
'Is Radioactive Iodine Present Equally in the Cream on Milk as in the Milk Itself?': Lonely Sources and the Gendered history of Cold War Britain

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ABSTRACT

This article argues that one way to foreground and privilege women's perspectives on the Cold War is by re-interpreting their historical experiences of food and drink. The article develops this argument by analysing one letter, from an unknown woman to the BBC, in the context of nuclear health concerns in early Cold War Britain. This article contends that where archival references to food, drink and women are ephemeral, a lonely source can describe historical experience that extends far beyond its singularity. While it would be easy to dismiss this letter as exceptional, it demonstrates one woman's informed and reasonable approach to an unstable and inexplicable topic. The article argues that divesting research from its traditional, masculine Cold War rules of perception contributes to a fairer view of previously ignored 'feminine' sources.

Cold War history amounts to a disconcertingly male and masculinised literature. Despite growing contributions from feminist and gender studies scholars to puncture this fallacy, women are often shown as outsiders (like the protesters who created the Greenham Common Women's Peace Camp) or as unique historical actors (like Margaret Thatcher, famed for her personal relationships with Ronald Reagan and Mikhail Gorbachev).¹ But while the façade of the Cold War was masculinised – the bombs, bravado, spies, spacesuits and secrets – its ideological core was domestic and therefore dependent on the feminised realms of consumption, home-making and nation-building.² In this essay, inspired by feminist research methodologies pioneered by scholars such as Carole Counihan, I argue that one way to foreground and privilege women's perspectives on the Cold War is by re-interpreting their historical experiences of food and drink.³ Equally, I reveal how women's 'food voices' provide a window onto the British cultures and communities that were influenced by nuclear issues in the early Cold War.⁴

The history of food, radioactivity and women in Cold War Britain is hard to find in the archives. Yet, President Nixon and Premier Khrushchev's famous televised debate of 1959 occurred in a kitchen showroom at the American National Exhibition in Moscow because, as Victor Buchli writes, 'the conquest of domestic space' was 'part

of the same unified political and aesthetic project' as the space race.⁵ Ideological and material contrasts between kitchens in the East and West was one thing, but the dangers created by the Cold War's nuclear arms race and its associated radioactive hazards deeply implicated home life and housework around the world. In this essay, I develop this field by analysing a single letter from an unknown woman – a lonely source hidden away in a foolscap file. I contend that where archival references to food, drink and women are ephemeral, a lonely source can describe an experience that extends far beyond its singularity. Cynthia Enloe describes 'feminist curiosity' as a method that begins with 'taking women's lives seriously ... listening carefully, digging deep, developing a long attention span, being ready to be surprised' because it throws into 'sharp relief the blatant and political workings of both femininity and masculinity'.⁶ In historicising gender during the Cold War, this type of feminist curiosity is crucial to challenging the masculinised traits of its traditional narrative. For too long, historical endeavour has internalised the working assumption that the Cold War was about men making decisions on diplomacy, defence, high politics and nuclear annihilation, with little thought to the women also living through and participating in it. Nixon and Khrushchev might have staged a debate in a kitchen, but, as this article will show, British women were critiquing the contents of their kitchens in the Cold War, and attending to their lived experience is an equally important aspect of historical inquiry.

In the late 1950s, popular concerns about the environmental and atmospheric effects of nuclear weapons testing grew internationally with increased press coverage, reduced censorship and high-profile events.⁷ This access to Cold War information and a parallel sensitisation to the hazards of nuclear fallout compelled civilians around the world to criticise weapons testing and support anti-nuclear campaigns.⁸ Simultaneously, governments recruited civilians into civil defence programmes that attempted to placate popular fears about nuclear attack by securitising domesticity and putting safety into the hands of the individual.⁹ There is a wealth of literature on women's roles in both anti-nuclear and Cold War civil defence communities that highlights how involvement and influence were shaped by gender.¹⁰ Largely, women's participation in either activity was seen to derive from maternalistic, caring and protective impulses, and their roles in each community were often predicated on activities deemed feminine and motherly.

While several scholars have identified the flaws in these perceptions, arguing that women's participation extended far beyond stereotypical and presumptive notions, most publicised and documented histories attribute women's participation in nuclear communities to maternalist anxieties for contemporary and future generations.¹¹ In Britain, this distinction was epitomised by leading activist Jacquetta Hawkes who wrote:

I do not like to think of women apart from men. But in this one thing it is different. Men have got beyond killing one another and are preparing to kill us and our children. Women are slow to change. It might be that we should still all be peasants if it were not for masculine genius. But now that genius is running mad, and we have to come to the rescue.¹²

History offers little so far, however, to probe whether this nuclear age maternal impulse existed and how it might have played out in everyday life, nor does it suggest how British women outside of civil defence and anti-nuclear communities reacted to the threat of atmospheric radioactivity and 'masculine genius'.

Enter the subject of this essay, a Mrs K. Chambers. I only know that she was married, lived in Letchworth – the first of Britain's 'Garden Cities' – and watched a BBC television programme on 1 November 1961.¹³ I know this because on the 2 November, she directed ten detailed questions to the programme's medical panel in a handwritten letter which was subsequently filed away in the archive.¹⁴ In 1961, a spate of Soviet weapons testing, including the detonation of a 50-megaton nuclear explosive (the 'Tsar' bomb) once again alerted civilians to the risk of windborne radioactivity in the atmosphere.¹⁵ The forty-five-minute feature programme, 'Fall Out', was commissioned in lieu of scheduled items to respond to heightened public anxiety about its effects on life in Britain. Amongst other things, 'Fall Out' 'examined the ... countryside monitoring and checking system of milk and vegetable foods for radioactive iodine, natural background radiation, [and] the effect of strontium on human bones'.¹⁶ According to a press release, the BBC's 'Eye on Research' unit would 'seek to determine the views of experts concerning the possible affects [sic] of radiation' initiated by Soviet testing, including a live outdoors broadcast at the Agricultural Research Council's laboratories in Berkshire where radioactive iodine levels in milk were monitored daily. There was also a live segment with scientists in Belgium who were 'working on substances which may protect the body from radiation damage'.¹⁷ Milk and vegetables were an important focus of nuclear research in the 1950s because radioactive particles entered the food chain via crop-feeding cattle and agricultural produce, which if unregulated could become fatal vehicles of human contamination. By 1961, renewed nuclear testing meant that even average households were engaging with the seemingly specialised topic of nuclear science and the implications of radioactive isotopes like Strontium-90.¹⁸ Sensing an appetite for clarification around such specialised science, and seizing on a topical subject, the producers of 'Fall Out' saw a gap in factual programming and aimed to fill it.

Strontium-90 was directly linked to an increased prevalence of leukaemia and bone cancer, especially in children.¹⁹ In 1957, British civilians could not ignore the prospect of dairy contamination when an explosion at the Windscale power plant resulted in global awareness of this environmental hazard.²⁰ Though the Windscale reactor accident did not cause widescale panic, it made national and international headlines. The revelation that the British government ordered dairy farmers to pour away milk and banned distribution from West Cumbrian farms after Windscale marked the beginning of a widespread national conversation about the health impacts of ingesting radioactive food with Strontium-90.²¹ In an oral history interview, one local resident, Margaret Davis, whose engineer husband could not return home for days after the accident, remembered his phone calls in which he instructed her to keep the children indoors, lock up the chickens so that the family could continue to safely 'eat the eggs', and cautioned her not to 'touch anything out the garden [sic]':

I had every known vegetable, cauliflowers, onions, rows and rows and rows and there's Ed ringing up saying 'For God's sake don't dig anything up out the garden'. 'Why?' [...] 'Don't touch it, leave it, I'll see to it when I come home' [...] I don't know whether they'd been told not to say anything, but he wouldn't tell me.²²

Their neighbour, another employee at Windscale, took an egg from Margaret's chicken coop and analysed it for radioactivity at work, and 'he found out the egg was alright

[... so] we were living on eggs!’ Her father, living in a nearby city, sent Margaret a carton of Carnation Milk after hearing the news:

It came up on the train and I went down and got it from the train [...] you know [...] cardboard trays full of Carnation Milk and I was still feeding John, but erm, then stuff started coming back into the village from outside of course [...] I suppose the stuff in the shops in the village, I don’t know whether it was destroyed or taken away or what ...²³

With a school-age daughter and a one-year-old-son at the time of the accident, Margaret’s memories were deeply embedded in the physical impact of a crisis that limited her usual food habits and practices. The waste of food (she ended up burning all her vegetables in a garden bonfire), the reliability of eggs and the surreal nature of receiving transported tinned milk at her local train station were at that time exceptional to the experiences of those living near to the Windscale reactor.²⁴ The value Margaret placed on milk and agricultural produce in a radioactive environment is indicative of a gendered experience where women’s roles as homemakers and mothers shaped their fears of nuclear risk.²⁵

That milk was a touchpoint for Margaret Davis was reflective of the role that it played in politics and gender in the period. In twentieth-century Britain, successive women’s campaigns sought to make milk freely and widely available to pregnant and nursing mothers, babies and school-aged children.²⁶ Historian Karen Hunt has shown that women’s direct action in the economics of food politics depended on class and labour action in a context where housewives had less leverage to intervene in consumer debates.²⁷ Milk boycotts became a means to challenge local councils and milk corporations without women risking criticism for raising their voices.²⁸ Nuclear politics brought motherhood and milk firmly together because it was thought that children were more susceptible to the radioactivity contained in it.²⁹ A campaign pamphlet from 1958 by the National Assembly of Women declared:

Young children absorb Strontium 90 at least 3 [sic] times as fast as grown-ups and are much more sensitive to what they take up, so the danger for them is far greater [...] every mother, every woman in Britain must speak and act NOW to insist that the H-Bomb tests be stopped’.³⁰

These fears were echoed in North America. Historian Tarah Brookfield discusses several instances of Canadian homemakers initiating far-reaching anti-nuclear lobbies rooted in milk and its susceptibility to radiation.³¹ John Diefenbaker, Prime Minister of Canada, received so many letters from women scrutinising the effects of radiation on children that he set up a research unit in the Department of Health and Welfare to study radiation levels by, ‘sampling powdered and fresh milk’.³²

Politics, milk and motherhood also defined women’s activism in Cold War America. Literature scholar Adam Piette evokes these maternal connotations when he describes a short story by American author and Women Strike for Peace (WSP) campaigner Grace Paley in which two mothers’ ‘nurturing care ... is zoomed down to the invisible subatomic level, defending milk cells against radioactive air, the death cycle of contamination a vicious dark parody, at this infinitesimally small dimension, of the life cycle of sun-grass-cow-milk-child’.³³ In response to the same resumption of nuclear testing by the Soviet Union and United States that led BBC producers to schedule ‘Fall Out’, around 50,000 American women walked out of their workplaces and homes to strike for peace in the action that launched WSP.³⁴ For all of these

women, radioactivity provided material evidence of the Cold War; although geopolitics were nebulous and hard to pin down, as historian of WSP activism Andrew Ross argues, testing was a tangible subject with which women could 'personally relate', it was 'something with which they could grapple and influence policy decision-making'.³⁵ Thus, when two experts on Britain's 'Fall Out' were asked if they would feed a six-month-old baby on raw milk from cattle bred in a contaminated zone, and they both answered 'yes', their confident scientific conviction spoke specifically to women watching the programme.³⁶

'Is radioactive iodine present equally in the cream on milk as in the milk itself?' Mrs Chambers' first numbered question asked, continuing, 'Does pasteurisation have any effect in reducing or increasing the absorption by the body of radioactivity?' These questions were followed with five others about root crops, nuts, eggs, fish, vegetables and tinned foods, and three pertaining to radioactive dust in the home, the susceptibility of those existing health problems and whether radioactive particles could enter the body via the skin and respiratory system. The only other archived letter from an audience member, Professor D.W. Smithers, head of the Radiology department at The Royal Marsden Hospital, London, intoned that the programme was 'difficult to follow' and that the 'propaganda value of the evil contaminating our babies milk is hardly in keeping with the facts as they exist at present'.³⁷ Smithers asked, 'how the ordinary man [could] possibly relate these hazards to hazards he understands', his authoritative tone supporting a widespread contemporary opinion that without the expert, elite knowledge of officials, civilian concerns about nuclear developments were inconsequential, even meddling.³⁸ The programme's presenter, Jim Mossman, also wrote to its producer that he had 'received a number of letters of mixed complexion, one of which said they were "a lying lot of bastards"'.³⁹ Thus when it came to information on nuclear radiation contention was unifying. While Mrs Chambers' questions arose from a civilian context they bore as much weight as those from elite arenas because ultimately no one party could claim superiority over nuclear knowledge in this period.

Smithers himself acknowledged that fallout was not his subject, and that he was not at all keen to 'enter publicly into this sort of controversy'. He praised the programme overall as 'admirable' and 'extremely interesting', especially good given how difficult the topic was to convey. Smithers' admission was indicative: in 1961, nuclear science was new and unstable, and it was normal – even *reasonable* – to question the effects of radiation. In that unsteady context, Mrs Chambers' civilian questions were no less authoritative than those of academics or of 'leading' scientists. Her need for answers is itself evidence of a relative lack of official authority in the public sphere, where government censorship and reluctance to encourage public knowledge about nuclear science led to an uneasy relationship with 'nuclear truth' in British culture.⁴⁰

Television broadcasters, whether producing documentary or fictional nuclear viewing, struggled to balance the needs of the state with those of their viewers.⁴¹ The cancellation of the television screening of Peter Watkins' *The War Game* in 1965, for example, belied a vociferous debate amongst broadcasters, producers and directors about whether the public could calmly and sensibly respond to television about nuclear issues.⁴² It also hinted at the semi-official relationship between the BBC and government, which existed to conceal information from the public that might prove dangerous to Britain's efforts in the war of intelligence.⁴³ In effect, Mrs Chambers'

letter was one note in a cacophony of discord and, if anything, it mirrored the multitude of expert and non-expert contention enveloping nuclear developments in the political and public arenas of early 1960s Britain.

Mrs Chambers' letter does not reveal her age, profession, background and politics. Her letter is lonely, and initially I approached it with caution; domestic idiosyncrasy without historical context is hard to evaluate, and there were innumerable details I could never know about this source. Yet the more I considered it, I realised that Mrs Chambers was enacting both the mantra of preparedness *and* the critical gaze of an anti-nuclear campaigner. Her letter highlights the plurality of experience faced by civilian women in the Cold War, the multiple possibilities of engagement and the existence of competing perspectives towards the science, state and self. By writing this letter, Mrs Chambers was readying herself with knowledge about what mattered most in her home: food choices, cooking, cleaning and hygiene.

Mrs Chambers also may have been engaging with civil defence. In Britain, the government's civil defence policies were never as successful as those seen in North America and other European countries. Civil defence was so heavily criticised that historian Matthew Grant has argued convincingly that it conversely contributed to anti-nuclear sentiment in 1960s Britain.⁴⁴ However, from 1955 British women across the country were targeted by civil defence training in the 'One-in-Five' campaign run by the Women's Institute, which was targeted at women just like Mrs Chambers.⁴⁵ In 1958, the tagline to a Women's Voluntary Service 'One-in-Five' pamphlet read 'knowledge brings its own security'.⁴⁶ The idea was that not only would 'knowledge' prevent a mother and wife from 'worrying about whether there [was] anything [she] should know to help or could do to help' her family survive nuclear war, but also that 'knowing' would serve a purpose in real survival situations.⁴⁷ Thus, one way to interpret Mrs Chambers' letter and her personalised questions to the programme's medical panel is to align it with the knowledge-building ethos of civil defence preparation.

Conversely, however, by highlighting the minutiae of radioactive dangers in the home – the detail between the cream on milk and the milk itself – Mrs Chambers drew attention to the inadequacies of contemporary science to assist survival and the deficiencies of state broadcasters in communicating it. This was a prevalent tactic of anti-nuclear campaigners, whose publicity and publications often ridiculed the state for inadequate civil defence measures and emphasised the dramatic consequences of nuclear radioactivity on everyday life. It might be hard to pinpoint Mrs Chambers' intentions in writing the letter, but there is no doubt that she was exercising and experiencing a complex, almost contradictory set of responses to Cold War nuclear testing in the context of her domesticity. What her letter demonstrates is that her authority in the unstable world of the early Cold War was to know *enough* to ask pertinent questions relevant to her daily life. When she wrote 'is fall-out absorbed by water, and consequently, are fish as food contaminated in this way?' and 'in the case of hard fruit, does radioactivity reach it only through the trunk of the tree in sap, or does it enter directly into leaves and fruit?' Mrs Chambers was exerting a logical agency over her individual circumstances in a dangerous and disempowering global context. The technical, elite answers beamed onto her television set – the male perspective – were inconclusive. As one reviewer of the programme admitted in the *Daily Mirror*, though scientists' contributions were 'reassuring' and quelled 'alarm about present conditions', the

programme was, 'by no means comforting for it was obvious that no one knows what the ultimate effects of fall-out will be'.⁴⁸

Mrs Chambers is not explicit, but her letter hints at the adaptations she might have made in her daily life had she been better equipped. She brings to mind the 'modern women' of Cairiona Beaumont's study who as 'experts in domesticity, had the experience and knowledge to engage in politics, become involved in community issues, have an opinion on consumer standards and have the right to comment on the delivery of public services'.⁴⁹ As far as possible, she would take the daily life of the Cold War into her own hands – as wife, consumer, householder, cook, gardener, friend and community participant – in much the same way that the housewives of Tracey Deutsch's 'Building a Housewife's Paradise' 'tested' their economic and political authority in the grocery stores of twentieth-century America.⁵⁰ Mrs Chambers joined many other women finding cause to write letters to the press; in 1960, another housewife with this impulse to write, Maureen Nicol, instigated the creation of one of the largest women's networks in the UK, the National Housewives' Register.⁵¹ Responding to an article by journalist Betty Jerman in *The Guardian*, Nicol's letter was a rallying call for independently minded women to engage with one another outside of their roles as mothers, cooks and cleaners.⁵² Histories of radical feminist campaigns of the 1970s and thereafter have sometimes subsumed and censored narratives of women's movements in the 1950s and 1960s for being mediocre, banal or unpolitical. However, there is much about 'ordinary' women's activities that merits academic attention.⁵³ As historian Lynn Abrams writes, there was no journey to a 'wave' of women's liberation, women's history is not 'episodic', thus when encountering feminist narratives, historians must be inclusive of the civilian, unaffiliated women who, 'did much to construct the practical, everyday feminism of modern Britain'.⁵⁴

Mrs Chambers' lonely source is less lonely than it might appear. As we have seen, her letter reflects a much broader gendered experience of the Cold War and nuclear weapons, one that requires painstaking piecing together of fragmentary sources. Mrs Chambers' letter was superficially apolitical, but her subject matter was inherently political. She did not write on behalf of an organised lobby or group, but her questions demonstrated self-organisation and self-education. She did not state any allegiance to civil defence or anti-nuclear sentiment. Yet her questions actively interrogated mainstream sources in order to make practical changes to her domestic habits – so much so, that she could have been allied with either civil defence or anti-nuclear campaigns, or both. Mrs Chambers represents the women whose domesticity and localised food concerns connected them with political issues, formalised communities, and, in this case, with the global political agenda of nuclear states. There is no indication in the archives as to whether Mrs Chambers received a reply to her letter, and that emptiness in the file is tantamount to the omission of her female interests from recorded history.⁵⁵ Feminist curiosity means not reading this letter in the light that it would have been read in the masculinised, authoritative context of the Cold War, but listening instead to the aspiration to active citizenship and nuclear knowledge at which it hints. By divesting this source and others like it from the traditional, masculine Cold War rules of perception, we can contribute to a far fairer view of previously ignored 'feminine' sources. Mrs Chambers' well-positioned and specific questions on radioactivity in food – her 'food

voice' – illuminate the tense and tenuous condition of nuclear politics in late 1950s and early 1960s Britain.

Notes

1. For example, Cecilia Åse and Maria Wendt, 'Gender, Memories, and National Security: The Making of a Cold War Military Heritage', *International Feminist Journal of Politics* 24 (2022), pp. 221–42; Carol Cohn, "'Maternal Thinking" and the Concept of "Vulnerability" in Security Paradigms, Policies, and Practices', *Journal of International Political Theory* 10 (2013), pp. 46–69; Catherine Eschle, 'Feminism and Peace Movements: Engendering Anti-Nuclear Activism', in Tarja Väyrynen, Élise Féron, Swati Parashar and Catia Confortini (eds), *Routledge Handbook of Feminist Peace Research* (London: Routledge, 2020), e-book. Archie Brown, *The Human Factor: Gorbachev, Reagan, and Thatcher, and the End of the Cold War* (Oxford University Press, 2020); Lucy Delap, 'Feminism, Masculinities and Emotional Politics in Late Twentieth Century Britain', *Cultural and Social History* (2018), pp. 571–93; *Greenham Women Everywhere*, website/archive, <https://greenhamwomeneverywhere.co.uk>, accessed 24 August 2021; Sasha Roseneil, *Disarming Patriarchy: Feminism and Political Action at Greenham* (Buckingham: Open University Press, 1995).
2. Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford: Oxford University Press, 2013); Carol Cohn, 'Sex and Death in the Rational World of Defense Intellectuals', *Signs* 12 (1987), pp. 687–718; Marie Cronqvist, "'Survival in the Welfare Cocoon": The Culture of Civil Defense in Cold War Sweden', in Annette Vowinkel, Marcus M. Payk and Thomas Lindenberger (eds), *Cold War Cultures: Perspectives of Eastern and Western European Societies* (New York: Berghahn Books, 2012), pp. 191–210; Tracey Deutsch, *Building a Housewife's Paradise: Gender, Politics, and American Grocery Stores in the Twentieth Century* (Chapel Hill: University of North Carolina Press, 2010); Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (Princeton: Princeton University Press, 2000); Marga Vicedo, *The Nature and Nurture of Love: From Imprinting to Attachment in Cold War America* (Chicago: University of Chicago Press, 2013).
3. Carole Counihan argues that feminist research should incorporate 'the critical construction of methodologies that privilege women's ways of knowing'. 'Gendering Food', in Jeffrey M. Pilcher (ed.), *The Oxford Handbook of Food History* (Oxford: Oxford University Press, 2012), pp. 99–116, here p. 101. See also: Arlene Voski Avakian and Barbara Haber, 'Feminist Food Studies: A Brief History', in Avakian and Haber (eds), *From Betty Crocker to Feminist Food Studies: Critical Perspectives on Women and Food* (Boston: University of Massachusetts Press, 2005), pp. 1–26.
4. Counihan, 'Gendering Food', p. 102.
5. Victor Buchli, 'Cold War on the Domestic Front', in A. J. A. Schofield and Wayne Cocroft (eds), *A Fear-some Heritage: Diverse Legacies of the Cold War* (Walnut Creek: Left Coast Press, 2007), pp. 211–20, here p. 217; Alice Weinreb, *Modern Hungers: Food and Power in Twentieth-Century Germany* (Oxford: Oxford University Press, 2017), p. 165.
6. Cynthia H. Enloe, *The Curious Feminist: Searching for Women in a New Age of Empire* (Berkeley: University of California Press, 2004), pp. 3–4.
7. Adrian Bingham, "'The Monster"? The British Popular Press and Nuclear Culture, 1945– early 1960s', *The British Journal for the History of Science* 45 (2012), pp. 609–24; Jodi Burkett, 'The Campaign for Nuclear Disarmament and Changing Attitudes Towards the Earth in the Nuclear Age', *The British Journal for the History of Science* 45 (2012), pp. 625–39; Christoph Laucht, 'Scientists, the Public, the State, and the Debate over the Environmental and Human Health Effects of Nuclear Testing in Britain, 1950–1958', *The Historical Journal* 59 (2016), pp. 221–51.
8. Jodi Burkett, 'Re-Defining British Morality: "Britishness" and the Campaign for Nuclear Disarmament 1958–68', *Twentieth Century British History* 21 (2010), pp. 184–205; Sam Carroll, 'I Was Arrested at Greenham in 1962: Investigating the Oral Narratives of Women in the Committee of 100. 1960–1968', *Oral History* 32 (2004); Peggy Duff, *Left, Left, Left: A Personal Account of Six Protest Campaigns, 1945–65* (London: Allison and Busby, 1971); Holger Nehring, *Politics of Security: British and West German Protest Movements and the Early Cold War, 1945–1970* (Oxford: Oxford University Press, 2013); Holger Nehring, 'The British and West German Protests against Nuclear Weapons and the Cultures of the Cold War, 1957–64', *Contemporary British History* 19 (2005), pp. 223–41; Richard Taylor and Nigel Young (eds), *Campaigns for Peace: British Peace Movements in the Twentieth Century* (Manchester: Manchester University Press, 1987).

9. Frank Biess, "'Everybody has a Chance": Nuclear Angst, Civil Defence, and the History of Emotions in Postwar West Germany', *German History* 27 (April 2009), pp. 215–43; Matthew Grant, *After the Bomb: Civil Defence and Nuclear War in Britain, 1945–68* (Basingstoke: Palgrave Macmillan, 2010); Guy Oakes, *The Imaginary War: Civil Defense and American Cold War Culture* (Oxford: Oxford University Press, 1994).
10. Tarah Brookfield, *Cold War Comforts: Canadian Women, Child Safety, and Global Insecurity, 1945–1975* (Waterloo: Wilfrid Laurier University Press, 2013); Matthew Grant, "'Civil Defence Gives Meaning to Your Leisure": Citizenship, Participation, and Cultural Change in Cold War Recruitment Propaganda, 1949–54', *Twentieth Century British History* 22 (2011), pp. 52–78; McEnaney, *Civil Defense Begins at Home* (2000); Lawrence S. Wittner, 'Gender Roles and Nuclear Disarmament, 1954–1965', *Gender & History* 12 (2000), pp. 197–222.
11. Burkett, 'Re-Defining British Morality'; Sam Carroll, 'I Was Arrested at Greenham in 1962'; Samantha Carroll, "'Fill the Jails": Identity, Structure and Method in the Committee of 100, 1960–1968' (unpublished doctoral thesis, University of Sussex, 2011); Jessica Douthwaite, "'... What in the Hell's This?": Rehearsing Nuclear War in Britain's Civil Defence Corps', *Contemporary British History* 33 (2019), pp. 187–207; Frank Parkin, *Middle Class Radicalism: The Social Bases of the British Campaign for Nuclear Disarmament* (New York: F. A. Praeger, 1968).
12. Iris Murdoch, Anne McLaren, Jacquetta Hawkes (eds), *Women Ask Why: An Intelligent Woman's Guide to Nuclear Disarmament* (London: Campaign for Nuclear Disarmament, 1962), Special Collections Archive University of Bradford.
13. The title of 'Mrs' may also indicate that Mrs Chambers was widowed.
14. Letter from Mrs K Chambers, 'To BBC TV, Regarding Programme "Fall-Out"' (2 November 1961), T14/1621/1 [BBC Written Archives Centre].
15. See Gerard G. DeGroot, *The Bomb: A Life* (London: Jonathan Cape, 2004), especially pp. 253–55.
16. Note for Promotions, "'FALLOUT" – Transmitted on 1st November 1961. Produced by Philip Daly' (5 December 1961), T14/1621/1 [BBC Written Archives Centre (WAC)].
17. Press briefing "'Fallout" – BBC television – 9.25pm, Wednesday, 1st November' (31 October 1961), T14/1621/1 [BBC WAC].
18. Jonathan Hogg, *British Nuclear Culture: Official and Unofficial Narratives in the Long 20th Century* (London; New York: Bloomsbury Academic, 2016), pp. 119–20; for example: 'More Strontium 90 Absorbed In 1959', *The Times*, 30 September 1960, 15 [The Times Digital Archive]; 'From Our Science Correspondent, "Strontium 90 In Milk Increased"', *The Times*, 4 April 1960, p. 3 [The Times Digital Archive].
19. Pamphlet, Medical Association for the Prevention of War, 'Facts on Fall-Out: After Nuclear Explosions with Special Reference to Radio-Strontium' (Medical Association for the Prevention of War, London; c.1959) [Working Class Movement Library Archive]; AM Kuzin and AV Topchiev, *Nuclear Explosions – A World-Wide Hazard* (Foreign Languages Publishing House, Moscow, 1959) [WCML].
20. Evidence suggests that the reality of the accident was concealed because British Prime Minister was negotiating a nuclear agreement with the United States government at the time. See, John Baylis, 'The 1958 Anglo-American Mutual Defence Agreement: The Search for Nuclear Interdependence', *Journal of Strategic Studies* 31 (2008), pp. 425–66, fn. 43, p. 437. Tony Shaw mentions the role of the BBC in undermining the significance of the accident in 'The BBC, the State and Cold War Culture: The Case of Television's The War Game (1965)', *The English Historical Review* 121 (2006), pp. 1351–84, here p. 1356. See also, Hunter Davies (ed.), *Sellafield Stories* (London: Constable, 2012); *Sellafield Stories Oral History Project*, Whitehaven Archive Centre, Cumbria County Council (2010–11); Jonathan Hogg, "'The Family that Feared Tomorrow": British Nuclear Culture and Individual Experience in the Late 1950s', *The British Journal for the History of Science* 45 (2012), pp. 535–49.
21. Lorna Arnold, *Windscale 1957: Anatomy of a Nuclear Accident* (Basingstoke: Palgrave Macmillan, 2007); Richard Wakeford, 'Editorial: The Windscale Reactor Accident – 50 Years On', *Journal of Radiological Protection* 27 (2007), pp. 211–15.
22. Oral history interview, Sellafield Stories Oral History Project, Colin McCourt (interviewer) and Margaret Davis (interviewee), Cumbria Archive SS/94, recorded 16 December 2010.
23. Oral history interview, Sellafield Stories Oral History Project, Colin McCourt (interviewer) and Margaret Davis (interviewee), Cumbria Archive SS/94, recorded 16 December 2010.
24. Arnold, *Windscale 1957*, pp. 69–71; see also other interviews recorded with the Sellafield Oral History Project.
25. Several oral history interviewees discussed these worries with Ali Haggitt in *Desperate Housewives, Neuroses and the Domestic Environment, 1945–1970* (London: Pickering & Chatto Publishers, 2012).

26. Caitriona Beaumont, *Housewives and Citizens: Domesticity and the Women's Movement in England, 1928–64* (Manchester University Press; 2013), especially pp. 110–12; Karen Hunt, 'The Politics of Food and Women's Neighborhood Activism in First World War Britain', *International Labor and Working-Class History* 77 (2010), pp. 8–26; Seth Koven and Sonya Michel (eds), *Mothers of a New World: Maternalist Politics and the Origins of Welfare States* (London: Routledge, c.1993).
27. Hunt, 'The Politics of Food and Women's Neighborhood Activism in First World War Britain'.
28. Hunt, 'The Politics of Food and Women's Neighborhood Activism in First World War Britain', p. 18.
29. Andrew J. Ross, 'Preemptive Strikes: Women Strike for Peace, Antinuclear Pacifism, and the Movement for a Biological Democracy, 1961–1963', *Peace and Change* 46 (2021), pp. 164–82, especially 171.
30. Pamphlet, the National Assembly of Women, 'H-bomb tests and our children can we remain silent?' (Crafton Press Ltd., 1958), AG/2 [WCML]
31. Brookfield, *Cold War Comforts*, especially pp. 57–59, 71–73.
32. Brookfield, *Cold War Comforts*, p. 59.
33. Adam Piette, *The Literary Cold War, 1945 to Vietnam* (Edinburgh: Edinburgh University Press, 2009), pp. 145–46.
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55. There is a handwritten postscript on Jim Mossman's letter to Daly asking him 'would you like to answer either of these letters?' However, there is no record of any replies. Jim Mossman to Philip Daley (7 November 1961), T14/1621/1.

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