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From industry to culture: leftovers, time and material transformation in four contemporary museums

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Introduction

Contemporary western cities are, to differing degrees, populated by derelict, dirty and toxic architecture resulting from prior manufacturing activities. Leftover places of industrial production have often been transformed into art museums and other cultural venues through various processes of cleansing and conversion as well as rebuilding, but relatively little has been written about the underlying attitudes towards accumulations of dirt and leftover materials which often feature in such projects. 'Dirtiness' is broadly conceived to include architectural palimpsest, imperfection, and even the problems of previous social or economic inequities. As a practising architect, I am particularly interested in the different design strategies employed in converting such industrial buildings and spaces, and ultimately their outcome as experienced by museum visitors. What does it mean, for example, when surfaces are scrubbed clean, or when layers of grime and weathered materials are retained?

If a building conversion or urban revitalisation project are considered as preservation, what is it that is being preserved — the physical stuff of the architecture, the cultural significance of the place, or the palpable material traces of the passing of time and inhabitants? Although enamoured with the idea of conserving and recycling industrial buildings, we are rarely willing to forgo the increasingly high expectations of cleanliness and comfort fundamental to contemporary western culture. A simultaneous attraction to the 'new,' and to the predictable

spaces of global commodity culture, frequently outweigh the desire to experience old materials and the peculiarities of lived-in spaces intended for earlier functions. When derelict industrial buildings are transformed into contemporary art museums, an appetite for pristine cleanliness often prevails. Accumulated and unnecessary features are removed, surfaces are sanitised, and the stigmas of former economic or social disenfranchisement and neglect associated with particular buildings are purposefully forgotten.

Can the past be literally erased, however, or do materials insistently record the passage of inhabitants and events? John Ruskin examined questions of memory and historical authenticity in *The Seven Lamps of Architecture* (1849), where he described architectural restoration as 'the most total destruction which a building can suffer.'¹ Ruskin's argument for architectural conservation was developed at a time when restoration was the accepted method of working with significant old buildings. Following the lead of Viollet-le-Duc (1814–1879), monuments were routinely stripped of accumulated additions and signs of weathering and often radically rebuilt in order to return them to an idealised moment in time. Ruskin argues that the productive and poetic changes induced by physical weathering are lost when the 'golden stain of time' is washed away.² His scathing critique of these destructive restoration methods greatly influenced William Morris and others, thereby encouraging the creation of Britain's Society for the Protection of Ancient Buildings in 1877.³ Even today, in the recycling of industrial

buildings, marks of time and decay are frequently regarded as degrading an original condition of perfection⁴ or connecting the vital present too closely with a past that we no longer need, or wish to forget.

By comparing four industrial buildings recently recycled into art museums where dirt and detritus are either purposefully removed or enhanced, this essay examines how specific architectural strategies can provoke an open reception and interpretation of the past, present and future. When a manufacturing building has lost its use, the condition of dereliction is particularly unsettling because physical decay references the problems of post-industrialisation. Often many city residents have not fully reconciled themselves to the loss of employment and the associated way of life that existed when these buildings were functioning as production facilities. If a building is adaptively reused and filled with contemporary art, however, architecture and art may combine to create a lens that magnifies our awareness of historical change and exposes the ideologies of progress embodied in buildings designed for optimal commodity production. When museum visitors encounter architectural palimpsest, imperfection and even dirtiness, they are then compelled to question their place in time. Appreciation of the material qualities of industrial architecture and openness to material change and decay allow the past to be visible and provocative, while present alterations are positioned as part of an ongoing transformation that will continue into the future.

Four museums

The four museums analysed in this essay are all contemporary art or design museums that opened

within a six-year period from 1997 to 2003. The original buildings were built between 1860 and 1947, marking a period of intense industrial activity and growth in Europe and the United States. They were selected because, in their reconfiguration, they present a range of approaches to time, and the accumulation and conservation of materials. They also support a comparison of the differences between recycling stand-alone buildings and large industrial complexes. Two of the museums are massive, yet essentially individual buildings: the monumental brick shell and interior steel structure of the Bankside Power Station in London was converted to become Tate Modern in 2000,⁵ while the single-storey, concrete-framed, Nabisco box-printing factory in Beacon, New York was transformed into Dia:Beacon in 2003.⁶

The two other examples considered here are part of vast, multi-building industrial sites that required a phased approach to their recycling where some buildings were demolished, reserved for future reuse, or left to ruin due to inadequate funds and a surplus of space. The boiler house of the 3,410-acre Zollverein XII Coal Mine complex near Essen, Germany was converted into the Design Zentrum Nordrhein Westfalen in 1997.⁷ Seven of twenty-six red brick and heavy timber mill buildings at the thirteen-acre Arnold Print Works in North Adams, Massachusetts, another significant historical industrial site, were reconfigured into the Massachusetts Museum of Contemporary Art (MASS MoCA) in 1999.⁸

The following investigation is structured around several intertwined concepts, including the shift from industrial to cultural production,

unacknowledged industrial sites and image formation, the importance of memory, openness and sensory delight, material weathering, and cultural constructs about dirt and cleanliness. A thematic analysis of the four museums uncovers similarities and differences between them, which result from specific architectural approaches to time and material transformation.

From industrial to cultural production

In the last decade, numerous vacant industrial facilities in Europe and the United States have been formally and functionally transformed into cultural sites. They frequently offer prime locations in the urban core and suitable physical conditions for museum use, including large and unimpeded floor areas for flexible gallery space and public gathering, plenty of natural light and high ceilings for displaying large artwork, and structurally solid buildings that may be recycled more economically than new construction. Although these qualities are also appropriate for artists' studios, residential lofts and small offices, many museums specifically want to display contemporary art in a space similar to that of its production in the artist's studio. According to a survey conducted by the Tate while planning its new gallery, the majority of contemporary artists preferred recycled industrial spaces in which to show their work.⁹

The use of recycled industrial buildings for the marketing and display of contemporary art increased during the 1960s and continues to do so. Sharon Zukin portrays the industrial lofts inhabited by artists and galleries as 'alternative space', which 'projects the image of artistic production.

For an increasingly production-conscious art and increasingly art-conscious public, this image was vital. Power in the modern art market began to derive from a closeness, or the appearance of closeness, to the artist's studio.¹⁰ Each of the four museums considered here cultivate this closeness to varying degrees. For example, MASS MoCA's mission statement describes 'a place that encourages dynamic interchange between making and presenting art',¹¹ with 'galleries-turned-workshops' that let visitors experience the dirty work of art production while exhibits are fabricated.

From anonymous sites to branded sights

Related to a desire to experience the mysterious world of the artist, disused sites of production also possess the allure of vacancy and openness that Ignasi de Solà-Morales has termed *terrain vague*: 'The relationship between the absence of use, of activity, and the sense of freedom, of expectancy, is fundamental to understanding all the evocative potential that the city's terrains vagues have accrued as part of the very perception of the city in recent years. Void, then, as absence, and yet as promise, as encounter, as the space of the possible, expectation.'¹² Prior to their reconfiguration as cultural venues, these sites were uninhabited and often unacknowledged — *sites out of mind*.¹³ This term has two readings: as a specific *site* where something happens and as a *sight* or thing seen. Thus, a *site out of mind* is a physical space that is visible but not acknowledged cognitively or experientially. For instance, MASS MoCA was a vacant sealed-off site in the centre of the small city of North Adams (Fig. 1). Although the thirteen-acre

Figure 1. The MASS MoCA site within the town of North Adams (courtesy of the North Adams Historical Society).



property comprises almost one third of the central area, all access to the contaminated site was prohibited for nearly fourteen years after 1985.

The Zollverein XII boiler house experienced a similar period of restricted access from 1986 to 1997. The Bankside Power Station was perhaps the strangest site of all. Prominently located across the Thames from St Paul's Cathedral, the gargantuan building sat vacant and overlooked from 1981 to 2000. Now Tate Modern visitors look over to St Paul's and the City beyond, and this is

perhaps the most memorable experience of the building. As well as being unseen and unoccupied, vast industrial sites are seldom accurately depicted on urban plans: buildings and roads within a site are not drawn, but appear as blank spaces. For example, the Dia:Beacon site was merely labeled as 'Nabisco factory' and the MASS MoCA site as 'Arnold Print Works'. Thus the specificity of such places is denied through their total representational absence or partial depiction. Since these industrial zones and buildings are barred to the public, it is

impossible to form a cognitive map or spatial understanding of them. They remain either threatening, delightfully mysterious, or merely invisible.

These neutral or negative perceptions are aggressively overlaid with new activities, aesthetics and representational devices by the parties involved in their reconfiguration. According to Andrew Harris, at Bankside, the south London area in which Tate Modern is located, the 'urban elite have attempted to use new cultural activities to alter — to brand — the image and function of the area.'¹⁴ Once considered unsavoury or merely invisible, Bankside and its recycled power station have been actively marketed in the press, received 'chic' signage, and have subsequently become an international cultural destination and urban spectacle in their own right. Doreen Massey, David Harvey and others have analysed the increasingly significant role that cultural production plays in big cities that have lost much of their traditional industrial uses.¹⁵ This claim is supported by the cases of each of the museums under consideration here. Although Dia:Beacon, the Design Zentrum Nordrhein Westfalen, and MASS MoCA are located in smaller cities than London, they each generate cultural activities that help to support the local economy, spur urban revitalisation, and contribute to the cultural and social image of their city.

Leftovers

The four museums also share the sense of being leftover. According to the Oxford English Dictionary, the term 'leftover' refers secondarily to 'a survivor',¹⁶ — a compelling way of thinking about architectural reuse. Rather than the primary definition as 'a

thing remaining over', surviving evokes trials and tribulations once endured. Most of these buildings narrowly escaped destruction — literal survivors of war, technological change, urban renewal or shifts in global capital. But beyond their improbable survival, why should these places and some of their contents be kept? What makes them significant? Andreas Huyssen might attribute the desire to keep abandoned industrial sites as part of 'memorial culture'¹⁷ and the current western fascination with history, which he argues is a 'reaction to the accelerated speed of modernisation, as an attempt to break out of the swirling of empty space of the everyday present and to claim a sense of time and memory.'¹⁸ He does not address how specific architectural recycling strategies might effectively evoke memories or help to erase them. In his essay, 'Nostalgia for Ruins', Huyssen again considers the recent obsession with industrial ruins in the northern transatlantic: 'Such ruins and their representation in picture books, films, and exhibits are a sign of the nostalgia for the monuments of an industrial architecture of a past age that was tied to a public culture of industrial labour and its political organisation. We are nostalgic for the ruins of modernity because they still seem to hold a promise that has vanished from our own age: the promise of an alternative future.'¹⁹

Huyssen's argument for the promise embodied in industrial ruins is compelling, but does not acknowledge the physicality of our desire. Although we frequently observe abandoned and potentially dangerous industrial sites from nearby roads or waterways, we are repeatedly denied entry to them. We are fascinated by the possibility of

exploring these toxic landscapes of our own creation, whose decay does not fit the myth of industry's original promise. An almost morbid thrill may be derived from a direct physical encounter with industrial decay's rich colours and complex textures developed over time, and inexplicable smells and sounds. Perhaps the death of local industry resonates with our own inevitable deaths as well? Antoine Picon describes how technological landscapes inevitably become obsolete and wasted 'anxious landscapes'.²⁰ He compares how buildings once became ruins that progressively returned to nature, whereas contemporary objects, 'if they don't disappear all in one go, as if by magic, are instead relegated to obsolescence, a bit like the living dead who endlessly haunt the landscape, preventing it from ever becoming peaceful again. We have gone from ruin to rust, from trace to waste.'²¹ Recycled industrial buildings that have not been overly sanitised still retain a certain shock value and provide sensory pleasure.

Of the four museums considered here, the Design Zentrum and MASS MoCA retain more original industrial spaces and unrestored surfaces. Their rough and seemingly incomplete state evoke the past while also supporting their present use and remaining open for potential future transformation. The giant boilers, rusted steel structure and broken pressure valves of the Design Zentrum serve as a foil for the newly inserted glass and stainless steel walkways and innovative displays of contemporary design objects (Fig. 2). Tension produced between the two material languages creates a temporal relationship and a powerful aesthetic experience. Design Zentrum visitors are directly confronted

with the material reality of the previous industrial operations, where their surfaces and artefacts are not glorified or retained for the sake of nostalgia, but are conserved for educational purposes and exist amidst the daily life of the place — strange reminders of the activities and culture that once dominated the mine complex and the entire Ruhr region.

At MASS MoCA, the dirty and weathered interior and exterior surfaces are the most potent repositories of memory and sensory delight. As the nineteenth-century buildings were constructed as stacked, single-storey floor plates to house countless textile printing presses, there were no grand halls or massive machines. The heavy timber-frame structures were damaged by water in several areas and required the removal of decayed floors, which offered the opportunity to create a complex sequence of double- and triple-height galleries. Although the internal volumes have changed, the enclosing brick walls and their layers of paint, patched openings, original windows and doors remain (Fig. 3). In both cases the architects did not seek literally to preserve the buildings; rather, these survivors were given the possibility of an alternative future.

In contrast, the reconfiguration of Tate Modern retains far less of the original architecture beyond the massive masonry shell and riveted steel structure of the turbine hall (Fig. 4). Galleries are housed in a new structure inside the industrial shell of the boiler house section. A sequence of layers — plaster, new windows added behind existing windows, artificial light — effect a distance from the original building. While traversing the galleries, visitors quickly forget

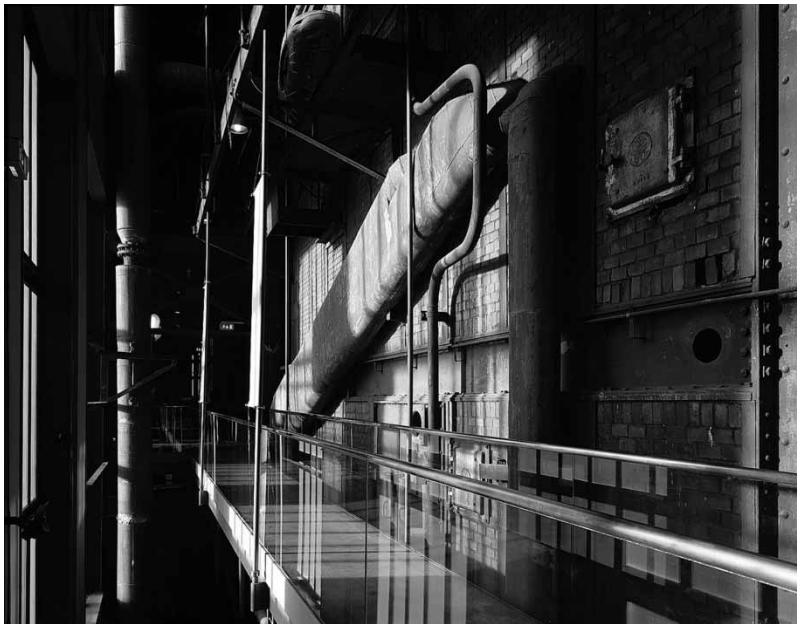


Figure 2. Interior of Design Zentrum Nordrhein Westfalen in the Zollverein XII coalmine complex (courtesy of Foster and Partners).

that they are inhabiting a place that once supplied power for much of London. The anticipation felt before entering this immense industrial building is primarily fulfilled by the mighty space and spectacle of the turbine hall.²² Site-specific art created in the turbine hall each year is installed by the original industrial gantry cranes, which bridge the gap between old and new through their industrial character and current museum use.

The weathering and cultural construction of materials

Architecture communicates time, transience and durability most effectively through materiality.

Although often considered the most permanent of the fine arts, the properties of the materials which form the stuff of architecture are ever changing: stone discolours, brick effloresces, mortar erodes, concrete cracks, steel rusts, wood rots, glass flows and paint peels. Matter is lost and gained through erosion and accumulation over time. The process is due to natural forces and human actions that may both be understood as weathering. It is revealing that the French word *temps* can mean both time and weather. Weathering produces effects ranging from destructive decay to desirable patina. Every material responds differently to distinct environments. In stone, for instance, air pollutants and

Figure 3. Gallery at MASS MoCA (photograph by the author).



acid rain produce dark discolourations; salt crystallisation is manifest in a powdery white efflorescence; algae and lichen growth can form large patches; and direct human interaction hones surfaces and produces a smooth, worn lustre. Colours and textures develop that map these forces. If such effects are appreciated, we wax lyrical about patina and the forces of nature. If considered unsightly, we complain about dirt and decay. Each culture has developed different attitudes and expectations about the acceptable physical state of the material world.

The anthropologist Mary Douglas has written about the importance of material classification

systems in how we understand our place within the world of materiality. In her seminal text *Purity and Danger* (1966), Douglas examines how the 'primitive' Lele culture and her own contemporary western culture define impurity, and concludes that concepts like pollution and dirt are socially constructed and play a central role in maintaining social structures. Douglas defined dirt as 'matter out of place'.²³ For example, soil only becomes dirt when it has left its 'proper' place and has arrived on the living room floor. We do not expect to find dirt in an art museum — a place where material is carefully conserved, environmental conditions are intensely



Figure 4. Turbine Hall at Tate Modern (photograph by the author).

monitored, and human behaviour is highly regulated by security guards and cameras. When we do encounter dirt or decay in a museum, whether in the architecture or in artworks deliberately made of rubbish (from Kurt Schwitters's *Merz* compositions of the 1920s to contemporary installations by artists such as Damien Hirst or Tony Cragg),²⁴ human beings' futile battle with time and material change becomes poignantly evident. In her essay 'The Garden as Collage: rupture and continuity in the landscape projects of Peter and Anneliese Latz', Sanda Iliescu argues that strategies of recycling and the incorporation of damaged materials in new compositions can form a shared

ethical-aesthetic ground for contemporary art and architecture.²⁵ A space opens up that reveals the transience of all things, including art and architecture.

Approaches to dirt and detritus

Sanitising design strategies are more aggressively employed at Tate Modern and Dia:Beacon, whilst the architects of MASS MoCA and the Design Zentrum embraced dirtiness to varying degrees. Dirtiness here is not literal dirt found underfoot, but patina, material weathering and disorderliness. Because the masonry exterior of the Bankside Power Station was valued for its patina by both

Figure 5. Interior detail at Tate Modern (photograph by the author).



architect and client,²⁶ the brick was not cleaned and the mortar joints were selectively repaired. In the interior, however, few original surfaces survive in the new galleries other than the occasional visible steel structure. The sleek materials, minimal forms, seamless detailing and luminous glass of the new interior speak of cleanliness and complete control (Fig. 5). Other than the untreated wooden floorboards, nothing is out of place, no 'dirt' is visible here, and there is little in the way of texture from the building's previous incarnation that remains in the museum. Even the massive turbine hall surfaces have been smoothed to reduce image noise and

detail level. A light and luminous museum has been cleanly inserted within the heavy and rough masonry shell. This luminosity is generated internally and limited natural light reaches the lower galleries. Concealed within glowing flat panels flush with the smooth plaster ceiling, artificial lighting uniformly illuminates the gallery spaces without drawing attention to individual works of art. The exterior massing has also been smoothed and cleansed by demolishing several outbuildings that had accumulated over time. The inside/outside dichotomy is intentionally broken with the light beam — a uniform, two-storey glass volume above the original roofline that brings sunlight into the upper galleries and is a glowing beacon by night. Its seductive elegance and cleanliness speak more of up-scale shops and boutique hotels than industrial production. Nearly all signs of decay and its interpretive space have been eradicated.

The approach at the Design Zentrum is quite different. Although the architects' sleek interventions are also constructed of glass and stainless steel suggesting environmental cleanliness, the new walkways and workspaces coexist with the original gritty surfaces and machines, creating a more intense juxtaposition of materials, time periods and functions. The minimally restored interior, with its massive brick boilers, rusty steel structure and assorted pipes and detritus, heightens the viewer's awareness of differences in technology and culture. The whole is far greater than the sum of its old and new parts. Other architects used similar strategies throughout the Zollverein XII complex, which is composed of numerous buildings and structures. Massive conveyor belts, cooling stacks, compressors and other building-scaled

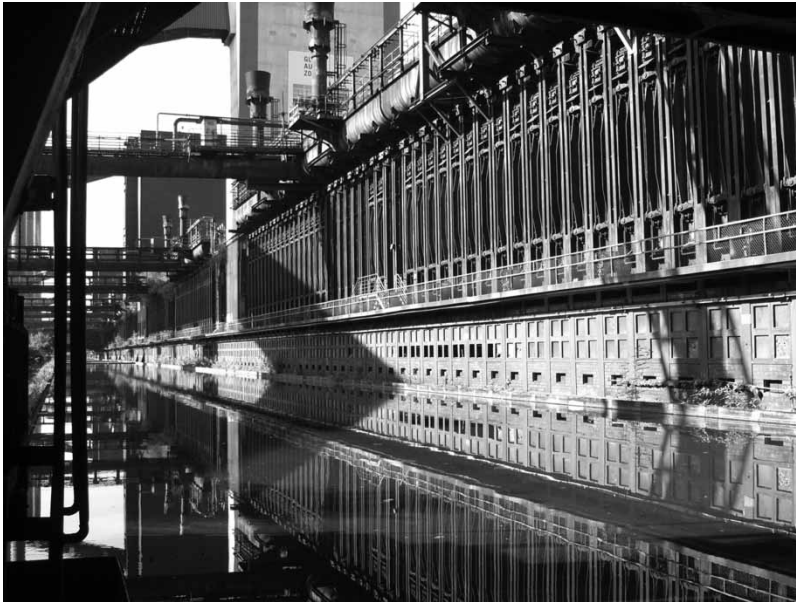


Figure 6. Zeche Zollverein Essen Canal (photograph by Lucie Hinzelin, Wikimedia Commons, 2007).

industrial artefacts, 'junk' to some, populate the landscape (Fig. 6). Most have been re-imagined for new uses: for example, the Zeche Zollverein Essen Canal transforms into an ice skating venue in winter, and the subterranean collecting basin for a disused cooling stack was converted into an Institute for Media Design.²⁷ 'Rubbish' here becomes a valuable, durable object once again. Michael Thompson, a student of Douglas, writes about the role of socio-economic power in transforming transient objects to durable, and hence 'valuable' ones.²⁸ When visitors see a cooling stack transformed into a design institute, or rusty boilers alongside the latest product design or

painting, they must reconsider the nature of these leftovers and why they are considered worthy to be a museum setting. The meanings of industrial relics and artworks change with such juxtapositions: the leftovers become elevated by their direct association with objects of higher cultural status or economic value, while artworks become less precious and perhaps more accessible when displayed in an industrial and sometimes decaying environment.

Industrial patina carries too much memory and materiality for some. In contemplating its new museum, the Dia Art Foundation was concerned about the possible dominance of the architecture

Figure 7. Pre-construction view 1, Nabisco Factory, future site of Dia:Beacon (Riggio Galleries, 1999; photograph, Michael Govan, © Dia Art Foundation).



Figure 8. Walter De Maria, *The Equal Area Series*, 1976–77 (Dia Art Foundation; photograph, Nic Tenwiggenhorn).



over the art it would house. The Curator, Lynne Cooke, writes that at Dia:Beacon, architecture is 'conceived as a frame for the work rather than as an art form in its own right.'²⁹ This attitude can be seen to have driven the homogenisation and cleansing of all surfaces inside and out. Before the renovation, the concrete and brick interior surfaces of the Nabisco factory were painted white, with a wainscot of forest green paint on columns and walls (Fig. 7). During the recycling process the building was largely purged of its past: every surface was carefully scrubbed and refinished; paint was completely removed from all the brick walls; the maple floors were sanded down and uniformly pickled to a lighter colour, with some selected wear marks remaining (Fig. 8). Ironically, white efflorescence has now overtaken large areas of red brick. The powdery whiteness is an uncontrollable and uninvited guest in the pristine texture-muted environment created for the art.

Not only has the patina been removed, but the industrial-era detritus as well: mechanical ducts were eliminated in favour of high-velocity air

diffusers discretely relegated to the rooftop; and sprinkler pipes and heads were removed and replaced by an invisible smoke evacuation system. Everything was put in order, according to the architects' definition. An irregular field of clear and translucent window glazing had developed over time as individual panes were broken and replaced with whatever glass was then available. This serendipitous condition was wiped away and sanitised by the artist Robert Irwin's design for the completely symmetrical, repetitive glazing arrangement which was applied throughout the nearly 300,000 square foot building. In the end, a totalising uniformity and emptiness overtake the art and the



Figure 9. Patina of gallery wall at MASS MoCA (photograph by the author).



Figure 10. Relationship between art and architecture at MASS MoCA (photograph by the author). (Permission to include the photograph of artwork by Robert Morris — *Untitled*, 1967, Steel — Solomon R. Guggenheim Museum, New York, Panza Collection, 1991.)

inhabitants — minimalism at a scale far greater than the minimalist art is able to achieve itself. The art critic Jed Perl expressed a related critique: 'The museum, with gorgeous natural light pouring in through lofty skylights, takes the old modern dream of reshaping the world according to the artist's ultra-ascetic specifications to a level of polish that threatens to crush all artistic imagination. Luxurious asceticism is offered as a production value, an atmospheric effect.'³⁰ At Dia:Beacon everything is whitewashed literally and figuratively.

Tate Modern's galleries relate to the art in a similar way to Dia:Beacon — that is, as a 'frame.' If the relatively small, mostly artificially lit and internalised white-walled galleries do not detract from the work, certainly they do not actively emphasise or engage it. Only in the remaining industrial space, the turbine hall, is the visitor encouraged to view artworks in direct relationship with the architecture. The massive volume requires a potent response, and the regular commissioning of site-specific pieces assures a level of engagement with the place.

Like Dia:Beacon, MASS MoCA displays large artwork in a factory building, but the art interacts with the architecture in a very different way. Cleansed white-walled galleries were rejected, in order to give the building's rich history and provocative existing conditions a strong ethical and aesthetic voice. Past inhabitation is visible in serendipitously collaged surfaces revealed as partition walls were removed (Fig. 9). These complex painted walls possess a provocative visual and tactile presence that encourages artists and curators to envision ways in which the art may meaningfully engage with its architectural context and with visitors. Another example is the interaction apparent between a Robert Morris sculpture and rough industrial exhaust fans in Building 5 (Fig. 10). Strange affinities between the serial rectangular steel volumes — art and fans — generated a creative response by the curator and an interpretive opportunity for the viewer. This open interpretive imperative is evident in photographer Karen Davis's choice of MASS MoCA's 'dirty' and leftover public lavatories as subject matter for her *MASS MoCA*

Restroom Series.³¹ The ability of art to engage the architecture is clearly evident.³²

Certain architectural strategies strive to create a contingent and improvisatory architectural experience for the inhabitant. This may be achieved through spatial choreography, content arrangement, and, most significantly for recycled buildings, by intentionally remaining open to time and material transformation. When buildings are excessively restored to an idealised state or landscapes are 'themed' to represent an imagined past, the possibility for interpretation is closed. Arguing against this type of building fabric-centred approach, preservationist Randall Mason advocates values-centred theories of preservation that 'shift the balance, giving priority to the memories, ideas, and other social motivations that drive the urge to physically preserve the built environment.'³³ This approach acknowledges that culture is a dynamic process. At Tate Modern, the addition of the luminous light beam serves a functional purpose and immediately signals that architectural and cultural changes are underway within. A metal-clad, open-theatre volume and associated steel structure inserted inside MASS MoCA's Building 10 stands in clear contrast to the existing brick and timber enclosure, solving a spatial and structural problem while manifesting the new performance space, and cultural production at the urban scale. Architectural strategies at MASS MoCA also acknowledge the collective memory of the community and the significance that humans attach to physical artefacts depending on their experience of a place at a particular time. For instance, many North Adams residents have a personal connection to the site as

employees of Sprague Electric, the previous owners of the site and once the largest employer in the town. Today they are able to recognise marks from that period, amidst the new activities and material changes generated by MASS MoCA. This approach is not nostalgic; rather it recognises the importance of direct individual and social connections to place, memory and material qualities in recycled industrial architecture.³⁴

Conclusion

These four museums serve as cultural metaphors. That is to say that each one tells a story of a shift from industrial to cultural production. During that process, each has been intentionally changed from an anonymous site to a branded sight visible within each city and around the globe. Each is a vital part of the present while legible as a leftover place of manufacturing. Where these four museums diverge, however, is in their use of distinct architectural strategies that manifest different attitudes toward accumulated industrial dirt and leftover materials. Through comparison, it is possible to identify a range of methods that may inform future industrial recycling projects.

Material change and decay are a means to reveal the past and imagine the future at MASS MoCA and the Design Zentrum. This design approach aligns with a strong appreciation of their industrial and social history evident in the major historic designations that were sought and awarded for both sites.³⁵ The sanitised surfaces of Dia:Beacon and Tate Modern demonstrate less concern for what has gone before and more for a globalised and pristine present. In the case of leftover and reconfigured

industrial architecture, openness to material transformation, palimpsest and even dirtiness is an effective means of allowing the past to remain visible and provocative, while positioning cultural institutions in the present as part of ongoing and open processes of imagination, interpretation and accretion in time, with no end in sight.

Notes and references

1. J. Ruskin, *The Seven Lamps of Architecture*, 4th edition (Orpington, George Allen, 1883), p. 194.
2. *Ibid.*, p. 187. This phrase is an excerpt from Aphorism 30, where Ruskin states that the greatest glory of a building is in its age: 'it is in that golden stain of time, that we are to look for the real light, and colour, and preciousness of architecture.'
3. For a discussion of Ruskin's attitude towards conservation and its influence, see J. Jokilehto, *A History of Architectural Conservation* (Oxford, Butterworth-Heinemann, 1999), pp. 174–212.
4. Recent architects' attitudes toward weathering are discussed in M. Mostafavi and D. Leatherbarrow, *On Weathering: The Life of Buildings in Time* (Cambridge, MIT Press, 1993), p. 6.
5. The Bankside Power Station was designed by the architect Sir Giles Gilbert Scott, built in two phases between 1947 and 1963, and closed in 1981. The Swiss architects Herzog & De Meuron designed the renovation and Tate Modern opened in 2000. For more information and illustrations, see: R. Moore and R. Ryan, *Building Tate Modern: Herzog & De Meuron transforming Giles Gilbert Scott* (London, Tate Gallery, 2000); I. Blazwick and S. Wilson, eds, *Tate Modern. The Handbook* (London, Tate Publishing, 2000); and the museum website at <http://www.tate.org.uk/modern>.
6. The original building was designed by the architect Louis Wirsching, Jr, and built in 1929. It was known as the National Biscuit Company Carton Making and Printing Plant. Situated along the Hudson River in Beacon, NY, the concrete frame structure has steel sash windows, immense skylights and maple floors. In 2003, it was listed on the National Register of Historic Places and opened for its new role by the Dia Art Foundation. See L. Cooke and M. Govan, *Dia:Beacon* (New York, Dia Art Foundation, 2003) and the museum website at <http://www.diabeacon.org>.
7. Fritz Schupp and Martin Kremmer designed the boiler house between 1927 and 1932. After over 50 years of operation, the mine closed in 1986 and the British architects Foster and Partners converted the building into the Design Zentrum Nordrhein Westfalen (also known as the Red Dot Design Museum). See the Zollverein website at <http://www.zollverein.de> and the Red Dot Design Museum website at <http://www.red-dot.de>.
8. Twenty-six brick and heavy timber mill buildings were erected during 1860–1900 to house the fabric printing process. Sprague Electric Co. occupied the complex from 1942–85. The American architects Bruner/Cott & Associates designed the renovation and MASS MoCA opened in 1999. See J. Trainer, ed., *MASS MoCA: From Mill to Museum* (North Adams, MASS MoCA Publications, 2000) and the museum website at <http://www.massmoca.org>.
9. 'The Tates: Structures and Themes', *The Burlington Magazine*, vol. CXLII, no. 1169 (August, 2000), p. 479.
10. S. Zukin, *Loft Living: Culture and Capital in Urban Change* (New Brunswick, NJ, Rutgers University Press, 1989), p. 92.
11. 'What we do and why we do it...', MASS MoCA website at <http://www.massmoca.org/mission>.
12. I. de Solà-Morales, 'Terrain Vague', *Quaderns d'Arquitectura i Urbanisme*, 212 (1996), p. 37.
13. For elaboration on this term coined by the author, see P. Crisman, 'Site Out of Mind: a pedagogy for seeing + representing', in *Encounters/ Encuentros/ Rencontres*,

- D. Covo and G. Merigo, eds (Washington, DC, ACSA Press, 2005), p. 244–258.
14. A. Harris, 'Regenerating Bankside: art, urban space and power in millennial London', unpublished doctoral thesis, University of London (2005).
 15. D. Massey, 'Bankside: International Local', in, I. Blazwick and S. Wilson, eds, *Tate Modern. The Handbook*, *op. cit.*, pp. 24–27; and D. Harvey, 'Foreword', in S. Zukin, *Loft Living: Culture and Capital in Urban Change*, *op. cit.*, pp. ix–xii.
 16. 'Leftover', *The New Shorter Oxford English Dictionary* (Oxford, Clarendon Press, 1993), p. 1560.
 17. A. Huyssen, *Twilight Memories: Marking Time in a Culture of Amnesia* (New York, Routledge, 1995), p. 5.
 18. *Ibid.*, p. 31.
 19. A. Huyssen, 'Nostalgia for Ruins', *Grey Room*, 23 (Spring, 2006), p. 8.
 20. A. Picon, 'Anxious Landscapes: From the Ruin to Rust', *Grey Room*, 01 (Fall, 2000), pp. 64–83.
 21. *Ibid.*, p.77.
 22. Briony Fer elaborates on this strategy. 'At stake here is the formation of a certain kind of spectacle that we experience at the Tate...the museum has not just assimilated commodity culture, but the way in which commodity culture wants to emulate the museum now. It becomes a kind of driving force within the wider culture. The museum is no passive reflector, nor is it naive in relation to that culture. Far from it. It knows precisely what it's doing and is able to manipulate these events at the level of affect on a huge scale. In that, it follows a general tendency toward the spectacular museum.' See 'Round Table: Tate Modern', *October*, 98 (Fall, 2001), p. 15.
 23. M. Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (New York, Praeger, 1966), p. 35.
 24. For a discussion of material transience in contemporary arts and crafts, see L. Sandino, 'Here Today, Gone Tomorrow. Transient Materiality in Contemporary Cultural Artefacts', *Journal of Design History*, vol. 17, no. 3 (2004), pp. 283–293.
 25. S. Iliescu, 'The Garden as Collage: rupture and continuity in the landscape projects of Peter and Anneliese Latz', *Studies in the History of Gardens & Designed Landscapes*, vol. 27, no. 2 (April–June, 2007), pp. 149–182.
 26. The Tate's Director, Nicholas Serota, described the initial response to the exterior brickwork by himself and the architect, Jacques Herzog: 'The first immediate response to the building is to scrub it down, make it clean and shiny, and it'll be bright and beautiful. But actually when you look into it you find the building was built in two stages, that there are slightly different bricks on the upstream side from the downstream side. If you clean it you're going to expose that. You're going to wash away a certain sense of the patina of history. And there's a danger that we'll get the whole thing so cleaned up it'll no longer be the building that we wanted or that we saw or that we were inspired by. Now, on the other hand, at the moment its message is somewhat gloomy, austere, dirty. How do we strike a balance between those two?'. K. Sabbagh, *Power into Art. Creating Tate Modern, Bankside* (London, Penguin Books, 2000), p. 54.
 27. For a more comprehensive description, see 'Zollverein Coal Mine, Pit XII in Essen', *Detail*, vol. 37, issue 6 (1997), pp. 873–878.; and P. McGuire, 'Ruhr Revival', *Architectural Review*, vol. 202, no. 1206 (1997), pp. 72–76.
 28. M. Thompson, *Rubbish Theory. The Creation and Destruction of Value* (Oxford, Oxford University Press, 1979). Thompson specifically discusses decaying buildings in his chapter, 'Rat-infested slum or glorious heritage?'. See also J. Culler, 'Junk and Rubbish: A Semiotic Approach', *Diacritics*, vol. 15, no. 3 (Autumn, 1985), pp. 2–12.

29. L. Cooke and M. Govan, *Dia:Beacon* (New York, Dia Art Foundation, 2003), p. 63.
30. J. Perl, 'Oh, Cool', *The New Republic* (September, 2003), p. 229.
31. K. Davis, *MASS MoCA Restrooms: A Postcard Portfolio* (North Adams, MASS MoCA Publications, 2000).
32. See U. Eco, *The Open Work* (Cambridge, Harvard University Press, 1989).
33. R. Mason, 'Fixing historic preservation: a constructive critique of "significance" ', *Places*, vol. 16, no. 1 (Fall, 2003), p. 68.
34. Although this paper does not examine the concept of nostalgia, it is worth noting that nostalgia need not only be viewed as an inherently futile and problematic sentiment. Svetlana Boym has made a strong argument for a nostalgia that enhances reflection and furthers the self. She accomplishes this by distinguishing between two types of nostalgia: restorative (that seeks to recapture lost things) and reflective (sensitivity to a fragmented and meaningful past). See S. Boym, *The Future of Nostalgia* (New York, Basic Books, 2001).
35. The entire mine complex was listed as a UNESCO World Cultural Heritage industrial monument in 2001. The former Arnold Print Works site was listed on the US National Register of Historic Places in 1985.