Many nuclear survivors across the Pacific—from Marshall Islands and Kiribati to Tahiti and Fiji—suffer from what medical anthropologists describe as ‘contested illnesses’. They fear that their illness is related to their involvement in state-sponsored nuclear testing, but often cannot get official recognition of their concerns. They suffer without mainstream medical support or state legitimation. Their quest for recognition and understanding, in the face of unrelenting official denial of any problem, can be a huge drain on time, finances and emotion, and can rip families apart.

NZ researcher Dr Catherine Trundle has documented the challenges for Christmas Island veterans who have ongoing health problems but lack solid medical proof and political validation of the connection to their service in a nuclear test site:

Contested illnesses linked to environmental causes such as low dose radiation or chemical exposure test the efficacy of science and medicine, because the causal pathways between toxins and health outcomes are complex and little understood; they are not adequately revealed by clinical and epidemiological models and techniques, which struggle to map low dose exposure and response relationships.

In Kiribati and Fiji, the cohort of islander participants is too small for proper epidemiological studies that could determine whether the incidence of certain illnesses is greater than one would expect in the general population. Beyond this, the ageing survivors in developing island states have limited access to accurate information, financial resources or documentation that could support their claims.

2 Ibid., p. 503.
Despite these limitations, popular memory and personal testimony still raise many concerns. As one example of this process, consider the bizarre story of a small contingent of English women and children who made a fleeting visit to Christmas Island in early 1958. The women’s subsequent concerns for the children’s health were dismissed by doctors.
With the decision to extend the test series following the first test on Christmas Island in November 1957, a sudden decision was taken to rotate home much of the original contingent of British service personnel. In turn, more than 1,000 relief troops were carried to Christmas Island aboard the troop ship TT *Dunera* to continue operations in 1958.

There was also a special treat for some of the troops who remained on Christmas Island, after their lengthy service in difficult conditions throughout 1956–57: the military authorities agreed that some families of troops remaining on the island could travel aboard the *Dunera*. The wives and children would be allowed a brief visit onshore during the few days the troop ship unloaded, before returning to England. In the end, 30 wives and 31 children were taken aboard the *Dunera* for the round-trip to the Pacific, paying £25 for the privilege. Sadie Midford, who travelled with her three-year-old son and six-month-old baby daughter, was one of the women to make the journey. Years later, she recalled the day of their arrival on Christmas Island:

> There were a couple of ladies from the Women’s Voluntary Service waiting for us and we all had a big party. Tony, my husband, didn’t recognise me at first because I’d had a new hairdo and I hadn’t seen him for over a year. The children loved it. We were only on the island two or three days and they played in the sand or swam in the lagoon the whole time. Our three-year-old played in the water for hours.3

The joy of the visit soon began to dissipate on the return trip, however, especially when six-month-old Valerie suddenly began to lose her hair. Sadie Midford reported:

> I noticed she had developed a bald spot as we sailed home on the boat. At first it was only small, about the size of a sixpence, and I didn’t think much about it. But over the months, it gradually got bigger and bigger until it was about the size of the palm of my hand, I took her to a doctor who said he had no idea what was causing it. He asked me if I had changed their diet, things like that, but I said I hadn’t.

> Then I told him about my trip to Christmas Island and he didn’t believe me. He said: ‘Are you seriously asking me to believe that the government sent children to an H-bomb testing zone?’ I said they most certainly had, but he still wouldn’t believe me and sent me away.4

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4 Ibid.
Fifty years later, Valerie Chir (née Midford) reported that she faced significant health problems.5

Dorothy Cannaby, who also travelled aboard the *Dunera* to visit her husband Maurice on Christmas Island, died in 2002 from breast cancer. After returning to England, Dorothy suffered six miscarriages before having three children, all of whom had birth defects. Maurice Cannaby attributes her health problems to their time on Christmas Island.6

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The veterans’ concerns about intergenerational effects have been rejected by the British authorities. However, publicity over these illnesses led to a December 2002 parliamentary debate on the Christmas Island tests in the UK House of Commons. During the debate, the UK Under-Secretary of State for Defence Dr Lewis Moonie argued:

> There is no current scientific or medical evidence to show that the health problems, or other physical problems, suffered by the children or grandchildren of test veterans could be attributed to the veterans’ participation in the test programme.7

The same debate exists in New Zealand, with one academic critic of the nuclear veterans arguing that ‘no connection has been demonstrated in any studies anywhere between parental exposure to radiation and the appearance of abnormalities in the children’.8

However, this official position is sharply contested by other medical researchers, who point to more contemporary studies on genetic impacts. As nuclear weapons researcher Dr Tilman Ruff has noted, the notion that there is a ‘safe’ levels of exposure to radiation is increasingly contested:

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5  ‘At 31, I had to have part of my cervix removed because of pre-cancerous cells.’ Susie Boniface: ‘Babies were exposed to lethal radiation after being sent to nuke-blasted Christmas Island’, *Sunday Mirror* (UK), 9 March 2008.


7  Parliamentary Under-Secretary of State for Defence Dr Lewis Moonie, UK House of Commons, Hansard official report, 4 December 2002, col. 262WH.

Any and all levels of ionising radiation exposure, including doses too low to cause any short-term effects or symptoms, are associated with increased risks of long-term genetic damage, chronic disease and increases in almost all types of cancer, proportional to the dose. Radiation both increases the chance of developing cancer and brings earlier its onset. These excess risks persist for the lifetime of those exposed. It has been conclusively established that there is no dose of radiation below which there is no incremental health risk—all radiation exposure adds to long-term health risks.9

With the UK Ministry of Defence (MoD) denying that few if any troops were exposed to hazardous levels of radiation, surviving veterans and their families are still deeply concerned about unexplained health problems, especially related to fertility.

Over the decades, as information about potential hazards from radiation became more widely discussed, the families of returned Christmas Island veterans began to worry. As Dr Catherine Trundle has argued:

[With] hereditary illnesses, contained within family lineages or the result of chance mutations within specific genes, emotions of blame and guilt are muted or enacted largely within the family sphere. By contrast, test veterans claim that their illnesses are genetically transmitted, but of a recent environmental and social origin. Attributed to radiation exposure, their illnesses thus link damaged bodies directly to the moral culpability of the State.10

In research and interviews for this book, I came across numerous anecdotes from veterans, their widows and children, which testify to a range of problems with reproductive health, from miscarriages and sterility to deformities in children.

Susitino Lasagavibau, who witnessed three tests off Malden Island in 1957, suffered from skin ailments in later years. He expressed uncertainty about whether his military service had contributed to the death of his child:

I returned, married and had children. My third child died. I cannot explain it. The child was very healthy, but just died suddenly. There was no clear medical explanation. I cannot really blame the tests because I am not a doctor or expert. Some sicknesses which I never used to suffer from are affecting me now.11

Paul Ah Poy has faced concerns beyond his own health problems, with tragedy striking his children:

Despite us being told not to marry, we thought it was just a big joke. I did get married with my first wife and we stayed together for about 13 years. We didn't have any children, she kept on losing them when she got pregnant. After three months, she went to the doctor and she came back home and said 'I cannot carry a baby for more than three months', about three times.

When I was away at sea, she decided to leave me, so I only thought it was fair for her to go. I thought that was all quite normal, but later on I thought it was from the nuclear testing program, it was from my DNA that I was carrying.

Then I got married again and after one year, my beautiful son was born. I was happy and thought it could go back to normal. Then my son started to have problems with his arms, legs and face. The skin started to swell up and go down again, swell up one day and the next day, go down again. I took him to the doctor and the doctor couldn't do anything. Then he grew up and he's okay. He's okay and will be 37.

But at 27 years of age he went to the doctor. The doctor did complete tests, because he wanted to know if he could have children, because he had a girlfriend. The doctor told him: ‘Son, sorry, you cannot have children.’ So this was one of the things that happened to most of our children. Quite a few of us guys don't have children, and it is sad really when we come to the age when we want to see our grandchildren, but we don't have grandchildren.

I had a daughter Anne, but she lived only for three-and-a-half years. One day she was sitting on the floor, she just lay down and went to sleep and didn't wake up again. When she started to have breathing problems,

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I used to take around to all the doctors in Suva. I was tired from carrying her round from doctor to doctor, but they all said there is nothing wrong with your daughter, until the day she died.

Now I have another son and he seems okay, maybe, probably. Probably I may have grandchildren but I don’t know, I really don’t know what life will be like.12

Tekoti Rotan is also concerned that his time on Christmas Island could have affected his family’s health as well as his own:

One of my daughters, she gave birth and the grandson was born with a twisted foot. According to the news that we read, that is part of the symptom of radiation. The children can be born with defects, one of my grandson’s born that way.13

Viliame Cagilaba echoed the concerns of other Fijian sailors who participated in the first naval contingent to the Malden Island tests. When he returned to Fiji after witnessing three tests in May and June 1957, he suffered from a range of maladies:

Headaches became a normal thing for me. When I had these headaches, I was not able to look at the light. I also could not stand the heat. The headaches would go on for weeks. From 1957 until 1984, I suffered from this illness. After that it went away. I also suffered dental problems. My teeth kept falling out. My gums never bled. Sometimes while moving my tongue around my mouth one tooth would fall out with no bleeding at all. The remaining teeth were then pulled out. I now wear a full set of false teeth. I also would suffer body aches. Sometimes I would go off balance when trying to stand up.14

His main concern, however, was for his younger son who also suffered from jaw and gum problems, and was unable to play sport because of back problems and breathing difficulties:

During our training, they told us these gamma rays can damage one’s reproductive system if one was exposed to it. They told us about the bomb—that even if it does not affect you, it could have some effect on your children, grandchildren or future descendants.15

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12 Interview with Paul Ah Poy, Suva, Fiji, November 2016.
13 Interview with Tekoti Rotan, Suva, Fiji, November 2016.
15 Ibid.
Sainimili Nukurama is the widow of Filimoni Nukurama (RFMF 19825), who served on Christmas Island with the RFMF Engineers:

My husband said that they had gone to Christmas Island for the nuclear bomb tests. After his service in the army we got married and then we decided to have children. However, in the six month of my pregnancy I had a miscarriage and the baby was aborted. After one year, I became pregnant again. I also lost this one. The third one I lost after three months. After this third one, I could not have children again.

My husband later told me that he believed all these problems were linked to his service on Christmas Island. He kept on telling me this all the time.16

Similar concerns over lingering health impacts were expressed by Cagimudre Lewenilovo, wife of the late Ratu Yavalanavanua Epeli Lewenilovo, who served on Christmas Island as an engineer (RFMF 18866):

My husband and I used to talk about their service on Christmas Island. One thing he told me was that in Fiji he was in the Army band. However, some members of the band were included in the Army engineers section to construct buildings at the test area. They were going to Christmas Island without any knowledge about the bomb.

One thing that I usually noticed with my husband was that he always suffered from diarrhoea. He also suffered from occasional and severe stomach ache. He told me once that sometime in 1963 before we were married, he was admitted to CWM hospital [in Suva] suffering from severe diarrhoea during which he passed out. It happened to him several times during our marriage. Whenever it happened he had to stay in bed, and sometimes we had to take him outside to lie down. I always thought that he suffered from normal diarrhoea. However, I later knew that it must be related to his service on Christmas Island during the nuclear tests.

Moreover, every day after work he experienced body pain. We used to massage his body every day. That was part of our normal life. He could not eat cold food. When he went to drink yagona [kava], his food was warmed up before he ate. His health was of concern to us all the time. I also noticed that his hair was falling off and thinning out very fast. Some foods he could not eat. When he ate tinned fish that was cooked, his body used to be riddled with boils.

These are some of the things that happened to us when we were together. We had only two children. The two children are six years apart in age. The younger of the two is a girl. I had one miscarriage round about 1973. After the miscarriage, I could not have any more children.17

A common theme has been the fears of ageing men about the future health of their grandchildren, or the lack of children and grandchildren to care for them in old age. For this reason, a 2006 study led by Professor Al Rowland, indicating that there have been genetic impacts amongst the NZ sailors deployed to Christmas Island, has resonated across the veterans’ community.

This text is taken from *Grappling with the Bomb: Britain's Pacific H-bomb tests*, by Nic Maclellan, published 2017 by ANU Press, The Australian National University, Canberra, Australia.