Topophilia and topophobia in the post-earthquake landscape of Christchurch, New Zealand

Amor y miedo por el paisaje luego del terremoto en Christchurch, Nueva Zelanda

Jacky Bowring Geographer, Ph.D Landscape Architecture School of Landscape Architecture Faculty of Environment, Society and Design New Zealand jacky.bowring@lincoln.ac.nz

Overview/Abstract

Earthquakes rupture not only the objective realm of the physical landscape, but also the subjective landscape of emotions. Using the concepts of topophilia and topophobia developed by Yi-Fu Tuan as theories of love and fear of place, this paper investigates the impact of Christchurch's earthquakes of 2010 and 2011 on relationships with the city's landscape. Published accounts of the earthquakes in newspapers from around New Zealand are examined for evidence of how people responded to the situation, in particular their shifting relationship with familiar landscapes. The reports illustrate how residents and visitors reacted to the actual and perceived changes to their surroundings, grappling with how a familiar place had become alien and often startling. The extreme nature of the event and the death toll of 185 heightened perceptions of the landscape, and even the most taken-for-granted elements of the landscape became amplified in significance. Enhanced understanding of the landscape of emotions is a vital component of wellbeing. Through recognising that the impact of disasters and perceived threats to familiar places has a profound emotional effect, the significance of sense of place to wellbeing can be appreciated.

Key words: Topophilia, topophobia, sense of place, earthquakes, landscape change

Resumen

Los terremotos rompen no sólo con el paisaje físico, sino también con el paisaje subjetivo de las emociones. Utilizando los conceptos de topofilia y topofobia desarrollados por Yi-Fu Tuan como teorías del amor y el miedo del lugar, este trabajo investiga el impacto de los terremotos de 2010 y 2011 en relación con el paisaje de la ciudad de Christchurch. Las notas publicadas de los terremotos en periódicos de Nueva Zelanda se examinan como evidencias para entender como las personas respondieron frente a la situación, en particular observando su cambiante relación con los paisajes familiares. Los informes muestran cómo los residentes y visitantes reaccionaron a los cambios reales y percibidos en su entorno, asumiendo cómo lugares familiares se habían convertido en ajenos, de forma muchas veces sorprendente. La naturaleza extrema del evento y el número de muertos de 185 agudizaron y magnificaron la percepción del cambio en el paisaje. La mejor comprensión del paisaje de las emociones se convierte en un componente vital para el bienestar. El reconocimiento del impacto de los desastres y las amenazas percibidas en lugares familiares tiene un profundo efecto emocional que demuestra la importancia del sentido de lugar y pertenencia para el bienestar.

Palabras clave: Topofilia, topofobia, lugar, terremotos, cambio en el paisaje.

Context

New Zealand, like Chile, is а seismically active area. Located on the boundary of the Pacific and Australian Plates, the landscape is constantly on the move with regular earthquakes. The plate boundary is known as the Alpine Fault, and the possibility of a major earthquake centred on this fault line is a recognised possibility. The last major shift on the Alpine Fault was some time in 1717, when a quake of around magnitude 8 occurred. The fault is believed to fail every 200-400 years (Townend et al 2009, p.76), meaning that the 'big one' is overdue.

However, it was not the Alpine Fault that caused Christchurch's earthquakes, but the unknown Greendale and Port Hills faults. The Greendale Fault is in the countryside near Christchurch, and produced a 7.1 Mw shake at 4.36am on 4 September 2010. The guake did not cause any deaths, and for a while Christchurch residents felt relief at having being spared from major tragedy, thanks to the timing of the quake during the very early morning, and the building codes which seemed to have protected against major failures. It did, however, create widespread damage to the rural areas, parts of the city, and the infrastructure including roads and railway lines. It also produced Christchurch's first recent experience of liquefaction, the phenomenon of soils liquefying during shaking. The September earthquake produced the strongest earthquake ground-shaking recorded to date in New Zealand, with the ground near the epicentre moving at 1.25 times the force of gravity.

The worst was still to come. One of the aftershocks from the September guake occurred a few months later, in the middle of a weekday lunchtime, when the previously unknownPort Hills fault produced a 6.3Mw earthquake, very shallow and very close to the city. Ground shaking in the February earthquake exceeded that from the September quake, reaching 2.2 times the force of gravity. Multiple strong and violent shakes caused catastrophic damage, and killed 185 people. Since the first earthquake on September 4th 2010, Christchurch has experienced over 13,000 aftershocks. The ground shaking experienced in the 6.3Mw quake in February 2011 was extreme, and in world terms is topped only by the Japanese earthquake which occurred not long after, in March 2011. At 2.2gs, the demands placed on the built environment were severe, and engineers would not normally design structures to withstand anywhere near that degree of shaking.

1. Impacts of the Earthquakes

As a consequence of the extreme ground shaking, three significant phenomena impacted on the landscape of the city:

Rock fall occurred on the hills to the south of the city, which are the remains of an extinct volcano, and the location of the Port Hills fault;

Lateral spreading occurred where land tried to move downhill in the shaking, especially on the margins of the rivers; And liquefaction which erupted silt from the ground, swamping buildings and vehicles.

The effects of ground shaking, combined with rockfall, lateral spread and liquefaction, has meant that many buildings which did not collapse in the initial large shakes are too unsafe, or uneconomic, to repair. Vast areas of the city and in the surrounding areas are being demolished, as shown in the demolition maps, figs. 1 and 2. In the central city demolitions are still continuing, and around 1500 buildings will be demolished in this area, which will amount to 80% of the Central Business District. This area of the city has been the Red Zone for nearly two years, protected by a cordon which initially extended around the entire inner city area defined by the four avenues key roads which defined the historic city of Christchurch (fig. 3). The cordon has now been reduced significantly, but there are still areas which remain out of bounds (fig. 4). The term Red Zone has been replaced by Rebuild Zone to express a turning point in the city's recovery.



Figure 1: Demolition map of the Christchurch area - orange square indicates the approximate location of the Central Business District shown in fig. 2. Purple flags full demolitions, orange flags are partial demolitions and green flags are buildings needing to be made safe.

Source: Canterbury Earthquake Recovery Authority - CERA. Maps made available through Creative Commons 'by attribution' license.



Figure 2: Demolition map of the Central Business District of Christchurch. Source: Canterbury Earthquake Recovery Authority - CERA. Maps made available through Creative Commons 'by attribution' license).



Figure 3: Initial Red Zone cordon area 22 February 2011 Source: Canterbury Earthquake Recovery Authority - CERA. Maps made available through Creative Commons 'by attribution' license.



Figure 4: Red Zone cordon area 14 May 2013 - now called the Rebuild Zone. Source: Canterbury Earthquake Recovery Authority - CERA. Maps made available through Creative Commons 'by attribution' license.

Liquefaction, lateral spread and rockfall have also compromised large areas of residential land in the city. Intensive investigation by geo-technical engineers has established a series of technical categories for building across the city, as shown in fig. 5. Technical Category 3 (known colloquially as TC3) has proved a very problematic situation for residents, as it has left many in these areas marooned and unable to move on until they can resolve how to rebuild their houses. Building in this area will require special foundations, and these can only be designed once there has been detailed geotechnical investigation of the land. The Residential Red Zone includes those areas where it is not possible or not economic to rebuild, and around 8000 houses in these areas are being purchased by the government and will be demolished. Residential Red Zoning reflects the problems of liquefiable soils, lateral spread and rock fall.



Figure 5: Technical Categories of land in the city. Source: Canterbury Earthquake Recovery Authority - CERA. Maps made available through Creative Commons 'by attribution' license.

The patterns of damage in the city related strongly to the biophysical history of the landscape, often occurring in areas where tributaries of the rivers had been covered over. Memories of a city's biophysical past are critical in understanding how to live in a place. It is enlightening to read earlier accounts of the city, dating from about half a century These serve as stark reminders ago. of the relatively recent changes to the city and how guickly the transformation is forgotten, and accepted as a given condition. For example, writing in 1949, Johannes C Andersen described a gully that ran through the city, and he notes that it was an old storm water channel, and he traced its route from St Michaels to Cashel Street, Colombo Street, the BNZ, Warners, Gloucester Street and down to the Avon River. Drays and horse riders would become bogged in the places where it crossed key roads, and people had become ill from drinking the water (Andersen 1949, p.274). The route described by Andersen is a landscape element which is no longer at all evident

in the contemporary city, but shows clearly on the 'Black Maps' which were drawn by the surveyor Jollie who laid out the city in 1850. These small streams had persisted through nearly 100 years of building in the city, but since the mid-twentieth century had disappeared under the development of streets and buildings. While Andersen described this gully as an indication of the 'unkempt' nature of the city, the water course was a fundamental part of the water system, and an indication of the very swampy land the city was built on. In the drive to become a civilised and ordered city, these 'unkempt' areas were simply covered over, a practice which had dire consequences in the longer term.

2. Topophilia and Topophobia

The dramatic effects of the earthquakes on the city's landscape heighten people's emotional response to the environment. These intensified emotions can be effectively described by the concepts developed by geographer Yi-Fu Tuan - topophilia and topophobia. Tuan

explains that topophilia is a neologism and can be "defined broadly to include all of the human being's affective ties with the material environment." (Tuan 1974, p. 93). The neologism is constructed from topos, Greek for place, and philia, meaning love of. In Tuan's sense of the term, it embraces "the affective bond between people and place" and incorporates aesthetic responses, aspects of memory, and the kinds of connections that come from being dependent on a place for shelter or work. Hay described how attachment to a place is like a marriage and can provide "can provide feelings of security, belonging and stability" (Hay 1998, p.25).

Topophilia, and its opposite topophobia (fear of place), highlight the significance of emotions in our understanding of responses to the landscape. In the context of emergencies and disaster recovery there can be considerable attention focussed on the objective realities of rescue and rebuilding. Alongside this are the experiential aspects of being caught up in a landscape of disaster, the subjective dimensions of love and fear. Ruan and Hogben take the sense of Topophobia even further, to the extent of calling it 'hate' of place (Ruan and Hogben 2008).

For Christchurch topophilia derives from the elements which make up the local sense of place, including the physical landscape of rivers, countryside, and the coastal areas, as well as the cultural landscape of parks and the built environment. The impacts of the earthquake on people's perception of Christchurch's environment have been described by the chief instructor at the Defence Force Health School, Dr Gerald Johnstone, as a "loss of innocence" - that "people once trusted the ground and the environment, and now they don't." (in Irvine, 2013).

The landscape of Christchurch had been perceived as being relatively benign. Even though the Port Hills to the south of the city are the remains of an extinct volcano, and to the west of the city the Southern Alps are one of the fastest growing mountain ranges in the world - in day to day life it seemed a gentle, easy place to live. The landscape is now regarded with scepticism and even fear. This has resulted in shifts in the relationship with the taken-forgranted elements that make up the city's sense of place. This topophobia may be a short-lived emotional response to the landscape, and can be contrasted with feelings of appreciation of landscape features altered or created by the earthquakes, such as Valdivia's wetlands (Dr Paula Villagra, pers. comm.).

Media reports provide opportunities for insight into the responses being expressed to the landscape. The local newspapers in Christchurch covered the earthquakes extensively, and even today - over two years after the February earthquake - daily coverage of a range of earthquake-related issues is still prominent. In addition, reports from across the country, from a range of sources, captured the feelings related to being in the earthquake-stricken landscape. Passages from these reports are recounted in this paper to illustrate the vivid nature of feelings for the landscape, and are related to three areas which are significant in terms of damage - wetlands and waterways, the Port Hills, architectural and landscape heritage, and parks and reserves.

2.1 Wetlands and waterways

Despite the city's low rainfall (650mm per annum), Christchurch is a wet city. Built over extensive aquifers and bisected by streams and a large estuary, water is an ever-present part of the landscape. Prior to European settlement, which began in the mid-nineteenth century, the land was very swampy, so much so thaton the map from explorer Captain James Cook's 1769 and 1770 voyages, Banks Peninsula is shown as an island, not attached to the mainland, fig. 6. This can be contrasted with fig. 7, a satellite image of New Zealand which clearly shows Banks Peninsula attached to the South Island.



Figure 6: Map of the Coast of New Zealand, from Captain James Cook's voyages of 1769 and 1770 on the Endeavour. Banks Island is circled. Source: Map in the Public Domain.



Figure 7: Satellite image of New Zealand, 2002, with Banks Peninsula circled. Source: Map in the Public Domain.

The contrast between Cook's map from the mid-eighteenth century, and a recent satellite image of New Zealand, might suggest a mapping error in the earlier instance. However, it also indicates just how wet the landscape around the area which became Christchurch was, such that an error of this nature could be made. The Black Maps of the city (fig. 8) show an extensive network of small streams and wetlands, which are not evident today. Years of active drainage by the city authorities had transformed the landscape, but in recent years the waterways of the city had experienced growing interest and affection. While the Christchurch Drainage Board had existed for 114 years from 1875, it ended in 1989, a change which symbolises the transformation in ways of thinking about water in the city. Instead water became the concern of the Christchurch City Council, which referred to 'Wetlands and Waterways', and highlighted the multiple values associated with these elements. In the decades that followed the demise of the Drainage Board, wetlands have become increasingly recognised for their ecosystem services, including storm water detention, water filtration, and habitat for fish and birds - as well as for their amenity and cultural value.



Figure 8: Compilation of the 1856 Black Maps, made in 1963. The map shows the four avenues and other elements of the city overlaid on the pre-settlement landscape. The network of gullies, swamp, flax, grass and raupo (bull rushes) has been covered over by the city's development. Source: Christchurch City Libraries CCLMaps 433589

Perceptions of the environment had transformed, from seeing the gullies, wetlands and streams as unkempt wastelands, to valued places to be nurtured and protected. The impacts of the earthquakes brought about another transformation. Topophilic feelings for watery places became topophobic as a consequence of how these areas behaved during the earthquakes. Liquefaction was not a cause of fear in the sense of terror, but was significantly damaging to the environment flooding streets, destabilising homes, and wrecking infrastructure. Liquefaction is the reason for the majority of the residential red zoning, where soils are considered impractical and uneconomic to rebuild on. These parts of the city are becoming abandoned, alienated landscapes. They are ruined sites, but not beautiful ruins.

Lateral spread occurs where land tries to move downhill during the shaking, and this happened most extensively along the river edges. Again, the topophobic responses do not stem from a sense of terror, but from the unsettling feelings caused by a rupture to a familiar landscape. Lateral spread has damaged some of the city's most beautiful residential properties along the river edge, as well as compromising civic buildings like the Town Hall.

Raw sewage flowed directly in the city's rivers and down to the estuary and ocean. The interconnected nature of the hydrological system makes it difficult to contain areas of contamination and essentially it led to all water bodies in the city being affected. Rivers, the estuary and the beaches were closed for the best part of the year, until health authorities could be confident that the water was no longer contaminated. During this time water bodies became places to be avoided, compromising feelings of love and affection for some of our most familiar and appealing landscapes.

2.2 The Port Hills

The Port Hills are the remains of an extinct volcano that borders the city to the south. The form of the volcano is distinctive, with flatter slopes on the outer side, and steep slopes within the crater which now forms the Lyttelton Harbour. The hills are dotted with picturesque rock outcrops, beloved by rock climbers, and for their amenity value. The skyline is a vivid component of Christchurch's sense of place, and along the tops runs the Summit Road, a heritage feature in its own right, created by the Summit Road Society in the early twentieth century. The winding road is punctuated by tea houses made from the volcanic rock of the hills, providing places for refreshments and to enjoy the views from the hill tops. The Summit Road was a very popular walking and cycling route, along with the many tracks that crisscrossed the hills.

The earthquakes were felt violently on the hills, causing rocks to fall, killing people and crashing through houses and infrastructure. This has led to the majority of the walking and cycling tracks being closed for the past two years, and some are closed indefinitely. The Summit Road is also closed for much of its length, and remains covered in large rocks, and impassable except by cyclists willing to take their lives in their own hands.

The Port Hills are bordered by dramatic cliffs of volcanic rock in many locations. These areas had been previously seen as valued scenic areas, and provided backdrops to the seaside suburbs to the east of the city. Some of the city's most expensive real estate was located right on the tops of the cliffs, providing vantage points for spectacular views up the coast and out to the Pacific Ocean. Now these cliffs are viewed with fear, and the tops and bottoms of the cliff areas are all red zoned to keep people away from living there. The following passages from media reports express the emotional responses to the cliff landscapes.

"You can't describe it. It's like looking at a person's face every day - and now it's completely different." Alistair McLauchlan, The Dominion Post, 26/02/11, page 1

"I hadn't thought of it like this - the hillside coming down - but the proof is there." Beverley Mason, The Dominion Post, 26/02/11, page 1

"In a way it's quite magnificent looking at those cliffs. It is quite a magnificent sight what Mother Nature did to us." Gail Dowgray, The Press, 18/02/12, page 2

"This is where I take people to experience peace; instead, for the first time since I returned, I am fearful." Kate Saunders, Taranaki Daily News, 26/02/11, page 15

2.3 Architectural and landscape heritage

Christchurch's rich architectural and landscape heritage contributed substantially to the city's sense of place. It was seen by many as being more English than England, and Mark Twain called it "Junior England" on his travels through New Zealand (Twain, 2009 first published 1895, p. 34). The English character was largely founded upon the heritage architecture of the city, with substantial complexes of Gothic Revival architecture including the original University of Canterbury (now the Arts Centre) (fig. 9), Canterbury Museum, and at the centre of the city, Christ Church Cathedral (fig 10). The city's structure of the colonial grid contrasted with the meandering Avon River also contributed a distinctive heritage landscape. The green squares, botanic gardens and central park (Hagley Park), all further contributed to the sense of a pleasant garden city.



Figure 9: The 19th -Century Gothic Revival architecture of the Arts Centre (originally the University of Canterbury). Source: Image by Anke Lüdtke.



Figure 10: The collapsed Christ Church Cathedral Source: Photo by the author

The love for heritage buildings and landscapes metamorphosed into fear, when walls fell, and people were killed amidst the rubble. While much of the Gothic Revival architecture had been earthquake strengthened and had survived in reasonable condition, other areas of heritage and character buildings collapsed and killed people (fig. 11).



Figure 11: Post-quake heritage - all the buildings in this photograph have been, or will be, demolished (including the two modern hotels in the background). Source: Photo by the author

People's fear of the heritage fabric of the city became expressed in terms of the very materials it was constructed from, as in this report in the media:

"I've always been a lover of brick buildings and, in particular, beautiful chimneys, that homely, solid evocation of warmth and families gathering together win cosy comfort. Now I look at them with something that can only be described as revulsion and fear." Linda Burgess, The Dominion Post, 27/02/12, page 6

So much of the city had collapsed or was being demolished that topophobia became expressed as feelings of alienation, and fear of forgetting. Christchurch artists Laura Griffith and Stephen McCarthy produced an image of pictograms of buildings that had been destroyed or would be demolished (Fig. 12). They wanted to refer to how people were already beginning to forget what those buildings had been. Griffith described how ''The pictogram style strips down the details and keeps just what's necessary to capture the character of the building", and explained how they had "" looked through a long list and picked out the ones that had meaning to us, like icons or heritage buildings like the Hotel Grand Chancellor, or the places that we used to go to, like AL's Bar or C1 Espresso on High St" (in Lee, 2012). Griffith said the buildings were not named because they wanted people to look at the drawing and try to guess what it was.



Figure 12: Pictograms of lost Christchurch heritage, by Laura Griffith and Stephen McCarthy

Source: Courtesy of the artists.

The heightened awareness of the vulnerability of heritage buildings and the perceived danger they presented resulted in topophobic panic, as expressed in this quotation from well-known athlete Steve Gurney:

"Most of the citizens are now convinced that we must replace our dangerous old buildings and build a new heritage of sparkling, aesthetically stunning architecture. The time has come to let go of sentimentality. It costs us too much in lives and money to fix them, and at the other end of the scale we will always be afraid to enter those structures." Steve Gurney, The Marlborough Express, 15/03/11, page 6

This fear expressed by individuals was reinforced at the government level when Minister for Earthquake Recovery, Gerry Brownlee declared soon after the February guake that all the "old dungers" (a colloquial New Zealand term for a wreck - usually a decrepit car or machine) should be knocked down. Brownlee announced that,"[o]ld stuff, if it's got any damage at all, needs to be got down and got out, because it's dangerous and we don't need it." (in The panic over heritage Chapman 2011). buildings was immediate, and resulting in the human-induced disaster of unnecessary demolition and the heartbreaking loss of some important heritage buildings, including the landmark Sydenham Wesleyan church (figs. 13 and 14).



Figure 13: Before demolition: The Sydenham Wesleyan Church, built in 1878 Source: Photo by the author.



Figure 14: After unnecessary demolition, carried out during the hectic days following the earthquakes, when fear of falling buildings was intense. Source: Photo by the author.

The loss of the heritage fabric which made up sense of place was not limited to historic buildings, but also modern architectural heritage has also been badly compromised, including the demolition of the Tunnel Control Building, and the former Christchurch Railway Station, both of which were vivid landmarks. Parts of the city have also gained a paradoxical status of love and fear, where major losses of life occurred in modern buildings. At the CTV building which was constructed in 1986 115 people were killed when the building collapsed, and a further 18 people died in another building constructed in the past few decades, the PGC building.

The Red Zone is also an ambivalent place of love and fear. Walking the cordon has become a ritual practice, circumnavigating the fence that keeps residents out of their city centre. This act of engaging with the city is akin to visiting a sick relative in hospital, an act prompted by love and fear. Through the fence much is gone, and continues to disappear on a daily basis. People are often just staring through the fences at voids, as so much of the city fabric has disappeared.

2.4 Parks and Reserves

The love of the cultural landscape also includes parks and reserves (including town squares) in the city. One of the key features of Christchurch's original plan from 1850 was the large park abutting the city, as well as the two small squares (fig.15) The form and content of the parks and squares in the city reflects the English origins of settlement, with the predominant picturesque aesthetic of large trees surrounding open grassy areas. As the city spread outwards from its original historic core Hagley Park has remained as a special green space in the city, and the occasional threats to its role as a green space are fiercely opposed by many. The park includes playing fields for rugby, cricket and golf, as well as netball courts. It is also a popular destination for joggers, dog walkers and general passive recreation. The two town squares are very simple in form, of green rectangles of grass surrounded by trees. They are generally used for passive recreation, picnicking, and occasional civic events.



Figure 15: Plan of the City of Christchurch, 1874. Hagley Park (with Botanic Gardens included), and Latimer and Cranmer Squares are outlined in black. Source: image in the public domain.

The impact of the earthquakes on these spaces was not to induce feelings of fear, but rather a heightened sense of love. This hyper-topophilia is a result of the roles these landscapes played in the immediate aftermath of the earthquakes, as well as their ongoing presence as a source of beauty and tranquillity in an otherwise very broken and traumatic Hagley Park and Latimer cityscape. Square in particular became what could be called 'hero landscapes'. Like Clark Kent who morphs into the superhero Superman to save the city, these otherwise quiet spaces suddenly became critically important to the rescue efforts. Latimer Square is relatively close to CTV, where 115 people died in the building collapse. There was a prolonged rescue and recovery mission at that site, and Latimer Square became a triage site, temporary hospital, and a place for people to wait for news of loved ones. Latimer Square appeared frequently in media reports of what was happening in the city, and its simple landscape of grass and trees saw it very adaptable to the needs of the emergency operation. Since that time when it played a heroic role Latimer Square has continued to be a gentle green space in the city, and is becoming part of a new setting with the construction of the temporary 'Cardboard Cathedral' designed by renowned Japanese architect Shigeru Ban.

Hagley Park also became a hero landscape on the day of the earthquake. At that time the Ellerslie Flower Show was getting set up for its annual event, meaning that there was a complex of tents and other infrastructure in place on the eastern edge of the Park, closest to the central city. Coincidentally the Flower Show manager was an ex-Army major, who had the skills to assist with responding to the emergency situation. Evacuees from the city centre made their way to the Flower Show tents, where they could shelter from the rain which came in the afternoon of the 22 February, and there was space for people to lie down and rest. The well-known park provided an important landmark and destination for all of those needing to leave the city guickly on that day, and it continues to provide a range of important functions for the city. With so much of the city fabric missing, there are few venues left for music and theatre, and a temporary entertainment village has been set up around where the Flower Show had been. It has hosted many events, and has become a new destination for Christchurch residents. The park has also hosted two memorial events for earthquake victims. The first was the National Memorial Service shortly after the February earthquake on the 18th March 2011, and the following year the Civic Memorial event was held on the anniversary of the earthquake. It was profoundly moving to have these events held in the place which had provided support and solace for those affected by the earthquakes. And like Latimer Square, Hagley Park continues to be a source of comfort, tranguillity and recreational space for the city. This is augmented by our new knowledge that these sites have latent value in times of disaster.

Conclusion

Christchurch's experience of а devastating series of earthquakes has had both physical and emotional impacts on the city. While the efforts to put the city back together again gain momentum, residents continue to grapple with their perceptions of the environment. Feelings of love and affection for the landscape topophilia - were attached to the elements which contributed to Christchurch's sense of place. The physical landscape of rivers, wetlands, the ocean and the hills provided a rich environmental complex which afforded places for active and passive recreation, and general aesthetic appeal. Alongside this the cultural landscape of heritage architecture, colonial-era parks and gardens, the familiar cityscape of residential suburbs, and the surrounding countryside, were also loci of love for the landscape.

The impacts of the earthquakes were closely associated with all of these elements, with physical the landscape behaving in frightening and unexpected ways. Even the seemingly benign and passive pastoral landscape of the countryside was rent apart with Rocks, silt and contamination fissures. undermined fond relationships with the physical landscape, while falling masonry and collapsing buildings created panic and anxiety. The fear of landscape topophobia - has caused strong reactions in many cases, including unnecessary building demolitions and potentially overcautious land zoning.

Christchurch's post-earthquake topophilia topophobia demonstrate the and significance of attachment to landscape. the powerful feelings of love and fear. Emotions become intensified in times of disaster or fear of change, so that even the everyday and taken-for-granted suddenly becomes of critical importance. However, it is also imperative to recognise that emotions are fluid, and these strong feelings of love and fear are dynamic. With distance from the event, feelings of love may again return. Moreover, changes in technology and policy can shift the ways in which we relate to the landscape, providing us with more information and warning, or limiting where we can build houses.

Love, fear and sense of place are all vital aspects of wellbeing. And although New Zealanders are normally not a culture which demonstrates emotions - once called the "passionless people" (McLauchlan 1976) - the intensity of feeling has been a significant phenomenon in the earthquake-ravaged city. Recognising the importance of experiencing and expressing a wide range of emotions is vital in a healthy relationship with the environment and with each other.

Acknowledgements

Thanks to Dr Paula Villagra for the invitation to be involved in the seminar Resilience, Landscape and Emergency, which this paper was presented at. Thanks also to colleagues at Lincoln and in Valdivia who have engaged in rich and stimulating discussions on the topic, especially Shona Mardle who alerted me to the passage by Andersen describing the historic gully in the city, and landscape architect Di Lucas who has contributed so much to our understanding of the city's former landscapes. Thanks to Laura Griffith and Stephen McCarthy for permission to use their pictogram image.

Bibliography

- ANDERSEN, J.C. (1949) Old Christchurch in Picture and Story. Christchurch, New Zealand: Simpson and Williams Limited.
- Chamlee-Wright, Emily and Storr, Virgil Henry (2009) 'There's No Place Like New Orleans': Sense of Place and Community Recovery in the Ninth Ward after Hurricane Katrina. Journal of Urban Affairs, 31(5): 615-634
- HAY, R. (1998). Sense of place in a developmental context. Journal of Environmental Psychology, 18, 5-29.
- CHAPMAN, K. (2011) Lives before Christchurch earthquake damaged buildings. The Press 1March 2011,

http://www.stuff.co.nz/national/ christchurch-earthquake/4715003/ Lives-before-Christchurchearthquake-damaged-historicbuildings

- IRVINE, D. (2013) Nurturing quakestressed souls. The Press, 16 March 2013. http://www.stuff.co.nz/thepress/christchurch-life/8430649/ Nurturing-quake-stressed-souls
- LEE, F. (2012) Pictograms to retrace Chch's heritage.The Press, 31 May 2012. http://www.stuff.co.nz/ the-press/news/christchurchearthquake-2011/7020366/ Pictograms-to-retrace-Chchsheritage
- MCLAUCHLAN, G. (1976). The Passionless People.Auckland, New Zealand, Cassell.
- RUAN, X. and HOGBEN, P. (2007) Topophilia and topophobia: reflections on twentieth century human habitats. Abingdon, Oxon: Routledge.
- TOWNEND, J., SUTHERLAND, R., TOY, V. (2009) Deep Fault Drilling Project— Alpine Fault, New Zealand. Scientific Drilling, No. 8, September 2009 75-82.
- TUAN, Yi-Fu (1974). Topophilia: a study of environmental perception, attitudes and values. Englewood Cliffs, NJ: Prentice Hall
- TWAIN, M. (2008, first published 1895) Beyond the Equator. Stilwell, KS: Digireads.com