PRESERVATION OF MODERN ARCHITECTURE
BETWEEN IDENTITY AND THE ENVIRONMENT

Obeid Al Mazroui Building
Photo credit (Darren Bradley)
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VALUE, HERITAGE AND IDENTITY
“Features belonging to the culture of a particular society, such as traditions, languages, or buildings, that were created in the past and still have historical importance.”
(Cambridge dictionary, 2021)

The UNESCO indicates “cultural heritage as monuments, group of buildings or sites with outstanding universal value from the point of view of history, art or science.”
(UNESCO)
HERITAGE

“Abu Dhabi’s modern heritage, whether monuments, buildings or neighborhoods, is a result of the collective experience that narrates the emirate’s transformation from the 1960s to the present day.”

(Abu Dhabi Culture).

In the modern theory by Brandi, the qualities of a cultural heritage are the **historical and the aesthetic values**.

(Brandi, 2009)
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*How is value deduced?*
Individuals, or the society identifies the **stories** invested in these buildings.

These items become heritage when they represent something **worth remembering**.

Heritage is closely linked to **identity**:

“The notion of cultural heritage embraces any and every aspect of life that individuals, in their variously scaled social groups, consider explicitly or implicitly to be a part of their **self-definition**.”

(Susan Pearce)
VALUE FOR CONSERVATION

Another form of identity – **Genius Loci**, or spirit of a place; the identity of the place.

The belief that every place has its unique qualities, not only in terms of physical makeup, but also **how it is perceived**, and is to be enhanced rather than destroyed.

“… all must be adapted to the genius of the place, and beauties not forced into it, but resulting from it.”

(Alexander Pope, 1731)
VALUE FOR CONSERVATION

Conservation is a continual process that involves determining what constitutes heritage.

The decisions about what to conserve are defined by cultural, societal, political and economic forces.

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Controversy as motive to conservation?
The relationship between values and conservation is a *circular* one. Informed by the *past* and affects the *future*.

The aim of conservation is to *preserve* and maintain values embodied by heritage.

The group of values constitute the object’s “*cultural significance*”.
The relationship between values and conservation is a circular one. Informed by the past and affects the future.

The aim of conservation is to preserve and maintain values embodied by heritage.

The group of values constitute the object’s “cultural significance”.

*What is the cultural significance of Modern Architecture in the UAE?*
First modernist building was Sharjah airport, erected in the **1930s**.

The **60s** is when modernism started booming in the UAE, transforming the country’s architecture from the vernacular.

The **transformation** was fueled by the discovery of oil and the prospects of western investments.

Modernism was a representation of this **transitional** era.
OVERVIEW: UAE MODERN HERITAGE

Modern architectural style in the UAE was adapted to the more conservative society, and the existing vernacular fabric.

The architectural elements were also adapted as a response to the harsh weather conditions, i.e. modernized mashrabiyas, overhangs, façade shading, etc.

The result was a unique architectural language.
Plaza Cinema

The first cinema to open its doors in the UAE, a year after the union, to cater to the growing expatriate community.
Dubai Metropolitan Hotel

Constructed in 1978, now replaced by Al Habtoor complex.
OVERVIEW: UAE MODERN HERITAGE

Ramada Hotel

Constructed in 1983, famous for its 41 meter, record breaking, stained glass.

Ramada Hotel (1983), Getty Images
Abu Dhabi Main Bus Terminal

The Abu Dhabi Main Bus Terminal was designed by Bulgarconsult A&E and built in 1983.
OVERVIEW: UAE MODERN HERITAGE

Bank street complex

Bank Street Building complex built in 1977.

Hosted the Fikra Graphic Design Biennial in November 2018.
Dubai Petroleum
This 1978 four-story building was designed by Victor Hanna Bisharat. The building currently also houses Dubai RSB and Dubai Supreme Council of Energy.
OVERVIEW: UAE MODERN HERITAGE

Photo credits: Darren Bradley
MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY
Importance of retrofitting the existing modernist building stock:

• Previously, buildings did not have to adhere to any **insulation requirements**. In Dubai for example, this was issued via Decree 66 in 2003.

• The existing building stock prior to the implementation of any energy building code (2010) is the largest.

• **UAE Vision 2021**, the **Green Economy Strategy for Sustainable Development**, **Dubai Plans 2030 & 2050**, and **Abu Dhabi Plan 2030** are the most prominent strategies that aim to strengthen sustainable built environments in the country.
MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

Importance of retrofitting the existing modernist building stock:

• Conservation and preservation of **heritage**
• Most of the buildings that will exist in 2050 have already been built.
• Looking beyond operational energy consumption alone, and accounting for **embodied carbon**.

Source: Archdaily
Conservation, retrofit or adaptive reuse?

• Conservation is different than retrofit, in the way that it entails **maintaining** the aesthetics of the building, which may prove difficult if the intent is to reduce energy consumption.

• Preservation of heritage as is, or maximizing **operational performance** while compromising aesthetics?

• Balance between sensitivity in design and achieving operational targets.

• **Multidisciplinary** approach.

• Technological standards, user-comfort issues and environmental **performance** will need to be addressed.
Experimental Materials, Forms and Techniques

- Thin forms and **fragile** materials.
- System preservation rather than unit preservation.
- Difficult to find materials that match the **originals** and that preserve the design intent.
- Buildings didn’t **age** gracefully.
- Attempting to maintain buildings that inherently have a **short life-span** – resilience.
- Vulnerability to air and water **infiltration**.
MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

Building design

• Rigid or flexible design – **space planning**
• Opportunity for **adaptive reuse** and shifting typologies.
• Opportunity of replacing deteriorated architectural systems without compromising the whole.
• Availability of **documentation** and identification of author/architect.

Source: Nuguchi Risako
Technical Issues

• Indoor Environmental Quality - an issue with older buildings
• Not feasible to retrofit older AC systems with more efficient chilled water systems
• Façade and insulation retrofits – too expensive
• Electrical systems and infrastructure upgrades – too expensive and invasive
• The need to completely shut down in some cases.
MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

Other issues

• Heritage seen as irrelevant to the current environmental, economic and political crises.

• Mainstream concept of the ‘Throwaway city’ – removing the old to make room for the new.

• Economically non-viable.

• Lack of collaboration between technical and social sciences experts.

• Lack of public involvement.

• Modernist buildings are seen as notorious energy guzzlers.
MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

Energy

In a study we conducted for the Dubai RSB in 2014, we looked at the buildings stock in the emirate for an in-depth study of the cooling market:

• Inefficient cooling systems constitute around 50% of the technologies market share.

• Peak electrical load attributed to cooling alone is 67%.
MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

Efficiency of cooling technology vs. age

Via in-situ measurements - Sample size determined at 90% confidence
• A definition of heritage in the UAE that is inclusive of the modernist era.

• Linking value with modernist buildings.

• Quantifying value and implementation of processes that aid in defining which building are worthy of conservation.

• Realization that not all buildings can be saved, but most can.

• Preservation of modernist buildings is different than preservation of historical buildings, to be reflected in preservation studies.

• Pair the arts and heritage discourse around modernist buildings with technical expertise.
• Recognizing the importance of retrofitting Modern buildings in achieving Paris accord targets, and shifting the focus from new builds.

• Re-frame preservation intents to serve societal and economic gains.

• Development of codes that regulate the conservation and retrofit of modernist buildings.

• Seeking incremental improvement in mechanical system inefficiencies is better than no improvement.

• R&D needed for ways to approach maintenance and enhancement of building performance from that era.
Importance of Co-creation

- Conservation is not objective; it is biased by the values and perspectives of various individuals and interest groups.
- Identification of stakeholders and their involvement early in the design process.
- Combination of academic inquiry, research, policy making, planning, technical expertise, and user insight.

Source: Seminar, Co-creation and Stakeholders by Anna Bullen, Centre for Alternative Technology (2020)
CURRENT EFFORTS IN PRESERVATION

**Modern Heritage Initiative** by Dubai Municipality to protect buildings from the 1960-70s that are considered part of the memory of the place and contributing to the story of the development of Dubai.

Buildings listed:
- Al Ras Library (1963)
- Clock Tower Roundabout (1964)
- Al Baraha Hospital (1966)
- Al Khulood Nursery School (1975)
- The Dubai World Trade Centre (1979)
Abu Dhabi Culture includes modern architectural heritage within conservation efforts, and identifies it as “a result of the collective experience that narrates the emirate’s transformation from the 1960s to the present day.”

Sheikh Sultan Sooud Al Qassemi actively sheds light on the importance of preservation of modern architecture in Sharjah and the UAE.
SHOWCASE: RETROFIT OF MODERNIST BUILDINGS
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270 Park Avenue

JP Morgan Chase Tower.

2012 achieved LEED Platinum – the largest renovation in history.

2019 – demolition underway.
SHOWCASE: RETROFIT OF MODERNIST BUILDINGS

Sharjah’s Flying Saucer

Opened 1978, and was used as a café, co-operative, and a fast food restaurant.

2012 acquired by Sharjah Art Foundation.

2018 renovation works started, and 2020 opened to public as an art library, café, workshop and screening space.
SHOWCASE: RETROFIT OF MODERNIST BUILDINGS

Al Faya Retreat

Originally two single-story 60s stone building, occupied by a clinic and a grocery store.

Designed by Anarchitect.

Opened in 2019.
FUTUREPROOFING
FUTURE PROOFING

Design for Repurposing
Design to allow for repurposing and re-occupation, through flexible space design and easily replaceable systems.

Design for Deconstruction
Design with the intent that the parts can be disassembled without compromise in material integrity, enabling reuse and recycling.
SHOWCASE: RETROFIT OF MODERNIST BUILDINGS