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Abstract:

From the middle of the Second World War until the early-1950s, architects, planners and designers in Britain made an unprecedented investment in reforming the built environment as a means to ensure a stable and secure post-war society. This essay reconsiders the importance of movement, trajectory and repetition within this reconstruction vision and how the organisation of these things provided a basis for imagining a new form of consensual urban community. The essay begins by exploring how the *County of London Plan* (Abercrombie and Forshaw, 1943) and the *Greater London Plan* (Abercrombie, 1945) articulated a set of spatio-temporal logics, based on the prescribed trajectory of the individual and embedded within a programme of quotidian repetitions. These logics suggested that urban space could be built to foreclose the possibility of historical conflict. The essay then explores the material design of two post-war exhibitions, *Britain Can Make It* (1946) and the Festival of Britain's *South Bank Exhibition* (1951), which offered visitors an experiential taster of what these new urban choreographies would feel like. To end, the essay explores the recurrent figure of the atom within post-war public pedagogy. Within this briefly ubiquitous mechanistic image could be found an unacknowledged assurance about how hierarchical structures of movement and repetition sustained the material world, just as these things were being invoked to secure London's position, across a range of scales from the local urban neighbourhood to the post-war Commonwealth.

Keywords:

Post-war London; Patrick Abercrombie; *Britain Can Make It*; Festival of Britain; atom; spatial programming.

‘EVERYTHING IS MADE OF ATOMS’:

THE REPROGRAMMING OF SPACE AND TIME

IN POST-WAR LONDON

For a decade following the middle of the Second World War, questions concerning the reconstruction of the urban environment received an unprecedented amount of attention in Britain. The aerial bombing sustained by London and other cities ushered to the forefront a generation of architects and designers who had been exploring the connections between social reform and urban planning during the 1930s. Against the material deprivation, social fragmentation and aesthetic disorder inherited from earlier uncoordinated building, towns and cities would be rebuilt to supply decent housing, schools and municipal buildings, and to foster a stronger sense of communitarian local identity. The built environment thus became accepted as a matter for social administration, to take its place alongside welfare, education and the public provision of culture within the state-led production of a prosperous, healthy and peaceful post-war society.

Central to this thinking was the wartime work of Patrick Abercrombie, Professor of Town Planning at University College, London and leading planning expert since before the First World War. Deeply influential were his two documents on the post-war rebuilding of London: the *County of London Plan* (1943), commissioned by the London County Council (LCC), co-written with the County Architect, J.M. Forshaw, and dealing explicitly with the central area inside the LCC’s jurisdiction; and its companion volume, the *Greater London Plan* (1945), commissioned by the Ministry of Town and Country Planning, and focussing on outer London and the place of the metropolis within its wider region.[1] Frank Mort has recently explored how these and other documents propagated a moral vision of the urban environment that extended far beyond the plans’ limited implementation.[2] Widely disseminated to the public through booklets, education packs, press coverage and exhibitions, they used a range of visual and rhetorical devices to rework older imaginings of the city and to establish lasting cultural notions about good civic living and the role of the planner in

promoting it. Against the disorder of the congested, overcrowded and sprawling city, the legacy of discredited Victorian laissez-faire economics, a new, cultivated urban fabric was imagined of revitalised organic neighbourhoods supported by sensitive land use, regulated traffic flows and more amenable population distribution. Through daily participation in and appreciation of such a planned city, Londoners would produce their metropolis as a revitalised national capital and the vibrant nexus of a dynamic post-war Commonwealth.

Abercrombie's London plans were part of a much wider reconstruction project that sought to rebuild a vibrant national community by reforming the population's understanding of their everyday environment. Recent accounts of this period have carefully explored how the type of moral urbanism expressed in Abercrombie's plans concurred with the work of state-sponsored agencies such as the Council for Visual Education and the Council of Industrial Design (COID) that likewise sought to teach the public how to value the material environment for its order, stability and fitness of purpose.[3] A visual appreciation of the urban fabric, such reformers hoped, would instil a sense of civic pride, and thus participation and conformity, amongst those who inhabited it. Such thinking drew its inspiration from a range of sources including the Geddesian tradition of regional surveying that had been influentially disseminated via Dudley Stamp's Land Utilisation Survey during the 1930s, and the wartime reinvestment, led by the *Architectural Review*, in the eighteenth-century picturesque tradition as an inspiration for a post-war English modernism more humane, democratic and indigenous than the cold abstractions of the international style.[4]

As Nicholas Bullock suggests, this return to the picturesque tradition was notable for the way it foregrounded movement and trajectory as vehicles through which visual appreciation could be promoted and achieved.[5] This essay builds on this work to re-consider the function of such orchestrated movement within the reconstruction vision of post-war London. For the engagement with reconstruction planning in Britain contained a set of prescriptive strategies that sought to organise the experience of space and time, not as a foil to promote certain visual understandings of the urban environment, but as the foundation for a more basic mode of quotidian social governance. Reconstruction texts were saturated with

specific spatial and temporal logics that differentiated the social body into mobile component individuals and inserted them into spatialised cycles of programmed repetition. This created a basic conceptual framework through which order, stability and national community could be sought via an investment in logics of repetition and control that loosely anticipated the development of cybernetics later in the 1950s.[6] Both Abercrombie's plans for London and the wider post-war re-imagining of the quotidian urban environment tacitly invoked a city outside of history, in which conflict, change and social upheaval would be perpetually foreclosed by an endless circulation around prescribed circuits of practice.

The first section of this essay explores the *County of London Plan* and the *Greater London Plan* to unpick the underlying logics of space, time and movement at work underneath. Cycles of repetition and routine were basic to Abercrombie's vision, as the programmable means through which London's consensual, interclass metropolitan communities would be sustained. These plans contained within them deep prescriptive choreographies that promoted an assumed moral imperative concerning how and how not to move through the post-war metropolis.

The middle section of this essay finds these logics at work elsewhere, notably within two important reconstruction exhibitions that both offered visions of what life would be like in post-war Britain. The first of these, *Britain Can Make It*, was organised by the COID and ran from May to December 1946 at the Victoria and Albert Museum in Kensington. It showcased the design quality of British manufacturing, seeking both to stimulate exports and to teach the British public about the importance of good design within everyday life. Its 1,432,546 visitors were three times the initial number expected, and its influential vision of good modern living was further disseminated through the largely favourable press coverage the exhibition received.[7] The more familiar *South Bank Exhibition*, the flagship of the Festival of Britain, took almost eight and a half million visitors between May and September 1951 around a series of pavilions that told 'the story of British contribution to world civilisation through the medium of tangible things'.[8] Crucially, both exhibitions used innovative new design techniques to communicate their visions, which created experiences of time, space and

movement deeply in tune with the logics sketched out in Abercrombie's plans. If the London plans covertly revealed the choreographies that would structure citizens' movements through the metropolis, *Britain Can Make It* and the *South Bank Exhibition* offered those citizens an affective taster of how such choreographies would feel to live through.

Alongside its emulation of the new urban environment, the Festival of Britain was notable for its engagement with atomic physics and its foregrounding of the atom within its programmes of public education. Unsurprisingly, the atom was a major preoccupation of the late-1940s and early-1950s, as the public came to terms with both the destructive potential of the atom bomb and the massive peacetime benefits promised by nuclear power. The final section of this essay reconsiders this post-war atomic pedagogy and suggests that the atom's forceful presence within the reconstruction imaginary was in some way connected to the mode of urban planning within and alongside which it was presented. This is not to claim a causal chain of influence between advancements in atomic science and the ascendancy of planning discourse; there is little evidence, for instance, that Abercrombie and others conceptualised the urban environment in strictly atomic terms. Rather, it is to suggest that the mechanistic model of the atom on show during the reconstruction did some unacknowledged work in its demonstration of how space, time and movement sustained a stable, natural order. The atomic structure, as it was put on display, contained important logics of time, space and repetition that resonated deeply with those at work in reconstruction planning. The strength of this confluence suggests that the atom had an overdetermined importance in London after the Second World War, not only as a pedagogical tool for explaining nuclear physics to the public, but as an unconscious symbolic device for imagining how a new social order might be structured across a range of scales from the neighbourhood to the Commonwealth.

The *County of London Plan* and the *Greater London Plan*: Reprogramming London

In planning historiography, Patrick Abercrombie's plans for the rebuilding of London are most notable for their investment in zoning principles and for their ambitious plans to

remove over a million Londoners from the overcrowded inner city, largely into eight new satellite towns to be built beyond the Green Belt.[9] Less examined has been the plans' attention to London's social fabric and the founding drive to refashion the city into a network of sustainable neighbourhood communities. In this, Abercrombie borrowed from the American planner Clarence Perry as well as from the recent work of Britain's National Council for Social Service, but his full-scale metropolitan engagement with neighbourhood planning marked a radical departure in the British context.[10]

Reworking the ideas of Raymond Unwin and the Garden City Association earlier in the century, Abercrombie argued that a healthy urban community required the inclusive interaction of members drawn from all social classes. This nostalgic return to a mythic idea of the pre-industrial village positioned the urban neighbourhood as a microcosm for the wider inclusive national community at the heart of the new welfare state. The *Greater London Plan* denounced the interwar speculative building of suburban estates for its removal of young middle-class couples from the city centre, and the subsequent segregation of local districts by age and class.[11] Against this, Abercrombie asserted the planner's authority over the workings of the market, to alter the city's demographic make-up and 'provide for a greater mingling of the different groups of London's society'.[12] Unchecked suburban building was to stop, and solely middle-class districts of the city opened up to inhabitants from a wider spectrum of classes. Large private gardens and playing fields were to be requisitioned and made available for public recreation, and the Georgian squares of London's West End would remain without the railings that had been removed to aid the war effort.[13] Similarly, the 'so-called "high-class" lodging houses' in the districts around the Royal Parks were to be forcibly converted into modest flats, with 'rentals within the reach of the normal Londoner whether in factory, office or shop'.[14] In Mayfair and its surrounds, West End shop assistants, clerks from the City, and workers from the nearer East End factories would revitalise the resident upper middle-class community, to the social benefit of all. Outside London, the eight proposed New Towns provided an opportunity to forge such communities from scratch. Here as elsewhere, Abercrombie's rhetoric was one of wilful interclass mingling. Alongside the working-class

families decanted from over-crowded inner-city slums, 'the clergyman, the doctor, the bank manager, the factory manager, the retired person and many others' would soon move out, along with 'shopkeepers and business folk' eager to take their place within these brave new communities.[15]

To the modern reader, Abercrombie's vision of a network of local cross-class communities seems deeply contradictory. His privileging of job titles speaks of a hierarchical and class-marked society, but class difference is repeatedly envisaged through community and consensus rather than the kind of conflict and antagonism that had marked the interwar years. The London plans facilitated this paradoxical vision through a strange doubling of its inhabitants' existence. Alongside their occupational position within the urban economy, 'the Londoner' emerged as a generic discursive category and an individuated figure around which a new form of citizenship could be developed. Abercrombie's plans were premised on a basic modular unit: the fixed minimum 'general living conditions' required per head of population, defined as a necessary quantity of 'living space' and 'play space'. Londoners, it was claimed, should live no more than 136 to an acre, with four acres of recreational open space per thousand people, and this requirement was explicitly privileged over other industrial or military considerations.[16] By invoking the generic Londoner in this way, this calculation established a logical foundation on which a re-imagined city of order and consensus could be built.

The use of 'living' and 'play' space was symptomatic of an approach that charted London through the quotidian activities of its residents' bodies. In part this was an inheritance from the tradition of geotechnic regional planning, first developed by Patrick Geddes but widely disseminated through L Dudley Stamp's Land Utilisation Survey in the early-1930s, that sought to redefine the landscape in terms of sympathetic human use.[17] The Green Belt, that ring of open land around London on which building had recently been prohibited, was appealed to in the London plans entirely as an amenity for the metropolitan population. It was justified because it provided a location for 'walking, bicycling, picnics, etc., and for holidays of short duration', such that 'the inhabitant of inner London [could] get free of buildings and

seek his [*sic*] recreation in the open countryside.'[18] But in approaching such sites only through the prism of appropriate human activity, the landscape was already here positioned as an active regulatory agent caught up, through its very existence, in the symbiotic production of a prescribed set of social practices.

Indeed, Abercrombie's most basic prescription for zoning the city re-imagined it as a patchwork of spatialised activities. He and Forshaw attacked the 'veritable peppering of whole [residential] districts with factories', an inheritance of the nineteenth century, as 'a hybrid type of development' in which the domestic and the industrial were unhealthily intermixed.[19] After the war, they insisted, such factories would be relocated in special industrial estates, close by but clearly separate from distilled areas of housing. Such zoning strategies had been developed in the United States, initially to help preserve the value of real estate; but here the pragmatic removal of noise, pollution and traffic congestion from quiet residential neighbourhoods concealed a deeper investment in a strategy of social management. Re-imagining plots of land through their dominant usage parcelled up the city into discrete monological areas, each one spatialising a set of proscribed activities through which their existence was legitimated. The founding urge to separate paid work, domesticity and recreation, by reproducing these activities in discrete locations, concealed an imperative to render them distinct and manageable areas of life.[20] Abercrombie's plans, therefore, envisioned a metropolis in which Londoners could be administered through the planned spatialisation of specific types of activity.

Unsurprisingly, the plans displayed a strong anxiety towards any urban spaces whose function was unclear or confused. A major offender was the Children's Play Street, a 1930s innovation in which non-residential motor traffic was prohibited from entering a side road, to facilitate the street as a makeshift urban playground. Described by Abercrombie and Forshaw as 'the worst recreation defect of the old London boroughs', the play street was unsatisfactory because it was 'an attempt to use land for two incompatible purposes.' Instead, they argued, 'something properly designed for play in right relation to house and school should be provided.'[21] Away from these more supervised sites, the play street was undesirable as an

ambiguous space with excessive possibilities.[22] Beyond the physical risk to children, it raised the spectre of a play that was disordered and uncontrolled. A proper space for play, by spatialising its activity within the right conditions, would clearly coalesce as a space for proper play.

This will towards the proper ordering of activity made the re-imagining of London as much about the organisation of time as about the organisation of space. Open spaces and parkland, for instance, were to be systematically provided not only for all age groups, but for their weekend needs and 'for in school and out of school hours.'[23] The plans paid particular attention to the configuration of London's spaces as their users experienced them, imagined in terms of a generic individual (or, rather, a set of generic individuals marked by differentials of class and gender) that moved around the metropolis. A major stated objective of the plans was to 'reduc[e] the excessive amount of time and money now spent in travelling between residence and work place',[24] conceived through the figure of an 'average man', living on a suburban LCC estate (and so implicitly upper working-class), who currently travelled 16 miles a day and spent £12 a year on commuting.[25] The *County of London Plan* declared, 'the ideal situation for people to live in is within reasonable distance of their work but not in such close proximity that their living conditions are prejudiced by it', a 'reasonable distance' persistently figured less by mileage than by the time that journey took. [26] In response, the planners repeated earlier calls to rationalise London's transport network, integrating road, rail, river, and air traffic to accelerate the flow of people between its zones of work, home life and leisure.[27] Roads were to be classified according to their type and speed of traffic, to lessen congestion and shorten journey times. Similarly, the relocation of workers within the upper-class districts of the West End was couched as a means to cut commuting time alongside the fostering of interclass local communities.[28]

Whilst this clearly sought to improve London's economic efficiency, it revealed a simultaneous desire to govern Londoners' lives through the contiguous co-ordination of the spaces they traversed. The planners sought not only to order activities, but to arrange them within temporal sequences through the imagined Londoner's daily routine. Temporal

considerations ultimately took priority; for instance, minor retail businesses would be allowed within residential areas, in marked contravention of basic zoning principles, if it reduced the housewife's trips to the local central shopping precinct.[29] This attention to the wife's shopping trip, like that to the twice-daily commute of her husband, conceived the individual's trajectory within regular cycles of repetition. This was equally evident in the envisioning of the Green Belt through 'weekend recreation' and annual 'holidays of short duration'.[30] London's planned spaces were to form an effective totalised patchwork extending over the surface of the city, but they were also to totalise the Londoner's time, inserting the individual into a prescribed routine of work, home life and organised leisure. Only through the total organisation of everyday time could non-managed activities be, literally, prevented from taking place.

The plans were particularly attentive to interstitial portions of the day in which the monological constructs of functional planned space were at their weakest. Commuting time, as neither work, domesticity nor leisure, suggested a potential disorder akin to that of the play street. The weekday lunch hour was another such interstice. The *County of London Plan* asserted that strips of landscaped greenery should be built between industrial and residential areas to provide 'a valuable lunch-time recreation ground for factory workers'.[31] Beyond utility, such spaces suggested a desire to manage how workers spent this ambiguous hour, whilst fixing it, through its spatialisation, as a programmed part of the weekday routine.

The *County of London Plan* contained a telling passage in which Abercrombie and Forshaw discuss those activities to be encouraged within the Green Belt. They cite the Ramblers' Association as the proper way to spend time in the countryside, and argue: 'When escapism becomes of a mass character it must be organised – otherwise it tends to defeat its own ends and leads to mutual disadvantage and untidiness'.[32] Organised and collective, but participatory and consensual, such bourgeois prescriptions for working-class leisure had developed progressively during the interwar period; but Abercrombie and Forshaw extended them into a wider ethos for managing urban space.[33] Through the organisation of metropolitan spaces, the Londoner would go on a prescribed and predictable urban trajectory, at once

predetermined and chosen. Everyday movement, enacted through choreographed cycles of repetition, worked towards a governance of social life that was bound to an emergent mode of participatory post-war urban citizenship. The inclusive democracy suggested by this new, more egalitarian figure of the Londoner was made possible by their imagined compliance in the prescribed circuits built into the city.

This, ultimately, allowed Abercrombie to envisage London as a network of harmonious interclass local neighbourhoods. The careful co-ordination of everyday practices meant that the terms of such 'mingling' could be spatio-temporally managed. The plans sought to instil 'a sense of civic pride and of healthy corporate life' by redeveloping special 'centres of community life' to which 'the inhabitants [would] automatically gravitate for their social, educational and cultural activities'. Located at the approximate centre of each local area, these would contain a cluster of municipal and commercial buildings, such as shops, markets, museums and public libraries. '[I]f the closer integration of individual communities is made a reality,' Abercrombie and Forshaw argued, 'the functioning of these varied centres as vital elements in community life will be greatly facilitated, and the inhabitants will benefit correspondingly.'[34] The spatial locus would be the local junior school, which would play 'far more of a role in the life of the community than it does to-day';[35] itself a telling symbol for the highly managed context in which post-war urban sociality was to take place.

But, more fundamentally, the investment in cycles of routine and repetition set the more profound conceptual conditions for a vision of stable community. Abercrombie believed London to be structured around a set of archaic village communities, whose boundaries had been blurred by Victorian development, but whose identities lived on in the 'strong local loyalty' Londoners felt to their district.[36] The task of London's post-war planners was to reinvigorate these ancient villages, re-emphasising their historic boundaries by routing main roads around them and fringing them with strips of landscaped parkland; a strategy again borrowed from Perry in the US.[37] This increased segregation, though never to the detriment of

their connection to the wider metropolis, would revitalise Londoners' sense of belonging within their own neighbourhood environment.[38]

This founding vision reveals the profound conservatism underneath the plans' apparent modernity. Abercrombie's neighbourhoods would restore the ancient municipalities of the past, producing a metropolis superficially historical but deeply ahistoric. The traumas and transformations of the previous century were to be erased under the mantle of tradition and continuity, cleansing London of its conflict and smoothing out its history into one long *durée*. Abercrombie sought to rebuild the city outside the temporality of industrial modernity, eviscerating history of the disruptive event. Classes would mingle in consensual civic harmony because their city was to approximate an ahistorical vacuum, with historical time kept at bay by the endless routines being built into the urban fabric. The individual Londoner, making their daily journey from home to work, or their weekly trip into the Green Belt, would perform a pre-programmed dailiness that would, in itself, preclude the eruption of the historic and the unforeseen. History and conflict would be replaced by eternal repetition, enacted through the planned trajectory of the Londoner's everyday. Within the founding structure of the *County of London* and *Greater London Plans*, therefore, was a compulsion towards a new morality of movement, in which civic participation and social contribution became materialised as a matter of following the paths and circuits built into the fabric of the city.

Britain Can Make It **and the** ***South Bank Exhibition*****: Experiencing New Urban Choreographies**

Britain Can Make It and the *South Bank Exhibition* offered Londoners a clear sense of what this civic participation would feel like. Through their physical layout and display innovations, they fleshed out the logics of movement, freedom and compulsion articulated in the plans. Abercrombie had forcefully presented 'London' as the conceptual scale through which social governance could be imagined. Both exhibitions shared this totalising impulse, projecting highly influential visions of post-war everyday life that aspired to a comprehensive

and organised completeness. *Britain Can Make It*, an 'exhibition of design in everyday things', displayed consumer goods from all fields of British manufacturing, offering visitors an inclusive vision of the material fabric of their post-war lives. The implication expressed through the show was that everything one needed was here on display; thus, no part of life was outside its scope. The *South Bank Exhibition* offered a similarly inclusive survey of Britain, its land, its people, and its traditions of scientific discovery. The totalising briefs of these displays, though obviously deeply selective in practice, enhanced their authority and helped ensure their lasting influence over the post-war imaginary.

Importantly, such inclusivity was identified through the presentation of a coherent and unitary space. *Britain Can Make It* was held in a closed section of the Victoria and Albert Museum, and the *South Bank Exhibition* was built on a special site 'so newly won from the river [Thames]',[39] whose location gave the exhibition its name. Both made extensive use of floor plans in leaflets and guidebooks [figs. 1 and 3]. Visitors got an immediate sense of the exhibition space as a conceptual whole, whilst simultaneously locating their own place within it. Both shows reinforced this sense of coherency through a co-ordination of design, encompassing all visual materials from architecture to signage.[40] As the *Architect's Journal* wrote of the South Bank, for instance, this was 'a still greater thing than architecture, a modern *background*, a twentieth century urban environment'.[41]

The commodities shown at *Britain Can Make It* were grouped according to their function, in separate rooms such as 'Domestic Power Appliances', 'Travel Goods', 'Garden Tools' and 'Books'. The South Bank replicated this on a grander scale, dividing its exhibits between 16 themed pavilions, with monikers such as 'Homes and Gardens', 'The New Schools', and 'Sport'. This re-enacted, on a smaller scale, Abercrombie's fragmentation of the everyday into a set of discrete units, spatially controlled through an imagined monological usage. Of equal importance, *Britain Can Make It* and the South Bank were the first major British exhibitions to arrange their displays along a pre-designated route; a device previously developed by a series of much smaller Ministry of Information exhibitions held during the war. Built space was constructed to produce a predetermined pathway, emphatically

reproduced on the ubiquitous floor plans. Thus visitors experienced both exhibitions as a succession of separately demarcated activities whose arrangement, like that of Abercrombie's zoned city, worked towards a coherently programmed order. The movement of the visitor became the central factor and the organising principle of the whole environment.

When the industrialist John Nicholas visited *Britain Can Make It*, he confessed, 'to my delight, I found myself moving through a vision, a succession of scenes each one obviously created by an artist, and all co-ordinated and controlled within a single conception.'[42] At *Britain Can Make It*, visitors enacted their relationship to planned space through a prescribed choreography that rendered them passive through an experience that was also one of collective participation. Herbert Read discerned this when he compared *Britain Can Make It* to a 'vast intestinal tract' where 'traffic is peristaltic and progress inevitably in one direction';[43] the crowd's motion encouraged involuntary movement as it propelled the visitor along the prescribed route. The tight layout even included special spaces marked 'You May Rest Here' to remove weary visitors, temporarily, from the perpetual collective flow.

As in the London plans, this will towards spatial regulation produced a notable anxiety around time. The exhibition's *Guide* instructed visitors on how long they should spend circulating around the displays:

> On your first visit, look carefully at them all. If your time is limited, make up your mind in advance and stay longest in certain chosen sections. But in any case, after your first general survey, come again and concentrate specifically on the things that interest you most.[44]

Tellingly, when the COID commissioned Mass-Observation to investigate visitors' responses to the show, they soon became pre-occupied with how long people spent in each component section. The resultant chart, 'Time Spent in Each Section of Exhibition' [fig. 2], compared the real time visitors were taking with an established 'normal walking time' determined by the comparative size of each display. This document is remarkable not only for its concern with visitor

movement, but for its frantic desire to establish a normative pattern of movement in the first place against which the actual flow could be measured.

Similar devices structured a visit to the South Bank. Exhibition plans featured bold lines to indicate the route around which visitors should circulate [fig. 3]. Yet due to its much larger size, the designers had to employ more subtle forms of control. The *Architectural Review* wrote of how: 'as the visitor walks round it, with its thematic story unfolding before him [*sic*], he might as well be exploring a subtly designed town';[45] and like such a town, the South Bank's numerous piazzas, cafes and rest spots made the marshalling employed at *Britain Can Make It* pragmatically impossible. Thus, as the *Architectural Review* explained:

> There are many places where the town-planner needs to guide the pedestrian in one direction rather than another and prevent his feet straying where they shouldn't. Rather than rely on the solid wall or the forbidding high iron railing he can make use of many more imaginative means, generally known as 'hazards,' which, instead of putting a solid barrier in the pedestrian's path, *suggest* a barrier by subtle psychological means: by the use of slight changes of level, of water, of grass and of planting. The potential decorative value of these is illustrated in many parts of the exhibition.[46]

This terminology, of 'guidance' and 'suggestion', captured the paradox underlying the entire reconstruction project. As the South Bank's 'The Lion and The Unicorn' pavilion proclaimed, the British had valued the principles of personal freedom since the signing of the Magna Carta, but such traditions were clearly in tension with the choreography of compliance sketched in the London plans. 'Hazards', as much as the Ramblers' Association and the rezoning of the urban neighbourhood, seemed to offer a resolution. Through the construction of a 'gu iding' environment, the individual could be encouraged to move in certain ways, at certain speeds and in certain directions. A form of spatial citizenship was being imagined, at once coercive and consensual.

The fragility of this construction suggests the real impetus behind the South Bank's turn to narrative as the organising principle of the exhibition. As the exhibition *Guide* explained to visitors:

> The Pavilions of the Exhibition are placed in a certain deliberate sequence on the ground as chapters are placed in a certain deliberate sequence in a book. And, within each Pavilion, the displays are arranged in a certain order, as paragraphs are arranged in a certain order within each chapter of a book.[47]

As *Picture Post* wrote, the entire site was 'an imaginative attempt to work out our story in logical sequence from the very land itself to the homes we live in and the games we play today.'[48] The *Guide* made clear that to ignore the route would prevent an understanding of the force and dynamism of 1950s Britain:

> This is a free country; and any visitors who, from habit or inclination, feel impelled to start with the last chapter of the whole narrative and then zig-zag their way backwards to the first chapter, will be as welcome as anyone else. But such visitors may find that some of the chapters will appear mystifying and inconsequent.[49]

Following the trajectory became a duty of citizenship, in which participation in the collective flow enacted the very qualities of Britishness that such participation would reveal.

Commentators have already noted the lack of dynamism in the South Bank's story of Britain. Owen Gavin and Andy Lowe have observed how its tour lacked any real narrative structure, with no marked beginning, climaxes or end. Instead, they argue, the exhibition's 'story' merely served to keep the eye moving, so it could be presented, at each turn, with new vistas over the site from unexpected viewpoints.[50] On one level, this reflected the post-war return to the lauded principles of the English picturesque. As the *Architectural Review* had explained in 1944, "contrast, concealment, surprise [and] balance" were endemic to "the surface antagonisms of shape which a vital democracy is liable to go on pushing up in its architecture as a token of its liveliness."[51] But in so ordering the visitors' feet, the story that the exhibition told was always more than an alibi for a certain mode of looking. It became a

device for effective social management, foreclosing mass disorder through the ceaseless implementation of planned space and time. Through this, the determined collective movement through and across the site communicated in itself the experience of urban citizenship being designed for the townscapes to come.

Becky Conekin argues that the *South Bank Exhibition* rehearsed a 'trans-historical, trans-class' view of Britain. Its Janus-like exploration of both the past and the future depicted a healthy, stable nation in which scientific advances would ensure the enhanced survival of 'our' great national traditions long into the future.[52] This was, of course, also Abercrombie's message; that planning science would revitalise, strengthen and ensure the continuance of London's archaic communities. But in this, the trans-historical hid the ahistorical, with historicity invoked at the expense of history precisely to foreclose the possibility of the disruptive event tearing through the seamless continuity of tradition. The layout of the South Bank, in mimicking the urban neighbourhoods of Abercrombie's imagined London, showed visitors that to move along the prescribed and repetitive circuits laid out by the planner was the way to ensure Britain's place within the post-war world.

A similar message was communicated by the section of *Britain Can Make It* called 'Furnished Rooms', possibly the single most striking vision of the post-war urban neighbourhood. Subtitled 'Things in Their Home Setting', these were twenty-four life-size interiors built to demonstrate how well-designed British commodities could be used to construct interesting and modern domestic spaces [fig. 4]. Their popularity was clear from Mass-Observation's report; twice as many visitors voted them 'the thing that interested them most' about the exhibition, whilst people spent a proportionally greater amount of time looking at them than at anything else in the show.[53]

Room mock-ups had been a common device in department stores and trade shows between the wars, but *Britain Can Make It*'s popular display emphatically reworked the form towards its own pedagogical preoccupations. As individual visions of space, less concerned with their component objects than with their overall arrangement, the rooms presented, on a domestic scale, the reconstruction imperative towards total spatial management. Their major

innovation, however, lay in their particular address to the visitor. As a COID press release explained:

> Each room was visualised as belonging to a particular family of a certain size, the breadwinner being of a certain occupational status. Information about each family, with a sketch of imaginary members by Nicholas Bentley, is displayed on the facia of each room, and the designer's task was to work out an appropriate plan for the equipment, functioning and decoration of the room.[54]

Together, the Furnished Rooms presented a vision of interclass community reiterative of Abercrombie's urban neighbourhoods. Here, the living-room of a middle-aged storeroom clerk and his picture-going wife stood alongside the kitchen of a Managing Director, his well-travelled wife and their daughter, now at boarding school. This democratic juxtaposition was underscored by the common design sensibility that united all families within the same functional, clean and pleasant way of life. The focus on inhabitants' occupations suggested communal partnership within the national economy rather than class difference as such. Indeed, when *The Times* wrote that the rooms were actually for members of different 'classes', co-ordinating designer Gordon Russell swiftly countered that 'a real attempt had been made to furnish them for people doing various *jobs.*'[55]

These fictional characters encouraged visitors to identify with particular family groupings and through this to recognise their place within an inclusive community at once local and national. This identification also positioned the visitor as a quasi-planner, as they related these interiors to their own homes and reflected on the value of the various spatial arrangements. Yet, as with Abercrombie's model communities, this neighbourhood vision concealed a deeper conservatism not immediately apparent, for this communitarian image was only realised within the visitor's perception as they progressed from one display to another. The rooms themselves were impermeable to all but the viewer; the storeroom clerk may have lived side by side with the director, but they were only linked by the layout of their furniture and their sympathetic colour schemes. The only cross-class interaction in evidence,

the managing director's 'two maids and a manservant', remained mediated through structures of capital. The Furnished Rooms, echoing the London plans and the layout of the South Bank, clearly set the limits of its own urban community as produced and managed through the marshalling of individuals along the path of the exhibition. As *Britain Can Make It* made clear, interclass 'mingling' was not to take place in the domestic spaces of the post-war metropolis, but only in those centres where collective sociality could be choreographed and managed, such as the exhibition halls of the Victoria and Albert Museum itself.

'Everything is Made of Atoms'[56]

Simon Rycroft has shown how the mid-century development of new scientific technologies had a deep impact on British planning ideologies. New images produced by the microscope and telescope 'revealed' that the natural world was governed by a set of microcosmic structures to be found replicated in nature across all scales. Planners, already schooled in the organicist approach of Patrick Geddes, began to suggest that by re-forming the built environment in adherence to these forms, a harmonious symbiosis could be found between the social and natural worlds, for the optimum health and happiness of human civilisation.[57]

The immediate post-war period marked the highpoint of this thinking, and events like the Festival of Britain made stringent efforts to teach the British public about the basic structures of the material world. The *Exhibition of Science*, held at the Science Museum in Kensington over the summer of 1951, introduced visitors to the biological cell as the basic element of all life, as well as an aesthetic form with its own microgeography that was made to resonate across a number of related scales. Each cell, the exhibition taught, comprised of a central nucleus surrounded by a mass of cytoplasm, enclosed by a permeable membrane that bound it together whilst allowing it to function in relation to the rest of the organism. The *County of London Plan* had already featured an illustration figuring London in an analogous way, with its district communities as a mass of fleshy cellular blobs, separated by

undesignated areas of white and with healthy red dots to mark the municipal nuclei [fig. 5].[58] This analogy between urban community and cell was reiterated in the *Guide* to the *Exhibition of Science*, where visitors were interpellated as transient components within a larger trans-historical urban body:

> The material of every living cell in the body must be constantly renewed; yet the whole body keeps its identity. The body is like a town; each year some people die and some are born, yet the population remains the same.[59]

The microcosm of the cell and other related biological microstructures remained an influential source of form in both planning doctrine and the wider visual arts well into the post-war period.[60] But within the reconstruction moment, the British public were made forcefully aware of another, more mechanistic, microstructure on which the stability of the natural order rested: the atom. It is hardly surprising that the figure of the atom should have been prominent in post-war public education. The successful fission of uranium in 1938, followed by the bombings of Hiroshima and Nagasaki seven years later, announced a devastating yet poorly-comprehended new force in the world, whilst the attendant possibility of nuclear power generation seemed to offer a way for Britain to reassert its international position through increased industrial output and the resultant social prosperity. As with town planning, newsreels, paperbacks and public exhibitions came together to frame and dissipate a popular knowledge of nuclear physics.[61] At the Festival of Britain alone, the atom was made a central theme on the South Bank (where, in the Dome of Discovery, it was presented as a 'whole new territor[y] of beauty and order'[62]), at the *Exhibition of Science*, and at the *Industrial Power Exhibition* held in Glasgow.

The rhetoric of such public pedagogy generally contrasted a cautious optimism about the potentials of atomic energy against an image of global apocalypse. Common throughout was an attempt to translate atomic power into a quotidian and familiar context. One newsreel, for instance, showed an aerial photograph of London with a white line marking the four square miles that would be 'vaporised' if a bomb was dropped on Tower Bridge.[63] Another

showed a close-up of a piece of dress fabric, before cutting to a shot of a woman's back on which the pattern had been branded by the heat of an atomic blast. [64] The potential benefits of nuclear physics were harder to bring home and led to some remarkable pedagogical strategies. In 1951, the Festival Pattern Group, a co-ordinated grouping of British manufacturers, produced a range of domestic furnishings using patterns derived from atomic crystallography. In the South Bank's Regatta Restaurant, visitors walked on carpets patterned with the molecular structure of resorcinol and used glass ashtrays decorated with a pehtaerythritol design. One manufacturer even produced a dress silk based on the structure of haemoglobin in fuchsia, lemon and black on a background of turquoise and pink.[65] Neatly combining a programme of scientific and aesthetic education, a brand new pattern for a woman's dress became a kind of panacean alternative to its disavowed other, a dress pattern branded into a woman's flesh.

At the *Exhibition of Science*, the atom was again reconfigured in terms of the domestic everyday; for instance, the concept of chemical elements was introduced through a discussion of the types of atoms found in a fish-slice.[66] More crucially, the exhibition played with the experience of scale to position the atom as both 'the fabric of modern life' and 'the very substance of the world about us'.[67] The exhibition had an innovative entrance section consisting of five darkened rooms through which the visitor approached the main display hall. As the *Guide* advised, this sequence of rooms would 'take you, step by step, into the heart of matter'. In the first, the visitor saw a pencil and a piece of paper. Then, between each subsequent room, they shrank 'like Alice in Wonderland… first to the size of the pencil, and then to the thickness of the paper'. In the fourth room, the visitor was small enough to see the crystals of the pencil's graphite; 'and then a last step, and you are ten thousand million times smaller than you began, and now you see into the atoms themselves.'[68] Through this presentation, the atom became both the fundamental particle in the construction of the material world and, through its expansion, the literal basic structure of the visitor's built environment.

This striking vision of the individual shrinking until they 'can stand within an atom'[69] suggests an excessive if, perhaps, unconscious investment in the atom as figure through which to approach the external material world. As a stable and ordered microcosmos, the mechanistic structure of the post-war atom provided an unacknowledged heuristic device for exploring how space, time and individual movement could sustain a social order as secure, eternal and unchanging as the building blocks of matter themselves. Beyond the pedagogical intentions of the exhibitions' designers, these atoms could not but reassure their visitors that repeated circulations could provide the foundation for a coherent physical world. At the *Exhibition of Science*, for instance, the display taught visitors how the atom's spatial structure was rooted in a relation between a heavy, stable centre and a set of individuated mobile units:

> Each atom consists of a heavy nucleus at its centre, and electrons moving round it in such a way that they are more likely to turn up in some places than in others. We can picture each electron spinning a sort of cloud round the nucleus; where the cloud is thickest, there the electron is most likely to be found.[70]

This image of the atom was highly mechanistic, but it revealed how nature's stability and order always depended on a set of repetitive and predictable choreographies. In this, it echoed the logics of governance being worked out in Abercrombie's plans, on the South Bank, and elsewhere in reconstruction London.

The reconstruction atom reinforced the dynamics of the new urban order in two related ways. Firstly, the atom was presented as timeless and eternal, inhabiting its own temporality at once stable and natural. Like Abercrombie's village communities or the South Bank's version of 'Britain', it was both archaic and modern, existing for all time but only made visible through the very latest scientific advances.[71] It was eternal and ahistorical, undisturbed by the trauma of historic events. At the same time, its stability depended on the constant circulation of electrons, perpetually encircling the nucleus along predictable and pre-ordained paths. Like the spatialised routines of Abercrombie's generic Londoners, the atom's

stability was neatly expressed through a double temporality, an eternality achieved through the natural management of a continual repetition.

Secondly, the atom presented a structure that was essentially democratic. Its division into a stable nucleus and multiple encircling electrons provided a hierarchical model of centre and periphery, but one that gave the two particles a formal equality within the maintenance of its equilibrium. Electrons retained an imagined autonomy in their repetitive orbits, yet where they would travel was more or less known in advance. When the *Exhibition of Science* described these orbitals as where electrons were 'most likely to be found', it captured perfectly the dialectic of consensual control at the heart of reconstruction planning, echoing both Abercrombie's trajectories and the guiding hazards of the South Bank.

Crucially, this presentation of the atom as an ordered and stable hierarchy of flows resonated with the wider way in which the role of London was being re-imagined after the war. Across a range of scales, London was undergoing a process that Rycroft has described as 're-capitalisation'; that is, its cultural re-centring as the radiant epicentre within a number of related spheres of influence.[72] As it emerged from the traumas of the Second World War, London's future as a post-imperial capital was increasingly recast in terms of flows and circulations that, whilst providing the mechanism for how it's centrality would be secured, were conceived in such a way that a formal equality was maintained between the centre and its peripheries. On the regional scale, this was acutely captured in Abercrombie's proposed New Towns. A planning motif already well developed by the 1930s, the New Towns were to be built beyond the Green Belt as autonomous, self-sustaining communities.[73] Independent of London in terms of employment, the centrality of the capital would still be ensured by a regular circulation of goods and people. Thus, argued Abercrombie, the New Towns should be 'sufficiently far out to deter people permanently from travelling backwards and forwards,' whilst still 'rely[ing] on London for their major amusements and important cultural activities'[74] and as the primary market for their decentralised industries.[75] Tellingly, the *County of London Plan* invoked an atomic rather than planetary metaphor to situate London, as a 'dense nucleus encircled by a series of more or less important closely-knit townships'.[76]

Such circulations also became important as Britain tried to reposition itself within the post-war world. US pressure to sign the Atlantic Charter in 1941, followed by nationalist agitation and constitutional concessions in many of the colonies, produced a general unease at the prospect of imperial dissolution. Against this, the Commonwealth became crucial as a vehicle through which post-war stability could be imagined, increasingly conceived as a democratic association of autonomous equals in which, paradoxically, Britain remained the privileged centre.

During the reconstruction, the terms of Britain's centrality were repeatedly imagined through a set of circulations and flows, of people, capital, commodities and ideas. *Britain Can Make It*, for instance, was conceived largely to attract visitors and buyers from the old colonial territories, and many of the fabrics on display exploited motifs and colour schemes that signified economic or kinship status within tribal cultures.[77] Such imagined trade routes, institutionally supported by the continuation of the Sterling Area, were thought vital to maintaining Britain's markets in the face of competition from the US. In a sense, the exhibition space itself acted as a microcosm of the Commonwealth, the orchestrated circulation of visitors mimicking the international flow of goods and sterling that it was designed to stimulate. In a similar vein the Festival of Britain, also marketed as a lucrative draw for overseas visitors, made much of how 'our' place in the Commonwealth would be secured by the global flow of enlightened ideas, scientific discoveries, and democratic traditions that emanated from Britain and circulated outward via the historic English language via print or though the 'radio system which itself is part of out contribution to the welfare of mankind.'[78]

In the *County of London Plan*, Abercrombie and Forshaw wrote of how: 'it is for this new world, foreshadowed in the Atlantic Charter, that the Capital of the Commonwealth must prepare itself.'[79] Towards this end, the area round Westminster Abbey and the Houses of Parliament was to be replanned as a focal point for 'chief ceremonies of State' and as a 'centre for countless visitors':

> The noble group of buildings around the nation's ancient shrine calls for a

> more tranquil setting without the distractions associated with great volumes of quick-moving and heavy traffic. It demands, too, for ceremonial occasions, a dignified and reasonably spacious environment.[80]

Although the description of this envisioned space as 'the heart of the Commonwealth' still appealed to an organic register, the underlying logic was one of regulated circulations. The status of this area was to be secured through the absence within it of ephemeral flows; its insertion not into the quotidian orbits of ordinary Londoners but into the wider, more reified circuits of its 'countless visitors' from the Commonwealth and elsewhere. London's position as the nucleus of the Commonwealth was dependent on the same managed trajectories as were its position in the region and the stability of its neighbourhoods.

Conclusion

It is fitting that when Robin Day designed a poster for the Kensington *Exhibition of Science*, he placed Britain at the nucleus of an atomic structure [fig. 6]. At the centre of a set of regular orbitals, Britain, this image suggested, was securely positioned to face the challenges of the post-war world. But such identifications were also being made across a number of spatial scales. At the heart of the post-war reconstruction lay a new understanding of the urban environment in which the repeated performance of routine, facilitated though the spatialisation of social activities and their sequential co-ordination, effected a vision of social stability and security. Predominantly, such ideas were still articulated through a rhetoric of the organic that drew heavily from images of microscopic biology. Yet underneath lay a more cybernetic mode of social governance in which the organisation of the individual's movement, at once consensual and constrained, seemed to promise a new temporality in which the traumas of history could be endlessly postponed within a pre-programmed repetition of the same. Through the planned administration of space and time, daily life became the foundation on which the new post-war social order could be imagined and secured.

Something of this order was briefly captured in the ubiquitous image of the eternal, stable atom, whose microgeography offered a reassurance of how patterns of repetitious movement sustained the basic fabric of the material world. But as the realities of the Cold War nuclear arms race rendered such mechanistic images obsolete, so too were Abercrombie's consensual projections of post-war urban communities soon to be occluded by the realities of social dissent, racial tension and continued economic disparity. Yet despite that, this brief moment in British urban planning created a lasting moral vision; here was created a prescription of post-war urban citizenship whereby using and travelling across the spaces of the city became inextricably a matter of civic participation and social contribution at once local, metropolitan and international.

Notes

[1] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, London, 1943; P. Abercrombie, *The Greater London Plan*, London, 1945.

[2] F. Mort, Fantasies of metropolitan life: planning London in the 1940s, *Journal of British Studies* 43 (2004), 120-51.

[3] see D. Matless, *Landscape and Englishness*, London, 1998; see also Mort, Fantasies of metropolitan life; B. Curtis, One continuous interwoven story (The Festival of Britain), *Block* 11 (1985/6), 48-52; O. Gavin and A. Lowe, Designing desire – planning, power and the Festival of Britain, *Block* 11 (1985/6) 53-69.

[4] S. Rycroft and D. Cosgrove, Mapping the modern nation: Dudley Stamp and the Land Utilisation Survey, *History Workshop Journal* 40 (1995), 91-105; N. Bullock, *Building the Post-war World: Modern Architecture and Reconstruction in Britain*, London, 2002; A. Law, English townscape as cultural and symbolic capital, in: A. Ballantyne (Ed.), *Architectures: Modernism and After*, Oxford, 2002, 202-226.

[5] N. Bullock, *Building the Post-war World*, pp. 69-75; see also, O. Gavin and A. Lowe, Designing desire.

[6] In a recent study of post-war Coventry, Phil Hubbard and Keith Lilley have drawn attention to modernist planning's primary investment in habitual systems of flow and circulation. Stressing the importance of time to such schemas, they call on geographers to engage more thoroughly with a 'politics of pace'. The present study can be seen, in part, as a contribution to that project. Donald Gibson's plans for the rebuilding of Coventry shared much with Abercrombie's concurrent proposals for London; both, for instance, privileged traffic flow, decongestion and the functional zoning of land. Yet attention must be paid to the particularity of the plans, their authors, and their subjects so that a more nuanced understanding of this historical moment might emerge. See P. Hubbard and K. Lilley, Pacemaking the modern city: the urban politics of speed and slowness, *Environment and Planning D: Society and Space* 22 (2004) 273-94.

[7] J.M. Woodham, *Britain Can Make It* and the history of design, in: P.J. Maguire, J.M. Woodham (Eds), *Design and Cultural Politics in Post-war Britain: the* Britain Can Make It *exhibition of 1946*, London, 1997, p. 19; see also H. Read, Britain Can Make It, *The Listener* (3 October 1946) 429-30; Britain Can Make It, *Picture Post* (19 October 1946) 21-3; Britain Can Make It, *The Times* (24 September 1946) 5.

[8] 3d Plan to the *South Bank Exhibition*, London, 1951; M. Frayn, Festival, in: M. Sissons, P. French (Eds.), *Age of Austerity*, Oxford, 1986, p. 324.

[9] See, for instance, P. Hall, *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century*, Oxford, 1988; S.V. Ward, *Planning and Urban Change*, London, 1994; H. Meller, *Towns, Plans and Society in Modern Britain*, Cambridge, 1997; G.E. Cherry, *Town Planning in Britain since 1900: The Rise and Fall of the Planning Ideal*, Oxford, 1996.

[10] See N. Bullock, *Building the Post-war World*, pp. 160-164; P. Hall, *Cities of Tomorrow*, pp. 124-6.

[11] P. Abercrombie, *The Greater London Plan*, pp. 2-3 and pp. 111-2.

[12] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 20.

[13] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 44.

[14] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 105.

[15] P. Abercrombie, *The Greater London Plan*, p. 36.

[16] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 31; the open space requirement was seven acres per thousand if the Green Belt was included in the calculations.

[17] See S. Rycroft and D. Cosgrove, Mapping the modern nation, esp. p. 94.

[18] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 39.

[19] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 5.

[20] This same approach structured the rebuilding of Coventry city centre after the Second World War; see P. Hubbard and K. Lilley, Pacemaking the modern city, pp. 284-6.

[21] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 4.

[22] Mort has made a similar argument in relation to the plans' discussion of the West End. Here Soho's complex ethnic and social life was to be managed through its re-imagining as a 'restaurant district'; see F. Mort, Fantasies of metropolitan life, p. 143.

[23] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 4.

[24] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 96; see also P. Abercrombie, *The Greater London Plan*, pp. 10-11.

[25] P. Abercrombie, *The Greater London Plan*, p. 24; For a more thorough investigation of the gender assumptions within Abercrombie's London plans, see M. Roberts, *Living in a Man-Made World: Gender Assumptions in Modern Housing Design*, London, 1991.

[26] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 30.

[27] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 50; for precedents see: C. Bressey and E. Lutyens, *Highway Development Survey 1937 (Greater London)*, London, 1938; and H. Alker Tripp, *Town Planning and Road Traffic*, London, 1942. The planned segregation of road traffic according to speed and destination was first developed between the wars by Clarence Stein, Henry Wright, and others within the American garden city movement, see P. Hall, *Cities of Tomorrow*, pp. 126-8.

[28] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 106

[29] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, pp. 108-9.

[30] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 39

[31] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 102.

[32] P. Abercrombie, *The Greater London Plan*, p. 97.

[33] See D. Matless, *Landscape and Englishness*, pp. 62-100; S.G. Jones, *Sport, Politics and the Working Class: Organised Labour and Sport in Interwar Britain*, Manchester, 1992, especially pp. 129-63.

[34] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, pp. 140-1; see also p. 103.

[35] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 122.

[36] P. Abercrombie and J.H. Forshaw, *The County of London Plan*,., p. 2.

[37] C.A. Perry, *The Neighbourhood Unit: A Scheme of Arrangement for the Family-Life Community*, New York, 1929; see P. Hall, *Cities of Tomorrow*, p. 136.

[38] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 28.

[39] I. Cox, *The South Bank Exhibition: a guide to the story it tells*, London, 1951, p. 8. Such descriptions neatly overlooked the experience of those former inhabitants of the South Bank site, forcefully removed to make way for the development, see G. Stamp, The South Bank site, in: E. Harwood, A. Powers (Eds), *Festival of Britain*, London, 2001, 11-24.

[40] The best accounts of such intricate co-ordinations are given in a number of edited collections: P.J. Maguire, J.M. Woodham (Eds), *Design and Cultural Politics in Post-war Britain*; M. Banham, B. Hillier (Eds), *A Tonic to the Nation: the Festival of Britain 1951*, London, 1976; and E. Horwood, A. Powers (Eds), *Festival of Britain*.

[41] *Architect's Journal* (May 1951), cited in B. Conekin, 'Here is the modern world itself': The Festival of Britain's representations of the future, in: B. Conekin, F. Mort, C. Waters (Eds), *Moments of Modernity: Reconstructing Britain 1945-64*, London, 1999, p. 238; emphasis in original.

[42] J. Nicholas, A Triumph of Showmanship, *Art and Industry* 41/246 (Dec 1946), p. 163.

[43] H. Read, Britain Can Make It, p. 429; peristalsis is the involuntary muscular contractions by which food is passed along the intestines.

[44] 1d Guide to *Britain Can Make It*.

[45] The exhibition as landscape, *Architectural Review* 110/653 (May 1951), p. 80.

[46] The exhibition as a town builder's pattern book, *Architectural Review* 110/666 (Aug. 1951), p. 108.

[47] I. Cox, *The South Bank Exhibition*, p. 8.

[48] 'Let's celebrate ourselves!', *Picture Post* (12 May 1951), p. 25.

[49] I. Cox, *The South Bank Exhibition*, p. 8.

[50] O. Gavin and A. Lowe, Designing desire, pp. 68-9.

[51] Exterior furniture or Sharawaggi: the art of making an urban landscape, *Architectural Review*, 1944, p. 8; cited in N. Bullock, *Building the Post-war World*, p. 35.

[52] B. Conekin, *'The Autobiography of a Nation': the 1951 Festival of Britain*, Manchester, 2003, p. 45.

[53] Mass-Observation, A Report on *Britain Can Make It* (December 1946), [Mass-Observation Archive, DCA/ID/903], Section B, p. 33.

[54] Council of Industrial Design, Rooms made to fit: notes for the press on the Furnished Rooms, IDN 44 (1946) [Mass-Observation Archive, M-OA/TC26/1/B], p. 1.

[55] G. Russell, Furnished rooms, *Art and Industry* (January 1947), p. 13; emphasis in original.

[56] B. Taylor, Science at South Kensington, in *The Official Book of the Festival of Britain*, London, 1951, p. 15.

[57] S. Rycroft, The geographies of Swinging London, *Journal of Historical Geography* 28/4 (2002) 566-88; see also D. Matless, Appropriate geography: Patrick Abercrombie and the energy of the world, *Journal of Design History* 6/3 (1993) 167-178; G. Dix, Patrick Abercrombie, 1879-1957, in: G. Cherry (Ed), *Pioneers in British Planning*, London, 1981, 103-130.

[58] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, between pp. 20-1.

[59] J. Bronowski, *The Exhibition of Science, South Kensington: a guide to the story it tells*, London, 1951, p. 23.

[60] Two exhibitions held at the Institute of Contemporary Arts in the early-1950s are important here, both of which were associated with the emergent Independent Group. *Growth and Form* (organised by Richard Hamilton in July 1951) and *Parallel of Life and Art* (organised by Nigel Henderson, Alison and Peter Smithson and Eduardo Paolozzi in September 1953) both used microscopic photography to reveal the essential forms of the natural world and to explore their significance within contemporary art and design. In the US, similar ideas were being explored by Gyorgy Kepes and the contributors to his edited collection, *The New Landscape in Art and Science*, Chicago, 1956. Both groups were deeply interested in

microbiological forms including images of molecular crystallography. Yet the model of the atom presented within the texts and exhibitions of the British reconstruction was far more simplistic and mechanistic than the atomic visual imagery having an impact elsewhere.

[61] See, for instance, A.K. Solomon, *Why Smash Atoms*?, Harmondsworth, 1945.

[62] I. Cox, *The South Bank Exhibition*, p. 61.

[63] The Mighty Atom, *British Pathé Newsreel* (16 August 1945).

[64] The Fifth Warning, *British Pathé Newsreel*, (12 August 1946).

[65] Designs inspired by crystal structure diagrams, *Architectural Review* 109/652 (April 1951), p. 237.

[66] J. Bronowski, *The Exhibition of Science*, p. 10.

[67] J. Bronowski, *The Exhibition of Science*, p. 7; p. 6.

[68] J. Bronowski, *The Exhibition of Science*, p. 144.

[69] B. Taylor, Science at South Kensington, p. 14.

[70] B. Taylor, Science at South Kensington, p. 13.

[71] See M. Hartland Thomas, Festival Pattern Group, in *The Souvenir Book of Crystal Designs: the fascinating story in colour of the Festival Pattern Group*, London, 1951, p. 5.

[72] S. Rycroft, The geographies of Swinging London, p. 567.

[73] See, for instance, Greater London Regional Planning Committee, *Second Report*, London, 1933.

[74] P. Abercrombie, *The Greater London Plan*, p. 160.

[75] P. Abercrombie, *The Greater London Plan*, p. 40.

[76] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 118.

[77] M. Shoeser, Fabrics for everyman and the elite, in: P.J. Maguire and J.M. Woodham (Eds), *Design and Cultural Politics in Post-war Britain*, p. 73.

[78] I. Cox, *The South Bank Exhibition*, p. 43; see also B. Schwartz, Reveries of race: the closing of the imperial moment, in: B. Conekin, F. Mort, C. Waters (Eds), *Moments of Modernity*, 189-207.

[79] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 20.

[80] P. Abercrombie and J.H. Forshaw, *The County of London Plan*, p. 136; see also F. Mort, Fantasies of metropolitan life.