



BENHA UNIVERSITY
FACULTY OF ENGINEERING
DEPARTMENT OF ARCHITECTURE

AE1342-URBAN DESIGN(1)-LECTURE 4

FORM AND SPACE: QUALITY OF PERCEPTION

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CONTENT

An aerial photograph of a two-lane road winding through a forest with vibrant autumn foliage in shades of yellow, orange, and red. A white car and a red car are visible on the road. The top left corner of the slide features a dark green background with the word 'CONTENT' in white.

- INTRODUCTION
- PRINCIPLES OF PERCEPTION
- ASSIGNMENT # 7
- QUALITY OF PERCEPTION
- SERIAL VISION

INTRODUCTION...

INTRODUCTION



But a city is more than a place in
space, it is a drama in time.

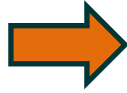
— *Patrick Geddes* —

AZ QUOTES

PRINCIPLES OF PERCEPTION...

INTRODUCTION

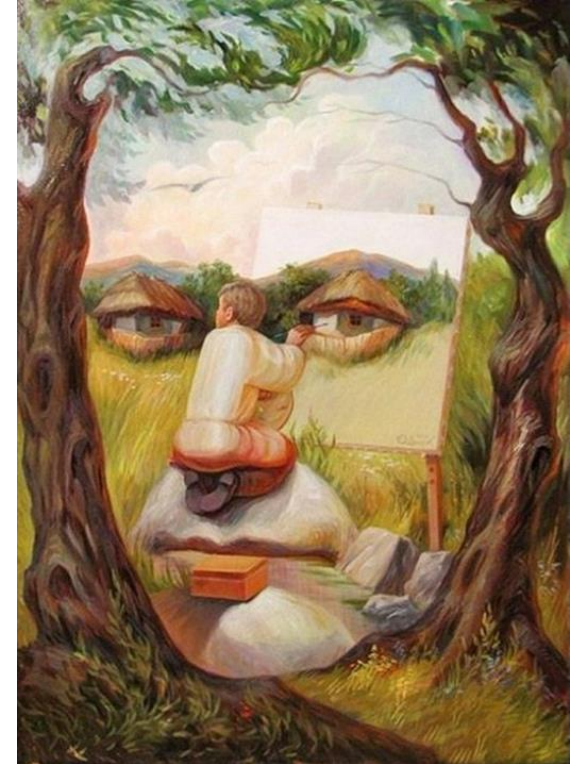
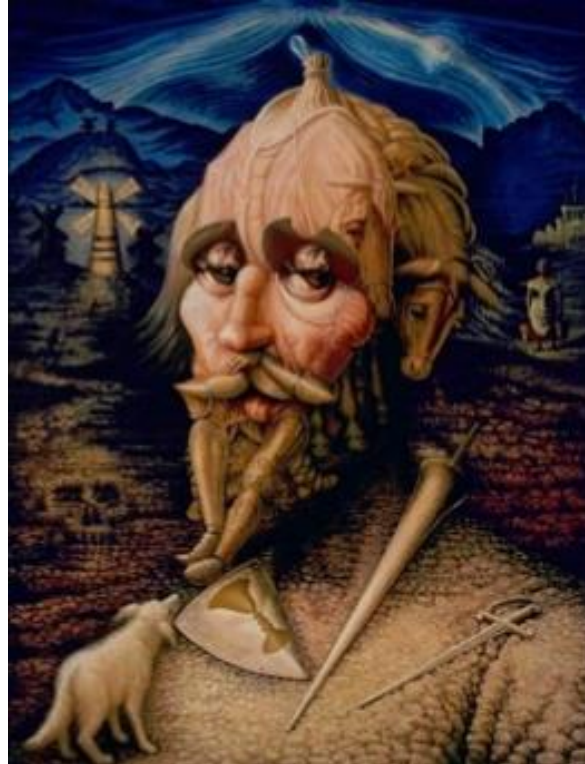
What do you see in this picture?



In an image, we can study the relationship between its elements, separately or together, to develop the message we want to transmit to the receiver.

INTRODUCTION

According to figure ground relationship a figure is perceived in relation to its background.



GESTALT PRINCIPLE OF PERCEPTION

When you look at the environment, you look at it as a whole picture, not separate parts.



GESTALT PRINCIPLE OF PERCEPTION



What do you see in this picture?

GESTALT PRINCIPLE OF PERCEPTION

Have you seen the letter **X** or **four lines**?

Surly everyone has seen the same: The letter X

Why??

- Because we tend to see shapes as simple as possible



Gestalt principles help us to **understand the way we see** and **find out how visual perceiving works.**

WHY ARE GESTALT LAWS SO IMPORTANT?

The close relationship between Gestalt Principles and Design



Gestalt Principles can really help in focusing attention and organizing contents in an effective way.

GESTALT PRINCIPLE OF PERCEPTION



The main Gestalt Laws are:

1. Law of Proximity
2. Law of Similarity
3. Law of Closure
4. Law of Continuity
5. Law of Symmetry
6. Law of Grouping (Figure/Ground)

GESTALT PRINCIPLE OF PERCEPTION

1- Law of Proximity:

“Objects or shapes that are close to one another appear to form groups”

Even if the shapes, sizes, and objects are radically different, they will appear as a group if they are close together.



GESTALT PRINCIPLE OF PERCEPTION

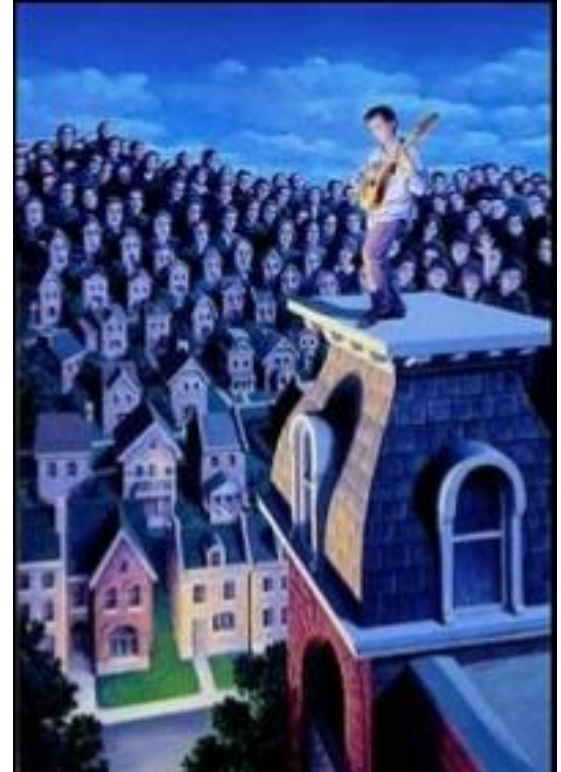
2- Law of Similarity:

Similarity occurs when objects look similar to one another.

People often perceive them as a group or pattern.

“Our mind groups similar elements to an entity”

The similarity depends on form, color, size and brightness of the elements.



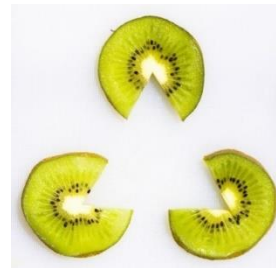
GESTALT PRINCIPLE OF PERCEPTION

3- Law of Closure:

Gestalt theory seeks completeness:

“When shapes aren’t closed, we tend to add the missing elements to complete the image”

When the viewer's perception completes a shape, closure occurs.

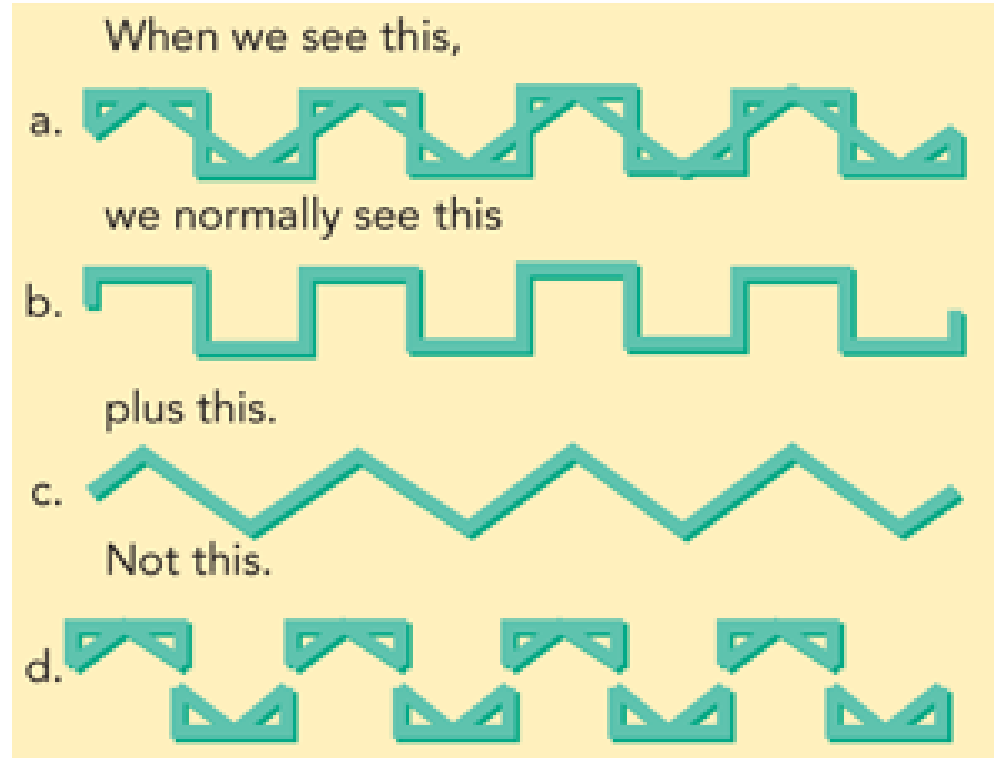


GESTALT PRINCIPLE OF PERCEPTION

4- Law of Continuity:

“Continuation occurs when the eye is compelled to move through one object and continue to another object.”

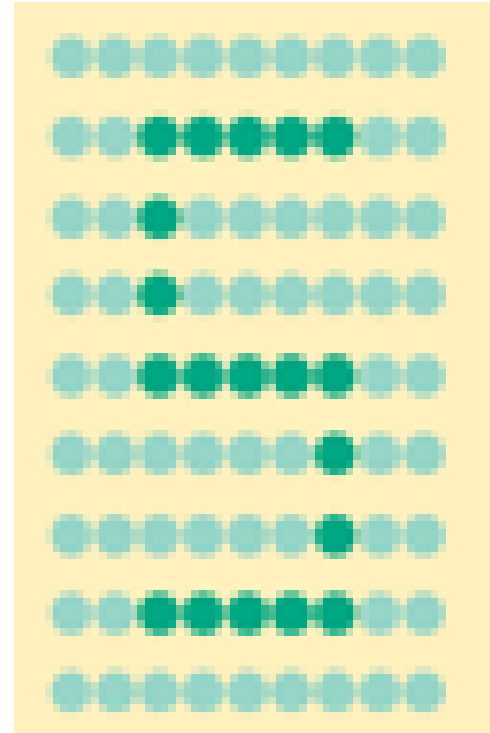
Objects that continue a pattern are grouped together.



GESTALT PRINCIPLE OF PERCEPTION

5- Law of Symmetry:

Objects must be balanced or symmetrical to be seen as complete or whole.



GESTALT PRINCIPLE OF PERCEPTION

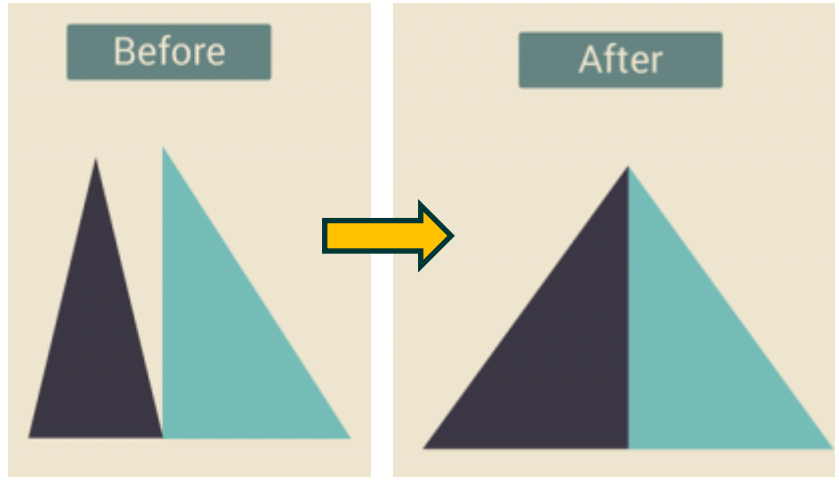
6- Law of Grouping (Figure/Ground):

We tend to pay attention and perceive things in the foreground first. A stimulus will be perceived as separate from its ground

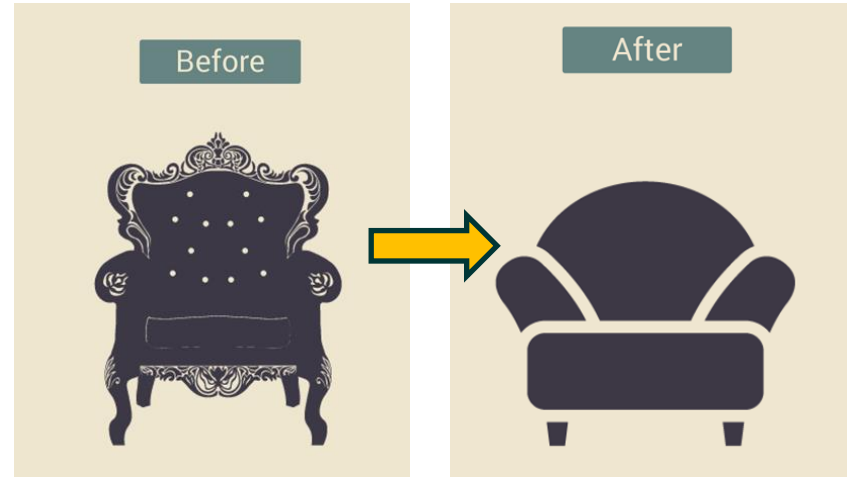


APPLICATION

Symmetry:

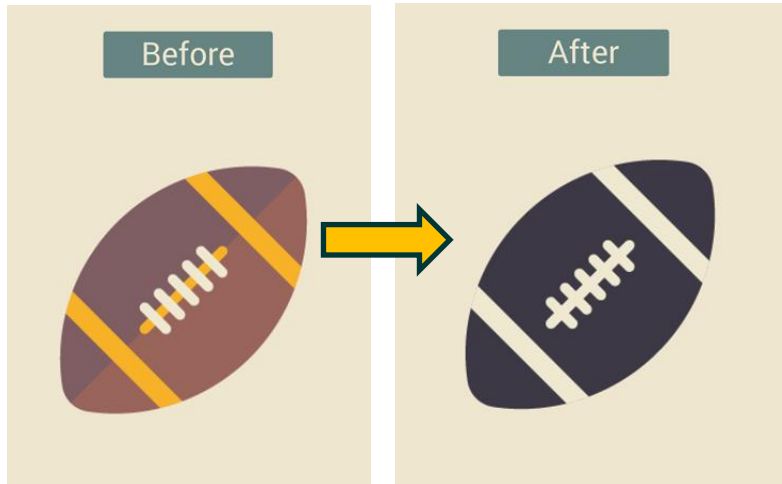


Simplicity:

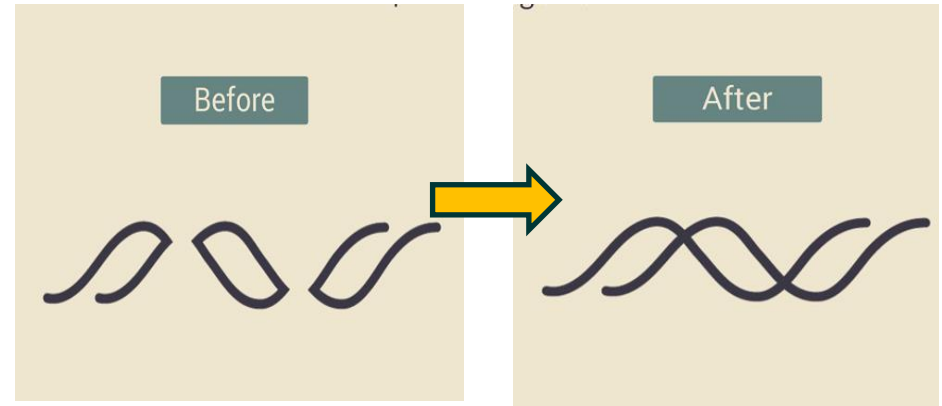


APPLICATION

Closure:

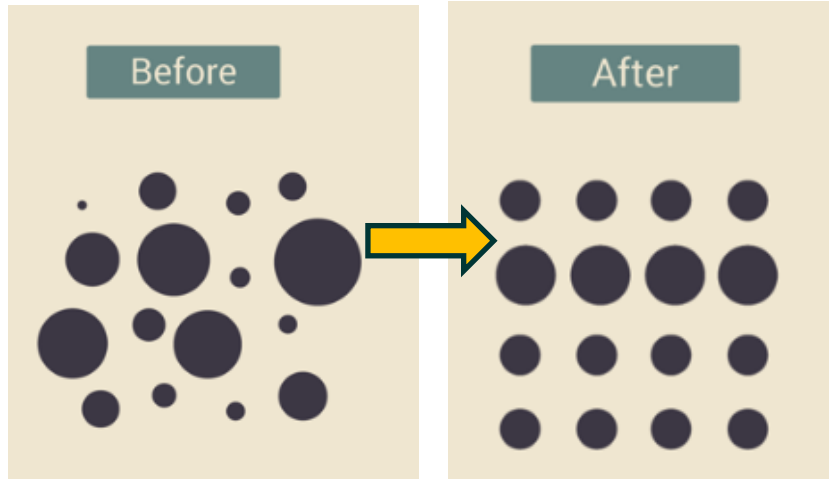


Continuity:

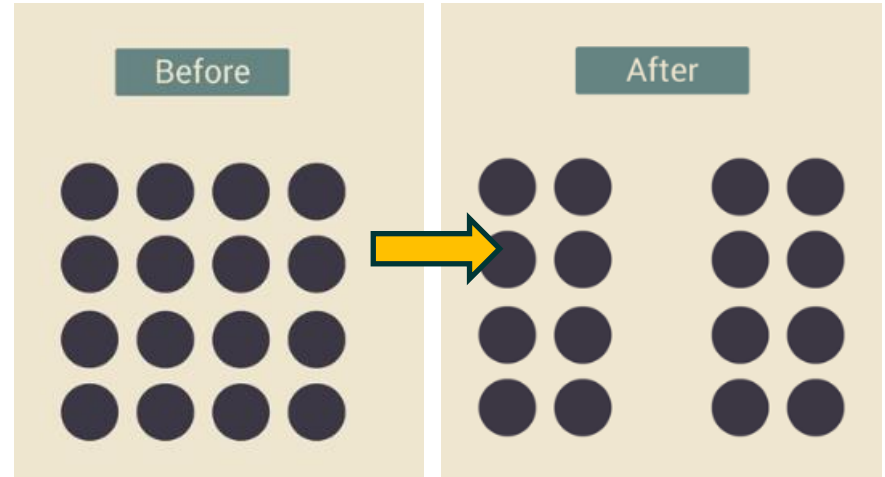


APPLICATION

Similarity:

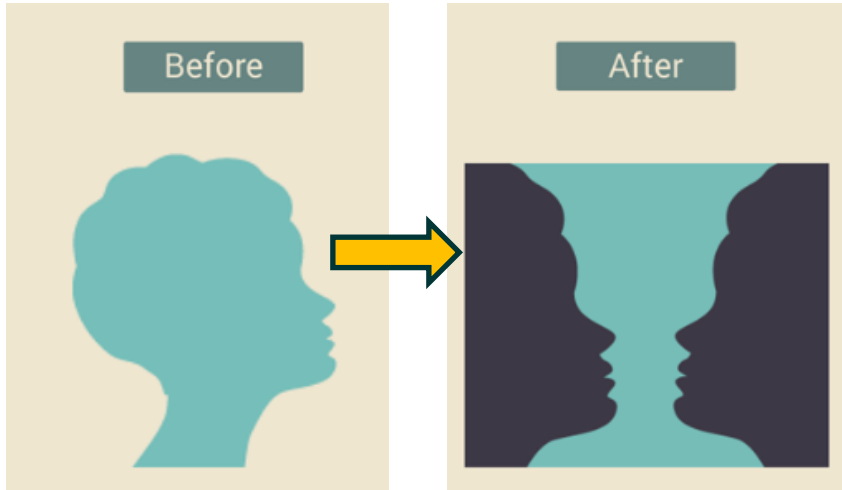


Proximity:



APPLICATION

Figure and Ground:



Create your own visual perception:



Assignment # 7

QUALITY OF PERCEPTION....

BASIC CONCEPTS



Quality of perception is enhanced by several design principles, such as:

- 1. Clarity and Selectivity**
2. Image Distortion
- 3. Time**
4. Perceptual and spatial Organization

CLARITY AND SELECTIVITY....

CLARITY AND SELECTIVITY

The following items help the eye to easily grasp the urban elements exposed in the environment.

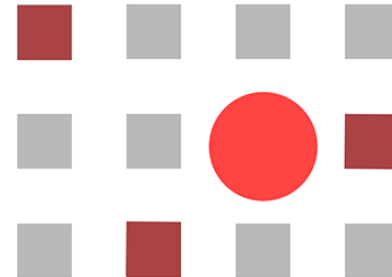
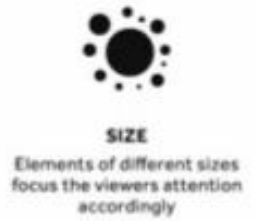
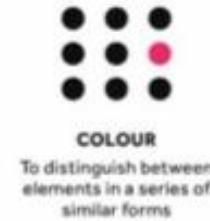
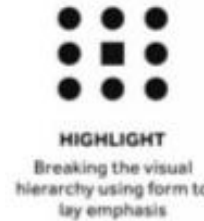
1- Dominance:

An element is generally dominating over the others either by size or by intensity.

HOW TO ESTABLISH DOMINANCE?

- By contrast
- By massing
- By color
- By position

Dominance / Emphasis



CLARITY AND SELECTIVITY



Piazza del Popolo, Rome



Fontana Di Trevi, Rome



Arch De Triumph, Rome

CLARITY AND SELECTIVITY



View of Florence: Illustrating the dominance of the cathedral over the urban landscape

CLARITY AND SELECTIVITY

2- Singularity:

It implies contrast uniqueness and clarity.



Taj Mahal, India

CLARITY AND SELECTIVITY

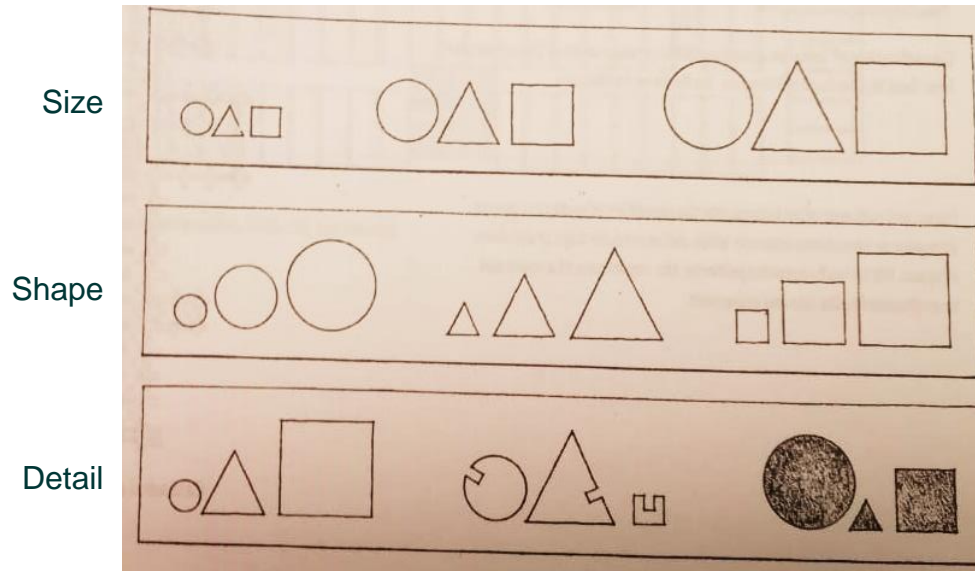
3- Simplicity of Form:



CLARITY AND SELECTIVITY

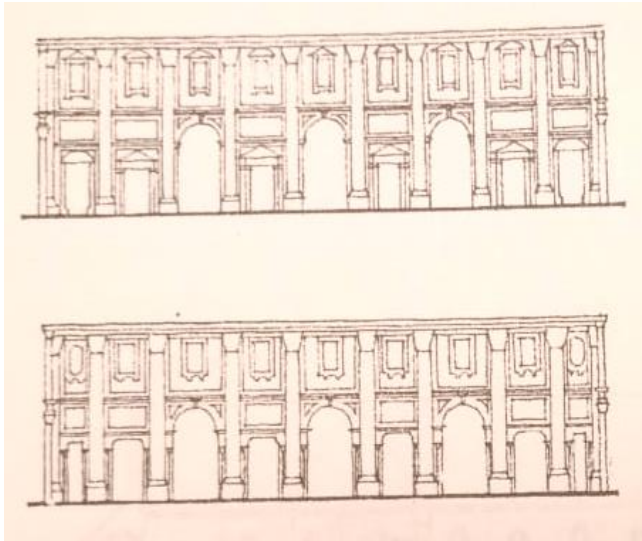
4- Similarity and Repetition

- Elements that share a similarity of color, shape, position or texture seem alike.
- Alignment is an especially significant aspect, elements that line up with one another seem related.



CLARITY AND SELECTIVITY

4- Similarity and Repetition



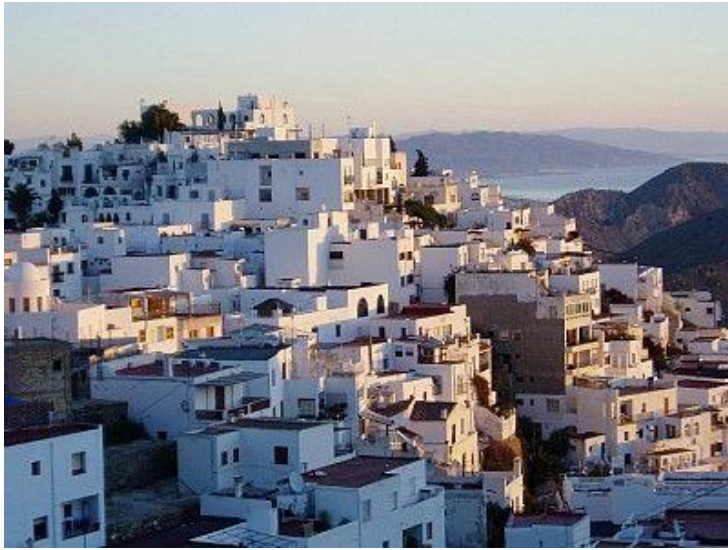
Studies of internal façade of a basilica



Victorian façade

CLARITY AND SELECTIVITY

4- Similarity and Repetition



View of Spanish Hill Town of Mojacar



View of Villa Hermosa, Spain

CLARITY AND SELECTIVITY



4- Similarity and Repetition

Repetition produce **RHYTHM**

CLARITY AND SELECTIVITY

5- Rhythm

Is a pattern created by repeating or varying elements.



CLARITY AND SELECTIVITY

6- Clarity of Edges and Clustering

This needs:

1. Sharpness of boundaries.
2. Clarity of physical relationships.
3. Homogeneous character.

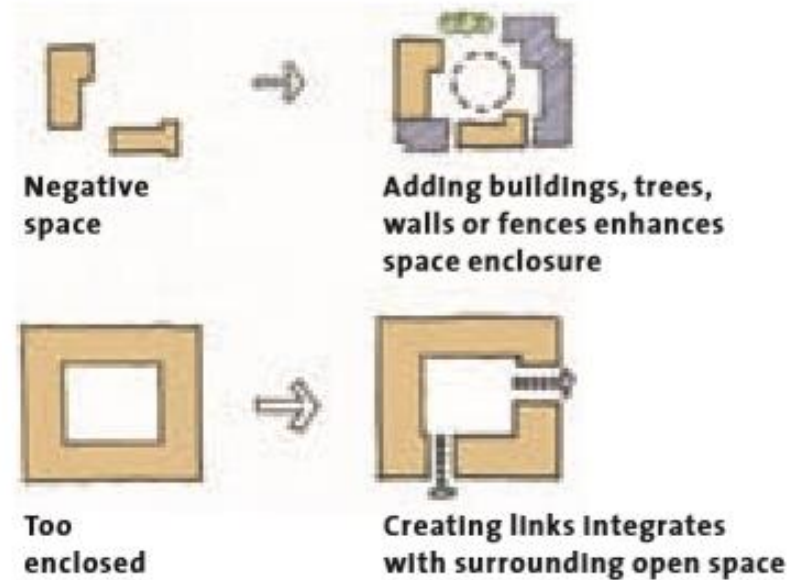
El Korba, Egypt



CLARITY AND SELECTIVITY

7- Enclosure and Closure

One of the most important urbanism is for building to give positive definition to the shape and function of outdoor spaces and to be designed to encourage a range of activities to take place.



CLARITY AND SELECTIVITY

7- Enclosure and Closure

Spatial enclosure is also a matter of **continuity of wall surface**: The role of the building façades must be subservient to the spaces they form



Dr. Mona Y. Shedid

Basilica of St. Peter,
Rome

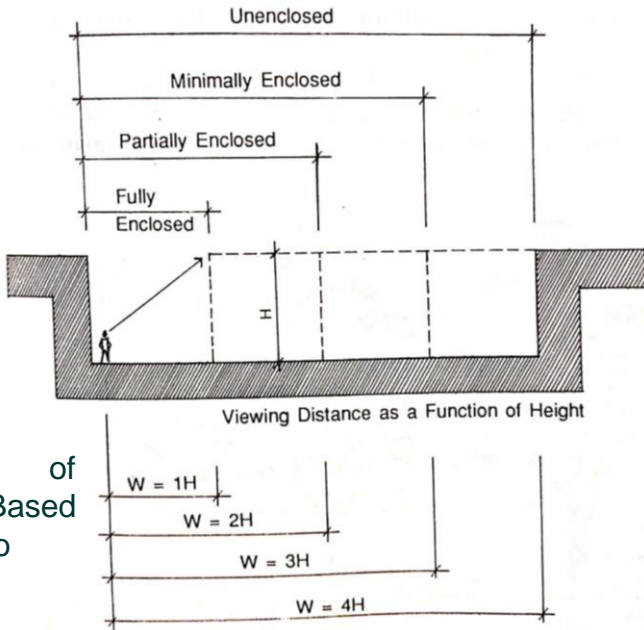
CLARITY AND SELECTIVITY

7- Enclosure and Closure



CLARITY AND SELECTIVITY

7- Enclosure and Closure



Degree of Enclosure Based on H:H Ratio



CLARITY AND SELECTIVITY

7- Enclosure and Closure

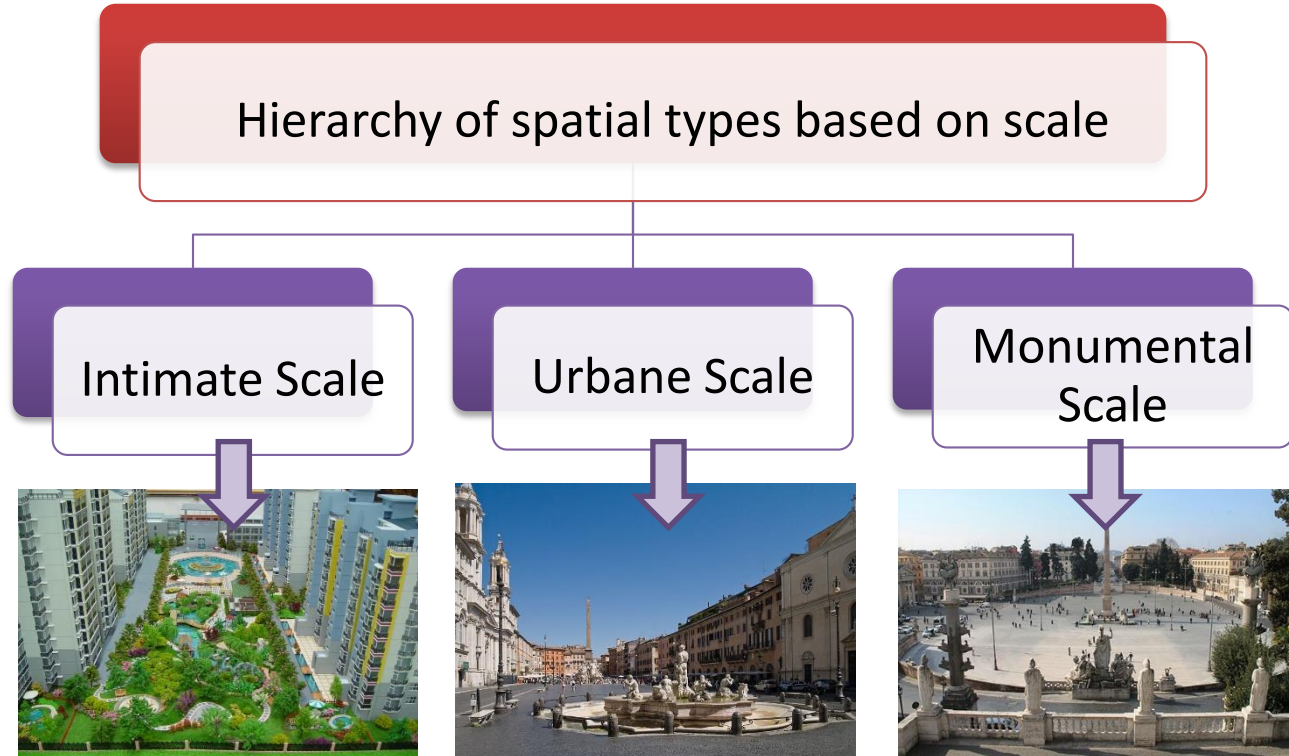
Traditional streets in hot climates were frequently built to be much narrower than their height in order to provide shaded streets

Phoenix Town, Hunan,
China



CLARITY AND SELECTIVITY

8- Scale

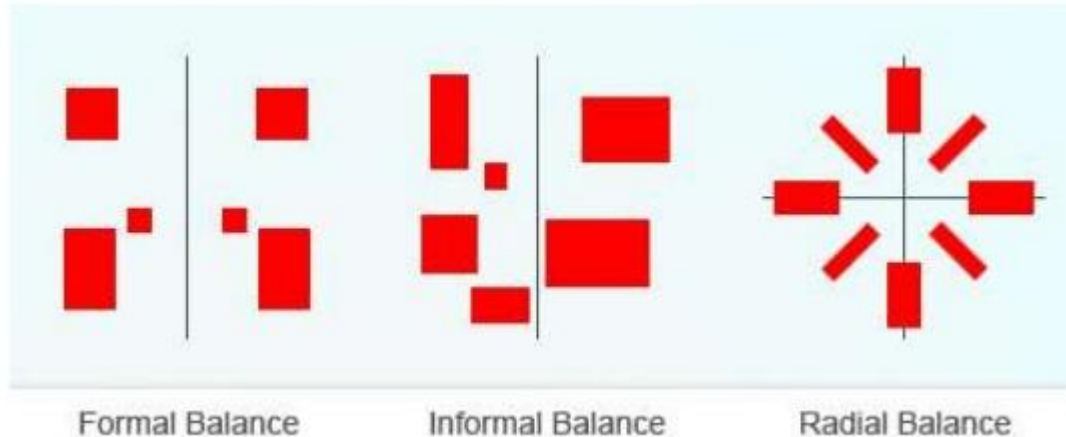


CLARITY AND SELECTIVITY

9- Balance

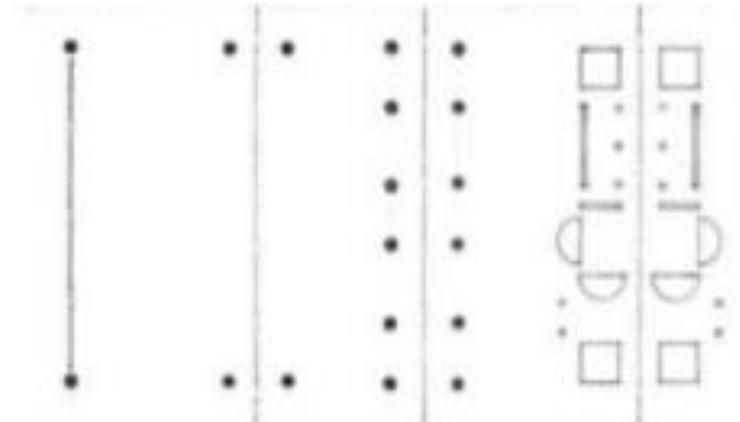
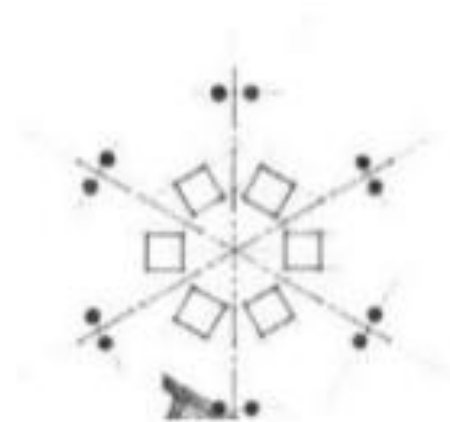
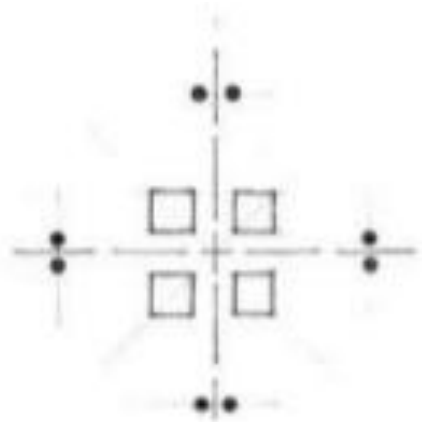
Equal distribution of visual weight on either side of a composition's center.

Used to create a sense of stability



CLARITY AND SELECTIVITY

10- Symmetry





TIME....

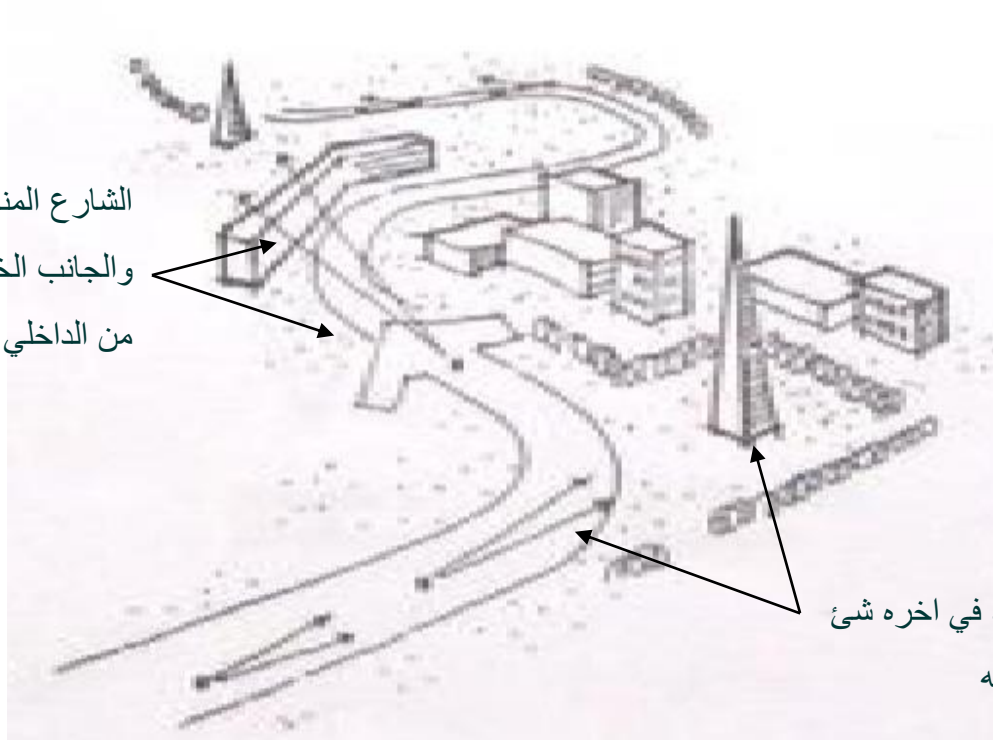


يتعامل التصميم العمراني مع:

- توزيع الوظائف والاستعمالات على المستوى ثنائي الابعاد.
- البعد الثالث للتكوين المادى **(الارتفاع)** يحدد النواحي البصرية.
- البعد الرابع **(الزمن)** يتحكم فى تتابع الرؤية.
- البعد الخامس **(الاحساس)** يكون الخبرة العمرانية.

TIME

الشارع المنحني يعطي الإحساس بالترقب
والجانب الخارجي (الإهتمام بالتفاصيل) أهم
من الداخلي

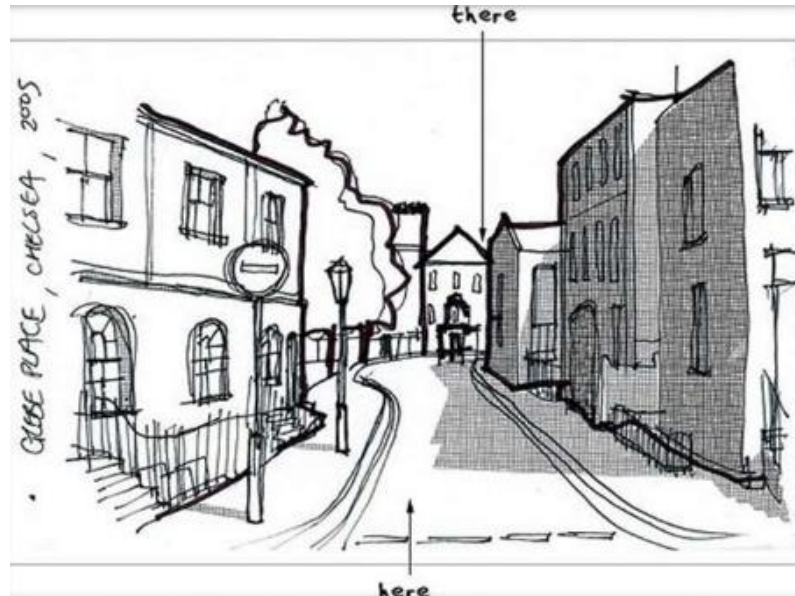


عندما نتحرك في شارع ونشاهد في اخره شئ
مهم يكون هناك دافع للحركة إليه

SERIAL VISION...

Gordon Cullen

Gordon Cullen (1961) saw particular significance in the tension between “**HERENESS**” & “**THERENESS**”



Gordon Cullen

منهج جوردون كالن للتعامل مع تصميم العمران:

هي عبارة عن عدة لقطات في شريط فيديو بينها زمن معين.



يرى كالن أن تكوين الصورة الذهنية النهائية للمدينة لا يعتمد بصورة أساسية على وجود العنصر البصري ولكن يعتمد بشكل أكبر على:

- كيفية الرؤية
- وقت الرؤية
- الظروف المصاحبة للرؤية

Urban Vision = Physical Vision + Social Behavior + Urban Sense

Gordon Cullen



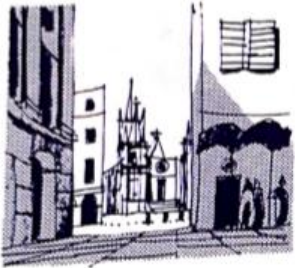
رؤية كالن عن الانطباع Image تتمثل
بأنها عدة لقطات في شريط فيديو بينها زمن
معين.

هذه الرؤية تحقق تصور حركة المشاة داخل
المدينة... رؤية الطرقات ... رؤية المباني
عن قرب ... رؤية التفاصيل ... استنتاج
بعض العادات والسلوكيات الجماعية ...
دراسة تأثيرها على تكوين العمران

He considered :
the urban environment should be designed
from the point of view of the moving person.

Dr. Mona Y. Shedid

Gordon Cullen



لقطة (٤) : يتحرك المشاهد أكثر في الموقع فتظهر مباني جديدة وكلها ذات تفاصيل معمارية ، ثم في الخلفية يظهر مبنى الكنيسة أوضح وتفاصيل أكثر.



لقطة (١) : نرى حائطاً كبيراً ومصمت وضخم وبه فتحة واحدة عميقة يدخل منها الضوء وبالتالي فالشخص ينظر تلقائياً إلى النقطة المضئنة في البوابة وينجذب إليها .

لقطة (٥) : يصل الزائر لمبنى الكنيسة في الخلف فتجذبه التفاصيل المعمارية بها وتكوينها فيزيد من احساسه بالإشباع والرغبة في التجول أكثر فتظهر له بوابة في الخلفية.

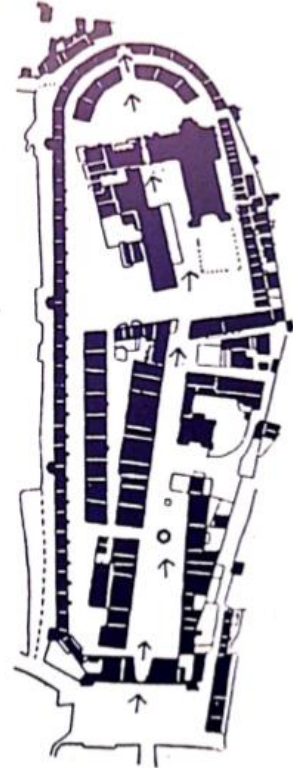


لقطة (٢) : كلما إقترنا من البوابة فإن الإطار الأسود يكبر في الحجم ويزيد التضاد بين الضوء والظل مما يجذب الانتباه أكثر - فيرى المشاهد الساحة الداخلية ومبانيها ذات التفاصيل وعمود ضخم في الوسط مما يدعونا للاقتراب أكثر.

لقطة (٦) : يشاهد الزائر المدخل الجديد ومن خلفه ضوء قوي وبعض التفاصيل لمباني أخرى مما يدفعه لأن يذهب لرؤيته مع وجود حدود على جوانب الصورة على اليمين واليسار .



لقطة (٣) : يصل المشاهد الى العلامة المميزة فيجد بها تفاصيل تستحق الرؤية مما يحقق الإشباع البصري للزائر ويحفزه للدخول أكثر في الموقع لرؤية ما بعده حيث يظهر مبنى كنيسة عن بعد.



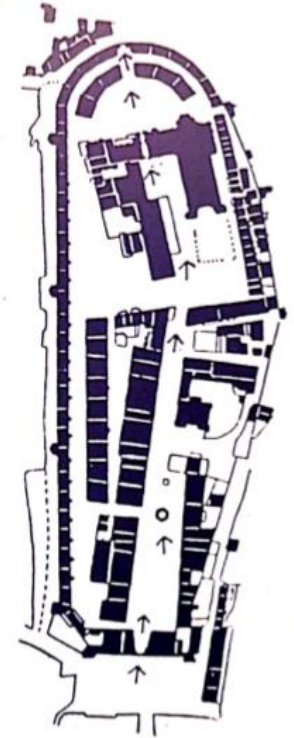
Gordon Cullen



لقطة (٧) : يظهر المبنى بتفاصيله اكثر مما يدعوا المشاهد الإقتراب والزيارة ، ويظهر للزائر حائط كبير مصمت وتظهر به بوابة أخرى قوية .

لقطة (٨) : يخرج الزائر من البوابة التي جذبت انتباهه لوجود الظل والنور فتنتهي المتابعة البصرية نهاية طبيعية ومشبعة .

العملية المعمارية تستعمل سيناريو به مدخل وعقدة أو وسط ونهاية من خلال التجربة البصرية ، وبالتالي فيجب دراسة ومعرفة كيف امهد للإنتقال من نقطة لأخرى ، وكيف نجذب نظر وانتباه المشاهد حتى نضمن تحركة خلال التكوين العمراني برغبة وإستمتاع .



REFERENCES

An aerial photograph showing a two-lane road curving through a landscape. The road has a white car in the left lane and a red car in the right lane. The surrounding area is filled with trees, some of which have yellow and orange autumn foliage. A yellow curb is visible on the left side of the road.

The references to multiple sources are text & figures
(sketches, drawings, pictures, photos,..etc.)

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