

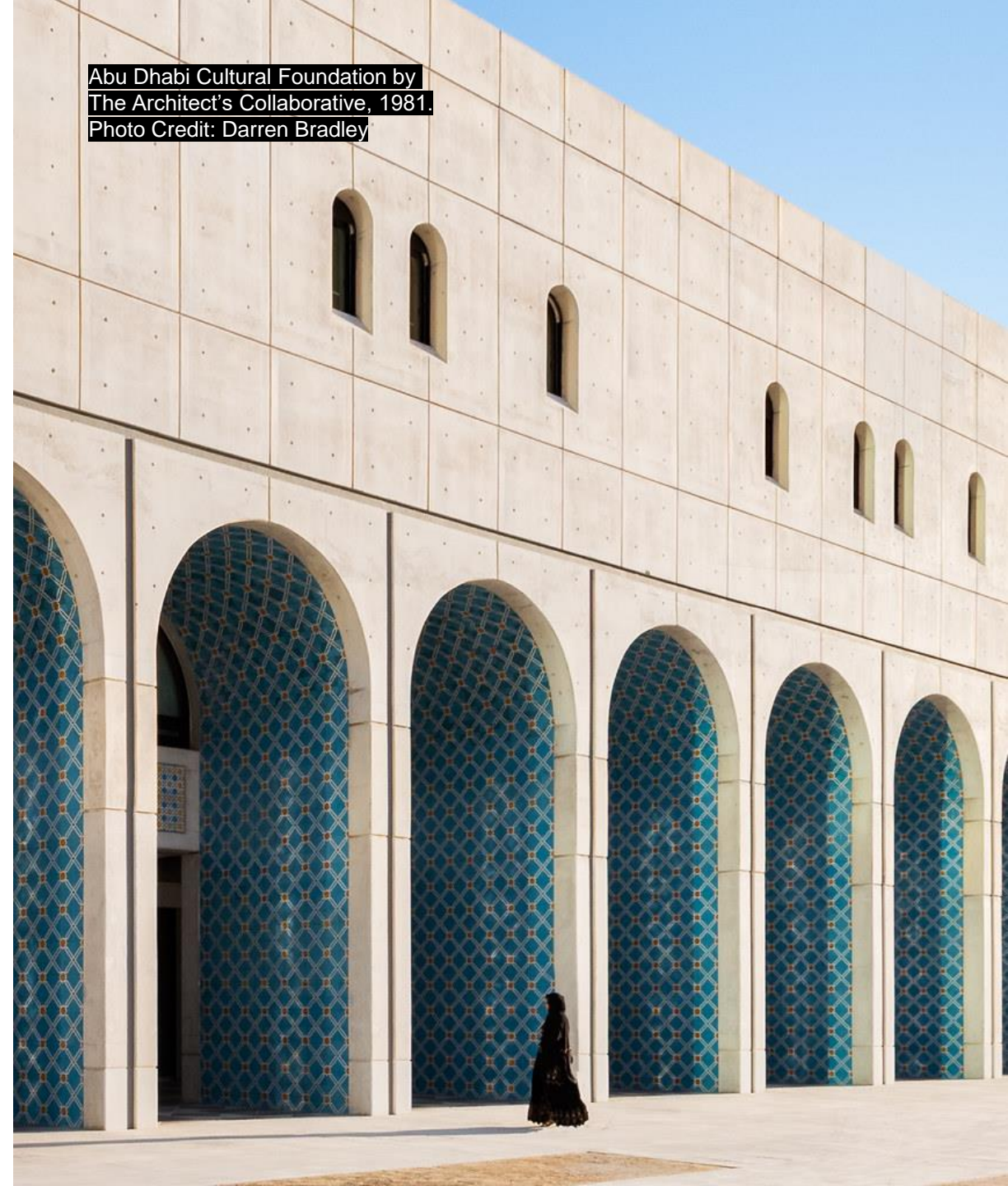


PRESERVATION OF MODERN ARCHITECTURE BETWEEN IDENTITY AND THE ENVIRONMENT

Obeid Al Mazroui Building
Photo credit (Darren Bradley)

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VALUE, HERITAGE AND IDENTITY

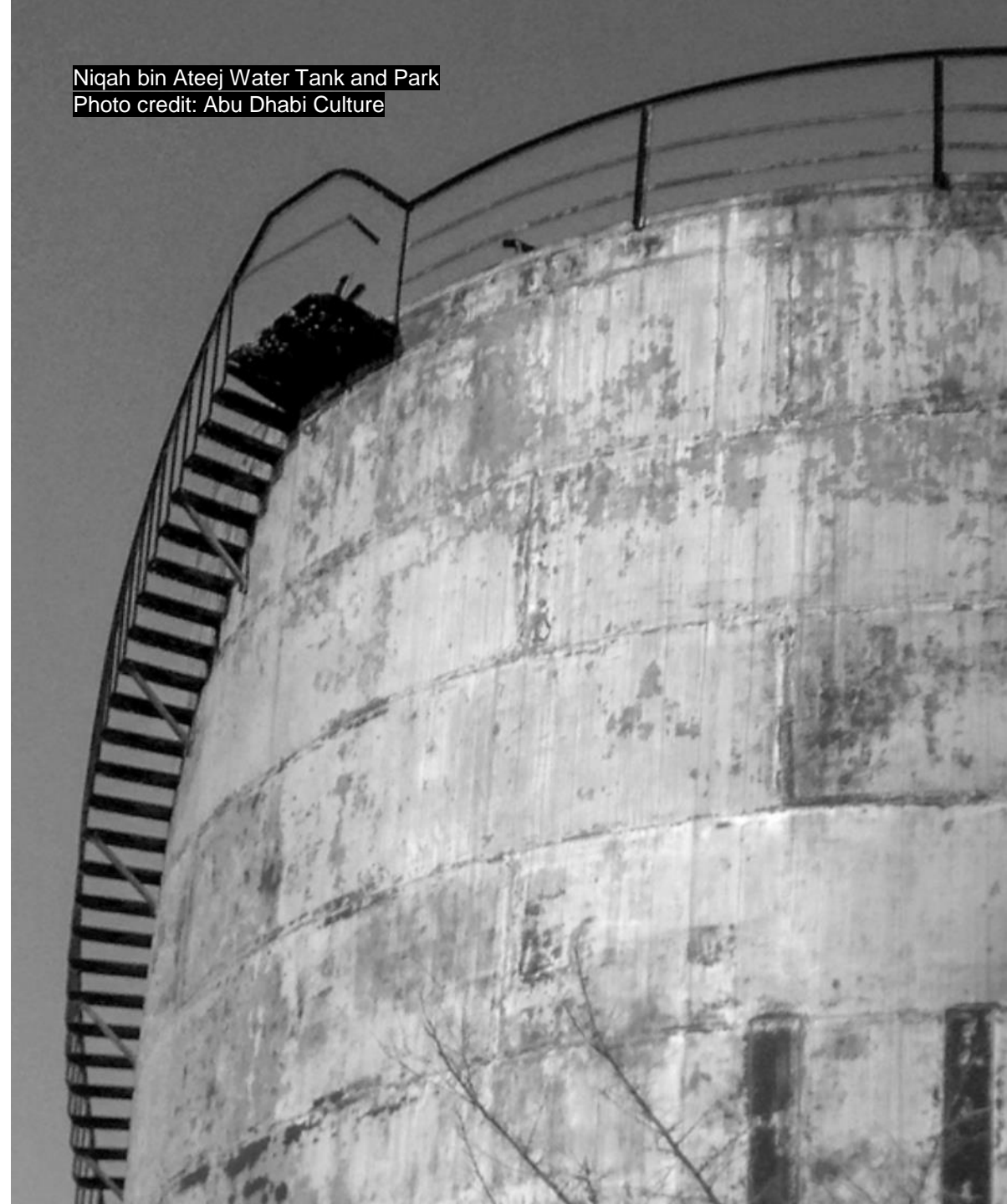
HERITAGE

“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)

Dolphin Park and Al Qurm Corniche
Photo credit: Abu Dhabi Culture



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How is value deduced?

Dolphin Park and Al Qurm Corniche
Photo credit: Abu Dhabi Culture



VALUE FOR CONSERVATION

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)

Values
+
Objects
=
Heritage

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.

Conservation facilitates the **continuity** of history and culture.



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Controversy as motive to conservation?

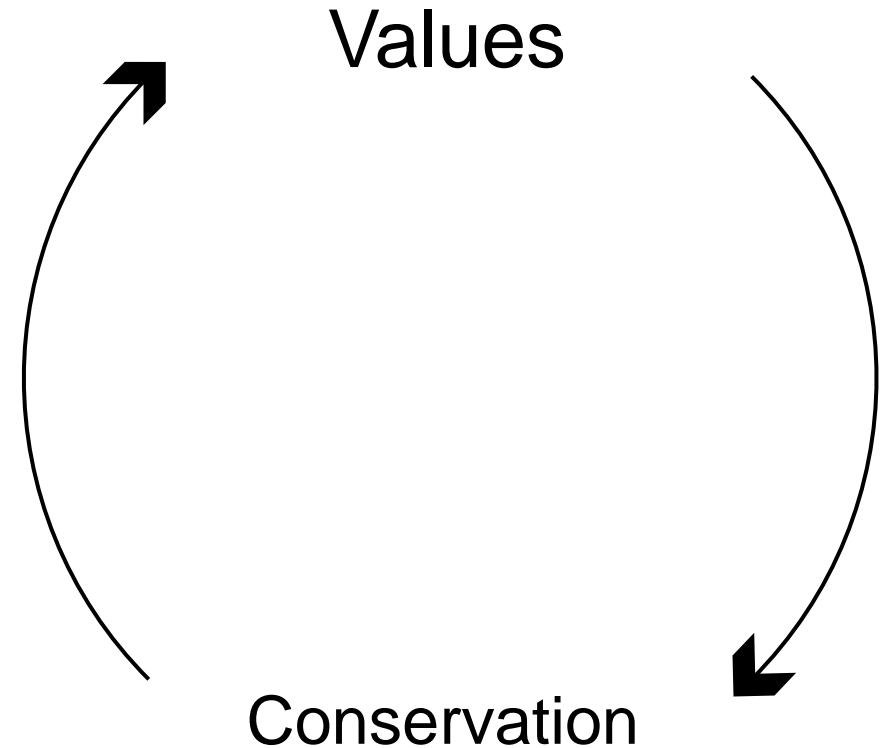


VALUE FOR CONSERVATION

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**".



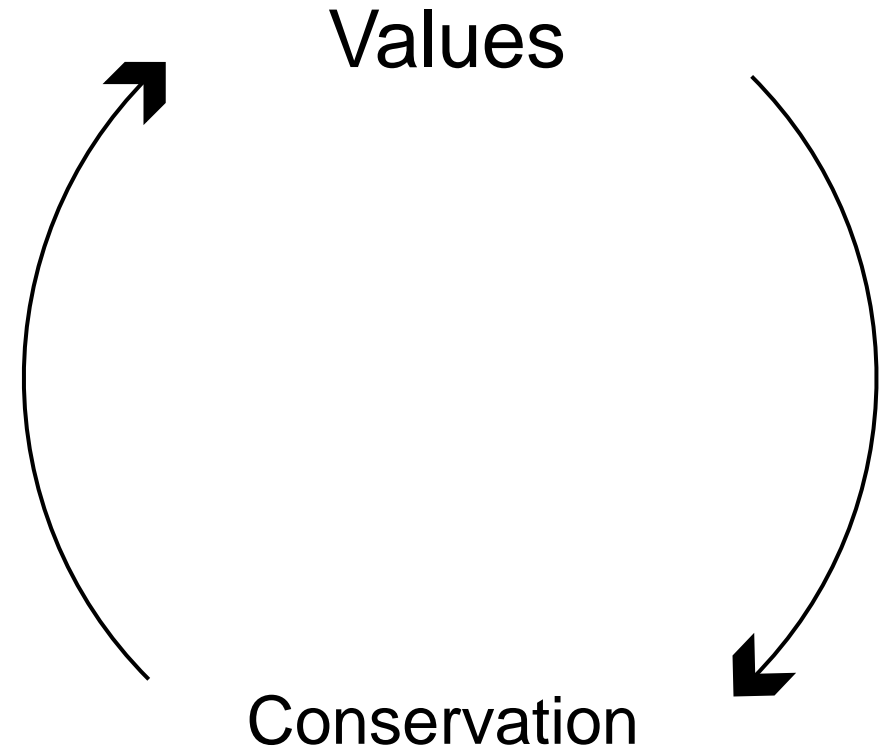
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What is the cultural significance of Modern Architecture in the UAE?



**MODERN ARCHITECTURAL
HERITAGE OF THE UAE**

OVERVIEW: UAE MODERN HERITAGE

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.



Sharjah Airport (1930s), Photo credit: Darren Bradley

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**.



OVERVIEW: UAE MODERN HERITAGE

Plaza Cinema

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



OVERVIEW: UAE MODERN HERITAGE

Dubai Metropolitan Hotel

Constructed in 1978, now replaced by Al Habtoor complex.



Dubai Metropolitan Hotel (1978), Photo credit: Darren Bradley

OVERVIEW: UAE MODERN HERITAGE

Ramada Hotel

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



Ramada Hotel (1983), Getty Images

OVERVIEW: UAE MODERN HERITAGE

Abu Dhabi Main Bus Terminal

The Abu Dhabi Main Bus Terminal was designed by Bulgarconsult A&E and built in 1983.



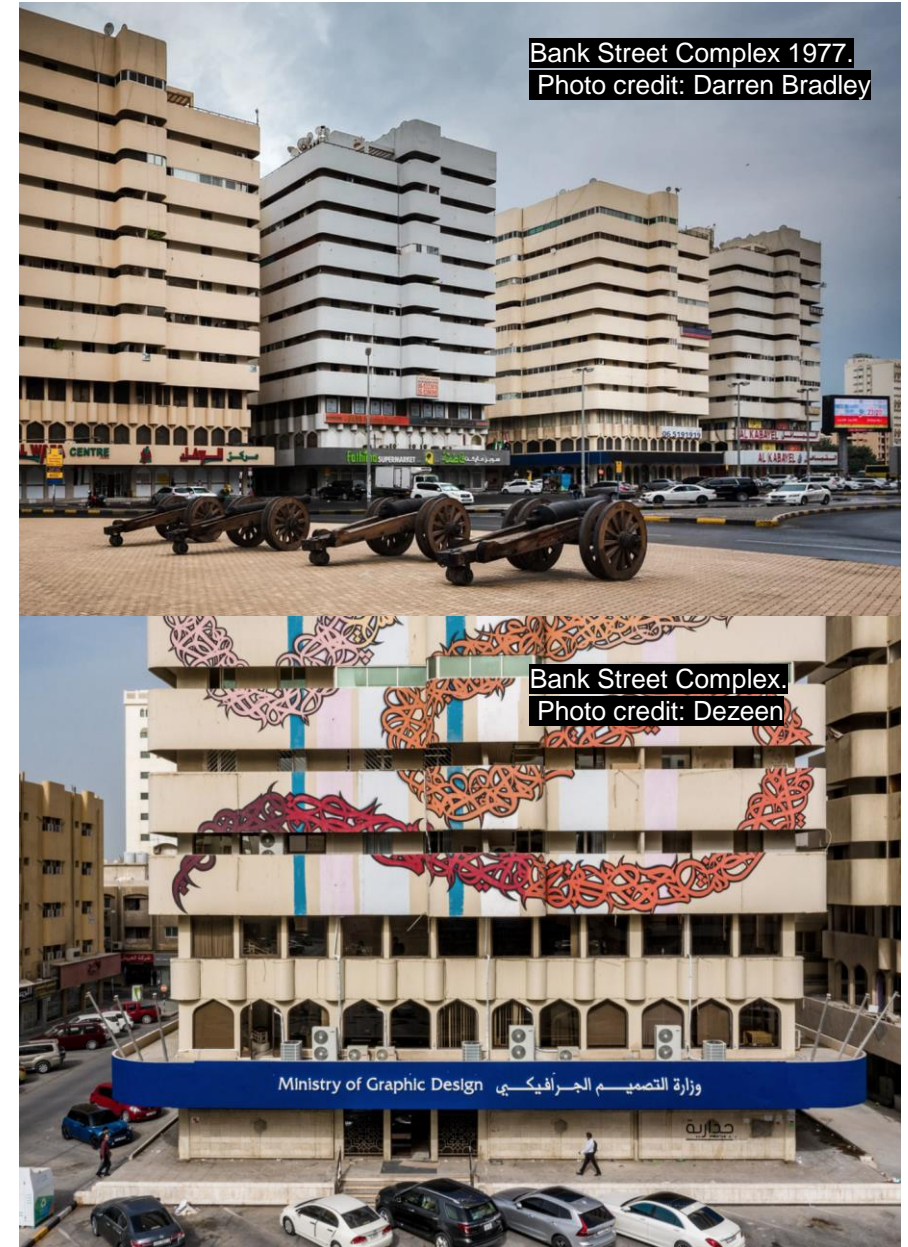
Abu Dhabi bus terminal 1983. Photo credit: Darren Bradley

OVERVIEW: UAE MODERN HERITAGE

Bank street complex

Bank Street Building complex built in 1977.

Hosted the Fikra Graphic Design Biennial in November 2018.



OVERVIEW: UAE MODERN HERITAGE

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.



Dubai Petroleum 1978. Photo credit: Medium

OVERVIEW: UAE MODERN HERITAGE

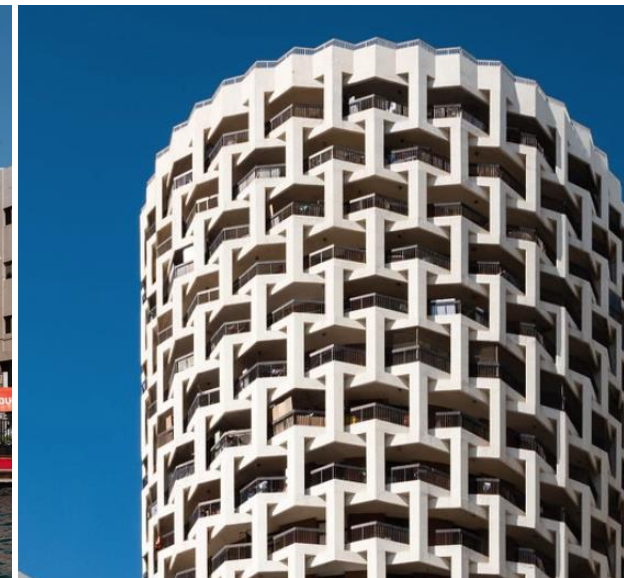


Photo credits: Darren Bradley

MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

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.

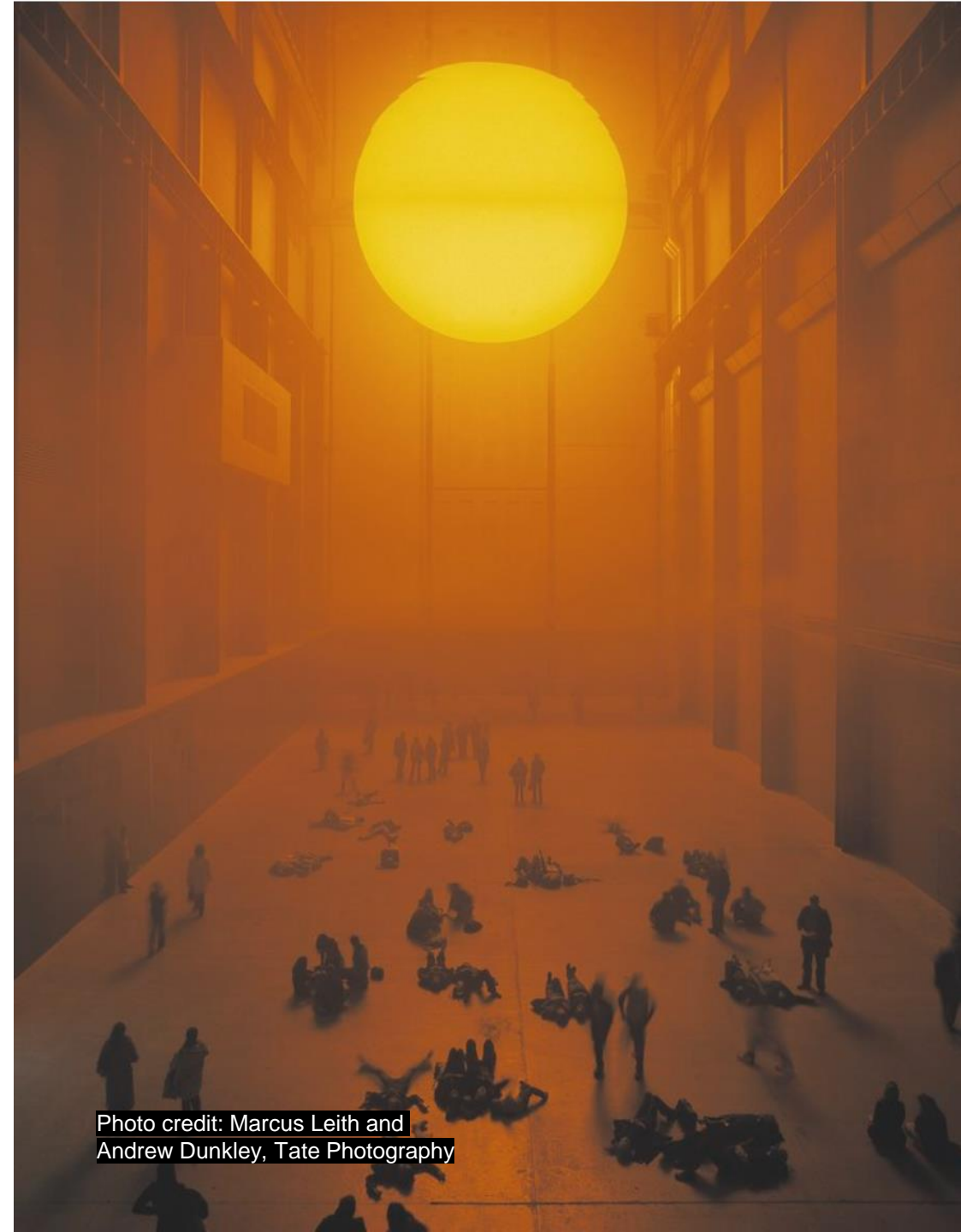
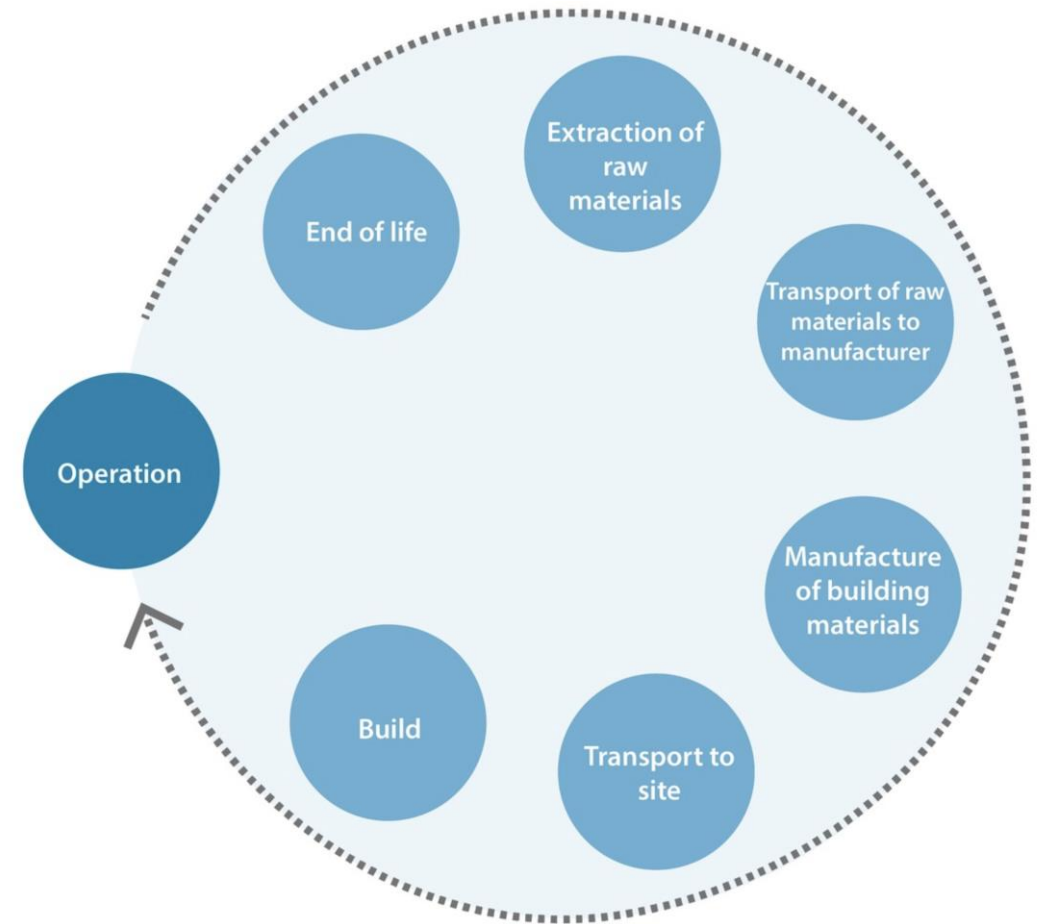


Photo credit: Marcus Leith and Andrew Dunkley, Tate Photography

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

MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

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.



DNATA building pre and post facelift. Source: medium.com

MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

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**.

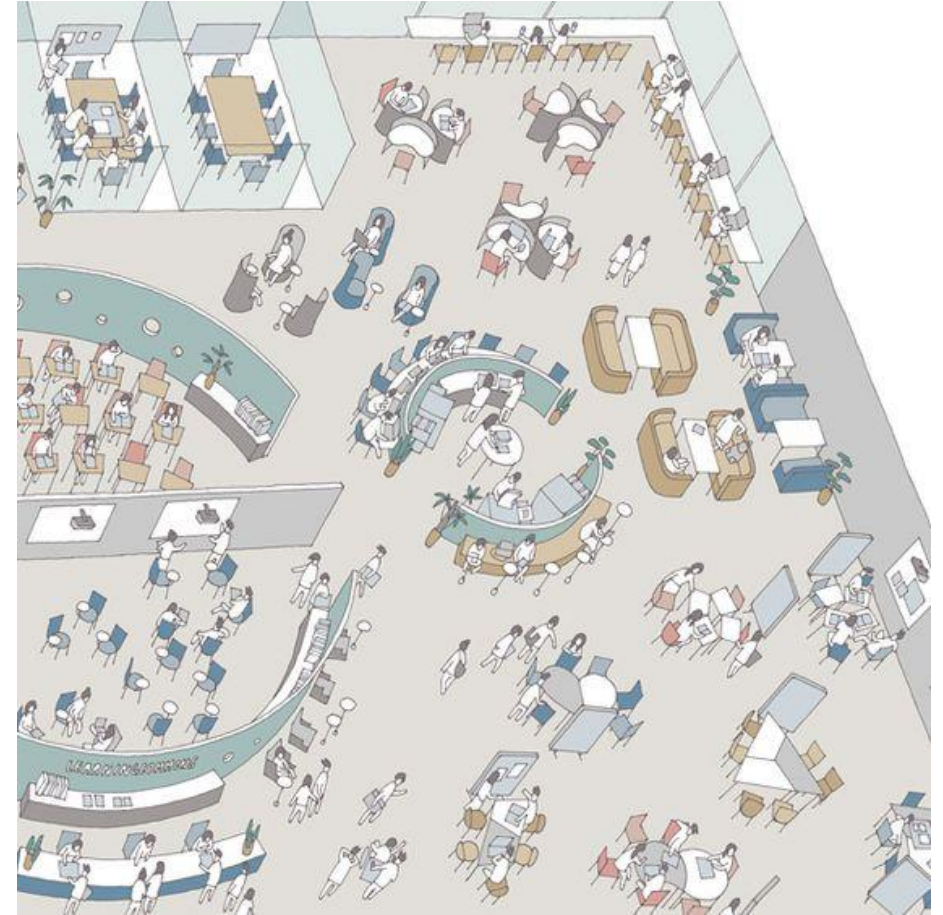


Photo credit: Darren Bradley

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 AND DESIGN PROCESS SOLUTIONS

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.



Photo credit: Propsearch

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**.



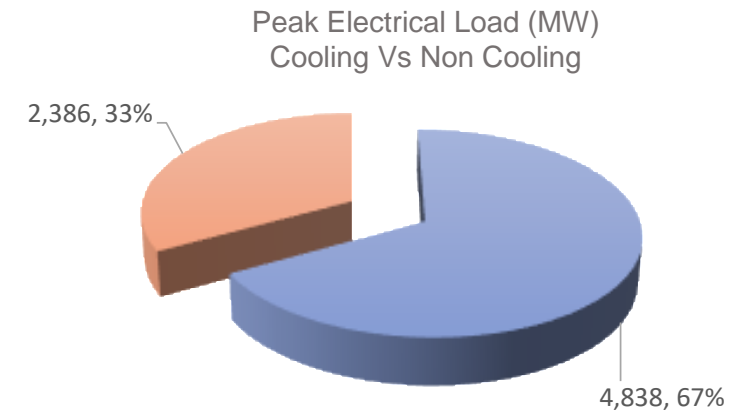
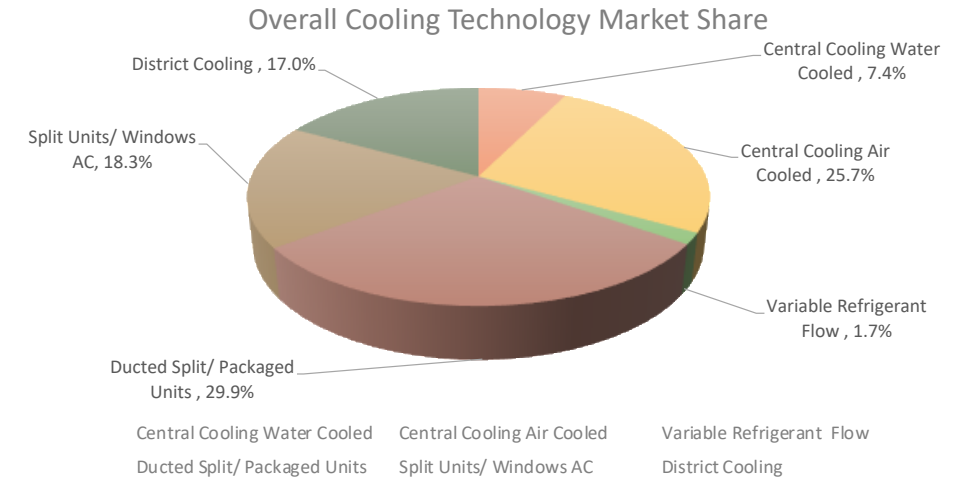
Demolition of Metropolitan hotel. Source: construction week online

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:

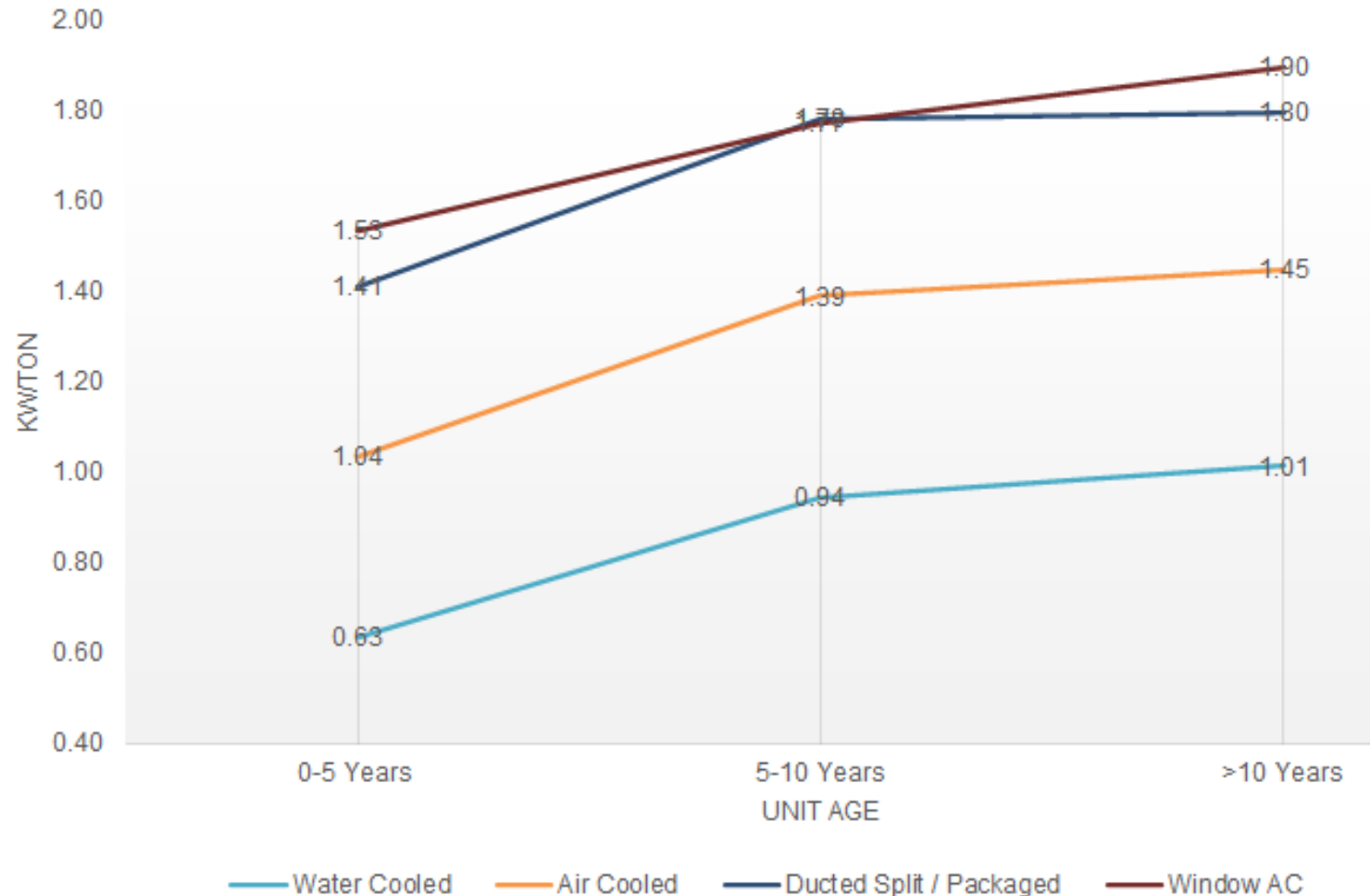
- Inefficient cooling systems constitute around **50%** of the technologies market share.
- Peak electrical load attributed to cooling alone is **67%**.



MODERN ARCHITECTURE AND THE CLIMATE EMERGENCY

Efficiency of cooling technology vs. age

Via in-situ measurements -
Sample size determined at
90% confidence



SOLUTIONS AND RECOMMENDATIONS

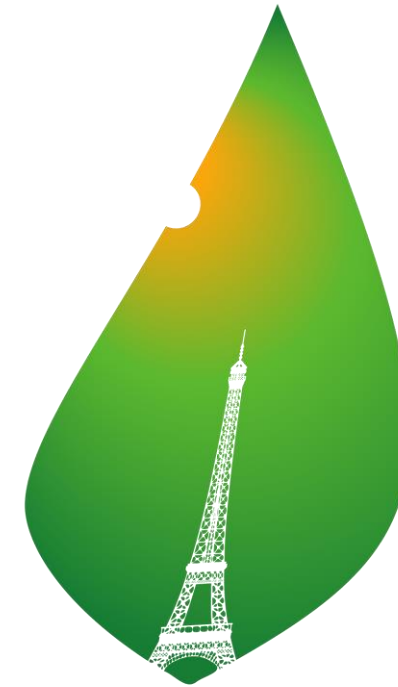
- A **definition** of heritage in the UAE that is inclusive of the modernist era.
- Linking **value** with modernist buildings.
- Quantifying value and implementation of **processes** that aid in defining which buildings are worthy of conservation.
- Realization that not all buildings can be saved, but 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.



Dubai World Trade Center. Source: The Cultrist

SOLUTIONS AND RECOMMENDATIONS

- 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.

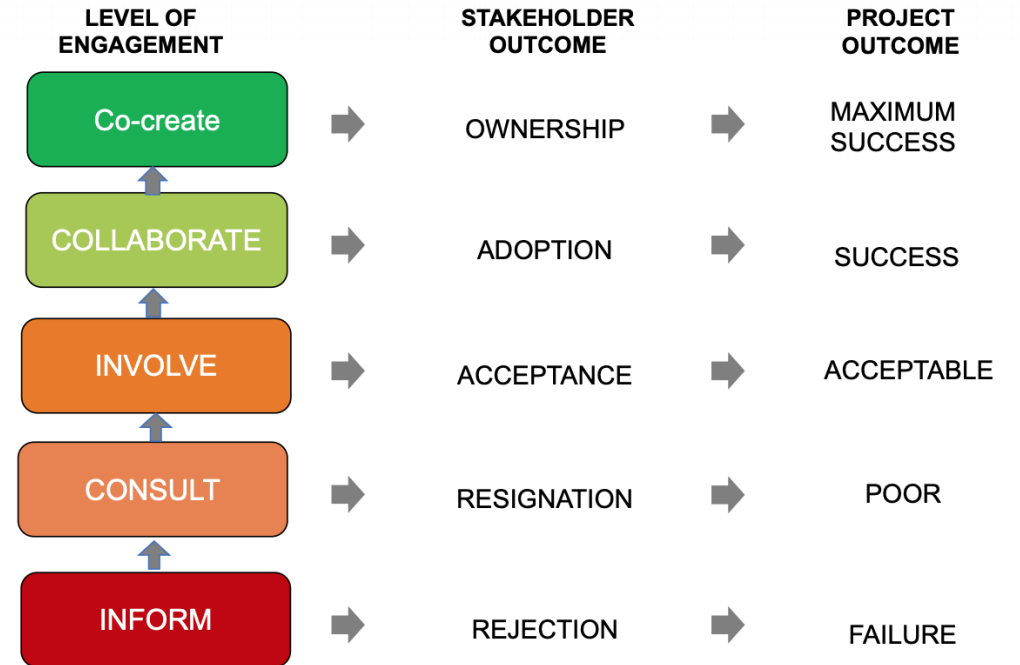


PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

SOLUTIONS AND RECOMMENDATIONS

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)



CURRENT EFFORTS IN PRESERVATION

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.



Fisherman's Wharf, Source: Abu Dhabi culture

SHOWCASE: RETROFIT OF MODERNIST BUILDINGS

SHOWCASE: RETROFIT OF MODERNIST BUILDINGS

270 Park Avenue

JP Morgan Chase Tower.

2012 achieved LEED Platinum – the largest renovation in history.

2019 – demolition underway.



SHOWCASE: RETROFIT OF MODERNIST BUILDINGS

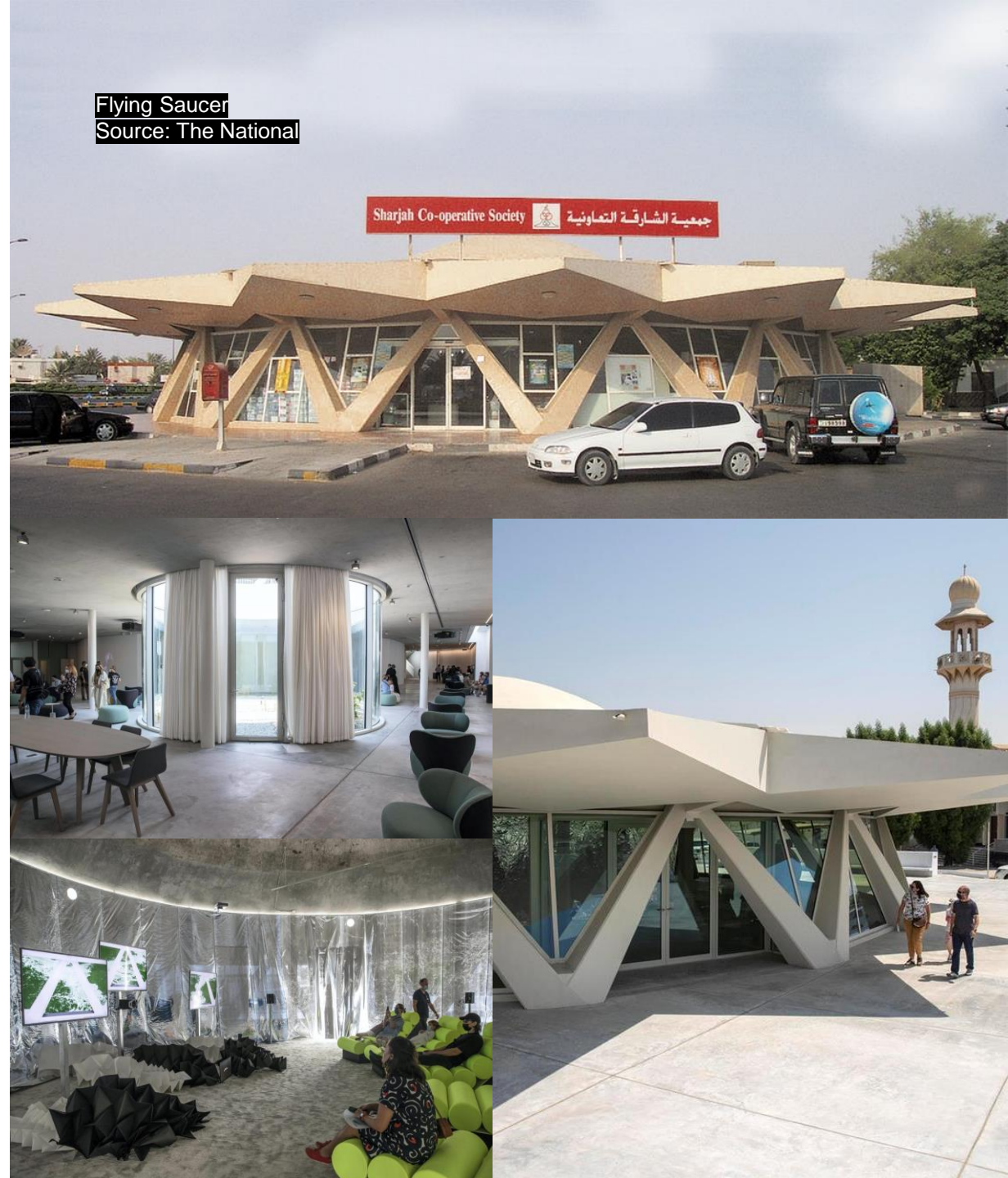
Sharjah's Flying Saucer

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.

Flying Saucer
Source: The National



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.



Al Faya Retreat
Source: Archdaily



FUTUREPROOFING

FUTURE PROOFING

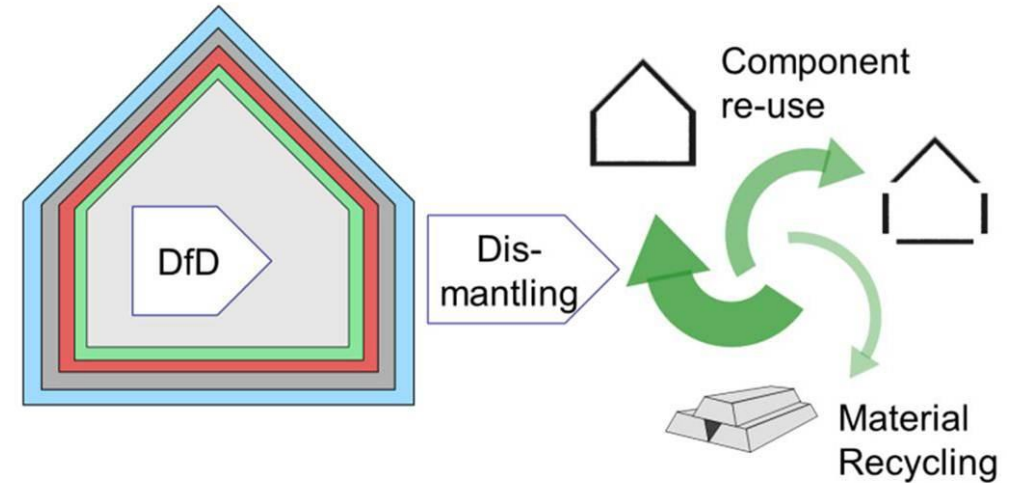
Design for Repurposing

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.

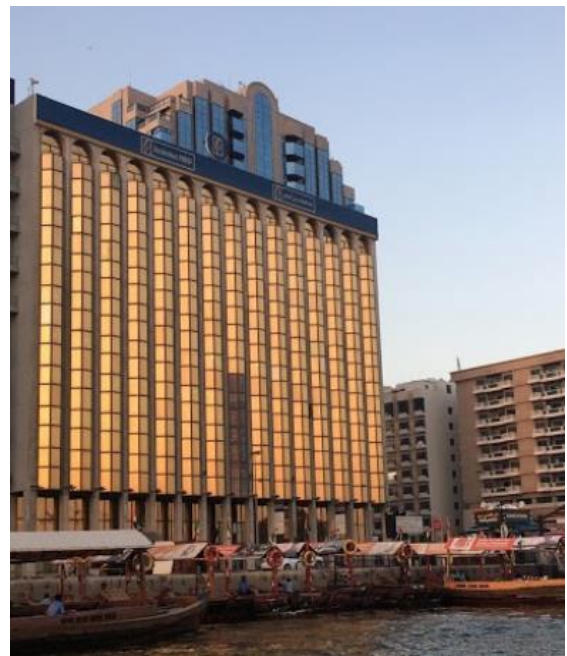
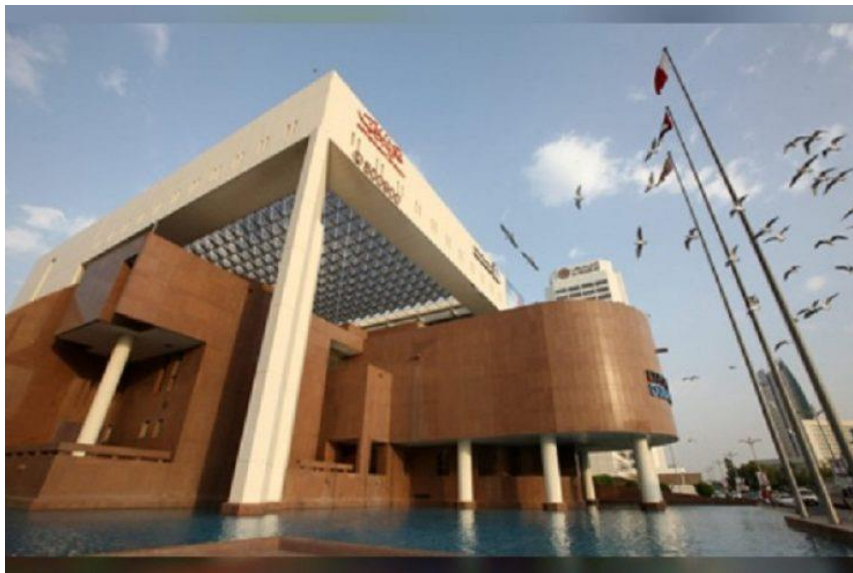
DfD
Source: Oliebana



Expo 2020
Source: CNN



SHOWCASE: RETROFIT OF MODERNIST BUILDINGS





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