

Marginalized Heritage and Invisible History: The Silvertown War Memorial

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Nitrogen is also an essential constituent of nearly all high explosives and propellants... Before the war the industrial demand for combined nitrogen was quite small in comparison with agricultural demand. Under war conditions, however, a very large proportion of the world's supplies of combined nitrogen has been diverted from agriculture to the production of munitions...the principal nitrogenous products or materials available for meeting the world's demand for fertilisers were nitrate of soda, vast natural deposits of which occur in Chile... the main products used for industrial purposes were Chile nitrate (for the manufacture of nitric acid).

(Nitrogen Productions Committee 1920, 83)

A City fruit salesman identified the body of his grandfather, age 57.

A labourer living near the scene of the explosion identified the body of his son, age 8.

A working man deposed to finding the body of his daughter, aged 21 outside his house.

Unfortunately he had lost another daughter, aged 23.

A labourer identified the bodies of his son and two daughters.

The body of a Liverpool plumber, aged 30, was identified by his landlady.

A son-in-law described how he found the body of his father-in-law, an engineer's fitter, aged 53, lying in a butcher's shop.

A hawker described how his brother-in-law, also a hawker, went out in the morning with a van and was found dead.

A labourer said he discovered the body of his wife in the office where she was employed.

Extracts from *The Stratford Express*, 27 January, 3 February and 10 February 1917

(Hill and Bloch 2003,117-8)

Unstable substance/invisible history

At eight minutes to seven on Friday evening 19 January 1917, the Brunner Mond munitions factory on Crescent Wharf, Silvertown, exploded. A factory fire ignited fifty tons of trinitrotoluene usually known by its acronym, TNT. The East London skyline glowed red, the explosion was heard across the whole city. Sixty thousand properties were damaged, a thousand of which, including working peoples' homes close to the furnace, were utterly destroyed. Seventy-three people died.

In a 2017 *History Workshop* online article marking the centenary of the Silvertown Explosion, Toby Butler announces: 'It was the most destructive explosion ever to blast London' and as 'World War I raged across the Channel, it was a terrible echo of the horrors taking place on the continent (Butler 2017). Photographs of the immediate aftermath of the explosion confirm the wasteful force of the substance that filled shells with their fatal agency. John H Avery's Port of London Authority images taken 'assist in dealing with claims for

compensation' (Sparkes 2017) and digitized by the Museum of London for the explosion's centenary reveal widespread devastation to warehouses, sheds and goods of the riverside industry. The impact of the fire upon the Silvertown streets was described by its residents: at first, they were full of the cries of people searching for their friends and family then later filled with furniture dragged from fallen houses in sad attempts to save possessions (Hill and Bloch 2003, 109).

The official Ministry of Munitions investigation reported that the 'explosion followed upon an outbreak of fire in or above the melt pot' but its exact cause was not definitively established. One 'possible explanation' was a 'friction spark.' The factory had been found to be in a 'dirty condition' (Home Office 1917) and any contact between a deposit of grit or shard of metal or 'a nail from a worker's boot' could have lighted the TNT. Another explanation was 'spontaneous ignition' due to overheating or impurity. A spilt pile of TNT may have become contaminated or impurities may have been within the TNT itself rather than the factory. Bags that were opened on the melt pot floor with a worker's pocket knife often contained tiny pieces of wood or paper. These impurities might or might not be noticed as the bag's contents were poured into the hopper and poked with a wooden pole over coils heated to 160 degrees centigrade to ensure even distribution and liquification. But the substance itself was unstable. Indeed, its dynamism was the reason it was manufactured for war. The TNT being processed on the evening shift 19th January 1917 was supplied from firm J.W. Leith of Huddersfield. The nitric acid from which the batch TNT was produced in this Yorkshire town depended upon, as did all Allied Forces' munitions industry, sodium nitrate imported from Chile.

The heritage of industrial war/the history of colonial capitalism

This chapter reflects upon matters of heritage that circulate around the centenary of the Silvertown Explosion and that settle upon its memorial, a modest stone structure, now repositioned in a gentrified docklands landscape (Figure 1). How is a community heritage (Dicks 2000) performed in its local spaces as they are erased? How can an industrial heritage already losing its place acknowledge its colonial history? What is the role of design in the spatial politics of urban development and heritage practices? What is that of design history in its interpretation? The memorial material form of the Explosion, listed by Historic England as a Grade II building under the name The Silvertown War Memorial, represents a local heritage as it represses a global history; it is also caught up the hierarchies of national war memory.



Figure 1 The Silvertown War Memorial with the Royal Wharf Development, 1 (2018) © Louise Purbrick

Despite the scale of destruction of people and place, the number of fatalities, casualties and destroyed homes, the Silvertown Explosion is not widely known beyond the borough in which it occurred. The history of London aflame is that of either Great Fire of 1666 or the Blitz with little of note occurring in between. Nor is this blast and its effects part of the history or heritage, memory or myth of the First World War. The military sites, battlefields and monuments, that register the loss of thousands of young male soldiers are

the focus of heritage practice of tourists and relatives, national politicians and local representatives, academics and armed forces (King 1998, Winter 1995). Industrial spaces dependent upon monopoly capitalism delivered substances extracted from colonised land and labour for arms manufacturing are more difficult to assimilate into either national narratives of war or those of local London life.

The raw materials of war, such as sodium nitrate from Chile, are not honoured in military heritage. They are not well-remembered. The minerals used within armaments have less historical presence than the armaments themselves. Empty shell cases, battered and broken or engraved and polished, are a defining object of First World War memory (Saunders 2004). Hollow forms, they appear as ruins of war that evoke nostalgia through the play of absence and presence. Their explosive contents, however, are used and gone; the volatility of nitrate compounds on which their dynamic force depends means they disappear. Unlike their metal casings, they cannot be recovered and included in twentieth century conflict archaeologies. Raw materials, commodified natural substances, are not well-remembered then, because they lack material presence. Materializations of history and memory underpin heritage practices. Even attempts to preserve intangible heritage require tangible forms, some kind of marker of an unrecorded history that would otherwise be forgotten that can jolt memories to create a place for the past in the present. This is, of course, a question of design: what are the forms through which heritage can be practiced? Design histories that attend not only to the appearance of things in their present condition and local surrounding but also the past and global patterns circulation that have shaped them has an important role in reclaiming unseen histories for heritage practice. Nitrate is a case in point. Lost in a 'field of force of destructive torrents and explosions' (Benjamin 1992, 84) is a history of colonial extraction and exploitation. Where are the forms through which this could be recognized, if not remembered?

Heritage practices devoted to the First World War are widespread across Europe. Its battlefield pilgrimages and annual state ceremonies are dominant heritage practices, which are not only authorized (Smith 2006) but, as demonstrations of sacred nationalism, mingle militarism, Christianity and patriarchy. The once neglected First World War experiences of women and animals are now officially acknowledged and monumentalized. The role of soldiers of colour have been recognized in academic writing (Das 2018), museum exhibitions and shared with local and diasporic communities through Black History events (Brighton and Hove Black History. n.d.) but the colonial relationships upon which the business of war depended are never remembered. This is not so much a neglected heritage,

a marginalised memory allowed less space in a historical environment, designed or otherwise. Its history, that of the colonialism of European war economies, is suppressed.

Nitrate was an essential ingredient of the industrialisation of war, required for the mass production of high explosives. From the late nineteenth century until the end First World War, the nitrate industry was driven by British capital and capitalists (Monteón 1975) who had colonised a desert, the Atacama, once the territory of Peru and Bolivia but from the Pacific War, also known as the Saltpeterkrieg, Chilean. Sodium nitrate, sought after in Europe first for its fertilizing rather than its explosive effects, was extensively and intensively mined in the Antofagasta and Tarapacá regions of the Atacama by companies based in Liverpool and London. They built nitrate mines, factories and towns, *las oficinas*, from where nitrate was exploded from *caliche* rocks, crushed, dissolved, heated to separate sodium nitrate from sand and salt waste, *lo ripio* (Figure 2).



Figure 2 A Group of Desripiadores, *Oficina Alianza and Port of Iquique 1889*, Album 12, Fondo Fotográfico Fundación Universidad de Navarra/Museo Universidad de Navarra, Pamplona.

They laid the nitrate railways and extended the ports from which nitrate was exported. The Chilean government taxed nitrate exports but the profits from its trade, often in the inflated

shares of a series of nitrate monopolies, were made in the City of London as hessian bags of the unstable and irritant substance landed in the capital's docks or those of Liverpool. British interests in nitrate cultivated a system of colonial capitalism based on extraction of material value, the metabolisms (Clark and Foster 2009) of both land and labour, that fed financial markets as well urban populations. The Atacama held *caliche* in abundance and very little else. The entire *oficina*, a mechanical assemblage of boilers, tanks, tubes, pumps, machine-tools, steam engines, railways tracks, girders and rolling stock was imported from Britain, all sailed with corrugated iron as ballast down the Thames or across the Irish Sea, often via Australia, to Iquique and Pisagua. People were the physical components of this industrial colony; they moved the natural resources of Atacama Desert into raw materials of export: shovelled rocks onto carts, sodium into bags, waste onto slag heaps. Nitrate mining was hard labour of shifting the earth undertaken by those brought and bound in gangs from Chilean south, the Bolivian and Peruvian Andes. *Engancheros* began their life as nitrate workers indebted to those who trafficked them to the Atacama Desert and unable to redeem their passage. (Monteón 1979). They were promised three pesos a day but were paid in *fichas*, the company tokens that were the only currency accepted for overpriced goods in the company stores. The British trade in nitrate created a labour system that extended the hierarchies European and Latin American ethnicities and indigenalities, colonial system of global extraction which supplied explosives to the Allied Forces in the First World War (Figure 3).

Traffic in goods of life and death, food and weapons, is part of warfare. Vast amounts of nitrate were essential for both sides who shelled each other from their trenches across the No Man's Land of northern France and Belgium. However, supplies from the 'natural deposits' of Atacama Desert to the Central Powers were halted by the Allied naval blockade, successfully upheld following battleship confrontations off the coast of South America, in particular, the 1914 Battle of the Falklands (Bown 2005,197). Germany, whose farmers liked sodium nitrate for its quickening effect upon cultivation of beets for cattle feed, had been the largest single market for British trade in nitrate (Nitrogen Products Committee,1920, 9-10). Lack of natural nitrate, for either guns or grainⁱ, directed the German war economy towards production of its synthetic forms. Fritz Haber had developed, by 1909, a laboratory process of ammonia synthesis and four years later, Carl Bosch engineered the industrial structures for the commercial production of Haber's process; in 1913 BASF opened an ammonia synthesis plant in Oppau: the Haber-Bosch process sustained the German war effort (Bown 2005, 219-29; Haber 1971, 93-5). Meanwhile, a British banker, Herbert Gibbs, whose family firm had made their fortune dealing in fertilizer from Chile, controlled supplies of natural

nitrate on behalf of the Allied Forces; he became Director of the British government's Nitrate and Soda Executive.



Figure 3 Emptying Bateas, *Oficina Alianza and Port of Iquique 1889*, Album 12, Fondo Fotográfico Fundación Universidad de Navarra/Museo Universidad de Navarra, Pamplona.

But the supplies of monopoly capitalism were not enough meet the demands of war. The Ministry of Munitions had tried to solve the shell shortage since 1915 by converting existing industrial factories into war production, of which Brunner Mond in Silvertown was one.

East London: Local and Industrial

The Silvertown Explosion, marginal in national First World War narratives, is honoured locally and forms part of the industrial and community heritage of East London. The loss of life, of limbs, of homes, of livelihoods is remembered as an historical event of humanitarian importance within local community spaces; the historical period of long shifts undertaken by male and female workers at Brunner Mond is recalled in narratives of the past industrial life of East London in a docklands area that was called the 'warehouse of the world'. Three physical interventions assert the memory of the Explosion in its locality and constitute material heritage of the munitions industry in Silvertown, or at least did so until around the time of the Explosion's centenary. A wooden plaque was installed inside St John's Church,

Albert Road, before the end of First World War, on 19 January 1918, the first anniversary of the Explosion. In shadowed capital letters, it presents itself to ‘memory of all those who list their lives in that disaster’; it also marks the destruction of St Barnabas Church and gives thanks for the lives of children that were saved. A wooden board raised on the pavement outside of Silvertown’s fire station, the North Woolwich Road, the now busy A1020, was ‘dedicated to the memory of the fireman and their families killed and injured’. This was placed opposite the blast site and the location of the Brunner Mond chemical plant turned munitions factory (Figure 4).



Figure 4 Silvertown Explosion Fire Brigade Memorial (2018) © Louise Purbrick

The most substantial form of material heritage is the Silvertown War Memorial, a limestone obelisk commissioned by Brunner Mond and erected at the former entrance to their factory on Crescent Wharf. It has the conventional form of a war memorial, abstract but inscribed. The side of its tapering rectangular form facing the street is offered to ‘THE MEMORY OF THOSE WHO WHILST SERVING THEIR COUNTRY BY MAKING TNT PERISHED IN THE EXPLOSION IN THESE WORKS JANUARY 19TH 1917’ and towards the wharf to the

'GLORIOUS MEMORY OF THE MEN FROM THESE WORKS WHO FELL IN THE GREAT WAR 1914-18' (Figure 5). As other memorials, an additional inscription to memory of the Second World War has been added. The wood and words of 'fireman and their families' memorial and the stone and engraved sides that of the Brunner Mond factory faced each other across the North Woolwich Road for most of the twentieth century, but both were removed in second decade of the twenty-first, around the time of Explosions centenary.



Figure 5 The Silvertown War Memorial (2018) © Louise Purbrick

The Silvertown Explosion centenary took place at moment of change in historical environment of Silvertown. The East London docklands area, a third of a mile square between The Thames and the North Woolwich Road, which included former Brunner Mond factory site was subject of huge housing build by property-developer Ballymore and partners Oxley, entitled Royal Wharf. The Silvertown War Memorial had been boxed up to protect it from the heavy traffic of large-scale construction and was by January 2017 inaccessible behind site hoardings. On my first visit to the memorial, I was the only person behind the hoarding who was not wearing a hi-vis jacket and a hard hat. A notebook clutched in one hand and camera around my neck, I felt I had to stride around as if invited space to which I felt I had no right. I had taken a few images of the Fire Brigade memorial just before I entered the Royal Wharf construction site but it was gone on my last visit in late 2019, disappeared with the fire station's demolition (Figure 6).



Figure 6 Site of the Silvertown Explosion Fire Brigade Memorial (2019) © Louise Purbrick

The centenary commemorations took place in local spaces but at some shorter or longer distances from the original location of Brunner Mond factory and memorial that marked it. With a diminished or distant physical presence of Explosion memorials, a depleted materiality of industrial local heritage increased the dependence upon performative acts of heritage. Recalling the past through performance, which often characterised

marginalised histories have not been endowed substantial material forms, is how Silvertown Explosion always has been remembered. Historian and blogger, Colin Grainger, details the Newham Teachers Theatre production of *The Silvertown Disaster* in 1975, notes it was the subject of two short stories by Keith Lloyd and featured in an episode in long-running ITV costume drama, *Upstairs Downstairs*, that focussed on Ruby, a servant (Grainger 2017).

When spatial connections to the past cannot be kept temporal markers provide a point of performance. A minute silence was observed at the moment of the explosion, fifty-two minutes past six o'clock in the evening, at St. Luke's Community Centre in Canning Town, the adjoining neighbourhood to Silvertown and the next underground and DLR stop towards the City. Here, an exhibition comprising six panels placed the Explosion in a longer history of industrial growth and decline. Experienced local history practitioners, Eastside Community Heritage who produced the exhibition, had undertaken oral histories in the lead up to the centenary contributing texts to the exhibition panels and instigating drama workshops at local schools (Eastside Community Heritage, 2017). Their work is exemplary of the importance of the performative in recalling the industrial past of a locality.

Performances, from silence in a church to a school play, can create a forum for memory where there may be little material memorialization, representing everyday working lives when its structures are erased or overlaid by those of newer economic order. The concluding panel of the Silvertown Explosion Exhibition offers context for heritage performances of a local industrial past; the accounts of a local working community in Silvertown end with unsuccessful opposition to the relandscaping of East London in the 1980s when the City of London airport plans were completed.

Eastside Community Heritage's exhibition contributed to the groups' online documentation of Silvertown Explosion, and was always designed to do so. The Silvertown Explosion centenary generated a digital heritage: the anniversary digitization of John H Avery's sublime sepia scenes of a destroyed docklands added to the online content of the Museum of London and, alongside the History Workshop blog post by Toby Butler and the informative entry by Colin Grainger, were a series of others on the pages of the London Historians', East London History, History of London and London's Royal Docks websites. Even a small exhibition of Newham Archives and Local Studies Library records relating to the Explosion, which toured the Borough's book borrowing sites, left an internet trail, albeit just an announcement. But neither these digital spaces nor the local places of church, school or library are imposing sites of heritage.

Hierarchies of history and memory are registered in the brutal measure of space and scale: large structures in central locations, such as the Cenotaph in the middle of Whitehall's

wide avenue of political offices, assert the importance of battlefield confrontations between uniformed soldiers in nationalist narratives of state power. The material form of great political status is height and weight. Marginal heritages can be read in their lesser materiality; they do not take up much space. The scale of local heritage is small. Compared to the substantial heritage forms that sustain national narratives of the First World War, the density of heritage tourism at London's national sites, Silvertown's heritage performances establish only thin line of continuity of memory to the lost labouring lives of local people (Tully 2014).

Furthermore, whilst the centenary commemorations were successful expressions of the continuity in the gatherings at local buildings and in digital domains, these were acutely problematic: a rhetoric heritage continuity is performed at moment of historical discontinuity registered in the removal of the main memorial. It had been lifted away from public view. A private memorial event attended by the families of victims, the great-grandson of J.T. Brunner, and the Mayor of Newham, was convened at the stone obelisk memorial now within the construction site of the Royal Wharf development (Newham London, 2017).

Moving a Memorial

On 11 November 2014, an application was made to London Borough of Newham for consent for alterations, extension or demolition of a listed building' from Philip Dunphy of Rolfe Judd Planning on behalf Oxley Wharf Limited, a part of Oxley International Holdings, Singaporean property developers, of the same south west London address. A series of tick box responses on brief and hasty document makes clear that no advice was sought from the 'local authority' and no there was no consultation with neighbours or communities. Philip Dunphy also declares (with a cross in a box) that he is the owner:

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/the applicant was the owner (*owner is a person with a freehold interest or leasehold interest with at least 7 years left to run*) of any part of the land or building to which the application relates (Dunphy 2014).

That the Silvertown War Memorial, or indeed any memorials as collective sites of memory, can be individually owned should be questioned. There is some sleight of hand, as elsewhere Philip Dunphy notes he is acting for the developer who has acquired the land behind the memorial and is not then the exclusive owner of a free or lease hold that never existed. The actual alteration to status of the memorial, from a structure donated to a local collective memory into the control if not ownership of a developer, is found in the unscrutinised process of urban planning. Two and a half years earlier, 30 March 2012,

Newham Borough Council on granted 'hybrid planning permission' for the Royal Wharf Development, a 363,000 square metre site, reoccupying and retitling, three former industrial wharves: Venesta, Crescent and Minoco (Rolfe Judd Planning 2015, 2). The planning application also announced the 'demolition of all existing buildings'. The planning application also announced the 'demolition of all existing buildings'. The 'mixed use redevelopment' followed the familiar form of gentrification in London and elsewhere: retail outlets, financial offices, cafes and takeaways dominated by high housing. Of the 363,000 square metres, 329,900 were residential use: 3,385 The planner Rolfe Judd's, argument, made in retrospect, is that the 'principal of moving the memorial was consented through the original masterplan application' which 'approved the siting of Plot 1 on the current location of the war memorial' and 'thus acknowledging the need for the relocation of the memorial.' At this point, there appears to have been no consideration of the effect of development upon a listed structure, which actually lay on the edge of the proposed Royal Wharf development: neither its old nor new place was indicated. It was overlooked. Another application 'granted reserved matters approval' by Newham over two years later on 16th October 2014 presented 'a new site entrance and road' where the memorial stood (Rolfe Judd Planning 2015, 6). It was in the way.

The fate of the memorial was determined by planning applications that seek control over space of rather than heritage policy concerned with participation within it. By the time an application that related to the Silvertown War Memorial itself was made, now some three years after the Royal Wharf Development had been approved, its relocation was inevitable. The argument for moving it was presented as case for the better preservation of its heritage. In February 2015, a discursive report, *The Silvertown War Memorial Listed Building Application: Assessment of Relocation of Heritage Asset* followed Rolfe Judd Planning's tick box application to Newham Council. A confident document that appeared well informed about heritage matters, its content was driven by priorities of the construction industry and has some of the inconsistencies of over assertiveness (Rolfe Judd Planning 2015). Authorisation from English Heritage to carry out works on a listed building given in the same month, on 24 February 2015. The case for relocating a memorial from the place it had occupied for a hundred years was never publicly interrogated and the I do so here far too late to have any effect upon this decision but in an attempt to understand the intersections of heritage and design.

The Silvertown War Memorial Listed Building Application initially entirely dismisses the relationship of heritage form to heritage site, the importance of design in its setting. The document's authors, Rolfe Judd Planning, or those the company

commissioned to write its application, claims that the Memorial has neither archaeological associations and nor aesthetic properties; its 'listing is not based or related to the architectural quality of the design' (Rolfe Judd Planning 2015, 6). It is an ordinary monument, much the same as many structures that commemorate the loss of lives in war: it is a familiar obelisk landmark of the absence of the dead in the abstract classicism that defines empty tombs. None of these early twentieth century structures were built over dead bodies; there would never be any human archaeological remains. The Silvertown Memorial as others erected as the First World War ended are not graves but their substitutes. As the dead of the battlefields were never to be returned, stone forms, often in simple geometry of Silvertown War Memorial were reproduced to reinstate the presence of absence. It is in the ordinariness of the Memorial that is architectural and artistic significant lies. Its composition and its form, its typical design and street facing position is its archaeology in the important sense of archaeology as a historical environment rather than just the fragments buried in the ground. But the planner's dismissal of the Memorial's design is intended to make way for an argument about its relocation. *The Silvertown War Memorial Listed Building Application* cites a National Planning Policy Framework statement that '[S]ignificance derives not only from a heritage asset's physical presence, but also from its setting' (Rolfe Judd Planning 2015, 6). The stability of memorial structures, their fixity in landscape, is part of continuity of memory. We return the place in order to return to the time. However, for the convenience of the case for development, the importance of setting is not an argument for keeping things in their place but moving them to somewhere better. This is a logic of gentrification and property capitalism. Development improves. Thus application repetitively asserts the improvement to the setting of the Memorial provided by its construction project, the Royal Wharf Development.

The original place of the Memorial at the former entrance to Brunner Mond TNT factory was an unsatisfactory heritage site: 'an area of poor quality accessibility and character' (Rolfe Judd Planning 2015, 8) (Figure 7). The lorry depot of TDG Logistics, a Californian-based 'full service logistics provider' was the then occupant of this section Crescent and Minoco Wharf. 'The existing location is within a strong street scene' and the 'industrial nature of the site', the planner argues, 'does not encourage footfall or attract public visits to the area' (Rolfe Judd Planning 2015, 8). The descriptions of Memorial's setting, a 'strong street scene' of 'industrial nature', are not at all inaccurate. Beneath an overland section of the Docklands Light Railway within the landscape of warehouses, between their yards, fences, gates and the North Woolwich Road, the Silvertown War Memorial lay an everyday space that daily demonstrates the continuity of the global

transactions of Thames docks within which Chilean nitrate processing was once a part. That an early twentieth century structure remained in traffic of the twenty-first allowed some presence of the past to circulate with it: the lost lives of industrial workers haunting the intersection of the transport networks that crossed the world and the borough. The planner's application, expediently perhaps, argues the opposite: 'the memorial retains less of a connection to its origin being located adjacent to goods warehouses and other recent industrial properties' and 'is no longer directly associated with the properties and structures it was built to commemorate.' For sure, the Brunner Mond factory is no longer there; its erasure, the Silvertown Explosion that blew apart its works and the homes around it, is the reason for the Memorial. Its context is absence.



Figure 7 Site of the entrance to the Brunner Mond TNT Factory and original location of Silvertown War Memorial (2018) © Louise Purbrick

All memorials are indications of absences and none more so than the obelisks of First World War. But from the planner's perspective, the everyday bleakness of original site was not 'an appropriate setting for this asset' for it 'does not encourage visitors.' Although *The Silvertown War Memorial Listed Building Application* asserts expert concern for heritage it rests upon a conventional and dominant version of it: heritage is a thing that is visited. The concept of heritage as destination has driven, still drives, regeneration schemes which the construction industry is materially invested in the idea that the past is best served up in a

newly designed historic environment. Moving a local memorial because it will be a better tourist attraction elsewhere follows the regeneration logic that a newly designs for history must overtake the existing, living, local forms of heritage (Figure 8).

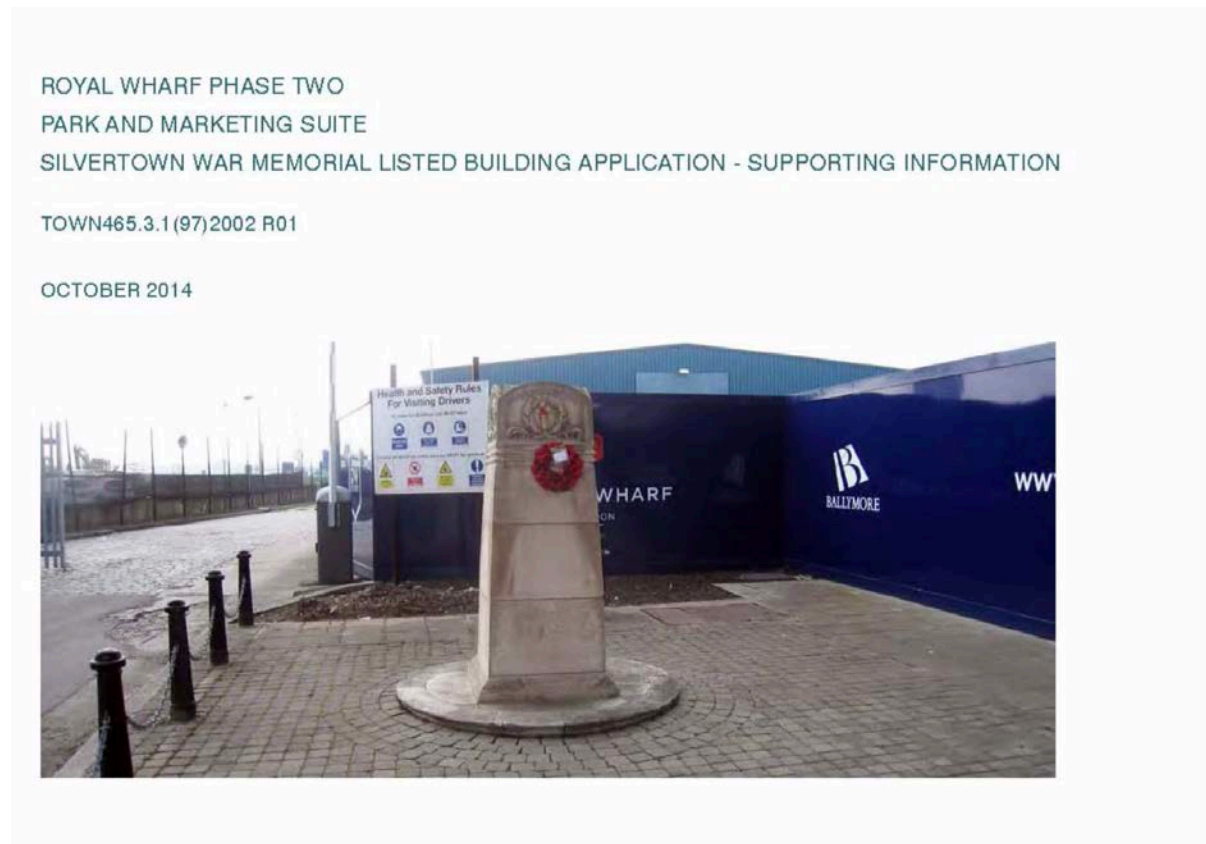


Figure 8 Rolfe Judd Planning, Silvertown War Memorial Listed Building Application (2015)

Poppy wreaths left at Silvertown War Memorial despite the development that surrounded it are signs that it remained meaningful in its place. Those carried the paper flower votives to the site, gently held them as they focussed upon the lives ruptured by war and its industry inscribed on the Memorial's faces, then left their them to the Memorial as lasting act of memory already knew where it was. There was not need to attract them or arrange a view. Remembering the past in everyday spaces, those that the planner ather awkwardly calls a 'strong street scene' is a type of community heritage. Community heritage appears to be at one of end of a spectrum of practices with heritage tourism at the other, but these heritages are closer to being opposing forms involved in contest of meaning about past and to whom it belongs.

In the *Listed Building Application*, Rolfe Judd describe the Silvertown War Memorial's new site as 'a more appropriate setting' in a 'public park'. It will be an 'open space' in which 'the war memorial is very prevalent within public views and accessible to all'; it will be 'more attractive' with a 'quieter and more relaxed atmosphere' and, furthermore, it 'more accurately reflects the original location of the TNT factory' (Rolfe Judd

Planning 2015, 7). The last claim is disingenuous. While the Memorial was relocated within the footprint of the former Brunner Mond Soda Factory, a third of a mile back from the North Woolwich Road, it was to a spot further from actual place of the explosion on the melt pot floor, the blast site itself, and undoes the decision of factory owner to face the streets effected by the subsequent fire. It is difficult to accept that this is 'more accurate.' But more, more appropriate, more attractive, more accurate, is used repeatedly in the application; more is the language of improvement, a planner's discourse of development in which not only buildings are constructed but entire area landscaped. Large scale residential developments, such as the 3, 385 flats in the high rises of Royal Wharf, are set in scenery of improvement.

The planner claims the 'new location' 'will not alter the architectural appearance of the War Memorial' (Rolfe Judd Planning 2015, 7); it will seek to promote the significance of the design by using landscaped planting which both compliments and accentuates the Memorial in the context of the park.' The need for landscaping is also offered for as a reason why the Memorial had to be moved. If it remained at the site of the 'proposed road', in the 'constrained development parameters it would be difficult to provide landscaping.' Cropped lawns with clear hedged borders marking paved walkways around glass high rise buildings is the commercial aesthetic of London and other global cities. Remodelling of urban space in the image of masterplan clears away the messy layers of architecture that have accrued over time into an ordered single view, often with one or two structures of interest, a new sculpture or historic monument, that refers to a local past in a managed way. The Silvertown War Memorial serves this purpose. Its new location inside the Royal Wharf Development, adjacent to Ballymore marketing suite, is described as a 'public park', indeed, the word park occurs in the *Listed Building Application* a total of 19 times. But the space to which the Memorial was moved was greened over but was not, is not, public (Figure 9). Relocation privatised the Silvertown Memorial; it become part of private commercial development. The planner describes how it will be 'accessible by any member of the public who chooses to visit the park, not just the residents of the development' and preserved as part of the 'maintenance strategy for the development as a whole' as the responsibility of the 'estates manager' planner claims the 'new location' 'will not alter the architectural appearance of the War Memorial' (Rolfe Judd Planning 2015, 8). Such reassurances only affirm its loss to a local public. At the time of the centenary of the Silver Explosion its memorial was inaccessible all but dignitaries and family behind construction site hoardings.



Figure 9 Silvertown War Memorial within the Royal Wharf Development, 2 (2018) © Louise Purbrick

Gentrifying Silvertown

The centenary of the Explosion occurred as Silvertown was subject irrevocable rupture. The expansion of large-scale, high-rise new glass buildings that have transformed central London, especially its East End, has spread further east along the River Thames to Deptford on the south side and Silvertown on the north (Figure 10). The demarcation of the construction site, with its graphic messages project the arrival of new architecture that promises a landscaped lifestyle rather than just place to live, does not simply announce a structural change to the locality; it immediately brings it about (Figure 11). Demolition begins the displacement of spatial and temporal markers, such as the Silvertown War Memorial, that once sustained a continuity between past and present. Community heritage loses its place before the development is complete. The Memorial was boxed off in its original location; protected from the construction site traffic but out sight almost as soon as construction started.

Construction continues the displacement of demolition. Columns of elongated metal cages that are the supports for the long-angled levers of cranes intervene upon the skyline: towering grey lines visible during the day, the red lights blinking at night. Surrounding the cranes are grey blocks of concrete, exposed lift shafts, floors, ceilings. In their unfinished state they appear as so many multi-storey carparks.



Figure 10 Royal Wharf Development, 1 (2019) © Louise Purbrick

Their sides are wrapped in yard upon yard of plastic mesh that will be replaced with wide expanses of glass as the building is completed. At the base of these geometric structures are more hoardings: promises of pleasure, city lifestyles. All these architectural components, tall cranes, blocks of concrete, walls of glass, thin wooden hoardings dominate the space. They are imposed over small structures and organic growth, brick buildings of one or two storeys, grass verges, urban hedgerows. They require new roads as their foundations are laid over previous traffic systems. The direction of movement is altered; former routes are blocked. The scale of architectural transformation, the speed of its complete imposition, the immediate rearrangement of local space is disorientating. The scale of everyday life is changed. The architecture of a gentrifying global capital, the geometrical glass forms of its commercial centres, is beginning to dominate in Silvertown, to impose itself on local spaces such that they are not experienced in the same way; they are no longer local and the spatial relationship to a local past is ruptured.



Figure 11 Royal Wharf Development, 2 (2019) © Louise Purbrick

The new residential setting of the Silvertown War Memorial is small site of confusion (Figure 12). An explanatory panel moved with the memorial reads as if neither had left their original industrial site: 'This Memorial is located on the site of the entrance to Minoco Wharf, the location of the former TNT explosives factory of Brunner Mond & Co.'



Figure 12 The Silvertown War Memorial with the Royal Wharf Development, 3 (2018) © Louise Purbrick

The panel offers information or misinformation depending upon how much a third of a mile matters within the wider decontextualization that has occurred. The height of the surrounding glass houses reduces the significance of the memorial; overshadows it, physically and visually. In the tall towers of gentrified architecture of is the conquest of the global over the local; the preservation of small part of the past, such as an inscription on an obelisk, announces that victory (Figure 1). It may look like benevolent or knowledgeable concession to a history of place but is, of course, the colonisation the local, a simultaneous appropriation of place and past into its trajectory: global economy is the inevitable successor to local livelihoods. The conquest is material. The architecture and economy of global capital is imposed over an entire locality, erasing the routes of a local life, transforming the class identity of another London borough: from 'previously industrial' according to Royal Wharf's website to 'an epicentre of culture and creativity.'

Globalizing Heritage

The expansion of glass into Silvertown, the end-game of gentrification, appears out of place. The geometric towers of global landscapes have been imposed upon docks areas and surrounding streets. It appears as if the international financial institution of the City of

London has intruded too far and become an architectural occupation of the riverside of the Thames as it flows East to its North Kent and Essex estuary. But global capital always underpinned the economy of Silvertown and the local livelihoods of its working class inhabitants. The entire London dockland waterfront of London is a landscape of colonising commerce and industry. As the proud legend, 'warehouse of the world', proclaims, Silvertown, named after the rubber factory owner, Samuel Winkworth Silver who carried the name of the earliest form of commodity extraction, was the recipient of global goods. Parts of this history remain present. Next to the Royal Wharf development is Lyle Park, which contains Harland and Wolff's dockyard entrance gates, as a monument to past industry overlooked by a still working Tate and Lyle refinery (Figure 13).



Figure 13 Harland and Wolff entrance gates, Lyle Park (2018) © Louise Purbrick

Here is a material expression of the Silvertown's location in the global circuit of capital. In a modest, civic space amongst the local people walking their dogs or practicing football, the visual references to sugar and shipping could allow, or even encourage, some reflection on the place of the warehouses and factories of London's riverside in slavery and empire. But there is no sign of the extraction of natural substances or human labour of from Latin America. Nothing evokes a history of nitrate mining in brutal conditions of the *oficinas* in Atacama Desert owned by British speculators who traded their shares for artificially inflated profits in the City a few miles west up the River Thames. The acronym TNT on the Silvertown War Memorial now opposite enclosed in the Royal Wharf residential landscape and opposite to its marketing office refers to an industrial product without an origin.

The reduced and removed material forms of the war industry in East London are enlarged upon by the performative practices of Silvertown's local heritage; the plays, the commemorative silences and the exhibition visits that mark the time of the Explosion increase, if only momentarily, the material presence the lost lives of working people. Performance of marginalized histories simultaneously addresses and illustrates the hierarchies of intangible and tangible heritages that occur in a capitalist culture where amassing ownership of physical forms is the sign of historical significance. Also, it appears, or at least it does to me, that the intangible requires the tangible, however slight the material form may be, to call it up. If there is nothing there: what can be done? The Latin American land and labour upon which the East London docklands economy and First World War armaments depended have no place in Silvertown. Nitrate mining is more than a neglected history of the Chilean, Bolivian, Peruvian and Andean people who hauled caliche rocks into carts, pushed them through crushers and into boiling tanks, shovelled away the residue of nitrate processing onto slag heaps and its sodium nitrate commodity into hessian bags then heaved onto trains bound for the Pacific ports of Iquique or Pisagua for neglect implies some awareness of existence but dismissed responsibility; their labour, the coerced toil of the colonized, is an invisibility. Local heritage is preserved without its global history.

This is a difficult argument to make at a moment when invisibility also threatens the presence of a local past: the sites of industrial labour in London are being obscured to the point of erasure by the forms of financial capital. The political imperative of heritage practiced at moments of the regeneration of de-industrialized places has been to recognize the meanings they once held for the people who lived within them and how those meanings were constituted through their everyday routines of work. Whether explicitly acknowledged or not, such heritage practices assert the significance of local over global as it seeks to remember labour not capital and celebrate community rather than corporation. It reclaims place, at least as the property of memory, for those who are now economically excluded. But belonging is often premised on another exclusion of the distant but dependent lives entangled in far reaching and unequal relationships of global capital. The history of Silvertown, as all industrial waterfront sites, from the Liverpool docks to the shipyards of Glasgow are global and inseparable from colonizing project of capitalism. But it is more appealing to remember a heritage of lost local labour isolated from the wider world system of exploitation upon which their industrial work depended. Globalization is not out of place in Silvertown: it has a new form (Figure 14).



Figure 14 Royal Wharf Development, 3 (2019) © Louise Purbrick

It is not a matter of asserting one history in the place of another, one heritage in the site of another. Much contemporary heritage theory and practice strives for the polyvalency of a palimpsest (Huysen 2003) or for dissonance (Tunbridge and Ashworth 1996) intended to reclaim the marginalized or once invisible. Writing about the place of nitrate colonial capitalism in Silvertown Explosion may contribute, I hope, to its historical and material presence. But how can this heritage which, once this writing is published, will circulate on screens or be reproduced on the pages of a book, be inscribed within the space where it matters most? Where can it be inserted? Where, indeed, since the site of the Silvertown Explosion has been buried under tarmac and its memorial removed to a residential enclosure of glass towers?

Heritage practice and design history

How to create a form through which an invisible history can be made visible, present at a site of its historical significance, must be a matter of design. Much attention in heritage studies is devoted to forms of memorials for they give memory its shape; the meanings of memorials, their place in hierarchies of heritage, also can be suggested, even revealed, through a design historical analysis long devoted to understanding the politics of form. A conjunction between heritage practice and design history can foreground, ask if not answer, the questions that spin out from the form of memorials: whose history is permitted a material presence? What form of materiality? And, what value is attached to material form? While heritage performances may be less dependent upon material form, a memorial of some kind, they still require a site of some significance in which they can take place: what spatial forms permit the practices of heritage, practices that are either embedded in the everyday routines of local life or orchestrated around an anniversary or both. It is the spatial politics of heritage that the centenary of the Silvertown Explosion brings into view. The imposition of a landscape which serves to dislocate the past from the present and appropriate a history of industrial labour for a gentrified lifestyle demonstrates the historical loss that a development driven designed environment can create. Recognition of that loss, if not the capacity to repair it, is a design historical matter.

Form is not the only design historical focus. Attention to the global circuits of production, to the mobilities of materials across the globe as they carry with them the unequal relationships of capitalism and colonialism is design history at its most radical (Adamson, Teasley and Riello 2011; Lees-Maffei and Fallan, 2016). Less attention has been paid to materials in their raw commodity forms for as sodium nitrate from the Atacama Desert,

they are often invisible, or almost so, but disappeared into the composition of consumer goods rather than exploded in flames. Silvertown Explosion was a collision between global history and local labour and its heritage now exists at an intersection of their legacies. At a moment when industrial heritage of community is being evacuated how can that local history be reclaimed in a form that acknowledges its dependency upon the extraction of the land and labour of others?

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