



Module 5

ARCHITECTURAL PLANNING

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What is architecture?

Architecture is both the process and the product of planning, designing and constructing buildings and other physical structures.

- *It is the space organization for utility to facilitate function.*
- It is both a science and an art.
- It requires knowledge of both technology and humanities.
- It is not limited to buildings only; but with the construction of built environments too (like residential townships etc.)
- It works at both macro levels (buildings, townships) and micro levels (furniture, construction details etc.)

What is architecture?

Architecture deals with planning, designing and constructing form, space and ambience to reflect functional, technical, social, environmental and aesthetic considerations.

- **It requires the creative manipulation and coordination of materials and technology, and of light and shadow.**
- **Often, conflicting requirements must be resolved.**
- **Documentation produced by architects, typically drawings, plans and technical specifications, defines the structure and/or behaviour of a building or other kind of system that is to be or has been constructed.**

What is architecture?

The 2 very basic principles of architecture are:

1. Function Follows Form:

It means something that is created giving preference to form. The function follows it.

2. Form Follows Function:

It means something is created in a manner (or form), which allows it to perform its function.



Egyptian Architecture



Greek Architecture



Oriental Architecture



Islamic Architecture



Victorian Architecture



Renaissance Architecture



Modern Architecture



Environment-Friendly Architecture



Commercial Architecture

Principles of Architecture:

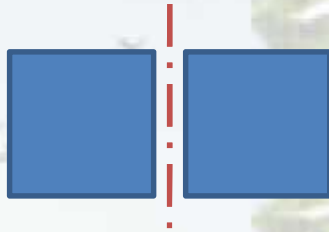
- **Unity**
- **Mass Composition**
- **Contrast**
- **Proportion**
- **Scale**
- **Accentuation and Rhythm**
- **Materials for the exterior**
- **Expression**



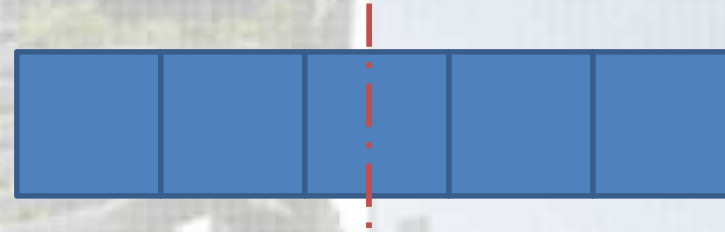
Principles of Architecture: UNITY

- **The meaning of the word “unity” is oneness.**
- **It means harmony amongst elements.**
- **It gives coherence to the parts and integrity to the whole.**
- The unity of architectural composition lies in concept, not in the units or elements and therefore to maintain unity in architectural design, some central or focal idea creating some interesting accent.

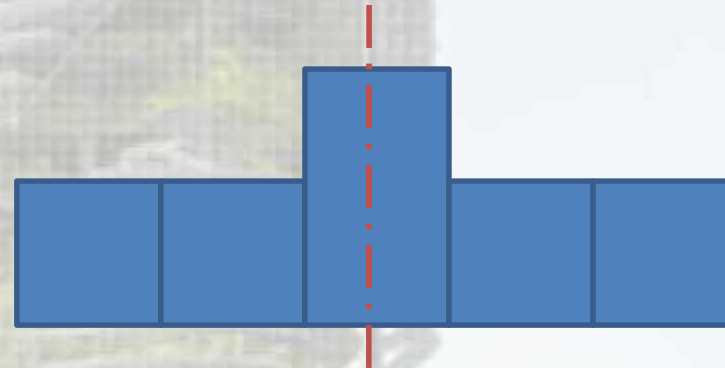
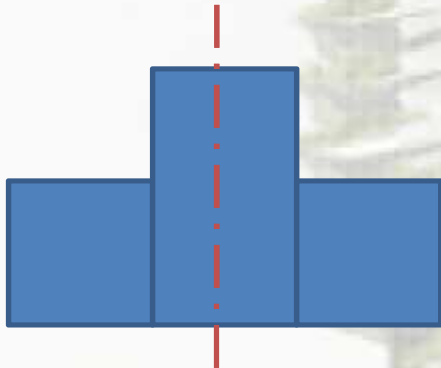
Principles of Architecture: UNITY



Duality



Competition



Duality and Competition accent relieved by Dominating

Principles of Architecture: MASS COMPOSITION

- Mass composition refers to the visual effect of a body.
- The 3D visual quality of a body is its mass.
- Mass has some relation to the size of a body, but none whatsoever to its weight.
- On the basis of proper balance in composition, harmony and weighted adjustment, different masses can develop and satisfy the viewer with reference to relative importance of the various elements of the design.

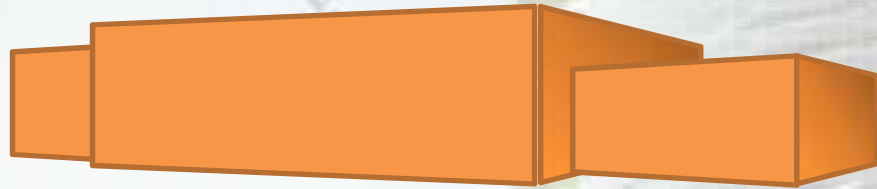


Horizontal Mass



Vertical Mass

Principles of Architecture: MASS COMPOSITION



Major and Minor Horizontal Mass



Major and Minor Vertical Mass

- **The balance may be symmetrical, nearly symmetrical or asymmetrical.**

Principles of Architecture: CONTRAST

- **Mass composition with harmonious unity should create interest in the design so as to catch the attention of the observer.**
- **Monotony may reduce interest.**
- **Contrast reduces monotony.**
- **A well conceived contrast of form, size, tone and direction may result in serious harm to unity. Such harms should be minimized.**
- **Contrast may be achieved in mass, in space, in mass and space, in surfaces, in colour and with light.**

Principles of Architecture: CONTRAST



Principles of Architecture: PROPORTION

- **Mass composition is the result of arrangements of various elements in proper proportion with each other and that with the composition as a whole.**
- **It is entirely a matter of relationship.**
- **It is not the actual size but the relative size of one from another.**
- **Unless the proportion is correct to the scale of conception, it would be a violation not only of conception but it will mislead the perception and do harm to the character of the building.**

Principles of Architecture: SCALE

- The proportion is not merely a matter of relative dimensions but the result of scale also.
- In architecture, the scale means the proper relation of several parts to one another and to the whole from aspect of size.
- Intimate Scale
- Monumental Scale



Principles of Architecture: Accentuation and Rhythm

- **After viewing any space (internally and externally) a person always has a special feeling about a special element.**
- **This feeling is because of the impression, emphasis, rigidity, firmness, function, decisivity of the element.**
- **This emphasis of the element is termed as accentuation.**
- **Any repetitive occurrence of a particular pattern is called as rhythm.**
- **Rhythm may also be created by successive decrease or increase in the size of chosen pattern.**

Principles of Architecture: Accentuation and Rhythm



Principles of Architecture: Materials for Exterior

- **The elevational treatment creates basic visual impact on observer's mind.**
- **Functional aspects can be seen or emphasized through the elevational treatment given to the building.**
- **The character grows out of the function as we know and this can be achieved through unusual perfect combinations to fulfil the need of the exterior.**
- **Simple design, proper choice of material and their disposition are the key factors to achieve the character.**

Principles of Architecture: Materials for Exterior



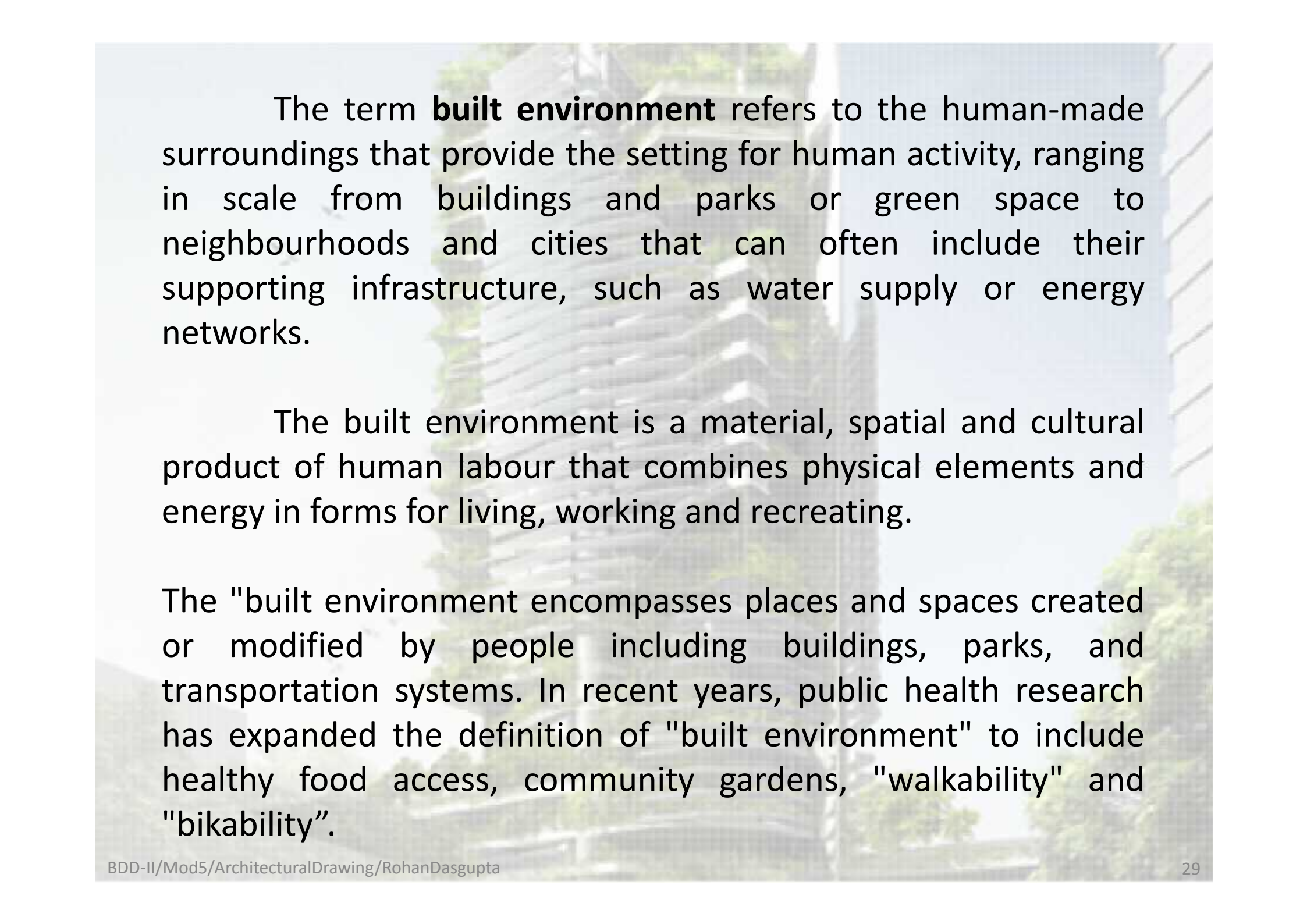
Principles of Architecture: Expression

- Expression represents a creation of the building and represents the harmony through colour code, shapes, lines etc.
- External expression (physical form, external features etc.)
- Internal expression (interior spaces, disposition etc.)
- Architectural expression strongly shapes man's psychology and influences his esthetic sensitivity.



BUILT ENVIRONMENT



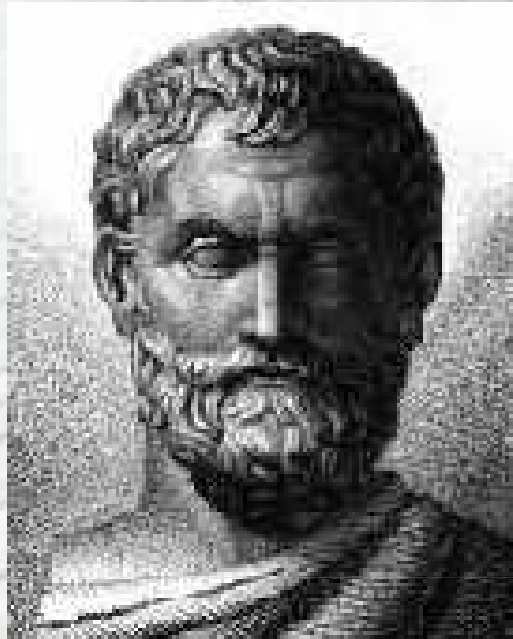


The term **built environment** refers to the human-made surroundings that provide the setting for human activity, ranging in scale from buildings and parks or green space to neighbourhoods and cities that can often include their supporting infrastructure, such as water supply or energy networks.

The built environment is a material, spatial and cultural product of human labour that combines physical elements and energy in forms for living, working and recreating.

The "built environment encompasses places and spaces created or modified by people including buildings, parks, and transportation systems. In recent years, public health research has expanded the definition of "built environment" to include healthy food access, community gardens, "walkability" and "bikability".

HISTORY



Hippodamus

Father of Urban Planning

developed Greek cities from 498 BC to 408 BC

created order by using grid plans that mapped the city

HISTORY

One of Hippodamus' most famous urban planning was of the city
Miletos



HISTORY

These early city plans eventually gave way to the City Beautiful movement in the late 1800s and early 1900s, inspired by **Daniel Hudson Burnham**, a reformist for the Progressivism movement who actively promoted "a reform of the landscape in tandem with political change."

The effort was in partnership with others who believed that *beautifying cities would improve the moral compass of the cities and encourage the upper class to spend their money in cities.*

This beautification process included parks and architectural design.



MODERN BUILT ENVIRONMENT

Modern built environments have emerged out of the interdisciplinary field that addresses the design, construction, management and use of these man-made surroundings as an interrelated whole as well as their relationship to human activities over time (rather than a particular element in isolation or at a single moment in time).



MODERN BUILT ENVIRONMENT

This field of study is generally not regarded as a traditional profession or academic discipline in its own right, instead drawing upon areas such as

- ✓ Economics
- ✓ Law
- ✓ Public policy
- ✓ Public health
- ✓ Management
- ✓ Geography
- ✓ Design
- ✓ Echnology
- ✓ Environmental sustainability



PUBLIC HEALTH

In public health, built environment refers to physical environments that are designed with health and wellness as integral parts of the communities.

Research has indicated that the way neighbourhoods are created can affect both the physical activity and mental health of the communities' residents.

Studies have shown that built environments that were expressly designed to improve physical activity are linked to higher rates of physical activity, which in turn, positively affects health.



Public Health: WALKABILITY

Neighbourhoods with more walkability had:

- ✓ lower rates of obesity
- ✓ increased physical activity
- ✓ lower rates of depression
- ✓ higher social capital
- ✓ less alcohol and drug abuse

Walkability features in the neighbourhood include:

- ✓ safe sidewalks
- ✓ walkable destinations to walk to

Bikeability also leads to public health and may be achieved by providing separate lanes for bikes (bicycles).

Public Health: BIKEABILITY

Bikeability refers to the access that an area has granted to safe biking through multiple bike paths and bike lanes.

Both walkability and bikeability have been cited as determinants of physical activity.

Bikeability leads to:

- ✓ lower BMI
- ✓ lower overweight risk
- ✓ higher physical activity



Public Health: HEALTHY FOOD

Public health also addresses healthy food access such as proximity to grocery stores and community gardens.

A higher density of convenience stores has been associated with obesity in children.

Whereas, neighbourhoods with community gardens have shown:

- ✓ lower overweight status
- ✓ increase in vegetable intake
- ✓ positive social impact
- ✓ lower stress levels
- ✓ lower hypertension
- ✓ improved sense of wellness



LANDSCAPE ARCHITECTURE

In landscape architecture, the built environment is understood to mean a human-made landscape, as distinguished from the natural environment; for example, a city park is a built environment.



Royal Botanic Gardens, London

CHALLENGES IN BUILT ENVIRONMENT

- **Environmental**: to create environmental sustainability without depleting natural resources but creating suitable base with amenities for psychological shelter
- **Architectural**: Energy saving, user-friendly, efficiency improving, creating occupational comfort, functional utility, aesthetics, environmental filter, planned picturesque creation with colourful nature, life with charm to refresh all
- **Engineering**: to provide safe and hygienic shelter while protecting and healing the green of the Earth by creation of physical, psychological and spiritual comfort for welfare of all with the integrated approach of Environment-Building-Man relationship
- **Desires of a Common Man**: “Whatever is best in the world, that should get place in my city.

REQUIREMENTS OF A BUILT ENVIRONMENT

- ✓ **Integrated Approach – need of the future**
- ✓ **Development of control rules and general building requirements**
- ✓ **Safety of inhabitants (from fire etc.)**
- ✓ **Safe structural design**
- ✓ **Safe construction practices**
- ✓ **Proper lighting and ventilation**
- ✓ **Adequate water supply**
- ✓ **Proper drainage**
- ✓ **Proper waste disposal**
- ✓ **Proper electrical and allied installations**
- ✓ **Gas supply**
- ✓ **Air conditioning, heating and mechanical ventilation**
- ✓ **Acoustics, sound insulation and noise control**
- ✓ **Landscaping**

COMPETENT DESIGN TEAM

Architect - 35%

Quantity Surveyor – 23 %

Structural Engineer – 18%

Service Engineer – 12 %

Environmental Consultant – 4%

Management Consultant – 4%

Landscape Architect – 2%

Interior Designer – 2%

Man shapes his environment...



...but he is also shaped by it.

A photograph of a modern skyscraper with a green facade, featuring a central glass tower and a series of balconies with plants. The building is set against a clear blue sky with a few birds flying. The text "Thank you!" is overlaid in a large, black, cursive font in the center of the image.

Thank you!