

Shaping Japan's disaster heritage

The creation of new monuments and the preservation of ruins in the aftermath of the Great East Japan Earthquake and Tsunami

Megan Good
Independent researcher

Introduction

Through the examination of major volcanic eruptions, Sheets and Grayson (1979) were among the first to suggest that the cultural evolution of a society may be directly influenced by the catastrophic natural disasters it experiences. This theory has since been expanded upon by various heritage professionals examining how all types of natural disasters, such as earthquakes, tsunamis, landslides, and hurricanes, have the potential for long-term impact on the lives of those affected and the society as a whole

How to cite this book chapter:

Good, M 2016 Shaping Japan's disaster heritage. In: Matsuda, A and Mengoni, L E (eds.) *Reconsidering Cultural Heritage in East Asia*, Pp. 139–161. London: Ubiquity Press. DOI: <http://dx.doi.org/10.5334/baz.h>. License: CC-BY 4.0

(Kornbacher 2002; Oliver-Smith 1986; Sheets & Grayson 1979: 628). As noted by Oliver-Smith (1996: 303), natural disasters ‘signal the failure of a society to adapt successfully to certain features of its natural and socially constructed environment in a sustainable fashion’, and, in this way, highlight the limits of a society’s adaptive processes. If this is truly the case then, according to Torrence and Grattan (2002), it follows that studying the ways in which a society responds to disasters would be an important avenue to understanding the broader processes of that society’s historical and cultural evolution. One way in which to study these responses is to examine particular aspects of a society’s cultural heritage thought to have emerged as a direct result of a disaster.

Monuments commemorating tsunami disasters have existed in Japan for centuries in the form of *tsunamihhi* – a term derived from a combination of the word ‘*tsunami*’, meaning a very large ocean wave caused by an underwater earthquake or volcanic eruption, and ‘*hi*’, meaning a stone monument with an inscription. *Tsunamihhi* are large stone tablets or elongated rocks ranging from three to even ten feet tall, set into the ground and featuring inscriptions. When the recent Great East Japan Earthquake and Tsunami struck on March 11, 2011, some residents turned to these monuments for guidance on where to find safe ground, and recalled the messages inscribed on their surface which contain warnings from their ancestors of the dangers of earthquakes and their ensuing tsunami. The earliest known *tsunamihhi* date as far back as the 14th-century (Murakami 2008). These traditional stone monuments represent a part of Japan’s unique heritage – its ‘disaster heritage’. More recently, however, Japan began seeing a new form of memorialising tsunami disasters, which involves the preservation of ruins.

Prior to the Meiji period (1868–1912), most of Japan’s infrastructure was made of wood. When a disaster struck, the wood

would burn away or topple over into unrecognisable debris. Western-style masonry was not introduced into Japan until around the beginning of the Meiji period. For many European observers Japan's lack of significant masonry ruins was seen as contributing to a certain 'absence of memory', in contrast to European nations where stone ruins provided a clear and constant reminder of the past (Weisenfeld 2012: 150). Since that time, there have been a few cases in which materials damaged by earthquakes have been preserved; for example, at the Kanto Earthquake Memorial Museum and the Nojima Fault Preservation Museum, which commemorate the Great Kanto Earthquake of 1923 and the Hanshin-Awaji Earthquake of 1995, respectively.

Since the March 11, 2011 disaster (from hereon referred to simply as 3.11), there have been debates in the affected communities up and down the affected coast about how best to commemorate the disaster and, for the first time, a significant number of proposals have been put forth by local governments, citizens, and scholars for various ruins of the tsunami to be preserved as either monuments that stand on their own or as part of a memorial park. Among the proposals were, for instance, three damaged concrete buildings in the town of Onagawa (Figure 1), a lone surviving pine tree (one of 70,000 before the disaster), a message on the wall of a community centre in Rikuzentakata city, a tour bus stranded on top of a building in the city of Ishinomaki, and a 330-ton fishing boat washed ashore in Kesenuma city.

Bearing these in mind, this chapter investigates the relationship between natural disasters and the evolution of cultural practices by focusing on Japan's long history of destructive tsunamis and the monuments built by generations past and present to commemorate them. Through comparison with Japan's traditional *tsunamihi*, it attempts to understand why after 3.11 the newer



Figure 1: One of the three damaged buildings left *in situ* in Onagawa Town (photographed in July 2012 by Akira Matsuda). This building was subsequently dismantled and removed in January 2015.

notion of preserving ruins of the tsunami became so popular and yet so controversial.

Japan's ancestral stone monuments: *tsunamihi*

The 3.11 earthquake occurred at precisely 14:46 JST off the coast of north-east Honshu, the main island of Japan, measuring in at a magnitude of 9.0 on Richter scale. The resulting tsunami was 8 to 9 m high and reached an upstream height of 40 m, leaving an estimated 19,500 people either dead or missing (Japan ICOMOS National Committee 2011: iii). Although described in the media as 'unprecedented', 3.11 was not the first event of its kind to ravage

Tôhoku, the north-eastern region of Honshu. Earthquakes measuring greater than M8.0 triggered catastrophic tsunamis along the eastern coast of the Tôhoku region killing thousands in 869, 1611, 1896, and 1933. The 1896 tsunami incurred the highest loss of life by a tsunami ever recorded in Japanese history at an estimated 22,000 lives lost (National Geographical Data Center n.d.); however the 3.11 tsunami was a close second.

In the wake of 3.11, while some praised the advanced earthquake resistant buildings that undoubtedly saved countless lives in cities like Tokyo, others focused more on the inherited memories of past tsunamis that saved many in rural towns across Tôhoku. This included oral traditions such as those in Murohama, located in Miyato Island in the city of Higashi Matsushima, where over the years local people had passed down stories about the two tsunami waves that devastated the island during the Jôgan tsunami of 869:

‘A millennium ago, the residents of Murohama, knowing they were going to be inundated, had sought safety on the village’s closest hill. But they had entered into a deadly trap. A second wave, which had reached the interior of the island through an inlet, was speeding over the rice paddies from the opposite direction. The waves collided at the hill and killed those who had taken refuge there. To signify their grief and to advise future generations, the survivors erected a shrine’ (Holguín-Veras 2012).

Inherited memory of how the tsunami had behaved in 869 meant that people understood what to do, and what not to do, when the earthquake struck on 3.11 – despite the failure of the Murohama tsunami-warning tower to sound the alarm (Holguín-Veras 2012).

A clear example of the value of *tsunamihi* during 3.11 comes from the small town of Aneyoshi, Iwate Prefecture. Residents cited as their saving grace a *tsunamihi* that remained from their

ancestors who experienced the devastating 1896 tsunami. The message on the stone monument warns people not to build their homes below the place it marks. Heeding this warning, the village was safe on high ground when the 3.11 tsunami struck (Fackler 2011).¹ Hundreds of these *tsunamih*i dot the east coast of Japan with inscriptions ranging from religious sutras (in the case of the very old *tsunamih*i), detailed accounts of the disaster (e.g. lives lost, houses destroyed, height of the tsunami, and its behaviours), to simple instructive messages such as ‘if there is an earthquake, think only of yourself and run to high ground’.

The inscriptions on *tsunamih*i provide some reflection of the nature of society’s changing beliefs over time concerning the underlying causes of tsunamis and their control over their own fate when they occurred. For example, early producers of *tsunamih*i, such as those who created Kôryakuhi, the oldest known *tsunamih*i, built in 1380 in the town of Minami in Tokushima Prefecture, appear to have done so for religious purposes. The sutra engraved on the surface of Kôryakuhi is testament to the Buddhist beliefs of the community at the time. It was believed that natural disasters were a punishment for those who did not live righteously according to Buddhist Law (Asma 2011), and blame was often placed on the victims of the disaster.² The same sutra can also be found on later *tsunamih*i, including one commemorating the tsunami which struck Tokushima Prefecture in 1605 (Murakami 2008). This 1605 *tsunamih*i not only bears this Buddhist element, but juxtaposes it with a small shrine for a Shinto deity which is indicative of the rise of Shintoism in the region during the Edo period (1603–1867) (Murakami 2008). Whereas under Buddhist teachings earthquakes had been associated with karmic retribution, Shinto taught that earthquakes and tsunamis were the result of the god Kashima’s negligence.

According to Shinto folklore, *namazu*, a giant catfish, lives in the bowels of the Earth and is restrained by a large stone held in place by the god Kashima. Sometimes Kashima gets distracted with other business and *namazu* gets free and thrashes about violently, causing earthquakes to occur (Smits 2006). Under these circumstances, blame is placed with the negligence of a god, not with any moral failures of society associated with Buddhist values. During the Edo period, inscriptions on *tsunamihi* began to include, alongside religious elements, a record documenting the date, time, location, and sometimes behaviour of the tsunami. It was also during this period that literacy became more widespread (Deal 2006), giving more people the chance to read and learn about the tsunami event from the stone monuments.³ It was perhaps then during this period that people may have begun to feel that they had some control over what would happen to them when a disaster struck, particularly if they knew what they should be prepared for.

By the start of the Meiji period, modern scientific explanations began to undermine any lingering literal beliefs in *namazu* causing earthquakes (Smits 2006). The emergence of seismology and a growing interest in the study of historical earthquakes in Japan – by Japanese as well as foreign scholars, including Fusakichi Ômori, Ichizô Hattori, Sekiya Seikei, John Milne, Thomas Gray, John Perry, and Edmond Naumann – provided the main catalyst for this shift.⁴ By the time the 1896 tsunami struck, stone monuments exhibiting purely educational inscriptions were emerging, such as the one in Aneyoshi mentioned previously. When the 1933 tsunami occurred, many people who had experienced the 1896 tsunami were still alive. Also, during this time seismologists were publishing, for the first time, research that hinted at a historical trend in Japan's earthquakes. Together these factors

led to the realisation among scholars, as well as residents affected by the 1933 disaster, that other massive earthquake and tsunami events were an inevitable part of Japan's future. As a result, stone monuments exhibiting messages related to disaster prevention, such as warnings and safety instructions, became more numerous and widespread. In Miyagi Prefecture alone, approximately seven *tsunamihi* were erected in various places after the 1896 tsunami, and at least forty emerged along the coast following the 1933 disaster (Institute of Disaster Mitigation for Urban Cultural Heritage 2012).

After 3.11, the National General Association for Stone Shops in Japan began to erect 500 coastal stone monuments very similar to past *tsunamihi* but modernised to include English translation and QR (Quick Response) codes linking to images and video of the disaster (Weitzman 2011). Like their most recent forebears these *tsunamihi* serve educational purposes to teach about the dangers of earthquake and tsunami events.

The history of Japan's *tsunamihi* tells us that communities erect monuments to tsunami disasters for at least three distinct reasons: prayer, education, and healing. Although *tsunamihi* no longer have religious elements in their inscriptions, they still carry a spiritual meaning for some. Savage (2006) suggests that heritage, inclusive of monuments, provides a 'technology' for healing. Similar to a grave stone, the erection of a memorial monument can serve as a systematic way of progressing through the grieving process for victims who lost loved ones, homes, and livelihoods to the disaster. It is important to note that *tsunamihi* are made from new material and as such can symbolise a new beginning for a community devastated by the disaster and provide a means of educating, via the messages inscribed on their surface, without evoking emotional stress from victims.

Preventing memories from fading

Despite the unprecedented number of 3.11 *tsunamihi* being erected along the affected coastal areas, there have been voices inside and outside the devastated communities for many of the ruins resulting from the tsunami to be preserved. This is a significant phenomenon, considering that such ruins may well evoke painful memories of the disaster for their victims. Those who are in favour of preserving the ruins of the disaster as monuments seem to think that the ruins are useful in ways that *tsunamihi* are not.

One explanation for the push toward preserving the ruins as monuments may be that the traditional *tsunamihi* are not effective enough in educating people about the need to prepare for the tsunami to come. As stated, one of the aims of *tsunamihi* since the Edo period has been to pass on the memory of the terrible event, so that the suffering experienced by one generation will not be experienced by future generations. In reality, however, people have often forgotten the terror of tsunami with the passing of time. In the aftermath of 3.11, for example, many of the affected communities (with Aneyoshi as one of the only exceptions) were criticised for having built their homes in areas known to have been devastated by previous tsunamis, and with the knowledge that another one was sure to come. Despite the knowledge passed down through the *tsunamihi* revealing the inundation points of past tsunami – thus indicating where homes might be safe to build – memories faded and people ignored them.

The inability of the *tsunamihi* to keep people aware of the terror of tsunami may provide one reason why people want the ruins of 3.11 to be preserved as monuments. They perhaps feel that, unlike

tsunamihi, ruins could conjure this feeling, as Weisenfeld (2012: 139–140) explains:

‘The aesthetics of catastrophe inevitably stimulate our senses while evoking our emotions and empathy. The imaging of disaster does not allow the viewer to remain dispassionate about the tragedy of an earthquake or ignore its ocular dimensions.’

Similarly, Petzet (2003) argues that monuments do not consist of physical properties alone but that they also convey an ‘aura’ or ‘feeling value’, which is ‘present *in situ* even when they no longer exist or are hardly comprehensible as ‘historic fabric’ (Petzet 2003: 2). Advocates of preserving the 3.11 tsunami ruins seem to hope that this feeling value has more power to instil the dangers of a tsunami than just the knowledge itself.

One could also argue that material preservation provides a sense of continuity with the past; a direct link with the event that new monuments cannot provide (Lowenthal 1989). In this way, monumentalising ruins of the disaster could be considered as society’s next logical step up from *tsunamihi* in the desperate attempt to solidify collective emotional memory of the event, so that future generations do not forget and make the same mistakes.

The controversial cases of Rikuzentakata and Onagawa

The following two proposals for the preservation of materials damaged by the 3.11 tsunami demonstrate how two communities have attempted to solidify collective memory in their communities and the controversy that followed. These case studies illustrate the problematic in attempting to achieve a universal solution

to the debate concerning the preservation of the ruins of the tsunami rather than a case-by-case assessment.

In the aftermath of 3.11, roughly 10,000 people were living in 80 evacuation shelters in the coastal city of Rikuzentakata. In April 2012, several months after the tsunami devastated the town, a message appeared on a wall in the town's damaged community centre which adjoined a gymnasium. The message was written by two sisters whose mother was an employee at the community centre and a victim who died taking refuge there when the tsunami came (Figure 2). It reads:

Dear Mom,
 Thank you so much for everything.
 You always come to me in my dreams and are kind.
 Your smile is always kind
 And there is no doubt that you are a great mom.
 Even if the gymnasium is taken down,
 I absolutely will not forget this place.
 Really, thank you mom.
 My mom who I love so much,
 Protect and watch over our family from heaven, ok?
 Because from now on I will do my best!

The message had an unexpected echo inside and outside the community. Dr Makoto Manabe, a specialist in vertebrate palaeontology at the National Museum of Nature and Science, helped gather a petition of 1,723 signatures to preserve the message as a monument to the disaster. Dr Manabe argued that the message has the power to help alleviate the pain of surviving victims by reminding them of the good memories of those they lost, such as the kind smile of the mother the message is addressed to, and it also encourages others going through the hardship of rebuilding their lives to 'do [their] best' (Makoto Manabe 2012, personal

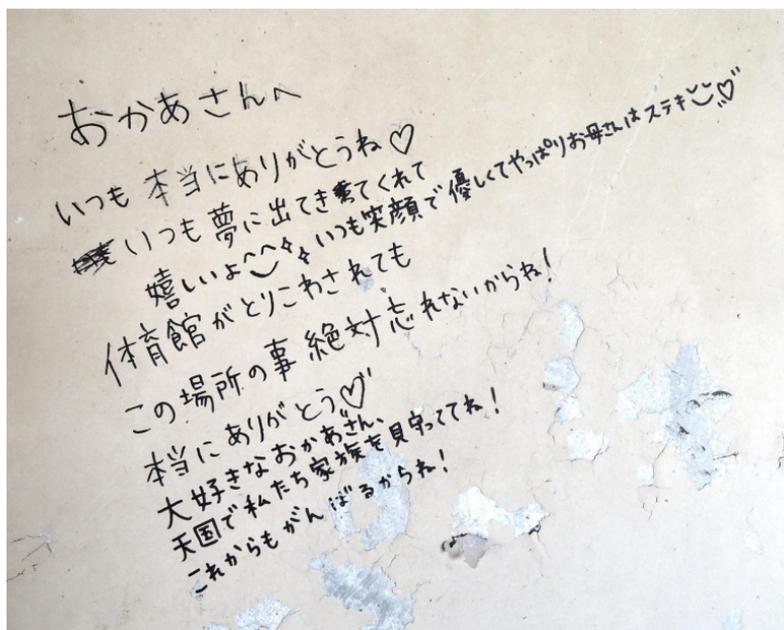


Figure 2: Message left on a wall of a community centre in Rikuzentakata city (photo by Akira Matsuda).

communication, 9 June). He raised the point that many people can connect to the love of a family member as portrayed in the contents of the message (Tohkai Shimpo 2012b).

The case to physically preserve the message is much more complex, however, than saying its preservation would be beneficial to victims. The city would have to consider how to acquire funds for its preservation, whether the entire building or the wall only should be preserved, and whether the money could be better used on something else. Mayor Futoshi Toba of Rikuzentakata had his priorities set on first building a 40-foot sea wall before concentrating on a memorial park (Craft 2012), but was swayed by the petition to preserve the message by cutting it out of the wall of the community centre and storing it in an old school until the

method of display could be agreed upon. Mayor Toba addressed the decision by saying the message would serve as testament to the tsunami's impact on affected residents and pass that truth on to future generations. Preserving the message cost around 2 million yen (US\$20,000) taken from the city's budget (Tohkai Shimpo 2012a). This case raises the question: who has the right to decide if and in what form a monument should be built?

A little south of Rikuzentakata is the small port town of Onagawa on the northeast coast of Miyagi Prefecture. Mayor Nobutaka Azumi was worried that people would not want to return and live again in Onagawa and, therefore, wanted to ensure the town recovered quickly. Only two months after the disaster, Onagawa became one of the first towns affected by the tsunami to map out a reconstruction plan (*Onagawa Town Reconstruction Development Committee* 2011). The proposed plan called for a memorial park in which three damaged buildings would be preserved as monuments. In their damaged state it was seen that these buildings would serve to remind people of the destructive capabilities of a tsunami. Additionally, the memorial park would cover much of the town area vulnerable to future tsunamis, thereby preventing current and future residents from building their homes and businesses in this dangerous zone.

After a few more months, many of the town's elders began to fight against Mayor Azumi's proposals, arguing that they wanted the ancestral villages rebuilt so that they could spend their remaining years there, despite knowing they would be vulnerable to future tsunamis. In Onagawa, the average age of residents is around fifty, and their majority vote appears to be over-ruling the younger generations who support plans for reconstruction based on establishing more long-term sustainable communities. Mayor Azumi was soon pushed out of office by Yoshiaki Suda,

who supported the elder populations wishes (Onishi 2012). Due to the strong differing opinions of the residents, a final decision on whether to preserve the buildings or not was not immediately forthcoming.⁵ Many residents, particularly younger residents and school children, likened the importance of the preservation of the buildings to the Hiroshima Atomic Bomb Dome, which took twenty years to reach a decision to preserve (Japan Broadcasting Corporation [NHK] 2013a).

There are other issues that leaders in the affected communities must consider besides differences of opinions about the form commemoration should take. For instance, in creating memorial parks both Onagawa and Rikuzentakata would have to create new space for the project and deal with land ownership issues. With a limited amount of funds available to aid in the reconstruction efforts, some local officials find it difficult justifying spending money on monuments when it could be going towards new homes, food, schools, psychological aid for victims, and/or other avenues that are arguably of greater priority.

The message on the wall in Rikuzentakata is similar to *tsunamih* in that the aura and message itself commemorates the disaster, while also encouraging people to look to the future. Conversely, the buildings in Onagawa draw the people's attention to the past and do not attempt to convey any encouragement for the future or comfort for the victims. Those proposing the preservation of 3.11 ruins as monuments face the difficult task of not only considering current residents, but also envisaging how the monuments will be perceived by future generations, as well as by tourists. Reconciliation of all stakeholders' wishes appears to be impossible. Not only will various stakeholders have different and often polarized opinions, there will also be other considerations, such as access to funds, space, and other resources necessary for the monument to

become a reality. Consequently, decisions must be made that will inevitably favour certain opinions and priorities over others.

Constructing disaster tourism

Picture the following scene in a park: it is daytime and the sky is a clear blue with only a few puffy white clouds. The grass and trees appear a brilliant green. At the centre of this scene the ruins of the Onagawa Police Box sit preserved in a see-through glass case for visitors to the park to look upon. A nearby sign post presumably describes this concrete building as one of very few able to withstand the massive tsunami that swept through the town of Onagawa on March 11, 2011 killing over 800 residents and displacing approximately 5,700 others. Families, couples, and tourists are happily walking about in their summer clothes as they point and smile at the exhibit before them. In the foreground a man poses for a picture as he stands smiling and pointing at the encased ruin behind him.

This scene is derived straight from the Onagawa Reconstruction Plan published in 2011, which is available on the town's website (Onagawa Town Reconstruction Development Committee 2011). The visitors in the illustration appear to be *enjoying* the ruin. Setting the scene in this way suggests an attempt to convey the town's success in overcoming the damage and grief caused by the disaster – people smiling as if they are no longer suffering from the after-effects and green foliage indicative of healthy new life and vitality in the disaster-affected area. Thus, it encourages the stance that the preservation of the ruined Onagawa Police Box is a positive development for the community, one that the Onagawa Reconstruction Plan assures will help pass on the memory and lessons of the disaster to future generations and pay tribute

to its victims. It also highlights another driving factor for preserving these ruins: tourism. One may wonder, though, whether this scene is not a little unsettling.

In his 2004 article 'A Terrible Beauty', Mark Dery asks the following question: 'Does our humanity falter if we acknowledge an aesthetic sublime in the visual facade of tragedy?'. He goes on to remark on 'the moral vertigo we feel when we gaze, rapt, at images of spectacular tragedies and simulated horrors, viewing the real and recreational alike through esthetic eyes' (in Weisenfeld 2012: 139). Sites of death and disaster attract millions of visitors worldwide including Auschwitz-Birkenau, Anne Frank's House, the Hiroshima Atomic Bomb Dome, Pompeii, and Chernobyl, so there is reason to believe the tsunami ruins will also entice visitors. In October 2013, the NHK reported that in Fukushima Prefecture alone there had been 23 tours involving five hundred participants in which groups led by local residents who had experienced the disaster toured the nuclear evacuation zones (NHK 2013b).

Unlike the Hiroshima Atomic Bomb Dome, the Kanto Earthquake Memorial Museum, and the Nojima Fault Preservation Museum, the 3.11 ruins are located in rural towns which were not popular destinations for tourists before the disaster. Media coverage of the disaster, coupled with the ongoing radiation leaks at Fukushima Daiichi Nuclear Power Plant, have made many feel travelling to this region would be dangerous (Imaoka 2013).

The Tōhoku Tourism Promotion Organisation (TTPO) has been making significant efforts to dispel any rumours suggesting that travel to the area is unsafe and instead promotes the region as a source of disaster education. One way in which they achieve this is through seminars for school personnel and travel agents in Tokyo and elsewhere, introducing participants to education programs that 'invite students to Tōhoku to learn about the disaster from

guides trained as professional storytellers, building their awareness of disaster prevention' (Suma 2012).⁶ In this way, TTPO is transforming disaster tourism or 'dark tourism' into something more than just the novelty of experiencing the 'sublime' (Weisenfeld 2012), but actually re-conceptualising the disaster sites into a collective hub for tourists interested in disaster prevention education.

Due to the scale and rarity of the 3.11 tsunami, it is also understandable that many scholars from all over the World who study such events may find the affected areas of particular interest. Cities and towns which decide to preserve their ruins may find that they are a popular destination for such researchers as well as school groups.

It will be significant to observe whether or not TTPO continues to promote the region as a collective of sites rather than as individual sites. As monuments that stand alone, the towns which decide to preserve their ruins would perhaps have less of a chance of attracting tourists than if they were to create some kind of pilgrimage in collaboration with neighbouring affected areas – each forming a piece of a larger story about the disaster. The National General Association for Stone Shops has already contributed to this idea of disaster heritage and pilgrimage in their creation of 500 new coastal stone monuments. In this way, the *tsunamihi* are supplementing the ruins as a path telling a story. It remains to be seen whether this approach to 3.11 monuments gains momentum as an officially endorsed policy. There is no doubt, however, that there is a widespread desire to be included in these developments. Even Urayasu City in Chiba Prefecture, for instance, has decided to monumentalise a few manholes uprooted when the soil liquefied during the earthquake.

Whether or not these ruins will bring vitality to the region remains to be seen. With economic losses at US\$210 billion, 3.11

was the costliest natural disaster of all time (Guha-Sapir et al. 2012). Many residents are leaving or have left the disaster affected areas already. It will be important to study the response to these monuments in the coming years, so that when the next tsunami comes people will have learned from the successes and failures of the post-3.11 recovery. The costs to preserve and maintain the sites will be great and, because there has not been a precedent with which to compare, there is no telling how popular they might actually be amongst tourists, or whether it is even feasible to think the ruins will withstand the wear of time until the next great tsunami. In such an uncertain future are these risks worth it when the money could be spent on other things?

Conclusion

Throughout Japan's history of erecting *tsunamihi* monuments to tsunami disasters a progression can be observed through the messages inscribed on their surface, their content developing from the religious to the increasingly scientific and educational. With changing social attitudes, scientific knowledge, and technological capability, *tsunamihi* continue to evolve, and new forms of memorialization are also developing. *Tsunamihi* are clearly accepted within Japanese society as a tradition passed down over generations, and even when integrating new technologies they refer to a familiar model seen to fulfil a useful social and cultural function. In the aftermath of 3.11, however, there has also been a push to preserve ruins as monuments amongst the affected communities, a significant new chapter in people's adaptive processes to tsunami disasters. This step is driven by people's desire to improve disaster prevention awareness, as well as to help boost the economies of the affected areas through tourism. Unlike the *tsunamihi*,

however, monuments created through the preservation of ruins attract great controversy. Further observation and research in the coming years, or even decades, will be significant to understanding if this monumentalisation of ruins successfully instils long-term tsunami disaster prevention awareness on a larger scale than the traditional *tsunamihi*, and whether and how this is integrated into Japanese disaster heritage.

Notes

- ¹ For more information on legends and inherited memories of past tsunamis a valuable source is Akenori Shibata's 'Importance of the inherited memories of great tsunami disasters in natural disaster reduction' presented at the proceedings of the International Symposium on Engineering Lessons Learned from the 2011 Great East Japan Earthquake, March 1–4, 2012, Tokyo, Japan.
- ² For instance, when the Shôka Earthquake of 1257 hit, the Pure Land Buddhist monk, Nichiren, proclaimed it punishment on the nation's ruler for not heeding his wisdom (De Wolf 2011).
- ³ Before 1185, reading and writing education was restricted to the aristocracy and Buddhist monks who generally resided in the capitals of Nara (710–795) and Kyoto (795–1185). After 1185, education was extended to the wealthy samurai, or military class. In 1603 the capital was moved from western Japan to Edo (modern day Tokyo) and the Edo period (1603–1867) began. This is considered to be a relatively peaceful period in Japanese history in which literacy began to increase more rapidly and to spread more widely than before. Schools began to appear which included children from the samurai class as well as those of peasants and merchants (Deal 2006).
- ⁴ In 1878, Ichizô Hattori investigated and compiled a list of destructive earthquakes from 416 to 1872. He realized that massive earthquakes tended to occur in groups (Davison 1927:

- 178). Tatsuo Usami (1979) of the Earthquake Research Institute believes that this was probably the first study of its kind in Japan. By 1880, the Japan Seismology Society was established as the first of its kind in the World (Davison 1927). Then in 1892, the Imperial Earthquake Investigation came about to study how to prevent disasters caused by Earthquakes (Usami 1979).
- ⁵ In 2014 the town dismantled two buildings, while the future of the last building is still unclear as the time of writing.
- ⁶ TTPO has also invited representatives from foreign media platforms and tourist agencies to visit tourist spots in Tōhoku and ensure accurate information is being communicated about the areas safety and what they have to offer visitors.

References

- Asma, S 2011 Nuclear Disasters, Tsunamis, Buddhism. *Chicago Tribune*, 18 March. http://newsblogs.chicagotribune.com/religion_theseeker/2011/03/nuclear-disasters-tsunamis-buddhism.html (accessed on 1 September 2015).
- Craft, L 2012 Japan's 'Angry Mayor' Makes Himself Heard. 29 April. www.cbsnews.com/news/japans-angry-mayor-making-himself-heard/ (accessed on 1 September 2015).
- Davison, C 1927 *The Founders of Seismology*. Cambridge: Cambridge University Press.
- Deal, W 2006 *Handbook to Life in Medieval and Early Modern Japan*. New York NY: Facts On File.
- De Wolf, C 2011 Kashima and the Catfish: Letter from Japan. *Commonwealth Magazine*, 158(8): 10.
- Fackler, M 2011 Tsunami Warnings, Written in Stone. *New York Times*, 20 April. www.nytimes.com/2011/04/21/world/asia/21stones.html (accessed on 1 September 2015).
- Grayson, D and Sheets, P 1979 Volcanic Disasters and the Archaeological Record. In: Sheets, P and Grayson, D (eds.) *Volcanic Activity and Human Ecology*. New York: Academic Press. pp. 623–632.
- Guha-Sapir, D, Vos, F, Below, R and Ponserre, S 2012 *Annual Disaster Statistical Review 2011: The Numbers and Trends*. Centre

- for Research on the Epidemiology of Disasters (CRED). http://cred.be/sites/default/files/2012.07.05.ADSR_2011.pdf (accessed on 1 September 2015).
- Holguín-Veras, J 2012 Japan's 1,000-year-old Warning. *Los Angeles Times*, 11 March. <http://articles.latimes.com/2012/mar/11/opinion/la-oe-holguin-veras-tsunami-20120311> (accessed on 1 September 2015).
- Imaoka, L 2013 Repurposing Place Online: Japan's Push for Foreign Tourists after 3.11. In: *Interdisciplinary Conversations about Fukushima & the NE Japan Disaster*, University of California, Berkley, May 2013. <http://fukushimaforum.wordpress.com/workshops/sts-forum-on-the-2011-fukushima-east-japan-disaster/manuscripts/session-4a-when-disasters-end-part-i/repurposing-place-online-japans-push-for-foreign-tourists-after-3-11/> (accessed on 1 September 2015).
- Institute of Disaster Mitigation for Urban Cultural Heritage 2012 *Interactive Map of Miyagi Prefecture's Tsunami Stones*. www.rits-dmuch.jp/jp/project/tsunami_monument.html (accessed on 1 September 2015).
- Japan ICOMOS National Committee 2011 *The Great East Japan Earthquake: Report on the Damage to Cultural Heritage*. Tokyo: Japan ICOMOS National Committee, www.icomos.org/publications/ICOMOS%20Japan-earthquake_report_20111120.pdf (accessed on 1 September 2015)
- Kornbacher, K 2002 Horsemen of the Apocalypse: The Relationship between Severe Environmental Perturbations and Cultural Change on the North East Coast of Peru. In: Torrence, R and Grattan, J (eds.) *Natural Disasters and Cultural Change*. London: Routledge. pp. 204–234.
- Lowenthal, D 1989 Material Preservation and its Alternatives. *Perspecta*, 25: 66–77.
- Murakami, H 2008 *Nankai Jishin Wo Shiru Tokushimaken No Jishin, Tsunami Hi (Tokushima Prefecture's Earthquake and Tsunami Stones Relating to Nankai Great Earthquake)* Research Centre for Management of Disaster and Environment, the University of Tokushima. www.jishin.go.jp/main/

- bosai/kyoiku-shien/13tokushima/material/tksm_22_3.pdf (accessed on 1 September 2015).
- National Geographical Data Center. n.d. Significant Earthquakes Database. www.ngdc.noaa.gov/nndc/struts/form?t=101650&s=1&d=1 (accessed on 1 September 2015).
- NHK 2013a Today's Close-up: Building Preservation: Lessons from the Tsunami. *NHK*, 15 May. www.nhk.or.jp/japan311/kuro-lessons.html (accessed on 1 September 2015).
- NHK 2013b Tomorrow: Tourism That Tells a Story. *NHK*, 7 October. www.nhk.or.jp/japan311/tmrw2-tour.html (accessed on 1 September 2015).
- Oliver-Smith, A 1986 *The Martyred City: Death and Rebirth in the Andes*. Albuquerque: University of New Mexico Press.
- Oliver-Smith, A 1996 Anthropological Research on Hazards and Disasters. *Annual Review of Anthropology*, 25: 303–328.
- Onagawa Town Reconstruction Development Committee 2011 Onagawa Town Reconstruction Plan (Draft) (Shiryô 1-2 Onagawachô fukkô keikaku (an)) [pdf] www.town.onagawa.miyagi.jp/hukkou/pdf/keikaku/04.kihonkeikaku.pdf (accessed on 1 September 2015).
- Onishi, N 2012 As Japan Works to Patch Itself Up, a Rift Between Generations Opens. *New York Times*, 12 February. www.nytimes.com/2012/02/13/world/asia/amid-japan-reconstruction-generational-rift-opens.html (accessed on 1 September 2015).
- Petzet, M 2003 Place-Memory-Meaning: Preserving Intangible Values in Monuments and Sites, paper presented at The ICOMOS 14th General Assembly and Scientific Symposium: 'Place-Memory-Meaning: Preserving Intangible Values in Monuments and Sites', Victoria Falls, Zimbabwe, 27–31 October 2003. www.international.icomos.org/victoriafalls2003/papers/4%20-%20Allocution%20Petzet.pdf (accessed on 1 September 2015).
- Savage, K 2006 Trauma, Healing, and the Therapeutic Monument. *Public Art Review*, 35: 41–45.
- Smits, G 2006 Shaking Up Japan: Edo Society and the 1855 Catfish Picture Prints. *Journal of Social History*, 39 (4): 1045–1078.

- www.personal.psu.edu/faculty/g/j/gjs4/Shaking_Up_Japan.pdf (accessed on 1 September 2015).
- Suma, T 2012 Tōhoku Tourism Current Situation and Reconstruction. Institute for International Studies and Training (IIST), 30 November. www.iist.or.jp/en-m/2012/0213-0870/ (accessed on 1 September 2015).
- Tohkai Shimpo 2012a Discussing the Preservation and Dismantling of the “Message on the Wall” in Rikuzentakata’s Chuo Community Centre. *Tohkai Shimpo*, 23 August.
- Tohkai Shimpo 2012b Shiritsu Chūō Kōminkan No Messēji Shi Ni Hozon Motomeru Seigansho Teishutsu (Petition Seeking to Save the Message on the Wall of Rikuzentakata’s Chūō Community Center). *Tohkai Shimpo*, 25 July.
- Torrence, R. and Grattan, J 2002 *Natural Disasters and Cultural Change*. London: Routledge.
- Usami, T 1979 Study of Historical Earthquakes in Japan. *Bulletin of the Earthquake Research Institute*, 54: 399–439.
- Weisenfeld, G 2012 *Imaging Disaster: Tokyo and the Visual Culture of Japan’s Great Earthquake of 1923*. Oakland, CA: University of California Press.
- Weitzman, M 2011 First Japan Tsunami Monument has QR Code Video and Advice. *Digital Journal*, 23 December. <http://digitaljournal.com/article/316636> (accessed on 1 September 2015).