

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Introduction

In the late 1980s, architecture students at Victoria University were taught that there was no ‘living regional architecture’ in New Zealand before the construction of Futuna Chapel in 1961. I know, because I was one of them. Although it was a postmodern era, our architecture history lecturer kept the true-faith of Modernism and we were taught about “Ornament and Crime”, and vernacular and pastiche, and that “less was more” and “form follows function”. More recently in the 2010s, a colleague spoke of New Zealand’s nineteenth and twentieth century streetscapes and noted the ‘lack’ of spectacular ancient monuments like the pyramids and the Acropolis. She questioned the value of earthquake-prone heritage buildings and asked: “So why all the fuss to save them?” The answer is complicated and I think includes a personal and collective sense of place, and our connections and attachment to that place. It is tempered with an understanding that cities with ancient monuments, for example Cairo and Athens, often lack the resources to conserve their nineteenth and early twentieth century built heritage, and so much that was beautiful has been lost to urban sprawl and development. In this respect New Zealand is lucky, and we should acknowledge our Victorian, Edwardian, Moderne and Art Deco streetscapes as relevant to our cultural identity and as worthy of careful management as a non-renewable cultural resource.

London does have ancient monuments, along with many carefully managed eighteenth, nineteenth and twentieth century streetscapes. Part of the management strategy for historic streetscapes is the insertion of new buildings in neo-vernacular styles that are hidden in plain sight. The neo-vernacular buildings are designed by architects and architectural practices who set aside their Modernist ‘morality’ and who ‘capitulate’ to a labyrinthine planning system that favours contextualisation over contrast. Working in London in the 1990s and early 2000s it became clear that vernacular was not dead or even slightly wounded; it just never made it into any of the glossier architecture magazines. Neither did the work to restore and rehabilitate old buildings or to reconstruct missing parts of old buildings. As a practitioner I looked for theory to guide the work I was engaged in, and came across the Society for the Protection of Ancient Buildings (SPAB) anti-restoration theories. SPAB practical guidance on the use of traditional materials and philosophies on minimal, research-based interventions and rigour of practice are, I think, critical to conservation practice. Their anti-restoration

premise, based on material authenticity, I thought difficult to reconcile with my own architecture and conservation practice to non-ancient buildings in the UK.

A return to New Zealand in the mid-2000s included a continuation to a search for critical theory to guide practice of rehabilitation of old buildings to keep them in use, and ‘fit for purpose’. What practical advice is available, for example the International Council on Monuments and Sites (ICOMOS) NZ Charter, is somewhat premised on anti-restoration theories, although modified by more recent concepts of cultural heritage value. What is difficult to understand is how architects who routinely rehabilitate old buildings so that they are fit for purpose, and who reinstate missing features, justify their actions from within an anti-restoration theoretical framework. This is neither a criticism of current professional practice, which I think is rigorous and well-informed, nor of the ICOMOS NZ Charter. It is simply a question of how professionals use theory to inform their practice and if that theory can be updated or realigned.

The niche for this study appeared after the 2010/2011 Canterbury earthquakes. These earthquakes highlighted the plight of earthquake-prone heritage buildings and revealed their vulnerability to both earthquakes and to ‘demolish or strengthen’ policies. Moreover, it demonstrated a lack of appetite for heritage purism in decisions on safety. This led to the question: ‘How do you strengthen earthquake-prone heritage buildings in a way that manages their cultural heritage value?’ For this dissertation, the definition of ‘earthquake-prone heritage’ means that a building is subject to local authority (for example Wellington City Council) district plan heritage rules, and has also been identified by that local authority as earthquake-prone under the Building Act (2004) in that it would be likely to collapse in a moderate earthquake. A cross-reference between Wellington City Council’s Heritage List and Earthquake-prone Building List reveals that, locally, earthquake-prone heritage may generally be categorised as pre-1950s unreinforced masonry Victorian, Edwardian, Moderne and Art Deco buildings.¹

This categorisation of earthquake-prone heritage does not form part of this research, but is informed by work carried out for Wellington City Council in 2012–2014 on an update

¹ See Appendix 1

to the information held on each of the Council's 500-plus heritage buildings. This review provided access to original plans, early photos and council permits and the individual reports are publically available. Although there has been no overall analysis of the individual reports, the research team discovered that a substantial proportion of Wellington's Edwardian and Victorian buildings were remodelled and partially stripped of ornamentation in the years following the 1931 Hawkes Bay and 1942 Wairarapa earthquakes. It was also apparent that many more had been demolished in the heady boom-town years of the 1970s and 1980s when Wellington cleared its Golden Mile Lambton Quay streetscape of earthquake-prone buildings. The individual buildings had generally been collected on a Wellington City Council Heritage List in the mid-1990s, or had been subject to later district plan changes. The original listings and subsequent district plan changes had involved intensive owner and community consultation, and formed part of a wider local authority democratic process. From the 1990s onwards these buildings had been considered as 'heritage buildings' and some had been conserved and restored. Comparative analysis of old photographs, and historic research of local authority building permits revealed that elements of building, that the research team had assumed were old or original, were actually recent additions. Not only were there false chimneys on the Government Buildings,² the relocated Cuba Street/Karo Drive houses and at Government House, but also a convincing pair of plywood chimney were found to be the kitchen extract vent ducts at the converted Dr Henry Pollen's House/General Practitioner pub.

Other lightweight reconstructed 'things' leapt out from their plain-sight hiding places, including the decorative parapets of the Whitcull's building, the strange re-imagined entablature of Iko Iko, the fibreglass column capitals at the Town Hall, parts of the restored pediments at the Supreme Court and the simplified parapets at the Tramway Hotel. From these examples arose the question: 'If restoration, in general, was contested and under-theorised then what was the critical framework for the restoration of things as lightweight replicas?' This is particularly problematic, I think, as vernacular, pastiche and ornament are yet to be rehabilitated and reconciled in current architectural practice.

² See Appendix 2

Furthermore definitions of ornament range from the archaic “a useful accessory”³ to the superficial “a thing used or serving to make something look more attractive but usually having no practical purpose.”⁴ This appears to reflect a changing meaning of ornament as something that was once essential to architecture, but which has recently moved into the realm of museums and heritage.

Given the above background and sources, it made sense to conduct research that had an interest in the re-evaluation of replica and ornament from the potentially neutral territory of Critical Heritage Studies. This approach led to the central research question: ‘Can lightweight replica ornament be used to manage the heritage value of earthquake-prone buildings?’ The relocation of the technical question of the use of substitute materials to the critical framework of heritage studies is a novel approach by this dissertation. The advantage of this overtly cross-disciplinary approach is that it gives conservation practitioners access to the theories of dematerialisation that have developed in Critical Heritage Studies over the past thirty years.

‘Dematerialisation’ describes the transition from the assumption that objects and ‘things’ have inherent values and meanings, and Critical Heritage Studies is premised on the assertion that tangible ‘things’ are surrounded by intangible cultural processes. This means that, although authenticity was once considered to be integral to built fabric, the concept of authenticity can have different cultural constructions. This approach has led to the current values-based, rather than object-based, conservation processes that acknowledge the plurality of authenticity and cultural heritage valuations. Current texts that describe this approach to heritage are examined in the literature review, along with conservation texts that recognise the dematerialisation of heritage and attempt to reconcile restoration in a postmodern idiom. The final group of texts includes the few that discuss the potential to use lightweight replicas in seismic zones. This approach provides the critical framework for the research which is based on a mixed methods

³ “Ornament,” in *Merrriam Webster* (online: Encyclopedia Britannica 2014).

⁴ “Ornament,” in *Oxford Dictionaries* (Oxford and online: Oxford Univeristy Press, 2014).

Action Research model and includes historic research, qualitative interviews and Actor Network Theory (ANT).

The first chapter addresses the question: “So why all the fuss?” with an investigation of the historic context of earthquake-prone heritage. It also investigates why such ‘unsuitable’ unreinforced masonry buildings were built on such geologically unstable ground. This is important because the cultural meanings of ‘restoration’, ‘replica’ and ‘ornament’ have changed substantially over the past 150 years, particularly in the context of the Conservation movement and the Modern movement in architecture. The chapter goes on to define ‘earthquake-prone heritage’ and to examine the legislation and charters relevant to their management. The historic context informs the qualitative interviews with professionals and heritage practitioners in Chapter 2, which examines current practice. The data from qualitative interviews with heritage professionals informs the investigation of the relationship between theory and practice. The research concludes with the use of an ANT anti-hierarchical model of the social and material networks within which earthquake-prone heritage is entangled. This model proposes a novel way to decentralise the essentialist concepts that has meant that either heritage *or* safety are central to the research problem. This approach allows for an argument to develop that the ideal state is not safety *or* heritage, but instead there is a requirement for ‘safe heritage’ that remains relevant to its source and stakeholder communities.

Literature Review

Should lightweight replica ornament be used to manage the heritage values of earthquake-prone buildings? There are multiple answers to this question, and almost all depend on the individual interests and professional agendas of the respondents. The terms ‘earthquake-prone’ and ‘heritage’ have specific meanings to experts working within local authorities. Lightweight structures are of interest to engineers; replicas and pastiche are problematic for architects and conservators; and the visual character of streetscapes is of interest to town planners and urban designers. Although the research topic could be treated as a technical problem from any one of these specialised subject positions this approach is, according to Rodney Harrison, both problematic and typical

of the tradition of under-theorisation of heritage.⁵ The solution is to move beyond the “taken-for granted assumptions that heritage is inherently ‘good’” and the “well-worn debates about authenticity and historical accuracy”,⁶ and to utilise a cross-disciplinary and non-hierarchical theoretical framework of Critical Heritage Studies as a basis for this research.

This literature review locates the topic and research question within the field of Critical Heritage Studies, and creates an analytical framework for the research design and methodology.⁷ It begins with an introduction to the current general texts and describes the relevant trends and definitions that, for a topic on the use of lightweight replica ornament, include the recent dematerialisation, democratisation and re-materialisation of heritage in Critical Heritage Studies. The review moves from general trends towards specific conservation practice with a continuation of the themes of materiality and authenticity, which are explored through the contested terminology of ‘restoration’. The review ends with the available conservation literature that explores the use of lightweight replicas and substitute materials. It examines the limitations of these texts, reveals gaps within the literature, and suggests ways to expand existing knowledge.

Definitions of Heritage

The first aim of the literature review is to describe current trends and definitions in Critical Heritage Studies. A definition that underpins this research, and which will be revisited in greater detail in Chapter 1, is that heritage is a ubiquitous, contemporary global phenomenon that is set within the conditions of Late Modernity.⁸ This is

⁵Rodney Harrison, *Heritage : Critical Approaches* (Milton Park, Abingdon ; New York: Routledge, 2013), 8.

⁶ Duncan Light, "Book Review: Understanding the Politics of Heritage," *Journal of Heritage Tourism* vol. 6, no. 2 (2011).

⁷ Chris Hart, *Doing a Literature Review : Releasing the Social Science Research Imagination* (London: Sage Publications, 1998).

⁸ Brian Graham, Gregory John Ashworth, and John E. Tunbridge, "The Uses and Abuses of Heritage," ed. Gerard Corsane, *Heritage, Museums and Galleries: An introductory reader* (London and New York: Routledge, 2005).; Jorge Otero-Pailos, Jason Gaiger, and Susie West, "Heritage Values," in

premised on a model of modernity that conceptualises time as linear progress, with distinct divisions between past, present and future, and where heritage is used to circumnavigate the uncertainty of the future by the careful management of the redundant features of the past.⁹

Beyond the generalities that heritage is the paradoxical poster-child of Western progress,¹⁰ the term is notoriously difficult to define.¹¹ One approach is to look beyond these generalities and consider that personal heritages form the basis for collectivisation. Graeme Aplin argues that people form idiosyncratic lists of what, to them, constitute heritage, but that collectivisation can occur where individuals share a “common socio-economic, cultural, or ethnic background”.¹² A transcendent and near universal aspect of heritage is, according to Kynan Gentry, our sense of attachment to place.¹³ Place attachment occurs when our personal sense of identity and authenticity is “inextricably bound up with the places we claim as ours” and this means, as a consequence, that the desire to preserve things is ultimately autobiographical.¹⁴ For Elizabeth Pishief, heritage and place attachment are premised on connectivity, where connections are created by

Understanding Heritage in Practice, ed. Susie West (Manchester: Manchester University Press in association with the Open University, 2010).

⁹ Harrison, *Heritage : Critical Approaches*.xiii; Miles Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity* (Abingdon, Oxon ; New York: Routledge, 2013)., 6.

¹⁰ *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 6.

¹¹ John Schofield, "Heritage Management, Theory and Practice," in *The Heritage Reader*, ed. G. J. Fairclough, et al. (London and New York: Routledge, 2008)., 16; Graeme Davison, "Heritage from Patrimony to Pastiche," in *The Heritage Reader*, ed. G. J. Fairclough (London: Routledge, 2008)., 31; Janelle Warren-Findley, "Human Heritage Management in New Zealand in the Year 2000 and Beyond " (Fulbright: research paper by the Ian Axford Fellow in Public Policy 2001)., 40; Alexander Trapeznik and Gavin McLean, "Public History, Heritage and Place," in *Common Ground? Heritage and Public Places in New Zealand*, ed. Alexander Trapeznik (Dunedin: University of Otago Press, 2000)., 14.

¹² Graeme Aplin, *Heritage : Identification, Conservation, and Management* (Melbourne ; Oxford: Oxford University Press, 2002). 14.

¹³ Kynan Gentry, "Introduction," in *Heartlands : New Zealand Historians Write About Places Where History Happened*, ed. Kynan Gentry and Gavin McLean (Auckland, N.Z.: Penguin Books, 2006)., 13.

¹⁴ *Ibid.*

performance and place,¹⁵ and this conceptual framework will be revisited later in discussion on Actor Network Theory. Laurajane Smith argues that the tension between place as a “category of thought” and a “constructed reality” is a central concept of heritage.¹⁶ She refers to the work of A. Escobar, Keith and Pile, and Low and Lawrence-Zúñiga on “sense of place” and “place attachment”, but notes that there are few similar debates within Critical Heritage Studies. This is a common theme and Pishief also highlights the lack of New Zealand-based literature on heritage management and place attachment,¹⁷ although it is an often quoted, albeit ill-defined, indicator of heritage value.¹⁸ The commonality between these theories is that they all suggest that heritage is both personal and communal; they emphasise the connections between people and place (and people and ‘things’); and they avoid any assertion that heritage value is an inherent property of buildings or places.

Trends in Heritage: Dematerialisation

The assertion that social and historic values can be absorbed by built fabric, and that ‘things’ have inherent meanings was once a central tenet of the Conservation movement. The materialisation of value ensured that heritage was considered to be ancient, “tangible and monumental”;¹⁹ the historic context of this will be discussed further in Chapter 1. A consensus among current texts is that heritage has effectively dematerialised over the past thirty years, and now includes concepts of the tangible

¹⁵ Elizabeth D Pishief, "Constructing the Identities of Place: An Exploration of Maori and Archaeological Heritage Practices in Aotearoa New Zealand" (Victoria University, 2012). 23.

¹⁶ Laurajane Smith, *Uses of Heritage* (London: Routledge, 2006)., 74.

¹⁷ Pishief, "Constructing the Identities of Place: An Exploration of Maori and Archaeological Heritage Practices in Aotearoa New Zealand.", 23.

¹⁸ Auckland Council, "Methodology for Evaluating Historic Heritage Significance," (2012).; Greater Wellington Regional Council, "A Guide to Historic Heritage Identification," (2010).; NZ Transport Agency, "Draft Guide to Assessing Historic Heritage Effects for State Highway Projects," (2014).; James Semple Kerr, *Conservation Plan (Seventh Edition): A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance* (Australia ICOMOS, 2013). 48.

¹⁹ Susie West and Jaqueline Ansell, "A History of Heritage," in *Understanding Heritage in Practice*, ed. Susie West (Manchester: Manchester University Press in association with the Open University, 2010). 7.

‘things’ and of the intangible cultural practices that surround those things.²⁰

Furthermore, the assertion that all heritage values are culturally ascribed rather than intrinsic to ‘things’, argues Harrison, is a central tenet of Critical Heritage Studies.²¹

This view that conservation practice itself is a contestable cultural act²² can be problematic for some experts, who call it a “cynic’s view”.²³ But materiality (or the physical quality of things) has not been jettisoned, according to Laurajane Smith, but rather ‘de-naturalised’ and ‘de-privileged’ as the “self-evident form and essence of heritage”.²⁴

Authorized (or Authorizing) Heritage Discourse (AHD) theory encapsulates Smith’s model of a dominant, Western, expert-led view of heritage. This, she argues, is: focussed on the old, monumental and aesthetically pleasing; privileges expert knowledge and values over all other forms of knowledge; reduces all non-expert heritage-users into a role of passive consumers; and creates a self-referential definition of heritage as that which can be regulated by legislation.²⁵ Rodney Harrison, in his critique of Smith’s work, notes that a legislative and regulatory view of heritage creates the phenomenon of ‘official heritage’. This he describes as “a set of professional practices that are authorised by the state and motivated by some form of legislation or written charter”, and can be contrasted with the ‘unofficial heritage’ of the unauthorised, un-legislated and ‘every day’.²⁶ Harrison notes that official heritage can be problematic for those “indigenous and other minority and non-Western peoples”, who may apply

²⁰ Rodney Harrison, *Understanding the Politics of Heritage* (Manchester: Manchester University Press in association with the Open University, 2010). 13; Gerard Corsane, "Issues in Heritage, Museums and Galleries: A Brief Introduction," in *Heritage, Museums and Galleries: An Introductory Reader*, ed. Gerard Corsane (New York: Routledge, 2005). 6.

²¹ Harrison, *Understanding the Politics of Heritage*. 25.

²² Ibid. 20; *Heritage : Critical Approaches*. 101.

²³ Alan M. Foster, "Building Conservation Philosophy for Masonry Repair: Part 1 - "Ethics"," *Structural Survey* Vol 28, no. 2 (2010).

²⁴ Smith, *Uses of Heritage*., 3.

²⁵ Harrison, *Understanding the Politics of Heritage*. 27.

²⁶ *Heritage : Critical Approaches*. 14.

alternative definitions and methods of management of cultural and natural heritage.²⁷ In contrast to the negative connotations of AHD theory, Harrison quotes Raphael Samuel in *Theatres of Memory*. Heritage, according to Samuel, is “potentially democratic phenomena” and the “social practices surrounding heritage” can allow for the promotion of “social change”.²⁸

Dean Sully argues that the historic focus on material preservation conferred a sense of autonomy on experts and heritage professionals, and experts have felt disempowered since the aims of heritage conservation were refocused to include the conservation of cultural value.²⁹ This, perhaps, is one reason why the materiality of things continues to be a focus for those who are engaged in expert systems of heritage management, and this will be explored further in Chapter 2. The democratisation of heritage is central to Sully’s model of a “people-based” heritage that remains relevant to the communities whose heritage is being conserved.³⁰ He notes that “the role of conservation professionals in the future is less likely to be as experts prescribing certain actions, but more as facilitators in response to people’s desired and expected interactions with their cultural heritage.”³¹ Sully asks two key questions that are valid for this research: How do you facilitate stakeholder participation?³² and How do you match community aspirations with the “aspirations of the specialists”?³³

²⁷ Ibid. 8.

²⁸ *Understanding the Politics of Heritage*. 19.

²⁹ Dean Sully, "Conservation Theory and Practice: Material, Values, and People in Heritage Conservation," in *Museum Practice: The Contemporary Museum at Work*, ed. Conal McCarthy (Oxford and Malden MA: Wiley-Blackwell, 2015). 22 & 32.

³⁰ Ibid. 22 & 32.

³¹ Ibid. 33–34.

³² Ibid. 27.

³³ Ibid. 29.

Trends in Heritage: Actor networks and Material Culture studies

As heritage dematerialised it also became humanised and people-centred. Actor Network Theory (ANT), argues Harrison, is a particularly helpful framework for heritage because it moves away from the Cartesian dualities of mind and matter, and instead recognises relationships and connectivity.³⁴ ANT was developed by sociologists and can be used to conceptualise heritage as social collectives that include both humans and non-human actors. Actors are agents for change, and agency is not simply an “individual act of will” but is distributed across networks as a possibility for both human and non-humans. A focus on agency has allowed heritage to be seen as “a process that involves a number of agents and that might be directed towards multiple and conflicting ends”. Society has been reconceptualised from an organism made up of people and governed centrally, towards an integrated model of mind and matter, nature and culture, human and non-human. Built landscapes can now be considered as part of a “mixed social/material collective”³⁵ in a way that has decentralised people and that is focussed on connectivity and relationships. This suggests that ANT could be a useful theoretical and methodological framework for the study of the complex networks and relationships that surround earthquake-prone heritage.

The concept of a disassociation between agency and (a necessarily human) actor has led to the creation of flat social hierarchies, and a focus on relationships. Michael Shanks and Christopher Tilley argue that, as Material Culture studies have moved beyond expert classification systems, the focus has changed to the relationship between Material Culture and society.³⁶ The aim is no longer to search for original meanings, but to acknowledge the uncountable (meta-) cultural contexts, signifiers and meanings.³⁷ This re-examination of material culture means that heritage has, according to Harrison, taken

³⁴ Harrison, *Heritage : Critical Approaches*. 31–35; Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005).

³⁵ Harrison, *Heritage : Critical Approaches*. 34.

³⁶ Michael Shanks and Christopher Tilley, "Material Culture," in *Museums in the Material World*, ed. Simon J. Knell (London and New York: Routledge, 2007). 79.

³⁷ Ibid. 92.

a “broad material turn”.³⁸ ANT and Material Culture studies perspectives allow for new possibilities in the study of the affective qualities of heritage, including place attachment and sense of place, and for study of the wider environmental, ecological and humanitarian concerns of resource conservation.

Authenticity: From material authenticity, to the Nara Declaration, to the value of fakes and forgeries

The materialisation of heritage value arose, according to architectural historian Miles Glendinning, in the polemic debates of ‘Anti-scrape’ versus ‘aesthetic restoration’ of the mid-nineteenth century.³⁹ Anti-scrape became a pseudonym for the preservation of ‘authentic’ built fabric, while ‘restoration’ involved the sometime fanciful re-creation of ruins and monuments to conform to an idealised historicist style. The context of these debates, and their subsequent influence on the Conservation movement and the Modern movement in architecture, will be investigated further in Chapter 1. For Glendinning, however, Western conservation theory for the built environment evolved from the management of the stone and masonry monuments of the medieval (pre-Industrial Revolution) period, and built fabric became to be seen as the sole repository for authenticity and meaning. The Conservation movement’s preference for material authenticity, reversibility and the distinction between old and new⁴⁰ was enshrined in the UNESCO (the United Nations cultural organisation) 1964 Charter of Venice. The Charter signalled the internationalisation of Western heritage theories and practices in a way that, according to Jorge Otero-Pailos, Jason Gaiger, and Susie Weston, tended to ‘fossilise’ an object at the point “at which heritage professionals bring it into the realm of official heritage practice”.⁴¹

³⁸ Harrison, *Heritage : Critical Approaches*. 36.

³⁹ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 119

⁴⁰ Ibid. 398–401.

⁴¹ Otero-Pailos, Gaiger, and West, "Heritage Values.", 59.

By the early 1990s it was clear that the simplistic definition of authenticity as a quantifier of built fabric did not always translate to non-Western cultures. With postmodern relativism, the concepts of materiality, authenticity and historical accuracy were destabilised. This led, according to Glendinning, directly to the Nara Convention in Japan in 1994 where “55 international experts... debated the issues of authenticity”. The subsequent Nara Declaration became “a ringing endorsement of postmodern relativism”.⁴² Jukka Jokilehto argues that Nara made it possible to “judge cultural heritage within the cultural contexts to which it belongs”.⁴³ For others, including Nobuko Inaba, the Declaration recognised the authenticity of Japanese cultural practises of renewal (rather than redundancy), for example the periodic ritual reconstruction of Shinto Ise Shrine.⁴⁴ Similar Māori cultural processes of renewal that do not rely on the retention of material information for their sense of authenticity were described by Ereatarā Tamepo in New Zealand’s contribution to the Nara Convention,⁴⁵ and in the post-Nara era by Dean Whiting.⁴⁶ These models of ‘authentic’ renewal processes show that it is possible to step aside from the Modernist paradigms of past, present and future, and to review the concept of heritage as non-renewable redundant relics of the past. This is an interesting concept as it authorises the authenticity of renewal and reconstruction to suit current cultural needs.

Other examples of reconstruction and renewal that sit outside the Modernist paradigm of a separate past, present and future are discussed further in Chapter 1. These include

⁴² Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 429.

⁴³ Jukka Jokilehto, "Considerations of Authenticity and Integrity in World Heritage Context," *City and Time* 2 1, no. 1 (2006). 6–7.

⁴⁴ Nobuko Inaba, "Authenticity and Heritage Concepts: Tangible and Intangible – Discussions in Japan," ed. Nicholas Stanley-Price and Joseph King, vol. 10, *Conserving the Authentic: Essays in honour of Jukka Jokilehto* (Rome: ICCROM 2009), http://www.iccrom.org/pdf/iccrom_ics10_jukkafestchrift_en.pdf , 154.

⁴⁵ Ereatarā Tamepo, "Maori Authenticity and Cultural Diversity in New Zealand (Aotearoa) " in *Nara Conference on Authenticity, Japan 1994: Proceedings*, ed. Knut Einar Larsen (UNESCO, 1994).

⁴⁶ Dean Whiting, "Conserving Built Heritage in Maori Communities," in *Conservation of Living Religious Heritage: Papers from the ICCROM 2003 Forum on Living Religious Heritage: Conserving the Sacred*, ed. Herb Stovel, Nicholas Stanley-Price, and Robert Killick (Rome: ICCROM, 2003). 14.

the reconstructed “memory landscapes”⁴⁷ of post-conflict Europe; the use of vernacular and conservation to create identities and to legitimise political regimes; and the creation of tourist destinations in North America. An example of the last is the reconstruction of New Salem as a major tourist attraction that, according to Edward Bruner, is premised on the myth of the American Dream. The mid-West prairie town was built in the 1830s and rebuilt 1900s and 1930s, and the village is marketed as an ‘authentic reproduction’ because no original built fabric survives.⁴⁸ Bruner examines these claims of authenticity with reference to the postmodern writings of Eco and Baudrillard on hyper-reality, authenticity, and simulacra, where simulacra are defined as images, representations or copies that bear a superficial likeness to another ‘thing’.⁴⁹ He uses Constructivist theories to argue that simulacra are typical of the way in which cultures “continually invent and reinvent themselves” so that reality is not in the origin, but in the meaning of each reproduction to the era in which it was produced.⁵⁰ This raises a question about the identity of Victorian and Edwardian vernacular revival heritage buildings, and asks whether these buildings are a mere simulacrum, but also suggests that these buildings may have a relevance that exceeds their status as colonial copies. This simulacra theory will be tested further in Chapter 1.

Gable and Handler re-examine Bruner’s theories in their own critical assessment of Colonial Williamsburg, which is a similar, partly reconstructed North American tourist attraction.⁵¹ They examine Bruner’s claims about ‘authentic reproductions’ that are based on ‘credibility’, ‘genuineness’ and ‘authority’ and argue that “authenticity-as-impression-management” is used at Colonial Williamsburg to authorise a clean, “airbrushed” and comfortable reinterpretation of the past. This suggests that authenticity

⁴⁷ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 192–198.

⁴⁸ M. Edward Bruner, M, "Abraham Lincoln as Authentic Reproduction: A Critique of Postmodernism," in *Museums in the Material World*, ed. Simon J. Knell (London: Routledge, 2007). 301–305.

⁴⁹ Ibid. 311.

⁵⁰ Ibid.

⁵¹ Eric Gable and Richard Handler, "After Authenticity at an American Heritage Site," *ibid.* 321.

is not a benign state but is premised on the ‘authority to authenticate’. This critique of authenticity identifies that authorisation is part of the authentication of replica. The question of whether lightweight replica ornament ‘should’ be used in the management of heritage value of earthquake-prone buildings indicates that there is an authorising agency that can either authorise, or de-authorise, authenticity. The questions that arise from Gable and Handler’s work include: Where is that authority to authorise and authenticate located? and What is it based on?

The authenticity and authentication of art is another way to study the cultural value of reconstructions and non-deceiving fakes. Art historian Nan Stalnaker creates the proposition of an art institution that displays an identical copy of a popular work as a means to overcome overcrowding, and asserts that visitors would continue to visit the original because of a desire for historical authenticity.⁵² Destruction of an originating work (for example, Greek sculpture) can increase the value of copies (for example, Roman copies) and this suggests to Stalnaker that our desire to “trace our own experience back to the originating visual experience... can be, if need be, fulfilled in alternative ways”.⁵³ This raises a further research question: What is the value of near-identical copies of ornament on buildings where the original decorative scheme has been destroyed or lost? Can they be used to trace our own experiences to an originating source? Can they develop their own, independent, meanings as simulacra?

Restoration

The use of reconstructed elements, for example the recent reinstatement of the coat of arms on the old Supreme Court in Wellington,⁵⁴ is a relatively common practice for both architects and built-heritage conservators. The key texts that attempt to reconcile the anti-restoration traditions of the Conservation movement with current practice are limited both in number, and in terms of theoretical frameworks and critical analysis.

⁵² Nan Stalnaker, "Fakes and Forgeries," in *The Routledge Companion to Aesthetics 2nd Edition*, ed. Berys Nigel Gaut and Dominic Lopes (London ; New York: Routledge, 2001). 522–523.

⁵³ Ibid. 523.

⁵⁴ "The Supreme Court of New Zealand," Ministry of Justice, <http://www.justice.govt.nz/publications/global-publications/s/supreme-court-of-new-zealand>.

Most of the sources located for this dissertation simply attempt to create a justification for restoration within the Venice Charter paradigm of anti-restoration. This, I think, does not truly acknowledge the destabilisation of authenticity, and the dematerialisation of heritage over the past thirty years.

Restoration and anti-restoration are reconciled by Auckland conservation architect Jeremy Salmond, English Heritage (EH) and the British Standard BS 7913:1998 by constructing a classification system to divide buildings into two distinct groups. The first group includes buildings of the medieval pre-industrial age and those whose origins are lost or that have historic value in their patterns of use and adaptation over time. For these buildings, “all aspects of the history of a place are of cultural heritage significance and so, by definition, warrant preservation”.⁵⁵ The second group includes modern (post-Industrial Revolution) buildings for which documentary evidence of an early or original form survives, and these are conceptualised as former complete entities that have since been degraded. A building of this type can be restored if “restoration of its intrinsic architectural character is of greater importance than the preservation of the history of its change and decay over time”.⁵⁶ EH defines restoration as the process of “returning an asset to a known earlier state, on the basis of compelling evidence, without conjecture”.⁵⁷ The justification for restoration (or reconstruction) is authorised by the British Standard for situations where there is: a void in an otherwise complete or coherent design; proof of the existence of a missing building, element, feature or detail; or a functional, structural or constructional argument for its reinstatement.⁵⁸ This

⁵⁵ Jeremy Salmond, "From Dead Ducks to Historic Buildings: Heritage Terminology and Conservation Planning," in *Common Ground : Heritage and Public Places in New Zealand*, ed. Alexander Trapeznik (Dunedin: University of Otago Press, 2000). 47.

⁵⁶ Ibid.47

⁵⁷ English Heritage., *Conservation Basics*, 1 vols. (Farnham: Ashgate, 2012). 114.

⁵⁸ British Standards, "Bs 7913:1998 Guide to the Principles of the Conservation of Historic Buildings " (1998).ause 7.3.2.2.

approach also aligns with the writings of North American architect and preservationist, James Marston Fitch.⁵⁹

The controversial nature of restoration is acknowledged by Salmond, EH and the British Standard, which note that “a presumption against restoration is a hallmark of the British approach to building conservation”, because restoration can diminish “the authenticity and thus the historic value of a building”.⁶⁰ Part of this controversy is the historic definition of ‘restoration’ by organisations such as the Society for the Protection of Ancient Buildings as:

work intended to return an old building to a perfect state. It can be the unnecessary renewal of worn features or the hypothetical reconstruction of whole or missing elements; in either case tidy reproduction is achieved at the expense of genuine but imperfect work...⁶¹

This definition does not align with those of the ICOMOS New Zealand Charter,⁶² and the relevance, definitions and policies of the Charter will be discussed in further detail in Chapter 1 as part of the context of earthquake-prone heritage. There is, therefore, a gap in the literature in relation to the theorisation of restoration that steps aside from the anti-restoration framework of the Venice Charter to consider the issue in terms of the post-Nara debates on authenticity and dematerialisation.

The Use of Replica Ornament to Manage the Heritage Values of Earthquake-prone Buildings

Beyond the generalised and contested writings on restoration there is little published information that refers to the specific use of replica ornament to manage the cultural

⁵⁹ James Marston Fitch, *Historic Preservation : Curatorial Management of the Built World* (New York: McGraw-Hill, 1982). 195.

⁶⁰ British Standards, "Bs 7913:1998 Guide to the Principles of the Conservation of Historic Buildings ". Clause 7.3.2.1.

⁶¹ Society for the Protection of Ancient Buildings, "Spab's Purpose," SPAB, <http://www.spab.org.uk/what-is-spab-/spab-s-purpose/>.

⁶² ICOMOS New Zealand, "Icomos New Zealand Charter for the Conservation of Places of Cultural Heritage Value," (The New Zealand National Committee of the International Council on Monuments and Sites., 2010).

heritage values of earthquake-prone buildings. James Marston Fitch provides the clearest North American perspective in his argument that replica things tend to “coarsen and corrupt public appreciation of the prototype” and are generally exposed by time as “each epoch leaves its own imprint upon everything it makes, including its version of the past”.⁶³ He asserts, however, that lightweight replica elements may be used in earthquake zones to replace URM decorative elements “in the interests of public health and safety” and refers, as an example, to the restoration of the San Francisco Mint using fibreglass overhanging cornices.⁶⁴ Fellow North American, Sharon Park, allows that substitute materials can be used as a last resort particularly due to: “1) the unavailability of historic materials; 2) the unavailability of skilled craftsmen; 3) inherent flaws in the original materials; and 4) code-required changes.”⁶⁵ Park justifies her argument with a reference to a tradition of ‘substitution’ that, for example, includes paint effects to simulate wood-grain or marble.⁶⁶ A third relevant document from the USA is Sarah K. Van Domelen’s Master’s thesis,⁶⁷ which is a technically-based research report based on a practitioner survey and contains little or no relevant critical theory for this dissertation.

The use of substitute materials, according to Park, Van Domelen and New Zealand authors Stuart Arden and Ian Bowman⁶⁸ appears to be premised on an argument for the plurality of authenticity, based on historic traditions of imitative materials. The British Standard is less sanguine and cautions against the use of untested modern synthetic or imitative materials because of its potential to damage older physical fabric, and because it is unclear how many of these materials will age or weather, but notes that there are circumstances where “new materials used skilfully in non-traditional ways can facilitate

⁶³ Fitch, *Historic Preservation : Curatorial Management of the Built World*. 187.

⁶⁴ Ibid. 191.

⁶⁵ Sharon C. Park, "The Use of Substitute Materials on Historic Building Exteriors," ed. U.S. Department of the Interior National Park Service, *Preservation Briefs* (USA1988).

⁶⁶ English Heritage., *Conservation Basics*. 104.

⁶⁷ Sarah K Van Domelen, "The Choice Is Yours: Considerations & Methods for the Evaluation & Selection of Substitute Materials for Historic Preservation" (University of Pennsylvania, 2009).

⁶⁸ Stuart Arden and Ian Bowman, *The New Zealand Period House : A Conservation Guide* (Auckland, N.Z.: Random House, 2004). 61.

the most conservative and economical repair”.⁶⁹ Heritage NZ (formerly the New Zealand Historic Places Trust) argues that, although it is not an ideal conservation solution, lightweight replica ornament may be used to reconstruct “elements such as towers and parapets that have been lost over time” and to replace chimneys lost during earthquakes. This, however, is “considered the least desirable option from a heritage conservation perspective”.⁷⁰

Although these last six documents appear partially to endorse the use of lightweight replica elements, particularly in earthquake zones, an overall critique is that they are technical documents that lack a philosophical stance based on critical theory, or at least one that goes beyond a concept of pragmatic expediency. All but Park and Van Domelan treat the use of lightweight substitute materials as a brief aside and the two documents that consider the topic in depth are USA-based and do not articulate the NZ experience.

Conclusion

The reinstatement of ornament on old buildings is a form of restoration, albeit one that uses substitute (rather than traditional) materials. The literature review reveals that, although the use of replica ornament has been described as a technical issue in some recent texts, the process is somewhat under-theorised. This finding is not particularly surprising as the current theorisation of restoration continues to be contested, and is partly conceptualised using the materialistic paradigms that pre-date the Nara Declaration. This reveals a significant gap in the literature for a re-conceptualisation of

⁶⁹ British Standards, "Bs 7913:1998 Guide to the Principles of the Conservation of Historic Buildings ". Clause 7.3.2.4.

⁷⁰ New Zealand Historic Places Trust, "Information Sheet: Earthquake Strengthening – Improving the Structural Performance of Heritage Buildings (Draft for Consultation)," New Zealand Historic Places Trust. Note: This paper is a draft for consultation and although it refers reader to Information Sheet 12 ‘Alterations to Historic Buildings’ [to be updated] for guidance on reconstruction in lightweight materials, the current version of Information Sheet 12 has no guidance on the subject; "Information Sheet 12: Alterations and Additions to Historic Buildings," New Zealand Historic Places Trust.

restoration from within a Critical Heritage Studies framework that recognises the recent, post-Nara dematerialisation (and re-materialisation) of heritage theory.

The introduction argues that the research problem is multi-layered and has developed over the past 150-plus years in a way that is complex and contested. This suggests that the research methodology should begin with the historic context of the development of earthquake-prone heritage buildings, and of ornament, replica, restoration, and of the conservation and health and safety policies, legislation and charters that apply to them. This approach would allow for the core definitions of earthquake-prone heritage to be developed from within their historic and cultural contexts.

The next step would be to examine how the destabilisation of authenticity and the dematerialisation of heritage relate to current professional practice, particularly in terms of ornament, replica and restoration. This would provide a starting point for the re-theorisation of restoration using post-Nara language.

The use of an ANT framework for the study of the meta-context of heritage would allow for the theorisation of restoration to be detached from the paradigm of Modernism and Modernity. This could be used to describe a potential role for official heritage that moves beyond those of authenticator and authoriser towards one that can facilitate reconciliation between heritage and safety so that heritage remains relevant to its stakeholder communities. The ANT framework and re-materialisation of heritage from Material Culture studies may also suggest new ways to research the relationships between people and things.

Methodology

The research strategy, suggested by the literature review, is a three-phase process that includes the examination of the historic context, current practice and material-social networks to reveal crisis points and to suggest routes to resolution and reconciliation of the problems and issues circling around the research question. The research was carried out in 2013 and was informed, in general, by the writing on social research by Norman

Blaikie and S. Sarantakos.⁷¹ It used primary and secondary sources to establish the historic context with reference to the works of G. McCulloch and W. H. McDowell,⁷² and qualitative interviews to establish current professional practice. The interview design is guided by the work of Michael Patton,⁷³ and of J. Saldana for the analysis.⁷⁴ The data are then re-examined from within an ANT framework that was accessed through the work of Bruno Latour and Rodney Harrison.⁷⁵ The overall research methodology is a mix of theory-oriented research and applied research⁷⁶ informed by action research, particularly from the work of Kathryn Herr and Gary L. Anderson.⁷⁷

The Hybrid Action Research Model

Action research is a form of social research used to increase knowledge and to institute change, particularly by insiders from within organisations or by sole practitioners to promote personal growth. It works well when the researcher becomes a “reflexive partner”⁷⁸ and is a process that is undertaken with, rather than about, its research participants. Although it is used extensively in education it is, according to Herr and Anderson, “inherently interdisciplinary and seldom fits neatly into the norms of a

⁷¹ Norman Blaikie, *Designing Social Research: The Logic of Anticipation* (Malden, MA: Polity press, 2000).; S. Sarantakos, *Social Research*, 3rd ed. (Basingstoke: Palgrave Macmillan, 2005).

⁷² G McCulloch, *Documentary Research in Education, History and the Social Sciences* (London & New York: Routledge, 2004).; W. H McDowell, *Historical Research: A Guide* (Harlow, UK New York: Longman, 2002).

⁷³ Michael Q. Patton, *Qualitative Evaluation and Research Methods* (Newbury Park, California: Sage Publications, 1990).

⁷⁴ J Saldana, *Coding Manual for Qualitative Researchers* (London & California: Thousand Oaks & Sage, 2009).

⁷⁵ Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*.; Harrison, *Heritage : Critical Approaches*. 31–35.

⁷⁶ Blaikie, *Designing Social Research: The Logic of Anticipation*. 51.

⁷⁷ Kathryn Herr and Gary L. Anderson, *The Action Research Dissertation : A Guide for Students and Faculty* (Thousand Oaks, Calif. ; London: Sage, 2005).

⁷⁸ Blaikie, *Designing Social Research: The Logic of Anticipation*. 79; see also Sarantakos, *Social Research*. 11–12.

particular discipline or field”.⁷⁹ Action research may be difficult to differentiate from applied research, but a key measure is in the degree of collaboration and the insertion of feedback loops from within the research process. As this was a small dissertation covering a relatively large topic, there was little time or resources to integrate multiple cycles of feedback into the process. This meant that, although I considered myself to be an insider/practitioner, this research was based on a theoretical/applied/action research hybrid rather than a purist model. On completion of the dissertation it has become clear that although the aim was to follow Action Research principles and that the process was more closely aligned to an Applied Research model.

Historic Research

The research and data collection phase for this dissertation was programmed from late 2013 to early 2014. Historic research was used to define ‘earthquake-prone heritage’ within its historic architectural, conservation and social contexts. The process was structured around David Hamer’s three-part sequence of heritage that includes the ages of ‘production’, ‘survival’ and ‘conservation’.⁸⁰ Data were accessed from primary sources, including newspaper articles, films and documentaries, legislation, policies and charters, and secondary source publications on architectural history, the history of the Conservation movement and public and social history. A third source was the many official websites produced by government and local authorities, and the use of these online resources will be discussed later in this methodology. The relative lack of current architecture theory on ornament and replicas was problematic, and the results relied on a relatively small number of key texts. This was mitigated, wherever possible, by the verification of any key statements and assertions within wider texts on architecture history.

⁷⁹ Herr and Anderson, *The Action Research Dissertation : A Guide for Students and Faculty*. 2.

⁸⁰ Trapeznik and McLean, "Public History, Heritage and Place.", 22.

Qualitative Interviews

Qualitative interviews were used to establish both the current prevalence of the research problem, and any friction points and drivers for change and the interview process received ethics approval in October 2013. The seven interviewees were selected for their professional role (and interest) in the management of earthquake-prone heritage, from a range of private and institutional settings including local authorities and Heritage NZ (formerly the NZHPT). They had a range of backgrounds from anthropology, archaeology, architecture, museum and heritage studies, psychology and structural engineering, and their professional roles ranged from public health and safety to the management of the wider heritage estate. The interviewees were based in Auckland, Wellington and Christchurch; this geographical distribution was selected to include key individuals and organisations, to access individuals who worked in post-earthquake Canterbury, and to avoid a Wellington bias in the research. These individuals provided as much data as could be analysed with the limited resources of this research programme, but my preference should have been to interview a greater number of local authority heritage advisors and central government policy advisors with a wider geographical spread. This problem was, in part, mitigated by informal discussions in my former workplace with the Wellington City Council Heritage Team and others in private practice in Auckland and Wellington.

The interview process used standardised open-ended questions, and this method suited the limited timeframe for data collection and analysis.⁸¹ Interviews were partially transcribed and the information returned to the interviewees for their comments, clarification and correction. The corrected data were analysed through a system of clusters and codes to create the key themes discussed in Chapter 2. The interview process was limited to people with a professional interest in earthquake-prone heritage. If there had been more time and resources available, my preference should have been to engage with all of the stakeholder groups in a similar way. This will be discussed in more detail in terms of ANT.

⁸¹ Patton, *Qualitative Evaluation and Research Methods*. 287.

Actor Network Theory (ANT)

Actor Network Theory (ANT) was used to analyse earthquake-prone buildings as part of a non-hierarchical material–social collective, using data from the historic research and qualitative interviews. As discussed earlier, there were insufficient resources to undertake qualitative interviews with all stakeholders and this meant that information on the other actors and agencies was instead sourced from recent newspaper reports, press releases, government and local authority policies and websites. The problem with this approach, according to McCulloch, lies in the establishment of ‘authenticity’, ‘reliability’, ‘meaning’ and ‘theorisation’⁸² and questions include: Whose voices get published? and How typical are their comments? Although there was a clear poly-vocal interest in earthquake-prone heritage in blogs and the comment sections of newspaper articles, it was unclear how well these reflected wider public opinion. The sources for this research were thus limited to established national and regional newspapers, established lobby groups and political parties, and local authorities or government websites. Wherever possible a range of views, opinions and sources was selected and then cross-referenced to established secondary sources.

The dissertation is structured as three chapters with background information located in four appendices. Chapter 1 sets out the historic context for earthquake-prone heritage buildings in New Zealand, along with a history of ornament, replica and restoration. It is structured to reflect David Hamer’s proposition that heritage is a three-part process.⁸³ The chapter thus describes the production of the future earthquake-prone heritage buildings, their survival and identification as earthquake-prone and their discovery and conservation as heritage buildings. Chapter 2 analyses the data from the interview process and reflects on the use of lightweight replica ornament in the management of heritage value in terms of ‘prevalence’, ‘values’, ‘existing fabric’, ‘replicas’, ‘materiality’, ‘fakes’ and ‘guidance’. This chapter confirms the contestability of restoration and reveals friction points and ‘zones of contestability’ that are further

⁸² McCulloch, *Documentary Research in Education, History and the Social Sciences*.

⁸³ Trapeznik and McLean, "Public History, Heritage and Place." 22.

analysed from within the ANT framework that provides the theoretical structure for Chapter 3.

Chapter 3 recognises the contestability of earthquake-prone heritage and revisits and reframes the research problem from within the non-hierarchical social-material network. It investigates the potential for reconciliation, and for the facilitation and creation of 'safe heritage'.

The appendices are used to simplify access to data. Appendix 1 contains an integrated list of local earthquake-prone heritage prepared by the author to provide context for this dissertation and Appendix 2 provides examples of the local use of lightweight replica ornament

Chapter One

“Useless Ornament”: Background and context

This dissertation is based on a deceptively simple question: Can you use lightweight replica ornament to manage the heritage value of earthquake-prone buildings? In preparation for this dissertation I talked to family, friends and colleagues and arrived at an intuitive consensus of: “Why not, if it makes it safer to walk down the street, and it preserves the character of old buildings?” Although this informal preparation was not recorded and does not form part of the findings of this dissertation, it did inform the qualitative interview process. This was carried out with a group of heritage professionals and experts, and results form the basis of the next chapter. Without giving too much away, the overwhelming answer from experts and professionals was a clear “probably not”.

The purpose of Chapter 1 is to use historic research to provide a background to the practice of heritage professionals and architects. This will bridge the gap between “why not” and “probably not”, and is critical to a dissertation that seeks to reframe current practice within current critical theory. Chapter 1 will focus on a group of buildings that are part of two Wellington City Council lists. These are the Heritage List of buildings and the List of Earthquake Prone Buildings as at 05/06/2014, and a combined list of these buildings can be found in Appendix 1. The underlying assumption is that these Wellington buildings are relatively typical of earthquake-prone heritage buildings across New Zealand, although conclusive nationwide data on earthquake-prone heritage are not yet available. This assumption will be tested further in Chapter 2 in the qualitative interview process, in which interviewees were selected both for their expertise and their non-Wellington perspective on earthquake-prone heritage. Chapter 3 will investigate the wider concerns of earthquake-prone heritage buildings using the research and data from the two preceding chapters and the literature review.

Appendix 1 shows a small and relatively cohesive group of commercial buildings, churches, public buildings and converted houses that were built from the 1880s to the 1950s. Their part in the national story of New Zealand’s cultural identity will necessarily be small, and the wider concerns of an interwoven history that includes

themes of Māori architecture, domestic and residential architecture, rural architecture, industrial architecture, Modernist and post-1950s architecture cannot be addressed directly here. Instead, this chapter will examine the central themes of the research question in terms of: What is the definition of an earthquake-prone heritage building? What is the general architectural typology of Wellington's earthquake-prone buildings? Why is ornament and vernacular important to that typology? Why were they produced in New Zealand and why are they no longer produced? How did they become earthquake prone? What has happened to the meanings and use of replica things and substitute materials over the past 150 years? How do these changing meanings influence how buildings are built and conserved? How did old buildings become 'heritage'? And which legislation and charters are particularly pertinent to earthquake-prone heritage?

Substitute Materials: The use of unreinforced masonry

Polynesian explorers and settlers developed a distinct Māori culture and architecture in the period from AD1500 to 1800, argues Deidre Brown, which adapted traditional built forms to suit local conditions.¹ Michael King asserts that the first European arrivals were assimilated into established Māori communities, and that later arrivals often established symbiotic communities governed by Māori values and protocols.² As Europeans established new colonial settlements, including Wellington in 1840, the new immigrants often built or purchased "Māori-houses" as their first dwelling. These dwellings were generally built with *raupo* reed or flax thatch, and some had split timber slab walls.³ Concerns about the flammability of thatch prompted the Raupo House Bill in 1842,⁴ as the first national legislation for building safety. This seemingly benign

¹ Deidre Brown, *Māori Architecture: From Fale to Wharenui and Beyond* (Auckland: Raupo (Penguin Group), 2009). 27; John Stacpoole, *Colonial Architecture in New Zealand* (Wellington: A.H & A. W. Reed Ltd, 1976). 7.

² Michael King, *The Penguin History of New Zealand* (Auckland, N.Z.: Penguin Books, 2003). 123.

³ Peter Shaw, *A History of New Zealand Architecture* (Auckland: Hodder Moa Beckett, 1997). 14–15.; Jeremy Salmond, *Old New Zealand Houses: 1800 - 1940* (Auckland: Reed Books, 1986). 17 - 26

⁴ "Raupo House Bill (from the Auckland Standard of July 7th.)," *New Zealand Colonist and Port Nicholson Advertiser*, 5 August 1842.; Christopher Cochran, "Styles of Sham and Simplicity: Timber

legislation effectively alienated indigenous architecture and building materials from many urban areas. The expulsion of indigenous populations (or in this case indigenous architecture), argues historian David Hamer, is typical of frontier town development that seeks to impose ‘civilisation’ by the displacement of ‘savagery’, as this was considered to be a sign of ‘progress’.⁵

Timber became the pre-eminent building material for Wellington after the 1848 and 1855 earthquakes had levelled the newly constructed brick and cob/clay/earth buildings.⁶ Wellington was settled in 1840 and became the capital city of the British colony from 1865. Although the city aspired to grand, permanent buildings of stone, “the Government Buildings, the Houses of Assembly, and even the Governor’s palace are so many shams...” wrote J. Vaughan Hughes in 1893, with his note that:

In the distance you exclaim, ‘what splendid freestone structures,’ and when you go up to them and tap them with a finger, you find that they are nothing but wooden erections, painted and rough cast with sand to represent stone; but they are very handsome... [as]... it has been discovered that it is safest to live in a wooden dwelling than a stone one in case an earthquake should pay them a visit.⁷

Timber may have endured earthquakes, but it was nearly as flammable as thatch. By the mid-1870s fire became a greater risk to people and property. The vast Government Buildings of 1876 (see Appendix 2) were the last of the great timber ‘freestone’ buildings to be built in Wellington. An 1877 bylaw ensured that only non-combustible cladding materials could be used in the Number 1 (inner city) Fire District. The neighbouring Supreme Court, built in 1879 (see Appendix 2), was similarly a re-creation of a grand, Classical ‘freestone’ building, but this time built in stucco render on

Buildings in Wellington to 1880," in *The Making of Wellington 1800-1914*, ed. Hamer. David and Roberta Nicholls (Wellington: Victoria University Press, 1990). 107.

⁵ D. A. Hamer, *New Towns in the New World : Images and Perceptions of the Nineteenth-Century Urban Frontier*, The Columbia History of Urban Life (New York: Columbia University Press, 1990). 213–219.

⁶ Cochran, "Styles of Sham and Simplicity: Timber Buildings in Wellington to 1880." 111.

⁷ J. Vaughan Hughes, *Seventy Years of Life in the Victorian Era: Embracing a Travelling Record in Australia, New Zealand and America & C. By a Physician* (London: T. Fisher Unwin, 1893). 182.

brickwork rather than timber.⁸ Architectural historian John Stacpoole argues that “the Victorians were seldom bothered, until William Morris taught them otherwise, by any qualms about making one material look like another”,⁹ particularly for neo-Classical (rather than Gothic Revival) buildings.¹⁰ Thus the bylaw did not end the use of substitute materials, but rather transformed brick into stone as a substitute for timber. Cochran argues that this transformation signalled the “a coming of age for Wellington”¹¹ as the capital city of New Zealand.

Vernacular and Revivalism: The use of style as a manifestation of culture in nineteenth century architecture theory

The transition from *raupo* and timber buildings to permanent, unreinforced masonry (URM) buildings of stone, brick (and sometimes concrete) in the nineteenth and early twentieth century created the current generation of earthquake-prone buildings. The grand, permanent buildings of this era are also a significant part of the current national collection of heritage buildings. The confluence of earthquake-prone and heritage buildings is the focus of this dissertation on the use of lightweight replica ornament in the management of earthquake-prone heritage. These grand public, ecclesiastic and commercial earthquake-prone heritage buildings, as a broad generalisation, share a further commonality as most were designed in a historicist vernacular style.¹²

Historicist architecture, or the revival of past vernacular styles, had been a conscious phenomenon in European architecture ever since the Classical revival of the Renaissance. ‘Classicism’ was based on the antiquarian study of the ruins and writing of Classical Greece and Rome, and this new Classical language of architecture utilised a distinct ‘grammar’ of ornament, proportions and symmetry to achieve a balanced and

⁸ Stacpoole, *Colonial Architecture in New Zealand*. 136–137.

⁹ Ibid. 187; Shaw, *A History of New Zealand Architecture* 34.

¹⁰ *A History of New Zealand Architecture* 34.

¹¹ Cochran, “Styles of Sham and Simplicity: Timber Buildings in Wellington to 1880.”, 111.

¹² See Appendix 1.

harmonious sense of beauty.¹³ Localised historic European vernacular revivals soon followed as the “cult of antiquity” devolved to new European nation states.¹⁴ These revivals had a political agenda of national (or regional) identity and sought to reproduce the architecture of a Romantic, pre-industrial or medieval golden age, both as a proof of a national “cultural climax”¹⁵ and as a “bulwark against disruptive change” in “turbulently modernising societies”.¹⁶

The Gothic Revival of the eighteenth and nineteenth centuries was one of the first, and certainly the most famous, attempts to revive a northern rather than southern European vernacular style.¹⁷ In England Augustus Pugin and John Ruskin, among others, contrasted the ‘godliness’ of the Medieval period with the ‘evils’ of the Industrial Revolution and campaigned for Gothic as an inherently Christian style.¹⁸ Debates of the Gothic Revival centred on “romanticism, nationalism, rationalism, ecclesiology and social reform”,¹⁹ and the morality of the Gothic Revival style lay in its avoidance of “architectural deceits” that, for Ruskin, included “the suggestion of a mode of structure or support, other than the true one”, “the painting of surfaces to represent some other material... (as in the marbling of wood),” and the “use of cast or machine-made

¹³ John Summerson, *The Classical Language of Architecture*, Revised and enlarged ed. (London: Thames and Hudson, 1980).; Peter Murray, *The Architecture of the Italian Renaissance* (London: Thames and Hudson, 1986).; Stacpoole, *Colonial Architecture in New Zealand.*, 185.

¹⁴ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity.*, 45.

¹⁵ Alina Payne, *From Ornament to Object : Genealogies of Architectural Modernism* (New Haven & London: Yale University Press, 2012). 100.

¹⁶ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity.* 99.

¹⁷ Peter Collins, *Changing Ideals in Modern Architecture* (Montreal: McGill-Queen's University Press, 1998). 100.

¹⁸ Payne, *From Ornament to Object : Genealogies of Architectural Modernism.* 46.

¹⁹ Collins, *Changing Ideals in Modern Architecture.* 100.

ornaments of any kind”.²⁰ From the writing of Ruskin and later William Morris began a fundamental suspicion about the use of substitute materials.

The revival of ‘golden age’ historic styles led to the idealised restoration of ancient buildings. For its most famous protagonist, the French architect and conservator Eugène-Emmanuel Viollet-le-Duc, restoration was not just a way to “preserve”, “rebuild” or “repair” a building; he instead strove to recreate a “condition of completeness which may never have existed at any given time”.²¹ The Restoration movement, according to Glendinning, was a product of the “dynamic nationalism” and of the “anchoring role of heritage”,²² and famous examples include the re-imagination of the ruined castle of Pierrefonds in Picardy into a perfect ‘château Disney’ between 1857 and 1884; the reconstruction from a “ruined stump” the ‘fantasy castle’ of Neuschwanstein in Bavaria between 1869 and 1886;²³ and in New Zealand the re-imagination of Bishop Pompallier’s printery at Kororareka into a bishop’s palace in 1943.²⁴ These imaginative “re-creations”²⁵ were designed to suit the then modern requirements of their nation state for a golden age architectural style of national identity.

By the late nineteenth century there was little differentiation in the architectural style of ancient buildings, restored (re-created) ancient buildings and new buildings. This was problematic in an age when style was seen as a manifestation of culture, and where it was argued that “the architecture of an evil social system must itself be intrinsically

²⁰ John Ruskin, *The Seven Lamps of Architecture*, ed. E.T. Cook and Alexander Wedderburn (London: George Allen, 1903). 60.

²¹ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 77.

²² Ibid.

²³ Ibid. 131.

²⁴ Gavin McLean, "Where Sheep May Not Safely Graze: A Brief History of New Zealand's Heritage Movement 1890 - 2000," in *Common Ground : Heritage and Public Places in New Zealand*, ed. Alexander Trapeznik (Dunedin: University of Otago Press, 2000). 31.

²⁵ ICOMOS New Zealand, "Icomos New Zealand Charter for the Conservation of Places of Cultural Heritage Value.", Cause 17.

evil”.²⁶ Ruskin’s language of the Gothic Revival and his anti-restoration stance became incorporated into the Anti-scrape theories of William Morris and others. The modern (vernacular revivalist) architecture of the age was thought to be tainted by the unsatisfactory social conditions of the industrialised nineteenth century. For those who rejected modernity and industrialisation, “it became vital [to know] whether a building was ‘original’ or a ‘fake’”.²⁷ The test of origin, and authenticity, for Ruskin, “rested not in the form but in the material”,²⁸ as built fabric was thought to absorb value and “became a repository for social and natural memory”.²⁹ These views on the separation of old and new, and the move away from style to built fabric as the repository of meaning, and the use of moralistic language to express ‘honesty’ in the use of materials, later became central tenets of both the Conservation and Modern movements.

Ornament and Crime: The use of ornament as a manifestation of style, and the downfall of ornament and vernacular

Ruskin’s rhetoric on the morality of Gothic architecture, rather than his prognostication on the evils of restoration, resonated in an age preoccupied with style as a manifestation of cultural meaning. Architects continued to view vernacular revivalist styles as a “choice of appropriate garb”³⁰ for new buildings until the inter-war period of the twentieth century. Ornament, from the hand-adzed lintels of the Medieval Arts and Crafts revival to the ornate tracery of a Gothic Revival window and the flowing, curved forms of Art Nouveau ironwork, was a key indicator of style and its application, alteration or removal could effectively change the cultural meaning of buildings. By the

²⁶ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 117.

²⁷ Ibid. 117.

²⁸ Ibid. 119.

²⁹ Ibid. 120.

³⁰ Payne, *From Ornament to Object : Genealogies of Architectural Modernism*.46.

nineteenth century, style and ornament occupied a central position in architectural theory.³¹

Ornament was ‘authorised’ by its long history of architecture theory. This was traced back by Renaissance architects and scholars to an origin myth in the writing of the Roman architect Vitruvius (c.80–15BC). For Vitruvius, *ornamenta* were the structural timbers of ancient Greek temples that had been translated by stonemasons into dentils, mutules, triglyphs and other decorative devices, and these set pieces were described in terms of *imago*. The modern definition of *imago*³² hints at transience, metamorphosis and memory, and is a useful way to study the materiality of ornament as something that was made of wood, translated into stone and reproduced in stucco and brickwork in the Victorian/Edwardian era. It also shows that current concerns about materiality are a product of the moralistic language of the Gothic Revival rather than a fundamental feature of architecture and modernity.

The mass production of ornament in the nineteenth century transported the status symbols of the wealthy into the over-stuffed parlours of the aspirant middle classes.³³ By then, ornament was considered a “basic human instinct”³⁴ and its evolution could be traced using Linnean and Darwinian theories³⁵ to create conclusive ‘proof’ of a hierarchy of civilisation, so that arguments about ornament centred on profound and contested concepts of morality, evolution and civilisation. By the end of the nineteenth century these highly charged debates about ornament, along with its perceived ‘detachability’, and the systematic search for a style to express the *zeitgeist* or spirit of the age and discontent with social progress led to a re-evaluation of the ornament,

³¹ Ibid. 30; Collins, *Changing Ideals in Modern Architecture*. 123; Robert Jensen and Patricia Conway, *Ornamentalism: The New Decorativeness in Architecture and Design* (New York and Canada: Clarkson N. Potter, 1982). 5.

³² Noun—An adult, sexually mature insect produced after metamorphosis; *Psychoanalysis*, an idealised image of another person, usually a parent, acquired in childhood and carried by the unconscious into later life.

³³ Jensen and Conway, *Ornamentalism: The New Decorativeness in Architecture and Design*. 6.

³⁴ Payne, *From Ornament to Object : Genealogies of Architectural Modernism*. 51.

³⁵ Collins, *Changing Ideals in Modern Architecture*. 103.

vernacular and historicism in architecture.³⁶ Although there were various architectural movements that directly addressed the problems of modernity, the most influential, enduring and widely proselytised was that of the Modern movement.

The Modern movement rejected historicism, vernacular and ornament, and proposed a “machine analogy” for an architecture that was “smooth, precise, crisp, and of exceptional consistency” that would be based on the “simple elegance of the essential form”.³⁷ Austrian architect Adolf Loos defined modernity as the antithesis of adornment in his influential 1908 essay, “Ornament and Crime”, which again relied on the high stakes rhetoric of cultural ‘evolution’, civilisation and morality.³⁸ For Loos, the use of ornament in pre-modern societies was linked with the “amoral” behaviour of the “uncivilised” savage, and of criminals and “latent aristocrats”, hence his assertion that “the evolution of culture is synonymous with the removal of ornamentation from objects of daily use”.³⁹

Modernism had a central humanitarian programme that highlighted the problems of the industrial age in terms of morality, health, welfare and housing, in much the way as the Gothic Revival⁴⁰ and the Anti-scrape anti-restoration movement. The Anti-scrape movement had succeeded in creating a break in history between the buildings and monuments of the pre-machine golden age and the modern (historicist vernacular) architecture of the ‘evil’ industrial revolution. It did this by refuting the use of restoration, and creating a ‘cult’ of materiality that rejected style as the repository of meaning. The Modern movement looked for a similar break between the current

³⁶ Payne, *From Ornament to Object : Genealogies of Architectural Modernism*. 158; Collins, *Changing Ideals in Modern Architecture*.

³⁷ Richard Streiter in Payne, *From Ornament to Object : Genealogies of Architectural Modernism*. 178; Jensen and Conway, *Ornamentalism: The New Decorativeness in Architecture and Design*. 10.

³⁸ *Ornamentalism: The New Decorativeness in Architecture and Design*. 7.

³⁹ Adolf Loos and Adolf Opel, *Ornament and Crime : Selected Essays*, Studies in Austrian Literature, Culture, and Thought Translation Series (Riverside, Calif.: Ariadne Press, 1998). 167.

⁴⁰ See chapter ‘Gothic Ecclesiology and Social Reform’ in Collins, *Changing Ideals in Modern Architecture*. 106–111.

architecture of revivalism, and a golden age humanised future. It was articulated by a rejection of ornament and of pastiche historic revivalist styles.⁴¹

Useless Ornament: The development of legislation and regulation

Modernism was framed in a moralistic and utopian language⁴² and claimed to be the only manifestation of modernity in the industrialised twentieth century. But if modernity is defined as a break from medieval feudalism towards the creation of rational, secularised nation states based on capitalist economies, then we are, according to Harrison, in an era of Late Modernity.⁴³ This separation of modernity from architectural expression validates the neo-Classicism of the Renaissance and post-Enlightenment, the historic vernacular revivals of the nineteenth century and postmodern architecture of the 1970s to the 1990s as part of a continuous history of the architecture of modernity.

There were various cultural manifestations of modernity in the twentieth century and examples include the reconstruction of post-war martyr town of Ypres after World War I and Warsaw, Nuremburg and Saint Malo after World War II, as “memory landscapes”⁴⁴ and the reconstruction of the museum towns of Colonial Williamsburg and New Salem. Local examples are the promotion by early twentieth century Māori leaders of a range of “different futures” for their people, “each with its own distinctive architecture that promised a prosperous modernity”.⁴⁵ These, argues Deirdre Brown, include the craft-based cultural revivals of the Māori Arts and Crafts school by Sir Apirana Ngata and the Tūrangawaewae Carving School by Te Puea Heranga, and the rejection of traditional forms by Whanganui-based faith healer and religio-political leader Tahupotiki Wiremu Ratana.

⁴¹ Jensen and Conway, *Ornamentalism: The New Decorativeness in Architecture and Design*. 9.

⁴² Christine Lodder, "Searching for Utopia," in *Modernism: Designing a New World 1914-1939*, ed. Christopher Wilk (London: V&A Publications, 2006).

⁴³ Harrison, *Heritage : Critical Approaches*. 77–79.

⁴⁴ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 191.

⁴⁵ Brown, *Māori Architecture: From Fale to Wharenui and Beyond*. 84.

Despite this argument for a plurality in the definition of modern architecture, by the 1930s modernity was defined by a growing number of New Zealand architects as adherence to the doctrines of the Modern movement.⁴⁶ These doctrines effectively ended the production of ornate and decorated URM buildings which in New Zealand included Victorian, Edwardian, Moderne and Art Deco styles. From the 1930s onwards URM ornament entered a ‘survival phase’⁴⁷ where it was effectively neither produced nor protected by any substantial heritage legislation. Ordinarily this survival phase would have been characterised by an era of neglect, followed by one of heritage ‘rediscovery’. In New Zealand, however, ornament proved itself to be a threat not only to cultural but to physical safety. The following excerpt from a 1913 newspaper article reflects a Loos-ian anti-ornament sentiment with its headline “Useless Ornaments”, and describes the death of a young Masterton man who was:

struck down by a globular ornament which fell from the Post Office. This unfortunate fatality brings home to one forcibly the absurdity of ‘decorating’ public buildings in a town subject to earthquakes with ornaments which do not add to the beauty of a structure, but are really a danger to life and limb...⁴⁸

Worse was to follow. The tragic circumstances of the 1931 Hawkes Bay earthquake triggered a national campaign to improve the seismic resistance of buildings. The first target was the removal of “useless ornament”, and building owners faced intense public pressure to remove the “top-hammer” from Victorian and Edwardian Classical buildings.⁴⁹

If the 1931 earthquake changed the way in which buildings were adorned, it also changed their basic underlying structure and materiality. Over the next forty years the use of brick and unreinforced masonry as a structural building material throughout New

⁴⁶ Justine Clark and Paul Walker, *Looking for the Local: Architecture and the New Zealand Modern* (Wellington: Victoria University Press, 2000).⁷

⁴⁷ See Hamer in Trapeznik and McLean, "Public History, Heritage and Place."22

⁴⁸ "Useless Ornament," *Wairarapa Daily Times*, 14 April 1913.

⁴⁹ "Earthquake Risks," *Evening Post*, 25 May 1931.; "Safer Buildings: Removing Masonry," *Evening Post*, 5 September 1935.

Zealand was gradually eliminated.⁵⁰ Pre-1930s buildings suddenly became irreplaceable, in terms of their building styles, ornament, basic construction methods and materials; and sometimes even irreparable, in terms of a like-for-like replacement of damaged or missing parts using locally available traditional materials and techniques.⁵¹

From the 1960s onwards earthquake-prone building regulations were introduced to manage the risk of older URM buildings.⁵² These regulations allowed local authorities to identify buildings that would be dangerous in the event of an earthquake and to compel building owners either to modify or to demolish them. The introduction of earthquake-prone building regulations led in part to the destruction of Victorian and Edwardian buildings, particularly in the central business districts of Wellington.⁵³ Destruction of high-profile buildings and places including Partington's windmill in Auckland in 1950⁵⁴ and the historic Bolton Street Cemetery in Wellington in the 1960s⁵⁵ led to the growth of New Zealand's heritage movement.⁵⁶ The culmination of this public interest in heritage was the implementation of the Resource Management Act in 1991 (along with its subsequent amendments), which placed an "increasing emphasis on local authority protection" of old buildings and sites.⁵⁷ This use of legislation to

⁵⁰ Charles Fearnley, *Where Have All the Textures Gone?* (Dunedin: John McIndoe, 1975). 10.

⁵¹ P N Davenport, "Review of Seismic Provisions of Historic New Zealand Loading Codes," in *NZSEE Conference* (2004).

⁵² Ibid.; Canterbury Earthquakes Royal Commission, "Final Report - Part Two (Volume 4) Earthquake Prone Buildings," ed. Department of Internal Affairs (Wellington 2012). 2.2.

⁵³ "History of Wellington: 1972 - 2000," Wellington City Council, <http://wellington.govt.nz/about-wellington/history/history-of-wellington/1972-2000>; e; Susan Foster and Julie Howarth, *The Fall and Highrise of Lambton Quay: An Exhibition* (Wellington: City Gallery, 1980), Microfilm; Chris MacLean, "Wellington Region - Economic Fall and Rise: 1976–2006: Demolish and Build," Te Ara - the Encyclopedia of New Zealand.; MacLean, "Where Sheep May Not Safely Graze: A Brief History of New Zealand's Heritage Movement 1890 - 2000." 41.

⁵⁴ "Where Sheep May Not Safely Graze: A Brief History of New Zealand's Heritage Movement 1890 - 2000.", 32.

⁵⁵ Ibid. 40.

⁵⁶ Ibid. 39.

⁵⁷ Ibid. 42.

authorise local heritage practices is a typical manifestation of official heritage in many Western countries.

That heritage has become a “ubiquitous global cultural phenomenon” is to some extent a response to uncertainty and risk.⁵⁸ Heritage, argues Glendinning, is the paradoxical “Child of Progress and Western modernity.”⁵⁹ Modernity, argues Harrison, articulates a sense of time passing in terms of “linear progress” with a “distinct break” between past, present and future⁶⁰ Modernity’s separation of past, present and future means that it has to manage its relationship with the past and future carefully. The way in which the present creates its own future is by identifying and managing risk, and risk is managed by the prioritisation of “abstract ‘expert’ systems over local forms of knowledge”,⁶¹ but most particularly by legislation. For earthquake-prone heritage buildings, risk management is two-fold and refers to the risk of loss of heritage, and to health and safety and the destruction of property.

⁵⁸ Harrison, *Heritage : Critical Approaches*. 3.

⁵⁹ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 6.

⁶⁰ Harrison, *Heritage : Critical Approaches*. 25.

⁶¹ Ibid.

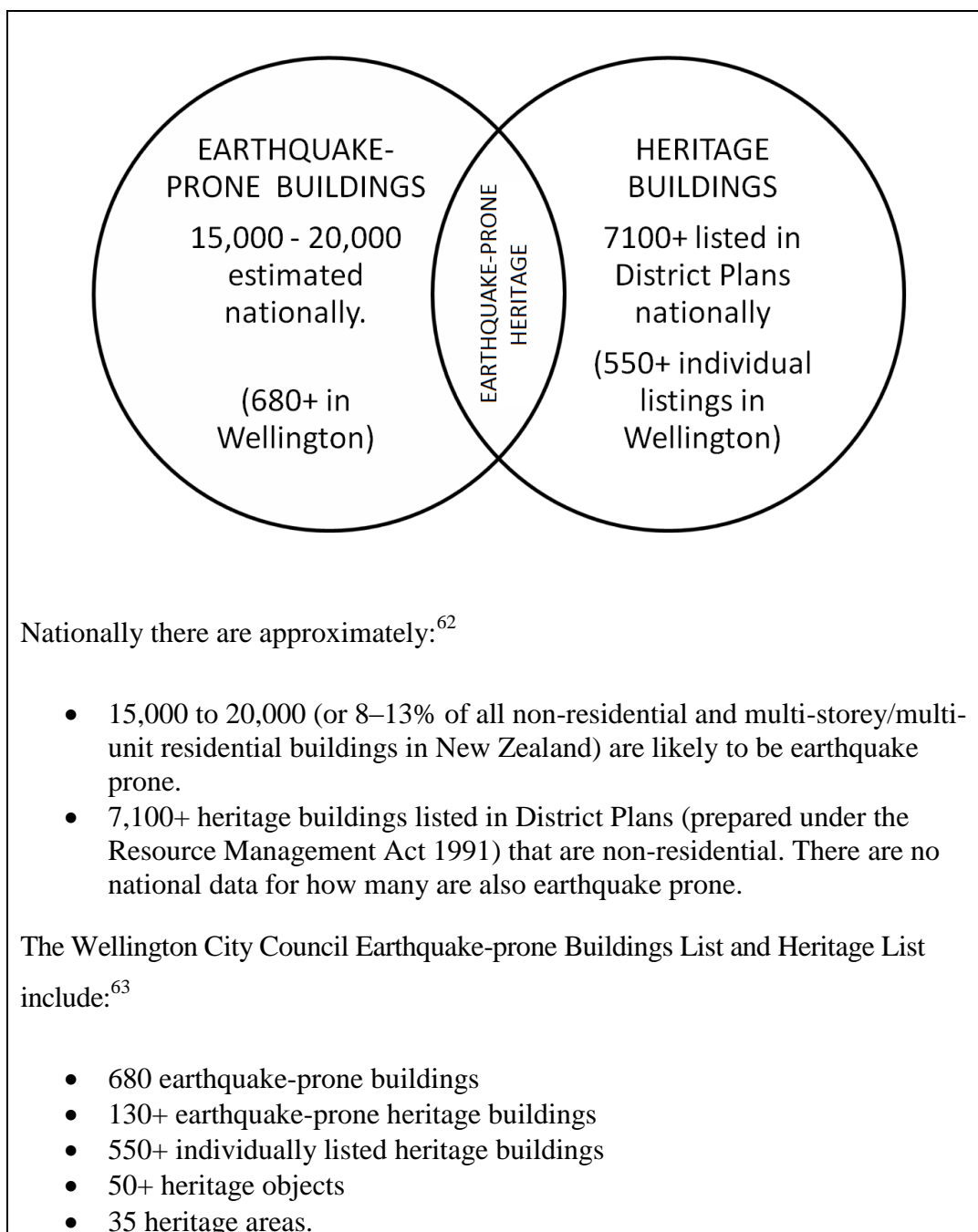


Figure 1.1: Earthquake-prone heritage buildings

⁶² "Cabinet Paper: Improving the System for Managing Earthquake-Prone Buildings," Ministry of Business, Innovation and Employment, <http://www.dbh.govt.nz/earthquake-prone-buildings-cabinet-paper>.

⁶³ Wellington City Council, "List of Earthquake Prone Buildings as at 05/06/2014," (Wellington2014).; "Heritage List (Amended 28 June 2013)," (Wellington2014).

Earthquake-prone Heritage Definitions and Management of Earthquake-prone Heritage Buildings

Earthquake-prone heritage buildings (as shown in Figure 1.1) are a subset of two local authority lists administered under two separate legislative frameworks, the Resource Management Act (1991) and the Building Act (2004). In general terms, the Building Act is concerned with the health and safety of people who use buildings, and the Resource Management Act is concerned with the use of cultural and physical resources (including heritage buildings, places and *wāhi tapu*).

‘Earthquake-prone’ is a cultural metaphor for an acceptable (or unacceptable) level of risk. It describes a building (including components such as chimneys and parapets) likely to collapse during a ‘moderate earthquake’ and cause injury, death or damage to other property. A ‘moderate earthquake’ is one that generates one third of the structural loads that would be used to design a new building for the same site,⁶⁴ and this is denoted by the shorthand of a percentage of the New Building Standard (NBS); an earthquake-prone building is one that is 33 per cent NBS or less. This assessment is site- and building-specific and takes into consideration the seismicity of the geological region and the underlying geology of the site, along with the building type and its use, and the height and number of storeys; in general terms it is not applicable to single-unit houses.

Local authorities generate Earthquake-prone Building Policies to comply with their responsibilities under the Building Act. These vary between authorities, but generally include an initial evaluation process (IEP) to identify potentially earthquake-prone buildings; a notification process for building owners and stakeholders (including Heritage NZ); a statement on how the policy relates to heritage buildings; a maximum timeframe for strengthening; and potential for enforcement action where those

⁶⁴ *Building (Specified Systems, Change the Use, and Earthquake-Prone Buildings) Regulations 2005*, (21 February). Section 7.

timeframes are exceeded.⁶⁵ Enforcement provisions include a prohibition on the use of or entry to the building and, as a final resort, the local authority may carry out the strengthening or demolition works at the owner's expense. Works to remove earthquake-prone status include strengthening or demolition, and generally require building consent. The consent process is also administered under the Building Act by local authorities. The proposed review of the Building Act and the effects of the Canterbury earthquakes of 2010–2011 will be discussed in Chapter 3.

Proposals to alter or demolish a heritage building often require resource consent. This is the case when the works exceed the permitted activity standards set out in the local authority District Plan. District Plans vary between local authorities, but are legal documents that regulate and manage the environmental effects of development. They include a wide range of land use restrictions that can range from issues for *tangata whenua*, to restrictions on housing density, provisions for open space including parks and town belts, utilities and the use of contaminated land. Heritage rules are generally accompanied by a list of heritage buildings, places, and *wāhi tapu* (to which the rules apply), and generally “have regard” to any relevant entry on the Heritage NZ (formerly the NZHPT) Register.⁶⁶ Other pertinent documents for earthquake-prone heritage include the Heritage New Zealand Pouhere Taonga Act (2014), which replaced the Historic Places Act (1993), the Conservation Act (1987), the Health and Safety in Employment Act 1992 (also currently under review), the Civil Defence and Emergency Management Act 2002 and the ICOMOS NZ Charter for the Conservation of Places of Cultural Heritage Value. This last forms the basis for the heritage and conservation work of most local authorities, government departments, heritage agencies and heritage professionals in New Zealand.

⁶⁵ Timeframes range from 1–70 years with an average of 17 years—Commission, “Final Report - Part Two (Volume 4) Earthquake Prone Buildings.”, Clause 7.2.2 & Table 1.

⁶⁶ *Resource Management Act (1991)*. Clause 74(2)(b)(iia).

The ICOMOS NZ Charter seeks to accommodate local “cultural attitudes to historic heritage which are not universally shared with other countries”.⁶⁷ The document follows the spirit of the Venice Charter (1964) and is underpinned by the “respect for surviving evidence and knowledge”, asserting that “Conservation maintains and reveals the authenticity and integrity of a place, and involves the least possible loss of fabric or evidence of cultural heritage value”.⁶⁸ The Charter lists degrees of intervention in terms of repair and restoration, in order of preference, including: ‘preservation’ by repair and maintenance; ‘restoration’ through reassembly, reinstatement, or removal; ‘reconstruction’; and adaptation. The ICOMOS NZ Charter goes on to echo the concerns of Venice Charter in its comment that:

Re-creation, meaning the conjectural reconstruction of a structure or place; replication, meaning to make a copy of an existing or former structure or place; or the construction of generalised representations of typical features or structures, are not conservation processes and are outside the scope of this Charter.⁶⁹

This paragraph essentially rehabilitates the word ‘restoration’ and assigns the term ‘re-creation’ to denote the type of imaginative restoration projects that so appalled the Anti-scrape movement of the nineteenth century. Restoration thus becomes a process of “reassembly and reinstatement” that can be used to recover or reveal cultural heritage value.⁷⁰ On the other hand, reconstruction introduces new materials to replace elements that have been lost, and is appropriate:

if it is essential to the function, integrity, intangible value, or understanding of a place, if sufficient physical and documentary evidence exists to minimise conjecture, and if surviving cultural heritage value is preserved.⁷¹

⁶⁷ Salmond, "From Dead Ducks to Historic Buildings: Heritage Terminology and Conservation Planning.", 50–51.

⁶⁸ ICOMOS New Zealand, "Icomos New Zealand Charter for the Conservation of Places of Cultural Heritage Value.", Clause 5.

⁶⁹ Ibid. Clause 17.

⁷⁰ Ibid. Clause 19.

⁷¹ Ibid. Clause 20.

Any such repairs should be carried out in “matching or similar materials” and “traditional methods and materials should be given preference in conservation work”.⁷² The Charter is clear that there is no requirement for a strong visual differentiation between old and new work in its assertion that:

Any alterations or additions should be compatible with the original form and fabric of the place, and should avoid inappropriate or incompatible contrasts of form, scale, mass, colour, and material.⁷³

The Charter also recognises the fundamental utilitarian nature of most buildings in its note that “the conservation of a place of cultural heritage value is usually facilitated by the place serving a useful purpose.”⁷⁴ This coincides with the view of English Heritage (EH), which also notes a requirement that buildings remain “fit for purpose”.⁷⁵ EH argues that it is possible to reconcile “legislation with significance” by the use of “ingenious and bespoke solutions developed in close consultation with controlling authorities”.⁷⁶ It does, however, call for “an appropriate balance between meeting the functional requirements of the legislation to a reasonable level while sustaining heritage values”.⁷⁷

Peter Phillips, writing from an Australian point of view, is less sanguine and describes safety in terms of something that is culturally ascribed rather than intrinsic to ‘things’. Legislation, according to Phillips, is a form of risk management based on a balance between the cost of compliance and “the risk of failure and the consequences of that failure to society”.⁷⁸ At any time the costs of both failure and compliance can be renegotiated, particularly as building technologies change, because of lobbying by

⁷² Ibid. Clause 18.

⁷³ Ibid. Clause 21.

⁷⁴ Ibid. Clause 8.

⁷⁵ English Heritage., *Conservation Basics*. 78.

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ Peter Phillips, "Becoming Unsafe Overnight: Managing Historic Buildings as Building Regulations and Standards Change," *Advanced Materials Research* 133-134(2010). 156.

special interest groups or in the aftermath of “natural or human-induced disasters”.⁷⁹ A consequence is that, as “changes to buildings standards occur, buildings constructed to comply with a previous standard instantly become non-complying”.⁸⁰ Phillips does, however, concur with the concepts of ingenuity raised by EH and argues that the current move towards performance-based solutions, rather than prescriptive codes, is generally (but not always) of benefit to historic buildings.

Conclusion

The arguments against, the use of lightweight replica ornament in the construction of safer built environments will be discussed in detail in Chapter 2. Chapter 1 has set out the preconditions for those debates. It began by establishing the definitions of earthquake-prone buildings as a group of, in general terms, URM buildings for which ornament was an important architectural feature. This type of building was produced until the end of the inter-war period until the Modernist theories against the use of ornament and pastiche were assimilated by New Zealand architects. The Hawkes Bay earthquake of 1931 and subsequent changes to building safety legislation and regulations had a significant impact in their management and survival over the past eighty-plus years, and this appears to continue to be the case for the foreseeable future. The buildings are now considered to be part of the nation’s cultural heritage and there are both legislation and locally administered rules to govern the management of their cultural heritage values. Earthquake-prone Building Policies and heritage rules appear to have conflicting aims, and the potential for reconciliation was discussed briefly in Chapter 1, and will be returned to in Chapters 2 and 3.

Chapter 1 began with the research question: Can lightweight replica ornament be used to manage the cultural heritage value of earthquake-prone buildings? It explored the historic use of substitute materials. The chapter extended Park’s argument about the traditional use of substitute materials from the literature review, and added the context of the Modern and Conservation movements. For these two movements the use of

⁷⁹ Ibid.

⁸⁰ Ibid.

substitute materials was an anathema, particularly when newly built ‘things’ were designed to imitate the ‘ancient’. This view can be modified by the postmodern concerns of Bruner from the literature review and his assertion that simulacra, or attempts to recreate the past, are typical of the way in which cultures continue to reinvent themselves. This means that the use of timber to imitate ‘freestone’ at the Government Buildings, along with the later use of lightweight materials to reinstate missing features, have both become part of the story of that place, and it will be interesting to see how they are maintained and conserved over time.

The imitation stone, once timber and now fibreglass, lion on the coat of arms on the Government Buildings (see Appendix 2) is an example of a lack of differentiation between old work and new repairs. The controversy of differentiation was, according to Glendinning, re-staged throughout the twentieth century and embedded in the Venice Charter. The current ICOMOS NZ Charter clarifies the current situation and removes the necessity to differentiate between old and new. This means that any reconstructed ornament used for the management of heritage value should always be a close copy of the original. This clarification of differentiation conforms to Stalnaker’s argument in the literature review, where Stalnaker argues that the value of copies is that they allow the viewer to access the “originating visual experience”.⁸¹ This suggests that reconstruction of missing ornament is a valid approach to the conservation of heritage value.

The reconstruction of missing things is a form of restoration. The literature review and Chapter 1 have discussed the polarised debates about restoration, and the presumption against restoration as a cornerstone of the British tradition of conservation. Part of the issue was the use of the term ‘restoration’ to describe the reconstruction of ancient monuments in an imagined and idealised style. The term has been effectively rehabilitated recently in the EH literature and in the ICOMOS NZ Charter and has been ‘restored’ to its intuitive meaning, as the return of something to a known previous condition or state. I think there is space for the term to be further reconciled, and there is a possibility that it could align in its meaning to the wider conservation community,

⁸¹ Stalnaker, "Fakes and Forgeries." 523.

particularly in terms of ‘restoration’ of ecological habitats and environments. This possibility will be discussed further in Chapter 3 and in the conclusions.

Chapter Two

“A Questionable Process”: The interviews

This dissertation investigates the use of lightweight replica ornament as a way to manage the heritage values of earthquake-prone buildings. The literature review and first chapter established the theoretical framework and methodology for research, and examined the historic context for ‘ornament’, ‘replica’, ‘earthquake-prone’ and ‘heritage’. Chapters 2 and 3 build a path between theory, context, enquiry and observation using the three key themes already identified: heritage and modernity; safety, risk and loss; and ornament and replica. The overall aim is to shift a technical question: What materials should be used to fix old buildings? into a wider critical theoretical context.

Chapter 2 analyses the data from the qualitative interviews of professionals who have an interest in the management of earthquake-prone heritage. It is not a critical review of practice, but instead seeks to reframe existing practice from within the critical framework of heritage studies. This was achieved through structured discussions of current practice with seven respondents with various professional backgrounds. These are, in alphabetical order, Alison Dangerfield (AD), Bruce Petry (BP), Cass Goodwin (CG), Carole-Lynne Kerrigan (CK), Myfanwy Eaves (ME), Patrick Cummuskey (PC) and Peter Reed (PR). The participants were not acting spokespeople for the organisations for which they worked but instead participated as individuals with their own views on the research problem. As a background to their responses, BP and PR are heritage architects, CK is a heritage consultant, and CG is a structural engineer. All four are in private practice: ME and PC both work for local government, where ME is an archaeologist and heritage advisor and PC works within the remit of Building Control rather than Heritage. AD is also a Heritage Advisor for architecture.

The interview questions were designed to provide qualitative data on current professional practice, and on the wider cultural-climate in which each individual operated. This was analysed in terms of ‘prevalence’, ‘values’, ‘existing fabric’, ‘replicas’, ‘materiality’, ‘fakes’ and ‘guidance’.

Prevalence and Precedence

Although not unknown, lightweight replica ornament was rarely used by this group of interview respondents as a way to manage the cultural heritage value of earthquake-prone buildings. Very few had been involved in completed projects, but all knew of specific precedents that ranged from fibreglass chimneys to polystyrene decorations, to plywood and glass reinforced concrete (GRC) parapets. When asked about their reactions to these projects, many respondents instead stated a personal philosophy on the use of lightweight systems. These ranged from strongly negative, in terms of the conservation of heritage value of buildings, to relatively positive, in terms of public well-being and safety.

Those whose prime role was in the conservation of individual buildings, for example consultants and architects, gave the strongest negative reaction. A typical response was that of heritage architect PR, who said that “we couldn’t bring ourselves to put a fibreglass chimney on a lovely old villa...” Those who worked in local authorities generally gave the strongest positive reaction and spoke in terms of balancing the concerns of heritage, economics and public safety. PC noted that the “fundamental requirement” of his role in Building Control was “to ensure that we have a safe city” and that:

we want to encourage people to take the appropriate steps to upgrade their buildings. If the replacement of chimneys and parapets and other elements with lightweight replicas is the best option in terms of that balance, then yes we support it... [but that]... the more pertinent issues around replacement elements lies more with the heritage team, and there are arguments against replica elements in the same way that there are arguments against facadism; so that while we may be achieving objectives under the Building Act we are undermining the objectives of the RMA heritage provisions.

Tension between heritage protection, economics and life safety (and the difficulties in reaching a satisfactory resolution) was a common theme throughout the interview process, mentioned in some format by almost every respondent.

The precarious balance between safety, economics and development and the integrity of buildings was thought to have longstanding historic precedents. BP made a direct link between ‘safety’ and Modernism with his comment that URM ornament was removed from buildings “everywhere across the country”:

after the Napier earthquake in the '30s. It was tied in with Modernism. They were not only getting rid of the dangerous [parts of buildings] but were re-facing... [Classical buildings] and making them look modern.

While PC spoke of the building boom of the 1980s when there was “a very similar series” of Earthquake-prone Building Policy type programmes “across the country” and “that, combined with a lack of heritage controls, and the particular economic situation”, resulted in the “wholesale demolition of the Auckland Central Business District... [and, consequently, to a] rise of various heritage advocacy groups and heritage legislation”. In a similar vein, BP considered that there were few current enquiries about the management of earthquake-prone ornamentation because “people are more interested in demolishing the whole building”. Others reported that it was for dangerous chimneys (rather than ornament) that they received the most enquiries.

Valuable Ornament

Chimneys, as non-functioning appendages to heritage buildings, fit the definition of ‘ornament’ as “a thing used or serving to make something look more attractive but usually having no practical purpose...”¹ This definition appears to be a construct of Modernism, as ornament (like chimneys) once had an important function; chimneys had a ‘practical’ function for ventilation, and ornament was the locus of style and meaning. When questioned about the ‘purpose’ of ornament, however, most of the respondents disagreed with a superficial or discretionary definition and argued that it was an essential feature of many heritage buildings. The ‘practical purpose’ of ornament was “to disperse water” and to control how buildings age and ‘weather’ (CK); such details had social value “because they reference a time and place when the building was created” (ME); and ornament was “part of the visual image of a building—and its character” (PR). For PC, moreover, ornament was included in the “psychological aspects of why we are attracted to older buildings...” for which there is a “dearth of research globally on the topic”:

¹ "Ornament."

Generally people just come down to the simple answer of, ‘oh it’s all subjective and you just can’t measure it’. I think the truth is that you probably can measure it, but it requires a substantial amount of research and that just hasn’t happened yet. (PC)

For others, ornament is an indicator of style, particularly for “Edwardian or Victorian styles” where “decoration was a *really* big thing” (AD). The removal of ornament could transform architectural style so that a “Neo-Classical building” without ornament “becomes a modern (rather, a different style of) building” (CK). When ornament was removed because of a major historic event, for example the 1931 Hawkes Bay earthquake, then it could become part of the historic record of that building: “we don’t think anything less of those buildings because they have lost material—we just note that is what happened” (AD). The ongoing loss of “vitally important” ornament was, however, considered problematic by PR, who argued that a building was “only complete when they first finished it... [and when] you ‘*just* take a few little bits off’... [then it is impossible to see] the original design intention”.

The value of ornament, and its subsequent loss, was central to any justification for reconstruction. Reconstruction ranges from small details such as finials and trim, to large elements including pediments, parapets and chimneys. At its most extreme it includes the reconstruction of entire buildings. New buildings, designed in a generalised historic vernacular (for example faux 1880s-style cottages), are considered as replication rather than reconstructions under the ICOMOS NZ Charter, and replication was considered by respondents to have no inherent heritage value. Similarly, the reconstruction of a ‘lost’ building with a new replica *doppelganger* does not necessarily entail a transfer of heritage value from the old to the new. When heritage buildings are destroyed, argued CK, their value is non-recoverable. This is because the “significance of the actual fabric to heritage” is seen as greater than any superficial resemblance (AD). Although reconstructed buildings do not inherit heritage value from their predecessors, they could acquire their own history over time. AD spoke of the Rangiatea Church, rebuilt after a fire because “the building’s community valued it so much”, and noted that “the heritage values of the original church are gone, and it’s starting afresh”. The controversy surrounding replication and reconstruction is due in part, argued BP, to the way in which the “Modernist approach snuck into a lot of old policy”:

People hate the idea of replication. It is like driving a stake into the heart of architecture and nobody can bring themselves to replicate any more, whereas I think in the pre-1930s—replication—you just did it. After the 1930s the idea of replication is an anathema. I think we are moving back, and a lot more people are comfortable with the idea of replication than they had been.

The Venice Charter approach, premised on the importance of materiality and built fabric (rather than other forms of authenticity), was a common response throughout the interview process.

Existing Built Fabric

The preservation of the original built fabric of heritage buildings is the highest priority for almost all the heritage consultants and advisors. AD summed up a general preference for repair, rather than replacement, in her comment that “the best answer is to strengthen, restrain, and place integrity into those [earthquake prone] elements so that they can stay”. Repair and strengthening were generally considered to be practical and achievable. Intervention, particularly when it altered or destroyed existing built fabric, was seen as problematic. It required a rigorous decision-making process that was based on research (that resulted in defensible outcomes) to be considered successful.

AD noted that the “case-by-case” decision-making process for intervention was “very, very hard”. Reconstruction was easier to justify when things were missing, argued BP, as “removing existing material, replicating it, and putting it back in supposed safer form is... a questionable process...”; “I’d much rather see the cost put into restoring original or authentic fabric rather than putting money into titillation just for the sake of it”.

Intervention that removed sound and repairable original material was difficult to defend; but the removal of unsound and irreparable items was considered justifiable, although the definition of ‘irreparable’ was contestable. Even eroded stone features “don’t have to come down”, argued CK, and intervention is only necessary when things “are in danger of falling off the building and are therefore life threatening”. The question of what was repairable and what was beyond repair relied, to a great extent, upon the expert knowledge of structural engineers. CK argued that “you really have to argue and get a good engineer on your side. One who can work with you and come up with a good solution”. Structural engineer CG noted that stabilisation of URM ornament was

“absolutely do-able”, with the proviso that the structural engineer had to be “reasonably clued up to the heritage issues”. The converse is also true, and heritage consultants also need a basic understanding of available repair systems. PR gave an example where a parapet was rebuilt in Oamaru stone, because the architect had technical knowledge of a range of suitable reinforcement solutions. He noted that:

You’ve got to be on top of the technology just to keep ahead of the guys who want to change things because they weren’t familiar with the fact that there was an alternative bar available... you have to know a huge amount about the materials.

This acknowledges that there is a co-dependent relationship between engineers and heritage consultants, and that both require an understanding of both heritage and structural principles to achieve good outcomes for heritage buildings.

Replica and Reconstructions

Replica and reconstructed things were, to some extent, seen as an acceptable response to loss. This was justified in terms of the ‘completeness’ of the overall composition; as an aid to the interpretation of building’s style; and as a way to reveal the design intent of the original architect. BP noted that the replacement of “elements that are missing” allows for a “better interpretation for the reader.” This restoration of a building back to a previous appearance suits some buildings where “design intention” and ‘completeness’ are “where the heritage value or authenticity of the place lies”, but does not suit all buildings. Unsuitable buildings are those whose authenticity lies in their “ongoing use and the changes that occurred to that building over time...” particularly when there is no apparent date or incarnation to restore back to.

Like-for-like materials, trades and technologies were seen as the most appropriate for use in reconstruction projects. These were considered, in general terms, achievable using current engineering technologies to provide safe outcomes. PR noted that, for parapets, “I don’t know if they have to be put back in a lightweight material, you can use a heavy-weight one and not endanger anybody”. This point of view was shared by structural engineer CG who considered that restoration and “reinstating what was there” by using a mix of traditional materials and modern technologies were preferable to the use of lightweight systems. BP summed this up with his comment:

It comes right down to the fact that replication in general, even replicating like-with-like, is sometimes (in heritage terms) pretty complex. When you are replacing things that are not even 'with-like', you really have to ask the question why you are doing it. If it's gone, it's gone, and you've got to have a really good reason why you're putting it back.

There was some limited support for lightweight replica chimneys when the internal structure had been lost historically, and for buildings that were "significant for having had chimneys". AD stressed a preference for traditional materials and technologies, but noted that lightweight chimneys can "give an appreciation of the heritage place as it was originally seen". This was a controversial statement and CG responded:

I can understand the rationale to a point—in terms of preserving the visual aspects of a roofline—but from a practical point of view it seems a bit unusual to me. You get a funny pointless shape on top of a roof just for the sake of it. But it serves no real purpose.

The cartoonist Mark Winter, known as Chicane, shared CG's concerns about the reinstatement of non-functioning chimneys:²



² '\$46[million] to be spent restoring Government House, including the reinstatement of 18 chimneys, not all connected to fireplaces'. 21 July, 2008. Winter, Mark 1958: [Digital cartoons published from October 2007 in the Southland Times]. Ref: DCDL-0007190. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/22539508>

Expensive and Short-lived

The current array of available lightweight systems was criticised for being expensive, inferior (in terms of aesthetics and detail), and having distinct and discernible patterns of ‘weathering’ and ageing, and a relatively short maintenance cycle/design life. These criticisms were particularly levelled at fibreglass replica units, for example chimneys, and based on the opinions and experience of the respondents rather than a technical study of the available options. The ‘worst’ examples were considered to be lightweight materials that imitated the finished surface of a traditional material—for example, fibreglass moulded and coloured to imitate brick and mortar. More successful examples were lightweight substrates, such as glass reinforced concrete (GRC) or plywood that had an overlaid traditional surface material such as a rendered coating.

The relative costs of replicas, reconstruction, and repairs were discussed, but not ultimately resolved. CG asserted that, if a client wanted to install a replica, “I would probably try and talk them out of it, and say “we can fix that for about the same cost as making a replica”. PR spoke of a lightweight chimney system that had recently been evaluated and found to be inferior in terms of aesthetics and detail, and more expensive than a traditional rebuilt brick chimney supported by a structural steel liner. Others asserted that repairs and reconstruction using traditional materials were perceived by building owners, structural engineers and contractors as more expensive and harder to engineer than lightweight systems.

Lightweight systems were also thought to be inexact copies, both in their overall form and appearance, and in the way in which they weather over time. PR spoke of a particular proprietary lightweight chimney system: “we weren't that impressed with the way they had detailed it... [although] from a great distance you wouldn't tell the difference except for the detailing of the flashing at the interface with the roof. That's [always] the single biggest give-away”. Another give-away for PR was the way in which some lightweight materials such as fibreglass age over time:

An important thing about buildings is the way in which they weather—the lichens that grow on them; the shadows that appear; the discolouration and darkening on the undersides. You don't get a lot of that with fibreglass because nothing seems to grow on it, not until its oxidised and is breaking down itself.

AD spoke of a lack of “solidity” of polystyrene systems, and CK raised concerns about maintenance and repair cycles with her comment that “we don’t know how long those remedial solutions are going to work”. PR gave an example of a small scale fibreglass replica that “hasn’t weathered well” and noted that “if you were putting on a replica that was going to last 100 years—that just shifts [the debate] a little bit. But you’re taking off the real thing and replacing it with something less durable...” so owners end up with a replica that needs more frequent maintenance than the original it replaced.

The basic advantage of lightweight replicas is the relative simplicity of the design and manufacture of the structure and support systems. CG summed this up: “In pure engineering terms it’s very simple—less weight and less dangerous stuff to worry about—so it simplifies the problem”. But despite this ease of design, structural engineer CG was quick to add a clear preference for traditional materials mixed with contemporary structural solutions.

Fakes and Forgeries

Despite the preference for repair (over reconstruction), and traditional materials (over substitutes), replica chimneys are now relatively common in many New Zealand cities. CK noted the ubiquity of replica chimneys in post-quake Christchurch and argued that:

I think I’d prefer to see replica chimneys as a spatial thing in different materials echoing the simplified form of what was once there. The use of textured plasters and/or plasters coloured with pigment, combined with the use of shadow lines, may assist with this form.

CK’s concern was, in part, about the lack of similarity between ornate, corbelled brick chimneys and their (rather unconvincing) replacements, and this problem of differentiation was raised by many interview respondents. Differentiation between the replica and the original occurs when modern materials cannot create an exact copy, or where original records and photographs do not show sufficient detail. ME stated “you can’t always get it done exactly” and asked:

and so at what point do you create a point of difference?... Do you want to replicate exactly? Or do you want to replicate in accordance with style and form—so that you’ve got the effect that the architect was trying to create? But you are also acknowledging that it’s a new piece and it’s a replacement and rebuild...

Any conscious attempt to differentiate between the old fabric and new repairs was, according to Glendinning one of the “endless debates”³ of Modernism. Part of Modernism’s concern for differentiation (and postmodernism’s fascination with copies) centres on honesty and illusion. PC expressed his disillusionment with the ‘dishonesty’ of facadism in similar terms:

with structures where you’ve demolished all of it, bar the facade, or where you’ve replaced substantial portions of it with new materials—if you are unaware of it [then] there’s the illusion that there is history there. However, as soon as that illusion is broken, and as soon as you walk through the doors of that facade, or you come up and touch that replica element, then the illusions are dispelled and the ‘impacts’ can be quite substantial. I have had people say to me that they would prefer that the facade was just gone entirely, rather maintained as a mockery of what it once was.

Art conservators have a similar pre-occupation with fakes and with an ‘honest’ representation of repairs. PR used a comparison with art conservation to discuss simplified replicas, where ornate original features could not be copied exactly, but where there was a value to the original composition, and its scale and depth:

so it’s a little bit like in restoring art work where artists dot in patches. From a distance it looks [like the work is complete] but close up you can read that it’s different. I suppose that it comes back to a lot of ICOMOS discussions around moving away from replication, as such, but looking at it as patterning—so that on closer interpretation it is clear what’s been added.

This, however, did not give creative licence to the designer of the repairs and PR cautioned that:

you can’t put too much personal opinion into things if you’ve got real evidence... [you can’t say] ‘I don’t like the look of that so I’ll change it’... if you know what was there then I think you owe it to the building to reinstate it. It makes it better for another reader.

³ Glendinning, *The Conservation Movement : A History of Architectural Preservation : Antiquity to Modernity*. 202.

Guidance

Worse even than personal opinion was considered to be when a building's earthquake-prone status becomes a licence to damage or destroy historic buildings. PR argued that "we are using a sledgehammer to crack a walnut and it becomes an excuse to pull the building down", citing the example of a chain reaction:

it's all very easy to whip out the big chimney and put a lightweight replica up. That straightaway opens the door to 'let's take whole of the rest of it out and then we can change all of the inside of the building' and then you start to lose more and more of its original planning... the next thing the whole thing is gutted and all you have left is this little facade with a dinky chimney on top.

This kind of over-reaction was seen by some of the respondents as a lack of understanding about the actual risk, the potential for repair and the value of original fabric to heritage buildings.

Most of the respondents agreed that they had access to sufficient guidance to inform their own practice, particularly with the ICOMOS NZ Charter, the NZHPT and various "statutory and legislative" guidance and requirements. CG spoke of working within a team of specialists and noted that:

There is almost always, on any significant heritage building, a heritage architect who tends to take control of that aspect of things. You don't really get heritage engineers so much, although you get engineers who are well versed in dealing with it, and [who] get to know what the acceptable and less acceptable responses are, and what the usual problems are.

Some of the interviewees had produced guidance documents particularly PC who had written the *Auckland Council Guide: Earthquake-prone buildings*. BP at Salmond Reed noted "we prepared a policy document for the HPT on replication particularly in relation to chimneys... that pretty much clarifies our view on replication", while CG's

thesis⁴ was part of a “research project to develop codes and guidelines”. BP considered that the key issue was not a lack of guidance, arguing that:

There is quite a bit of guidance. The councils and HPT are busy putting out guidance, but at the end of the day it comes down to the willingness of the [building] owner to put money up; the cost; the skill of the engineer in coming up with cost-effective solutions; good negotiation; and the support of good regulatory controls through HPT and the councils. Those are, at the end of the day, the things that are going to make a difference.

Those who spoke about a lack of guidance did so within specific parameters. CK noted that her current work in Christchurch was “a salvaging of heritage values” rather than recognisable conservation. She noted “with Christchurch what has happened is just so unprecedented. I think the way we think that heritage works—doesn’t work in a disaster area. It’s as simple as that”.

Structural engineers have key role in the conservation of earthquake-prone heritage buildings, both in the assessment/IEP process and as the designers of remedial work to improve the structural performance of buildings. As noted in interview, CK talked about the value of collaboration with structural engineers who are well versed in the core heritage theories and concepts. PR also noted that heritage consultants themselves have to have a broad understanding of available structural systems, traditional construction techniques and new technologies. BP talked about a ‘toolkit’ of available techniques that could be used to strengthen buildings, and CG noted the limited guidance available to structural engineers:

Guidance available to me is really my own research, and talking to more senior engineers who have experience with historic buildings, and heritage architects and the Historic Places Trust—who tend to be much better versed in these sorts of things. In terms of publications there is very little. That’s what I was trying to do in terms of NZSEE articles and my thesis generally—to create a little bit more awareness of the issues surrounding it, because engineers can [see the problem as a technical issue]... they don’t [always] think about the heritage aspects of it.

⁴ Cass Goodwin, "Architectural Considerations in the Seismic Retrofit of Unreinforced Masonry Heritage Buildings in New Zealand" (The University of Auckland, 2008).

In his own research CG argued for the introduction of a “best practice guide” for engineers and noted that his thesis was designed in part as a “repository of responses that have been successful, or less successful, [so as to make]... that information available for people to reference, when they are in the same situation”.

Surely, the converse would also be true: a best practice guide for structural engineers would benefit heritage consultants. This is because they also need to understand the constraints that structural engineers work under, and the extent of available solutions and technologies. Earthquake-prone heritage buildings are the nexus between the concerns of ‘safety’ of structural engineers and the central issue of ‘conservation’ for heritage professionals. If we want to resolve the problem of earthquake-prone heritage buildings and provide ‘safe heritage’, then we need a good working relationship where both ‘sides’ of the heritage/safety debate can communicate effectively.

Conclusion

Lightweight replica ornament is considered by respondents to be a rarely used method of managing the heritage value of earthquake-prone heritage buildings, but in-depth research into its use raises many core concerns of conservation. These include a re-evaluation of ornament, a century after Modernism’s prohibition, as something that is an essential part of the built-heritage landscape. The consequences of the removal or loss of ornament are multi-layered and in some cases become part of the story of the nation’s heritage collection.

Loss of built fabric means an irreversible loss of heritage value, as value is seen to be intrinsic to built fabric rather than to image or superficial resemblance. Reconstructed things do not automatically inherit the heritage value of their predecessors, respondents considered, but instead accumulate their own history, significance and value over time; reconstruction is seen as a valid response to loss, particularly when due to uncontrollable events such as fire, earthquake, weathering and decay. Intervention that damages or destroys built fabric, even when it results in a ‘safe’ reproduction of the original, is seen as contestable and difficult to justify. This view of the intrinsic value of built fabric is somewhat at odds with the de-naturalised concepts of cultural heritage value discussed in the literature review. This will be discussed in further detail in Chapter 3.

Reparability is a key argument used by heritage consultants for the retention of existing built fabric. This is problematic because reparability is also central to many (if not most) of the debates about earthquake-prone heritage. This has been the case in post-disaster situations where the impulse has been to demolish rather than repair; and is voiced by property owners and developers who can see greater profit in redevelopment. For heritage consultants and advisors, the ‘gatekeepers’ to reparability are structural engineers—and this is where guidance, designed to create good working relationships, should be targeted.

This chapter records current professional practice and views on the use of lightweight replica ornament, and is focussed on the point of view of individuals who have a professional role in the management of earthquake-prone heritage buildings. This in-depth review gives a clear snapshot of current heritage practice in terms of: the prevalence of the research question; values of ornament, built fabric, and replicas; the limitations of substitute materials; and the availability of guidance. Similar in-depth research of the other stakeholder groups would be of particular value to establish the values of earthquake-prone heritage, the potential for loss and the consequences of that loss to each stakeholder group. From this would emerge a clear, albeit contested, vision for ‘safe heritage’.

Chapter Three

“Actors, Actions and Agency”:

The wider context for earthquake-prone heritage

Professional opinion on the use of lightweight replica ornament is stated in unequivocal terms by the respondents in Chapter 2. There is appetite neither for the removal of repairable built fabric nor for its replacement with frivolous, insubstantial facsimiles. The research therefore demonstrates that built fabric continues to be conceptualised as a manifestation of history and heritage value, and these values are considered to be non-transferable between the original and any newly built likeness. This means that the repair and retention of original (or significant) built fabric is the highest priority for heritage professionals. The findings also show conclusively that any justification for the use of replicas in reconstruction is predicated by loss, so that although replica ornament cannot be used to *replace* existing repairable things, it may be used to *reinstate* missing things. Ornament is considered an intrinsic part of some historic building styles, and the loss of ornament has considerable consequences for buildings where architectural style and completeness hold the most significant heritage values. Restoration is legitimised in terms of ‘readability’ and ‘narrative’, particularly as a way to reveal the story of a place. Replicas can also accumulate their own history and heritage value so that, over time, they too become part of the narrative of that place or ‘thing’.

Restoration, as an intervention that returns a building to a previous known appearance, is held by respondents to be difficult to justify without caveat. If replicas can accumulate history and heritage value, so too can any other similar historic adaptation. Losses due to historic events such as the Hawkes Bay earthquake are seen as part of the story of place; places valued for their history and ongoing use are seen as poor candidates for any restoration that would ‘freeze’ them in a particular time or incarnation. Restoration is complex, and any intervention that changes the built fabric of a place requires a rigorous and defensible decision-making process.

The data from the interviews in Chapter 2 also show that traditional materials are considered to be the most appropriate for the repair of old buildings and for the reinstatement of missing things. Although lightweight substrates are thought to have

some merit, other substitute materials are seen as problematic in terms of weathering, durability and appearance. Materials that mimic the surface finish of traditional materials, for example fibreglass moulded and stained to look like bricks and mortar, are particularly difficult to reconcile. This is seen by some as a ‘fraudulent’ attempt to mimic solidity and gravitas, which creates feelings of disillusionment when the ‘trick’ is revealed. Consequently, lightweight replica ornament was seldom used by respondents as a way to manage the heritage value of earthquake-prone buildings.

Reparability is the central argument for the retention of original or significant built fabric, and when things are repairable (or can be reconstructed in traditional materials) then lightweight substitutes are thought by respondents to be unnecessary. But reparability is contestable, and entails the collaboration of a complex actor network that includes human and non-human entities: not just the buildings themselves but building owners, structural engineers, legislative and regulatory frameworks and funding. Heritage professionals can only advise that repair is the best option to protect heritage value, but this advice is part of a wider set of actions and processes and might not necessarily be heeded.

Actor Network Theory (ANT): A new model of heritage management

The data that have emerged from this research lead to a re-theorisation of objects and practices, heritage buildings and heritage management, within a wider actor network. Drawing on the ANT surveyed in the literature review, I suggest that the repair of heritage buildings may be understood as a node in a complex series of relationships. Earthquake-prone heritage buildings are subject to a web of legislation and regulation, professional practice, contractual arrangements and property investment strategies in which heritage plays a relatively limited role. The complexity of relationships is shown in Figure 3.1.

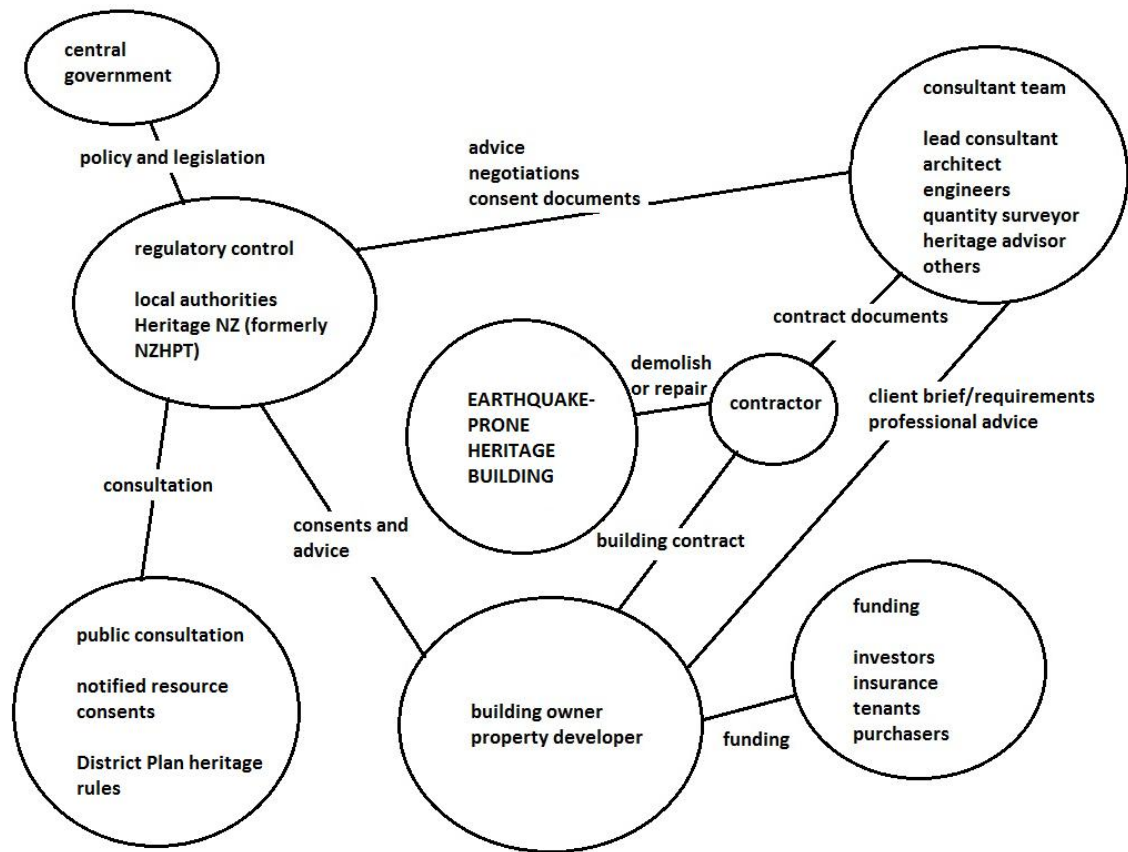


Figure 3.1: Actor network relationships for the repair of earthquake-prone buildings

Figure 3.1 shows the actor network for an earthquake-prone heritage building and the actors and social and material agency that surround, shape and influence the resolution of earthquake-prone status, whether by repair or demolition.

In this scenario the local authority has established an Earthquake Prone Building policy, identified a building that appears to have a structural integrity of less than 34 per cent NBS and served a written notice under Section 124 of the Building Act 2004 to strengthen or demolish within a set time period. The building owner has obtained funding for the work, and the viability of the project has been evaluated in terms of future returns from leases and/or an increase in property value. The owner has assembled a project team of consultants and instructed them with a project brief. The works exceeded the permitted activities in the local authority district plan and resource consent was required. Public consultation has taken place in the resource consent process because the scheme was controversial, for example it may have proposed the

demolition of the heritage building. Building consent was also required to ensure that the works comply with the Building Act. The actual repair works (or demolition) were carried out by a building contractor, and these have resolved the earthquake-prone status of the building.

This actor network diagram identifies the key actors, actions, and relationships in the resolution of earthquake-prone status for this particular hypothetical heritage building. The management of earthquake-prone heritage is complex and contested, and there is a widely acknowledged “tension between a desire to preserve heritage buildings, and the likely costs and practicalities of making them safe”.¹

The next step for this dissertation is to investigate the actors and actions within this network and find the key areas of contestation. Chapter 1 demonstrated the context of the research problem addressed in this research and Chapter 2 provided the results of qualitative interviews with individuals with an interest in the management of earthquake-prone heritage. This chapter will examine the policies of local and national government for the use of lightweight replica interventions, where this data is available, and for the resolution of earthquake-prone status for heritage buildings, and will discuss the point of view of building owners and the public. This analysis will reveal the key points of contestation and suggest possible avenues of facilitation and reconciliation to create ‘safe heritage’. It will then discuss the issue of ‘safety’ and ‘heritage’ within the wider context of modernity, and heritage as a global phenomenon.

Local Government: The heritage, safety, and cost minimisation balance

Local Authorities are key actors in the resolution of earthquake-prone heritage, as depicted in the model presented in Figure 3.1. They have a dual role for the administration of ‘safety’ under the Building Act, and ‘heritage’ under the Resource Management Act. These two regulatory frameworks have quite different aims for

¹ Jane Rankin, "Quake-Prone Heritage Buildings Threatened," *Manawatu Standard*, 30 May 2014.; Chris Morris, "Quake Policy Blow to Otago Buildings," *Otago Daily Times*, 08 August 2013.; Helen Frances, "The Heritage Problem," *Progressive Building*, no. Issue 104 (2014).; John Maslin, "Earthquake Costs Will Rock City," *Wanganui Chronicle*, 21 May 2014.; Bernard Orsman, "Quake Proposal Fans Heritage Fear," *The New Zealand Herald*, 7 February 2013.

earthquake-prone heritage. The former seeks to mitigate risk by direct intervention (demolition or strengthening), while the latter seeks to minimise loss and destruction by managing change. This makes the term ‘earthquake-prone heritage’ a somewhat oxymoronic description of two conflicting forms of risk management.

Earthquake-prone Building Policies outline the actions that local authorities intend to carry out in order to fulfil their obligations under the Building Act. Local policies are generally factual regulatory documents, but more information on underlying philosophies on heritage, safety and economic viability generally may be found in the local authority guidance for building owners. Of the seven New Zealand cities with substantial heritage streetscapes, three city councils, Auckland, Wellington and Dunedin, have published this type of guidance document, while Christchurch has published a series of owner’s guides to post-earthquake repair and reconstruction. The three remaining heritage cities, Napier, Whanganui and Oamaru, are somewhat smaller in size, and their local authorities do not appear to have published any documents pertinent to this research.

The Wellington City Council guidance argues for a balanced approach to ‘safety’, ‘cost’ and ‘heritage’² in its statement that “to obtain the best possible result, the authority and the community must strike a balance between the need for public safety, heritage preservation and cost minimisation”. This statement is somewhat disingenuous as it suggests that there is some equality between the three factors. Further reading reveals a strong preference for safety and “cost minimisation” in the statement that the Council “believes the survival of heritage buildings should be actively promoted... [and]... does not want to see strengthening work adversely affect the intrinsic value of these buildings”, but that “when strengthening options are not viable, the Council will endeavour to assist the owner with the regulatory process necessary for demolition”.³ There is no clarification of what that assistance might entail, and there is no suggested framework for the assessment of ‘viability’. I believe this is problematic, as viability

² Wellington City Council, "Wellington City Council Guide: Earthquake Prone Buildings," Wellington City Council (Wellington City Council, 2014). 4.

³ Ibid. 15.

(rather than reparability) is a somewhat subjective and contentious issue, particularly when ‘viability’ means ‘cost minimisation’. The use of lightweight materials is discussed briefly in the guidance in the note that “it is also possible to replicate a chimney in lighter more earthquake-resilient materials that considerably lower the risk of failure in an earthquake. However, ideally, they should be strengthened or removed completely”.⁴

Auckland has a somewhat more measured approach, and its guidance notes that:

Auckland Council believes that the ongoing survival of heritage buildings needs to be actively promoted. However, council does not want to see the strengthening work adversely affect the intrinsic value of these buildings. Where detailed structural assessment confirms that the building is earthquake-prone, council will work with owners to develop a mutually acceptable way forward.⁵

Auckland Council does not mention demolition in its guidance on earthquake-prone heritage, but instead states that “where agreement cannot be reached, Council will issue a notice under s124 of the Building Act 2004”.⁶ Although this may have the same effect, the tone of the guidance suggests a greater tolerance for heritage and somewhat less emphasis on ‘safety’, ‘viability’ and ‘cost minimisation’ than Wellington’s guide. There are no references in the guide to the use of lightweight materials.

Dunedin Council has produced a separate guide to strengthening earthquake-prone heritage buildings. This acknowledges the possibility of demolition as something that is “appropriate in some cases”, but “does not promote this for heritage-listed buildings or character-contributing buildings within heritage precincts or character areas”.⁷ The guide entertains the options of partial demolition (including facade retention) and allows for the reconstruction of some ‘degraded’ elements with lightweight replicas. This approach has similarities to Christchurch; a city where over 30 per cent of the city’s

⁴ Ibid. 20.

⁵ Auckland Council, "Auckland Council Guide: Earthquake-Prone Buildings (Interim Version)," (2013).

⁶ Ibid.

⁷ Dunedin City Council, "Earthquake Strengthening of Heritage Buildings," (undated).

heritage buildings was destroyed or demolished after the 2010/2011 earthquakes.⁸ Reconstruction guides allow for the use of lightweight materials (with some qualifications), particularly as a substrate for the reconstruction of chimneys and parapets.⁹ Irreparability appears to be an acceptable excuse for the use of lightweight materials for repair in both Christchurch and Dunedin, non-viability of repair as an acceptable justification for the use of lightweight materials for repair in both Christchurch and Dunedin, and the non-viability of repair as an acceptable reason for demolition in Wellington. The central theme for these documents is reparability, irreparability and viability.

Viability and Official Heritage: The role of local authorities

From the evidence collected in Chapter 2 it is clear that reparability is based on the value of historic built fabric and relies on the professional advice of structural engineers. Viability is more complicated to evaluate than reparability as it requires a value judgement of cost and benefit. In its simplest form, cost/benefit analysis can be motivated by constraints of cost minimisation, and the valuation of intangible items (including heritage value and significance) is problematic and contestable because economic returns are often difficult to measure.

Heritage, cost minimisation and financial viability are difficult to reconcile. This tension is, in part, a result of the way in which official heritage practices are defined and regulated. Official heritage refers to “a set of professional practices that are authorised by the state and motivated by some form of legislation or written charter”.¹⁰ Things tend to be selected for official heritage status when they are: valued by their communities; considered to be irreplaceable; and thought to be at risk from redevelopment, and when their destruction or loss is seen to “injure” not only the object or place but also the

⁸ Lois Cairns, "Powerless to Stop Heritage Demolition," *The Press*, 29 November 2012.

⁹ Christchurch City Council, "Repairing Damaged Heritage Buildings: Guidelines for Building Owners Guideline 3 - Reconstruction," ed. Christchurch City Council (Christchurch: Christchurch City Council, c.2010).

¹⁰ Harrison, *Heritage : Critical Approaches*. 14.

“group of people who hold that as part of their heritage”.¹¹ This set of professional practices tends to be set against a “background of (actual or metaphorical) protest over the potential loss, cessation or erasure” of things that are perceived to have a “communal” value.¹² A local example is the demolition of Wellington’s Victorian and Edwardian streetscapes in the 1980s, motivated by earthquake-prone policies and by a parallel building boom (and subsequent bust) that re-shaped the central business district (or Golden Mile) of the city.¹³ This loss of Victorian and Edwardian streetscapes in part informed the heritage legislation of the 1990s, particularly the Resource Management Act.¹⁴

For official heritage status, regulation occurs when buildings and places are thought to be unmanageable by everyday cultural practices—particularly within the commercial property market—without jeopardising their significance and heritage value to their communities. Official heritage ‘things’ are, by definition, unviable within the commercial property market and require regulation to protect communal value and significance against loss.

Some forms of regulation for official heritage can be framed as a limit on development potential. In a stable system, over time, regulation of development becomes part of property market processes and property values reflect any physical and regulatory limitations. The interviewees in Chapter 2 were suspicious of claims for the viability of repairs, particularly when earthquake-prone status is used cynically as a tool to disestablish official heritage practices in the name of public safety so as to increase property value by deregulation. The outcome of such practices may well be a return to the speculative property practices of the 1980s. Local authority concerns with viability

¹¹ Ibid. 27.

¹² Ibid. 26–27.

¹³ Foster and Howarth, *The Fall and Highrise of Lambton Quay: An Exhibition* ; MacLean, "Wellington Region - Economic Fall and Rise: 1976–2006: Demolish and Build".; John Reid, "Hometown Boom (Documentary)," (1983)..

¹⁴ See PC’s comments on a similar situation in Auckland in Chapter 2.

appear to be led, to some extent, by government policies on heritage, safety and property rights.

Legislation as Risk Management: Government policy

The status of heritage within government policy is perhaps best articulated by Earthquake Recovery Minister Gerry Brownlee with his comment about “old dungas”¹⁵ in the immediate aftermath of the Canterbury earthquakes of 2010/2011. Brownlee highlighted the considerable risks to construction workers as they worked to stabilise quake-damaged buildings and said:

Quite frankly people have died in this last earthquake trying to save old buildings. We're not going to do that anymore. My absolutely strong position is that the old dungas, no matter what their connection, are going under the hammer.¹⁶

The catastrophic failure of buildings in the Canterbury earthquakes resulted in the deaths of approximately 180 people and, although the collapse of two modern high-rise buildings caused the greatest concentration of fatalities, 42 people were killed by “older, unreinforced masonry (URM) buildings”.¹⁷ The tragic circumstances of the earthquakes, which were investigated in the subsequent Canterbury Earthquakes Royal Commission, were certainly a backdrop to recent reviews of legislation including the Building Act 2004, the Resource Management Act 1991 and the Heritage New Zealand Pouhere Taonga Act 2014.

Interpretation of each of these reviews has noted the balance between ‘heritage’, ‘risk’ and ‘viability’. For example, note this excerpt from the Ministry of Business, Innovation and Employment website regarding the Building Act 2004, which stated that:

the review aimed to ensure that legislative and regulatory requirements: balance life and safety considerations against risk and

¹⁵ NZ informal noun: ‘an old decrepit car’ or ‘any old worn out machine’—Collins Unabridged Dictionary.

¹⁶ Kate Chapman, “Lives before Christchurch Earthquake Damaged Historic Buildings,” *Dominion Post*, 01 March 2011.

¹⁷ Commission, “Final Report - Part Two (Volume 4) Earthquake Prone Buildings.”, 4.1.

economic, heritage and other considerations and are effectively implemented and administered.¹⁸

The review of the Resource Management Act 1991¹⁹ has been described in similar terms, especially by the National Business Review that considered that the “nub of the [proposed]²⁰ changes involves putting economic development considerations on an equal footing with environmental considerations when considering use of resources.²¹ Similarly the Historic Places Act 1993 was recently replaced by the Heritage New Zealand Pouhere Taonga Act 2014 and the consequent press-release noted:

This bill will simplify and speed up the archaeological consenting procedure, reducing the red tape burden on people developing their property while ensuring appropriate protection for heritage”, [Minister for Arts, Culture and Heritage] Mr Finlayson said. “It balances the important considerations of heritage protection, public safety and landowners’ rights.²²

Taken together, these statements suggest a strong, pro-development stance where change is promoted to create a safer environment by the removal of ‘red tape’ constraints of regulation. This replicates the Modernist mantra of progress in Chapter 1, where the promise was always of ‘jam tomorrow’, and whose policies (according to the postmodernists) resulted only in the provision of “dead fish” and “killer smogs”.²³ However, in my view an economy based on progress and development will always involve problems of resource consumption and resource depletion. That is why the attempts to ‘tinker’ with the Resource Management Act were of concern to those with

¹⁸ "Review of Earthquake-Prone Building Policy," Ministry of Business, Innovation and Employment, <http://www.dbh.govt.nz/epb-policy-review-process>.

¹⁹ Subsequently delayed until after the 2014 elections

²⁰ NB: The changes to the Resource Management Act have since been delayed.

²¹ Rob Hoskings, "Why the Pm 'Parked' Rma Reform," *The National Business Review*, 20 May 2014.

²² "Heritage New Zealand Pouhere Taonga Bill Passes," *Parliamentary Press Release*, 13 May 2014.

²³ Jensen and Conway, *Ornamentalism: The New Decorativeness in Architecture and Design*. 11.

an interest in the conservation of resources;²⁴ those who think that “environmental protection is economic development”;²⁵ and those whose priority is to “maintain environmental protections in the context of *kaitiakitanga*/guardianship”.²⁶

Compliance Costs: The concerns of building owners

Legislation, argued Phillips in Chapter 1, is a risk management system used to balance risk (and the consequences of failure) with compliance costs.²⁷ Concerns about compliance costs for earthquake-prone buildings have been clearly articulated by building owners and interest groups in the post-Canterbury earthquakes era. Newspaper articles note that the status of ‘earthquake-prone’ may have several detrimental effects including economic loss when tenants vacate ‘substandard’ buildings,²⁸ an increase in insurance rates²⁹ and an ‘erosion’ in property value.³⁰ Strengthening (or demolition) resolves the earthquake-prone status, but does not necessarily create an increase in property value or rental income.³¹ Heritage status is seen as a limit on property and development rights,³² and the cost of strengthening and repairs for earthquake-prone heritage cannot always be recovered³³ thus some earthquake-prone buildings become an

²⁴ "Rma: Our People, Our Place," Forest and Bird, <http://www.forestandbird.org.nz/savetheRMA.>; "Stand up for the Environment: Protect Our Law," Green Party of Aotearoa New Zealand, <https://www.greens.org.nz/rma>.

²⁵ Isaac Davison, "Concern over Changes to Resource Management Act," *The New Zealand Herald*, 01 March 2013.

²⁶ "Maori Party Holds the Line on Rma," Māori Party, <http://maoriparty.org/panui/maori-party-holds-the-line-on-rma/.MA>

²⁷ Phillips, "Becoming Unsafe Overnight: Managing Historic Buildings as Building Regulations and Standards Change."

²⁸ Frances, "The Heritage Problem."

²⁹ Bernard Orsman, "Owners Face Cruel Dilemma," *The New Zealand Herald*, 6 March 2013.

³⁰ Frances, "The Heritage Problem."

³¹ Ibid.

³² Stephen Franks, "Taking Property by Deceit (This Is Not a Treaty Article)," *The National Business Review*, May 2014.

³³ Chris Hutching, "Good Outcome in Dunajtschik Case, Property Council Says," *ibid.*, 08 May.

economic liability to their owners and investors. This explains BP's comments in Chapter 2 that "people are more interested in demolishing the whole building" than reconstructing parts of buildings in lightweight replica systems.

These views are tempered, to some extent, by those who note that "concern about earthquake strengthening is waning among property tenants and investors",³⁴ and that there are some groups of property investors who seek out high-risk property purchase to redevelop for profit.³⁵ Other newspaper articles argue that the conservation of old buildings can coincide with economic development. In interview, US consultant Donovan Rypkema argues:

It provides jobs, much-needed heritage training opportunities and more money flowing around the local community. Property values in developed heritage districts can appreciate at a greater rate than overall building stock. The initial relative affordability of older buildings is good for creative start-up businesses rarely found in suburban malls. Recycling existing building stock is more sustainable than starting from scratch and, in an age of economic globalisation, distinctive local heritage is vital for tourism and central city revitalisation—as seen in Christchurch's redeveloped lanes and alleyways.³⁶

In the same newspaper article Lincoln University property lecturer Brent Nahkies argues that "in hospitality and residential, even character office buildings, people are attracted to old buildings", and that "plenty of heritage buildings have shown good economic returns to their owners".³⁷

More pertinent to the question of the use of lightweight replica ornament, perhaps, is a call for public funding to offset regulatory compliance costs. Building owners argue that if heritage is regarded as a communal benefit, then compliance costs for official heritage

³⁴ "Tenants Becoming Less Worried About Earthquakes," *The National Business Review*, 14 May 2014.

³⁵ "Older Buildings Have a Future - Hastings," *The National Business Review*, 23 January 2014.; Bob Jones, "Guest Opinion: Harcourts Building Owner Acting Childishly over Demolition," *ibid.*, 01 April.; Anne Gibson, "Heritage Loss a Big Concern," *The New Zealand Herald*, 7 March 2013.

³⁶ "City Needs Heritage Buildings: Teeth Survive in City's Broken Jaw," *The Press*, 12 August 2012.

³⁷ *Ibid.*

systems are unfairly borne by property owners and that public funding should therefore be made available. Funding would be used for any ‘extra-over’ costs for heritage buildings when they are more expensive to maintain than non-heritage, and to offset any loss of development rights caused by regulation.³⁸

The value of this approach is that it removes the argument of economic viability from decisions on repair, so that reparability becomes premised on the achievement of a practical technical solution rather than cost minimisation. Public funding would be open to scrutiny and could therefore be denied to projects that reduce significance and heritage value. There is precedent for the use of tax credits for repairs to heritage buildings in seismic zones in the USA. The National Park Service Preservation Brief on substitute materials notes that:

In some cases, it may be acceptable to replace these heavy historic elements with light replicas. In other cases, the extent of historic fabric removed may be so great as to diminish the integrity of the resource. This could affect the significance of the structure and jeopardize National Register status. In addition, removal of repairable historic materials could result in loss of Federal tax credits for rehabilitation.³⁹

This example shows how scrutiny of public funding ensures that tax credits are used to achieve heritage (and safety) goals, so that funding is more than just a cost minimisation exercise for building owners and instead returns value to the wider community. This is relatively common practice internationally, and there are various models for tax credits, rates abatement and grants-based schemes, particularly in the USA, Europe and Australia.⁴⁰

³⁸ NBR Staff, "Government Should Pay for Strengthening of Buildings - Bob Jones," *The National Business Review*, 28 July 2013.; Property Council of New Zealand, "Submission on the Building (Earthquake-Prone Buildings) Amendment Bill," (2014).

³⁹ Park, "The Use of Substitute Materials on Historic Building Exteriors.".

⁴⁰ National Incentives Taskforce for the EPHC, "Making Heritage Happen: Incentives and Policy Tools for Conserving Our Historic Heritage," ed. National Environmental Protection Service Corporation (Adelaide2004).

The Facilitation of Value: Stakeholder communities

The concern with a scrutinised system for public funding is that it adds another layer of bureaucracy to the management of earthquake-prone heritage buildings. There are suggestions from Critical Heritage Studies that official heritage systems have been bureaucratised and that ‘experts’ have become ‘gatekeepers’ between things and their source communities. There are calls for democratisation, and for experts to become facilitators between people and ‘things’, so that communities gain greater control of the management of their cultural heritage. This is particularly the case in AHD theories which seek to explain the problematic nature of official heritage management systems for “indigenous, minority, and non-Western peoples”.⁴¹ A concern I have with AHD theories is the way in which they utilise the language of neo-Liberalism, particularly where neo-Liberalism equates deregulation with democratisation. A local example is this suggestion from the Property Council, which has a by-line of “*Industry-led regulation helps to create a dynamic national economy*”,⁴² suggesting a “contingent valuation” of heritage value:

Under this approach a hypothetical market is considered, and people are surveyed as to how much they would be willing to pay to preserve or improve a historic asset. This provides an indication of the community’s value for the building. Such an approach acknowledges that heritage is not something to be determined exclusively by “experts” – rather it is something that requires community participation as a basis for implementing protections – and gives weight according to the community’s preference. Such an approach, combined with other cost/benefit analysis and tools, would help ensure a more robust method for heritage identification and preservation.⁴³

My concern is that the commoditisation of heritage value would simply be used to manage cultural heritage as a cost/benefit system, and that it would be undertaken in a way that would exclude expertise and remove community engagement once the

⁴¹ Harrison, *Heritage : Critical Approaches*.8.

⁴² "Compliance Policy: Earthquake Strengthening," Property Council New Zealand, <http://www.propertynz.co.nz/compliance-policy>.

⁴³ Property Council of New Zealand, "Submission on the Building (Earthquake-Prone Buildings) Amendment Bill."

valuation process was complete.⁴⁴ A better way to approach this problem would be to consider ‘experts’ as facilitators in a democratised heritage that promoted community engagement at every level. This returns to Dean Sully’s proposal for a democratised heritage, noted in the literature review, which asks similar questions: How do you facilitate stakeholder participation?⁴⁵ and How do you match community aspirations with the “aspirations of the specialists”?⁴⁶

Democratisation and engagement allow local authorities to move beyond a simple role as administrators of official heritage processes under the RMA and to acknowledge a wider role in stakeholder engagement. This means that they would continue to be more than just ‘red tape’ ‘gatekeepers’ between people and their cultural heritage, and allows heritage advisors to facilitate community access to the wider benefits of heritage, including the economic benefits noted by Rypkema. It seems to me that part of the answer is for local authorities (and Heritage NZ) to continue to build a wide network of relationships with stakeholder groups. Without these beneficial long-term relationships it is easy to characterise ‘dangerous’ old buildings, ‘greedy’ property developers, ‘red tape’ councils, ‘purist’ heritage professionals, ‘fundamentalist’ lobby groups and an ‘apathetic’ public. Although these caricatures contain a grain of truth, they only serve to highlight extreme opinions and lead to entrenched positions. Most views are less extreme and, in my experience, most people (including building owners, bureaucrats, consultants and heritage professionals) just want to do the ‘right’ thing. Sully’s “humanised” heritage networks are a good way to access moderate views, and work towards a collaborative reconciliation.

⁴⁴ Note that others argue that AHD is a term for the model of the official Western management system that is expert driven, regulated by legislation and charters, and de-privileges other forms of heritage such as community or indigenous heritage. Local government heritage is firmly embedded in the AHD with its planning regulations and experts—the heritage professionals interviewed are all adherents of the AHD. The Property Council is trying to insert cost-benefit analysis into the present AHD heritage management system, which might de-stabilise it, which may or may not be a good thing.

⁴⁵ Sully, "Conservation Theory and Practice: Material, Values, and People in Heritage Conservation." 27.

⁴⁶ Ibid. 29.

For lightweight replica systems this means that local authorities should seek community views on whether heritage values may primarily be found in original built fabric. As the literature review suggests, this is predominantly an expert-led view. With the dematerialisation of heritage, the core concepts of heritage practices have moved away from conservation of physical material and towards the management of value by people as communities.⁴⁷ For earthquake-prone buildings, where there are questions of physical safety, it may be that public opinion favours simulacra over danger. This view was voiced most poignantly by Ann Brower, who was seriously injured in the Canterbury earthquakes:⁴⁸

For goodness sake, at least follow the Royal Commission's recommendation of bringing the precariously perched parapets and chimneys to 50 per cent of code. California does it by replacing masonry parapets with lightweight plaster cast. The Ministry rejected this Royal Commission recommendation.⁴⁹

In this case, Dunedin and Christchurch city councils' acceptance of lightweight replica elements for the reconstruction of irreparable elements could become a widespread view. Lightweight replica ornament may well have a place in a humanised heritage, but this would need further research to evaluate local stakeholder views.

Safety and Modernity

Safety appears to be a central tenet of a humanised heritage. From the background picture sketched in Chapter 1 it is clear that the term 'earthquake prone' is a metaphor for culturally acceptable (and unacceptable) levels of risk, and functions as an abstract expert system of risk management, in a similar way to official heritage systems.⁵⁰ Old URM buildings (along with some of their newer counterparts) have failed in previous earthquakes with tragic consequences, and regulation for safety has continued to change in response. This raises a further issue. What will happen when all the URM buildings

⁴⁷ Harrison, *Understanding the Politics of Heritage*. 26.

⁴⁸ "'Manifold Sins' Cost 12 Lives," *The Press*, 13 February 2012.

⁴⁹ Ann Brower, "Ann Brower: What Is the Price of Pain?," *The New Zealand Herald*, 16 February 2013.

⁵⁰ Harrison, *Heritage : Critical Approaches*. 27.

are fixed or demolished, or when another major earthquake strikes New Zealand? Will 34 per cent NBS continue to be an acceptable level of risk, or will further rounds of earthquake strengthening be required? The answer, according to Phillips in Chapter 1, is yes, they probably will. This is because safety requirements tend to be renegotiated as building technologies change in the aftermath of disasters.⁵¹ Our current stock of buildings are the survivors of previous rounds of Earthquake-prone Building Policies, and will most likely face similar rounds in future.

The issue of the upgrade of historic buildings to newer standards and building codes is a conundrum internationally. Concerns range from fire safety, conservation of fuel and power, access for disabled people, climate change, health and safety at work, and the conservation of the natural environment (particularly wildlife). For buildings to be fit for purpose and continue to be useable by their communities, then some way has to be found to reconcile legislation with significance.⁵²

Reconciliation is a resonant term because of its association with tense, war-weary, post-conflict situations, particularly with the peace-making process in post-apartheid South Africa. It suggests a process where multiple risk agendas can be aired, acknowledged and negotiated, and functions best when it allows for a creativity and ingenuity of solutions described by both Phillips and EH in Chapter 1. But there is potential for the reconciliation of seemingly incompatible, or inconsistent risk agendas, when conservation professionals perceive their role as “facilitators in response to people’s desired and expected interactions with their cultural heritage”.⁵³ The value of reconciliation is that earthquake-prone heritage buildings become strengthened, giving them the best long-term survival from demolition due both to Earthquake-prone Building Policies and earthquake damage. Reconciliation is particularly important in an

⁵¹ Phillips, "Becoming Unsafe Overnight: Managing Historic Buildings as Building Regulations and Standards Change.", 156.

⁵² English Heritage., *Conservation Basics.*, 78–88; 205–261.

⁵³ Sully, "Conservation Theory and Practice: Material, Values, and People in Heritage Conservation.", 33–34.

era where heritage has been pluralised and where there is little consensus, beyond heritage experts, that authenticity and heritage value is centred on built fabric.

Conclusion

Built fabric continues to be considered by heritage professionals as the repository for history and heritage value. This means that the preservation of original (or significant) built fabric, rather than an aesthetic judgement of similarity to the original built form, will continue to be the highest priority. These views are tempered by an acceptance of the use of reconstructed elements to restore buildings to a previous known version of its appearance. They can be justified when things are missing or irreparable, and as a way to retain the ‘character’ of a complete composition. Reparability of earthquake-prone buildings generally requires expert assessment by structural engineers and heritage professionals working together as team.

Heritage and earthquake-prone status are regulated and administered by local authorities, some of whom consider the issue to be a balance between heritage, cost and safety. This leads to the application of a test of viability for repair solutions. This is problematic as the term is contestable and has no clear framework for assessment, and it is difficult to see how it differs from cost minimisation, and how cost-benefit analysis accounts for intangible values including heritage value.

The reconciliation of earthquake-prone status either by demolition or repair may result in considerable compliance costs for building owners who are limited in the way in which they can recover the costs. Local authority heritage rules that limit resource use, including heritage rules, are seen as a barrier to development and cost recovery by some building owners and their lobby groups. One solution is to target public funding to offset compliance costs and to acknowledge any limits to development that have a communal or public benefit. This approach seems unlikely to be pursued by a government more interested in deregulation than regulation for the public-good yet involving an increase in government expenditure. Deregulation of heritage rules would be problematic as it would destabilise the property market and lead to speculation and overvaluation of heritage buildings for their development potential. Previous

Earthquake-prone Building Policies have contributed to local building-booms (and busts) and to protests about loss of heritage.

Official heritage practices can mean that local authority heritage advisors simply become administrators of the Resource Management Act. But there is support for the further democratisation of heritage and for heritage professionals to be facilitators between communities and their heritage. The question for the use of lightweight replica ornament is: How should the cultural construct of safety be part of the way that heritage is managed in New Zealand? What is the story of earthquake-prone heritage buildings? Can the interventions of today, in the name of safety, become part of the story of that place?

Conclusions

The pluralisation of authenticity and cultural heritage values

In New Zealand conservation practice in the last few decades, some earthquake-prone heritage buildings have been fitted with lightweight replica ornament. The practice of restoring old buildings to conform to a previous appearance, by the reinstatement of a small number of missing features in substitute materials, appears to attract little adverse comment from the wider community. This approach, however, is problematic for heritage professionals as restoration has traditionally been contested within conservation practice. The underlying issue is that when heritage values and ‘authenticity’ are considered to be intrinsic to original or historic built fabric it is difficult to create a credible argument for reinstatement. This means in turn that the use of lightweight replica ornament is difficult to reconcile with current conservation theories.

This dissertation is the culmination of a search for critical theory with which to reframe the problem identified above. It considers restoration to be a local and contestable cultural act that is practised, justified and criticised from a curiously unstable position of material authenticity whereas, in the wider realm of heritage, concepts of authenticity have themselves been destabilised. The study poses the question: Can lightweight replica ornament be used to manage the cultural heritage value of earthquake-prone buildings? It uses the theoretical framework of critical heritage and material culture studies to examine a technical aspect of conservation practice by re-theorising the concepts behind the term ‘restoration’. This research therefore enables debate on restoration in general, and on the use of lightweight replica ornament in the management of the cultural heritage value of earthquake-prone buildings in particular, to be based on a clear theoretical framework which does not rely on a premise of material authenticity as its foundation.

The research seeks to reframe current conservation and heritage practice in a way that is novel and cross-disciplinary. It approaches the research using a mixed methodology that includes Action Research, applied research, historical research, qualitative interviews and Actor Network Theory (ANT). In addressing the research question, it finds that professionals believe cultural heritage value to be intrinsic to built fabric, and that this is

a curiously unstable position that does not align with current theories of cultural heritage value. Furthermore it shows that heritage professionals continue to operate from within the Authorised Heritage Discourse which is Western, expert driven, fabric-based and legislation-bound. This is a key finding for this dissertation.

The centralisation of built fabric means that heritage professionals continue to prioritise the retention and repair of built fabric. This is justified because repair, in general terms, is considered to be achievable within the current constraints of technology and safety. This means that, for many heritage professionals, that replica ornament should only be considered in situations where repair is unfeasible, and that lightweight substitute materials should only be used where traditional materials and technologies can no longer be reproduced, and this is a second key finding for this dissertation.

Within the constraints of reparability and the lack of access to traditional materials and technologies, the study finds that lightweight replica ornament may be justified when it contributes to cultural heritage value. This argument is developed in Chapter 1, which stepped aside from Modernist concerns over pastiche and differentiation to consider the proposal, arising out of the review of the literature, that copies and ‘simulacra’ can have cultural meanings in the age in which they are produced. The requirement for a humanised heritage suggested in the literature allows for the reconciliation of seemingly opposing views on heritage and safety which are articulated in Chapter 3. The work of various authors, including Park and Fitch on the use of substitute materials in seismic zones of the USA; British Standard BS 7913: 1998 and English Heritage in the UK; and Salmond in New Zealand, demonstrates that lightweight ornament *can* be used, albeit in somewhat limited circumstances, for reconstructing the missing elements of incomplete compositions. Furthermore, if the process is carried out in a way that is meaningful for the wider stakeholder community, then the ‘simulacra’ copies and the restoration process in general may become part of the narrative of place. This means that, in limited circumstances, “useless ornament” and “dangerous ornament” can be transformed into “a useful accessory”.

This dissertation is overtly cross-disciplinary and contributes to several literatures, particularly Critical Heritage Studies, conservation and heritage management. It

responds in part to the concerns of Rodney Harrison identified in the survey of the literature that heritage is often considered to be a technical problem, studied from highly specialised subject positions, and that this work is generally under-theorised. In response to this criticism, the dissertation applies the critical theories of heritage studies to an otherwise technical question about the use of substitute materials. It reveals that the pluralisation of authenticity in critical heritage theory has not yet been fully resolved in professional practice. Furthermore, it demonstrates that an acceptance of the plurality of authenticity may provide a sound theoretical basis for the work of restoration and for the reconstruction of missing elements in substitute materials, while continuing to conform to the constraints noted above. Therefore, the dissertation argues that this re-theorisation of professional practice equips us with a framework with which to describe the work in which conservation architects and others are routinely engaged.

The research makes a further contribution to the literature of Critical Heritage Studies through the practical application of the ANT model as a way to study complex and contested relationships within the heritage sector. Applying elements of ANT to the study reveals the complexity of the process for the resolution of earthquake-prone status, particularly for earthquake-prone heritage, and decentralises the concepts of heritage and safety. It also allows for the reconciliation of seemingly oppositional views, which are typical of the local and contested nature of heritage processes. A limitation of the research is that there were insufficient resources to interview a wider cross-section of the actors within the network. The ANT model presented here is, however, a flexible way of conceptualising contested heritage, and one that can be expanded to suit the available data. It certainly shows that 'heritage' as it is officially defined is not at the heart of the complex problems of earthquake-prone heritage buildings, and that there are multiple drivers, actors and agencies involved. Furthermore the ANT model revealed concerns about the alignment of theories associated with Authorized Heritage Discourse (AHD) with neo-Liberal concerns for deregulation. Instead I would argue the focus should be on greater democratisation and participation of people and communities in the management of their heritages.

The research contributes to the conservation literature on restoration by its critical analysis of the rehabilitation of 'restoration'. This was established in the review of the

literature in historic research, and in the analysis of historic and current sources in Chapter 1. It showed that the ICOMOS NZ Charter recognises a differentiation between imaginative ‘re-creation’ and research-based ‘restoration’ and allows conservation of heritage to involve a range of values that include, but are not limited, to the preservation of built fabric. This means that conservators may consider a wide range of cultural heritage values, as well as the preservation of built fabric, in the management of built heritage. Restoration *may* therefore be undertaken where it recovers or reveals the cultural heritage value of a place. This is common practice, but a clear link to supporting critical theory is not always evident in conservation literature.

The concept that authenticity and value are intrinsic to built fabric is a traditional part of conservation literature and theory. This dissertation contributes to this field by asserting that this view is subjective, rather than objective. For heritage advisors, and those who administer the processes of official heritage, this is significant because the de-authorisation of the use of lightweight replica ornament must be based on robust analysis. There are, however, many arguments against its specific use, particularly where both professionals and stakeholder communities agree on where the authenticity or significance of a particular building may be found. For some buildings, materiality will continue to be a core heritage value, and an example might be an Oamaru building built in the local Oamaru stone. Pertinent arguments against the use of lightweight replica ornament include the extent of the new work, the reparability of the existing fabric and the possibility of repairs or reconstruction using traditional materials. The argument against the use of some substitute materials is relatively robust and includes costs, performance, durability and the difference in appearance, weathering and patination between traditional materials and modern substitutes. This means that any decision on the use of lightweight replica ornament should be considered on a case-by-case basis, and that local authority heritage advisors will need access to advice, guidance and expertise on reparability in order to facilitate and assist in the reconciliation of the heritage/safety conundrum.

Other findings from this research that inform conservation literature and current practice include the premise against differentiation of existing fabric and repairs or reconstruction. This follows Stalnaker’s argument from the literature review that

reconstructed copies are valued for their similarity to their originating forms and, in practice, follows the advice of the ICOMOS NZ Charter. It means that any differentiation need only be apparent on close inspection. This, of course, challenges the older Modernist dogma of the necessity to differentiate between old and new. A second finding that challenges the current 'owner pays' model of repairs to heritage buildings is that there is scope and precedent for targeted public funding in a way that offsets the concerns of buildings owners about the viability of repairs. A third finding is that the act of conservation, for all those involved in the process to rehabilitate earthquake-prone heritage, is an autobiographical act that says as much about the people involved as it does about the legislative, technical and theoretical framework that surrounds it. The fourth, and perhaps the most important finding, is that the conservation of cultural heritage value is a local and contestable cultural act that requires the skill of professionals as facilitators, particularly in the reconciliation process between the conflicting concerns of those involved in the complex Actor Network involved in the resolution of earthquake-prone status.

The Actor Network model and the overt cross-disciplinary approach suggest that this study may be of interest to many individuals and groups involved in the resolution of earthquake-prone heritage. It is, however, aimed primarily at heritage advisors, heritage consultants and Critical Heritage Studies theorists. Heritage advisors are generally those who are involved in the management of 'official heritage' processes, for example Resource Consent applications. For this group, the dissertation gives guidance on the limited circumstances in which lightweight replica ornament may be used in the management of heritage value of earthquake prone buildings, along with a wider understanding of the processes of restoration. For heritage consultants, such as conservation architects, built heritage conservators and specialist engineers, this dissertation provides the background critical theory to their current practice. For those interested in the wider concerns of Critical Heritage Studies, it explores a practical application of theories of dematerialisation and the pluralisation of authenticities. It is, nevertheless, a small and modestly scaled study with a focus on authenticity and value, through the lens of a particularly contested form of restoration.

Despite the rather narrow focus of the dissertation on a particular New Zealand situation, it does raise some interesting routes for further research. The first is an investigation of an alignment between the restoration of the built environment and the wider model of ecological conservation. This approach would allow the term ‘restoration’ to be extended to mean the replenishment of cultural heritage value, rather than a somewhat mechanical process of reconstruction and repair. In turn the term could be expanded to include the processes that ensure that buildings remain fit for purpose and relevant to their source communities. This aligns with the concerns of Material Culture Studies and the proposition that we live in mixed social/material collectives that are based on connectivity and relationships.

A second route for research would be an investigation of sense of place and place attachment in relation to both heritage and safety. Sense of place describes an individual and collective notion of who we are. This leads to the question of what happens to individuals and communities when their space changes, particularly when destroyed in a man-made or natural disaster. It could also help to conceptualise how people ‘feel’ safe or unsafe in heritage streetscapes following such an event. A combination of sense of place and a re-theorisation of the built environment as ‘mixed material and social collectives’ enables the ongoing cultural requirement for the maintenance, repair, renewal and replenishment of heritage value. This allows heritage to be concerned with the management of a living urban landscape that remains relevant to its source communities, rather than simply the mechanical process of ‘preserving’ redundant cultural relics of the past.

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25 October 2013: Bruce Petry, Auckland
25 October 2013: Myfanwy Eaves, Auckland
25 October 2013: Peter Reed, Auckland
30 December 2013: Carole-Lynne Kerrigan, (by telephone) Auckland
08 March 2014: Alison Dangerfield, Wellington
13 March 2014: Cass Goodwin, (by telephone) Christchurch

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Appendix One



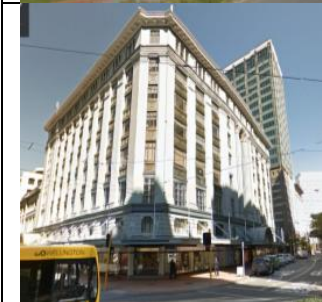


Earthquake-prone Heritage Buildings in Wellington (June 2014)




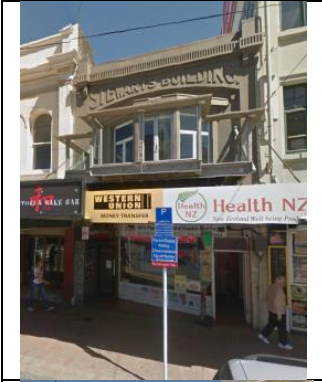
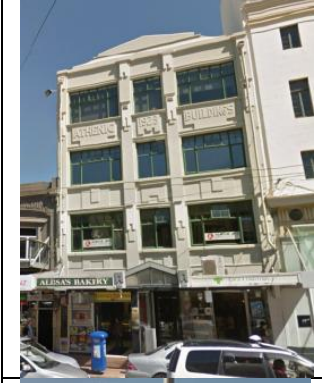
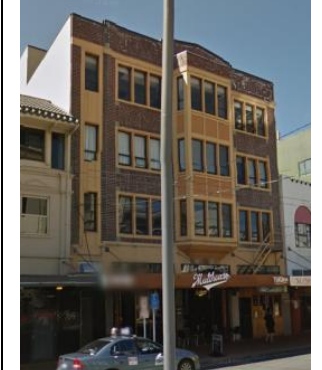
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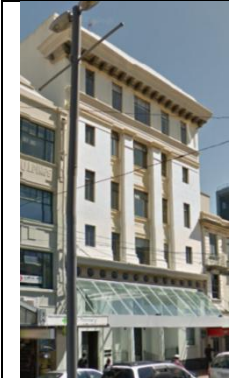




This list is a comparison of the current Wellington City Council (WCC) “List of Earthquake Prone Buildings as at 05/06/2014” with the WCC “Heritage List” (Buildings) last amended 28 June 2013. It was prepared to provide context for this dissertation and should not be relied upon for any other purpose. There are omissions and the possibility of errors in this correlated list, particularly where I was uncertain about the status of individual buildings on large, multi-building sites. Many of the buildings on this list are currently under repair, and the WCC lists are subject to ongoing change and should be consulted for information on the current status of individual buildings. The photographs are sourced from Googlemaps unless noted otherwise.






Photo	Address	Name	Heritage NZ Category	Notes
	1a Abbott Street	All Saints Anglican Church		
	114 Adelaide Road	Former Tramway Hotel		Note the replacement of the original brick parapet with a simplified lightweight alternative







	235 Adelaide Road	St James' Church		
	26 Allen Street			
Multiple buildings on this site	12b Alpha Street/ 15 Courtenay Place	Adelphi Bldg/ Courtenay Chambers		
	33 Aro Street	Former William Booth College		
 Heritage NZ photo	131 Austin Street	Wellington East Girls' College	I	Note the removal and simplification of the original Classical decoration
	31 Avon Street	Erskine College Chapel & Convent	I	
	14 Bassett Road	St John's Church		






	27 Boulcott Street	St Mary of the Angels Church	I	
	25 Bowen Street	Turnbull House	I	See also appendix 2
	29 Brandon Street/ 179-193 Lambton Quay	Former DIC Department Store	II	
	18 Buckle Street	Home of Compassion Creche	I	
 Heritage NZ photo	41 Buckle Street	National War Memorial - Bell Tower National War Memorial - Podium	I	
Multiple buildings on this site - unclear which building	2 Bunny Street	Wellington Railway Station - Rail Bldg 003		







	15 Cambridge Terrace	Harper Building		
	25 Courtenay Place	Paramount Theatre	II	
	30 Courtenay Place			
	31 Courtenay Place	Courtenay Market	II	
	43 Courtenay Place	Stewarts Building		
	45 Courtenay Place	Athenic Building		
	48 Courtenay Place	Newport Chambers		


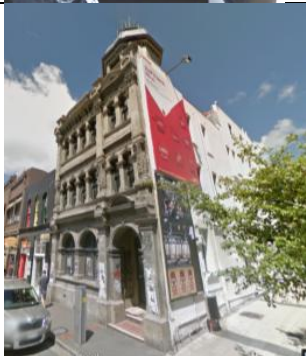


	49 Courtenay Place	National Bank		
	55 Courtenay Place	Hooson's Building	II	
 WCC photo	41 Cuba Street	Last Footwear Company Building	II	
 WCC photo	49 Cuba Street	St James Smiths Building	II	
 WCC photo	58 Cuba Street	T G McCarthy Trust Building	II	Note the simplified parapet







 WCC photo	96 Cuba Street	Farmers Building	II	
Rear building	96 Cuba Street	Farmers Building		
 WCC photo	101 Cuba Street	Working Men's Club Building	II	
 WCC photo	116 Cuba Street			
 WCC photo	118 Cuba Street	Iko Iko		Note the addition of a modern lightweight pediment. See also Appendix 2.
Multiple buildings	119 Cuba Street			
 WCC photo	119 Cuba Street	J.J. Murphy's Bar		
Rear building	123B Cuba Street			


 WCC photo	126 Cuba Street	Friendly Bakery		Note the loss of the original gable
 WCC photo	128 Cuba Street	Gear Meat Co. Building		
 WCC photo	132 Cuba Street	Krazy Lounge Cafe; Krazy Rick's building; Ernesto's	II	
 WCC photo	154 Cuba Street	The Vic	II	
Multiple buildings	154 Cuba Street			
 WCC photo	163 Cuba Street	Floriditas	II	
	168 Cuba Street	McGuire Building	II	







WCC photo				
	175 Cuba Street			Note the simplified parapet
WCC photo				
	201 Cuba Street	Former Orsini's Restaurant	II	
WCC photo				
	216 Cuba Street		II	
	276 Cuba Street		II	
	280 Cuba Street			
	290 Cuba Street		II	
WCC photo				

	293 Cuba Street	Thistle Hall		Note the simplified parapet
WCC photo				
	7 Dixon Street	Hope Gibbons Building	II	
	53 Dixon Street	Former Te Aro House / Dekka		Note the extensive alterations including the removal of the central tower.
	21 Dufferin Street	Wellington College - Firth Hall	II	
	8 Egmont Street			
	8 Egmont Street			
	20 Egmont Street			
	46 Frederick Street	Chinese Mission Hall		
	43 Ghuznee Street	Toomath's Building		




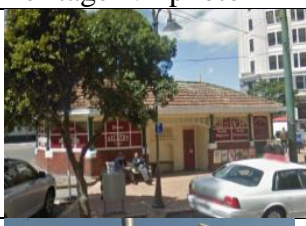
	58 Ghuznee Street			
	59 Ghuznee Street	Former Albermarle Hotel	I	
	60 Ghuznee Street	Cadbury Building		
	62 Ghuznee Street	Ghuznee Building		

 Heritage NZ photo	30 Grey Street/ 203 Lambton Quay	T&G Building ('Harcourts')	I	
 Heritage NZ photo	73 Hawker Street	St Gerard's Monastery & Church	I	
	2 Jervois Quay	Huddart Parker Building		
	29 Jervois Quay	Star Boating Club	II	
 Heritage NZ photo	29 Jervois Quay	Wellington Rowing Club Building	I	
	76 Karori Road	Old Karori Chapel & Crematorium	I	
	168 Karori Road	St Mary's Anglican Church		

	17 Kate Sheppard Place	Former Sub Station	II	
	43 Kent Terrace	Elliott House	I	
	131 Lambton Quay	(Old) Public Trust Building	I	
	157 Lambton Quay	Former Police Station	II	
	312 Lambton Quay	Whitcoulls Bldg	II	Note the addition of an elaborate lightweight replica parapet. See Appendix 2
	326 Lambton Quay	South British Insurance Building	II	

	360 Lambton Quay		II	
	360 Lambton Quay	Former Fletcher's Chemist	II	
	360 B Lambton Quay	Stewart Dawson's Building	II	
 Heritage NZ photo	2 Maginnity Street	The Wellesley Club	I	
	379 Makara Road	St Matthias Church		
 Heritage NZ photo	109 Manners Street	State Opera House	I	
	131 Manners	Edward Building		




	Street			
	19 Marion Street	Theosophical Society Hall		
	21a Marion Street	Cathie Building		
 Heritage NZ photo	260 Massey Road	Fort Ballance & Fort Gordon Emplacements	I	
 Heritage NZ photo	7 Moncrieff Street	Friends' Meeting House	II	
	1 D Monorgan Road	Scots College - Gibb East Building	II	
	550 Ohariu Valley Road	Ohariu Village Hall		
 Heritage NZ photo	2 A Oriental Parade	Wellington Central Fire Station	II	

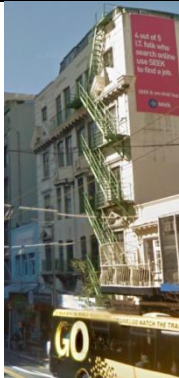



 Heritage NZ photo	212 Oriental Parade	Anscombe Flats	II	
 Heritage NZ photo	245 Oriental Parade	Former Band Rotunda	II	
 Heritage NZ photo	31 Pipitea Street		II	
 Heritage NZ photo	0 Post Office Square	Clarrie Gibbons' Building		
 Heritage NZ photo	2 Riddiford Street			
 Heritage NZ photo	49 Riddiford Street	Former Fever Hospital Nurse's Home	II	

 Heritage NZ photo	114 Riddiford Street	Former Ashleigh Court Private Hotel	II	
	179 Riddiford Street			
 Heritage NZ photo	2 Rugby Street	Old Museum Stand Basin Reserve - Old Museum Stand	II	
	208 Taranaki Street	Francis Holmes Building		
	211 Taranaki Street	Old GOC Bldg: OLP3	II	
	211 tarana ki Street	Classrooms (Cadets) :OLP4		
	26 The Terrace	New Zealand Medical Association Board		

	97 The Terrace	Woodward Chambers	II	
Heritage NZ photo				
	268 Thorndon Quay	The Woolstore		
	306 Tinakori Road			
	13 Todman Street			
	15 Tory Street	British Cars House		

	27 Ventnor Street	St Christopher's Church		
	81 Victoria Street	Wakefield Racing Conference Building		
	33 Vivian Street	Gurney Nagle Building		
	105 Vivian Street	Vivian Street		
	124 Vivian Street	Trades Hall		
	179 Vivian Street			
 Heritage NZ photo	101 Wakefield Street	Wellington Town Hall	I	See Appendix 2

	124 Wakefield Street	Plumbers Building		
	276 Wakefield Street			
	286 Wakefield Street			
	90 Waterloo Quay	Maritime House		
	90 Waterloo Quay	Shed 35		
	50 Willis Street	McCarthy Building		
	82 Willis Street	Evening Post Building	II	
	89 Willis Street	Hibernian Building		Note the removal of the original northwest corner tower

	99 Willis Street	Jaycee Building		
 Heritage NZ photo	166 Willis Street	St John's Church	I	
 Heritage NZ photo	200 Willis Street	Red Cross Building	I	
	279 Willis Street		II	

Appendix Two

Examples of lightweight replica additions and reconstructions

Selected examples of buildings where original unreinforced masonry elements have been removed, some of which have been subsequently been replaced with lightweight replica additions and reconstructions

- Government Buildings (1876)
- Former Supreme Court (1879)
- Commercial Building, 'Iko Iko' 118 Cuba Street (1902)
- Wellington Town Hall (1904)
- Former Boy's Institute Building (1906)
- Former Whitcoull's Building (1907-08)
- Turnbull House (1916)

Government Buildings (1876)

55 Lambton Quay, Wellington



Image: Andy Palmer (2013)

The Government Buildings is a large timber building. It was designed to imitate 'freestone' and was built in the Italianate style. The building originally featured prominent brick chimneys, but most were removed after the 1931 Hawkes Bay earthquake. The building was subsequently restored to its 1907 appearance, and the lightweight replica chimneys and partial reconstruction of the coat of arms date from the 1990s.²²²

The following images shows an original carved *totara* lion that is currently on display inside the building,²²³ and the partially reconstructed coat of arms where the

²²² Gavin McLean, "Government Buildings, Wellington," New Zealand History online, <http://www.nzhistory.net.nz/media/photo/government-buildings>.; Kayla Wilson, "Government Buildings," (Wellington: Wellington City Council, 2013).

²²³ McLean, "Government Buildings, Wellington".

crown has been replaced with a fibreglass facsimile.²²⁴ These are followed by a photograph from 1958 by which time the original chimneys had all been removed, which contrasts with a photograph from 1877 which shows the original arrangement of prominent chimneys.



Image: Andy Palmer (2013)



Image: Melanie Lovell-Smith



Image: (c.1877) Government Buildings. Ref: 1/2-070300-F. Alexander Turnbull Library.



Image: (1958) "Painted Government Buildings", Evening Post newspaper. Ref: EP/1958/1717-F. Alexander Turnbull Library

²²⁴ Stephen Levine, "Coat of Arms - British and 1911 Coats of Arms," Te Ara - the Encyclopedia of New Zealand, <http://www.teara.govt.nz/en/photograph/35055/old-government-buildings-royal-coat-of-arms>
<http://www.teara.govt.nz/en/photograph/35075/old-government-buildings-if-the-crown-fits>.

Former Supreme Court (1879)

Corner of Whitmore and Stout streets, Wellington



Image: (c.2010s)

The former Supreme Court (also known as the former High Court) was built in 1879 and is one of the oldest surviving brick masonry buildings in Wellington. It was earthquake strengthened with a base-isolation system, and the pediments and acroteria have been rebuilt using a mix of traditional and modern materials and techniques. The building re-opened in January 2010.²²⁵

The following images show the building in 2006 before the reconstruction of the pediment and acroteria, and an engraving of the building in 1886 in its newly completed state. Both images can be contrasted with the earliest courthouse, which is thought to have been the thatched hut at the far left of the c.1846 sketch by William Swainson.

²²⁵ "The Old High Court," Ministry of Justice, <http://www.courtsofnz.govt.nz/about/supreme/the-supreme-court-complex/the-old-high-court-building>.



Image: Lewis Holden (2006)



Image: (c.1846) Swainson, William, 1789-1855 :Huts of the first settlers in ruins. Petoni Beach. Ref: A-186-050. Alexander Turnbull Library

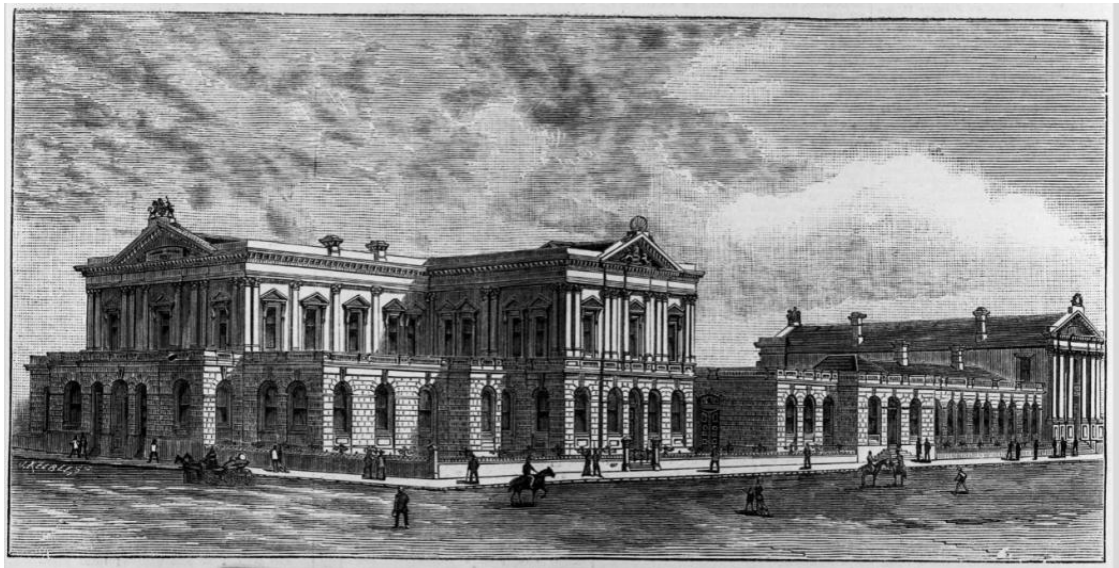


Image: (1881) "Photograph of an engraving depicting the New Law Courts, Wellington."Ref: MNZ-0683-1/4-F. Alexander Turnbull Library

Commercial Building, 'Iko Iko' (1902)

118 Cuba Street, Wellington



Image: WCC (2011)



Image: WCC (1994)

This commercial building has a rather fanciful lightweight pediment that was added, for no apparent reason, in c.2001.²²⁶ The image to the left shows the new pediment, the image to the right shows the original parapet.

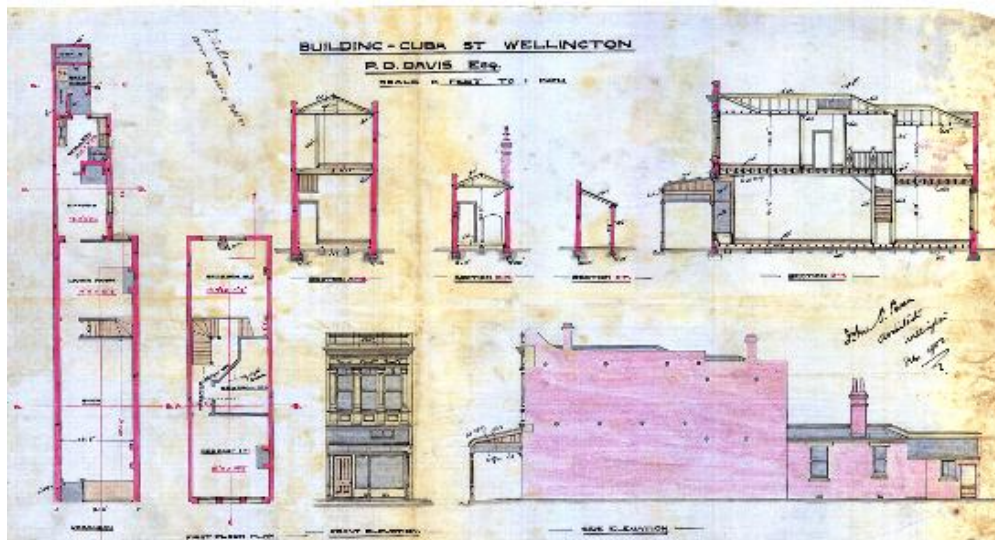


Image: John Swan's original plans (1902)²²⁷

²²⁶ Melanie Charters, "Commercial Building 118 Cuba Street," (Wellington: Wellington City Council,, 2012).

Wellington Town Hall (1904)

101 Wakefield Street, Wellington



Image: Fibreglass Developments Ltd (c.1992)

The Wellington Town Hall was constructed in 1904, and its original design included a tall clock-tower, east facing portico, and elaborate parapet and pediments. Although the building was not damaged, directly, by the 1931 Hawkes Bay earthquakes the building was subsequently modified to reduce the perceived risk of falling masonry, and the high level ornamentation removed.

The following photographs show the reconstructed fibreglass Corinthian column capitals reinstated in the early 1990s²²⁸ and the building in 1934 shortly after the clock tower, and eastern portico had been removed. The architect's drawing from 1902 shows the original composition of clock-tower and portico.

²²⁷ WC Archives 00059:355:E19245

²²⁸ "Wellington Town Hall," Fibreglass Developments Ltd., <http://www.composites.co.nz/wellington-town-hall.html>.

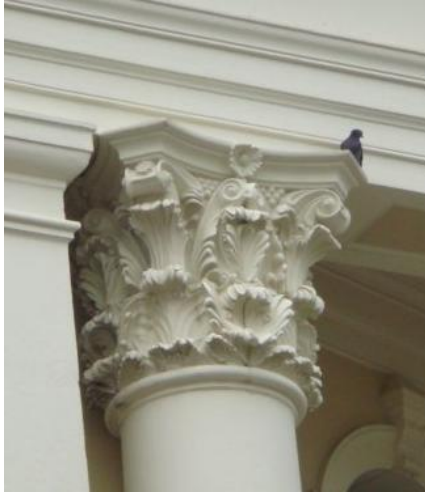


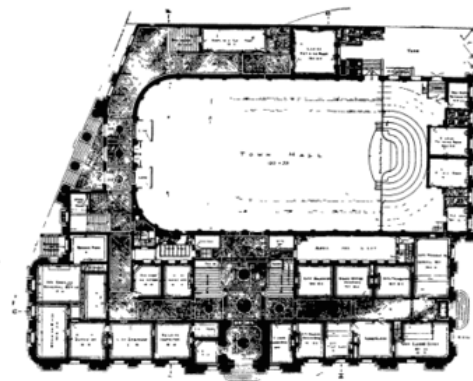
Image: Fibreglass Developments Ltd (c.1992)



Image: (1934) "Wellington Town Hall." Crown Studios Ltd. Ref: 1/1-032729-F. Alexander Turnbull Library.



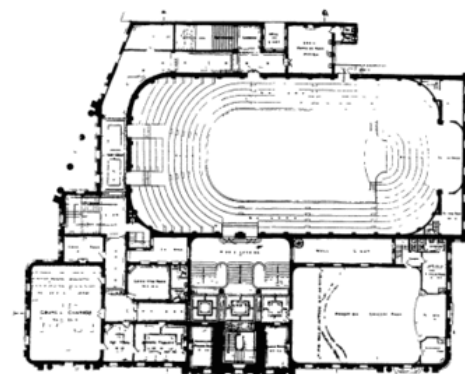
ELEVATION TO CUBA STREET EXTENSION.



GROUND PLAN.



ELEVATION TO MERCER STREET.



FIRST FLOOR PLAN



ELEVATION TO VICTORIA STREET.

FIRST FLOOR PLAN.

Image: "Town Hall and Municipal Buildings, Wellington, N.Z." (Reproduced from Architectural Drawings by Mr. J. Charlesworth. (New Zealand Free Lance, 04 October 1902)

The Boys' Institute Building (Former)

30 Arthur Street



The Boy's Institute (WCC, November 2012)

'30 Arthur Street, brick building,' 28 September 1906, 00053:131:7322, Wellington City Archives.

The Wellington Boy's Institute was built in 1906 in a Jacobean revival style but the gable was damaged in the 1942 Wairarapa earthquake and was subsequently demolished.²²⁹ The building has a somewhat incomplete appearance without its original gables and roofline.

²²⁹ Simon Daisley, "The Boys' Institute Building (Former)," (Wellington: Wellington City Council, 2012).

Former Whitcoull's Building (1907-08)

312 – 316 Lambton Quay, Wellington



Image: Heritage NZ (2009)



Image: (c.1940) "Facade and shop front of the building which housed Whitcombe & Tombs Limited, Lambton Quay, Wellington." Raine, William Hall. Ref: 1/1-021947. Alexander Turnbull Library.

The Whitcombe and Tombs (Whitcoull's) building was constructed in 1907 with an elaborate Edwardian street facade. The decorative parapets were removed in 1935 and partially reconstructed as lightweight replicas in c.1984.²³⁰

²³⁰Melanie Charters, "Whitcoulls Building (Former)," (Wellington: Wellington City Council, 2012).

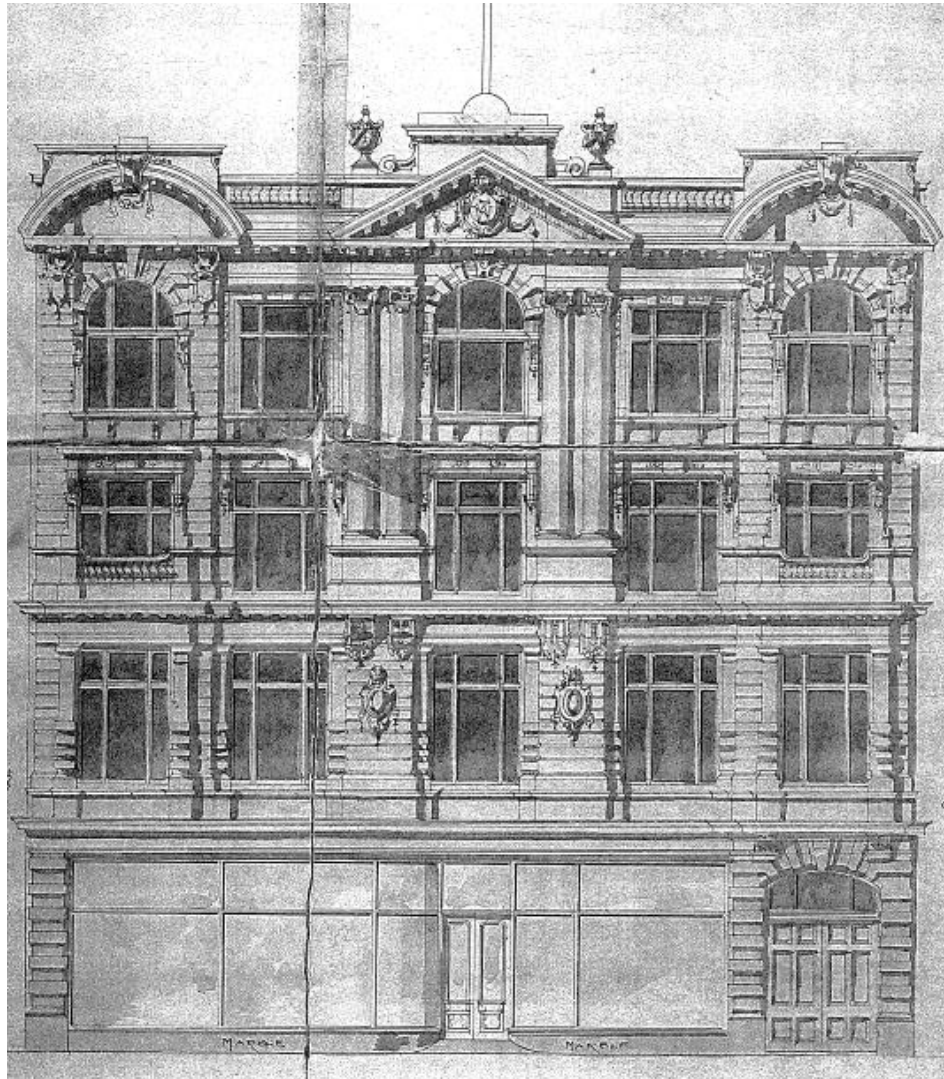


Image: Elevation WCC Archives (1907)

Turnbull House (1916)

25-27 Bowen Street, Wellington



Image: Richard Nester copyright Department of Conservation

Turnbull House was built in 1916 for wealthy and eccentric bibliophile, Alexander Turnbull, in a Queen Anne revivalist style. Turnbull's collection, which included at least 55,000 books along with manuscripts, paintings and drawings, later became the nucleus of the New Zealand national collection. This house was the original location of the Alexander Turnbull Library, and was purchased by the NZ government from Turnbull's estate by 1919. The gables were removed and reconstructed in lightweight materials in the 1950s, and were later rebuilt in brickwork in the mid 1990s.²³¹

The following images show the lightweight fibre-board northern gables from the c.1950s – 1990s, and the original composition of gables from 1916 – c.1950s.

²³¹ Moira Smith, "Turnbull House," (Wellington: Wellington City Council 2012).



Image: Deric Bircham (1978-1979)



Image: WCC Archives (c.1930)

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