Normalising Nuclear War: Narrative Scenarios, Imaginative Geographies and Sites of Leisure in 1950s Britain

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‘A roar of engines in the sky shattered the Sunday morning quiet, a squadron of jet planes swooped low over Morpeth Dock—and the largest fire service and civil defence exercise to be held in the North-West [UK] since the end of the war had started’. This newspaper report, published in *Birkenhead News* on 9 April 1952, went on to say that the civil defence ‘exercise was a realistic test, and an imaginative attempt was made to stimulate the conditions under which the different services would have to operate and co-ordinate in war-time’.¹ In a briefing before the exercise, it was explained that ‘as with all exercises, imagination must be brought into full play’, which was an attempt to encourage participants to throw themselves into the exercise wholeheartedly.² The public description of this drill reflected ‘the imaginative and rhetorical force of military spectacle’

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(Rech 2015: 536), while also stressing the importance of both ‘realism’ and ‘imagination.’

This representation of preparedness would become normalised in the early Cold War era. British citizens, via civil defence propaganda materials and official publications disseminated in the local and national press, were invited to imagine themselves as part of a new struggle which demanded a form of active psychological and physical engagement with the nuclear threat, and the acceptance of sustained militarisation in peacetime. As the jet planes roared over the River Mersey in North-West England as part of the Morpeth exercise, they acted out the imagined aerial attacks that would feature at the beginning of most civil defence ‘narrative’ scenarios in the 1950s. These scenarios acted as the starting point for training exercises carried out by civic leaders and volunteer personnel who also developed sites of leisure and forms of civic engagement that contributed to a culture of civil defence activism in the 1950s. The scenarios, and the physical responses to them in the exercises that followed, were also shaped by a shared knowledge of the spatial and geographical specificity of the region in which they were located.

In this chapter, civil defence is interpreted as one significant part of a process of mobilisation after the large-scale national development and institutionalisation of military nuclear technologies that occurred in Britain after 1945. One central aim behind British nuclear mobilisation was the creation of nuclear weapons and, following Jasanoff and Kim, once this initially secret technological development became public knowledge, a sociotechnical imaginary emerged which (1) downplayed the unique danger of nuclear weapons, (2) attempted to contain fear and encourage survivability and control, and (3) promoted deterrence ideology and the development of military nuclear technology as national virtues.³ This imaginary pointed the way towards a desirable future, and was encouraged systematically by official means. Civil defence played a key role in ‘embedding’ this sociotechnical imaginary in British society, and I argue that the process of embedding this imaginary can only be properly understood with reference to localised social, geographical and discursive contexts.⁴ Furthermore, I argue that the social impact and persistence of *nationwide* nuclear sociotechnical imaginaries cannot be fully understood without reference to the localised contexts in which civil defence was located and enacted.

In order to explore this further, a particular reading of Jasanoff and Kim’s definition of sociotechnical imaginaries is applied to materials in

Wirral Archives (Merseyside, UK) and other relevant primary source materials from the period. These archival materials offer a glimpse into civil defence strategies in the North-West region of England, and especially the localised activities of volunteer activists and civic leaders on the Wirral peninsula. Wirral Archives hold a wealth of national and regional civil defence circulars, pamphlets and planning documents and, perhaps most usefully, regular correspondence between the Chief Clerk of Birkenhead Council, Mr. D. P. Heath, and the Home Office in London. We are afforded a glimpse of how national policies were enacted locally, and how the nuclear sociotechnical imaginary was replicated and made durable.

To trace the ways in which these localised contexts appear to have intertwined with and been shaped by a wider (officially maintained) sociotechnical imaginary, I do three things in this chapter. After brief discussions of general context and historiography, I explore some of the bespoke narrative scenarios that were created to frame civil defence exercises and analyse their public representation. Secondly, I focus on the sites of leisure and forms of civic engagement linked to civil defence activity more broadly. Third, I look to the concept of *imaginative geographies* (Said 1978; Gregory 1995) to further unearth the localised nature of sociotechnical imaginaries in this era.

CIVIL DEFENCE IN THE UK

In the years following the conclusion of the Second World War, many British citizens faced severe social and economic hardship. Food rationing continued until 1954, and many urban communities struggled to deal with the destruction caused by the indiscriminate aerial bombardment that had become normal practice in the age of total war. A further shadow was cast over British life with the advent of the atomic bomb, and by 1949 the Soviet Union had tested their first weapon. Although the civil defence exercise at Morpeth Dock, Birkenhead—located on the Wirral peninsula in the North-West of England—was based on a non-nuclear scenario, it had become normal to devote time and resources to planning and performing realistic civil defence exercises in the early Cold War era. Indeed, nuclear and non-nuclear exercises were planned and run along similar lines: active nuclear preparedness dovetailed with older civil defence methods.⁵ The news that the Soviets had successfully tested a weapon led to increased funding to civil defence, enabled by the Civil Defence Act of 1948, which by 1949 ‘empowered local authorities to

appoint Civil Defence Committees and recruit members for the new Civil Defence Corps' (Campbell 1983: 71).

In this early atomic era—before the thermonuclear revolution, and before the Hall and Strath Reports in Britain shaped more realistic thinking about the likely impact of nuclear strikes on the British Isles (Hughes 2003)—atomic civil defence was rudimentary, and largely followed Second World War habits of thinking about survival and morale (Grant 2010: 44–51). This large-scale peacetime effort depended on volunteer recruits, and a significant Cold War propaganda campaign influenced British culture in the 1950s and 1960s. Citizens were persuaded of the necessity of Cold War participation, duty and responsibility both by the dissemination of government publications to civic leadership and then by advertisements placed in the national press, poster campaigns and recruitment films (Grant 2010; Hogg 2016).

This propaganda and recruitment drive was central to how the three main characteristics of the nuclear sociotechnical imaginary were embedded in British culture. This broadly discursive context—where particular ideas about nuclear weapons were disseminated by the government—was intertwined with the physical organisation of significant numbers of civil defence recruits in the 1950s.⁶ By the late 1950s, civil defence organisation was conducted at sub-regional, regional and national level, and throughout the decade, a series of large-scale exercises were introduced as national policy, which would then be interpreted and organised by regional leadership.

HISTORIOGRAPHY: CIVIL DEFENCE AND SOCIOTECHNICAL IMAGINARIES

In order to place civil defence activity within its localised social, geographical and discursive contexts, this chapter builds on a number of historiographical strands. Surveys of postwar Britain are plentiful, but approaches highlighting the powerful role of cultural memories of the Second World War (Noakes and Pattinson 2013) and the politics of reconstruction in the 1950s (Zweiniger-Bargielowska 2000) have especially influenced this chapter. Some potent and shared 'nation-building' imaginaries with longer traditions in British life that are also relevant to the history of civil defence include patriotism, nostalgia, militaristic masculinities and war commemoration (Anderson 1983). Temporally speaking, we might

observe that these imaginaries stretch back in time, seeking solace in tradition or an imagined past. This is quite distinct from the future-oriented imaginaries of civil defence policymakers (and their representations), detailed in the work of David Monteyne (2011) and Joseph Masco (2008).

Histories of civil defence in the UK have focused on both the strategic ‘façade’ that the organisation represented (Campbell 1983; Grant, 2010) and localised histories of how Cold War policy impacted everyday life (Barnett 2015; Hogg and Brown 2019). Interdisciplinary research on atomic urbanism (Monteyne 2011) and imaginative geographies (Said 1978; Gregory 1995) suggest the importance of ‘influential presentations of the world and its contours that are made possible by particular forms of knowledge about that world’ (Farish 2010: xii). What many of these approaches to the Cold War have in common is an interest in the power dynamics at play in Cold War societies where, for example, ‘nuclear spaces are constructed socially and politically’ (Alexis-Martin and Davies 2017: 4). Jessica Douthwaite’s recent oral history of civil defence personnel suggests that Cold War policy and ideology created permanent, durable qualities in government and society that were hard to resist. She argues that anti-nuclear protest faced an increasingly challenging task against this durable system, stating ‘oral testimonies provide an invaluable means to demonstrate that where in its early years it made “sense” to critique nuclear security, anti-nuclear politics became increasingly irrelevant in an established, legitimised Cold War system’ (Douthwaite 2018: 231). Furthermore, her thesis demonstrates the processes ‘by which postwar Britain accepted and acclimatised to Cold War nuclear strategies’ (Douthwaite 2018: 176).

Work that has examined aspects of the ‘cultural Cold War’ (Shaw 2005) and the role of the mass media in the British Cold War (Hill 2018) sit alongside work on the importance of assessing how, why and where nuclear anxieties were articulated in the 1950s (Hogg 2012). In British life, a form of ‘nuclearity’ existed that can be defined as ‘a shifting set of assumptions held by individual citizens on the dangers of nuclear technology, assumptions that were rooted firmly in context and which circulated in, and were shaped by, national discourse’ (Hogg 2012: 537). This can suggest that implicit understanding of the negative aspects of nuclear culture had become normalised throughout the 1950s and, further, official attempts were made to shape attitudes towards nuclear weapons (Hogg 2016).

This process, which we can identify through its discursive traces, can help us to make sense of how nuclear sociotechnical imaginaries became a normalised and persistent feature of Cold War life. Acknowledging a recent surge in interest in the analytical utility of ‘sociotechnical imaginaries’, the concept is conceived in this chapter as a powerful ‘imaginative infrastructure’ that serves ‘the possibility of shaping terrains of choices and thereby of actions’ (Sismondo 2020). These social constructs might have the potential to limit or encourage discussion in favour of an imaginary which serves a powerful agenda (Polleri 2020). As Robinson suggests, ‘the collective shaping of imaginaries is not simply about creating communities, because they also allow states to more effectively control society and “other” those who do not share their same vision’ (Robinson 2020: 3). As other contributors to this book note, imaginaries have the potential to ‘shape meaning and behaviour’, and it is important to analyse the cultural components that enable this.⁷ Perhaps most closely aligned to the approach in this chapter is a recent attempt to trace the ‘intricate relationship between technology and social change in relation to cultural memory and cultural perceptions’ (Kalmbach et al. 2020), especially also considering their contention that it is often fear that provides the impetus for technological development.

The definition of sociotechnical imaginaries by Jasanoff and Kim cited in the introduction to this book is a description of a tiered and interlocking process of structure and agency. Taking inspiration from this, civil defence activities will be explored in this chapter as one crucial part of a useful ‘collectively held, institutionally stabilised and publicly performed vision of a desirable future’ that served to distort the reality of nuclear weapons as destructive and radioactive weapons of war. Crucially, this sociotechnical imaginary, animated as it was ‘by shared understandings of forms of social life and social order’ was *strengthened and made durable* once it became intertwined with localised contexts and, of course, individuals working within them (Jasanoff 2015a: 4). It is through this process of intertwining that we see how socially and politically acceptable knowledge of nuclear weapons was produced by civil defence leaders and volunteers at all levels of power, and then represented in British culture.⁸

This chapter examines how, at a regional level in 1950s Britain, a blend of nuclear sociotechnical imaginaries and localised context provided the rationale for civil defence exercises, parades and tournaments, and civil defence clubs: or, as Cronqvist (2015) has explored, these ritualised acts of civic duty. In the local and national press, the technology of nuclear

weapons appeared benign or hidden through their imaginary alignment with familiar, safe and reassuring activities and shared values. The nuclear sociotechnical imaginary does not emerge as a ‘static or tightly bounded belief system’, but elements of this imaginary proved ‘durable at the national level because [of] powerful instruments of meaning-making and goal-selecting [...] within the control of nation states’ (Jasanoff and Kim 2009: 123). This speaks to ‘embedding’, which is concerned with the institutionalisation of an imaginary whereby ‘the merely imagined is converted into the solidity of identities and the durability of routines and things’ (Jasanoff 2015b: 323; see also Introduction, this volume). Anything discursive, hyperbolic or fictive created on nuclear policy by government that *did not* talk about the realities of nuclear weapons as unthinkable destructive weapons of war was part of a useful sociotechnical imaginary.

‘NARRATIVE SCENARIOS’ OF NUCLEAR ATTACK: NORMALISING IMAGINARY WAR

In the 1950s, the North Western Region Civil Defence Group, like all civil defence groups in the UK, performed various exercises to improve coordination and organisation, with the additional purpose of creating publicity for civil defence efforts. These exercises included elaborate introductory ‘narratives’ for the participants that imagined how the war had come about, described the resulting bomb damage, and outlined the likely consequences of this. These imaginary scenarios were commonplace and served to ‘stabilise’ the idea of survivable and manageable nuclear attack, thus performing a vision of acceptable nuclear use and promoting the viability of nuclear deterrence. They also represented a strand of denialism—a denial of reality in order to push away a psychologically uncomfortable truth—where undesirable future situations could be marshalled, controlled and made orderly. If denialism seems extreme and unlikely, then the idea of nuclear survivability can be made sense of by remembering the direct links that civil defence personnel habitually made to their experiences of civil defence work during the Second World War to the Cold War context.⁹ In a short foreword to ‘Exercise Miller’, H. H. Schofield (Principle Officer, Home Office), said that ‘to those who, like himself, served in Civil Defence during the last war he felt he need not here dilate on the importance of emergency feeding

and improvisation'.¹⁰ For many civil defence personnel who felt rightfully proud of their wartime service, Cold War civil defence was both a replication and extension of previous experience and knowledge, where survival and recovery were the achievable ultimate aims in a time before unpredictable radiation hazards. By the mid-1950s, official histories of civil defence were published and circulated to commemorate and celebrate pre-nuclear work.¹¹

Many of the narrative scenarios deployed 'imagination' and 'reality' as active concepts to help frame or describe the exercises, and this language was echoed in local newspapers, demonstrating the construction and embedding of a stable sociotechnical imaginary that could be collectively understood. The scenarios tapped into the dramatic potential of the Cold War era, stressing the scale of nuclear devastation and the unthinkable catastrophe that could unfold. While these were, on the whole, sombre descriptions of the descent into World War Three, humour is occasionally detectable in the archival materials, suggesting some cynicism towards the Cold War situation more generally. In 1958, 'Exercise Joint Effort 2' was an exercise between eight different Joint, Civil and Military headquarters in the North-West region. The narrative begins in a familiar enough manner: 'The time is the winter of 196X [sic]', before turning to satire: 'The Eastern Bloc has achieved many further successes. For example two rhinoceros, bred in captivity, have just completed their millionth circuit of the earth in Sputnik 101'.¹²

More representative of the earnest approach to civil defence activities was the narrative scenario for 'Exercise Miller' in December 1952: '[I]t will be assumed that atomic bomb bursts have completely blocked both entrances of the Mersey Tunnel, severely damaged the underground railway station [...] many people are homeless'. A two-day conference was held in Birkenhead Town Hall on Merseyside, attended by around '80 local government, Home Office, Ministry of Food, Civil Defence and Women's Voluntary Service officials'.¹³ The conference discussed how to feed citizens in the event of an atomic attack and 'Exercise Miller' was run on the Wirral, which led to specific sites being earmarked as emergency feeding centres. The conference required an exercise in imagination because the scenario involved the destruction of vital infrastructure. This nightmare scenario was represented in local newspapers, with headlines such as 'If an Atomic Bomb Fell on Birkenhead' or 'If A-Bombs Landed Here' or 'If Atom Bomb Hit Tunnel' accompanying reports on the conference.¹⁴ This dramatic use of language sat

alongside reassuring reminders that civil defence work was effective and increasingly well organised by devoted leaders and volunteers, while being crucial to ensuring the safety of British citizens in the nuclear age. Public discourse around civil defence generated the familiar representation of dutiful citizens supplementing the work of the state, offering a humane and altruistic face to nascent deterrence ideology, and a rejection of Cold War anxiety. These discursive and social constructs helped embed the nuclear sociotechnical imaginary at a local level and helped establish the 'real' and the 'imaginary' as familiar Cold War tropes.

The general awareness of the need to publicly imagine future nuclear catastrophe or come to terms with the uniquely powerful and dangerous properties of nuclear weapons was placed alongside the reassurance that 'real' civil defence work could allay fear.¹⁵ Of course, this chapter argues that discursive construction of the 'real' was itself part of a social process that supported the sociotechnical imaginary of nuclear weapons. This preoccupation with both realism and imagination was explicit in civil defence exercises and their representation. For instance, a report on 'Exercise Wirral' in 1954 stated 'it was a difficult job to make an appreciation of what were to some extent imaginary incidents'.¹⁶ On 15 March 1958, the *Birkenhead News* reported on 'Exercise Edinburgh' where 'many fires were raging in the area of operations and the cries of the injured and trapped victims could be heard above the roar of the flames [...] consisting of cases of fractured spines, severe head injuries, fractured legs, whilst in a smashed-in cellar they found and rescued victims with fractures of the arm or legs as well as those suffering from concussion and severe shock'.¹⁷ This dramatic representation of the exercise was followed by reassurance to the reader about how well the highly trained civil defence personnel were able to deal with the situation. In a similar vein, but six years earlier, the *Birkenhead Advertiser* reported that as part of 'Exercise Morpeth' in 1952, 'for two hours nearly 500 volunteer firemen and Civil Defence workers, National Hospital Services Reserves and the W.V.S. dealt with imaginary incidents'.¹⁸ Of course these incidents, and the scenarios, were imaginary, but the responses were real, and readers were invited to admire the personnel who could solve problems and survive. This discursive context downplayed the potential devastation of nuclear weapons, contained fear and promoted deterrence: this supported and embedded key aspects of the nuclear sociotechnical imagery and was a consistent discursive feature throughout the 1950s.

Also representative was the narrative used for ‘Exercise Signal Fire’, a fallout exercise in 1960. The exercise followed the apocalyptic sounding large-scale exercise ‘Four Horsemen’ in 1959, which involved ‘Civil Defence Control, Signal, Scientific, Fire, Police, Hospital and Military Staff at Regional HQ and the Royal Observer Corps [...] grafted on a large-scale NATO air defence exercise’. The narrative for ‘Signal Fire’ was elaborate, detailing the context for worsening tensions between East and West, and then describing how the British public were being advised to ‘take reasonable steps to preserve family life and to remain in their own homes’. The narrative ends on a dramatic note: ‘Attack, if it comes, is expected to be from the east’. As the exercise unfolds, the report describes multiple ‘5-megaton’ nuclear weapon air bursts and ‘additional fallout hazard from bombs on the Continent and on the south of the United Kingdom’.¹⁹ It was assumed that people would evacuate to Cheshire from Liverpool through the Mersey tunnel. ‘Exercise Mermaid II’, held on 27 May 1962, offered a blander description: ‘[I]n the early hours of this morning widespread nuclear attacks have taken place on this country’.²⁰

The juxtaposition was constant throughout the early Cold War era—reassuring rhetoric and activities sat alongside actively imagining nuclear attack. This also characterised *representations* of civil defence, and this discursive context should be seen as an important aspect of the sociotechnical imaginary that was generated to support deterrence. For instance, the recruitment film *The Waking Point* (1951), screened in local cinemas throughout the 1950s, encapsulated this perfectly: nuclear fear was represented as an inevitable part of life, but joining civil defence—ideally as a citizen who conformed to the gendered behaviour and thinking appropriate to the Cold War era—was presented as an active way to counteract it (Hogg 2016: 81–82; Grant 2013: 11–12). This brief example shows how ideas and particular framings of real and imagined nuclear danger were appropriated for propaganda purposes in the name of nuclear deterrence.²¹ In the 1950s, fictional nuclear attack scenarios were a common feature in popular culture and the national and local press, which created an influential discursive context that informed the articulation of civil defence narrative scenarios.²²

Once the scene was set and exercises were completed, they were evaluated. ‘Exercise Miller’ was deemed a huge success because disparate groups within government had worked together effectively to plan how to provide food for a dispersed population. At its simplest, improvised ovens and campfires would be provided at large outdoor sites, a clear throwback

to Second World War-style organisation. The huge challenges involved, including predicting where (or advising how) people would congregate, ensuring secure and plentiful food supplies for a fixed period of time, loomed larger than considerations of radiation danger or acknowledging the possible chaos of a post-nuclear scenario. Press reports focused on the excellent levels of organisation and competence displayed by (predominantly male) government officials taking part in these imaginary scenarios. As with many civil defence exercises in the 1950s, the public representation of nuclear war was both dramatic and controllable.

The narrative scenarios used to frame civil defence and then the localised responses to civil defence exercises produced socially and politically acceptable knowledge of nuclear weapons, which both normalised a postwar nuclear 'peace' and reinforced aspects of the dominant sociotechnical imaginary. The promotion of imagined nuclear survivability as a possible future gave the impression that there were no insurmountable problems for civil defence volunteers and their leaders. Exercise narratives and the way the exercises were reported after the event assumed an orderliness and predictability, and the archival record holds few echoes of emotional responses, or the likelihood of human unpredictability.

CIVIC ENGAGEMENT AND SITES OF LEISURE

As part of the process of implementing nuclear civil defence strategy, various sites of leisure (such as social clubs) were created and activities (such as quizzes, motor rallies or regional tournaments) were introduced to promote participation, entrench membership and community belonging, and to generate positive publicity. Although small in scale, these practices fed into similar efforts on a national scale and promoted values that helped embed the nuclear sociotechnical imaginary (such as militarism and duty) through 'ritual' and spectacle (Kong and Yeoh 1997; MacDonald 2006). The materiality, social organisation and physical institutionalisation of civil defence on a local level promoted deterrence ideology by representing the nation's military nuclear technology project as peaceful and normal.

Matthew Grant has argued that civil defence 'from 1951 was represented as inclusive, providing associational opportunities and leisure satisfaction', but as the Cold War progressed 'the culture of civil defence, and the assumptions of political culture concerning its popular appeal, were increasingly divorced from the realities of British culture' (Grant

2011: 54, 60). In the 1950s however, ‘the core message of participation in national defence was adapted, stressing “patriotism” less and emphasizing that to serve in civil defence was to fight for peace and to protect the local community’ (Grant 2011: 54). Notions of participation and duty were central ideas to encourage and rework in the nuclear age. As Miss Hornsby-Smith said in her speech that concluded the North-West regional ‘Tourney’ in 1958: ‘Today you have given us a display of skill and techniques which has earned well-merited applause; but you have also the deeper satisfaction of performing a public service of the highest order.’²³ The results of the Tourney were sent to 42 local newspapers, demonstrating the public relations objectives of these tournaments. Serious effort went into organising regional civil defence tournaments, mainly because they were viewed as good publicity for civil defence initiatives: Hornsby-Smith argued that ‘we have got to “sell” civil defence’.²⁴ The tournaments comprised of exhibitions and demonstrations, as well as competitions between civil defence groups in the region.²⁵ On successful completion of the tournaments, congratulations from national leaders and dignitaries (such as the Duke of Gloucester in 1959) always followed, which suggests the level of prestige and importance attached to the success of these meetings, for both morale purposes and publicity.²⁶

Civil defence groups were an active part of communities, would attend commemorative events such as Remembrance Sunday, and take part in civic parades.²⁷ In a more durable social sense, a physical ‘Civil Defence Club’ was created in Birkenhead in 1956, offering an indication of the way in which civil defence practices and personnel became embedded into the fabric of everyday life in the North-West region. The archives hold plenty of detail on the plans to create a club that would allow volunteers and visiting civil defence personnel to enjoy the (then) overwhelmingly masculine pursuit of playing billiards, drinking at the bar, and trying out Home Office financed luxury wicker seats and tables.²⁸ These mundane developments gently interwove normative imaginaries around leisure pursuits with nuclear civil defence aims. As with the discursive context we saw in the previous section, these efforts socialised and normalised soft militarisation in the postwar era as part of the modernising project of nuclear deterrence. One example of how this militarisation became more visible was the use and representation of Cold War machinery. In 1955, a civil defence helicopter toured UK civil defence groups to demonstrate how radiation might be measured.²⁹ By exhibiting reassuring, new and virtuous technologies capable of controlling risk, and therefore containing

fear, the sight and sound of a helicopter overhead aided the normalisation of the peaceful nuclear weapons imaginary.

As part of the discursivity of 'embedding' ideas that supported civil defence socialisation, regional groups regularly received civil defence information and propaganda films from central government. The American documentary film, *Survival Town* (1955) was shown in cinemas, and was accompanied with civil defence promotional material.³⁰ An official civil defence circular received by the Birkenhead town clerk in 1956 described the effects of 'new weapons' and the importance of a new imaginary: 'an attack with new weapons [...] would be a struggle for survival of the grimmest kind'.³¹ In the same year the Mayor of Birkenhead and other local dignitaries received an invitation from Whitehall to view the premiere of the government produced film *The Hydrogen Bomb* (1956) at the Walker Art Gallery, Liverpool.³² The film begins with the slow, solemn beat of a drum, matched by the funereal and foreboding tone of the narrator. Warning the audience of 'this new horror' he reminds everyone that 'we must prepare ourselves, every one of us' and that if nuclear war happens, 'we must accept the fact that we shall all be in it'. Touching upon the shared cultural memory of the Second World War, the narrator states that, 'as was experienced in the last war', calls for help were never left unanswered. Presumably this national character would live on and defines the civil defence volunteers who are ready to help in the event of nuclear war. The point is reiterated: 'when peace returned to our islands, we had hardly taken stock of our resources when we were confronted with a new danger more frightful than ever before [...] gradually our minds began to accept this horror [...] are we to sit back complacently and say "bad luck Jack, I'm alright"'.³³ The weapons were presented as inevitable, but recast as manageable and passively defensive. Yet, the response of British citizens needed to be active: good character, duty and responsibility need to be demonstrated in the nuclear age. The initial introduction of fear as an understandable reaction to the thermonuclear era is systematically rejected. The familiar visual vocabulary of concentric circles, blast effects and ineffective citizens was used to promote civil defence aims.³⁴ These strategies and imaginaries were consistent: one film from the year before, *Civil Defence Shows Its Paces* (1955), claimed that 'enough of us can remember the real thing to hope that the far greater horror of nuclear war will never become a reality'.³⁵

With the advent of the H bomb, central government advised that 'officers must think about vast areas of damage, and in terms of homeless

amounting to hundreds of thousands [...] the accent must be on planning in the future and not upon training as in the past [...] all future planning must be based upon dispersal, mobility and maintenance of communications'.³⁶ Additionally, *The Hydrogen Bomb* (1957), a government produced civil defence pamphlet, reinforced the importance of public acceptance of deterrence and argued that dissent 'might have serious, or even fatal, consequences'.³⁷

Leaders in the region were being encouraged by national government to coordinate new types of civic engagement and information dissemination in the nuclear age. The communal viewing of *The Hydrogen Bomb* in the grand setting of the Walker Art Gallery is a good example of how the sociotechnical imaginary of nuclear weapons became embedded in this localised social context. The use of existing sites of leisure and culture was subtly transformed for Cold War purposes, and new permanent sites were created. The intertwining social context and physical enactment on the local level were enabled and made durable through assumptions that were reiterated through communication with national leadership, and also echoed in the national press. After exploring sites of leisure, civic engagement and associated propaganda, we can conclude that civil defence personnel were simultaneously producing their own collective civic identity and embedding the nuclear sociotechnical imaginary in society.

IMAGINATIVE GEOGRAPHIES

The final way in which we might unpack the nuclear sociotechnical imaginary as 'imaginative infrastructure' is to examine the localised geographical context of civil defence work on the Wirral peninsula. I argue that imaginative geographies helped create the illusion of safety, control and predictability in local civil defence planning, and also particular representations of airspace promoted deterrence ideology and the development of military nuclear technology as national virtues.

The exercise scenarios analysed earlier often deployed, and depended upon, an imagined nuclear geography. In 'Exercise Miller', references to geographical context shaped the imagined scenario and the exercise that followed in important ways. Mr. Pugsley, the Regional Food Officer stated that 'because of its geography, Wirral had its own particular problems that had to be faced', with particular reference to the likely

destruction or blockage of the Mersey tunnel, and the fact that the population would be surrounded by water on three sides.³⁸ Yet, the materiality of the Wirral peninsula apparently made the movement of people more predictable in the event of nuclear war. It was assumed that tens of thousands of people from Birkenhead and Wallasey on the banks of the Mersey would move west into 'open country' or parkland. People would most likely eventually travel south-west towards the more 'remote' region of North Wales, deemed safer due to the lack of industrial targets. The focus of civil defence planners was on containing and controlling large groups of people in open spaces where possible 'who might otherwise restrict movement of incoming forces who are known to be on their way'.³⁹ Interestingly, there is no discussion of northward evacuation by boat or ship, which would doubtless be an instinctive move by a proportion of the population of Merseyside with seafaring ability and knowledge, but an obvious potential flashpoint of disorder if masses of people attempted to board boats destined for the open sea, The Isle of Man or Ireland. Nowhere is the likely scenario discussed that burn victims might look to the treacherous tidal waters of River Mersey for relief, or that, with good knowledge of the tide, it is possible to walk and swim to North Wales via the River Dee on the west side of the Wirral peninsula. Knowledge of the sea could prove an invaluable skill in a post-apocalyptic world. Of course, these are my own speculative attempts to create imaginary geographies of unpredictable post-nuclear reality. The archival record reflects a more rigid control of the parameters of nuclear emergency.

Perhaps the geography of the peninsula offered planners a degree of overconfidence in predicting how people would react in the event of atomic war, when in actual fact peninsula geography could lead to especially unpredictable and perilous patterns of behaviour in the days and weeks after a nuclear strike. The imaginative geographies in the archive are limited in scope and of course reflect the desire to achieve the practical aims of the exercises. Yet, these assumptions about nuclear emergency reflect confidence in survivability and necessarily downplay nuclear harm. In this sense, it was clearly important to control the fictive elements of civil defence work and thus define the imaginative boundaries for civil defence personnel.

Following Edward Said's formulation of the concept (Said 1978), Matthew Farish describes imaginative geographies as 'influential presentations of the world and its contours that are made possible by particular forms of knowledge about that world. However propagandistic or

fantastic they might seem [they] are only fictional in the sense that they have been fabricated. With sufficient circulation, or attendance, they could alter attitudes or policies' (Farish 2010: xii). In a similar style to the concept of sociotechnical imaginaries, these constructs have the potential to be powerful social agents. The creation of imaginative geographies in civil defence work activated reassuring and non-problematic spaces, therefore playing a role in embedding the three elements of the nuclear sociotechnical imaginary introduced in this chapter.

As we saw in 'Exercise Morpeth', jet planes were a new feature in British skies in the postwar era. As well as a potentially dangerous physical space containing jets, missiles, nuclear weapons and military personnel, Cold War airspace was represented as a space of vulnerability (Hogg 2016). Yet, particular representations of airspace were crucial to the promotion of deterrence ideology and the development of military nuclear technology as a 'safe' national virtue. Representations of new nuclear 'V-bombers' in the national press, Pathé newsreels and popular science magazines contributed to the soft propaganda surrounding Cold War militarisation.⁴⁰ The increasing popularity of airshows, those jingoistic jamborees of the nuclear age, reflected people's fascination with ultra-modern aircraft like the Avro Vulcan. These futuristic machines effortlessly reflected British engineering ingenuity, and their public appearances served to promote and normalise the militarised deterrence posture that was increasingly dependent on the complete control of airspace.⁴¹ This element of the sociotechnical imaginary was useful in counteracting discourses of nuclear threat and fear, influenced perceptions of nuclear danger, and was capable of contributing to a positive Cold War spectacle.

Conceptions of airspace proved to be a powerful part of the reorganisation of the relationship between citizens and state that the Cold War entailed. In the Cold War era, an unusually high percentage of land in the UK (1.5%) was eventually assigned to all military practices in the Cold War (Williams 2011; Flinham 2010). As jet and missile technologies developed, the British nuclear state needed to inhabit, police and regulate airspace. Thus huge defensive installations (such as Fylingdales) were developed to detect incoming airborne threats alongside the aggressive machinery created to 'preserve peace' (Edgerton 2013). David Edgerton argues that a myth of 'niceness and decency', with its roots in the nineteenth century, meant that the UK did not foster a tradition of 'serious

analysis or critique of technology', so the scale and persistence of the 'warfare state' became more-or-less invisible in the postwar era. Defined and policed airspace had become a normal method of territorial control by the end of the Second World War. Concentrating on military practices, Flintham views airspace as 'partly organized around the vulnerabilities of the human civilian body' (Flintham 2010: 14). Airspace is defined by varieties of control, where the space 'project[s] its many lethal forms across the landscape and into the skies and fashion[s] the most convoluted structures to protect and deliberately restrict the movements of a civilian community' (Flintham 2010: 14). So, airspace can be a vital controlling mechanism as well as a vulnerable space.

Cold War airspace was the space through which missiles or jet planes would travel and find their targets and where radioactive fallout could travel unpredictably on the wind. In March 1958 Exercise Edinburgh was carried out in Merseyside, and its success was proclaimed in *Birkenhead News* with the headline "A" Bomb Exercise was Staged in Birkenhead. The main report said, 'an imaginary "Inter Continental Ballistic Missile" landed on Merseyside at 8.30 a.m. last Sunday, bring[ing] the elements of nuclear warfare to the Birkenhead area where "damage" ranged from total destruction in some quarters to only slight damage in others'. The newspaper extended the illusion of attack and included gruesome details of imagined injuries. Yet, the official exercise narrative included the sentence 'no problem of fallout is set in this exercise', and there was no mention of radiation to the readership of the local press beyond the mention of 'A-bomb' in the headline. The public were reminded once again of the imaginary potential of nuclear attack from the sky, but not the radiological after-effects of nuclear weapons.⁴² This again demonstrates that when exercises were made manageable in practical terms, the dangers of nuclear war were routinely compartmentalised and sanitised to accommodate the fictive sociotechnical imaginary. These spatialised imaginaries once again reveal how the limits placed on the Cold War imagination aided the promotion of particular ideas and attitudes.⁴³ As Matthew Farish suggests of the Cold War:

[A]t no other juncture in history had global, regional, continental, and urban spaces been wrapped into a single "regime of truth" that delineated the parameters of reliable knowledge in the antagonistic and divisive terms of national strategy and in turn defined strategic knowledge literally along specific geographic lines. (Farish 2010: xvii, xiii)

Nuclear sociotechnical imaginaries not only transformed how British citizens understood urban and regional space, but also functioned to control those spaces.

CONCLUSION

This chapter has explored civil defence culture from the perspective of the regional leadership tasked with implementing national policy. Faced with the unthinkable consequences of nuclear attack, regional civil defence leaders interpreted the exercises they were tasked with through the lens of their social and geographical context and the limited horizons of the official nuclear imagination.

Seen in the light of normative assumptions about the danger of nuclear war, the narrative scenarios that accompanied the civil defence exercises can appear uncreative and repetitive and can conform to the limitations imposed by the processes of the nuclear sociotechnical imaginary. The scenarios reinforced existing Cold War imaginaries (control, predictability, permanence of the bomb) through controlling the fictive elements of the exercises, meaning that imagined disaster conformed to a normalised and sanitised vision of nuclear war. Thus, the sociotechnical imaginary, at least through the way civil defence exercises were conceived, remained discursively familiar and predictable.

Although beyond the scope of this chapter, international Cold War research suggests that we can detect similarities in how imaginaries translated into civil defence practice in different national contexts. Observations in recent research on 1950s Denmark (Farbøl 2020) suggest that parallels might be drawn when looking at how national policy was translated to localised contexts, particularly when looking at how civil defence leadership attempted to achieve the impression of realism during exercises. It is hoped that this chapter has offered one way to conceptualise the local–national–international analytical frame in relation to sociotechnical imaginaries.

The chapter also suggested that powerful discourse reinforced the sociotechnical imaginary, implying that individuals would gravitate towards supporting these imaginaries. It is necessary, though, to remind ourselves that civil defence personnel would have had a variety of feelings and attitudes towards their Cold War roles. As Douthwaite states:

[T]he environments in which civil defence recruits embarked on training were mixed and contested in meaning and purpose. Recruits were obliged to understand and engage with several different nuclear experiences at once by training to protect the public in a real nuclear attack, enacting their symbolic roles in deterrence strategy, and navigating multiplying and contradictory narratives of deterrence policy and nuclear vulnerability in the public sphere. (Douthwaite 2018: 180)

When discussing discourse or sociotechnical imaginaries, ignoring individual agency is a danger. Although this chapter has not focused much on the agency of civil defence personnel, it is hoped that it has offered some ideas on how we might historicise the structural role and function of imaginaries.

We know that the key aspects of the sociotechnical imaginaries described here came under increased scrutiny as the 1950s progressed, not only by anti-nuclear activists but also by regional leaders tasked with implementing civil defence policy as well (Barnett 2015). While this chapter has historicised the influence that imaginaries had, it has also highlighted some of the fragile and contradictory social elements at play at the local level which would be lost with a sole focus on the national picture.⁴⁴

Reflecting one last time on the work of Sheila Jasanoff and Sang-Hyun Kim, in this chapter I have attempted to show that the nuclear sociotechnical imaginary that emerged around civil defence in the UK in the 1950s did ‘describe attainable futures and prescribe[d] futures that states believe ought to be attained’ (Jasanoff and Kim 2009: 120). The case studies at the heart of my analysis suggest that imaginaries ‘and the policies built upon them, ha[d] the power to influence technological design, channel public expenditures, and justify the inclusion or exclusion of citizens with respect to the benefits of technological progress’ (Jasanoff and Kim 2009: 120). Ideas, imaginaries and illusions perpetuated the nuclear state and allowed deterrence ideology to remain legitimate, because ‘in activating collective consciousness, imaginaries help[ed] create the political will or public resolve to attain them’ (Jasanoff and Kim 2009: 123). What was attained in real terms (the desirable utopian future) was the continued existence of nuclear weapons and all the institutional, scientific and technological apparatus that is required to enable and contain this. A detailed examination of the localised social, discursive and geographical contexts within which civil defence activism occurred has allowed this chapter to identify and understand the ways in which these nuclear sociotechnical

imaginaries became embedded in British life. Perhaps it is the improvised oven used in the atomic age as part of ‘Exercise Miller’ where we see ‘imagination, objects and social norms – including accepted modes of public reasoning and new technological regimes – becom[ing] fused in practice’ (Jasanoff 2015b: 322).

NOTES

1. ‘Jets Made Biggest Dock Raid Since the War’, *Birkenhead News* 9 April 1952.
2. Wirral Archives (WA) B/165/13 Birkenhead Fire Brigade: Exercise Morpeth, March/April 1952.
3. A historiographical discussion follows, but the layered definition of ‘sociotechnical imaginary’ outlined in Jasanoff (2015b) has inspired the approach taken in this chapter.
4. The discursive context is particularly important in helping us to understand how and why ideas about nuclear weapons were generated, discussed and reinforced on a daily basis. ‘Discursive’, in the context of this chapter, is understood as the set of practices that enable public dissemination of discourse surrounding nuclear weapons. This suggests a relationship between the public expression of knowledge (through discursive constructions) and power (the ability to sustain nuclear weapons deployment). Clearly, this formulation follows Michel Foucault’s concept of discourse and the ‘discursive field’ first described in his 1970 lecture ‘The Order of Discourse’ (Young 1981) and widely adopted by scholars in the last few decades. I hope to show how discursive practices were central to the creation of a powerful sociotechnical imaginary of nuclear weapons.
5. This blurring of the lines between nuclear and conventional civil defence was clearly a transnational phenomenon: see Farbøl (Chapter 7), Molitor (Chapter 3), and Bennesved and Sylvest (Chapter 5) in this volume.
6. See Chapter 4 in Campbell (1983) for Civil Defence Corps recruitment numbers. Estimates replicated elsewhere are 300,000 + by late 1953, rising to 375,000 + by 1963, not including at least another 200,000 members in other Civil Defence organisations.
7. See the chapter by Bennesved and Sylvest (Chapter 5) in this volume.

8. See also the chapter by Cronqvist and Grant (Chapter 9) in this volume.
9. See also the chapter by Cronqvist and Grant (Chapter 9) in this volume.
10. WA B/165/6/3 Home Office—Ministry of Food: North Western Region: Exercise Miller: Civil Defence—Emergency Feeding, December 1952, 1.
11. Institutional memory of wartime service was generated and then linked to civil defence efforts in the 1950s. An official history, *Civil Defence* by T. H. O'Brien, published by HMSO as part of their series of 'Civil Histories of the Second World War' was circulated to regional civil defence leadership in 1955. Regional leaders were encouraged to bring the publication to the attention of members and officials in the local authority. WA B/165/9/1 Letter from Director of Publications, HMSO to Birkenhead Town Clerk, November 1955.
12. WA B/165/13 Exercise Joint Effort II: Narrative, 1958.
13. WA B/165/6/3 *Birkenhead Advertiser*, 17 December 1952.
14. WA B/165/6/3 Civil Defence: Food Ministry Emergency Feeding Exercises, 1952.
15. See also Björnsson (Chapter 2) in this volume on the reassuring nature of action.
16. WA B/165/13 Experimental Mobile Column: Exercise Wirral: Report of Post-exercise conference, 1954.
17. *Birkenhead News*, 15 March 1958.
18. *Birkenhead Advertiser*, 9 April 1952.
19. WA B/165/14/1 North Western Region report on Exercise 'Signal Fire', 9 and 10 April 1960.
20. WA B/165/17/1 Exercise 'Mermaid II', 27 May 1962.
21. See Grant (2010) and Hogg (2016) for discussion of such material.
22. The genealogy of journalistic use of fictional scenarios would benefit from sustained collation and analysis. There is certainly a case to be made for a consistent set of assumptions across time about the knowledge base of the 'ideal reader', which led to certain aspects of an attack scenario and its consequences not being explained in detail.
23. WA B/165/13/3 Miss Hornsby-Smith's Speech at the North-Western Regional Tourney, 7 June 1958.

24. WA B/165/13/3 Miss Hornsby-Smith's Speech at the North-Western Regional Tourney, 7 June 1958.
25. WA B/165/13/1 shows the significant organisational effort that went into these events.
26. WA B/165/13/3 Letter from Lieutenant General E. N. Goddard to P. Heath, Town Clerk, 15 July 1959.
27. WA B/165/9 Remembrance Sunday Ceremony in London, 10 November 1957.
28. WA B/165/9 Civil Defence and Civic Club Inventory, June 1957.
29. *The Northern Whig and Belfast Post*, 15 September 1955: 5.
30. WA B165/9/1 Letter from the Regional Director of Civil Defence to the Town Clerk of Birkenhead, 27 October 1955.
31. WA B165/9/1 Home Office, Civil Defence Circular No. 28/1956, 27 September 1956.
32. WA B165/9/1 Letter from the Mayor of Birkenhead to Birkenhead Town Clerk, 15 June 1956.
33. WA B165/9/1 'The H-Bomb: Film Commentary As Recorded' contained with correspondence dated 5 June 1956.
34. See Bennessed and Sylvest (Chapter 5) in this volume for more on the obfuscation of the political nature of nuclear war or how the nature of nuclear war was underspecified more generally.
35. Her Majesty's Stationery Office (HMSO), *Civil Defence Shows Its Paces* (1955).
36. WA B165/9/1 Notes taken at a meeting of the heads of civil defence services, 21 February 1957.
37. HMSO, *The Hydrogen Bomb* (UK: HMSO, 1957), 22.
38. WA B/165/6/3 'They Plan Feeding For 400,000 If A-Bomb Drops Here', *Birkenhead Advertiser*, 17 December 1952.
39. WA B/165/6/3 Home Office – Ministry of Food: North Western Region: Exercise Miller: Civil Defence—Emergency Feeding, December 1952: 46.
40. *Air News: The Vulcan* (1953). Available at <https://www.britishpathe.com/video/air-news-the-vulcan/query/VULCANS> [accessed 15 March 2021].
41. On 'machine dreams' see Fritzsche (1992), and for the broader political cultures of the air, see Adey (2010).
42. *Birkenhead News* 15 March 1958; WA 165/17/7 Exercise Edinburgh 'Narrative', 1958.

43. This was also echoed in national discourse, strengthening links between local and national assumptions over nuclear danger (Hogg 2016).
44. See also Cronqvist and Grant (Chapter 9) in this volume on the notion of ‘fuzziness’ in relation to sociotechnical imaginaries.

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