

[5]

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# [chapter 5] precedent



[Fig. 30]



[Fig. 31]



[Fig. 32]



[Fig. 33]

The main focus of this study is how to adapt and reuse an exiting industrial building, to gain further insight on how to develop an approach for an appropriate design various precedents from different categories have been analysed. Firstly it is most important to look at existing projects in which heritage buildings have been have adapted and reused in order to analyse the different approaches one can take to adapting an old building. Secondly projects that offer programmatic informants will be assessed. The analysis of all these projects will then provide inform the development of the design.

## adaptive reuse

The following buildings have been selected as precedents to explore the different ways new construction can interact with old buildings. It is important to find an approach to dealing with additions to a heritage building that is appropriate. While it is important for new work to be easily differentiated from the original building, this has to be done sensitively, new work should pay homage to and promote the cultural significance of the original building, not overshadow it.

For the purpose of this analysis the approaches to adaptive reuse projects have been defined by three categories; restore/preserve, integrate and intervene.

## restore/preserve

This approach demonstrates projects where the original appearance of the building has been preserved, while the function of the building may have changed exiting elements have been refurbished and preserved. The focus of this approach is on the old.

## huron substation

[Self build by owner - Meike Kopp]

[Cypress Park, Los Angeles]

The Huron Substation is a decommissioned electric power substation built in 1906 (McCown 2009), it has been renovated and restored by its owner who now calls the substation home.

### Informants

All new additions to the building occur on the interior, in this way preserving the original appearance of the building from the exterior which has simply been restored. New additions on the inside of the building are differentiated from the old through the use of colour and contrasting material.



[Fig. 34] Restored exterior of the substation.



[Fig. 35] Showing the clear contrast between the existing brickwork and the new timber and red steel.

**niccolò paganini auditorium**  
[Renzo Piano Building Workshop]  
[Parma, Italy]  
[2001]



This building was originally the main block of a sugar factory which formed an important part of the social heritage of Parma, it now houses a 780 seat concert hall (Pesavento & Piano 2001). Along the long east and western elevations the aesthetic of the original building has been restored, while the northern and southern gable ends have been removed and replaced with glass curtain walls; this is quite a drastic alteration, however, clear memory of the original building has been preserved and the view allowed by the glass curtain walls through the length of the building celebrates the character of the industrial volume of the existing building.

**Design Informants**

The approach to the design of the renovations of this building demonstrates that quite drastic alteration can be carried out by identifying the most important elements of the building and restoring them (i.e. the long eastern and western facades) and in this way still preserve the original appearance of the building within its landscape.



[Fig. 39] Showing glass curtain wall which allow an undisturbed view of the volume of the building



[Fig. 40] *View of the eastern elevation of the building*



[Fig. 41] *Western elevation of the building in its context appears entirely unaltered*

## integrate

This approach suggests an approach where new work has been added to an existing building in a complimentary way and that takes its inspiration from the history of the building. The focus of this approach is on the connection between the old and the new.

## drill hall

[Michael Hart Architects Urban Designers]

[Johannesburg CBD, South Africa]

[2004]

The Drill Hall has a rich and colourful history; it was built in 1904 by the British just after the Anglo-Boer war as a symbol of British military might, the drill hall later became notorious as the location for the Rivonia Treason Trial in 1956, this combined with its use during the 70's and 80's for conscription for the SADF made the Drill Hall a landmark for Apartheid oppression. In 1992 it was vacated by the military and became occupied by squatters, however fires in 2001 and 2002 killed 10 people and at this point it became apparent to the city council that something had to be done about the Drill Hall (Drill Hall... 2004:52).



[Fig. 42] Concrete posts stand in memory of the old drill hall piers.



[Fig. 43] Reinterpretation of the original roof, supported on lightweight steel and glass construction



[Fig. 44] Upper floor exhibition space



[Fig. 45] Firemen inspect the damage from the fire.



[Fig. 46] Damage caused by the fire



[Fig. 47] How the Drill Hall originally looked



[Fig. 48] How the Drill Hall looks today, one can see how the memory of the original form has been preserved

What was key to the development of this project was an understanding of the cultural and historical significance of the place. While the building still houses some military functions it is now primarily a cultural facility and exhibition space (Joubert & Bakker 2009:124), with a focus on opening up the building as a publicly accessible venue. Considering that the Drill Hall was severely damaged in the fires, memory of what was actually the hall itself has been preserved and a public square now sits in its footprint, defined by concrete posts which are reminiscent of the piers of the former exterior (Joubert et al 2009:124). The building to the west of the square underwent the most alteration, it has been made more permeable at the ground level and the roof and upper level have been rebuilt entirely, this new work reinterprets the historic envelope in lightweight steel and glass which separates it from the original masonry walls (Joubert et al 2009:125).

### Design Informants

One of the focuses of this project is how what was a very private building had been transformed into a public space. In terms of the approach to dealing with a heritage building all new work is intended to compliment and enhance the memory of the original building, contrasting materials are used to touch the building lightly and reinterpret the original buildings forms and where the old building has been demolished, the memory of its form remains.

## turbine square

[GAPP Architects]

[Newtown, Johannesburg]

[2009]

The Jeppe Street Power Station was built in 1927 and ran until 1961 when it was shut down, 4 years later 2 new Rolls Royce gas turbines were installed for use in peak periods and for emergency electricity supply, however the power station slowly fell into neglect and by 2000 over 300 squatters were living in the turbine hall. In 2005 all the squatters were relocated and work began to transform the power station into AngloGold Ashanti's new head offices (Turbine Hall 2010).

One of the most controversial aspects of this project was whether or not to demolish the North Boiler House, the case against argued that the option to adapt and reuse the building has not been sufficiently explored and the demolition of a heritage building is generally not acceptable (Krige & Beswick 2008:91). However if the North Boiler House was not demolished parking would have to be built above ground at a scale that would be inappropriate next to the existing fabric, as a result the success of the project depended on the demolition of the building and it was determined that the social and economic benefits of the

[Fig. 49] Elevation of the Old Turbine Hall





project combined with the catalytic effect the project would have for other heritage buildings in Newtown justified the demolition (Krige et al 2008:90).

The new offices were built over where the North Boiler house used to stand and the memory of certain elements from the boiler house have been used as inspiration for the new. The exiting turbine hall and South Boiler House have been restored and opened as public venues that connect to the new offices. In terms of the design for the new building it was the architect's intention to "treat the new building in manner that would pay homage to existing structures in material selection, scale and spacial experience. The result is an intentionally 'modest' external expression with celebrated internal volumes" (Krige et al 2008:98).

### **Design Informants**

The crux of this scheme is how a new building stands amongst two heritage buildings, as the intention of the scheme was to compliment the existing buildings and to emphasise the heritage of the place. Therefore the new building has been very carefully considered. Through the use of different yet complimentary materials the new building can be identified from the old, while

*[Fig. 50] View of the refurbished South Boiler House (left), and the new office building (right) from turbine square*



at no point does the new resort to mimicry because it takes legible inspiration from the old. For instance, the repetition and rhythm along the Jeppe Street elevation is clearly inspired by the rhythm of the industrial windows from the turbine hall. In the new building large industrial-like volumes are created, this combined with the reinterpretation of old industrial forms which allows the industrial character to emanate from the old and the new and concretise the heritage of the place in a original way.



[Fig. 51] Large industrial like volumes in the new offices



[Fig. 52] Rhythm created along the Jeppe Street elevation inspired by the Turbine Hall (fig. 44)



[Fig. 53] Turbine square garden. Column grid lines have been extended into the landscape, reinforcing the building's connection to the ground

[Fig. 54] Boiler chimneys from the demolished North Boiler House

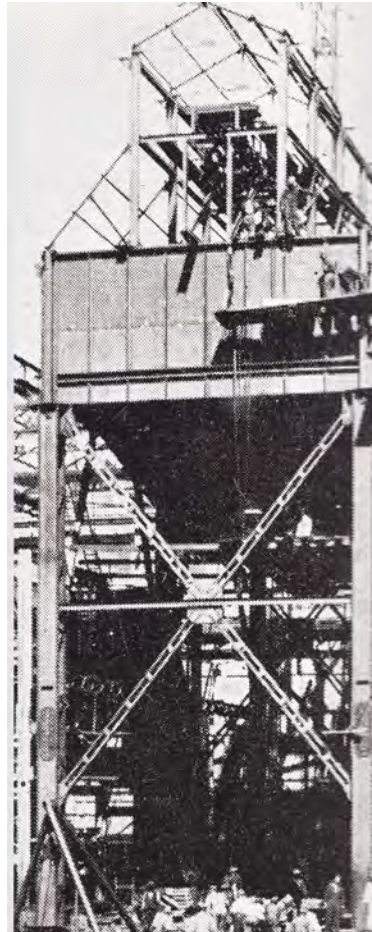
[Fig. 55] Reinterpretation of North Boiler House Chimneys as skylights in new office building

[Fig. 56] Steel cross bracing used in original construction

[Fig. 57] reinterpretation of steel cross bracing in concrete

[Fig. 58] Circular skylights found in original construction

[Fig. 59] Circular skylights reinterpreted in new building



# Intervene

## royal ontario museum (ROM)

[Daniel Libeskind]

[Toronto, Canada]

[2007]



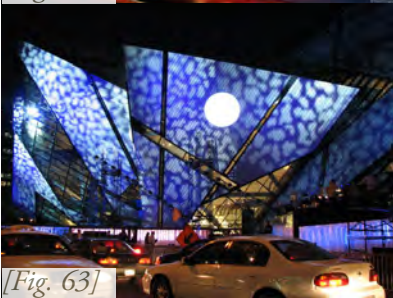
[Fig. 60]



[Fig. 61]



[Fig. 62]



[Fig. 63]



[Fig. 64] Panoramic view from restaurant

[Fig. 66] The new addition literally explodes from the heritage building

[Fig. 65] The Gloria Hyacinth Chen Court framing a view of the heritage building

The brief for this project was to renovate galleries within the existing heritage building and create an extension to the museum, this extension is now known as the Michael Lee-Chin Crystal, and contains mostly gallery space as well as a new entrance and lobby with a shop accessible from the street and three new restaurants, the most spectacular of which is located on the fifth floor of the crystal and cantilevers over the existing galleries and has panoramic views of downtown (Libeskind [Sa]).

The large atrium, known as the Gloria Hyacinth Chen Court, is what separates the new building from the old and frames a nearly complete view of the restored heritage building. The extension also provides improved access to the old building.

The location of the ROM is on a very prominent street corner and “the centrality of the site intensifies the profound relationship between history and the new, between tradition and innovation. The Crystal is an interlocking form which turns this important corner of Toronto into a luminous beacon - a veritable showcase of people, events and objects, transforming the entire museum complex into a world-class destination” (Libeskind [Sa]). The intention of the addition was to concretise the programmatic content of the ROM and transform its character into an inspired atmosphere that establishes the Museum as the dynamic centre of Toronto.

### Design Informants

This approach is certainly the most drastic way of approaching additions to a heritage building, and it seems the main focus is on creating iconic architecture that through drawing attention to itself encourages interaction with the heritage building to which it is attached. The architecture itself draws no physical relevance from the existing building and instead is an abstract interpretation of the program of the existing building, however, the main focus of the building is now certainly on the new addition. The new addition does improve the access to and status of the existing building as well as provide a focused view of the old building; in this way attracts attention to the heritage of the place.



## programmatic

### bat centre

[Paul Mikula & Jennifer Whitehead]

[Durban Harbour, KwaZulu Natal, South Africa]

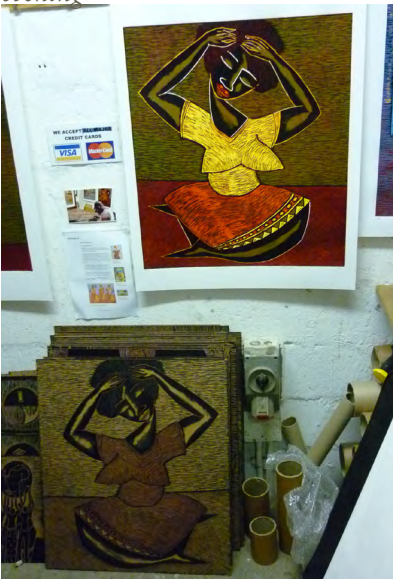
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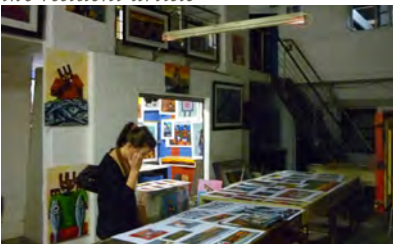
[Fig. 67] Graffiti by the artists



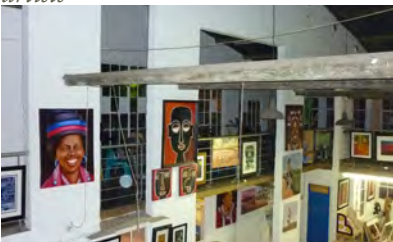
[Fig. 68] Activity on a Saturday evening



[Fig. 69] Lino prints by one of the resident artists



[Fig. 70] Tables rented by the artists



[Fig. 71] Art decorates every available corner in the studio

The Bat Centre is located in a vacant navel base between the railway and tug basin on Durban's harbour, it was established as an arts development centre to provide a home for fine art, cultural organisations and musical events. (Joubert, 2009:402)

Short courses, workshops & seminars take place at the BAT Centre on a continuous basis. Topics of discussion vary from the field of the visual arts, music, acting, writing and literature, to discussions on health, politics, business skills and entrepreneurship.

On their website ([www.batcentre.co.za](http://www.batcentre.co.za)) the centre states their mission to be:

To celebrate the arts and culture of Durban, Kwa-Zulu Natal and South Africa by promoting local talent and skills, celebrate our unique cultures and encouraging cross-fertilization.

To create jobs for the artists by sourcing talent, imparting skills and developing markets

To act as a community cultural centre for the city of Durban, the people of the harbour and the Esplanade.

To become a resource to outlaying art and cultural centres and creative people

The front façade of the building is one giant mural that is redecorated by local artists every few years. The ground floor along the front of the building is edged with small arts, crafts and curio stores. The main body of the building is accessed up a flight of stairs onto a terrace, on this level is the performance space in the old drill hall which is furnished with an adaptable and moveable bleacher seating system, which make this a very multi-purpose performance space, for example during the week there are regular poetry readings and on Saturday nights small hip hop concerts are held here, small plays and theatrical performances have also been performed here.

On Friday nights there are live jazz performances in the bar area, these various cultural activities attract people to the BAT Centre and provide customers for the local artists that work there.

The double volume visual arts studio provides workspace for local artists, every nook, cranny and tabletop is for rent. Artists working in the studio can benefit from communal facilities, such as the cutting room and lino press. Visitors to the centre are welcome to walk around the studio and see the artists at



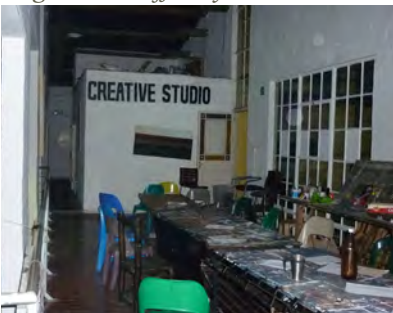
[Fig. 72] Double volume artists' studio



[Fig. 73] Murals cover every inch of the front of the building



[Fig. 74] Graffiti by the artists



[Fig. 75] Teaching area



[Fig. 76] Communal facilities



[Fig. 77] Murals on the building



[Fig. 78] Courtyard outside studio

work and buy art from them directly, the artists also exhibit their work in the gallery at the centre and sell work in the curio stalls, their work is also exhibited and sold locally in other galleries in the Durban area.

Also in the studio is a dance room, which is used to teach dance classes and as a gathering space. Upstairs there is also a space where art classes are taught, these classes are taught by senior artists who work in the studio.

The Bat Centre has been very successful in creating a destination for local arts and creating an infrastructure for developing and supporting local artists.

### Informants

This thesis draws greatly from the success of the program at the Bat Centre, and takes note of how the different functions within the centre support each other and rely on each other for success; for example how musical and performance events draw the customers to the centre which support the local artists, also how a gallery provides a showcase for the artists as well as a benchmark for success, its is also important to note the holistic approach the Bat Centre has towards developing, supporting and promoting local artists, through education programs, provision of affordable workspace with access to artistic facilities and through exhibitions and events at the centre.

It must also be noted that by allowing artists to cover the building in creative murals this gives the people an important sense of ownership and identity with the place, these colourful murals also contribute hugely towards the tangible artistic energy and character which permeates the entire centre.



[Fig. 79] Lock up workspaces rented by the resident artists



## bus factory

[Newtown, Johannesburg]

[2001]

During the first half of the 20th century what is now known as The Bus Factory was used as tram repair sheds and later used as a garage for double decker busses. In 2001 the building was extensively renovated and now houses the head office for the Johannesburg Development Agency (JDA), and is now a hub for the generation of inner city developments and renewal projects.

The Bus Factory is also home to the offices of many cultural non-governmental organisations (NGOs), one example of which is the Artist Proof Studio which focuses on print making and skills development and assisting people in achieving economic independence (fig. 71).

Another significant aspects of the Bus Factory is that it is home to the Beautiful Things craft exhibition, which was put together for the World Summit on Sustainable Development held in Johannesburg in 2002. Crafts made according to ancient traditional methods can be found amongst crafts made by contemporary methods to suite the expanding local and international markets. Many of the new products are made by groups set up by the Poverty Alleviation Fund which was established to create jobs for poor people (SouthAfrica.info 2003).

### Informants

While the Bus factory is also another example of an adaption and reuse of a heritage building and the way in which new buildings have been constructed within an enormous industrial volume should be noted, what is most relevant about the Bus Factory to this thesis is its program.

One thing that the Bus Factory successfully does is bring ones attention to how arts and crafts can be used to create economic upliftment for poor people. The Artists Proof Studio actively educates and promotes local artists and the Beautiful Things craft exhibition showcases craft as a relevant and truly african art.



[Fig. 80]



[Fig. 81]



[Fig. 82]

*More and more South Africans are making their livelihoods producing crafts, as non-governmental organisations and government departments alike embrace the sector as a means of fighting poverty and raising awareness about HIV/Aids. The craft sector is estimated to employ 1.2 million people and contribute a whopping R3.4-billion to the economy every year (Russouw 2002).*



[Fig. 83] Fence around the bus factory made from recycled steel waste



[Fig. 84]



[Fig. 85]

It is difficult to estimate how many people are involved in the crafts industry in South Africa, but their contribution to the economy is significant.

According to Susan Sellschop of the South African Crafts Council, “Funds generated from crafts are often the sole source of income for poor, usually illiterate, people to gain access into the formal economy” (Russouw 2002). According to the Cultural Industries Growth Strategy (CIGS) compiled by the Department of Arts, Culture, Science and Technology in 1998, “craft provides an entry-point into the economy for under resourced groups who are then able to develop their skills through experience, apprenticeship and mentoring ... Craft activity acts as a low-cost training ‘school’ for skills which can be later used in the formal sector” (Russouw 2002). This report also points out that in developing countries craft sectors tend to have poor resource bases.

This suggests that by developing a resource base for the craft sector a program can be developed that assists in the growth of economic stability, job opportunity and skills development for poor people.



[Fig. 86] Beautiful Things craft exhibition

# [summary]

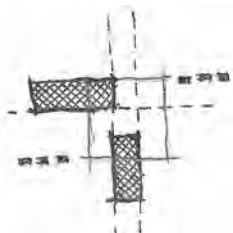
This analysis details three different approaches to adapting and reusing heritage buildings, while these different approaches are progressively more drastic they each have their own merit and are appropriate under different circumstances, however they all have the same intention of making heritage buildings more publicly accessible and in all cases new work is easily differentiated from the old. Below are summarised points of the informants derived from this precedent study:



[Fig. 87] Conceptual diagram of 'Restore/Preserve' approach

## Restore/preserve

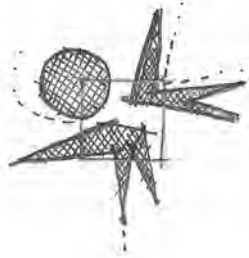
- Focus on the old
- Exterior appearance of the building has been preserved within its greater context
- Additions are mostly internal and can be identified through contrasting materials and colour
- Important to identify significant elements of the building and preserve them



[Fig. 88] Conceptual diagram of 'Integrate' approach

## Integrate

- Focus on the connection between the old and the new
- Must understand the cultural and historical significance of the place
- New work is complimentary
- Touch the existing building lightly
- Where old buildings have been demolished new elements are used to preserve their memory
- Memory of the old drawn on as inspiration for the new without resorting to blatant mimicry



[Fig. 89] Conceptual diagram of 'Intervene' approach

## Intervene

- Focus is on the new
- Intention is to create iconic architecture - improved status of the heritage building
- Architecture inspired by an abstract interpretation of the program of the place - draws no physical references from the existing
- Provides views and increased access to the heritage building, thus increased exposure

This study also analysed exiting projects whose program could offer insight to this thesis, what has been learnt from those projects is:

- Functions within the building must support each other
- Develop a holistic approach to developing, supporting and promoting entrepreneurs through education and making available supporting facilities
- Allow people to create their own sense of ownership of a place
- Arts and crafts as a means of poverty alleviation