

# What is British nuclear culture? Understanding *Uranium 235*

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**Abstract.** In the ever-expanding field of nuclear history, studies of ‘nuclear culture’ are becoming increasingly popular. Often situated within national contexts, they typically explore responses to the nuclear condition in the cultural modes of literature, art, music, theatre, film and other media, as well as nuclear imagery more generally. This paper offers a critique of current conceptions of ‘nuclear culture’, and argues that the term has little analytical coherence. It suggests that historians of ‘nuclear culture’ have tended to essentialize the nuclear to the detriment of historical analysis, and that the wide variety of methodological approaches to ‘nuclear culture’ are simultaneously a strength and a more significant weakness, in that they have little shared sense of the meaning of the term, its theoretical underpinnings or its analytical purchase. The paper then offers a study of Ewan MacColl’s 1946 play *Uranium 235*, whose career reveals much about the diversity of cultures of the nuclear in post-war Britain. The study moves us away from a single, homogeneous ‘British nuclear culture’ towards a pluralistic critical history of cultural responses to nuclearization. These responses, I conclude, should be seen as collectively constitutive of the nuclear condition rather than as passive reflections of it.

Culture is one of the two or three most complicated words in the English language.

Raymond Williams, *Keywords*.

Nuclear history is proliferating. Underpinned by ongoing releases of primary sources from the Cold War and after, the last few years have seen a torrent of new studies of various national nuclear programmes; of nuclear strategy, intelligence and politics; of nuclear command and control and defensive infrastructures; of the legacies of high nuclearism; and of broad social and cultural responses to the nuclear condition. As this diversity suggests, nuclear history cuts across disciplinary and subdisciplinary demarcations. From a wide range of perspectives and with a variety of methodological approaches – official, scientific, political, military and diplomatic histories; social, environmental, moral, literary and institutional histories; as well as sociological and anthropological studies – all attempt to describe, explore and explain the development and impacts of nuclear science and technology in diverse contexts over the last century.

Prominent among the slew of recent nuclear histories have been cultural histories of the nuclear. Often taken to refer to responses to the nuclear condition in the cultural modes of literature, art, music, theatre, film and other media, as well as accounts of nuclear imagery more generally, ‘nuclear culture’ has become an established and

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fast-growing genre in nuclear history. Like other approaches to nuclear history, accounts of nuclear culture are often situated within national contexts. Nuclear technology has, for the most part, been a state technology – only nation states have had the financial and infrastructural resources and the long-term capacity to develop the complex systems of nuclear material processing necessary to sustain nuclear weapons and nuclear energy programmes. For many historians, therefore, the national has become the natural unit of analysis in nuclear history.

In this paper, however, I want to problematize national frameworks as a basis for understanding social and cultural histories of the nuclear. While the national may be an appropriate level of analysis for political, diplomatic, strategic and even technical histories of nuclearism, I suggest that it does not do justice to the complexity of social and cultural responses to the nuclear condition. In particular, I want critically to explore the notion of ‘British nuclear culture’ that frames this issue of *BJHS*, and to inject some scepticism into what is otherwise in danger of becoming a general and uncritical adoption of this term. Through a consideration of some specific examples of the historiography of ‘nuclear culture’, I try to show that the term lacks analytical clarity and rigour, and usually serves as little more than a convenient peg on which to hang a series of loosely related studies of various aspects of nuclear history. We reify it at our peril.

I begin with some general observations on nuclear historiography, establishing the place of ‘culture’ within that historiography, and the ways in which the term has been used in relation to the nuclear. I then work through a critique of a particular, and characteristic, kind of cultural nuclear history in order to bring out what I see as some of the key problems with the use of the term, and their implications. I want to argue that, used uncritically, the notion of a ‘nuclear culture’ can have unintended and insidious consequences for historians – perhaps more so in nuclear history than in other historical fields. I suggest that historians have tended to be in thrall to the aura of the nuclear and its practitioners, and that this had led them to essentialize the nuclear – to endow it with supra-human agency and potency. Most problematically, this essentializing tendency has led historians and other analysts towards description rather than analysis. Most accounts of nuclear culture have little sense of the properly historical questions they wish to address, beyond describing some response to the already objectified nuclear; the assumed and accepted power and aura of the nuclear object are taken as being in and of themselves sufficient warrant for historical interest and engagement. I also want to suggest that, while the diversity of historical and methodological approaches (social history; cultural history; literary studies; science studies; art, film, music and drama history; media studies; strategic studies; etc.) that contribute to accounts of ‘nuclear culture’ is a strength and an indication of intellectual vibrancy, it is simultaneously a more significant weakness, in that this disparate array of scholarship has little shared sense of the meaning of the term, its theoretical underpinnings and its analytical purchase.

I then develop the idea of context and purpose in nuclear history through an exploration of the 1946 play *Uranium 235*. In one sense a classic piece of what the historical literature would regard as ‘nuclear culture’, a study of the play and its contexts of reception illustrates the diverse meanings of even this one cultural production in

post-war Britain. First staged to working-class audiences in the north of England, it later transferred to London's West End, where it received a very different reception. Far from being representative of a homogeneous 'British nuclear culture', its career reveals much about some of the different cultures of the nuclear existing in late 1940s–early 1950s Britain and, I hope, moves us away from a single, homogeneous notion of a 'British nuclear culture' towards a more nuanced and critical history of responses to nuclearization. These responses, I suggest, should be seen as collectively constitutive of the nuclear condition rather than as passive reflections of it.

### Nuclear historiography: an overview

Nuclear historiography has passed through a number of phases since the mid-twentieth century. Consider, to begin with, the huge and ever-growing literature on American nuclear history – the best-developed nuclear historiography we have. Even before the bombs were dropped on Hiroshima and Nagasaki, the Manhattan Project's managers had set in train the writing of official and popular accounts of the project. The Smyth report on *Atomic Energy for Military Purposes* and books such as Laurence's *Dawn over Zero* were the founding documents of a strain of sanitized, popular nuclear history that has continued to the end of the twentieth century and beyond.<sup>1</sup> Complemented by autobiographical and biographical material of those involved in the Manhattan Project, this literature presented the nuclear very much from the scientists' point of view, and often in the positive light that seemed appropriate in the early years of the nuclear age. This journalistic strain of history reached its fullest expression in Richard Rhodes's Pulitzer Prize-winning 1986 epic *The Making of the Atomic Bomb*. The tone of these works changed over time from celebration to moral lament, but their source base and construction share certain characteristics, summarized by Barton Bernstein in an insightful and trenchant review of Rhodes as 'inadequate research, superficial analysis, [and] uncritical use of sources'.<sup>2</sup>

A second generation of American nuclear historiography began in the 1960s with the first full official histories of the Manhattan Project and its successor the Atomic Energy Commission. Like accounts intended for popular consumption but based on more rigorous research, privileged archival access and more robust source criticism, these histories focused on leading political, military and scientific figures and emphasized the development of policy and institutions from the point of view of military necessity.<sup>3</sup> Later official and semi-official institutional histories of the various national laboratories

1 Henry DeWolf Smyth, *Atomic Energy for Military Purposes: A General Account of the Development of Methods of Using Atomic Energy for Military Purposes*, Princeton: Princeton University Press, 1945; William L. Laurence, *Dawn over Zero: The Story of the Atomic Bomb*, New York: Knopf, 1946.

2 Richard Rhodes, *The Making of the Atomic Bomb*, New York: Simon and Schuster, 1986; Barton J. Bernstein, 'An analysis of "two cultures": writing about the making and the using of the atomic bombs', *Public Historian* (1990) 12, pp. 83–107, 84.

3 Richard G. Hewlett and Oscar E. Anderson, *The New World: A History of the United States Atomic Energy Commission*, vol. 1: 1939–1946, Berkeley: University of California Press, 1962; Richard G. Hewlett

can perhaps be seen as part of the same tradition, with their emphasis on particular establishments and their contributions to the larger American nuclear project.<sup>4</sup> Nuclear history was being framed in the name and image of the nuclear state.

In parallel with these official histories, another strand of nuclear historiography emerged in the 1960s from diplomatic history. Focused initially on the decision to drop the bombs on Hiroshima and Nagasaki, and later on the ‘lessons’ of the Cuban missile crisis, this literature has subsequently expanded to encompass a much wider range of issues concerned with the military, diplomatic, national security, policy and strategic aspects of nuclear history. Now a huge field, it is driven by a much richer sense of historical debate than is found elsewhere in nuclear history, which has led it in turn to develop a sophisticated set of methodological approaches and a sense of historiographical awareness from which other aspects of nuclear history have much to learn.<sup>5</sup>

In the 1980s, with the ‘second Cold War’ in full flow, histories of the nuclear began to emerge which engaged with wider responses to nuclearization. Drawing on a broad range of primary sources, Paul Boyer’s seminal 1985 book *By the Bomb’s Early Light* offered a series of close readings of early post-war American responses to nuclear weapons in particular social, cultural and ideological contexts in the 1945–1950 period. Boyer offered no single definition of culture, but showed the diversity of American responses to the nuclear in that period.<sup>6</sup> At about the same time, however, Spencer Weart’s *Nuclear Fear* took a very different approach to the nuclear and to historical evidence. Where Boyer offered close readings of primary texts in specific contexts over a relatively short time period, Weart’s was a much broader survey of nuclear imagery, which extended an again undefined ‘nuclear culture’ backwards long before the bomb. Weart sought to show how the characteristic literary and other popular imagery of nuclear devastation had significant antecedents in late nineteenth- and early twentieth-century apocalyptic fiction, and how these antecedents shaped responses to Hiroshima, Nagasaki and the threat of mutually assured destruction in the age of the H-bomb. *Nuclear Fear* thus felt somewhat exculpatory in tone, and in effect reified ‘nuclear culture’ as an autonomous, homogeneous and transcendent entity.<sup>7</sup>

As studies of nuclear politics, technology and strategy multiplied, this genre of cultural studies of the nuclear continued into the 1990s and beyond with several edited

and Francis Duncan, *Atomic Shield: A History of the United States Atomic Energy Commission*, vol. 2: 1947–1952, Berkeley: University of California Press, 1962.

4 For example, Lillian Hoddeson, Adrienne W. Kolb and Catherine Westfall, *Fermilab: Physics, the Frontier and Megascience*, Chicago and London: The University of Chicago Press, 2008.

5 Gar Alperovitz, *Atomic Diplomacy: Hiroshima and Potsdam*, New York: Simon & Schuster, 1965, revised and updated as *The Decision to Use the Atomic Bomb*, London: Harper Collins, 1995; J. Samuel Walker, *Prompt and Utter Destruction: Truman and the Use of Atomic Bombs against Japan*, Chapel Hill and London: University of North Carolina Press, 1997; J. Samuel Walker, ‘Recent literature on Truman’s atomic bomb decision: a search for middle ground’, *Diplomatic History* (2005) 29, pp. 311–334; Len Scott and Steve Smith, ‘Lessons of October: political scientists, policy-makers and the Cuban missile crisis’, *International Affairs* (1994) 70, pp. 659–684.

6 Paul Boyer, *By the Bomb’s Early Light: American Thought and Culture at the Dawn of the Atomic Age*, New York: Pantheon Books, 1985. Also see Boyer, *Fallout: A Historian Reflects on America’s Half-Century Encounter with Nuclear Weapons*, Columbus: Ohio State University Press, 1998.

7 Spencer Weart, *Nuclear Fear: A History of Images*, Cambridge, MA: Harvard University Press, 1988.

collections on various aspects of the cultural history of the nuclear, some of which offered substantive new material and analysis, but others of which were only slight collections of weakly linked case studies.<sup>8</sup> Meanwhile, with the end of the Cold War and the release of swathes of hitherto secret archival material, more in-depth study of nuclear programmes themselves became possible, drawing on the historiographical developments and interdisciplinary work that had taken place over the preceding thirty years. Often informed by critical theory or approaches from geography, anthropology or the burgeoning field of cultural studies, these studies included social histories and anthropologies, focusing on everyday life lived in the nuclear workplace;<sup>9</sup> studies of the construction of nuclear citizens through the apparatus of civil defence; regional and spatial aspects of nuclear programmes;<sup>10</sup> and the architecture, landscape and legacies of the nuclear.<sup>11</sup>

This is clearly an impressionistic and oversimplified account. But the last twenty years have undoubtedly seen a huge diversification in the empirical range, methodological depth and analytical sophistication of studies of American nuclear history. Because historians of nuclear America have increasingly been engaging with the larger questions and approaches driving mainstream historical analysis, we now have thorough and often exemplary studies of American technopolitics, strategy, bureaucracy and operational logistics in the Cold War and the arms race; nuclear imagery and the mass media; nuclear architectures and landscapes; economic and environmental impacts of the nuclear; the militarization of everyday life in the Cold War; oppositional cultural politics and the homeland victims of the nuclear complex; and so on. A summative literature has even attempted an evaluation of the costs and consequences of American nuclearization.<sup>12</sup> An important factor in this expansion and diversification was the relaxation of national security and improved access to archival sources after the end of the Cold War (at least until 9/11 created a new set of security concerns). But we should also remember that nuclear weapons have particular historical resonances and a continuing salience in

8 Margot A. Henriksen, *Doctor Strangelove's America*, Berkeley: University of California Press, 1997; Alison M. Scott and Christopher D. Geist (eds.), *The Writing on the Cloud: American Culture Confronts the Atomic Bomb*, Lanham, New York and Oxford: University Press of America, Inc., 1997; Scott C. Zeman and Michael A. Amundsen (eds.), *Atomic Culture: How We Learned to Stop Worrying and Love the Bomb*, Boulder: University Press of Colorado, 2004; Rosemary B. Mariner and G. Kurt Piehler (eds.), *The Atomic Bomb and American Society: New Perspectives*, Knoxville: University of Tennessee Press, 2009.

9 Hugh Gusterson, *Nuclear Rites: A Weapons Laboratory at the End of the Cold War*, Berkeley: University of California Press, 1996.

10 Guy Oakes, *The Imaginary War: Civil Defense and American Cold War Culture*, New York: Oxford University Press, 1994; Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties*, Princeton: Princeton University Press, 2000; Peter B. Hales, *Atomic Spaces: Living on the Manhattan Project*, Urbana and Chicago: University of Illinois Press, 1997; Bruce Hevly and John M. Findlay (eds.), *The Atomic West*, Seattle: University of Washington Press, 1998; John M. Findlay and Bruce Hevly, *Atomic Frontier Days: Hanford and the American West*, Seattle: University of Washington Press, 2011.

11 Peter Goin, *Nuclear Landscapes*, Baltimore: Johns Hopkins University Press, 1991; Joseph Masco, *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico*, Princeton: Princeton University Press, 2006.

12 Stephen I. Schwartz, *Atomic Audit: The Costs and Consequences of US Nuclear Weapons since 1940*, Washington, DC: Brookings Institution Press, 1998. For an overview of the wider literature see Jeff Hughes, 'Deconstructing the Bomb: recent perspectives on nuclear history', *BJHS* (2004) 37, pp. 455–464.

American political discourse—as the 1995 Enola Gay episode at the Smithsonian Institution demonstrated all too clearly—that keep US nuclear history at the forefront of historical debate. It is perhaps in this sense that national contexts matter most for nuclear history.<sup>13</sup>

While American nuclear historiography has developed to a considerable degree of sophistication, other studies too have emerged to enrich the field of nuclear history generally.<sup>14</sup> To take a just a few illustrative examples, Holloway and Josephson have explored the history of Soviet military and civil programmes,<sup>15</sup> and studies by Abraham and others of nuclearism in India and Pakistan explore similar issues of state nuclear ideologies in the South Asian context.<sup>16</sup> Hecht's study of French postwar nuclear technopolitics offers an exemplary analysis of the constitutive role of nuclearism in the formation of national identity. Her most recent work explores the colonial and postcolonial aspects of the international nuclear complex, again engaging larger issues both of local labour politics and of wider geopolitics and moving beyond purely national frameworks to consider the transnational circulation and regulation of nuclear materials and the construction and deconstruction of the condition of 'nuclearity' itself.<sup>17</sup>

Against this increasingly rich and sophisticated historiography, how does British nuclear history fare? In very broad terms, British nuclear historiography has gone through much the same sequence of historiographical development as its American cousin: the British government's own credit-seeking 1945 addendum to the Smyth report and the early scientist–popularizers;<sup>18</sup> the official histories of Margaret Gowing and Lorna Arnold;<sup>19</sup> studies of nuclear policy and strategy by Lawrence Freedman, John Simpson and others (with a particular interest in the nature of the 'special relationship'

13 Robert Jay Lifton and Greg Mitchell, *Hiroshima in America: Fifty Years of Denial*, New York: G.P. Putnam, 1995; P. Nobile, *Judgement at the Smithsonian*, New York: Marlowe & Co., 1995; Thomas F. Gieryn, 'Balancing acts: science, Enola Gay and history wars at the Smithsonian', in Sharon Macdonald (ed.), *The Politics of Display: Museums, Science, Culture*, London: Routledge, 1998, pp. 197–228.

14 Hughes, op. cit. (12).

15 David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939–1956*, New Haven: Yale University Press, 1994; Paul Josephson, *Red Atom: Russia's Nuclear Power Program from Stalin to Today*, New York: W.H. Freeman, 2000.

16 Itty Abraham, *The Making of the Indian Atomic Bomb*, London: Zed Books, 1998; Abraham (ed.), *South Asian Cultures of the Bomb: Atomic Publics and the State in India and Pakistan*, Bloomington: Indiana University Press, 2009; also Robert S. Anderson, *Nucleus and Nation: Scientists, International Networks, and Power in India*, Chicago: The University of Chicago Press, 2010.

17 Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity after World War II*, Cambridge, MA: MIT Press, 1998; Hecht, *Being Nuclear: Africans and the Global Uranium Trade*, Cambridge, MA: MIT Press, 2012.

18 *Statements Relating to the Atomic Bomb*, London: HMSO, 1945.

19 Margaret Gowing, *Britain and Atomic Energy, 1939–1945*, London: Macmillan, 1964; Margaret Gowing and Lorna Arnold, *Independence and Deterrence: Britain and Atomic Energy 1945–52*, vol. 1: *Policy Making*, London: Macmillan, 1974; Gowing and Arnold, *Independence and Deterrence: Britain and Atomic Energy 1945–52*, vol. 2: *Policy Execution*, London: Macmillan, 1974; Lorna Arnold, *A Very Special Relationship: British Atomic Weapons Trials in Australia*, London: HMSO, 1987; Arnold, *Britain and the H-Bomb*, Basingstoke: Palgrave, 2001.

with the United States);<sup>20</sup> and now a new post-Cold War generation of increasingly sophisticated and primary-source-rich histories of strategy, security and nuclear intelligence.<sup>21</sup> We have fine biographical studies of particular nuclear scientists;<sup>22</sup> excellent initial surveys of the anti-nuclear and arms-control movements;<sup>23</sup> and, recently, a fascinating debate on the British media and nuclear issues focused on the BBC's suppression of Peter Watkins's 1965 film *The War Game*.<sup>24</sup> Following extensive declassification and freedom-of-information legislation, we also have authoritative studies of the British state's offensive and defensive plans for nuclear war.<sup>25</sup> But they are largely the plans of the state, and largely for the state. Where are the British people in these histories, the workers who made nuclear technologies, the people whose lives were shaped by them, overtly or covertly? Where are the sociogeographical studies of Harwell, Windscale and Aldermaston to match Peter Hales's superb study of the spaces of the Manhattan Project? Where are the British counterparts of Laura McEnaney's and Tracey Davis's incisive and theoretically informed analyses of the militarization of everyday life and the performativity of nuclear citizenship in 1950s America?<sup>26</sup> Where are the counterparts of Hecht's studies of nuclearity and national identity? Where, in short, are the theoretically informed social and cultural histories of nuclear Britain akin

20 For example, Lawrence Freedman, *Britain and Nuclear Weapons*, London: Macmillan, 1980; John Simpson, *The Independent Nuclear State: The United States, Britain and the Military Atom*, London: Macmillan, 1983; Ian Clark and Nicholas Wheeler, *The British Origins of Nuclear Strategy, 1945–1955*, Oxford: Clarendon Press, 1989; Ian Clark, *Nuclear Diplomacy and the Special Relationship: Britain's Deterrent and America, 1957–1962*, Oxford: Clarendon Press, 1994; John Baylis, *Ambiguity and Deterrence: British Nuclear Strategy 1945–1964*, Oxford: Clarendon Press, 1995.

21 For example, Richard Moore, *Nuclear Illusion, Nuclear Reality: Britain, the United States and Nuclear Weapons, 1958–64*, Basingstoke: Palgrave Macmillan, 2010; Kristan Stoddart, *Losing an Empire and Finding a Role: Britain, the USA, NATO and Nuclear Weapons, 1964–70*, Basingstoke: Palgrave Macmillan, 2012; Michael S. Goodman, *Spying on the Nuclear Bear: Anglo-American Intelligence and the Soviet Bomb*, Stanford: Stanford University Press, 2007.

22 For example, Andrew Brown, *The Neutron and the Bomb: A Biography of Sir James Chadwick*, Oxford: Oxford University Press, 1997; Simone Turchetti, *The Pontecorvo Affair: A Cold War Defection and Nuclear Physics*, Chicago: The University of Chicago Press, 2012. We still lack up-to-date biographies of many significant figures, however.

23 For example, Richard Taylor, *Against the Bomb: The British Peace Movement 1958–1965*, Oxford: Clarendon Press, 1988; John R. Walker, *British Nuclear Weapons and the Test Ban, 1954–1973. Britain, the United States, Weapons Policies and Nuclear Testing: Tensions and Contradictions*, Farnham: Ashgate, 2010. Also see Meredith Veldman, *Fantasy, the Bomb, and the Greening of Britain*, Cambridge: Cambridge University Press, 1994.

24 James Chapman, 'The BBC and the censorship of *The War Game* (1965)', *Journal of Contemporary History* (2006) 41, pp. 75–94; Tony Shaw, 'The BBC, the state and Cold War culture: the case of television's *The War Game* (1965)', *English Historical Review* (2006) 121, pp. 1351–1384; Mike Wayne, 'Failing the public: the BBC, *The War Game* and revisionist history. A reply to James Chapman', *Journal of Contemporary History* (2007) 42, pp. 627–637; James Chapman, 'The *War Game* controversy – again', *Journal of Contemporary History* (2008) 43, pp. 105–112.

25 Peter Hennessy, *The Secret State: Whitehall and the Cold War*, London: Allen Lane, 2002; Matthew Grant, *After the Bomb: Civil Defence and Nuclear War in Britain, 1945–68*, Basingstoke: Palgrave Macmillan, 2009.

26 McEnaney, op. cit. (10); Tracy C. Davis, *Stages of Emergency: Cold War Nuclear Civil Defense*, Durham, NC and London: Duke University Press, 2007.

to those now emerging elsewhere in nuclear history? Has British nuclear historiography stalled?

### Problematizing ‘British nuclear culture’

In a foundational 1995 article on ‘The origins of British nuclear culture’, Kirk Willis pointed towards the then recent studies by Boyer and Weart, and noted that, in contrast to the US case, British nuclear culture had been ‘almost entirely neglected’. In beginning to fill this gap, he defined ‘nuclear culture’ as ‘the knowledge, imagery, and artefacts of applied nuclear physics’, and the ‘cultural history of nuclear science’ in Britain as ‘the history of popular images of and attitudes towards nuclear power, atomic energy and nuclear weapons development’. He further characterized ‘nuclear culture’ as ‘in some measure international, the cumulative product of a wide array of sources ranging from plays, films, serials, comic books, novels and science fiction tales to scholarly monographs, learned articles, and scientific popularizations which were freely translated, frequently subtitled, and thus widely disseminated’.<sup>27</sup> What he then provided was essentially an inventory of popular and popularizing atomic and nuclear-themed literature from Robert Cromie’s *The Crack of Doom* in 1895 to J.B. Priestley’s *The Doomsday Men* in 1938. On this basis Willis evoked and apparently instantiated a ‘British nuclear culture’ which shifted from an early optimism about the potential of nuclear science (exemplified by Frederick Soddy’s radioactivity-inspired utopianism in his 1909 book *The Interpretation of Radium*) to a pervasive pessimism about the destructive nature of nuclear science only confirmed by Hiroshima and Nagasaki. Without much evidential basis, Willis located the roots of post-war British responses to the nuclear (including the formation of anti-nuclear movements) in this deep-seated cultural pessimism.<sup>28</sup>

But as with Weart’s *Nuclear Fear*, this account of ‘early British nuclear culture’ was entirely based on hindsight – specifically on the later knowledge of the existence and effects of nuclear weapons. For example, one of the characteristics of the retrospective selection of pre-1945 materials was the attribution of extraordinary prescience or even predictive power to certain authors and texts. A classic example is the paper’s treatment of H.G. Wells’s novel *The World Set Free* (1914). Wells had read Frederick Soddy’s *Interpretation of Radium* with its enthusiastic evocation of the ‘smiling Garden of Eden’,<sup>29</sup> which could be opened up by the beneficial application of the energy latent in radioactive matter (Soddy, of course, was trying to promote his own discipline and excite people’s interest in radium and radioactivity at a time of great concern about future energy supplies). Wells absorbed all this, and used it in a new novel. Written in 1913, Wells’s story is told from the point of view of the 1950s, and concerns Holsten, a young

27 Kirk Willis, ‘The origins of British nuclear culture, 1895–1939’, *Journal of British Studies* (1995) 34, pp. 59–89, 60–61.

28 Robert Cromie, *The Crack of Doom*, London: Digby, 1895; John Boynton Priestley, *The Doomsday Men*, London: William Heinemann Ltd, 1938; Frederick Soddy, *The Interpretation of Radium*, London: John Murray, 1909.

29 Soddy, *op. cit.* (28), p. 244.



scientist–inventor who in 1933 had discovered how to release the internal energy of atoms, potentially solving the world’s energy problems and realizing Soddy’s utopia. In a typically Wellsian turn, atomic-powered prosperity soon brings social catastrophe, however, with rampant unemployment, nationalism and political unrest. Towards the end of the 1950s there is a violent world war in which ‘atomic bombs’ are used, and Wells gives a vivid description of the ‘unquenchable crimson conflagrations of the atomic bombs’, the ‘puffs of luminous, radio-active vapour drifting sometimes scores of miles from the bomb-centre and killing and scorching all they overtook’, and the devastation that resulted.<sup>30</sup>

This is all characteristic Wells: scientific patter clothing a story of utopia turning to dystopia, rescued in the end by technocratic world government. But Willis (and many others) see here an uncannily prescient forecast of actual world events. ‘No later commentator can avoid pausing to praise Wells’s prescience’,<sup>31</sup> says Willis. The year in which Holsten fictionally unlocks the door to atomic energy, 1933, is even linked by some commentators to the real-world burning of the Reichstag that year and to the Hungarian émigré physicist Leo Szilard’s contemporaneous conceptualization of the nuclear chain reaction, apparently creating an eerie sense of pre-destiny about Wells’s text.<sup>32</sup> Yet Willis (and several of Wells’s biographers) conflate reality and imagination here. Holsten is fictional, and it was not hard for someone like Wells to imaginatively extrapolate and vividly describe the likely consequences of the large-scale release of energy and radioactivity. Willis’s account—as well as, I want to suggest, many other accounts that fall back on a generalized notion of ‘nuclear culture’—historically reifies the nuclear rather than analysing or explaining it.

The significance of this historiographical reification is that nuclear science and technology are essentialized in the form they acquired in 1945, and this form is extended backwards in time as the basis for a search for precursors which are then retrospectively attributed the status of a homogeneous, monolithic ‘nuclear culture’. The status, structure and meaning of that ‘culture’ are not questioned. As in *Nuclear Fear*, this has consequences well beyond mere Whiggism. Invoking a ‘nuclear culture’ which pre-existed any widespread understanding or even use of the word ‘nuclear’ quickly becomes an apologia for the bomb, a retrospectively constructed prelude to and—in effect—a legitimization of what came later. The invocation of nuclear culture here performs ideological work: in a parallel to what I have called the ‘bomb historiography’ of early twentieth-century nuclear physics, nuclearism can be ‘found’ in culture long before its material realization, partially effacing both its novelty in 1945 and, implicitly, diminishing the agency and responsibility of those who later created it.<sup>33</sup>

30 Herbert George Wells, *The World Set Free*, London: Macmillan, 1914, pp. 137, 221.

31 Willis, *op. cit.* (27), p. 71.

32 For example, David Seed, ‘H.G. Wells and the liberating atom’, *Science Fiction Studies* (2003) 30, pp. 33–48, esp. 39–40.

33 Jeff Hughes, ‘Radioactivity and nuclear physics’, in Mary Jo Nye (ed.), *The Cambridge History of Science*, vol. 5: *The Modern Physical and Mathematical Sciences*, Cambridge: Cambridge University Press, 2002, pp. 350–374.

These examples are from pre-war ‘nuclear culture’, but the same general approach can be found in accounts of ‘nuclear culture’ in the postwar period. A study of atomic-themed music from ‘Atomic baby’ to ‘Nuclear funeral’, for example, is essentially a diachronic list of popular songs with atomic themes whose imagery allegedly reflects ‘general attitudes toward the bomb’. Again, the nuclear is reified and the role of popular music in shaping, as well as reflecting, the attitudes of various audiences towards the nuclear goes unexplored.<sup>34</sup> Similar, largely diachronic, accounts can be found of ‘nuclear theatre’,<sup>35</sup> ‘nuclear fiction’,<sup>36</sup> ‘nuclear film’ and so on.<sup>37</sup> In all of them, a homogeneous ‘public’ and a homogeneous response to cultural outputs are simply assumed as a given – or, worse, ignored completely.<sup>38</sup> ‘Nuclear culture’ is too general, too passive, too monolithic, too simplistic a category.

To move forward we need to think more explicitly about the different social, political and ideological groups involved in the production, dissemination, mediation and reception of nuclear science and technology and their many and diverse representations and sites; we need to consider the political and ideological relations between these groups; and we need properly to historicize the flux of interpretations in the cultural production and consumption of the nuclear. Reworking the idea of ‘British nuclear culture’ as an analytically more productive category requires us to engage with developments elsewhere in the historical disciplines to think more critically about the very concepts ‘British’, ‘nuclear’ and ‘culture.’ In recent years, for example, historians have explored the complexities of Britishness and national identity.<sup>39</sup> The natures of ‘British’ and ‘Britishness’ are multivalent and have been subject to constant contest and change over time, not least in the twentieth century when Britain’s demographic changed considerably. Christoph Laucht’s recent work reminds us that several of the key British nuclear scientists who contributed to Tube Alloys and the later nuclear programme were émigrés, raising interesting questions about integration and identity, and interestingly problematizing conventional notions of the ‘Britishness’ of the British nuclear project.<sup>40</sup>

34 A. Costandina Titus and Jerry L. Smith, ‘From “atomic baby” to “nuclear funeral”: atomic music comes of age, 1945–1990’, *Popular Music and Society* (1990) 14, pp. 11–37, 12.

35 For example, Charles A. Carpenter, *Dramatists and the Bomb: American and British Playwrights Confront the Nuclear Age, 1945–1964*, Westport, CT: Greenwood Press, 1999.

36 For example, Martha A. Bartter, *The Way to Ground Zero: The Atomic Bomb in American Science Fiction*, New York, Westport, CT and London: Greenwood Press, 1988; Paul Brians, *Nuclear Holocausts: Atomic War in Fiction*, Kent: Kent State University Press, 1987; but now see the revised and expanded version online at [www.wsu.edu/~brians/nuclear](http://www.wsu.edu/~brians/nuclear), last accessed 5 April 2012.

37 For example: Jack G. Shaheen (ed.), *Nuclear War Films*, Carbondale and Edwardsville: Southern Illinois University Press, 1978.

38 For an extreme case of the cultural reification of the nuclear see John Canaday, *The Nuclear Muse: Literature, Physics and the First Atomic Bombs*, Madison: Wisconsin University Press, 2000; for a more detailed critique see Hughes, *op. cit.* (12).

39 Linda Colley, *Britons: Forging the Nation, 1707–1837*, New Haven: Yale University Press, 1992; Richard Weight, *Patriots: National Identity in Britain, 1940–2000*, London: Macmillan, 2002; Peter Mandler, ‘What is “national identity”? Definitions and applications in modern British historiography’, *Modern Intellectual History* (2006) 3, pp. 271–279.

40 Christoph Laucht, *Elemental Germans: Klaus Fuchs, Rudolf Peierls and the Making of British Nuclear Culture 1939–59*, Basingstoke: Palgrave Macmillan, 2012.

On a larger stage, the changing relations between Britain, the empire and the Commonwealth meant that the political and ideological frameworks within which notions of 'British' and 'Britishness' could be articulated were constantly changing. The diverse forms of political engagement with or opposition to Europe and the United States have both challenged and helped to define notions of Britishness. Internally too, 'Britain' can be seen as a constellation of Celtic nationalisms and English regionalisms, fragmenting in the last decade with devolution for Wales and Scotland (with interesting potential consequences for the future of the UK nuclear deterrent, given the location of the UK's Trident base at Faslane in Scotland).<sup>41</sup>

Clearly, 'British' is a problematic term. What particular aspect of 'Britishness' do we mean when we speak of a 'British nuclear culture'? It depends where and when we are in the past, and who we're discussing.<sup>42</sup> The historical interest and analytical purchase lie in the contingency and the contextual specificity. The same is true for 'nuclear'. We routinely employ broad terms like 'The Nuclear Age' and so on, but the meanings and implications of the fission weapons of 1945 and the early Cold War were very different to those of the thermonuclear weapons of the 1950s and after. Nor is the nuclear just about weapons. Nuclear power has had a wide range of meanings and has been both lauded and vilified over the period since 1945.<sup>43</sup> The nature of the nuclear condition changed considerably over time, and it matters whether we're discussing 1948, 1961 or 1983, as the political and social contexts and the perceived possibilities and threats arising from nuclear technology were so different at each of those points. And 'nuclear' can have very different connotations for a worker at Windscale or Aldermaston, for an anti-nuclear protestor or for someone using a (nuclear) magnetic resonance imaging device in a hospital, either as medic or as patient.<sup>44</sup> The 'nuclear' itself covers a multitude of technologies and social contexts, and again the salience and meaning lie in the specificities. As Hecht has persuasively demonstrated in her recent work on nuclearity, 'the nuclear' is a shifting subject and an unstable object.<sup>45</sup> No account of a generalized, monolithic 'nuclear culture', national or otherwise, can do justice to this diversity or perform historically useful analytical work.

Perhaps most problematic of all conceptually is the notion of 'culture'. 'Nuclear culture' has typically been taken as referring to the ways in which the nuclear is reflected in the traditional high-cultural forms of art, architecture, literature, poetry, music, film, drama and so on, as well as studies of nuclear imagery and nuclear discourse. Studies of 'popular' nuclear culture in the print and broadcast media, advertising, comics and so on have also become more significant in recent years. All too often, however, such studies

41 Malcolm Chalmers and William Walker, *Uncharted Waters: The UK, Nuclear Weapons and the Scottish Question*, East Lothian: Tuckwell Press, 2001.

42 Again, nuclear historians have much to learn from other historical fields. A recent collection of essays on twentieth-century British art takes 'Britishness' 'largely as a collection of attributes that have their being chiefly as tropes within traditions of representation'. See Lisa Tickner and David Peters Corbett, 'Being British and going... somewhere', *Art History* (2012) 35, pp. 206–215, 210.

43 Ian Welsh, *Mobilising Modernity: The Nuclear Moment*, London: Routledge, 2000.

44 For a useful collection illustrating the diversity of lived experiences at and around one nuclear site see Hunter Davies (ed.), *Sellafield Stories: Life with Britain's First Nuclear Plant*, London: Constable, 2012.

45 Hecht, op. cit. (17).

have focused on cultural availability and form but rarely on mechanisms of cultural production and circulation of particular cultural items or the specific circumstances of their reception and consumption in different synchronic and diachronic contexts. Instances of ‘nuclear culture’ have been treated as free-floating entities whose meanings are presumed to have been as obvious to their audiences as they are to later historians.

Again, rather than relying on the self-evident significance of the nuclear, historians would gain a great deal by engaging with work on cultures and their relationships with various contexts current elsewhere in the historical disciplines. Well-theorized studies of popular cultures, high cultures, folk cultures, elite cultures, mass cultures, dominant cultures, subcultures and so on abound – not just in distant historical fields, but in the history of science and technology.<sup>46</sup> Similarly, detailed studies of the creation, circulation and reception of texts, images and other cultural objects indicate the complexities and contingencies of the relationship between interpretation and context.<sup>47</sup> Work in these fields is now routinely showing the constitutive role of cultural production and the ways in which it actually shapes notions of citizenship, national identity and so on, rather than merely reflecting them.<sup>48</sup> What kind of ‘culture’ – and whose culture – do we mean when we speak of ‘British nuclear culture’? It matters.

### **Butlin’s and the bomb: histories of *Uranium 235***

As a historical category, a monolithic ‘British nuclear culture’ is clearly at best unstable, and at worst untenable. How, then, could we think more productively and more historically about the relationships between the nuclear and the cultural sphere? Consider the 1946 play *Uranium 235*. Written by the left-wing singer, playwright and activist Ewan MacColl and first performed by the progressive Theatre Workshop group, the play has attracted several historical commentaries, including accounts by some of those involved in the early productions.<sup>49</sup> It has typically been seen either as a triumph of proletarian theatre or as an effective piece of science communication. And the problem of poor source criticism and source repetition looms large as later accounts draw on earlier ones without the benefit of further, independent research. In *Science on Stage*, for example, theatre historian Kirsten Shepherd-Barr situates *Uranium 235* in a sequence of ‘Plays about Physics and Physicists’, and focuses mainly on its form and its

46 The literature is enormous, but for very general introductions see Chris Jenks, *Culture*, London: Routledge, 1993; Peter Burke, *What Is Cultural History*, 2nd edn, London: Polity, 2008. An exemplary study in the cultural history of science is James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation*, Chicago: The University of Chicago Press, 2000.

47 For example, Stephen Petersen, ‘Explosive propositions: artists react to the Atomic Age’, *Science in Context* (2004), 17, pp. 579–609; Robert Fallon, ‘Birds, beasts, and bombs in Messiaen’s Cold War Mass’, *Journal of Musicology* (2009) 26, pp. 175–204.

48 For example, Jeffrey Richards, *Films and British National Identity: From Dickens to Dad’s Army*, Manchester: Manchester University Press, 1997.

49 Howard Goorney, *The Theatre Workshop Story*, London: Eyre Methuen, 1981, esp. pp. 49–53; Ewan MacColl, *Journeyman: An Autobiography*, new edn, Manchester: Manchester University Press, 2009, especially pp. 239 ff.; Joan Littlewood, *Joan’s Book: The Autobiography of Joan Littlewood*, London: Methuen, 1994, pp. 178 ff.

dramaturgical aspects. For her, the context is the type and development of theatrical technique, rather than the specifics of genesis and reception of particular plays in specific contexts. To the extent that she does discuss the play's performance and reception, she draws largely on MacColl's own – not always reliable – autobiography, *Journeyman*, as her principal source.<sup>50</sup> In his admirable history of British theatre since 1945, the Guardian's theatre critic Michael Billington situates *Uranium 235* in a different context: that of the rebuilding of theatre in austerity Britain. But he draws on Goorney and Shepherd-Barr as his principal sources, so adds little to established accounts.<sup>51</sup> Charles Carpenter's promisingly titled *Dramatists and the Bomb* misses the play entirely,<sup>52</sup> and even biographers of Theatre Workshop founders Ewan MacColl and Joan Littlewood – though critically independent elsewhere in their analyses – tend to draw on their subjects' own accounts of the significance of this work.<sup>53</sup> Yet the interest of *Uranium 235* – its historical and cultural meaning – lies in the specificities of its creation, its enactments and its reception in the different contexts in which it was performed between 1946 and 1952.<sup>54</sup>

Born in Salford in 1915, MacColl's real name was James (or Jimmie) Miller – he adopted Scotland as his putative birthplace in the 1930s, and the name Ewan MacColl when he was a deserter and on the run from the Army during and after the Second World War. Largely self-educated, MacColl became involved in left-wing street theatre and the workers' theatre movement in Salford and Manchester in the 1930s, and established himself as an actor, singer-songwriter and communist political activist. When he met actress and director Joan Littlewood in 1934, they formed a new company, Theatre of Action, and for the next few years put on a series of performances of agitprop theatre, drawing on sources of theatrical technique including Brecht, Stanislavsky, Meyerhold, Laban and American workers' theatre.<sup>55</sup> Miller began to write plays for the group, and the growing company developed the effective use of light, sound and movement in its productions.<sup>56</sup>

50 Kirsten Shepherd-Barr, *Science on Stage: From Doctor Faustus to Copenhagen*, Princeton: Princeton University Press, 2006, p. 61, pp. 69–73. On the problematic nature of MacColl's *Journeyman* as a source see Ben Harker, *Class Act: The Cultural and Political Life of Ewan MacColl*, London: Pluto Press, 2007, pp. 249–251.

51 Michael Billington, *State of the Nation: British Theatre since 1945*, London: Faber and Faber, 2007, pp. 23–26.

52 Carpenter, op. cit. (35).

53 Harker, op. cit. (50); Nadine Holdsworth, *Joan Littlewood's Theatre*, Cambridge: Cambridge University Press, 2011.

54 On post-war cultural politics see Robert Hewison, *In Anger: Culture in the Cold War, 1945–60*, New York: Oxford University Press, 1981; Alan Sinfield, *Literature, Politics and Culture in Postwar Britain*, London: Athlone Press, 1997.

55 On the politics of intellectual and literary production in the Communist Party see Andy Croft, *A Weapon in the Struggle: The Cultural History of the Communist Party in Britain*, London: Pluto Press, 1998; Thomas Linehan, *Communism in Britain, 1920–39: From the Cradle to the Grave*, Manchester: Manchester University Press, 2007.

56 For Miller/MacColl see Harker, op. cit. (50); on MacColl's dramaturgy see Claire Altree Warden, 'The shadows and the rush of light: Ewan MacColl and expressionist drama', *New Theatre Quarterly* (2007) 23, pp. 317–325.

After the disruption of the war and Miller's desertion, Theatre of Action reformed in Manchester in 1945, with Miller now taking the alias Ewan MacColl. Theatre of Action, too, was renamed Theatre Workshop.<sup>57</sup> MacColl wrote a new play, *Johnny Noble*, and in the late summer of 1945 the company toured working-class areas in the north of England with a run of mostly one-night performances of the new piece and MacColl's adaptation of Molière's *The Flying Doctor*. The hand-to-mouth tour started just as the Japanese surrendered in the wake of the bombings of Hiroshima and Nagasaki. The bombings, and the subsequent publication of the official Smyth report on the work of the Manhattan Project, seemed of such significance to two members of the company – engineer Bill Davidson and ICI physicist H. Verity Smith – that they persuaded MacColl to write a play about the bomb and its significance. They gave MacColl a crash reading course in atomic physics, and he began work on the new play: *Uranium 235*.

MacColl decided that the best way to present his message was through a historical framework, so the play eventually took the form of eleven scenarios, outlining the development of atomic science from the ancient Greeks to modern physics and the present – a dramatic version of the teleological 'bomb historiography' of the Smyth report and other historical accounts. The scenarios deployed different dramatic and theatrical styles and techniques to make their points: an expressionistic jazz-dance; naturalism (the actors playing themselves); a circus-act; a section in which the audience became members of the nineteenth-century Manchester Literary and Philosophical Society; a knockabout comedy featuring Einstein, Bohr and Planck; an atomic ballet of protons and neutrons in which fission is enacted; and so on. The whole was presided over by a Puppet-Master (played by MacColl himself) and his sidekick Death. It all drew heavily on agitprop, and closed with a direct challenge to the audience: would they choose peace or war, life or death (Figure 1).<sup>58</sup>

Rehearsals began in the David Lewis Theatre in Liverpool late in 1945. The play was first performed alongside the troupe's other repertoire in Newcastle in February 1946, and then toured working-class theatres and halls across the north of England. This entertainment circuit is very much the context in which the early productions of the play must be understood. Driven by political commitment, the troupe played bitterly cold halls, in theatres that sometimes smelled of animal dung, and typically to very small audiences.<sup>59</sup> Against this dismal background, the highlight of the tour came in May 1946, when the company was booked for a week at the newly opened Butlin's Holiday Camp at Filey, in Yorkshire. According to the later reminiscences of MacColl and others, the Butlin's performances were 'a triumph and a complete vindication of everything we had said about the theatre. A working-class audience could be won for a theatre which

57 For an account by a founder member see Goorney, op. cit. (49).

58 Ewan MacColl, *Uranium 235: A Documentary Play*, Glasgow: William MacLellan, [1946].

59 Recent work informing this discussion includes Susan Bennett, *Theatre Audiences: A Theory of Production and Reception*, 2nd edn, London: Routledge, 2003; Dennis Kennedy, *The Spectator and the Spectacle: Audiences in Modernity and Postmodernity*, Cambridge: Cambridge University Press, 2009; Jonathan Rose, *The Intellectual Life of the British Working Classes*, New Haven and London: Yale University Press, 2001.

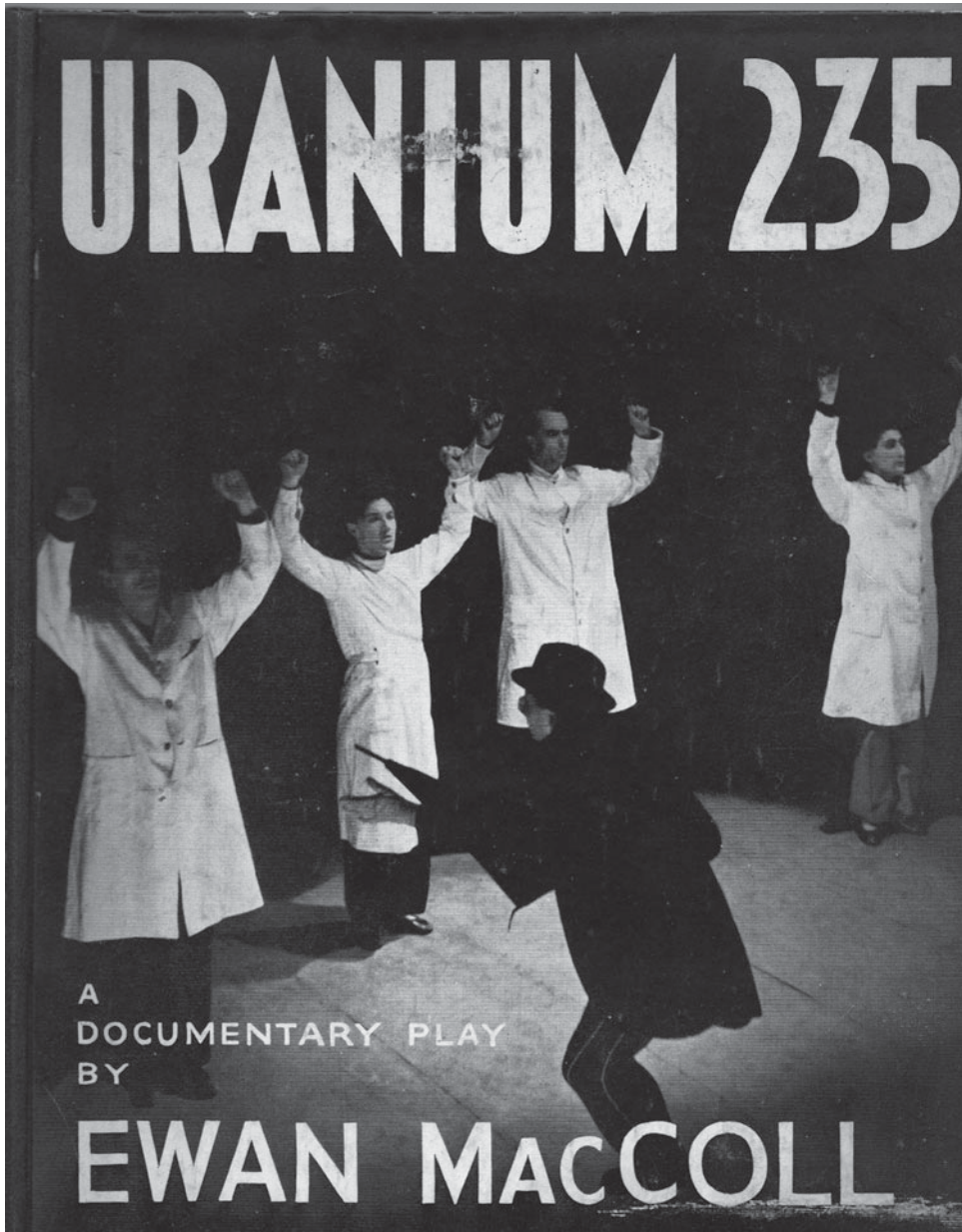


Figure 1. Cover of the published script of *Uranium 235* (author's copy).

concerned itself with the social and political problems of our time'.<sup>60</sup> Basing their accounts on such reminiscences by those involved, historians have also tended to take the Butlin's performances as an indication of the self-evident importance of the play and

60 MacColl, op. cit. (49), p. 245.

of the nuclear as a theme.<sup>61</sup> But a closer consideration of the context suggests a rather different interpretation.

The 250-acre Filey Camp had been planned and built in 1940, but had been commandeered immediately by the military. It reopened as Billy Butlin's showcase camp in 1946, and in that first season, as he rebuilt his entertainment empire, Butlin 'began to look around for opportunities that would give his camps prestige'. He paid £1,100 to bring the Yorkshire Pullman luxury train out of wartime storage for a VIP excursion from London to Filey. Then,

he wrote 400 invitations to the top names in politics, science, theatre, art, music and the London social world for a great colourful evening in the massive concert hall at Filey, where he had decided to put on an unthinkable expensive production of Puccini's *La Bohème* by the famous San Carlo opera Company.

The show 'was a colossal success, and it played for a week to packed houses. Music-lovers, starved for six years of opera of this scope and brilliance, came from all over the country'. Butlin, according to one biographer, 'had discovered that there is prestige in encouraging culture'<sup>62</sup> – so much so that he

tempted the Old Vic Company to Filey for a short season of Shakespearian plays. Again the customers turned up in thousands... Meanwhile the San Carlo Opera Company was touring [Butlin's other] camps, and, at the same time, Bill was introducing ballet to them as well.<sup>63</sup>

According to another Butlin's historian, 'it didn't really matter whether the campers liked or disliked it, they filled the theatre with their curiosity', and such events 'gave Butlin's a lot of publicity'.<sup>64</sup> As Cyril Joad put it in a *New Statesman and Nation* article on 'Butlineering', the working and lower middle classes were able to sample a life with 'concerts and fancy dress carnivals and amateur theatricals to mark the highlights and the gala nights – yet every night, it seems, is a highlight and a gala night'.<sup>65</sup>

Experimental theatre, in the form of Theatre Workshop, was clearly part (and presumably quite a cheap part) of this prestige-seeking mix. Visiting Filey in the week when Theatre Workshop performed there, *News Chronicle* reporter Ian Mackay was obviously captivated by the scale and scope of the enterprise: 'Business is pleasure and pleasure is business in Butlin's, and real big business at that.' He had been astonished at what 'this pleasure business really means in hard cash' and 'how much organisation, inventiveness, ingenuity and sound common sense is involved in this highly skilled modern industry of providing fun and games for people'. Butlin, he reported, planned to 'provide exciting holidays for about 12,000 workers every week at his three big camps' in Filey, Skegness and Clacton – with two further camps due to open in Ayr and Pwllheli.

61 Shepherd-Barr, op. cit. (50), pp. 69–73.

62 Rex North, *The Butlin Story*, London: Jarrolds, 1962, pp. 88–89; Colin Ward and Dennis Hardy, *Goodnight Campers! The History of the British Holiday Camp*, London and New York: Mansell Publishing, 1986, pp. 81–82. Sandra Trudgen Dawson, *Holiday Camps in Twentieth-Century Britain*, Manchester: Manchester University Press, 2011, pp. 158–195, offers a fine contextual account of post-war holiday camps.

63 North, op. cit. (62), p. 89.

64 Sue Read, *Hello Campers!*, New York and London: Bantam Press, 1986, p. 55.

65 Cyril Joad, 'Butlineering', *New Statesman and Nation*, 30 March 1946, pp. 226–227.



By next summer, if all goes well, he will be feeding, sleeping and entertaining about 22,000 different people every week for at least 26 weeks in the year... And they will be paying Mr. Butlin on average 5½ guineas each for their food, shelter and entertainment, apart altogether from what they may choose to bang on the counters of the swagger bars with which he has peppered the place.<sup>66</sup>

Strolling around the camp, Mackay ‘watched the workers relaxing after their “six years hard” at the bench. It was really terrifying to watch the grim determination with which they applied themselves to their relentless pursuit of pleasure’. And, Mackay added,

I must say that for those who like their merriment mass-produced on the conveyor-belt system it is worth every penny of it. There’s a bit of everything here for the weary Titans from the war workshops, from vast terpsichorean caverns which dwarf Blackpool’s biggest, and the cerulean swimming pools that make Hollywood look shabby.<sup>67</sup>

This was mass entertainment for the post-war upper working and lower middle classes, a release from the effort of war.

‘Of all the bizarre and unexpected things you come across in his phantasmagoria of a place’, Mackay wrote a couple of days later in another report, ‘there is nothing quite so surprising as the brilliant band of young strolling players who have been packing the camp theatre this week’. But this too was a tribute to Billy Butlin, for

where else in the world would you find a theatre owner who would take a chance on a young company whose repertoire consists only of Aristophanes, Lorca, a fishing folk ballad drama, a symbolic ballet play on the atom bomb and a delightfully bawdy version of one of Moliere’s earliest comedies, ‘The Flying Doctor’?

Theatre Workshop, he wrote, were ‘making important experiments both in presentation with lighting and stage effects’. Though they specialized in dramatic dialects, there was ‘nothing of the raffish roguery or lushgush of our Bloomsbury Exquisites about them’. And ‘just like the Moliere team, the Theatre Workshop carried its own playwright around, young Ewan McColl... who is by way of being quite a dramatic portent in his own way’. ‘Just as had G.B.S. [George Bernard Shaw] in his twenties, McColl has a flaming beard and a tendency to lapse into lecturing.’ But his play *Uranium 235* ‘is undoubtedly a theatrical event of first importance... really more of a mediaeval or mystery play’.<sup>68</sup>

Mackay’s articles offer valuable insights when read against the grain. Mackay dramatizes the drama, makes the entertainment entertaining; he was not commenting on the nuclear per se, but tried to capture the human drama, character and spectacle. Similarly, Butlin’s deliberate attempt to create a lavish spectacle and to draw in holidaymakers through the presentation of a variety of entertainments is clearly part of the context in which the Theatre Workshop Filey performances must be seen. The national and international political situation, too, form an important backdrop to this

66 Ian Mackay, ‘Diary. Mr. Butlin Makes Even Hollywood Look Shabby’, *News Chronicle*, 23 May 1946, p. 3. For further contemporary commentary on ‘Butlinism’ see J.A.R. Pimlott, *The Englishman’s Holiday: A Social History*, London: Faber & Faber, 1946, pp. 246–253.

67 Mackay, op. cit. (66).

68 Ian Mackay, ‘Diary: red-bearded playwright’s drama of the atom’, *News Chronicle*, 25 May 1946, p. 3.

story. Nuclear issues were kept in the news headlines not least by ongoing discussions at the United Nations about international control, and by preparations for further nuclear testing at Bikini. In June 1946, even the king commented in public on the bomb. Opening the Royal Society's Empire Scientific Conference, he acknowledged that 'the production of the atomic bomb through scientific prediction and scientific collaboration has brought home to the world with terrifying directness the fact that the increase in man's knowledge of the material universe may be fraught with infinite possibilities of good and evil' – though this 'must never be used as an argument against scientific research'. Rather, it should 'lead us all to seek for ways and means of increasing our respect for moral principles and to endeavour under God's guidance to reject the evil and choose only the good'.<sup>69</sup>

Pious though such hopes might have been, they garnered newspaper headlines, and gave Theatre Workshop a further peg on which to hang promotion of the play. And publicity was key to attracting audiences, for even in northern music halls there was competition. While Theatre Workshop's motives for airing the nuclear issue may have been overtly ideological (even if presented as pedagogical), the theatrical circuit around which they moved created opportunities for others to tap the same theme. At Leeds in the third week of September, advance notices of the troupe's performances at the Riley Smith Hall of Leeds University perhaps prompted some local rivalry. In the same week, the well-known comedian Ernie Lotinga, 'Britain's Greatest "Funstar"' (and evidently a favourite of cultural arbiter T.S. Eliot<sup>70</sup>), was booked to perform at the Leeds Empire Theatre as 'Jimmy Josser', a character he had established in a series of comedy films in the 1930s.<sup>71</sup> For his Leeds appearances, Lotinga advertised a new act: 'The Atom Bomb' – 'Twelve Explosions of Comedy, Song and Dance'.<sup>72</sup> The *Leeds Guardian's* advance notice of the show found it enticing (Figure 2):

In 'The Atom Bomb', a new musical show in twelve scenes to be presented at the Empire next week, Ernie Lotinga, the famous 'Jimmy Josser', is given the opportunity to offer characteristic business in fresh situations and episodes. A grand supporting cast includes Jack Frost, Tommy Lockland, Kay Sothern, Hazel Bryant, Lynn Dorson, Max Brewster and Betty Lotinga, Doyle Crossley, Will Beasley and many others.<sup>73</sup>

With the newspapers full of atomic secrets and spies (Alan Nunn May had been sentenced to ten years' hard labour for atomic espionage at the beginning of May) and the atomic tests at Bikini atoll in July, the reworking of Lotinga's characteristically bawdy humour through an atomic theme offered his audiences long-familiar routines in

69 'The speech of His Majesty the King', *The Royal Society Empire Scientific Conference: Report*, 2 vols., London: The Royal Society, 1948, vol. 1, pp. 17–19, 18. The speech was widely reported. See, for example, 'The King and the atom bomb. Don't blame science. Nobler works', *Liverpool Echo*, 17 June 1946, p. 3.

70 David E. Chinitz, *T.S. Eliot and the Cultural Divide*, Chicago: The University of Chicago Press, 2003, p. 58; on Eliot's love of the music hall see Peter Ackroyd, *T.S. Eliot*, London: Abacus, 1985, p. 105.

71 On Lotinga's chequered career see Matthew Sweet, *Shepperton Babylon: The Lost Worlds of British Cinema*, London: Faber & Faber, 2005, p. 110.

72 Advertisement, *Leeds Weekly Citizen*, 20 September 1946, p. 4.

73 'Round the shows', *Leeds Guardian*, 20 September 1946, p. 4.

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**LEE**

Editorial at

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**Sim**

IN a letter to the *Guardian* last week, Sir Ernest Simon explained why he had not applied for membership of the Labour Party.

He was an active member of the Liberal Party until 1918, and was one of the leading figures in the country on housing, education, and progressive Liberalism. In a letter with the *Guardian* last week, Sir Ernest Simon explained why there are two worlds in the world today: one where the privileged few enjoy the equality of opportunity, and the other where the masses struggle to maintain their freedom against the tyranny of the few.

"Of the great changes in the world, Britain is following the lead. Socialism and democracy are moving rapidly forward, and freedom and democracy are being accepted."

He points out that the victory at the polls last week meant that "the classes, which have been through history, through dramatic suddenness, as Parliament is

Figure 2. Advertisement for Ernie Lotinga's 'Atom Bomb' show, *Leeds Weekly Citizen*, 20 September 1946, p. 4.

a topical setting. But this did not necessarily impress all who attended. Though it found it ‘artistically staged’, the *Yorkshire Post*’s notice of the show noted that ‘many farcical situations are woven around the boisterous humour of Ernie Lotinga, assisted by Jack Frost, in the revue “The Atom Bomb”, which has some semblance of a plot about the recovery of a stolen secret formula’.<sup>74</sup> The *Yorkshire Evening Post* was more brusque, dismissing ‘another of those strange mixtures of music, song and dance, artistically dressed and staged, which Ernie Lotinga brings round’, whose loose plot ‘very nearly gets lost in the comedy episodes, the humour of which is not only thin and crude, but sometimes in not very good taste’.<sup>75</sup> Clearly, with nuclear issues prominent in the media and novel entertainment somehow to be manufactured, the bomb and nascent nuclearism were open to a variety of cultural uses aimed at a diverse range of audiences and appetites, even vulgar appetites.

A similar diversity characterized responses to *Uranium 235*, often contrasting starkly with the cherished memories of success at Butlin’s that have informed later historical commentaries. In early October 1946, Theatre Workshop performed at the Little Theatre in Edinburgh and the Queen’s Theatre in Glasgow. In November, the *Dunfermline Journal* gave an advance build-up to a performance at that town’s Carnegie Hall. While presenting new plays and novel technical methods, Theatre Workshop, it reported, was ‘seeking something that is very old, the community of spirit between player and audience which has characterised all the great theatres of the past’ – when ‘dramatists spoke the language of the people and dramatic art was not, as it is largely today, prostituted to the service of a few financiers’. The ‘young Scots poet’ (!) Ewan McColl was a dramatist ‘concerned with real life as people live it’, and part of the ‘great revival of artistic consciousness at present arising in Scotland’.<sup>76</sup> In the event, one review found in the play ‘profound feeling, intermingled with artistic tableaux, dramatism, vivid costuming with satirical dancing and an overall cloak of shadow and light, sound and lecture’, but noted that it was ‘not too well received’ – clearly a reference to low audience numbers, for the play ‘impressed the audience who were present’ with its demonstration of the ‘build-up of science to the atomic age and the suffering which science could cause were it not properly harnessed’.<sup>77</sup> This gross indifference prompted another correspondent to write in disgust, ‘The most talented theatre group of its kind has just visited Dunfermline, playing to practically empty houses. Dunfermline people should be ashamed of themselves. Such a venture deserved far greater support from an alleged cultural town.’<sup>78</sup> In Dunfermline, at least, *Uranium 235* shook up nationalist sentiment and local cultural sensibilities, rather than working-class engagement with nuclearization.

Contrary to the retrospective focus on the apparent success of *Uranium 235* at Butlin’s and its portrayal as a self-evidently significant element of nuclear culture, then,

74 ‘This week’s Yorkshire entertainments’, *Yorkshire Post*, 24 September 1946, p. 6.

75 ‘Leeds amusements’, *Yorkshire Evening Post*, 24 September 1946, 6.

76 ‘Theatre workshop for Dunfermline’, *Dunfermline Journal*, 30 October 1946. I am very grateful to Janice Erskine of Dunfermline Libraries for copies of material relating to the 1946 Dunfermline performances.

77 ‘Theatre Workshop Players. Impressive productions’, *Dunfermline Press*, 9 November 1946.

78 S. Murray, ‘Theatre Workshop’, *Dunfermline Journal*, 13 November 1946.

consideration of other performances and the contexts of its reception suggests that it met with a wide range of expectations and responses, from holiday camp amusement to high-minded nationalist aspiration, and from indifference to imitative competition. It is difficult to locate a homogeneous 'British nuclear culture' here. And there are other interesting contrasts which widen still further both the scope for comparative contextual analysis and our understandings of nuclear *cultures*, plural. Theatre Workshop revived the play in 1950 and again toured industrial areas of South Wales and rural and urban venues in northern Britain. Its reception this time was generally muted, partly perhaps because of the changing political context, not least the testing of the Soviet atomic bomb in August 1949, the deepening Cold War and hardening anti-communism. But elite urban critical sensibilities were now also unleashed. After a performance at Manchester's Library Theatre in July 1951, the *Manchester Guardian's* reviewer thought that the play 'builds a crude but very effective sermon on a very simple text', its 'preaching technique' being 'in effect a mixture of the "Green Table" ballet, "The March of Time", the "Eagle" magazine, and a sort of nightmare pantomime'. Worse,

It starts with the Bomb, the scientist's apology for his craft, and a quite beastly but also very funny ballet of the jitterbugs – not different in kind, we are soon to learn, from the equally blind and exploited Elizabethan jiggers round their capitalistic maypole... Time marches back through history's pageant of horrors. We are belaboured so hard that long before the end – with Energy, of course, telling us that he can go one of two ways and it is up to us to choose – we are moved to protest that even human life is not so bad as this... this method of dramatic hectoring is not only tense, but past tense: back say in the middle thirties with its assumption that it is addressing retarded children or blind fools.<sup>79</sup>

If the play had 'any message, apart from the well-known symbolical one of Energy at the crossroads, it may rest in the assurance that the piece is "an attempt to rediscover the conscience of the world"'; but, the *Guardian* concluded, it 'has shown us such a dreadful world, all through history, that this can hardly be taken seriously'.<sup>80</sup>

This shift in sensibility, from reported working-class enthusiasm to elite metropolitan dismissal, went a stage further in 1952. During rehearsals in Manchester, the actors Sam Wanamaker and Michael Redgrave dropped in, and were deeply impressed. They arranged and financed a series of performances of *Uranium 235* at the Embassy Theatre in Swiss Cottage, London. Here too the play was largely slammed. Ivor Brown in *The Observer* lambasted the play's politics and its passé style:

a lurid projection of world history from what used to be called the 'prolet-cult' angle... ends with some estimable sentiments about the proper use of science and the popular responsibility for keeping Boffins from blowing the world to blazes. This, of course, solves nothing... The author of 'Uranium 235' holds forth, rightly, about the wickedness of war and of some kinds of dictatorship: but I could see no trace of his understanding that a Communist dictatorship and police-state can be just as crude and cruel and bellicose as any other. 'War in Indonesia, war

79 N.S., 'Library Theatre', *Manchester Guardian*, 17 July 1951, p. 5.

80 N.S., op. cit. (79).

in Malaya, war in Korea' and whose war, Mr. MacColl? Who stimulates the nerve-war in Berlin?<sup>81</sup>

Theatre Workshop, he concluded,

whacks this propaganda across with all the Expressionist routines that were tiresome enough when imported from Europe thirty years ago and are scarcely improved by age. There is immense vitality in the players, but the method of performance in Expressionist productions, like the lighting is all black and white, a mixture of writhing and roaring, without any chance of subtlety or fine shades.<sup>82</sup>

Though it was politically more sympathetic, the *Manchester Guardian* made many of the same points. While praising Joan Littlewood's production, the *Guardian's* critic thought the drama 'old-fashioned', with 'questionable' history and an 'outdated' theatrical style. The propaganda was 'efficient' and gave 'several of the players the sort of part which would bring the house down at the Unity Theatre', especially MacColl himself as the Puppet-Master and 'Doreen Warburton as his secretary, who might indeed bring other houses down and is a serious threat to the pre-eminence of Miss Diana Dors'. Yet even for the *Guardian* the message of the play was ultimately a crude one: 'the sort of message which is more commonly conveyed in a pamphlet, and indeed the audience found pamphlets on sale outside the theatre at the end of the performance: pamphlets about germ warfare in Korea'.<sup>83</sup> For MacColl and Theatre Workshop, of course, this was precisely the point. But for the critics, more used to the conventional world of Noel Coward, Terence Rattigan and J.B. Priestley, *Uranium 235* was well past its sell-by date.

## Conclusion

An English writer, pretending to be Scottish, writes an ideologically motivated play about the atomic bomb which is performed in working-class areas of Britain, mostly to indifference. A successful short run of the play at a holiday camp speaks more to wartime privation and the swagger and ambition of Billy Butlin than to any self-evident 'nuclear culture' or desire of the masses to be informed about nuclear affairs. The play spawns competition designed to appeal to tastes for the vulgar and bawdy, and to provide topical fodder for a popular entertainer's music hall character. Nationalist cultural aspirations for the play, based on the playwright's deception about his identity and nationality, fail to materialize.<sup>84</sup> Later, in smart metropolitan circles and against a different political backdrop, a revival of the play is dismissed as politically naive and theatrically jejune.

81 Ivor Brown, 'Stage without scene', *The Observer*, 18 May 1952, p. 6.

82 Brown, op. cit. (81). For reanalyses of mainstream metropolitan theatre in the 1950s see Dominic Shellard, *British Theatre since the War*, New Haven: Yale University Press, 1999, especially pp. 1–36; Dan Rebellato, *1956 and All That: The Making of Modern British Drama*, London: Routledge, 1999.

83 G.F., 'Play with plenty of "message"', *Manchester Guardian*, 14 May 1952, p. 5.

84 Claire Warden, 'Ewan MacColl, "the brilliant young Scots dramatist": regional myth-making and Theatre Workshop', *International Journal of Scottish Theatre and Screen* (2011), 4(1), available at <http://erc.qmu.ac.uk/OJS/index.php/IJOSTS/article/view/112>, last accessed 5 April 2012.

This paper demonstrates a number of very different responses to just this one play: Theatre Workshop's own interpretation of nuclear history; the contrast between the play's reception by working-class audiences in 1946 and later responses by sniffy West End critics; and its role as entertainment, alongside Jimmy Josser's atomic bomb extravaganza. But where is 'British nuclear culture' here? There is clearly no stable, homogeneous entity that we could so label. There are many nuclear cultures, in many contexts – agitprop and working-class political theatre, music hall and regional working-class popular entertainment, holidaymaking and the changing economy of mass post-war leisure and the elite metropolitan theatrical world, to name just a few, in one small corner of cultural and social life. The point could be significantly reinforced by pointing to other contemporaneous responses to nuclearization – Edith Sitwell's 'Three Poems of the Atomic Age', for example, and the extraordinarily different social and cultural milieu in which they circulated.<sup>85</sup> These wider contexts of production, performance and reception deserve much fuller study, for only they can shed light on the range of meanings of the nuclear in the public sphere in post-war Britain, and their relations to wider cultural, political and ideological settings. It is time for British nuclear historiography to move on and start asking more searching questions that do not rely on for their rationale, and reify, the power and aura of the nuclear or a fictive 'nuclear culture'; rather, the power and aura of the nuclear are something to be explained historically. This issue of *BJHS* is a significant move in that direction.

Why, finally, does all this matter? It matters because nuclear history is being written and rewritten around us. In another form of reification, what were once some of the most secret places of the British nuclear state are now advertised as museums and tourist sites. The Cold War and the nuclear are now heritage, evoking nostalgia rather than the dread they once inspired.<sup>86</sup> No Cold War museum is complete without its Blue Danube, Yellow Sun and Blue Steel nuclear weapons.<sup>87</sup> At former nuclear bunkers at Hack Green, Kelvedon Hatch and Anstruther, one can finally learn the secrets of the management of Armageddon, enjoy a cup of tea at the end-of-the-world café, and, of course, buy nuclear kitsch at the end-of-the-tour shop.<sup>88</sup> What kind of 'nuclear culture' is this we now enjoy? Nuclear tourism, secrecy apparently dissipated, the nuclear state seemingly laid bare. But these places too are a form of entertainment. The sanitized form of history on display here and elsewhere belies what we as historians have come to know about the Cold War and the nuclear state. Nuclear cultures were not an abstract parade of texts and representations. We know that governments misled their citizens, and that scientists, engineers and media outlets were complicit in pushing nuclear programmes for professional and ideological purposes often in the name of reason or objectivity.

85 Edith Sitwell, 'Three Poems of the Atomic Age' [1945–1946], in *Collected Poems*, London: Duckworth Overlook, 2006, pp. 368–378. Mark Morrison, 'Edith Sitwell's atomic bomb poems: alchemy and scientific reintegration', *Modernism/Modernity* (2002) 9, pp. 605–633.

86 Wayne D. Cocroft and Roger J.C. Thomas, *Cold War: Building for Nuclear Confrontation, 1946–1989*, London: English Heritage, 2003.

87 For example, [www.nationalcoldwarshow.org](http://www.nationalcoldwarshow.org), last accessed 5 April 2012.

88 See [www.hackgreen.co.uk](http://www.hackgreen.co.uk) (Hack Green); [www.secretnuclearbunker.com](http://www.secretnuclearbunker.com) (Kelvedon Hatch); [www.secretbunker.co.uk](http://www.secretbunker.co.uk) (Anstruther), all last accessed 5 April 2012.

Nuclear science and technology and the political and ideological structures that spawned and sustained them shaped hundreds of millions of lives for more than half a century. In different ways they continue to do so today. Unpacking those structures, mapping the cultural politics of the nuclear, exploring the construction of the nuclear citizen in the past and today, should surely be the aim of any analysis of 'nuclear culture'. That is what makes nuclear cultures interesting, and that is why we should take them more seriously.