

- ARTICLE -

Heroic Radio: A Study of Radio Responses in the Immediate Aftermath of the September 2010 Earthquake in Christchurch, New Zealand

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Abstract

This case study examines radio's performance in the immediate hour after the 7.1 Richter scale earthquake struck Christchurch, the largest city in the South Island of New Zealand, at 4.35am on September 4th 2010. It contributes to a growing body of work analysing media responses to sudden catastrophic events like floods, bushfires, tsunamis and earthquakes and it refocuses attention on the critical role played by the 'legacy' medium of radio at a time when the popular media is focused on the value of social media in crises. Media commentary, interviews and transcripts of broadcasts are used to explore how radio performed in the hour of darkness immediately after the first quake and before a civil emergency was declared. The study compares the performance of two national talk back networks and Radio New Zealand National, a public service network. It explores the relationship between local informants and national media centres hungry for on the ground information. It concludes with a discussion of the role of radio in this and future crises.

This case study examines radio's performance in the immediate hour after the first earthquake struck the South Island's largest city, Christchurch, at 4:35am on 4 September 2010. It contributes to a growing body of work analysing media responses to sudden catastrophic events like floods, bushfires, tsunamis and earthquakes, and it refocuses attention on the critical role played by the 'legacy' medium of radio at a time when the popular media is focused on the value of social media in crises (Mathewson 2011). The data is used to explore how radio performed as electricity grids tripped and before a civil emergency was declared. It compares the performance of Christchurch-

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based stations and networked stations and the relationship between local informants and national media centres hungry for on-the-ground information. It then reviews recordings of the performances of three nationally networked stations, which were forced to respond from North Island radio studios to the breaking news in the South Island in the absence of official information. It concludes with a discussion of the role of radio in this and future crises.

Approach

Three network recordings of the immediate coverage of the earthquake were transcribed: the first are two Auckland-anchored shows, The Radio Network's Newstalk ZB all-night talkback show with Bruce Russell and MediaWorks' Radio Live overnight talkback show with Dudley Stace; the third transcription is of public Radio New Zealand National's broadcast from Wellington, where Vicki McKay hosted the "All Night" programme, a mix of pre-recorded shows, news and music. Radio New Zealand has a policy of drawing on expert informants as sources and has no talkback. The radio recordings were transcribed from just before the earthquake, which occurred at 4:35 am, until a civil emergency was declared just after 9:00 am. Open-ended interviews were conducted in December 2010 with a range of radio informants who could provide background information on conditions confronting local radio stations in Christchurch and the challenges facing their national network links in the immediate aftermath of the first quakes. Newspaper and online commentary in the week after the earthquake was collated and reviewed. Radio New Zealand provided access to their compiled coverage and email feedback from listeners. The data was then analysed to assess the effectiveness of the immediate response of radio as a medium, as well as its performance in conjunction with other media. The transcriptions enable analysis of which type of radio, talkback or talk, worked best in terms of providing information and comfort during the night-time crisis.

The Situation

At 4:35 am on 4 September 2010 earthquakes hit the region around Christchurch. The largest, at 7.1 magnitude on the Richter scale, was centred 40 km west of Christchurch (Geonet) and knocked terrified citizens out of their beds. They scrambled to doorways as what sounded like a jumbo jet roared through their homes and objects flew around them. Electricity failed for many. In the first hour or so of darkness many people's thoughts flashed to the horrors of Haiti and Chile's recent tsunami. Others reported fears of terrible eruptions from the dormant volcanic caldera in Lyttelton Harbour. People were confused and uncertain.

This confusion also faced those working for Christchurch's radio stations. When Marcus Bekker, an experienced radio engineer contracted to MediaWorks, was woken by the earthquake, his first thought was, 'Oh hell here it is, and it is a big one . . .' (interview December 2010). Immediately, his phone rang. It was the programme director and

operations manager of MediaWorks, Richie Fullard, who said, 'by the way, everything is off air . . . not a radio station on air'. Bekker had no transistor (like many in Christchurch), so he scanned the home stereo and found no stations. He looked out the window and could see no reassuring lights on the radio aerials on top of Sugar Loaf on the Port Hills. Had they toppled? (They had not toppled, but electricity had been cut). He was unaware at the time that his was one of the few areas of the city where the electrical seismic trips (designed to prevent fire) had not yet gone off. He immediately rang Kordia, the national telecommunications network in the North Island, who told him that they had lost all contact and were waiting for the generators to kick in. Bekker put his family in the back of his utility truck and scanned the dial to find some stations on air playing emergency tapes. The aftershocks continued violently as he drove to one of two MediaWorks buildings, this one in Kilmore Street, in downtown Christchurch. There the electric doors had paused, locked shut. He and Richie Fullard knocked out a door as the ground continued to move and bricks rained down. They grabbed hard hats and torches and raced up to the 7th floor, where the keys to the generator were kept.

Bekker was an independent contractor at the time of the quake, but his early training had been in public service Radio New Zealand. This ingrained sense of service kicked in, over-riding any fear, because, as he puts it, 'Radio was not just a job; it was a public service'. Inside the Mediaworks building 'there were cracks everywhere, plaster down, the mind plays tricks with you. Walls looked lopsided and were moving' (interview December 2010). They climbed over mountains of plastic bottles of prize energy drink. The swipe card system to the office on the 7th floor had just enough power to grant access, though power was out in the building as a whole. The computers had toppled. Once Bekker and Fullard were back on the ground with the key, the generator would not start because the ground was shaking like a jelly and the fly wheel, which relied on momentum, was useless as the ground liquefied. There was white noise on the radio until Sugar Loaf regained power and then, once generators were running at MediaWorks, John Dunne, the morning host on the Breeze, improvised on the microphone without a producer or functioning computers, drawing on phone calls and his local knowledge of Christchurch.

Equally responsive in another part of the inner city was Elliott Smith, who was climbing to the 7th floor of the Radio Network House 20 minutes after the first quake, using just a cellphone to light the way. He had to use the same cellphone to call the ZB newsroom in Auckland to report damage to studios.

Both commercial networks appreciated the urgency of restoring local radio broadcasts, and Christchurch-based personnel from The Radio Network and MediaWorks took physical risks to ensure that this happened, despite danger to themselves.

The Role of Radio and Social Media in Crises

There have been many recent studies of the diverse roles played by a range of media in the aftermath of crises like floods, fires, tsunamis and earthquakes, but very few are able to cast light on the response of media in the immediate impact phase of a disaster. Ewart and Dekker cite one rare example, Perez-Lugo's 2004 study of eight Puerto Rican communities affected by Hurricane George in 1998, which found that '... the media are facilitators of social cohesion during the moment of collective crisis ... helping individuals isolated by disasters to feel connected with the outside world' (2013, 368). The study illustrates the particular significance of radio when a radio transmission tower collapses and informants react with feelings of hopelessness and isolation.

Studies from third world countries dating from before the advent of online social networking have limited relevance. Christchurch citizens in 2010 were already enthusiastic early adopters of social networking by world standards and email and Twitter were used vigorously in the immediate aftermath of the earthquakes. Nielsen recorded 27,034 comments posted on social networking sites and message boards in the first six days after the first Christchurch earthquake (Nielsen 2013). Jie, Lampert et al plotted Twitter bursts in the immediate aftermath of the 7.1 jolt, where Twitter provided '... on the ground information, including expressions of fear, requests for help, and descriptions of the disaster's impact on the community' (2012, 54). The first tweet was received at 4:36 with 10 more tweets in the next minute and the hashtag #earthquake 'burst' at 4:39, #CHCHQuake at 4:41, #eqnz at 5:13. But Jie, Lampert et al note the limitations of information published on social media, which is 'intrinsically noisy and arrives at a high rate', making it hard for civil defence to monitor. Furthermore, in the early morning hours, there was no civil defence operational in New Zealand to sift through information.

Hughes and White argue that discussions about media response are too often treated in isolation because each medium has its strengths and weaknesses (2005). Endo describes the way that media can effectively work together as 'intermediality' (2013). Certainly social media are valuable information sources and were drawn on extensively by radio journalists, but problems were encountered as cellphones overloaded and batteries ran low in blacked-out Christchurch. Laska observes the critical importance of battery powered radios on the Louisiana coast as power failed during hurricanes (2013). Endo observes that social media developed a mutually complementary relationship with traditional media during the aftermath of the Fukushima disaster, but also cautions that it is 'meaningless to disregard the interruption of electricity and circuits by the disaster' (2011, 5).

Norris and Stevens suggest that radio offers a form of 'collective community resiliency as strong, and perhaps stronger, than that offered by other media' (2008, 1). Others agree that radio creates resilience from its stock of social capital, norms networks and trust. In the aftermath of the 1989 Loma Prieta earthquake in San Francisco, radio was assessed as communicating well (Katayama 1992 cited in Laska 2013, 14) and radio voices were also judged to be critical for the morale of those isolated during Hurricane

Katrina of 2005 (Moody 2009). In turn, local ABC radio hosts' presence played a key role during floods in the Hunter Valley in 2007 and radio came to the fore during the 1983 Victorian Ash Wednesday firestorms (Ewart and Dekker 2013, 370). The particular strength of radio is seen to be its ability to present 'continual reports, messages and information, including advice where help was available' (Hughes and White 2005, 7). North and Dearman (2010, 154) agree. In the case of the bushfires in Australia, radio services told people not to use phone-lines needed for priority calls, at the same time alleviating the sense of disorientation and anxiety. Yet, despite the critical role of radio in bushfires, a special issue of Media International Australia on the Victorian bushfires in 2010 only offered one paper in the collection concerning radio's role in the crises.

At the time of the earthquakes in 2010 radio was designated one of Civil Defence Agencies' critical media for disasters in New Zealand. The state-owned, public broadcast networks Radio New Zealand National and Concert, as well as TVNZ, were dubbed 'official lifeline utility units' in the case of emergencies. In addition, the radio stations owned by the two commercial networks were listed in the Christchurch phone book's emergency pages: The Radio Network's Classic Hits and Newstalk ZB, and MediaWorks' More FM, Radio Live and the Breeze. After the first big earthquake, television reception for much of Christchurch was knocked out until power was restored. Transistors, for those who still owned them, and, in particular car radios, became essential lifelines in blacked-out areas of Christchurch.

Radio in Christchurch before and after the Earthquakes

Two overseas-owned companies dominate commercial radio in New Zealand: The Radio Network and MediaWorks. Local Christchurch radio station 'brands' under each corporate umbrella have traditionally delivered a mix of daytime local shows before switching over to an overnight talkback show networked from each corporate newsroom hub in Auckland. Local shows have been under threat whenever the corporate focus shifts to reducing business costs and creating technical and personnel efficiencies.

Indeed, prior to the September earthquakes local talkback radio had a high profile in Christchurch because Christchurch listeners and corporate advertisers had recently fought a very effective public campaign to retain a local daytime show in the city after The Radio Network decided to shut down the popular local morning talkback show on Newstalk ZB. This was to be replaced by a networked show from Auckland. As Andrew Britt, the Christchurch General Manager, put it in May 2010 after capitulating to public pressure, 'We are sorry. We got it wrong, Canterbury, and we are now doing something about it' (The Radio Network). Loyalty to local radio was at an all-time high when Mike Yardley, the local talkback host, returned in triumph to the local morning show only months before the September quake.

So how did the earthquake affect local radio immediately after the first quake? MediaWorks operated two local brands, More FM and The Breeze, out of two buildings. John Dunne, a host on The Breeze, reached his station's building around 5:00 am and ran seven floors up to the studio with a technician. There he later went on air for his morning shift, relying on phone calls via cellphone and his local knowledge. He fielded rumours of volcanic eruptions on Brighton beach (in fact liquefaction), possible pier collapses, petrol tankers about to explode and imminent tsunami. Workers at the Radio Network also drew heavily on local experience but were forced to continue overnight network service from Auckland because of damage to their building. Later, the Christchurch morning Newstalk ZB host, Mike Yardley, was the guest by phone on the Auckland show hosted by Paul Holmes in Auckland.

Radio New Zealand National, a public broadcasting station funded by the government, is networked from the capital Wellington and has no local breakouts. It provides a mix of pre-recorded shows, news, live and pre-recorded interviews and music. There is no talkback and its hosts are required to draw on official sources. The all-night talk show had recently survived the 2008/9 review of Radio New Zealand, which had canvassed a range of cost-cutting measures, including the cutting of its all-night talk show (New Zealand House of Representatives 2010).

In Christchurch local journalists, radio managers, students from the New Zealand Broadcasting School, sound archive staff and visiting radio producers kept northern network newsrooms fed with on-the-spot information, descriptions and commentary. After 6:00 am there was a rapid increase of expert information from the Mayor's office, Civil Defence and council-owned electricity grid operator Orion.

Commentary about Radio's Performance after the First Quakes

Will Harvie, writing for the local newspaper three days after the quake, ranked radio the most effective medium (2010). But the earthquake also provided an opportunity to air the old arguments between 'high culture' and 'low culture' as commercial and subsidized public radio supporters locked horns. Critics were not short of an opinion.

Grant Woolliams, for example, supported talkback radio in *The Sunday Star Times* on 12 September 2010:

Snobs don't listen to talkback radio. They frequent frequencies that deliver ad-free dulcet tones and classical music. But Canterbury earthquake shows why National Radio listeners should hold their noses and lend their ears to what the hoi polloi listen to.... Talk back networks starred. They dropped normal programming and provided listeners, including thousands overseas online - with vital perspectives....its listeners provide it with an army of reporters, all informal and unpaid.

There were also those equally fervent about supporting the performance of Radio New Zealand National, which received the following email:

Radio NZ was giving me live earthquake updates from its listeners emailing and txtng the on air host while your much vaunted free market media was still stumbling around in the dark looking for last night's shag.

It was impossible to satisfy everyone listening. Radio New Zealand National was lambasted for playing prerecorded items while the host and newsroom compiled listener texts and emails. Yet commercial stations didn't seem to be criticised for playing Auckland-targeted ad breaks when Christchurch stations switched to network. The host following Vicki McKay on Radio New Zealand National played the Beach Boys' 'Good Vibrations' shortly after 6:00 am, drily observing at the time that it might be a career-limiting move. Audience response to this reflected both amusement and ridicule. The decision to play children's stories just after this song also drew criticism. It is clear from the emails compiled by Radio New Zealand National and letters to the editor that some listeners appreciated the repetition of information and some loathed it. The Radio Network claimed they provided the best first coverage on Newstalk ZB, and marketed the early switch over to Newstalk ZB of their inoperative local Christchurch stations as a strategic decision, whereas in fact there was little choice about this given the state of its building there. MediaWorks claimed they had the earliest and best ongoing Christchurch-based talkback coverage after John Dunne's efforts to enter its surviving building in order to get a broadcast out. Its nationally networked youth brand, The Edge, even claimed the first news of the earthquakes on a breakfast show targeting youth.

Some listeners craved newsroom authority in the first terrifying hours. As one put it, 'I didn't need some dipshit out there [in fact an intellectually disabled regular caller] ringing in to say hi to their radio family; I needed authoritative updates and information' (interview December 2010). A functioning network with newsroom producers was seen by many as preferable to a brave host like John Dunne in a broken local radio station. In the early hours a steady editorial hand away from the chaos, with intact national and international communications systems, became critical to forestall panics.

Later on, during the daytime hours of 10 September, all three media organizations scrambled to fly in fresh northern journalists to relieve exhausted locals. This was a logistical nightmare while Christchurch airport remained closed for runway checks. Some drove from airports in Dunedin and Nelson. In the following weeks Radio New Zealand sent journalists to learn from the experience on the ground in Christchurch.

An important pattern, discussed by Hughes and White (2005), became clear over time. Local talkback stations came into their own as they became significant hubs for shared stories and local information over the subsequent daylight hours and then subsequent days and weeks. Local radio stations had to scramble to improvise new studios, and

Newstalk ZB imported Danny Watson, a North Island talkback host who knew Christchurch well, to give the local host a rest. National commercial networks returned to normal scheduling, but Canterbury continued to desire its particular daily dose of local talkback catharsis.

Radio's Performance during the Crisis

Given the strength of public opinion and marketing hype outlined above, some forensic analysis is necessary in order to clarify how all-night networked radio stations performed in the chaotic period of darkness immediately after the first earthquake. National all-night talk hosts and their supporting newsrooms were suddenly faced with an enormous responsibility as Christchurch residents stood around car radios or dusted off old transistors after electricity failed and computer and mobile phone charges died. Listeners tuned in hoping for information, advice, comfort, and a sense of community. Many talked about the importance of hearing a reassuring human voice on air (Radio New Zealand).

The first jolt struck at 4:35, yet the Ministry of Civil Defence and Emergency Management (MCDEM) was operational only after 5:20 am. It was to be nearly an hour and a half before the Ministry of Civil Defence posted its first alert around 6:00 am, announcing that it had activated a National Crisis Management centre. The first official police statement for Christchurch residents came at 6:05 am from Inspector John Doherty, who simply stated, 'It is recommended that people take care if they have to travel as there has been damage to some roads' ('Kiwis shaken, but not stirred'). Some panic was already happening in the city and its environs. Citizens were monitoring the police frequency where the question of a tsunami was canvassed. Seaside inhabitants were loading families and photo albums into cars and pulling out onto main roads, some liquefied and with bridges damaged and traffic lights not working. The first formal release from MCDEM was received by newsrooms at 6:33 am. The state of emergency was declared in Christchurch shortly after 9:00 am (Radio New Zealand 2010).

In this section, transcripts of broadcasts on three networked stations immediately after the first quake are analysed. Since all hosts were based in the North Island of New Zealand, Russell and Stace in Auckland and McKay in Wellington, they were faced with the daunting challenge of making sense of a confusing unfolding situation far away in the middle of the South Island in the absence of any official information.

How quickly and accurately did radio hosts and their associated North Island newsrooms get to grips with the facts of the situation in Christchurch? Which format served the needs of listeners best: talkback radio or 'official' talk radio?

Speed and Accuracy in News: You Are Not Wrong for Long

Priorities change for newsrooms during crises. For example, during the Australian Black Friday bushfires in 2009 the usual cautious journalistic protocols governing public

service content (especially verification of sources and content accuracy) were severely tested at ABC Gippsland. As the station manager put it, people were hungry for up-to-date information so he decided to

... trust people in a state of emergency to be honest with us. ... It's a huge leap of faith in some ways, but that is what we do. (North and Dearman 2010, 86)

Newsrooms were on night shift when the first Christchurch quake happened. As in the Australian bushfires, they had to respond with trust in order to garner what information they could from a diversity of non-official sources. The first items on all-station news bulletins at 5:00 am consisted of recycled material gathered from Christchurch-based radio staff call-ins, phone-ins, texts and emails. Elements were then repeated over the next hour of programming and news until official sources became available.

Information was slow to be released from the official website Geonet ([geonet](http://geonet.govt.nz)), which is tasked by the government with real time monitoring and data collection for rapid responses to earthquakes, volcanoes, landslides and tsunamis. The first information about the earthquake came from the US Tsunami warning system in Hawaii. The first Geonet information was supplied to Stace after the 5:00 am news on the Radio Live network but this was read out only on that station. There was no early spontaneous coordinated sharing of information in the absence of a functioning civil defence response.

Talkback versus Talk Radio

From the earthquake until after the 5:00 am bulletin all of the hosts had to allay rising panic with no actual information to hand other than that issued via the US-based Pacific Tsunami Warning Center. How well did talkback and talk formats perform in the first hour of the crisis?

Reynolds et al argue that the four positive qualities of communication during a breaking crisis are accuracy of information and speed of release of information, followed by empathy and openness (cited in Laska 2013, 12). Two of these measures are measures of credibility and two relate to trust. These two measures will be applied in turn to the performance of the networked stations on air when the first quake hit.

Talkback offers an important source of immediate intelligence and information from listener call-ins. The literature offers evidence that the on-air content of talkback radio is driven by the quality of call-ins, and there is a significant risk for misinformation because almost anyone can get onto talkback (North and Dearman 2010). This presents a credibility issue, and it can be argued that credibility was of critical importance in the wake of an earthquake where misinformation can create panic.

Talkback producers usually vet call-ins, yet in an emergency there is pressure to accept unfiltered callers because there is little time for the verification of sources or checking for accuracy (Ewart and Dekker 2013, 371). As we shall see, this caused some nervous moments for the two talkback hosts when they had to counter mischievous calls 'on the fly'.

Although all three hosts were aware that there was an earthquake, all took considerable time to ascertain where the earthquakes were centred, as well as the size of the first tremor. Vicki McKay on Radio New Zealand National had the advantage of feeling the earthquake in Wellington, but Bruce Russell on Newstalk ZB and Dudley Stace on Radio Live, both in Auckland, had the advantage of seeing their switchboards for call-ins 'light up' shortly after 4:35, thus indicating the extent of immediate responses.

At first McKay reports, rather casually, that she is feeling the first quake in Wellington but she suggests that it is 'not major at all where I am' and goes online to Geonet to check out activity on the seismic drums. She asks for texts to be sent to her. In the absence of data she incorrectly suggests that the quake 'could be in Wairarapa' and feels that it 'seems still to be more to the north than south'. At 4:42 she plays a pre-recorded item, which suggests a lack of urgency for some listeners in Christchurch who are impatient for information. But after this item she is able to return with summarized texts from listeners and says 'Fantastic listener response! Christchurch is shaking like a leaf, Otago and Dunedin are woken up'. Fifty texts are received within the first 5 minutes, 100 arrive within 10 minutes (Radio New Zealand). McKay is able to read 6 minutes of selected texts and emails compiled by duty journalist Charlotte Graham, who knew Christchurch well. McKay gives safety advice, for example not to use candles, and takes it upon herself (she had only evidence from Hawaii) to repeat several times that a tsunami warning has not been called before the end of her shift at 6:00 am.

By contrast the two talkback hosts sense a crisis as they are faced with switchboards ablaze with calls. They are immediately thrown into dealing with the raw stories and observations from listeners phoning in from around the South Island.

The initial calls to Russell on Newstalk ZB assume an event on the West Coast, or in the Alps of the South Island, far from the epicenter on the east coast in Canterbury. The first two calls are rambling recollections from older men of 'mine bumps' and the 1968 Inangahua quake. Calls from other places in the South Island after these first calls occasionally run to over a minute as they describe the ongoing quakes. Russell comments,

We want to hear you are OK, and let the rest of New Zealand know what is happening. One of the beauties of talkback radio is that we are here and answer the phones, we can tell you exactly what is happening (4:47 am).

He notes that Geonet has yet to post anything. He reads the report from the US Pacific Tsunami warning centre (<http://ptwc.weather.gov/>), which does not issue a tsunami

warning but indicates that local tsunami may occur within 100 km of the epicenter (4.50am). Just before the news at 5:00 am, twenty-five minutes after the first massive quake, Russell comments 'We are not looking to frighten people. We are getting information out as we get it'.

First calls to Stace on Radio Live are from Canterbury. He suggests that people stand in doorways and keep away from chimneys. A seismologist from Geonet rings in about 4:50 am to say that he thinks it is in the South Island. When prompted he thinks it is closer to the Alps. He asks for 5-10 minutes to work on data. The preliminary report from Geonet is delivered after the 5:00 am news (but this information is not shared with other stations on air at the time). The host cuts off some callers who are making light of the situation, including one caller who jokes about a tsunami just before the 5:00 am news.

Later, between 5:00 am and 6:00 am, talkback hosts continue to field unhelpful call-ins: amongst them, why the earthquake might be attributed to the collapse of Southern Finance, news of Lyttelton harbour boiling, sulphur smells at Rapaki suggesting volcanic activity, as well as call-ins and texts from those listening to the police scanner saying that there are clogged roads as citizens flee to the Port Hills fearing a tsunami. Dudley Stace has to respond decisively to on air scare-mongering about tsunami. Vicki McKay self-censors a report of tsunami, assuring listeners, 'No, no . . . horrible things. Please don't panic, people. No tsunami alert. Don't panic at this stage. When people panic things go wrong'.

Evidence suggests that the National Radio talk format, after a faltering start, provided the most reliable stream of information in the first critical hour. McKay was able to spend time reading out well selected texts and emails vetted by subs in the newsroom. This filtering and summarising of social media through calm newsroom editorial control arguably gave McKay in Wellington a depth of rich field information. The talkback stations were sometimes bogged down with time-consuming phone-ins of mixed quality.

Reynolds' second set of positive qualities of communication necessary during a breaking crisis are empathy and openness, which constitute trust (cited in Laska 2013, 12). Chhetri and Narayan argue that radio has an advantage here because people relate to the voice on the radio and that, in times of crisis, a familiar voice 'renders some peace and calmness to the victims' (cited in Laska 2013, 11). This echoes Haddow's advice for communicators to create an emotional connection with audience (cited in Laska 2013, 12). Evidence suggests that all three talkback hosts fulfilled the role of providing empathy and openness.

In the absence of official information hosts had no choice but to ride the earthquake with their listeners, who were experiencing the earthquakes in the dark. They may have had their own style of response, but all were honest about their lack of official information. Talkback hosts urged listeners to ring in and keep in contact. One hills

resident in Christchurch texted McKay, 'we are calm 'cos of radio being with us, city very dark only small areas of light'. Some of those ringing or texting in provided black humour: 'the toilet bowl emptied', 'houseware all over the place, but Bourbon safe', 'aftershocks start the antique clock', 'all sliding doors self-open'. Russell reinforced the power of radio talkback's sense of community, reminding listeners that 'we are all here . . . and can tell you instantly what is happening'. Stace was fiercely protective of his scared Christchurch listeners and cut off or, on occasion, talked back to unhelpful callers. McKay spoke directly to isolated older citizens: 'I know it's scary, I know the house is dark and things are shaking'. She praised and rallied her informants, telling them that they are doing a fantastic job helping her understand what is going on under difficult circumstances. She asked listeners to check on elderly neighbours. She noted that 'dawn is approaching and things will be easier in the light of day'. She suggested taking a step at a time and perhaps making a cup of tea on camping equipment. She asked people to stay off roads to help emergency services. She signed off her show just before the 6:00 am news: 'Vicki McKay on behalf of RNZ. It is valuable to know you are keeping your head when everyone around you are losing theirs'.

All three hosts performed on air with few resources and served the public interest. Radio broadcasters played an important role in ensuring that panic did not break out in Christchurch. The transcripts and recordings illustrate the value of battery-powered radio to connect citizens even as power failures silenced social media.

Conclusion

Social media streams were very active immediately after the earthquake, but it was the 'legacy' media of radio that enabled the critical power of 'intermediality' by tapping into streams of social media and communicating information to the public via transistors and car radios in the first hour, and thereafter until daylight when a state of emergency was called. Radio also became a critical hub for community reassurance as listeners expressed their anxiety and fear and hosts responded with calm advice and encouragement.

Much loved Christchurch-based talkback radio stations, whilst invaluable when reconstituted later for community catharsis and shared story-telling, were damaged in the immediate aftermath of the first quakes. It was national networked radio that became the trusted medium for information and reassurance during the hours of darkness.

The steady editorial hand of northern network newsrooms was critical in order to make sense of chaotic flows of information for listeners. All radio networks functioned effectively as cross-platform spaces. They became nodes for communicating information gleaned from phone calls, texts, Twitter and the web. Official information was slow in coming and in its place newsrooms attempted to triangulate information and provide trustworthy information. Hosts were forced to ride the earthquake with

their listeners and provided much needed contact and reassurance. Hosts also made important judgments about what information to broadcast and dropped callers who may have created panic.

The recordings of hosts on Newstalk ZB, Radio Live, and Radio New Zealand National demonstrate how radio provided a critical sense of shared imaginative community for citizens isolated in terrifying circumstances. It shows radio performing at the highest level as a nimble, interactive medium. It is arguably one of New Zealand radio's finest hours. Those in the government who once suggested that Radio New Zealand National could save money by closing down between midnight and 6:00 am should be given pause for thought.

In October 2010, during National Civil Defence week, a locally produced docudrama (Eruption, Gibson Group for TV3) was screened, in which Auckland is incapacitated by a volcanic eruption ('Pick of the Week: Eruption'). It raises the question: could Christchurch, the second largest city in New Zealand, take over as a network centre for The Radio Network, MediaWorks and Radio New Zealand in the case of a catastrophe in the North Island?

In 2010 Radio New Zealand could still access a Christchurch studio in a building built to 30% above required strength. It had even installed a dedicated emergency generator four months before the earthquake. This purpose-built facility, designed to withstand earthquakes, is no longer part of the network. If radio is to warrant its position as the preeminent, resilient 'national official lifeline utility', it requires political will and funding. This is unlikely under current business models. But the challenge for civil defence remains: can a nation positioned on the fiery volcanic girdle of plate tectonics afford not to have such radio provision?

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