RESEARCH ARTICLE

Scales and Perspectives of Resilience: The Atomic Bombing of Hiroshima and Tange’s Peace Memorial

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Resilience can mean a range of things, including the ability of a city or a community to recover quickly both physically and socially, through tangible and intangible elements, physical structures, and people. Built environment scholars have picked up on the concept of resilience in recent years, interpreting it in multiple ways and creating a broad range of narratives. These narratives need to be explored critically, considering who wrote them at what time for what audience and with what narrative goals. This article explores how various actors—from architects to film makers, from historians to politicians and planners—have consciously proposed a range narratives of resilience through their depictions of post World War II Hiroshima. It first briefly reflects on the meaning of resilience. It then builds upon earlier examinations of the destruction of Hiroshima and the construction of the Hiroshima Peace Memorial Park and the Peace Memorial Museum by the Japanese architect Tange Kenzō to explore how different actors conceived of resilience, for whom and from which perspective they have built narratives. In the second section, the article explores how Tange and his team managed to bring their project to realization. It suggests that administrators, architects and urbanists, have used rebuilding visions and detailed reports to create resilience narratives aimed respectively at global and local audiences. Overall, the text demonstrates that together, disaster and rebuilding, their representation in the urban environment are all part of larger societal constructions of historical identity.

Introduction

A new, publicly accessible vantage point in Hiroshima offers a novel perspective on the horrors of atomic destruction and the resilience of war-destroyed cities. From the top of the platform of the Orizuru tower (part of the Mazda building, refurbish by Hiroshi Sambuichi in 2016) in the centre of Hiroshima, the viewer sees the Hiroshima Peace Memorial Park and the Peace Memorial Museum within, both designed by the Japanese architect Tange Kenzō. The site opened in 1954/55. The iconic post-war buildings and the so-called A-Bomb Dome — the ruins of the Hiroshima Prefectural Industrial Promotion Hall — are reminders of the destruction wrought on August 6, 1945, by the first atomic bomb ever to be dropped on a city. It is estimated that 60,000 to 80,000 people were killed instantly, while by the end of 1945 many more — up to 140,000 — died from extensive burns, radiation, or other wounds (Ishimaru 2003; Walker 1997). From the Orizuru tower, the Peace Park and the Memorial Museum are visible as tiny structures within the chaotic skyline of a typical Japanese city (Figures 1 and 2).

From the platform, a narrative of urban resilience unfolds through buildings, streets, and places, reminding the viewer of a long history of urban representations of Hiroshima's destruction and rebuilding, including films like Hiroshima mon amour (1959). A longer history of consciously chosen, shifting perspectives on the epicentre of Hiroshima — from long-distance depictions devoid of people to close-up views of human suffering — can help us understand the astounding longevity and resilience of the built environment and local communities, even in the face of unprecedented destruction. Examining the form and function of both the rebuilding in Hiroshima and the memorial structures also helps us think about resilience. Both representations and debates raise questions about the role that discursive and critical narratives play in urban resilience.

This article first briefly reflects on the meaning of resilience in relation to the rebuilding of Hiroshima as it explores visual narratives of the destruction of the city and the architecture and urbanism of its rebuilding. Using the example of the Hiroshima Peace Memorial Park and the Peace Memorial Museum, both designed by Tange, it builds upon earlier examinations of the reconstruction of Hiroshima. As I have discussed elsewhere (Hein 2002; 2016), the park and museum near the epicentre of the bomb site include obvious Western references — notably the use of modernist architectural design features and an axial organization of the site — as well as less evident linkages to traditional Japanese architectural forms and customs. Wendelken and Ishimaru have explored various
Figure 1: View of the A-Bomb Dome and Hiroshima City from Orizuru tower. Photo by Carola Hein.

Figure 2: The Hiroshima Peace Memorial Park. In the background are the Memorial Cenotaph, which commemorates the victims of the atomic bomb, and the viewing platform of the Orizuru tower. Photo by Carola Hein.
aspects of the urban planning and design competition that preceded the rebuilding of Hiroshima and the construction of Peace Memorial Park, focusing on the architectural culture of the 1950s (Wendelken 2003) and issues of preservation in the reconstruction of the city (Ishimaru 2003). Meanwhile, Yoneyama explored a broad range of unconventional texts and aspects of culture involved in the establishment of the post-war memory of the city (Yoneyama 1999).

Expanding on the existing literature, the first section of the article asks how public players construct narratives of resilience around the destruction of the city. For whom these stories are made, and from which perspective they depict the city. The paper argues that various actors — architects, filmmakers, historians, politicians, planners — have consciously proposed diverse narratives of resilience through their depictions of the built environment, notably to support relevant national political positions. The second section of the article explores how Tange and his team managed to bring their project to realization. It suggests that specific actors, especially politicians, administrators, architects, and urbanists, have used reconstruction campaigns to create resilience narratives aimed at both global and local audiences. Taken together, urban disaster and rebuilding, their representation, and the concurrent negotiation of memory and identity, are all part of larger societal constructions of historical identity.

**Resilience in Architecture and Urbanism**

In urban studies, resilience usually denotes the ability of a community or a city to recover quickly, both physically and socially, from natural disasters or man-made destruction. A city’s physical fabric can often be integrated within a resilience narrative in which stories of historic rebuilding and recovery contribute to ongoing and future efforts to build resilience. In this process, resilience constitutes a larger feedback loop that strengthens, or at least defines, given communities. Some stories of resilience emerge from those citizens who experienced it; others are constructed by the media or politicians for diverse audiences. In the case of war, stories of resilience vary from one community to another — winners, losers, and the built environment play divergent roles. Depending who interprets the disaster, different accounts of physical reconstruction can co-exist and shape the perceptions of subsequent observers. The destruction and rebuilding of Hiroshima is a striking example.

The resilience of physical urban form relies at least partly on laws and policies about land ownership and underground infrastructure, all of which provide long-term guidelines that shape urban form even after the buildings disappear. Urban communities and their institutions often create practices that will survive disasters, thereby enhancing social resilience. Iconic architecture and urban forms play a critical role in the construction of local and national resilience narratives. People view buildings on streets and squares, perhaps even visit them and may share images of them around the world, reinforcing the narrative. The number of books about resilience in architecture and urbanism that were published after New York’s 9/11 and Fukushima’s 3/11 exemplifies how these pivotal instances of rebuilding influenced subsequent designs for buildings and urban spaces (Vale and Campanella 2005; Ockman 2002; Kingston 2012; Karan and Suganuma 2016; Ho 2017). Thus, once buildings and cities become part of a resilience narrative, their stories augment current and future efforts of historic rebuilding. Architectural and urban form and its representations are part of a feedback loop that creates and then reinforces a narrative of resilience in which people and urban features withstand disaster and in which communities not only bounce back from hardship, but re-emerge better and stronger than ever.

As the concept of ‘urban resilience’ has become more widely used, scholars have recently begun to qualify the term. It has been noted that resilience is not always a positive thing, nor does it happen by chance or automatically. The phenomenon of ‘urban resilience’ is a carefully constructed concept. The American sociologist Diane E. Davis has pointed to the need to also identify negative resilience, as in the case of urban violence, in which citizens learn to live under such conditions and continue their daily activities despite the violence. They therefore develop a form of resilience that unintentionally allows a bad system to continue functioning:

> Negative resilience occurs when violence entrepreneurs have gained effective control of the means of coercion, and impose their own forms of justice, security, and livelihoods. In such situations — most frequently in informal neighbourhoods where property rights are vague or contested — the community is fragmented and seized by a sense of powerlessness, and the state is absent or corrupted. (Davis 2012: 9)

In a post-disaster setting, one might even speak of counter-productive resilience, when traditional patterns and behaviours resist urban redesign. This can be the case after disasters when people wish to rebuild on their traditional lots rather than wait for a larger scale of urban redesign that could facilitate the functioning of the city as a whole (Hein 2005). It also occurs when citizens continue to navigate a city in habitual ways even after major changes, often ignoring new spatial conditions. Based on personal experiences, people tend to retain ‘mental’ urban obstacles, continuing, for example, to send visitors from south to north Berlin via the former Western area, although the fall of the Wall had opened up a more direct route. This raises the question of who or what is actually resilient — the people in a city or the physical infrastructure? And how might the answers to those questions shape the actions that cities take in the aftermath of destruction and rebuilding?

Other scholars have pointed out that resilience is also a discourse (McGreavy 2015). In the case of destruction caused by war and the subsequent rebuilding, some stories of resilience emerge from ordinary people. Others, often tailored to specific audiences, are constructed by the media and politicians.
Yet another approach, that of critical resilience, has been introduced by the American planning historian Lawrence Vale (2016). Vale calls for planners to be more attuned to issues of power and politics in pivotal moments of disaster. Specifically, he invites scholars to pay more attention to agency in terms of resilience, asking:

Do decisions merely transmit the will of the highest levels of the state, or do grassroots pressures sometimes matter? Who gets to tell the story of the trauma and who gets to frame the narrative of recovery? When is it a narrative of progress? When is it a tale of redemption? And when is it what Edward Linenthal calls ‘the toxic narrative’ – rooted in life-altering traumas that cannot be overcome? What role is there for community-based media – versus mainstream media – in the articulation of the struggle and response to urban trauma? (Vale 2016, vol. 2: 15)

Taking up Vale’s call, this text explores how different actors engaged with the built environment of Hiroshima, its destruction in World War II, and the rebuilding that followed. The destruction and rebuilding of Hiroshima is a useful example for discussing critical and discursive resilience – one notably focussed on the theme of peace. Here, Tange Kenzō’s Peace Memorial Park and Museum take centre stage as an object to which narratives of resilience were applied.

Japan has a particular practice of resilience: a long history of regular reconstruction in the wake of earthquakes, typhoons, floods, and fires. In this tradition of resilience, the goal is to rebuild quickly rather than to build structures to withstand future natural disasters (Seidensticker 1991). Its dynamics even include a certain aestheticization. The traditional description of fire events in Edo (today’s Tokyo) as ‘Edo’s flowers’ exemplifies how people create poetic narratives about resilient places. In response to frequent destruction through fire, Edo developed a practice of rapid rebuilding (within days after the destruction). Rich citizens prepared for disaster by keeping new building materials at hand in a different location; they even made ready another place they could move into after a fire. This could not prepare them for the destruction by air that the United States would soon bring to Japanese cities and that had been tested in the Nevada desert (Figure 3).

A history of rapid reconstruction also helped Japan as a whole respond (at least partly) to unexpected levels of destruction. This included the enormous task of rebuilding 215 cities after the country surrendered to the Allies on August 15, 1945, effectively ending World War II (Hein, Diefendorf, and Ishida 2003). Drawing on generations of experience with disasters, the government made few memorial gestures but instead made significant infrastructural improvements, including the widening and straightening of streets, through a technique called land readjustment. However, the rebuilding of Hiroshima was an exception, as the bombing provoked a world-wide reaction that provided the impetus for a memorial.

Figure 3: The Japanese village in the Nevada Desert. HABS NEV,12-MERC.V2—1, Library of Congress. https://www.loc.gov/pictures/item/nv0166.photos.348546p/.

Resilience Narratives and Images in the Destruction of Hiroshima

The destruction of Hiroshima was conveyed through multiple narratives and competing imagery by both the Americans and the Japanese. These different discourses on national resilience – American versus Japanese – set the stage for opposing interpretations of reconstruction.

The American narrative concerning the dropping of the atomic bomb, including the perspective it adopted about Hiroshima’s destruction, rebuilding, and resilience, is constructed of abstractions, without physical buildings and without Japanese people. It constituted a vision aimed at retaining the support of the American people for the bombing. Within this vague narrative, American leaders approached the city from afar. They had selected the target, Hiroshima, and planned the bombing well in advance. They were mainly interested in maximizing scientific precision by targeting precisely and containing the bomb’s effects (Maddox 1995; Walker 1997; Lifton and Mitchell 1995). The geography of Hiroshima, a city bounded by water and mountains, provided a discrete space within which the effects of a nuclear bomb could, for the first time, be contained, measured, and predicted. The aerial reconnaissance photos the United States Army Air Force took before dropping the bomb clearly show the targets: the distinctive T-shaped Aioi bridge and the Hiroshima castle. After the United States dropped the atomic bomb on Hiroshima on August 6, 1945, the photos the American government published remained similarly distant, depicting the mushroom cloud rising into the sky. For Americans, the sequence of pictures taken by Technical Sergeant George Robert, published in American newspapers on August 12 and in Life magazine on August 20, 1945, is the one they most strongly associate with the atomic bomb (War’s Ending, 1945). For many Americans, the US Army’s image of the plane turning away from the billowing mushroom cloud was the end of the story, leaving the actual destruction to the imagination of the readers. Images of the destroyed city similarly maintained a distance from human suffering (Figures 4, 5 and 6).
For the inhabitants of Hiroshima, however, the explosion that created the mushroom cloud was only the first of many subsequent horrific experiences. The destruction and loss of life that followed would become central to the Japanese experience — both to the representation of the bomb and to the resilience of the people of Hiroshima. The Japanese narrative of the bombing focused on the suffering of people. But only a few images survive of the destruction wrought on the city and its people by the atomic bomb, and those were largely censored by the American occupation. The photographs became publicly available only decades later. The absence of images of suffering was in stark contrast to the widely circulated pictures of the atomic cloud, which gave prominence to the American narrative in the global arena.

Those pictures of the destruction, available today, provide crucial insights into the creation of narratives and historical memory. Photographs of Nagasaki on the day after the destruction, taken by Yamahata Yosuke, hint at what happened in Hiroshima several days earlier (Yamahata 1945). Yamahata summarized the importance of these pictures in 1952:

> Human memory has a tendency to slip, and critical judgment to fade, with the years and with changes in life-style and circumstance. . . . Today, with the remarkable recovery made by both Nagasaki and Hiroshima, it may be difficult to recall the past, but these photographs will continue to provide us with
an unwavering testimony to the realities of that
time. (Molloy 2014)

Almost immediately, in the fall of 1945, Japanese teams
collected data and recorded footage of Hiroshima and
Nagasaki for the documentary *Effect of Atomic Bomb on
Hiroshima and Nagasaki*.

However, the American occupation forces suspended filming on October 24, and
confiscated most of the footage (some available in the National
Archives in Washington, DC). It was not until after the
American occupation of Japan ended in 1952 that seg-
ments of *Effect of the Atomic Bomb* began to surface in

**Figure 6:** Photo of the destruction around the T-shaped Aioi bridge. H28US-004, Mrs. John V. Peterson, Photo Archives,
Navy History and Heritage Command. Copyright: Hiroshima Peace Memorial Museum. [Please request permission
from the source before copying].
newsreels and movies, including in the opening sequence of *Hiroshima Mon Amour* in 1959 (Nornes 2003). In contrast to the distant, scientific gaze of Americans in their narrative of the bombing, visual narratives by Japanese survivors and others showed the disaster from a close-up perspective.

**Resilience Narratives, Local and Global**

Conceptual differences about how to depict and memorialize the bombing, and the construction of resilience narratives, continued well into the rebuilding period, until the late 1950s. The desire to memorialize the event was shared by the Japanese, the Americans, and the international community, although their points of view were substantially different. Peace became a unifying theme for these international stakeholders — one they carefully integrated into the reconstruction, notably with the help of the Japanese architect Tange Kenzo and his team.

Rebuilding Hiroshima as a whole required permission from the American occupying forces, who had to agree to the concept as well as provide the funds. But designing the Peace Memorial Park after 1945 was the task of local authorities. For both the city and national Japanese governments, the main criterion in rebuilding and reinterpreting the city was to reimagine Hiroshima as a centre for peace. The competition brief, launched by the city government, proposed that the project be ‘a symbol of lasting peace and a place suitable for recreation and relaxation for all people’ (Hiroshima Peace Culture Foundation 1994). The goal was to rebuild a better Hiroshima and to promote resilience for citizens not only locally, but around the world. The search for a new image for the city and its government, and the desire to turn the military city into a symbol of peace, led to the proclamation of the Hiroshima Peace Memorial City Construction Law (Peace City Law). Enacted by the National Diet on August 6, 1949, and later approved by the U.S. occupation forces, the Peace City Law increased funds for rebuilding the city and enabled the construction of the Peace Park with a museum and a cenotaph, along with some other memorials. It also established the annual Peace Festival, which continues to this day. The ceremony aims to ‘console the spirits of those killed by the atomic bomb and also to pray for lasting world peace’.2

The narrative of Hiroshima is exceptional not only because it was the first city to be destroyed by an atomic bomb, but also for the city’s reinvention of itself. The underlying idea of the rebuilding was to promote peace around the world. A concept of universal resilience was thus relevant to both Eastern and Western perspectives, to survivors and tourists, to contemporaries of the bomb, and to people of the 21st century. References to this central idea of peace are literally part of the peace-themed memorial structures. Tange’s winning proposal for the Peace Memorial Park was part of a broader concept that formed a visionary proposal for the whole city as a symbol of eternal peace. The city would serve humanity ‘in the pursuit of peace and happiness’. This proposal to reimagine a large park along the river as the framework for a Peace Memorial Park and Museum and for all of Hiroshima to be a Peace City went on to gain international attention and praise following its exhibition at the CIAM 8 meeting in 1951 (*Figures 7 and 8*). The pamphlet accompanying the drawing argues that Hiroshima now belongs to all humanity and therefore aims to introduce facilities that are of ‘real service to mankind in its pursuit of peace and happiness’.

Tange’s project and the rebuilding of Hiroshima are unusual in the Japanese context as they are the result of architectural competitions, a selection tool rarely used in Japan. The City of Hiroshima had already held a competition for the rebuilding of a church — the World Peace Memorial Church — in 1948, before the 1949 Peace City Law. Tange participated in this competition, but the design ultimately built was by one of the jurors, Japanese architect Togo Murano. Tange had participated in several other competitions prior to Hiroshima, despite the relative paucity of such competitions in Japan. Two of his wartime entries can be seen as forerunners of the design for the Hiroshima Peace Center. In 1942, Tange entered a competition for the design of a monument to ‘Greater East Asia’ — of which Japan was to be the leader. This was an attempt by the authorities of the time to create a sense of solidarity among the nations of Southeast Asia. Instead of proposing a high-rise building, which he believed typified Western rather than Japanese monumental structures, Tange drew on Japanese traditions of natural objects and horizontal development. Rather tellingly, he used Mount Fuji as the background for his design. Tange’s long-term engagement with competitions and his ability to shift back and forth between different styles and between Eastern and Western influences is also demonstrated in a second major wartime competition entry — his traditionalist design for the Japanese Cultural Center in Bangkok (1942).

The CIAM publication of 1952, *The Heart of the City*, along with much of the later literature on Tange, describes the plan for the Hiroshima Peace Memorial (CIAM 1978). Yet how exactly the architect implemented his design, incorporating the desires of the national government as well as the peace narrative and ideas native to Hiroshima, remains to be examined. The Hiroshima Peace Memorial City Construction Law, passed by the Diet in August 1949, provided additional national funding for the city’s reconstruction. The concept of a peace city was a national programme, but it also aligned with local planning concepts. The 100-metre-wide road shows how national and local goals can connect. The road was initiated during the war as a firebreak. Following the war, local authorities planned to finish it using the land readjustment system (Hein 2002; 2016). Tange’s plan, which was neither national nor local, put forth a new narrative and rhetoric about the street. He labelled it ‘Peace Boulevard’, which enabled the project to be realized with special national support.

The Japanese architectural and urban historian Norioki Ishimaru has carefully explored the question of when Tange’s work made a difference in the realized project (Ishimaru 2018). His exploration of a series of reconstruction plans clarifies the importance of resilience narratives. The Hiroshima Reconstruction Plan, which was approved in 1946, was the framework for several planning documents produced by the Hiroshima City Planning Authority
between September 1949 and August 1951. Ishimaru suggests that among this series of documents, the third (compiled in fiscal year 1949) and the fourth (in fiscal year 1950) stand out. Their approach is more philosophical, emphasizing themes such as the victory of human wisdom, public opinion, and hope (trust) in humankind. They also use foreign languages and include statements by President Truman and General MacArthur. This new terminology on peace and humankind was reinforced by Tange’s intervention. It was attached to all the new buildings in the area, such as Peace Boulevard, Peace Hall, Peace Park, and other ‘peace’ facilities. The narrative attached to these constructions helped to portray Hiroshima as a global peace city before the Hiroshima Peace Memorial City Construction Plan was formally authorized on March 31, 1952.

**Aftermath: Resilience Narratives for Whom?**

Foreign cinematic depictions of the Peace Park capture the multiplicity of divergent narratives of the bombing and the rebuilding of Hiroshima. The film *Hiroshima Mon Amour* (1959), produced by the French screenplay writer Marguerite Duras and filmmaker Alain Resnais, turned the destruction and rebuilding of Hiroshima into a truly global event. Begun as a documentary project on the atomic bomb, the film effectively combines imagery of the atomic-bomb destruction of Hiroshima with that of the city’s human and architectural revival. The open-
The film explores the social, cultural, and physical impact of the atomic bomb, with imagery of the city’s destruction and of human trauma. It also highlights the memorialization necessary for all involved parties, juxtaposing and interweaving multiple narratives of resilience that correspond to the many experiences and interpretations of the atomic bomb and its aftermath. Scenes of the interior of the Peace Memorial Museum educate the visitor about the horrors of the destruction, starting with a glowing, blinking Bohr model of the atom made of neon-light tubing and a mirrored disco-ball nucleus. Ten years after the bombing, sailors in the American Navy visited the A-Bomb Dome ruins (Figure 9).

The site itself speaks to the destruction, physically encompassing the epicentre of the bomb’s blast and preserving the original remains and traces of the ruins of...
the former Hiroshima Prefectural Industrial Promotion Hall. Whereas numerous German and other European cities have preserved ruins as reminders of the horrors of war (Beseler and Gutschow 1988), this is not a standard practice in Japan. Preserving buildings that survived the bombing was also not a given in the City of Hiroshima. Other buildings that survived the bombing have since been demolished. Nonetheless, the site offers opportunities for both educating and memorializing. It commemorates the event in terms of these material and geographical facts and allows us to say, ‘this really happened here’.

The combination of the construction of the park, the preservation of the ruined building, and the marketing of Hiroshima as a peace city provokes complex debates. The building itself is strictly neither Eastern nor Western. The Park and the Memorial tell multiple stories about winners and losers. Questions of construction, preservation, and marketing are constantly interconnected, effectively making this part of a larger discussion on global resilience in the face of atomic destruction.

Critical Resilience Narratives: Architectural vs Societal

For more than half a century, the Peace Memorial Park and the museum have served as the background to the yearly peace celebration and thus as a reminder of the horrors of war, and of urban resilience in the face of a growing atomic threat. The nomination of the A-Bomb Dome as a UNESCO world heritage site in 1996 underscored the United Nations’ proclaimed desire for world peace and the elimination of nuclear weapons. It also demonstrates the resilience of the narrative that the City of Hiroshima initiated in the immediate post-war period.

Over the years, restorations of the Peace Memorial Museum again raised questions about critical resilience narratives, architectural responses, and depiction. Due to a lack of time and finances, the original plan for the project was not entirely completed in line with Tange’s plan. Rather than the individual blocks so celebrated by modernist architects, Tange had planned walkways that would connect the main museum buildings to the two buildings on the east and west on the first level. The concept of building blocks connected by corridors places the project even more strongly in the Japanese architectural tradition of shinden zukuri, which features wing corridors connecting the central building to pavilions at opposite ends. In the 1990s, under Tange’s own leadership, the pathways between the buildings were completed as the architect had originally imagined. The rebuilding also changed the appearance of the building itself. Expensive stone cladding on the formerly bare concrete walls diminished the modernist character of the building but expressed the economic growth of the country as a whole (Figure 10).

The Hiroshima Peace Park is still a focus in plans and depictions and a staple in architectural history books (albeit mostly in its original form, and in black and white figures). The exhibition in the Peace Memorial Museum is currently closed and will be redesigned. In its earlier version, the exhibition focussed primarily on the horrific results of war, without addressing the actions of the perpetrators. It remains to be seen what new perspectives will be incorporated into the exhibition, and how these will modify or enrich the existing resilience narrative.

From the top of Orizuru tower, the observer’s gaze is elevated, viewing the city from above — although not as high as the position from which the pilots dropped the bomb. In the redeveloped city, the destruction has become less visible; the memorial site barely stands out from its...
surroundings. The museum is no longer a raw structure of remembrance in a destroyed landscape. It has become an established site of education in a vital city. The preceding discussion of the destruction and rebuilding of Hiroshima offers some insight into the complexity and multiplicity of resilience narratives that are attached to war memorial sites and buildings. These narratives speak to the resilience of local people, of a nation, and of global citizenship.

Notes

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Competing Interests
The author has no competing interests to declare.

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