cultural geographies 2003 10: 125–148

Disaster and decentralization: American cities and the Cold War

Matthew Farish

Department of Geography, University of British Columbia

The atomic bombing of Hiroshima and Nagasaki also ushered in an era of anxious urbanism in the USA. Despite its status as the inheritor of European modernism, the champion of capitalism and the centre of a rapidly globalizing popular culture, America still struggled with the contradictory results of urbanization and military supremacy. In this essay, I bring political and urban geography together in a study of American cities and their role as strategic environments in the developing geopolitical conflict of the Cold War. New technologies such as the atomic bomb prompted a diverse wave of lurid disaster scenarios, as well as subsequent scientific attempts to contain, control and reduce risk and danger. Whether considered or far-fetched, these schemes were profoundly geographical, and borrowed much from the logic of postwar social science. In subtle yet pervasive ways they contributed to the prominent discourses of urban decline and suburbanization, and thus to the changing material fabric of postwar American cities.

Introduction: beyond containment

> The atomic bomb has raised, in fact, the question of the survival of urban culture itself. (Winfield W. Riefler, Chairman, Committee on Social Aspects of Atomic Energy, Social Science Research Council, 1947)[1]

The geopolitical term most frequently associated with the Cold War period is 'containment' – a word linked irrevocably to George Kennan's briefly anonymous 1947 *Foreign affairs* article, 'The sources of Soviet conduct'.[2] According to proponents of critical geopolitical analysis, Kennan's description of the Soviet Union as a fanatical expansionist force was perfectly suited – whether Kennan agreed or not – to the binary, anti-geographical logic of American Cold War foreign policy. Within such a system, spatial categories were useful only as delineations of the territorial boundaries that marked the complete division between a primary, positive domestic space and a secondary, negative outside.[3] Of course, the two spheres were not so easily separated. As Homi Bhabha has argued in a discussion of colonialism and nationalism,

> paranoid projections 'outwards' return to haunt and split the place from which they are made. . . It is in this space of liminality, in the 'unbearable ordeal of the collapse of certainty', that we encounter once again the narcissistic neuroses of the national discourse.[4]

© 2003 Arnold 10.1191/1474474003eu267oa

Neither Bhabha nor the revisionist analysts of Kennan's dogma, however, elaborate on the internal manifestations of the 'splitting' caused by the doubling-back of paranoid political projections – on the *return* of containment to haunt a second, domestic space. In an influential essay on Cold War intellectuals, Andrew Ross notes the appropriate distinction:

> The first [conception of containment] speaks to a threat *outside* of the social body, a threat that therefore has to be excluded, or isolated in quarantine, and kept at bay from the domestic body. The second meaning of containment, which speaks to the domestic *contents* of the social body, concerns a threat internal to the host which must then be neutralized by being fully absorbed and thereby neutralized.[5]

Ross's use of the language of immunology is a deliberate reference to what he calls 'the Cold War culture of germophobia', nicely epitomized by Kennan's description of world communism as a 'malignant parasite' threatening the reproductive body spaces of the (feminized) American state and its allies.[6] Containment, therefore, was at once a foreign policy and a narrative of the nation. This symbiotic role was reinforced by Kennan's closing words in 'The sources of Soviet conduct', where he placed the burden of Cold War moral responsibility upon the American population.

Kennan's imagined national culture, however, was not a homogeneous one. In his 1946 'Long telegram', the emergent American security state was articulated through a marking of groups most susceptible to communist infiltration, including 'labor unions, youth leagues, women's organizations, racial societies, religious societies, social organizations, cultural groups, liberal magazines, publishing houses, etc.'.[7] These comments, of course, anticipated the imposition of Cold War surveillance programmes and the proliferation of hysteric discourses that reached to the very psyche in attempts to resolve doubt over who was real (American) and who was not, a predicament nicely depicted – using themes of replication or simulation – in science fiction films such as *Invaders from Mars* (1953) and *Invasion of the body snatchers* (1956).[8] The marking of certain groups as un-American suggested not only that they represented a direct internal threat to the national body, but also that they could be geographically contained, placed *against* and *outside of* a patriotic 'heartland geography'.[9] Incorporating a remarkable range of identity categories, the articulation of distinction within the boundaries of the state was thus shaped in reference to specific *sites*.

The atomic bomb, according to the strategist Bernard Brodie, radically altered the 'significance of distance between rival powers', raising 'to the first order of importance as a factor of power the precise spatial arrangement of industry and population within each country'.[10] While Brodie's arguments date to the period of an American atomic monopoly, they suggestively anticipated the inevitable arrival of a Soviet challenge. His comments also indicate that the risk society symbolically inaugurated by the bomb – 'a monster of our own creation', one *Collier's* piece dubbed it – possessed geographies.[11] Although the rationality of building and deploying nuclear weapons was immediately, reflexively challenged by some scientific 'experts', these same writers, as well as others who supported American bomb production, clearly inscribed a spatial hierarchy of risk on the American landscape.

This essay explores such geographies of risk by addressing the *anxious* urban imaginaries stimulated by the Cold War and its defining technological symbol, the atomic bomb. Beginning with an examination of the distinction scripted between declining central cities and emerging suburbs after the Second World War, I argue that this division produced not only a weighted geography of panic control and spatial containment but also more thorough proposals to alter radically the material and social fabric of cities in advance of atomic attack. Statements laden with anxiety were thus followed and tempered by equally profound expressions of revised and improved urban order.

W.H. Auden's 'baroque eclogue', *The age of anxiety* (1947), fixed the United States as the inheritor of European modernism and its troubling contradictions; on another occasion Auden referred to America as a 'fully alienated land'.[12] Such claims were not unique – nor were they entirely abstract. Musings on American cultural destiny were invariably linked to a developing, singular Cold War antagonism and its domestic geographies. A long-standing modernist ambivalence towards urban spaces was thus coupled, in some cases quite smoothly, with the specificities of American Cold War culture. While inspired by the voluminous bodies of work on postwar urbanism and geopolitics, I am interested in moving between and beyond this literature to consider cities as 'strategic' cultural and political spaces. Transgressing the inside/outside divides of both urban studies and international relations produces a reading of 'anxious urbanism' that is sufficiently wide-ranging and weighted. To facilitate this goal, I need to travel across an array of seemingly divergent registers and *partially* avoid individual urban contexts; but it should be quickly apparent that these are two generalizations well suited to the discourses discussed.

One of the great ironies of the postwar United States, as Robert Beauregard has observed, is that its prosperity failed to extend to many of its great urban centres. The portent of geopolitical conflict was simply one of numerous factors urging an unprecedented abandonment of central cities by manufacturers, corporations and populations dominated by the white middle class. Beauregard argues that atomic fear was, ultimately, a 'minor' factor in the process of decentralization.[13] To be sure, no massive state-led campaigns for urban restructuring were mobilized solely in the name of Cold War safety; as many writers of the time were quick to argue, such initiatives would not have suited a time-hardened mythology of American freedom and individualism, especially during a period of increasingly virulent anti-communism.

However, the apparent absence of 'material' changes wrought by decentralization discourses is not an excuse to dismiss the debates surrounding cities and 'the bomb' in this period, particularly given Beauregard's focus on representation. It was not simply that there were immediate precedents – in Hiroshima and Nagasaki – for a discussion of urban disaster. American cities, as I will show, were sites not only for the geographic articulation of difference but also for an unprecedented imposition of science and rationality onto urban spaces. For an array of Cold War commentators, 'the city' became a 'laboratory of conduct' subject to a spatialization of risk and virtue that spiralled from the subtle and pervasive governmentality of popular journalism and social science to more explicit plans for urban change and design.[14]

City/suburb

Within Cold War divisions of domestic space, no contrast was more explicit than that between city and suburb – a discrepancy powerfully expressed by George Kennan himself. As the civil defence historian Guy Oakes has documented, Kennan's 1950 train journey from Washington to Mexico City convinced the conservative diplomat that the American metropolis, regardless of regional variation, was a place of corruption and iniquity. As his train passed through an anonymous urban landscape during a 'sinister dawn', Kennan noted the 'desolation of factories and cinder-yards' and the 'mute slabs' of skyscrapers. Later, he observed 'the grotesque decay' of the St Louis waterfront – a series of blighted, 'indecent skeletons' occupied only by seedy-looking men.[15] Such language was strikingly similar to that used by W.R. Burnett in his classic 1949 noir novel *The asphalt jungle* – made into an equally memorable film one year later by John Huston. Both the film and the novel envision 'acres of hard cement' and the hard individuals – mostly men – who inhabit them, a 'monstrous, sprawling immensity', that demands death as the price of escape.[16] While extreme, then, Kennan's sentiments were not significantly different from those of a wide range of commentators, including urban luminaries such as Lewis Mumford. Collectively, these authors concluded that postwar cities were declining sites of 'social and technological alienation…ringed by expanding centerless suburbs'.[17]

For Kennan, the antithesis of the degraded city was the small, independent farm; but by 1950 this image, like his affection for nineteenth-century diplomatic history, was an anachronism, replaced by the high modernist pastoralism of the postwar suburbs – peripheral, expansive and architecturally, racially and (largely) economically homogeneous. It was these suburban 'citadels' that infiltrated the discourse of Cold War geopolitics: they were the quintessential sites of American life, the spaces where history was being actively rewritten. Suburbs embodied order, safety and a deeply gendered consumerism that 'became as solid a pillar of the United States version of cold war culture as did its remasculinized military'.[18] It was no coincidence, then, that when Soviet premier Nikita Khrushchev proposed a visit to the United States in 1959, President Dwight D. Eisenhower suggested a trip to the paradigmatic suburb, Levittown, whose builder, William Levitt, had remarked upon completion of his creation in 1947: 'no man who owns his own house and lot can be a Communist . . . he has too much to do.'[19]

As part of the 'intricate national discussion' on city life after the Second World War, Kennan's diagnosis of urban vice echoed a familiar, much older anti-city refrain, but it also acquired additional potency with the invention of the atomic bomb and postwar geopolitical uncertainty.[20] The clearest explication of this development came, in September 1949, from none other than the young Baptist evangelist Billy Graham, speaking two days after President Truman publicly announced the first Soviet atomic test:

> Do you know the area that is marked out for the enemy's first bomb? New York! Secondly, Chicago; and thirdly, the city of Los Angeles! We don't know how soon, but we do know this, that right now the grace of God can still save a poor lost sinner.[21]

Salvation, for some families, meant moving – as Washington, DC realtors advertised – 'beyond the radiation zone' (Figure 1) to the suburban developments that were, according to the sociologist William Whyte Jr, becoming 'the norm of American

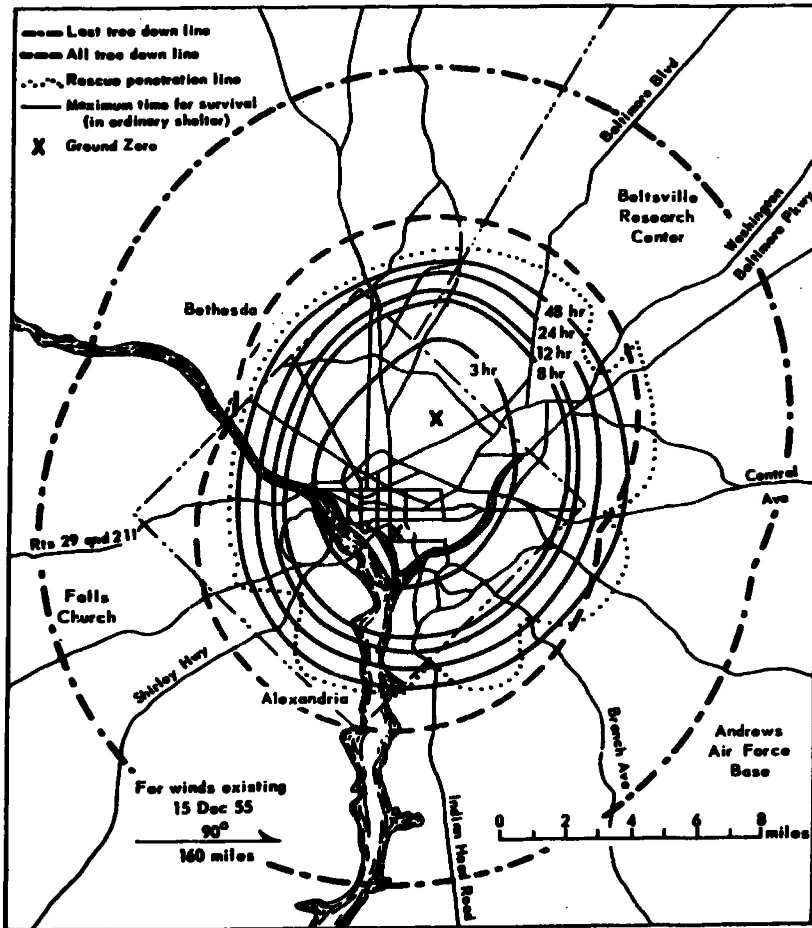

FIGURE 1 'Effect of two high-yield weapons on evacuation of Washington', from Richard Bentz *et al.*, *Some civil defence problems in the nation's capital following widespread thermonuclear attack* (Baltimore, Operations Research Office, Johns Hopkins University, Nov. 1956).

aspiration'.[22] In the introduction to the 1958 collection *The exploding metropolis* – a 'book by people who like cities' – Whyte wrote that the American city was 'becoming a place of extremes – a place for the very poor, or the very rich, or the slightly odd'.[23]

Of course, central cities were not wholly abandoned, and those who remained behind, in addition to new migrants who either chose to or were forced to settle close to traditional downtowns, were responsible for what in hindsight appear to be some of the defining cultural achievements of the 1940s and 1950s. Abstract expressionist art, bebop, black 'protest' literature and the Beat movement were all urban productions – and, in a different register, so was film noir. At mid-century, however, few of these movements occupied the peaks of American culture. The most successful, abstract expressionism, had been depoliticized and decontextualized – rooted not in urban landscapes but in a

detached, masculinist primitivism.[24] Moreover, the diverse films belatedly classified as noir included many that were, as Norman Klein puts it, 'delusional journeys into panic and conservative white flight'. Just as the city mysteries of Poe, Balzac and other largely forgotten sensationalist authors of a century earlier 'registered the dreaded rise of the metropolis, film noir registered its decline, accomplishing a demonization and an estrangement from its landscape in advance of its actual abandonment'.[25] It was precisely this quest for racial and social distinction that led one *Saturday Evening Post* writer to compare the 'human tides . . . flowing out of the cities' to the 'dark tides' that replaced them. 'Decay and race', Beauregard argues, 'were thrown together in a discursive unity.'[26]

Well-suited, then, to the urban investigations of noir protagonists, shadowy, labyrinthine inner cities – long the object of moral discourse and debate – fitted smoothly into the detective-like rhetoric of postwar anti-communism. For Senator Joseph McCarthy, a typical public housing project was 'a breeding ground for Communists'.[27] New arrivals to the country were of particular concern to McCarthy and others. Not only were the political sentiments of immigrants in question, but their habit of settling in cities, according to the respected *New York Times* military correspondent Hanson Baldwin, would increase panic, plague and urban vulnerability immeasurably, particularly because many of them were 'depressed and ill'. Unrest initiated in such 'focal points of infection', Baldwin went on to argue, would be difficult to contain: 'hordes of the foreign-born, speaking no English, strangers in their own cities' constituted 'a danger to themselves and to all their city neighbors'.[28] Writing in the *American journal of sociology*, William Ogborn posed a solution to this problem: 'whenever a slum area in a city is cleared, no new buildings [should] be constructed there.'[29] Peter Conrad has noted that after Hiroshima, the American city became 'the choicest place for the destruction of the new bombs because, like those bombs, [it was] the product of energy in destructive excess'.[30]

As numerous histories of Cold War culture have detailed, it was the suburban nuclear family that quickly became the locus of normality – and thus of the burgeoning civil defence programme. Kristina Zarlengo, for instance, argues that a technological sexism produced through the 'transcendent signifier' of the bomb encouraged suburban women in particular 'to imagine themselves as warriors in training', an important component of the Cold War 'civic garrison'. The comforting base of the family was paralleled, at larger scales, by urban and national imaginaries. All three levels were linked by similar ideals of safety, sovereignty and fortification. More importantly, however, these 'nesting' scales were universalizing constructions, insensitive to the complexities of American life.[31] The shelter and evacuation programmes of the Truman and Eisenhower administrations, for instance, were predicated on a middle-class ideal of home and automobile ownership, which encompassed approximately 60 per cent of the American population during the 1950s.[32]

A 1951 article in the *Journal of social hygiene* warned that, without appropriate awareness and vigilance,

> families would become separated about the consequences of a first strike: normal family and community life would be broken down . . . there would develop among many people, especially youths . . . the reckless psychological state often seen following great disasters . . . moral standards would relax and promiscuity would increase.[33]

A general lack of preparation and awareness was not the only potential cause of such social disorganization, and Zarlengo is exaggerating when she argues (following Elaine Tyler May) that suburban women and female sexuality represented the most serious threat to national order. There were other peoples and places that provoked equal, if not greater, levels of concern from the organs of the security state.

Managing panic

The anxieties evoked by such complex typologies as film noir, of course, cannot be reduced solely to the atomic bomb. The postwar climate was responsible for 'feeding, not breeding' the landscapes of fear, violence and misogyny already present in noir progenitors such as prewar hardboiled fiction and tabloid street photography.[34] Yet both Jean-Paul Sartre's oft-quoted description of Manhattan as 'the great American desert' and Albert Camus's noir vision of New York as 'a prodigious funeral pyre at midnight' seemed to take on additional valence after Hiroshima and Nagasaki, when the fallen American city became a common media image, and even more so after the first Soviet atomic test in 1949.[35] As Paul Boyer has documented, journalists, science fiction authors, religious leaders and concerned scientists all rapidly 'transmuted the devastation of Hiroshima into visions of American cities in smoldering ruins', inscribing concentric circles of destruction over various urban topographies (see Figure 1).[36] 'The clustered buildings and congested areas of our great cities', Hanson Baldwin wrote, 'are natural "area" targets of immense vulnerability for all the mass killers of the age'; while the atomic scientist and hydrogen bomb proponent Edward Teller described them as 'deathtraps'. Even more explicitly, the 'radial' plan or model was likened to 'the traditional target in rifle practice'.[37]

Virtually all of these imaginative damage maps were centred precisely on the urban core – an extraordinary assumption, given the admitted inaccuracy of such bombing exercises, but also a strategic decision that created zonal models with profound structural and moral repercussions. Whether cities were *primary* targets was not the issue; not only would such discussions potentially reduce interest in civil defence, but the simple fact was that there was no set understanding of when an attack would come, and where it would occur. This uncertainty resulted in geographies of risk whose gradients, delimited by an overlapping concatenation of multiple 'indicators', were actually shifting constantly, threatening to spill or shift into adjoining districts.[38] As I outline below, such ambiguity bolstered calls for the spatial *independence* of new communities from urban centres – familiar demands bolstered by the 'truths' of various novel technologies.

Scholars such as M. Christine Boyer and Edward Dimendberg have noted that noir's classic period corresponded precisely with a time of acute urban transformations in the United States. That noir cities were suitable to the atomic age was a link exploited by the popular media. Reporting on a 1949 Atomic Energy Commission study of the bomb's potential effects on the city of Washington, *Time*, borrowing from a contemporaneous noir 'documentary', dubbed the nation's capital a 'naked city': it passively awaited the arrival of a Russian bomb.[39] The phrasing was apt, since Jules Dassin's 1948 film *Naked city* not only scripted its site (New York) in a manner similar to postwar social science

but depicted 'surveillance and interdiction as natural, organic functions, a form of social self-immunization'.[40] This logic was precisely what lay at the heart of efforts to predict, manage and spatially limit panic through the Cold War civil defence programme.

In the best-selling 1946 collection *One world or none*, Philip Morrison – a Manhattan Project scientist who had visited postwar Japan at the request of the War Department – repositioned what he had witnessed to a more recognizable space:

> The streets and buildings of Hiroshima are unfamiliar to Americans. Even from pictures of the damage realization is abstract and remote. A clearer and truer understanding can be gained from thinking of the bomb as falling on a city, among buildings and people, which Americans know well.
> . . . The device detonated about half a mile in the air, just above the corner of Third Avenue and East 20th Street, near Gramercy Park. Evidently there had been no special target chosen, just Manhattan and its people . . . the streets were filled with the dead and dying.[41]

What made such scenarios so chilling to American readers was not necessarily the gruesome description of the bomb's victims – since this is what Morrison, John Hersey and others had reported (however partially) from Japan – but rather the *location* of the destruction, in the middle of a crowded city that was the cultural capital of 'the final undamaged citadel of western civilization'.[42] Indeed, as E.B White observed in his 1949 essay *Here is New York*, for the first time American cities were directly threatened by war – particularly the Empire City, as it possessed 'a certain clear priority'. White's otherwise exuberant urban homage closed by anticipating the 'cold shadow' of planes overhead.[43]

Perhaps the most dramatic representations of atomic disaster were produced by popular periodicals such as *Life*, *Collier's*, *Time* and *Newsweek* – magazines at the centre of the production of 'popular geopolitics' during the early Cold War.[44] Chilling scenarios unfolded in their pages, in some cases well before the United States had lost the atomic monopoly. Borrowing liberally from the doctrines of legendary Air Force General Henry 'Hap' Arnold, the 19 November 1945 issue of *Life* featured a detailed description of a '36-hour war' beginning with the 'atomic bombardment' of Washington, DC, followed by the 'shower of enemy rockets' on 12 other major cities, and an airborne invasion. Despite 'apocalyptic destruction' including 40 million deaths, the US wins the stunningly rapid conflict through its overwhelming firepower, and the last illustration depicts American 'technicians' testing rubble in front of the still-standing (and deeply symbolic) lions of the New York Public Library. Not surprisingly, few casualties are depicted in the accompanying illustrations, except a blonde woman sprawled obscenely beside a faceless, cyborg enemy soldier 'repairing a telephone line'.[45]

Life's dramatization was one-upped by the 5 August 1950 issue of *Collier's*, titled 'Hiroshima, U.S.A.', and featuring a cover illustration of an atomic bomb detonating over mid-town Manhattan. Inside, accompanied by the lurid, people-less illustrations of Chesley Bonestell – known for his 'views gazing down from a great height upon a city lit by a nuclear fireball' – associate editor John Lear fictionalized the incident depicted on the cover.[46] Whereas *Life*'s scenario was predicated upon an anonymous enemy, by 1950 this identity was no longer in question. An accompanying note from the magazine's editor made clear that Lear's account:

> may seem highly imaginative. Actually, little of it is invention. Incidents are related in circumstances identical with or extremely close to those which really happened elsewhere in World War II . . . Death and injury were computed by correlating Census Bureau figures on population of particular sections of New York with Atomic Energy Commission and U.S. Strategic Bombing Survey data on the two A-bombs that fell on Japan. Every place and name used is real.
>
> [Lear] interviewed officials of the National Security Resources Board, the Atomic Energy Commission, the Defense Department; experts on nuclear physics, engineering, construction, fire and police methods, traffic, and atomic medicine.[47]

A final example – both more general and more extensive – appeared in the 27 October 1951 issue of *Collier's*, titled 'Preview of the War We Do Not Want'. An impressive list of masculine literary, military, and political authorities, from Arthur Koestler to Edward R. Murrow, contributed to the detailed production of 'Operation Eggnog' – planned 'to demonstrate that if The War We Do Not Want is forced upon us, we will win'.[48] While the US-led United Nations force begins by avoiding 'population centres', concentrating on 'legitimate military targets only', American cities are directly bombed, leading to a retaliatory 'mission to Moscow' witnessed by Murrow, and, ultimately, the occupation of the Soviet Union. Again, the story featured illustrations by Bonestell, in addition to geometric maps of Chicago and Detroit 'under the bomb'.

While individually intriguing, these dramatizations and others like them are, more importantly, all productions that mobilized a similar 'imagination of disaster'.[49] In addition to the use of abstract visual representations, they relied upon the selective deployment of *expertise*, particularly in the form of scientific wisdom. Using a curious mixture of graphic and sanitized language, magazines and the experts they consulted produced nuclear fear while simultaneously rationalizing and containing it – a strategy that was central to Cold War civil defence efforts.[50] But containment, as I have argued, was geographically sensitive. 'City people', Richard Gerstell wrote in *How to survive an atomic bomb* (1950), 'are the ones who have to guard most against panic.' He went on to argue: 'if we let prejudice of any kind enter the picture, the result can only make added trouble'.[51]

However, a report on civil defence and morale submitted to the National Security Resources Board less than a month before President Truman transferred civil defence responsibilities to the new Federal Civil Defense Organization (FCDA) was more blunt. Predicting that 'social disorganization' would follow an atomic attack, the authors were particularly concerned by the potential for 'tensions' in complex cities such as New York, Chicago or Detroit: 'It is awesome to reflect on what would happen in one of these cities if colored people and white people were forced into close association in shelters, in homes, and even evacuation reception centres.'[52] Seeking solutions to such predicaments, for their 'Hiroshima, U.S.A.' feature, *Collier's* sent a reporter to Britain's Home Office Civil Defense School, where 'A-bomb problems [were] analyzed in realistic detail on a contour map', and where 'the model for mob management was India'.[53]

The disciplinary nature of panic and control was best exemplified in an extraordinary 1953 *Collier's* article by FCDA head Val Peterson. Citing various historical disasters (as well as Orson Welles's infamous 1938 broadcast of *The war of the worlds*), Peterson argued that Americans were the most 'panic-prone' people on earth. War, he noted, was

now pervasive: ‘Every city is a potential battleground, every citizen a target.’[54] But in a continuous state of cold war, constantly maintaining composure was paramount. To determine whether readers were panic-proof, the article included a quiz based on positivist psychological studies carried out by the RAND Corporation, the Institute of Social Research at the University of Michigan and other bastions of social scientific rationality. These latter surveys were based, in turn, on the extensive testing procedures performed on Second World War soldiers – a lineage indicating the deep militarization of everyday life during the early Cold War. In addition, according to Peterson, women were more likely to panic than men; the mood required to participate effectively in the struggle against the Soviet Union was one of masculine level-headedness – precisely the approach practised by defence intellectuals and nuclear strategists.[55]

As the potency of nuclear weapons increased exponentially with the development of the hydrogen bomb in 1954, options for survival appeared limited to public shelters deep underground or massive evacuation initiatives. While a public shelter system (as opposed to a private one based on individual ability and initiative) was considered excessively expensive, evacuation posed alternate problems. As Peterson thundered in the pages of *Newsweek*, without clearly defined lines of flight from cities, ‘we’ll have uncontrolled mobs moving about our countryside’.[56] Like the racial covenants placed on new suburban housing by both the Federal Housing Agency (until they were legally struck down in 1950) and individual developers like William Levitt, the post-disaster infiltration of one community into another – and thus the absence or breakdown of clearly defined ‘community’ – was, according to the RAND Corporation’s study of psychology and civil defence, a key cause of demoralization and disorganization.[57]

Disaster science and City X

Academics and civil defence leaders were particularly concerned with the problem of panic. The strikingly inaccurate, simplistic and extremely popular government publication *Survival under atomic attack* (1950) noted in a list of ‘six survival secrets’ that ‘a single rumor might touch off a panic that could cost your life’.[58] On a more rigorous level, disaster studies, virtually invisible before the Second World War, became an important interdisciplinary subject for numerous postwar research agencies, including (in addition to those listed below) the National Research Council, the RAND Corporation and the National Opinion Research Center at the University of Chicago. Using such recent intellectual innovations as game theory and behavioural modelling, disaster scholars, like many geographers during the same period, pushed for consistent ‘conceptual schema . . . general theoretical categories and constructs’.[59] However, the sociological and psychological theory provided by universities and think-tanks was one that could also be translated into policy; it was ‘an operational model for the ‘protection’ and surveillance of the emotional well-being of the American public’.[60]

In a study funded and sponsored by several significant members of the military–industrial–academic complex, namely the Ford Foundation, the Air Force, and Columbia University’s Bureau of Applied Social Research (BASR), Fred Iklé argued that speculating on the social effects of bomb destruction was problematic because ‘rational

planning is 'switched off' at the point of the real nuclear attack'. After the explosion, Iklé postulated directly, 'irrational thinking takes over: there is nothing but chaos, doom for all humanity, panic, or suicide – and immediate defeat or immediate victory'. Iklé's dichotomy between rational and irrational time also had a spatial equivalent. Gesturing vaguely toward both the Chicago School and Parsonian sociology, he summoned a functional–ecological model of urban life, arguing that a disaster would upset networks of quantitative 'relations', 'leaving tangible effects in the form of readjustments and measurable discrepancies'.

Iklé's city, in keeping not only with 1950s social science but also with concurrent geopolitical rhetoric, was an abstraction suited to equilibrium: it would readjust 'to destruction somewhat as a living organism responds to injury'.[61] Like the mobile concentric maps of urban destruction, which changed only in accordance to varying urban population statistics, scientific analysis of bomb effects was typically applied to a hypothetical 'City X', unless it was necessary to 'emphasize certain of the bomb's effects', in which case Washington, DC, or New York were typically substituted.[62] The FCDA matched this generic scripting with publications like *Battleground U.S.A.* (1957), which outlined the civil defence plans for a 'metropolitan target area' whose principal city was 'Battleground', an inland port in the state of 'E'.[63] While obviously intended to appeal to a wide audience, such constructed urban landscapes were nonetheless dependent on particular visions of spatial order, structure and priority. There was little doubt, for instance, as to which part of City X would suffer the most grievous wounds – or, put differently, which part was most susceptible to infection.

Widely credited with promoting a budding postwar quantitative sociology, beginning in 1950 BASR scholars joined with academics at the University of Chicago on an 'urban targets research' project sponsored by the Air Force's Human Resources Research Institute (HRRI).[64] While Chicago investigators studied the 'sociological and psychological components of intra-urban target analysis', combining the spatial and temporal 'patterns' of Chicago to form a 'framework for target selection', BASR researchers led by Kingsley Davis considered 'inter-urban patterns of target complexes'.[65] The data accumulated and models prepared for these studies were valuable for defensive planning, of course, but their appeal was both broader and more flexible – nothing less than the improvement and centralization of information on cities on a *global* scale. According to the BASR contribution to a 1951 HRRI report, the selection of data for inclusion in the 'urban resources index', made from the dual but compatible standpoints of military intelligence and 'economic, political, sociological, and social psychological analyses', would 'facilitate systematic comparative analyses for strategic scientific purposes'.[66] Translated, this meant that the creation of such an index was perfectly designed to suit Cold War operations, since these could hypothetically include any city on earth – as a battleground or a site for strategic bombing.

The most intriguing combination of urbanism, science and strategy was the comprehensive and influential Project East River, completed for the FCDA by a group of academic institutions known as Associated Universities, Inc., in 1952. One of numerous national security studies (or 'summer studies') closely affiliated with the Massachusetts Institute of Technology, East River not only demonstrated the importance of

behaviouralist social science to the military bureaucracy, but also echoed the mantra that fear could be *channelled* through a combination of training, emotion management and self-surveillance.[67] East River's diverse and authoritative cast of 'scientists, businessmen, and educators' (including a retired general, the study's director) detected precisely what was wrong with American society, and what could thus doom (Western) civilization: an 'apathetic attitude' indicative of 'individuals, institutions, and nations that have perished in the past because of the inability or unwillingness to adjust to major environmental changes'.[68]

These 'environmental changes', the ten-part East River report made clear, were at once national and urban, shifts motivated by both technological 'progress' and geopolitical circumstance. And the link to American cities was quite apparent: part five of the report, 'Reduction of urban vulnerability', began with the assertion that 'to keep pace with weapons development, it is essential to make urban targets less remunerative'.[69] One response was to join in the widespread call for urban dispersal, a trend I discuss below.

In addition, although Project East River was not expected actually to conduct tests, experiments or exercises to 'develop new basic data', and was instead intended as a suitable forum for synthesis of prior research and opinion, it did make one partial exception to this imperative – a 'selected area study' that formed appendix V-A of the report. There, East River participants, after deciding that 'a typical American city did not exist for our purposes', borrowed from a recent disaster review that had been produced under the aegis of two New York hospitals, the Rockefeller Institute, City and Suburban Homes, Inc., and the New York Life Insurance Company. This collective of risk-related agencies conducted detailed land use and population studies of 47 Manhattan blocks, and then proceeded to simulate the dropping of atomic bombs over this space, varying the location and height of the bombs as well as the number and position of shelters. The results of this study, in the form of large tables, were predictable and sanitized, facilitating an easy translation from the detailed geographies of New York to 'many of the features found in our larger cities'.[70]

Dispersal and decentralization

One problem with America's largest cities, William Borden pointed out in *There will be no time* (1946), was that they were 'concentrated spatially'.[71] As the Cold War deepened, many scientists and political commentators began to suggest that American urban populations were excessive: atomic disasters would simply affect too many people, and too many industrial sites. The most effective and comprehensive solution to this problem – but also the most contentious and expensive – was a massive programme of urban dispersal and decentralization, an argument that was anathema to most planners as recently as the war years.[72] Though some aggressive theorists salivated at the prospect of an America speckled by evenly distributed towns of equal population, most agreed that the costs of such a utopia, ironically, would be too damaging to an American war machine dedicated to matching the Soviet Union stride for stride. However, various forms of 'limited dispersion' did gain significant currency, particularly with respect to the creation of new urban landscapes, and such principles as remote location of bomb

production, placement of war contracts in small cities, creation of new, widely spaced satellite towns, increased highway construction and control of inner-city rebuilding were all frequently proposed.[73] As a result, older, dense and 'geographically bound' cities, potentially impossible to disperse, were considered particularly vulnerable. For this reason and others, American scientists, strategists and other speculators turned New York and Washington into far more popular targets for projected nuclear attacks than less dense cities like Los Angeles and Houston.[74]

The most powerful early source spurring calls for urban decentralization was the United States Strategic Bombing Survey's report on the effects of atomic bombs on Hiroshima and Nagasaki. As *The American city* reported with alarm in August 1946, the two Japanese cities were chosen as targets precisely because of their concentration of activities and population, not to mention Hiroshima's particularly level and open topography, which allowed the effects of the blast to 'spread out'. As a result, the survey cautioned, given 'the similar peril of American cities . . . the value of decentralization is obvious'.[75]

In the United States, a nation with a higher urban to non-urban ratio than Cold War rivals like China and the Soviet Union, a city was, as Bernard Brodie put it, 'a made-to-order target, and the degree of urbanization of a country furnishes a rough index of its relative vulnerability to the atomic bomb'. Like many writers familiar with the costs of national armament programmes, Brodie strongly questioned the feasibility of the most drastic urban dispersal plans, including 'linear' or 'cellular' cities, suggesting that such schemes would interfere with 'natural' growth of organic urban units. However, while his assertion that the military benefits of massive, forced dispersal would not be commensurate with the costs was undoubtedly accurate, he did conclude that a limited programme of industrial and infrastructural decentralization (or 'compartmentalization'), as well as a general encouragement of suburbanization, would be significantly advantageous.[76] It was these more 'realistic' questions that were central to the concerns of all but the most fanatical of the dispersal advocates. The argument that dispersal should remain secondary to international control of atomic energy – a popular position taken by Louis Wirth and others immediately after the Second World War – faded, along with hopes for global governance, as geopolitical hostilities increased.[77]

The same August 1946 issue of *The American city* also featured an article titled 'Planning cities for the atomic age', essentially a summary of the views of noted decentralization advocate (and planner) Tracy Augur, who had been shaken by the damage visited from the air on dense European cities during the war. In this piece, as well as other contributions to such varied periodicals as the *Appraisal journal*, the *Journal of the American Institute of Planners* and, most notably, the *Bulletin of the atomic scientists*, Augur consistently laid out the case for the dispersal of cities as a defensive measure against a potential atomic attack. His argument was a relatively simple one: space was the best military defence against the bomb, and congested, poorly organized and centralized cities were inviting targets. Like many similar advocates of decentralization, Augur was aware of the tremendous financial and social costs his plans seemed to entail, but he deflected these by stressing that the appropriate planning of inevitable new construction would not incur any additional expenses. If plotted

scientifically, new towns of 30 000–50 000 residents would not simply girdle an existing urban area but stand as 'semi-independent communities' – clusters, inspired by the British garden city model, that were separated from one another by belts of open or agricultural land.[78] As a result, Augur's hypermodern suggestion that older, nineteenth-century patterns of urban life and design were made unsuitable and obsolete by technologies such as the radio, the telephone and the automobile was fused with a *premodern* small-town idealism. This nostalgia was premised, as another proponent of decentralization argued, on the assertion that residents of 'small and medium-sized communities lead a much more natural and normal life than those in large cities'.[79]

Interestingly, the ideal post-nuclear community in many science fiction novels and films was either a small town or another type of contained, purposeful settlement, such as a college or monastery.[80] As Dean MacCannell has argued, these scenarios shared with those produced by nuclear strategists a belief in *survivability*. Both genres routinely argued that a sufficient number of people would live through a nuclear disaster and rapidly reconstruct American society; in most cases, these would be people 'who are closely in touch with the unique spirit of America, and the values of the system of "free enterprise" '. Not one strategist or government planner, MacCannell points out, 'has envisaged a post-attack rebuilding by people who never much benefited from American society, or quite understood what America was all about, that is, by people who lived at a disadvantage on the margins of society'.[81]

Augur's proposals would not only solve malingering problems of 'blight', but would provide additional security to the American people, finally guaranteeing 'the full benefits of the atomic age'. As he put it, a 'metropolitan area that is well organized in terms of the amenities of modern urban living and the efficient conduct of modern business will also be an area of decreased vulnerability to atomic bombs and other weapons of mass destruction'. For this reason, the value of planned dispersal would not end with the closure of Cold War hostilities: it possessed a logic above and beyond the exigencies of geopolitics and national defence. But there was also a third, related motivation. For Augur, dispersal held 'equal value against the type of penetration that has become so common and so effective in modern times and which depends on the fomenting of internal disorder and unrest'.[82] His advocacy of urban design suited to the atomic age thus moved swiftly and smoothly across scales, linking national defence to the conduct and proximity of individual bodies.

The hybrid of archaic noble savagery and emergent suburban normality was nowhere more evident than in a 1946 collection titled *Cities are abnormal*. In the introduction, the editor, Elmer Peterson, succinctly outlined the case for urban dispersal, effortlessly summoning and aggregating a dizzying array of perspectives:

> From almost every angle that we view urban life in America, the decentralization of cities seems desirable – public health, economic betterment, economic logistics, moral welfare, better local utilization of natural resources, better distribution of manufactured products, a better conceived military defence, a more rational architecture, and, in general, a happier adaptation to the changing mores . . . natural or rural life is the inescapable norm.[83]

Peterson's slightly offhand point about 'a better conceived military defence' was extended in a later chapter on 'The atomic threat'. Author Warren S. Thompson, again describing 'the present type of city' as particularly vulnerable, suggested an alternative:

> The form best adapted to minimize bomb damage would probably be that of an irregular elongated S. If the community is built in this form, only a small part of the full destructive power of the bomb could be made effective against it; the far greater part would be dissipated into the surrounding open spaces. The exact shape of the curves used should be determined by the best technical advice available regarding the radius of destruction likely to be achieved by atomic bombs in the foreseeable future, and by a careful calculation of shapes offering the most difficult targets to airborne missiles.[84]

As a proposal, Thompson's 'S' was not unique, but his comments were particularly telling with respect to the instrumental *scientization* of urban spaces, a process that frequently utilized the 'hard' language of physics and mathematics. Early Cold War America was marked by a series of abstract, interdisciplinary academic models – including the social physics and regional science that influenced geography's so-called 'quantitative revolution' – that united the force of physical science with social explanation. All were deeply tied to the military–industrial–academic complex of the security state, and each subject possessed a repressed spatiality that surfaced explicitly when deployed in the service of Cold War imperatives. Put simply, while planners debated the specifics of atomic physics, scientists became urban visionaries, and both groups became intimately familiar with geopolitical strategy. From this perspective, Chesley Bonestell's 'god's-eye' views from above, as well as the ubiquitous diagrams of concentric destruction, possessed a resemblance to the geometric lattices of spatial science that extended beyond representational technique. Ironically, the coalescence of expertise produced 'atomic cities' that remained crude – universalizing *abstractions* dependent on stereotypes and generalizations for their authority, but powerful and prolific models nonetheless.

Project East River was complemented by a nearly concurrent study on air defence at MIT. Dubbed Project Charles, the endeavour is now best known for facilitating the construction of the Lincoln Laboratory, the facility that played a key role in the development of both the SAGE computer network and the Distant Early Warning (DEW) Line – two of the most remarkable engineering projects of the early Cold War. Yet the leaders of Project Charles were concerned with all aspects of air defence, including the locational pattern of population. Since such matters were beyond the purview of the average physicist or military strategist, three economists – Carl Kaysen, Paul Samuelson and James Tobin, all eventually towering figures in their discipline's postwar pantheon – were enlisted to provide an appendix on 'economic aspects of passive defense'. The result was an astonishing exposition of neoclassical reasoning, a cold-blooded summary that noted the logical advantages of urban concentration – but then determined that this was a moribund equation in the atomic age:

> On any rational calculation, the possibility of enemy attack has radically changed, in favor of dispersal, the values to individuals and to society of alternative locations of particular installations, whether factories or houses. A man who is deciding whether his new house should be built in Manhattan or Fairfield, Connecticut should now include an allowance for the distinct possibility

> that in Manhattan both his house and his family will be destroyed – increasing both the target attractiveness and the danger of fire.[85]

In urban studies, then, 'the city' became a field of inquiry open to an astonishingly diverse array of writers, many arguing that congested, poorly organized, and centralized cities were not only inviting targets but unviable *systems*. Perhaps the most infamous example of such work was the cybernetics pioneer Norbert Wiener's 1950 *Life* plan for radial 'life belts' of transportation lines and essential services, separated from downtowns by 'safety zones' where most construction would be prohibited. This spatial distinction was essential; as the Detroit planners Donald and Astrid Monson argued in a contemporaneous article in *The American city*, without empty or agricultural interstitial areas, 'the very factor which is counted on for defence is lost'.[86]

Since a city, for Wiener and his colleagues, was 'primarily a communications centre, serving the same purpose as a nerve centre in the body', the key to a liveable existence was the ordered planning of informational networks. And Wiener's scheme, the magazine noted, would be useful 'in any circumstance': during periods of peace, quite incidentally, 'it would expand and accelerate the current trend of many city dwellers toward the suburbs'.[87] For early cybernetics, control was 'the never-finished work of regulation which operates to bring deviations from system requirements back in line'. Wiener's atomic city was thus not simply an updated version of nineteenth-century urban technical interventions; it also suggested that the governance of city life was, in addition to authoritative schemes implemented from above, a problematic of inner subjectivity and individual 'participation in the networks of existence'.[88] Moreover, the cybernetic framework was a perfect example of a synoptic worldview that was not contextually dependent. Understanding and designing urban systems, Wiener's vision seemed to suggest, was no different than his construction of the 'man-machine' weapons that launched cybernetics during the Second World War.[89] And, in one sense, this postulation was correct.

Conclusion

> The whole programme should not be regarded as an hysterical atomic defence project but rather as a modern adaptation of city growth to social conditions. An important part of this programme would seem to be intensive social studies to understand the sociological 'make-up' of cities and to determine how natural trends in decentralization may be stimulated. (R.E. Lapp)[90]

By the end of the 1950s, according to Guy Oakes, the FCDA had simply 'written off the possibility of protecting urban populations' unless they could be evacuated faultlessly in advance of an attack.[91] Not coincidentally, it was precisely this period that confirmed the triumph of 'centrifugal space' – the decentralized landscape of freeways and sprawl that marks, for Edward Dimendberg, the end of film noir, as well as the end of 'the metropolis of classical modernity, the centred city of immediately recognizable and recognized spaces'. The circulation of information and automobiles had replaced the movements of pedestrians.[92] Though hardly invigorated by much of the inhuman modernism of central city redevelopment, critics such as Lewis Mumford also excoriated the effects of highway

construction, arguing (in 1958) that it had 'the same result upon vegetation and human structures as the passage of a tornado or the blast of an atom bomb'.[93]

In this essay I have built upon the now familiar claim that postwar America was characterized by a powerful disillusion for urban life that began at the core. Central cities, for many commentators, were spaces of blight, repositories of extreme cultures, classes and races, threatened from above and within. This language of anxious urbanism may well have been symbolic camouflage for broader fears, including the decline of an American culture of victory.[94] However, this process also operated in reverse: discussions on the status of cities were specifically appropriated and encouraged by the development of Cold War geopolitical uncertainty, and by technology-inspired changes to the theory and practice of warfare. It was precisely the *domestic geography* of Cold War risks that led to the scientific planning schemes – some more drastic than others – designed to order and manage urban spaces while concurrently maintaining the various symbolic distinctions between central city and suburb. While the resemblance was powerful, these schemes were not simply 'the suburbs' imagined; they were frequently more rational and ordered than most of the actual suburban landscapes constructed after the Second World War. For the Monsons, the suburban growth of the 1940s was 'without plan and [was] largely an extension of the amorphous sprawl of the central cities'. Planning this spontaneous, inevitable decentralization appeared to be a natural step.[95]

Of course, as Dimendberg notes, by the end of the 1950s, support for decentralization initiatives and the technologized sprawl of highway landscapes was beginning to fade, a trend that would deepen during the following decade. Equally, calls for dispersal and evacuation in advance of attack had faded substantially by the end of Eisenhower's presidency in 1960. There were several reasons for the waning of such proposals. Some influential strategists had concluded that cities would be, by and large, secondary to military and other non-urban targets in the event of a nuclear strike. The development of new weaponry, particularly intercontinental ballistic missiles (ICBMs), had further underscored the futility of evacuation, despite the vast and expensive warning lines established across the north of the continent.

But perhaps the most intriguing and persuasive reason for the gradual disappearance of explicit discussions of dispersal was the fact that by the late 1950s such discussions had become, through a subtle slippage, largely a 'benign discourse over structural changes like suburban high schools and shopping malls'.[96] Earlier studies such as Project East River had noted that dispersion policy was 'in line with general trends' of postwar urban growth.[97] And under conditions of nuclear deterrence Cold War American cities, Dean MacCannell argues, became 'defence weapons' – places required not only to receive an atomic bomb but to '*absorb* the hit so that damage minimally spills over to surrounding areas'. The discourse of urban decline and the various distinctions maintained and encouraged between central city and suburb were of very specific strategic value – in channelling money not spent on inner-city improvement to the national arsenal, but also in consistently locating, through a powerful combination of lurid drama and rational science, the locus of atomic danger in the heart of America's cities.[98] Such circular histories are a telling reminder of the peoples and places literally left behind by the combination of geopolitics and science during the early Cold War.

Acknowledgements

This paper has endured many versions in draft form and in public, and I would like to thank all those who provided criticism and encouragement. I am grateful to Trevor Barnes, Lisa Brocklebank, Phil Crang, David Ley, Geraldine Pratt and two anonymous reviewers for comments on earlier versions. The Social Sciences and Humanities Research Council of Canada and the Killam Trusts funded the research of which this paper is a beginning.

Notes

1 W.W. Riefler, 'Preface', in A.J. Coale, *The problem of reducing vulnerability to atomic bombs* (Princeton, NJ, Princeton University Press, 1947), p. viii. Dr. Riefler was affiliated with Princeton's Institute for Advanced Study.

2 Both Kennan's 'The sources of Soviet conduct' and his equally infamous 'Long telegram' of 22 Feb. 1946 are usefully reprinted in T.H. Etzold and J.L. Gaddis, eds, *Containment: documents on American policy and strategy, 1945–50* (New York, Columbia University Press, 1978).

3 See G.O'Tuathail and J. Agnew, 'Geopolitics and discourse: practical geopolitical reasoning in American foreign policy', *Political geography* **11** (1992), pp. 190–204; G. O'Tuathail, 'Introduction: Cold War geopolitics', in G. O'Tuathail, S. Dalby and P. Routledge, eds, *The geopolitics reader* (London, Routledge, 1998), pp. 48–57; J. Agnew, *Geopolitics: revisioning world politics* (London, Routledge, 1998); D. Campbell, *Writing security: United States foreign policy and the politics of identity* (Minneapolis, University of Minnesota Press, 1992); S. Dalby, *Creating the second Cold War: the discourse of politics* (London, Pinter, 1990). The most intriguing studies of George Kennan are A. Stephanson, *Kennan and the art of foreign policy* (Cambridge, MA, Harvard University Press, 1989), and F. Costigliola, ' "Unceasing pressure for penetration" : gender, pathology, and emotion in George Kennan's formation of the Cold War', *Journal of American history* **83** (1997) pp. 1309–39.

4 H. Bhabha, 'Dissemination: time, narrative, and the margins of the modern nation', in *The location of culture* (London, Routledge, 1994), p. 149. A similar explanation can be found in S. Hall, 'When was "the post-colonial"? Thinking at the limit', in I. Chambers and L. Curti, eds, *The postcolonial question: common skies, divided horizons* (London, Routledge, 1996), pp. 242–60.

5 A. Ross, 'Containing culture in the Cold War', in his *No respect: intellectuals and popular culture* (New York, Routledge, 1989), p. 46. See also A. Nadel, *Containment culture: American narratives, postmodernism, and the atomic age* (Durham, NC, Duke University Press, 1995). Of course, 'organic' metaphors have a long and dubious history in geopolitical thought. For an interesting study of a similar time period and divergent context, see L. W. Hepple, 'Metaphor, geopolitical discourse and the military in South America', in T.J. Barnes and J.S. Duncan, eds, *Writing worlds: discourse, text and metaphor in the representation of landscape* (London, Routledge, 1992), pp. 136–54.

6 Ross, 'Containing culture', p. 45; Costigliola, ' "Unceasing pressure for penetration" '; H. Nast, 'Unsexy geographies', *Gender, place and culture* **5** (1998), pp. 191–206.

7 Kennan, 'Long telegram', in Etzold and Gaddis, *Containment*, p. 58.

8 See R. Corber, *In the name of national security: Hitchcock, homophobia, and the political construction of gender in postwar America* (Durham, NC, Duke University Press, 1993); F.M. Dolan, 'Cold War metaphysics', in *Allegories of America: narratives, metaphysics, politics* (Ithaca, NY, Cornell University Press, 1994), pp. 60–113.

[9] See M. Sparke, ‘Outsides inside patriotism: the Oklahoma bombing and the displacement of heartland geopolitics’, in G. O’Tuathail and S. Dalby, eds, *Rethinking geopolitics* (London, Routledge, 1998), pp. 198–223.

[10] B. Brodie, ‘Military policy and the atomic bomb’, *Infantry journal* **59** (1949), p. 33. This article was an excerpt from Brodie’s important edited collection *The absolute weapon: atomic power and world order* (1946).

[11] See U. Beck, *Risk society: towards a new modernity*, trans. M. Ritter (London, Sage, 1992); ‘Hiroshima, U.S.A: Something CAN be done about it’, *Collier’s* (5 Aug. 1950), p. 16. I am grateful to Gerard Toal for making clear the connection between geopolitics and risk society.

[12] See H. Temperley and M. Bradbury, ‘War and Cold War’, in M. Bradbury and H. Temperley, *Introduction to American studies*, 3rd edn (New York, Addison Wesley Longman, 1998), pp. 242–71; P. Conrad, *Modern times, modern places: life and art in the 20th century* (London, Thames & Hudson, 1998), p. 517.

[13] R. Beauregard, *Voices of decline: the postwar fate of US cities* (Oxford, Blackwell, 1993), p. 58; see also A. Douglas, ‘Periodizing the American century: modernism, postmodernism, and postcolonialism in the Cold War context’, *Modernism/Modernity* **5** (1998), pp. 71–98.

[14] T. Osborne and N. Rose, ‘Governing cities: notes on the spatialization of virtue’, *Environment and planning D: society and space* **17** (1999), p. 740.

[15] See G. Oakes, *The imaginary war: civil defence and American Cold War culture* (New York, Oxford University Press, 1994), pp. 26–28.

[16] W.R. Burnett, *The asphalt jungle* (London, Zomba Books, 1984), pp. 177, 250.

[17] E. Dimendberg, ‘From Berlin to Bunker Hill: urban space, late modernity, and film noir in Fritz Lang’s and Joseph Losey’s *M’, Wide angle* **19** (1997), p. 69. On postwar urban decline, see Beauregard, *Voices of decline*, and C. Rotella, *October cities: the redevelopment of urban literature* (Berkeley, University of California Press, 1998).

[18] C. Enloe, *The morning after: sexual politics at the end of the Cold War* (Berkeley, University of California Press, 1993), p. 16; K. Zarlengo, ‘Civilian threat, the suburban citadel, and atomic age American women’, *Signs: journal of women in culture and society* **24** (1999), pp. 925–58; K. Jackson, *Crabgrass frontier: the suburbanization of the United States* (New York, Oxford University Press, 1985).

[19] Quoted in K.A. Marling, *As seen on TV: the visual culture of everyday life in the 1950s* (Harvard, MA, Harvard University Press, 1994), p. 249. Both the Levittown visit and Khrushchev’s desired trip to Disneyland were dismissed for ‘security’ reasons.

[20] Beauregard, *Voices of decline*, p. 3.

[21] Quoted in P. Boyer, *By the bomb’s early light: American thought and culture at the dawn of the atomic age* (Chapel Hill, University of North Carolina Press, 1994 [1985]), p. 239.

[22] ‘The city under the bomb’, *Time* (12 Oct. 1950), p. 12; W. Whyte, Jr, ‘Introduction’, in Whyte, ed., *The exploding metropolis* (repr. Berkeley, University of California Press, 1993), p. 9.

[23] *Ibid*., p. 8.

[24] Douglas, ‘Periodizing the American century’; Rotella, *October cities*; S. Guilbaut, *How New York stole the idea of modern art: abstract expressionism, freedom, and the Cold War*, trans. A. Goldhammer (Chicago, University of Chicago Press, 1983).

[25] N. M. Klein, ‘Staging murders: the social imaginary, film, and the city’, *Wide angle* **20** (1998), p. 89; D. Reid and J.L. Walker, ‘Strange pursuit: Cornell Woolrich and the abandoned city of the forties’, in J. Copjec, ed., *Shades of noir* (London, Verso, 1993), p. 68; Dimendberg, ‘From Berlin to Bunker Hill’, p. 70; E. Lott, ‘The whiteness of film noir’, in M. Hill, ed., *Whiteness: a critical reader* (New York, New York University Press, 1997), pp. 81–101.

[26] Beauregard, *Voices of decline*, pp. 129, 110.

[27] Quoted in R. Baxandall and E. Ewen, *Picture windows: how the suburbs happened* (New York, Basic Books, 2000), p. 91; N. Christopher, *Somewhere in the night: film noir and the American city* (New York, Free Press, 1997), p. 50.

[28] H. Baldwin, *The price of power* (New York, Harper, 1947), pp. 256, 257. Though written by Baldwin, this book was the product of a study group on 'national power and foreign policy' convened by the influential Council on Foreign Relations.

[29] W.F. Ogborn, 'Sociology and the atom', *American journal of sociology* **5** (1946), p. 272.

[30] P. Conrad, 'After dark', in *The art of the city: views and versions of New York* (New York, Oxford University Press, 1984), p. 297.

[31] Zarlengo, 'Civilian threat', p. 931. On the 'civic garrison', see A.D. Grossman, *Neither dead nor red: civilian defence and American political development during the early Cold War* (New York, Routledge, 2001). For a standard example of a civil-defence division of labour, see Federal Civil Defense Administration, *Home protection exercises* (Washington, DC, Government Printing Office, 1953).

[32] L. McEnaney, *Civil defence begins at home: militarization meets everyday life in the Fifties* (Princeton, NJ, Princeton University Press, 2000), p. 7; E.T. May, *Homeward bound: American families in the Cold War era* (New York, Basic Books, 1988); K.D. Rose, *One nation underground: the fallout shelter in American culture* (New York, New York University Press, 2001)

[33] Quoted in E.T. May, 'Explosive issues: sex, women, and the bomb', in L. May, ed., *Recasting America: culture and politics in the age of Cold War* (Chicago, University of Chicago Press, 1989), p. 154.

[34] F. Krutnik, 'Somewhere more than night: tales of the noir city', in D. Clarke, ed., *The cinematic city* (London, Routledge, 1997), p. 83. See also M.C. Boyer, 'Crimes in and of the city: the femme fatale as urban allegory', in D. Agrest, P. Conway and L. Hanes, eds, *The sex of architecture* (New York, Abrams, 1996), pp. 97–118.

[35] Both Sartre and Camus are quoted in Douglas, 'Periodizing the American century', p. 83. New York was a decidedly noir city for Camus: 'everyone looks like they've stepped out of a B-film.' See A. Camus, *American journals*, trans. H. Levick (New York, Paragon, 1987), p. 32.

[36] Boyer, *By the bomb's early light*, p. 14.

[37] Baldwin, *The price of power*, p. 252; J. Marshak, E. Teller and L.R. Klein, 'Dispersal of cities and industries', *Bulletin of the atomic scientists* **1** (1946), p.13; Ogborn, 'Sociology and the atom', p. 271.

[38] See Osborne and Rose, 'Governing cities', p. 753.

[39] 'Naked city', *Time* (28 Nov. 1949), p. 66. The same report is covered in 'The city of Washington and an atomic attack', *Bulletin of the atomic scientists* **6** (1950), pp. 29–30.

[40] K. McNamara, *Urban verbs: arts and discourses of American cities* (Stanford, CA, Stanford University Press, 1996), p. 176; D. Polan, *Power and paranoia: history, narrative, and the American cinema, 1940–1950* (New York, Columbia University Press, 1986), p. 164–65.

[41] P. Morrison, 'If the bomb gets out of hand', in D. Masters and K. Way, eds, *One world or none* (New York, McGraw-Hill, 1946), p. 3.

[42] Baldwin, *The price of power*, p. 5.

[43] E.B. White, *Here is New York* (New York, Harper, 1949), p. 54. White's vision, obviously, became an extraordinarily uncanny one on 11 Sept. 2001, one of many Cold War images, structures and artifacts that suddenly acquired renewed valence long after geopolitical scholars had mapped new post-Cold War topographies.

[44] Another obvious source was *Reader's Digest*; see J. Sharp, *Condensing the Cold War: Reader's Digest and American identity* (Minneapolis, University of Minnesota Press, 2000). Of course,

another disturbing and occasionally subversive source of imagined disaster was science fiction, worthy of an entirely separate paper. Two prominent (and disparate) examples are Judith Merril's quasi-feminist *Shadow on the hearth* (1950) and the civil defence consultant Philip Wylie's *Tomorrow!* (1954). See D. Dowling, *Fictions of nuclear disaster* (London: Macmillan, 1987), and D. Seed, *American science fiction and the Cold War: literature and film* (Edinburgh, Edinburgh University Press, 1999).

[45] 'The 36-hour war', *Life* (19 Nov. 1945), pp. 27–35.

[46] S.R. Weart, *Nuclear fear: a history of images* (Cambridge, MA, Harvard University Press, 1988), p. 236.

[47] 'The story of this story', *Collier's* (5 Aug. 1950), p. 11.

[48] 'Operation Eggnog', *Collier's* (27 Oct. 1951), p. 6.

[49] The standard reference here is S. Sontag, 'The imagination of disaster', in *Against interpretation and other essays* (New York, Farrar, Straus & Giroux, 1967), pp. 209–25. The essay was originally written in 1965. For a more particular (and more interesting) usage, see M. Davis, *Ecology of fear: Los Angeles and the imagination of disaster* (New York, Metropolitan, 1998).

[50] Oakes, *The imaginary war*; Weart, *Nuclear fear*. See also M. Curry, 'In the wake of nuclear war: possible worlds in an age of scientific expertise', *Environment and planning D: society and space* **3** (1985), pp. 309–21.

[51] R. Gerstell, *How to survive an atomic bomb* (New York, Bantam, 1950), pp. 91, 127; J.L. Balderston, Jr and G.W. Hewes, *Atomic attack: a manual for survival* (Culver City, CA, Murray & Gee, 1950).

[52] Quoted in Oakes, *The imaginary war*, p. 39.

[53] 'Hiroshima, U.S.A: something CAN be done about it', pp. 67, 66.

[54] V. Peterson, 'Panic: the ultimate weapon?' *Collier's* (21 Aug. 1953), pp. 99–109; Zarlengo, 'Civilian threat', pp. 930–1. On the 'live' frontiers of the Cold War, see Baldwin, *The price of power*.

[55] McEnaney, *Civil defence begins at home*; C. Cohn, 'Sex and death in the rational world of defence intellectuals', *Signs: journal of women in culture and society* **12** (1987), pp. 687–718. For one prominent RAND study, see I.L. Janis, *Air war and emotional stress: psychological studies of bombing and civilian defence* (New York, McGraw-Hill, 1951).

[56] 'The attack: every man for himself', *Newsweek* (5 Apr. 1954), p. 33.

[57] Janis, *Air war and emotional stress*, p. 189. The legacy of covenants, of course, lasted far beyond 1950. On housing development and suburban racism, see Jackson, *Crabgrass frontier*; Baxandall and Ewen, *Picture windows*; and D. Hayden, *Redesigning the American dream: the future of housing, work, and family life* (New York, Norton, 1984).

[58] National Security Resources Board, Civil Defense Office, *Survival under atomic attack* (Washington, DC, United States Government Printing Office, 1950), p. 17.

[59] I.L. Janis, 'Problems of theory in the analysis of stress behavior', *Journal of social issues* **10** (1954), p. 12. This issue of the journal was entirely devoted to human behaviour and disaster. See also the series of Disaster Studies produced by the National Research Council and the National Academy of Sciences, beginning in 1956.

[60] Grossman, *Neither dead nor red*, p. 58.

[61] F.C. Iklé, *The social impact of bomb destruction* (Norman, University of Oklahoma Press, 1958), pp. vii, 7, 8. Identical views can be found in an earlier piece: see F.C. Iklé, 'The social versus the physical effects from nuclear bombing', *Scientific monthly* **78** (1954), pp. 182–7. In a later incarnation, Iklé was under-secretary of defense for policy in the Reagan administration.

[62] R.E. Lapp, 'Atomic bomb explosions: effects on an American city', *Bulletin of the atomic scientists* **4** (1948), p. 49. See also R.E. Lapp, 'The defence of our cities', *Reporter* **3** (1950), pp. 26–30. Lapp's *magnum opus* on the subject was *Must we hide*? (1949).

[63] Federal Civil Defense Administration, *Battleground U.S.A: an operations plan for the civil defence of a metropolitan target area* (Washington, DC, Government Publications Office, 1957).

[64] On BASR and postwar social research, see esp. J.M. Converse, *Survey research in the United States: roots and emergence, 1890–1960* (Berkeley, University of California Press, 1987).

[65] See *Report*, Strategic Intelligence Research Directorate, Human Resources Research Institute, Air University, 30 Nov. 1951, in Box 24, Bureau of Applied Social Research Papers, Columbia University Rare Book and Manuscript Library.

[66] 'Inter-urban patterns of target complexes', *ibid*., p. 4.

[67] Grossman, *Neither dead nor red*, pp. 59–60.

[68] *Report of the Project East River, part one* (New York, Associated Universities, 1952), 'Second Press Release' (n.p.).

[69] *Reduction of urban vulnerability: part V of the Project East River* (New York, Associated Universities, July 1952), p. 1.

[70] *Ibid*., app. V-A, pp. 1a, 6a, 8a.

[71] W. Borden, *There will be no time: the revolution in strategy* (New York, Macmillan, 1946), p. 65; Ogborn, 'Sociology and the atom', p. 272.

[72] M. Scott, *American city planning since 1890* (Berkeley, University of California Press, 1969), p. 369.

[73] See D. Monson and A. Monson, 'How can we disperse our large cities?', *American city* **65** (1950), pp. 90–92, and **66** (1951), pp. 107–11. Dispersal was repeatedly debated in the *Bulletin of atomic scientists*; see esp. vols. **6(8/9)** (1950), **7(9)** (1951), and **9(7)** (1953).

[74] Zarlengo, 'Civilian threat', 936; A. Hammond, 'Rescripting the nuclear threat in 1953: *The beast from 20,000 fathoms', Northwest review* **22** (1984), pp. 181–94.

[75] 'The atomic bomb and the future city', *American city* **61** (1946), p. 5. Edward Dimendberg argues that this *American city* piece 'established the equation, made repeatedly after the war and throughout the 1950s, between urban concentration and military vulnerability', but he does not mention the Strategic Bombing Survey. E. Dimendberg, 'City of fear: defensive dispersal and the end of film noir', *ANY: architecture New York* **18** (1997), p. 15. For an alternate geographical approach to the survey, see K. Hewitt, ' "When the great planes came and made ashes of our city . . .": towards an oral geography of the disasters of war', *Antipode* **26** (1994), pp. 1–34.

[76] Brodie, 'Military policy and the atomic bomb', p. 33; Lt-Col. G.R. Charlton, 'Industrial vulnerability in the atomic age', *Air University quarterly review 3* (1949), pp. 13–23; Zarlengo, 'Civilian threat', p. 932. Cluster and linear cities are described in Marshak *et al*., 'Dispersal of cities and industries'.

[77] See L. Wirth, 'Does the atomic bomb doom the modern city?', *New Jersey municipalities* (Apr. 1946), pp. 25–9.

[78] 'Planning cities for the atomic age', *American city* **61** (1946), pp. 75–6, 123; T.B. Augur, 'Decentralization can't wait', *Appraisal journal* **17** (1949), pp. 107–13; Scott, *American city planning*, p. 449. See also 'Defense considerations in city planning: statement by the American Institute of Planners', *Bulletin of the atomic scientists* **9** (1953), p. 268.

[79] D.G. Mitchell, 'Social aspects of decentralization', *Mechanical engineering* **70** (1948), pp. 532–4. The author was the president of Sylvania Electric Products, Inc. A very similar claim is made in Ogborn, 'Sociology and the atom', p. 271: 'We could have better health, fewer accidents, wider streets for automobiles, more parking places for automobiles, landing places for helicopters, more sunlight, space for gardens, more parks, less smoke, more comfortable homes, efficient places of work, and, in general, more beauty.'

[80] M.A. Bartter, 'Nuclear holocaust as urban renewal', *Science-fiction studies* **13** (1986), pp. 148–58.

One prominent example was Walter M. Miller, Jr's short story/novel *A canticle for Leibowitz* (1955/9).

[81] D. MacCannell, 'Baltimore in the morning . . . after: on the forms of post-nuclear leadership', *Diacritics* **14** (1984), p. 40; Curry, 'In the wake of nuclear war', p. 319.

[82] 'Planning cities for the atomic age', p. 75; Augur, 'Decentralization can't wait', p. 110; T.B. Augur, 'The dispersal of cities as a defence measure', *Journal of the American Institute of Planners* **14** (1948), pp. 29–35. The last piece was reprinted from the May 1948 issue of the *Bulletin of the atomic scientists*. See also Dimendberg, 'City of fear'.

[83] E.T. Peterson, 'Cities are abnormal', in Peterson, ed., *Cities are abnormal* (Norman, University of Oklahoma Press, 1946), pp. 11, 20. In a later chapter, Peterson voices an all-too-familiar postwar concern for 'race suicide' (p. 251).

[84] W. S. Thompson, 'The atomic threat', in Peterson, *Cities are abnormal*, pp. 233, 234.

[85] *Problems of air defence: final report of Project Charles* (Cambridge, Massachusetts Institute of Technology, 15 June 1951), p. VII-I-16. A copy of this report is in the Institute Archives, MIT.

[86] Monson and Monson, 'How can we disperse our large cities?', p. 92.

[87] 'How U.S. cities can prepare for atomic war', *Life* (18 Dec. 1950), pp. 77–86. See also Zarlengo, 'Civilian threat', p. 934–5. Such dual reasoning was identical to that summoned by Eisenhower's well-known 1956 Interstate Highway Act. See M. Rose, *Interstate: express highway politics, 1939–1989*, rev. edn (Knoxville, University of Tennessee Press, 1990); F. Bello, 'The city and the car', in Whyte, *The exploding metropolis*, pp. 53–80; Jackson, *Crabgrass frontier*, p. 249; Dimendberg, 'City of fear'.

[88] Osborne and Rose, 'Governing cities', p. 749, 750. The cybernetic embrace of regulation by larger systems, and the subsequent weakening of individuality, was a key target in the popular critiques of 'organization man' and 'the lonely crowd' mounted by the sociologists William Whyte and David Riesman, respectively. See T. Melley, *Empire of conspiracy: the culture of paranoia in postwar America* (Ithaca, NY, Cornell University Press, 2000), p. 62–63.

[89] See P. Galison, 'The ontology of the enemy: Norbert Wiener and the cybernetic vision', *Critical inquiry* **21** (1994), pp. 228–66; P. Hall, *Cities of tomorrow: an intellectual history of urban planning and design in the twentieth century*, updated edn (Oxford, Blackwell, 1996), p. 327.

[90] Lapp, 'Atomic bomb explosions', p. 54.

[91] Oakes, *The imaginary war*, p. 109.

[92] Dimendberg, 'City of fear', p. 17. See also Dimendberg, 'From Berlin to Bunker Hill' and 'The will to motorization'. Dimendberg is, of course, gesturing toward C.C. Colby, 'Centrifugal and centripetal forces in urban geography', *Annals of the Association of American Geographers* **23** (1933), pp. 1–20. There is a troublesome, generalized inevitability to this model of centrifugal space (and its complementary predecessor, 'centripetal space'), and Dimendberg, playing somewhat loosely with time, is also dependent on the particular case of Los Angeles – a model used to advocate decentralization for *other* cities. In other respects, however, his analysis is an exceptionally suggestive one, particularly in the description of an emergent science of 'regional' or 'territorial' planning produced by the economic necessity of highways, and the cinematic traces of this discourse

[93] Quoted in Dimendberg, 'The will to motorization', p. 131.

[94] Beauregard, *Voices of decline*, p. 6; T. Englehardt, *The end of victory culture: Cold War America and the disillusioning of a generation* (New York, Basic Books, 1995).

[95] Monson and Monson, 'How can we disperse our large cities?', p. 92; Monson and Monson, 'A program for urban dispersal', *Bulletin of the atomic scientists* **7** (1951), pp. 244–50.

[96] E.W. Mechling and J. Mechling, 'The campaign for civil defence and the struggle to naturalize the bomb', in W.L. Nothstine, C. Blair, and G.A. Copeland, eds, *Critical questions: invention,*

creativity, and the criticism of discourse and media (New York, St. Martin's Press, 1994), p. 151.

[97] *General report: part one of the Project East River* (New York, Associated Universities, Oct. 1952), p. 16.

[98] MacCannell, 'Baltimore in the morning', pp. 40, 45.

Copyright of Cultural Geographies is the property of Arnold Publishers and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.