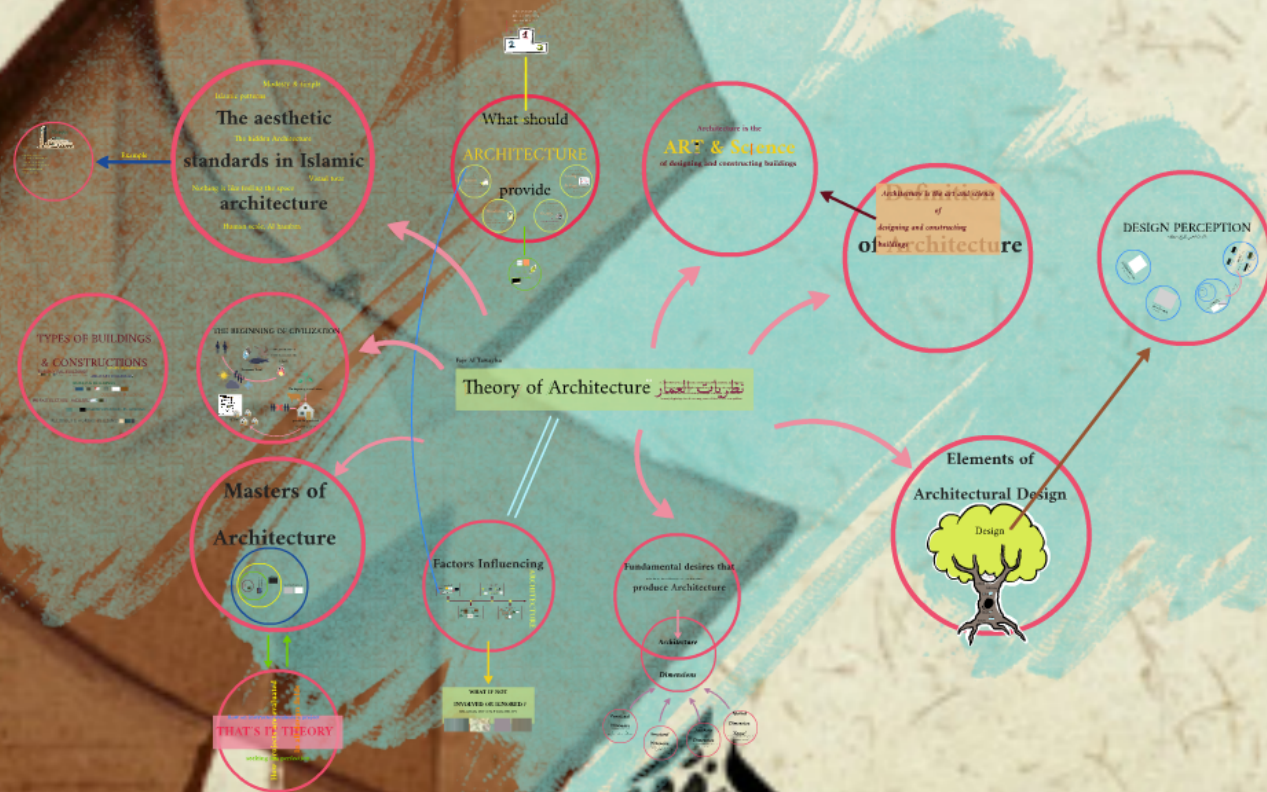




نظريات العمارة

Fajr Al Tawayha

Theory of Architecture

نظريات العمارة
a supposition or a system of ideas intended to explain something, especially one based on general principles independent of the thing to be explained
simply it is a basic tool to develop knowledge in all types, its old since the humanity beginning, since he was using same solutions to solve same problems

Course plan

Midterm exam

30%

Participation & attendance

10%

Practical tests

"concept & discussion cases" 20%

Final exam

40%

[illegible]

Course plan

term exam

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Palestine Polytechnic University																																
College of Engineering																																
Department of Civil Engineering and Architecture – Architectural Engineering Program																																
1	Course name	Architectural Theories 1																														
	Course number	ARE132 (Registration Code 4945)																														
2	Credits and contact hours	2 Credit Hours																														
	Lecture	Lab.	Project	HW	Exam	Tutorial	Other	Total																								
	32	0	15	5	4	0	0	56																								
3	Instructor/coordinator details	Name Dr. Fajr Al Tawayha			Contact ftawayha			Office B 313																								
4	Text book information	Course main reference - Architecture, form, space & order. Book by Frank Ghing - The theory of architecture (Book by Paul-Alan Johnson) - Originally published: 1989 - Author: Paul-Alan Johnson - نظريات العمارة، جوفان سامي - نظريات العمارة دراسة التغيير في الفكر المعماري العربي جو الفخرية مصطفى بخادي و نوب حنين - القيم الجمالية في العمارة الإسلامية، ثروت عكاشة Course supplemental materials - Helpful hints for better learning: In addition to class notes and presentations It is a recommended learning practice to read about related topics and projects by reviewing the different websites. - University sources: Students are expected to make use of some references and helpful books those are available at the local library. Other related materials will be also given during the semester.																														
5	Course specific information	Catalog description 2016-2017 This course concentrates on the relation between scale and human body and the relation between human and the space. The course also clarifies the definition of architecture أول هذا المساق علاقة المقاييس بالإنسان وعلاقة الإنسان بالفراغ المعماري، العمارة تعبير عن حاجات الانساقفة للتفرد، أشكال الفراغ المعماري، العمارة والجمال المعماري، وظائفها والتصميم، وحدة في التصميم وحدة الشكل المعماري، الانشغال الوظيفية والجمال والاقتصاد في العمارة Prerequisites Co-requisites None None <table border="1" style="width: 100%;"> <tr> <th>Designation</th><th>Required</th><th>Selected elective</th><th>Open elective</th></tr> <tr> <td></td><td style="text-align: center;">✓</td><td></td><td></td></tr> </table>							Designation	Required	Selected elective	Open elective		✓																		
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6	Specific goals and assessment	Specific outcomes of instruction – Student will be able to: <table border="1" style="width: 100%;"> <thead> <tr> <th>No.</th><th>Course ILOs</th><th>SOs</th><th>100%</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Recognize the deffinition of architecture in many dimintions.</td><td>a</td><td>20%</td></tr> <tr> <td>2.</td><td>Recognize the basics of architectural design as theories.</td><td>a</td><td>20%</td></tr> <tr> <td>3.</td><td>Express the relationships between Architectural Design and its dimintions.</td><td>b</td><td>20%</td></tr> <tr> <td>4.</td><td>Identify the tools of architectural design to maintain the basic path of design.</td><td>b</td><td>20%</td></tr> <tr> <td>5.</td><td>Create innovative Ideas, concepts and solutions in architectural design.</td><td>c</td><td>10%</td></tr> </tbody> </table>							No.	Course ILOs	SOs	100%	1.	Recognize the deffinition of architecture in many dimintions.	a	20%	2.	Recognize the basics of architectural design as theories.	a	20%	3.	Express the relationships between Architectural Design and its dimintions.	b	20%	4.	Identify the tools of architectural design to maintain the basic path of design.	b	20%	5.	Create innovative Ideas, concepts and solutions in architectural design.	c	10%
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	7. Know how to evaluate other projects.	d	5%																													
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3

"Skill without knowledge is nothing"

(Arch. Jean Mignot, 1400 AD)

2

Theory helps designers to work better and more efficiently based on a deep background and knowledge

1

To aid the work of the architect and improve the product

[Why do we study theory ?]

**aid the work of the architect and imp
oduct**

[Why do we study theory ?]

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Theory helps designers to work better and more efficiently based on a deep background and knowledge

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A yellow decorative shape, resembling a stylized '8' or two overlapping circles, is located on the left side of the slide.

"Skill without knowledge is nothing"

(Arch. Jean Mignot, 1400 AD)

helps designers to work better and

Fajr Al Tawayha

Theory of Architecture

نظريات العمارة
a supposition or a system of ideas intended to explain something, especially one based on general principles independent of the thing to be explained
simply it is a basic tool to develop knowledge in all types, its old since the humanity beginning, since he was using same solutions to solve same problems

what should be in Architecture

guidelines and roles could be applied to judge the work

such as durability, beauty and comfort

what should be in Architecture

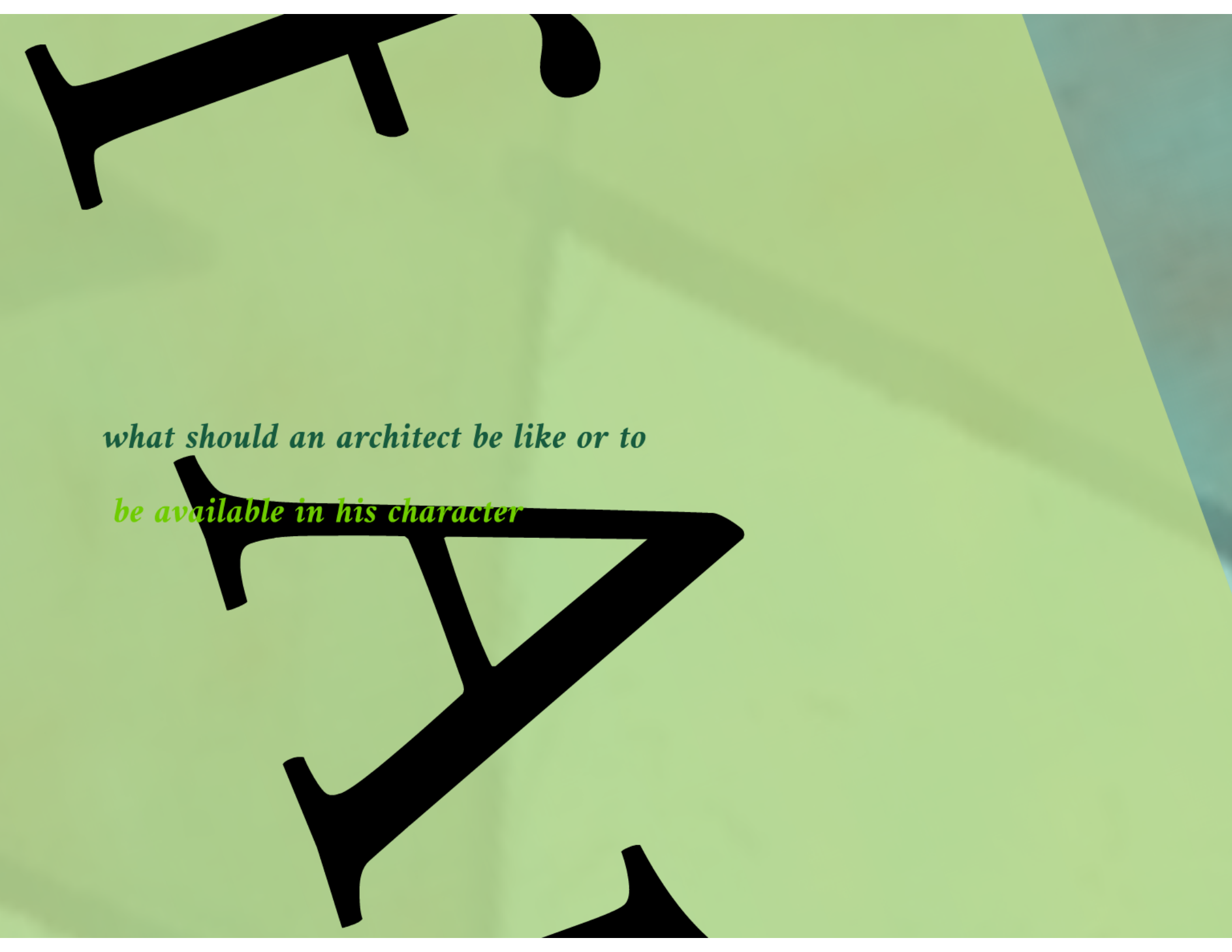
*guidelines and roles could be applied to judge the work
such as durability, beauty and comfort*



classification subjects

classify and analyze architectural trends and schools





*what should an architect be like or to
be available in his character*

The background is a solid light green color. From the top-left corner, several thin, dark green lines radiate outwards across the page. Overlaid on this background are several large, solid black shapes. On the left side, there are two thick, horizontal, slightly curved bars. To the right of these bars is a solid black circle. At the bottom of the page, there is a large, solid black shape that resembles a stylized letter 'L' or a corner of a building. The text 'the relation between architecture and other life aspects' is written in a teal, italicized serif font, positioned horizontally across the middle of the page, passing between the two horizontal bars and to the left of the black circle.

the relation between architecture and other life aspects

such as environmental, social



such as environmental, social, cultural aspects



theories of design and structural solutions

answering all physical aspects of architecture

a supposition or a system of ideas intended to explain something, especially one based on general principles independent of the thing to be explained

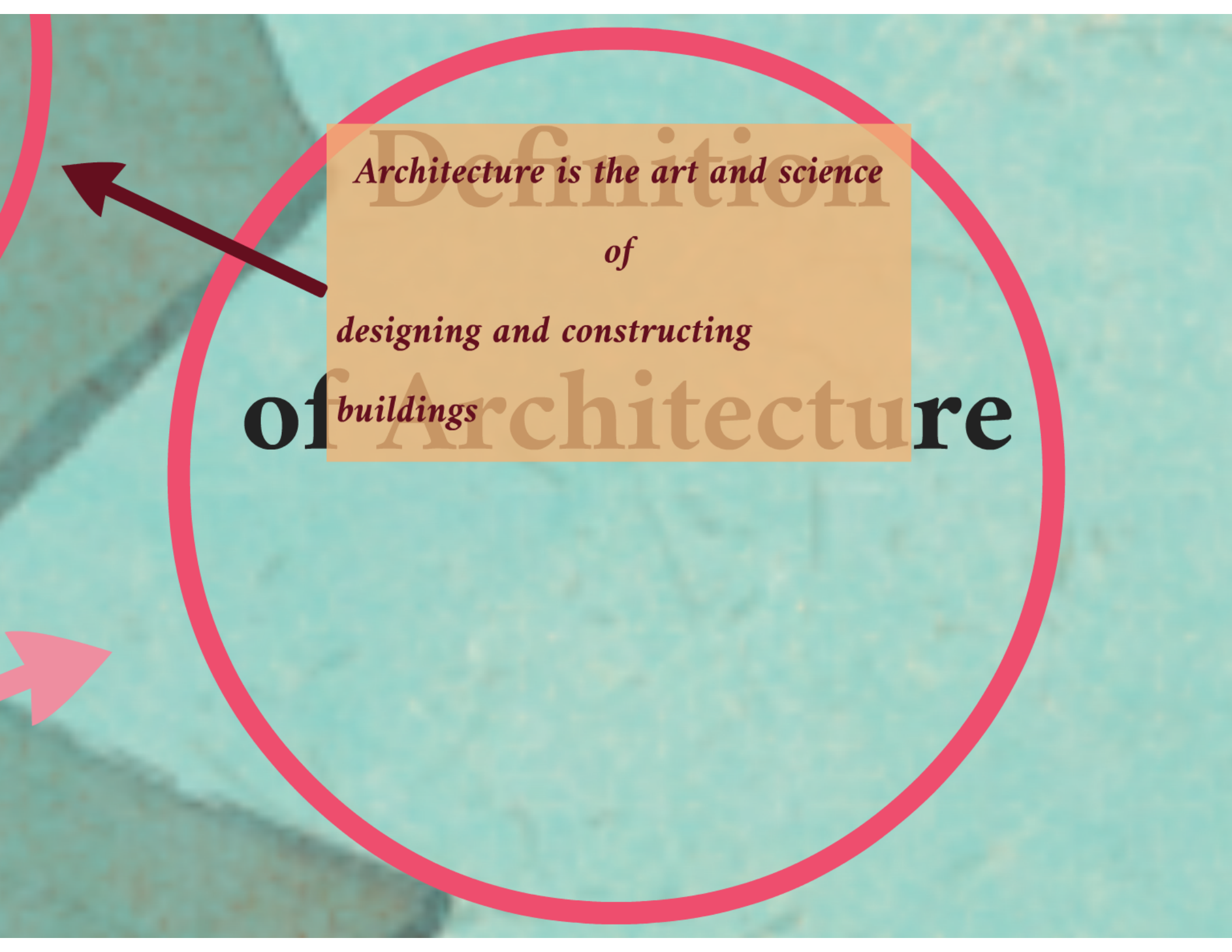
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Fajr Al Tawayha

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*Architecture is the art and science
of
designing and constructing
buildings*

of Architecture

Architecture is the

ART & Science

of designing and constructing buildings



Architecture is the

ART & Science

of designing and constructing buildings



Carry a message



No absolute right or wrong



Product of creativity



Subjective or personal

ART



Carry a message



No absolute right or wrong



Product of creativity



Subjective or personal

of designing

Structure is the

Science

constructing buildings





Client

Discussions

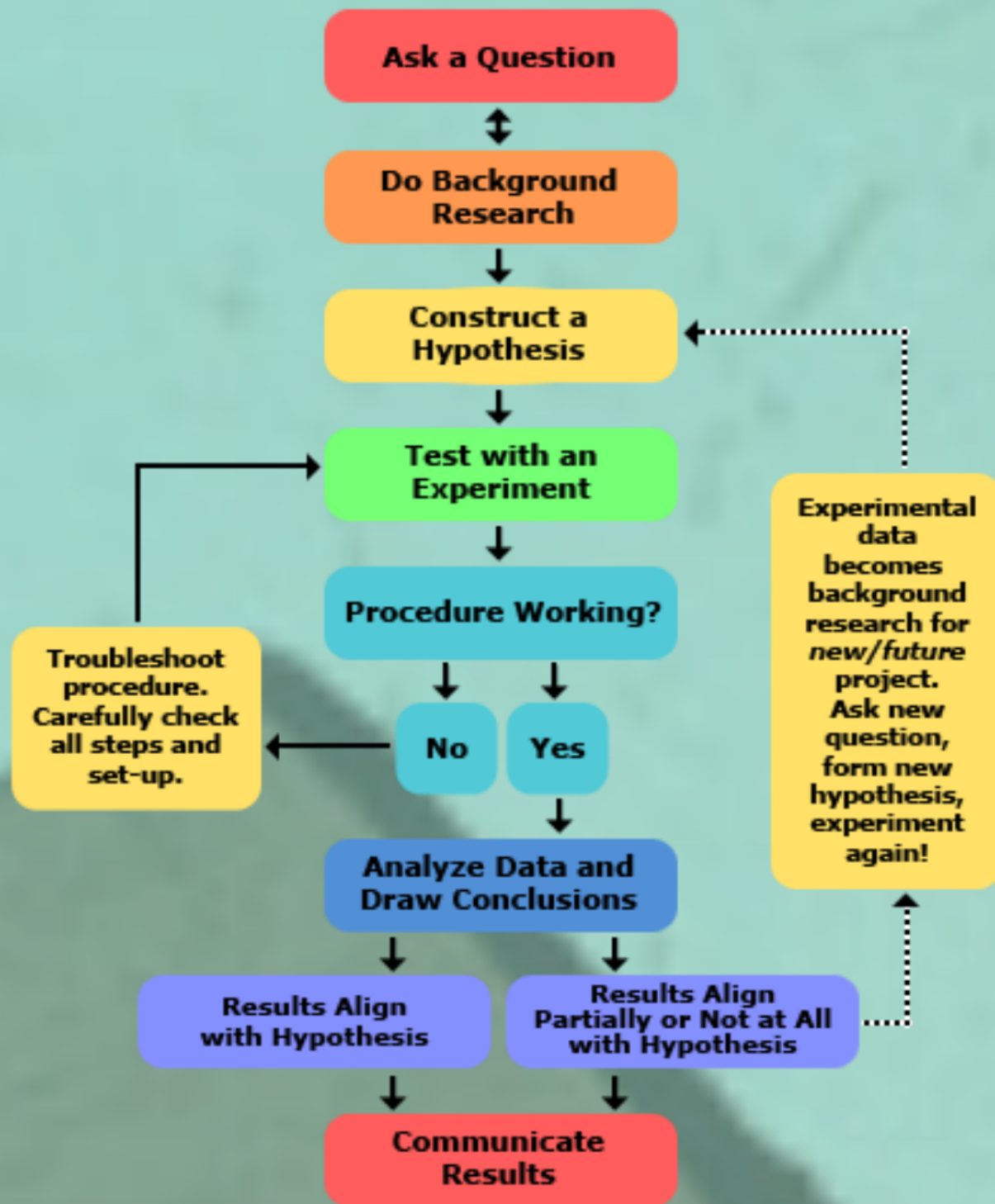
Contract

Initial

designs

Construction

C



[Client]

Needs

[Discussions]

[Contract]

[Initial
designs]

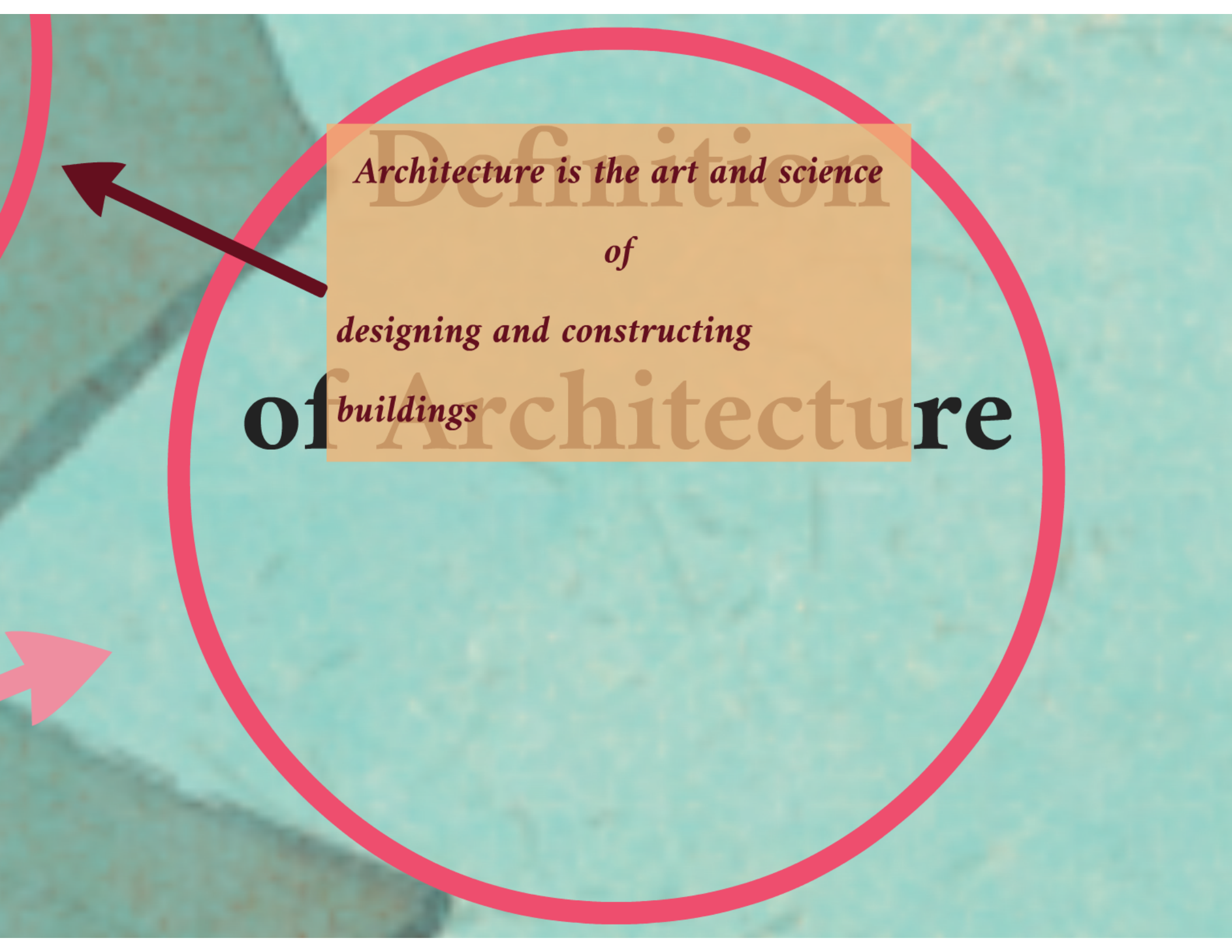
[Construction]

Architecture is the

ART & Science

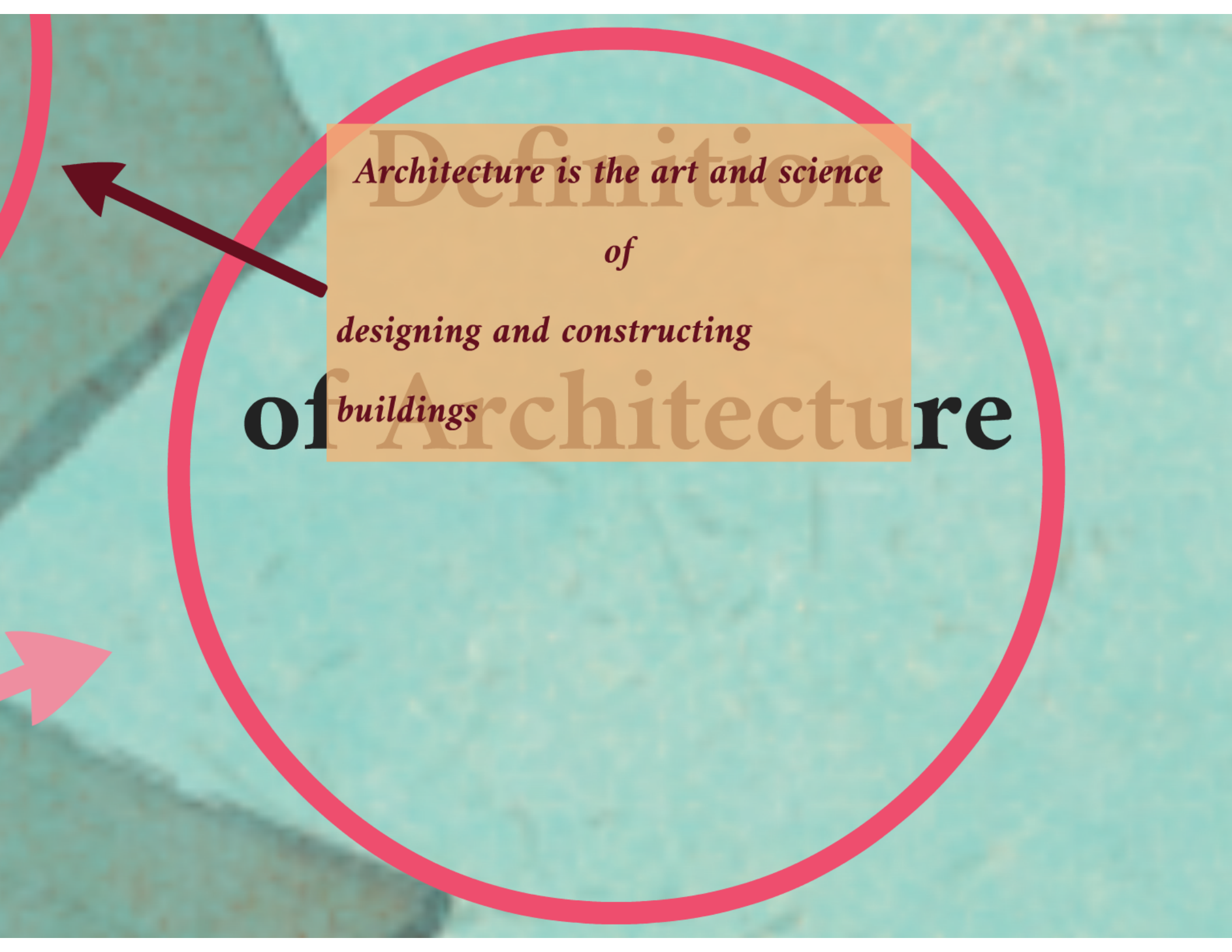
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*Architecture is the art and science
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of Architecture



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THE BEGINNING OF CIVILIZATION



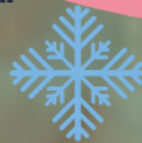
THE BEGINNING OF CIVILIZATION



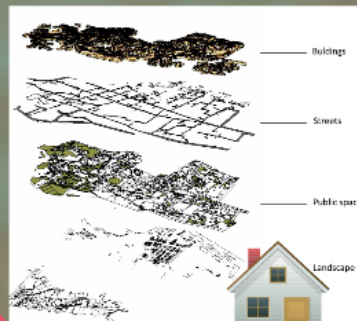
TENTS OR CAVES
EASY TO CARRY OR
LEAVE



Permanent Travel



The beginning of civilization



NEEDS



protect the plants and



TENTS OR CAVES
EASY TO CARRY OR
LEAVE



The beginning of civilization



protect the plants and
harvesting, stores



NEEDS



Permanent Travel



TYPES OF BUILDINGS

& CONSTRUCTIONS

RESIDENTIAL BUILDINGS



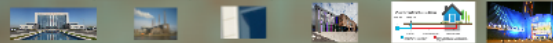
Buildings such as shelters, sanatoriums, towers, governmental housing

SPORT BUILDINGS

MILITARY BUILDINGS

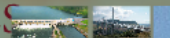
WORKING BUILDINGS

Governmental buildings Industrial buildings Health buildings Educational buildings Service buildings Commercial buildings



CULTURAL BUILDINGS

INFRASTRUCTURE FACILITIES

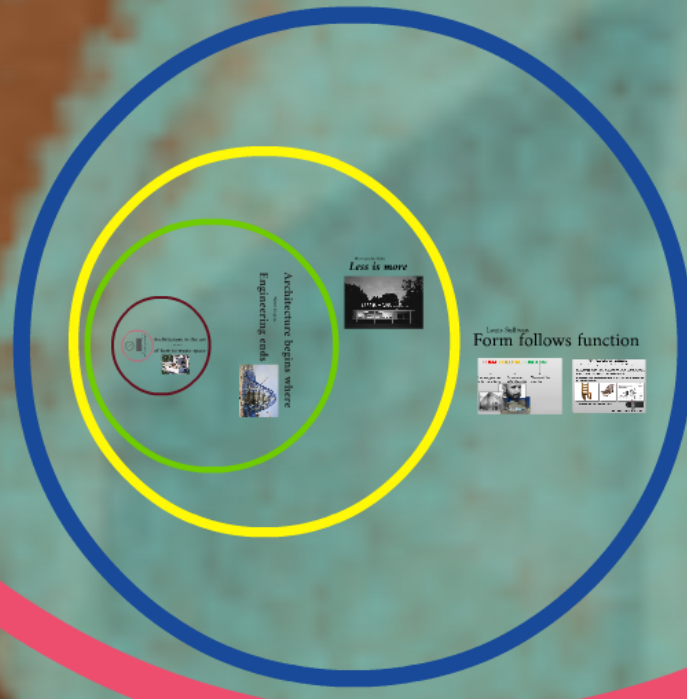


TRANSPORTATION BUILDINGS

RELIGIOUS & WORSHIP BUILDINGS



Masters of Architecture

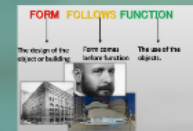




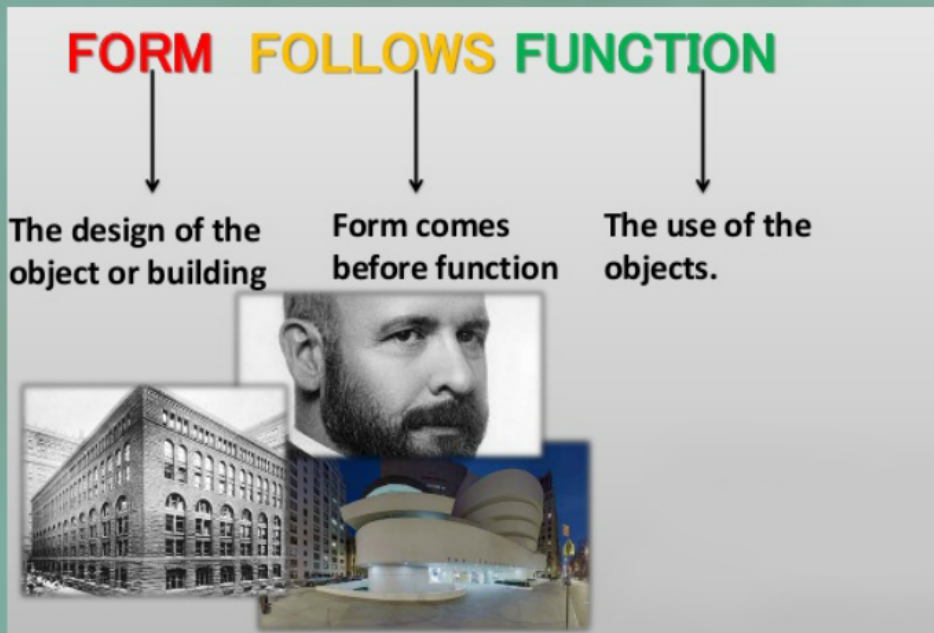
Architecture begins where
Engineering ends



Louis Sullivan
Form follows function



Louis Sullivan Form follows function



FORM FOLLOWS FUNCTION IN OBJECTS

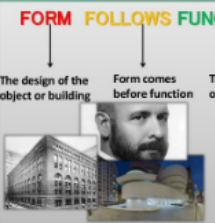
- A design or a style or a shape of an object follows the function of the object.
- For an example, a chair's shape is designed according to the exact purpose of its existence. If the chair is built for people to have a quick nap, the chair's shape must be long enough to make the people feel comfortable and cosy.
- If an object has to perform a certain function, its design must support that function to the fullest extent possible.



DIFFERENT FUNCTIONS DIFFERENT FORMS

REASON FOR CIRCULAR SHAPE OF APSE

Louis Sullivan
Form fo



Mies van der Rohe
Less is more



Architecture begins where

Walter Gropius

Engineering ends



Architecture is the art
of how to waste space

Peter Jensen



Mies van der Rohe

Less is more



Mies van der Rohe

Less is more



Architecture begins where

Walter Gropius

Engineering ends



Architecture is the art
of how to waste space

Philip Johnson



Architecture begins where

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Engineering ends



Architecture is the art of how to waste space

Philip Johnson



architecture should speak of its time and
place but yearn for timelessness

Frank Gehry



Architecture is the art of how to waste space

Philip Johnson



Ar of

architecture should speak of its time and
place but yearn for timelessness

GUBBENHEIM



Frank Gehry

I always try to design buildings
that respond to people needs
including the need not only for
functional buildings, but buildings
that represent something for the
community



architecture should speak of its time and
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Frank Gehry



buildings
needs
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for the

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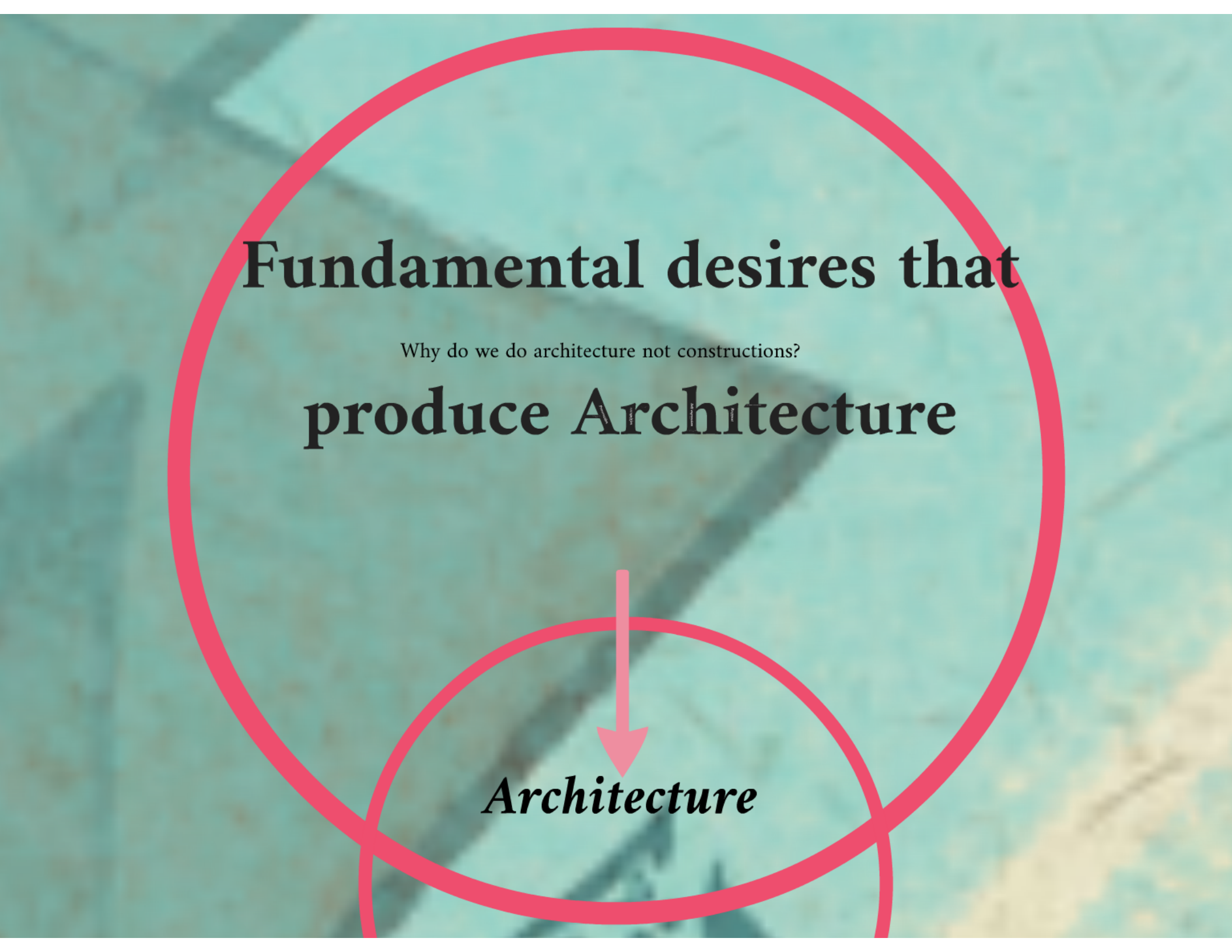
How projects are evaluated

How an instructor evaluate a project

THAT'S IT THEORY

In all design fields

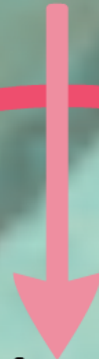
seeking for perfection



Fundamental desires that

Why do we do architecture not constructions?

produce Architecture

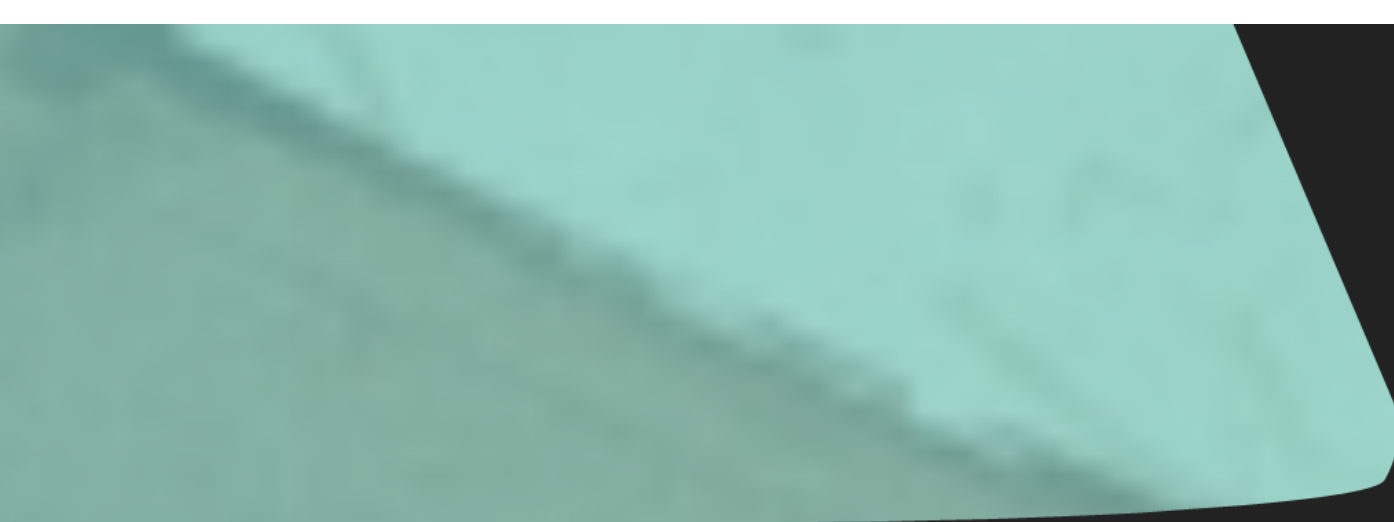


Architecture

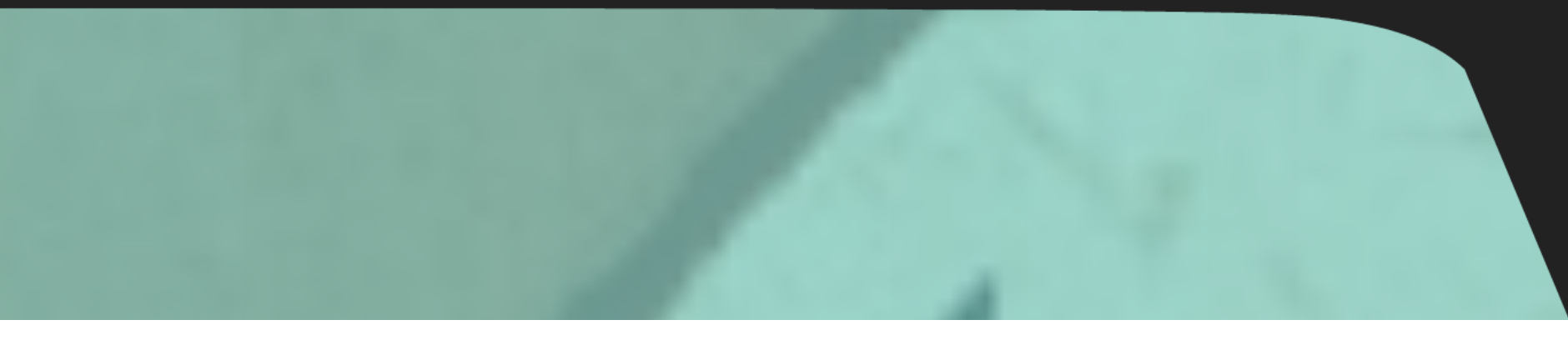
Preservation

الوقاية و الحفظ والنقل

the commerce, government and religion to
ing, shelter, and security and this calls
companying structures



*Man must have commerce, government and religion to
obtain food, clothing, shelter, and security and this calls
for accompanying structures*



The background is black with several large, soft-edged teal shapes. One shape is in the top left corner, another is a large arc at the top, and a third is at the bottom. The word 'recognition' is written in a white, elegant script font, centered horizontally. Below it, the Arabic phrase 'التقدير والاهتمام' is written in a smaller, white, elegant script font.

recognition
التقدير والاهتمام

*Man may build palaces and monuments to attain social,
religious, or political status*

Self-expression

التعبير عن الذات

*Man, as an individual, has developed creative endeavor
responsible for aesthetic expression*

Response

استجابة

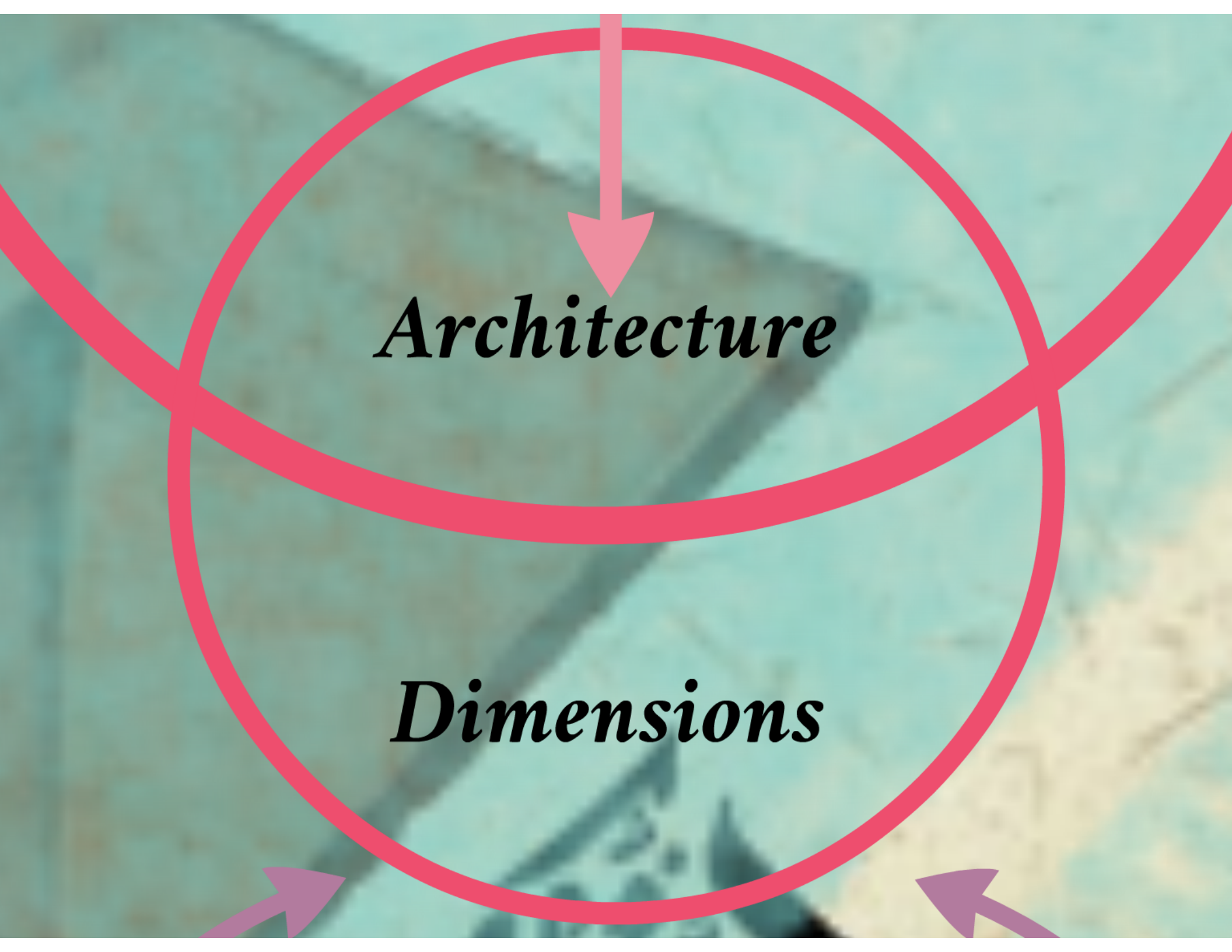
Man congregates to seek companionship



Fundamental desires that

Why do we do architecture not constructions?

produce Architecture



Architecture

Dimensions



Functional

Dimension

Meet the body's needs of ventilation, lighting, space,

movement and other physiological requirements

Physical function

-Environmental control such as climate, lighting, insects, etc.
-Providing suitable spaces

Social function

-To enhance sociocultural values

Symbolic function

-To express society believes and values



Physical function

- Environmental control such as climate, lighting, insects, etc.
- Providing suitable spaces



Social function

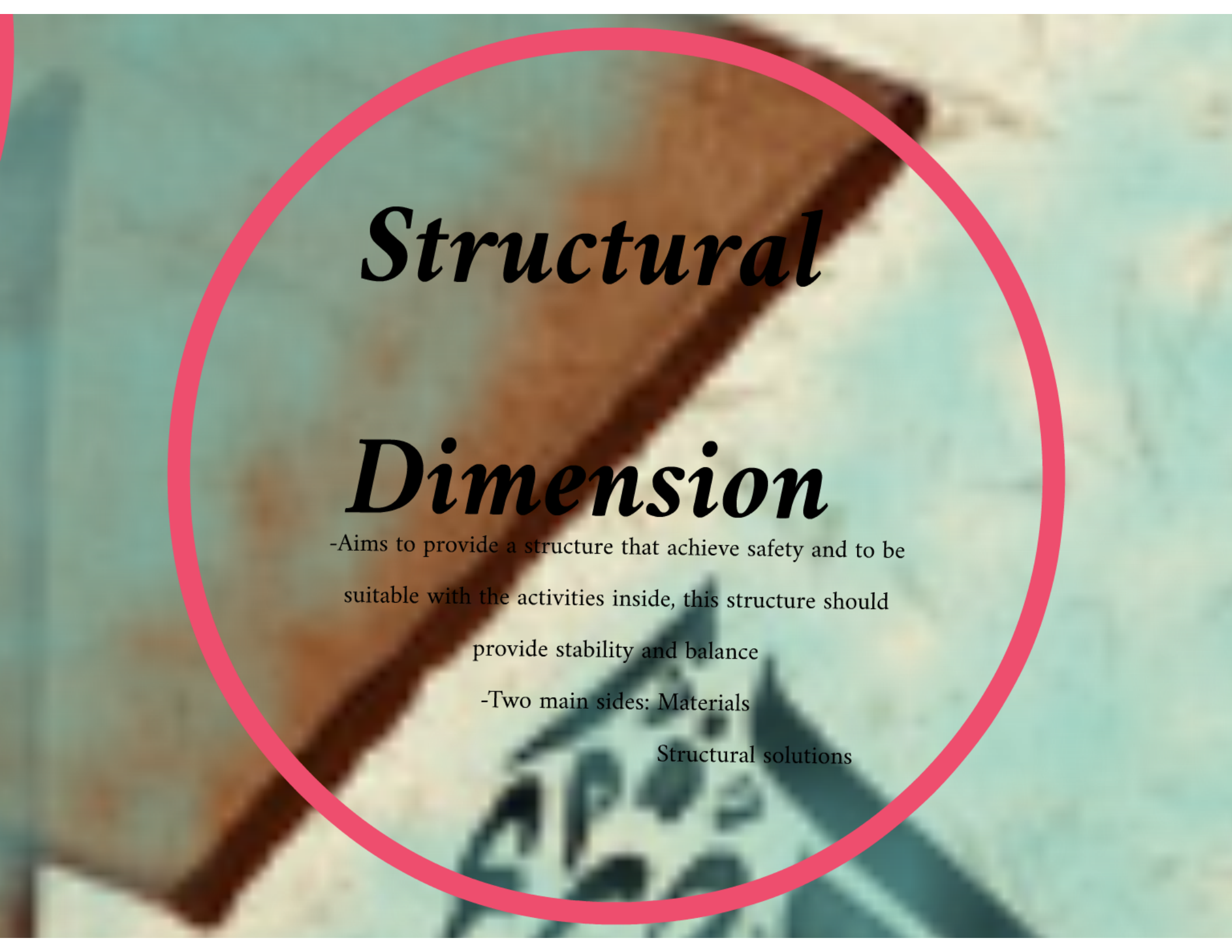
-To enhance sociocultural values



Symbolic function

-To express society believes and values





Structural

Dimension

-Aims to provide a structure that achieve safety and to be suitable with the activities inside, this structure should provide stability and balance

-Two main sides: Materials

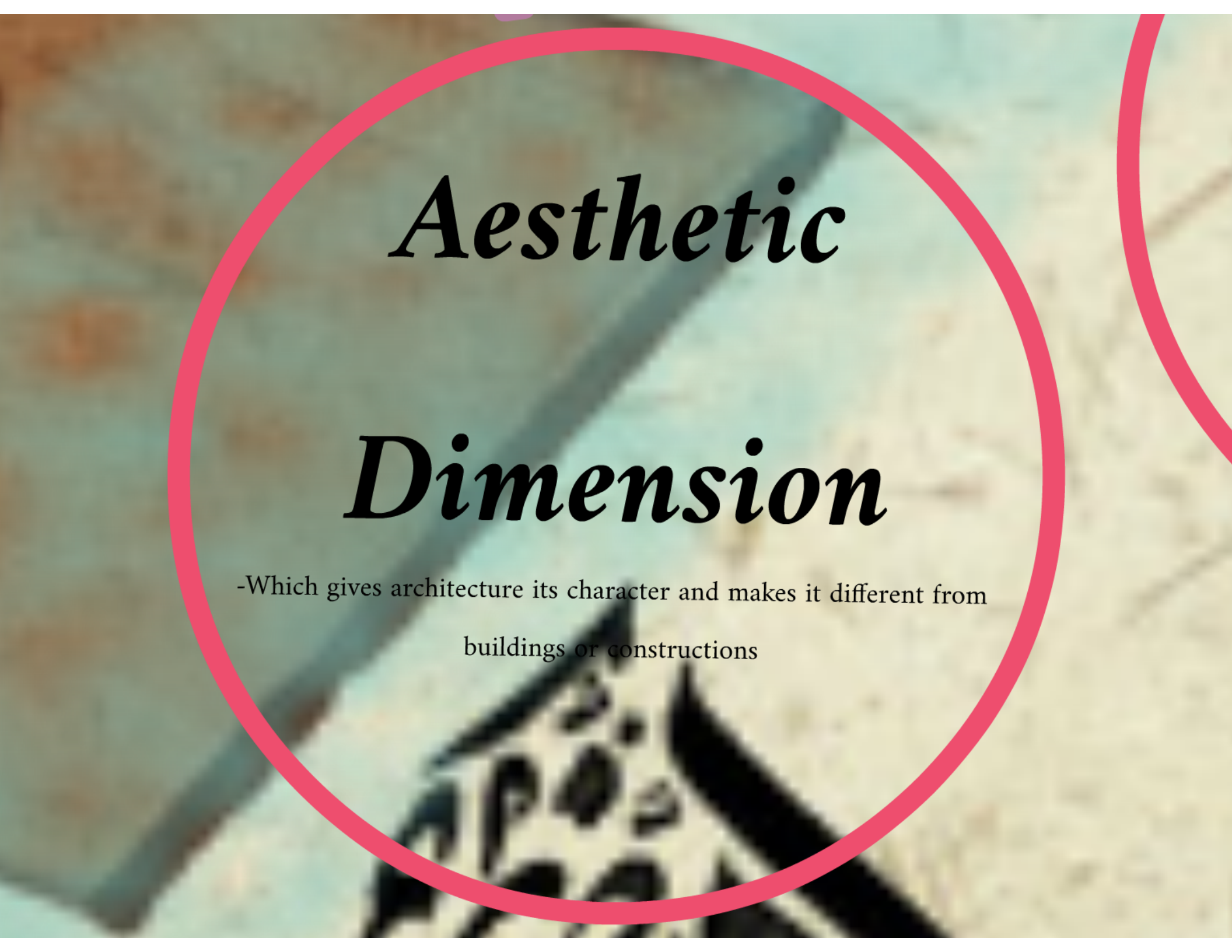
Structural solutions

Dimension

-Aims to provide a structure that achieve safety and to be suitable with the activities inside, this structure should provide stability and balance

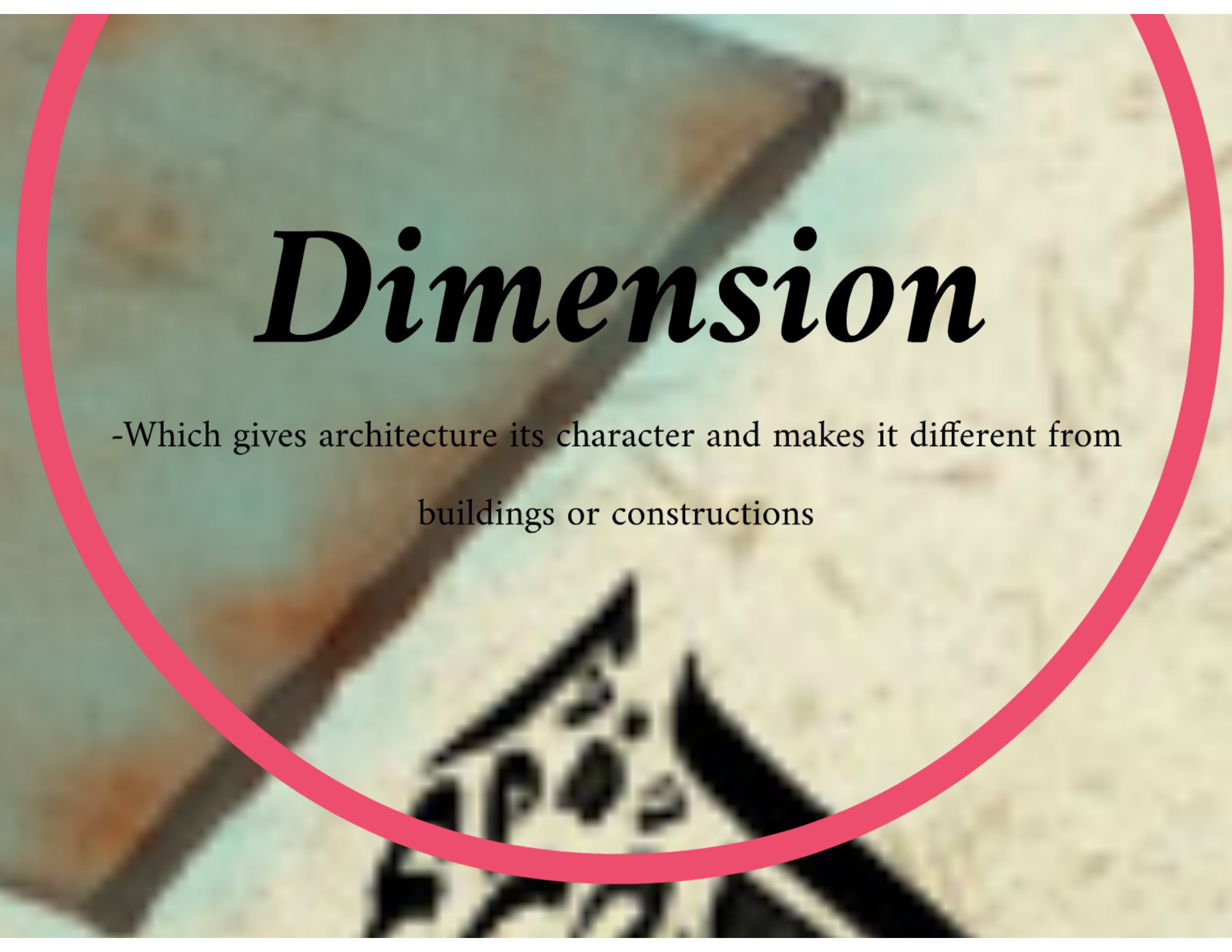
-Two main sides: Materials

Structural solutions

The background is a blurred photograph of a building's exterior, showing architectural details like windows and structural elements. A large, thick pink circle is superimposed over the image, framing the text. A smaller pink arc is visible on the right edge of the frame.

Aesthetic Dimension

-Which gives architecture its character and makes it different from
buildings or constructions



Dimension

-Which gives architecture its character and makes it different from
buildings or constructions



Spatial Dimension "Space"

-Someone said that Architecture is only a spatial experiment
seeing a picture of a space is much different
from living inside it La AL Hamrah"

Dimension

"Space"

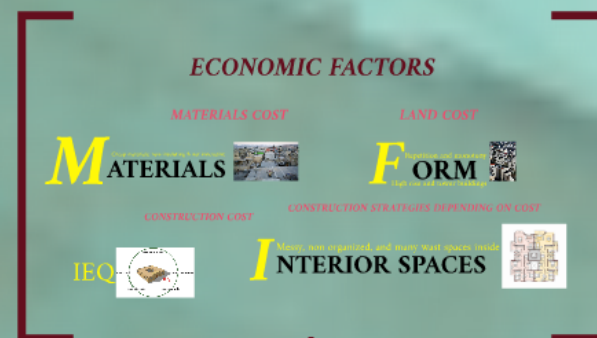
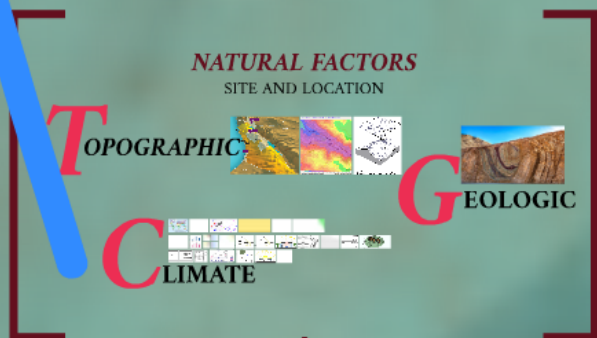
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Factors Influencing

ARCHITECTURE

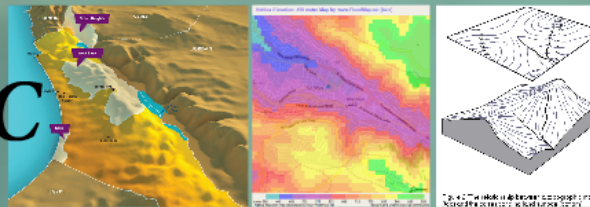




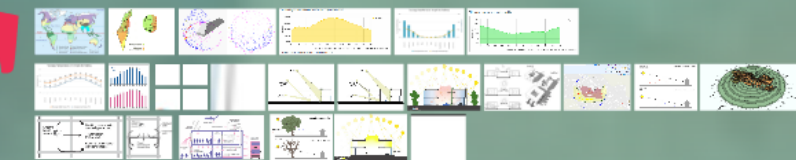
NATURAL FACTORS

SITE AND LOCATION

TOPOGRAPHIC



GEOLOGIC



CLIMATE

HUMAN FACTORS

SOCIAL FACTOR



TRADITIONS



RELIGIOUS CONSTRAINTS AND DEMANDS



ECONOMIC FACTORS

MATERIALS COST

M Cheap materials, non-insulating & not innovative
ATERIALS



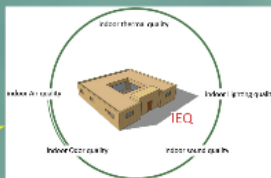
LAND COST

F Repetition and monotony
ORM
High rise and tower buildings



CONSTRUCTION COST

IEQ



CONSTRUCTION STRATEGIES DEPENDING ON COST

I Messy, non organized, and many waste spaces inside
NTERIOR SPACES



POLITICAL FACTORS

*N*EGATIVE & *P*OSITIVE EFFECTS

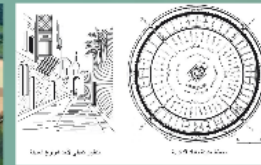
occupying architecture

normal cultural exchange

*D*EFENSIVE



*R*OYAL CITIES

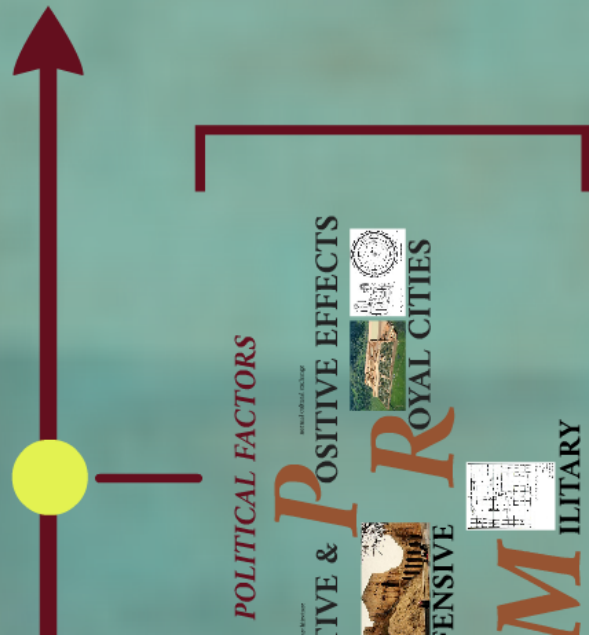


*M*ILITARY



Elements

ARCHITECTURE





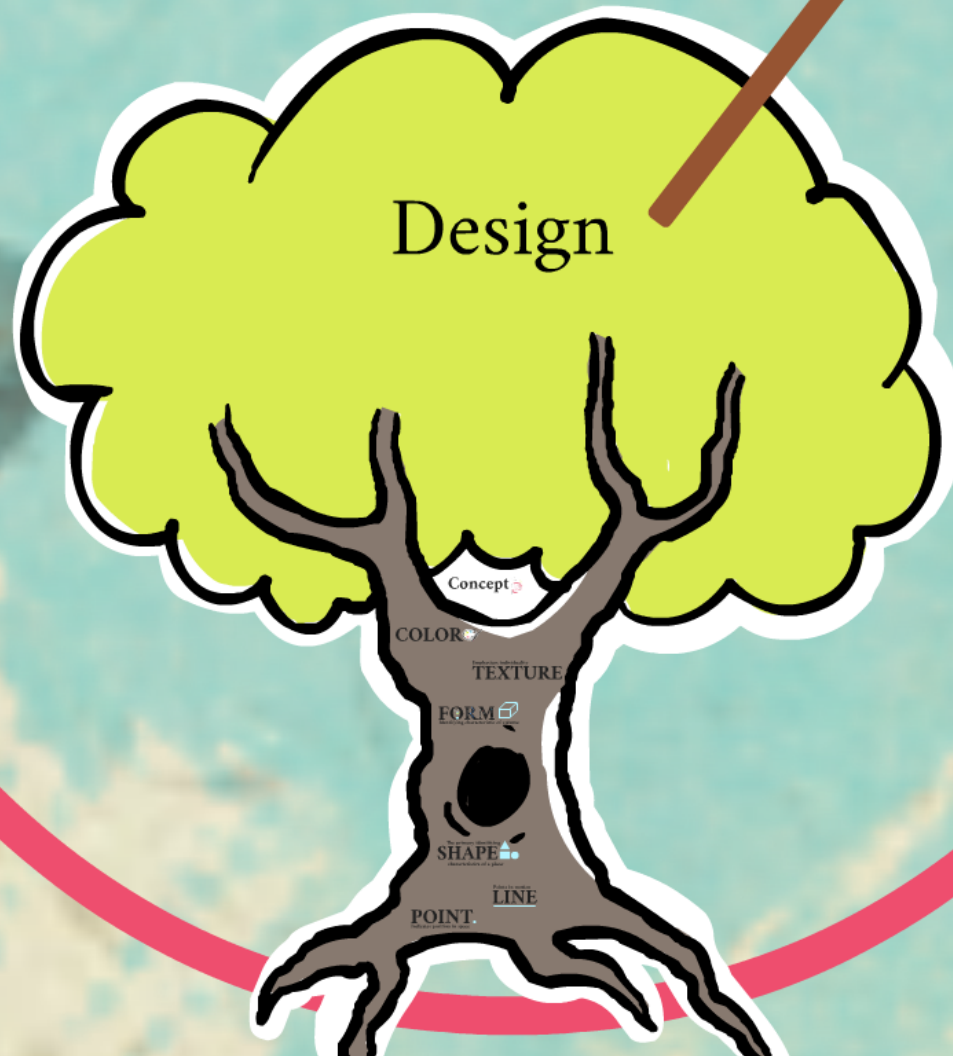


WHAT IF NOT INVOLVED OR IGNORED ?

RELATION WITH SUSTAINABILITY

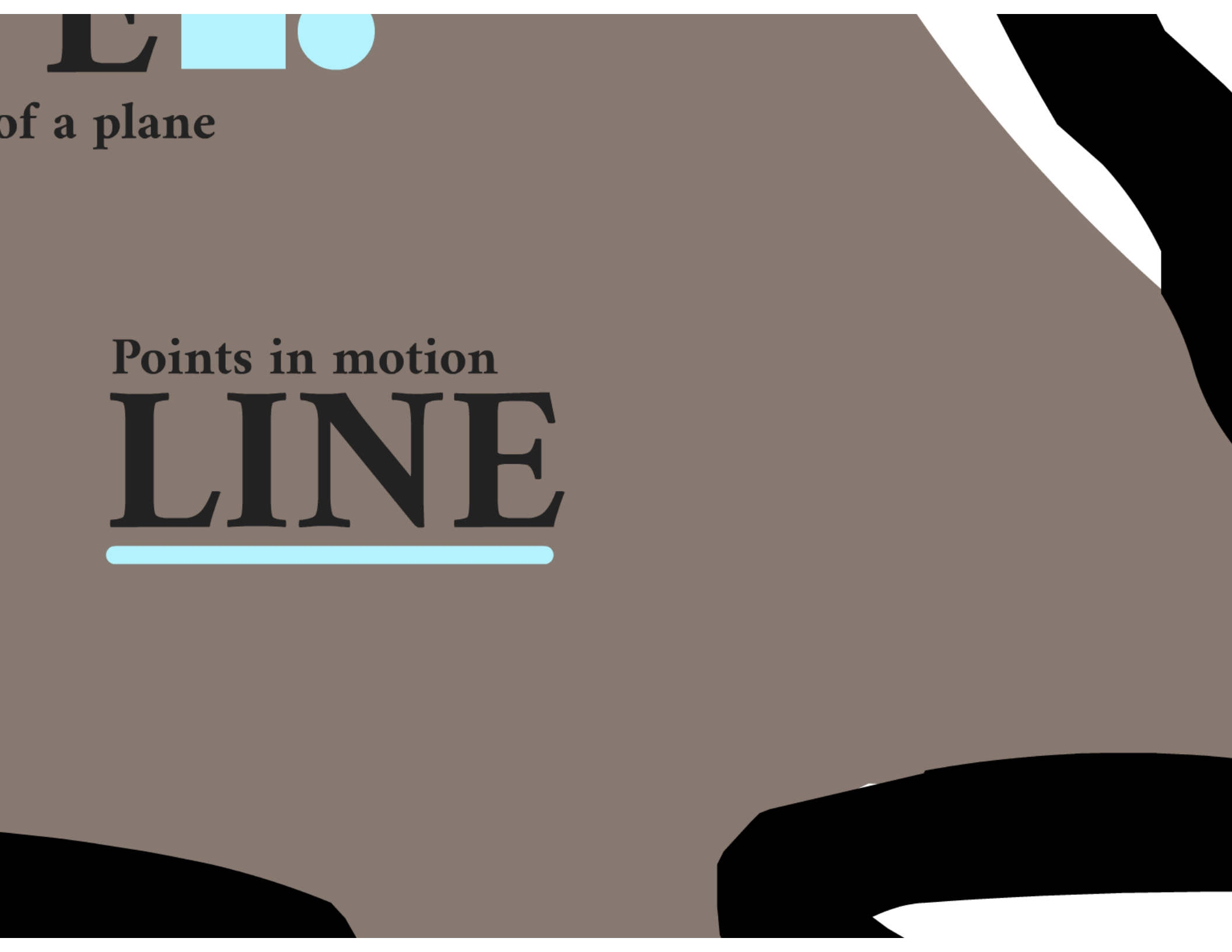


Elements of Architectural Design



POINT.

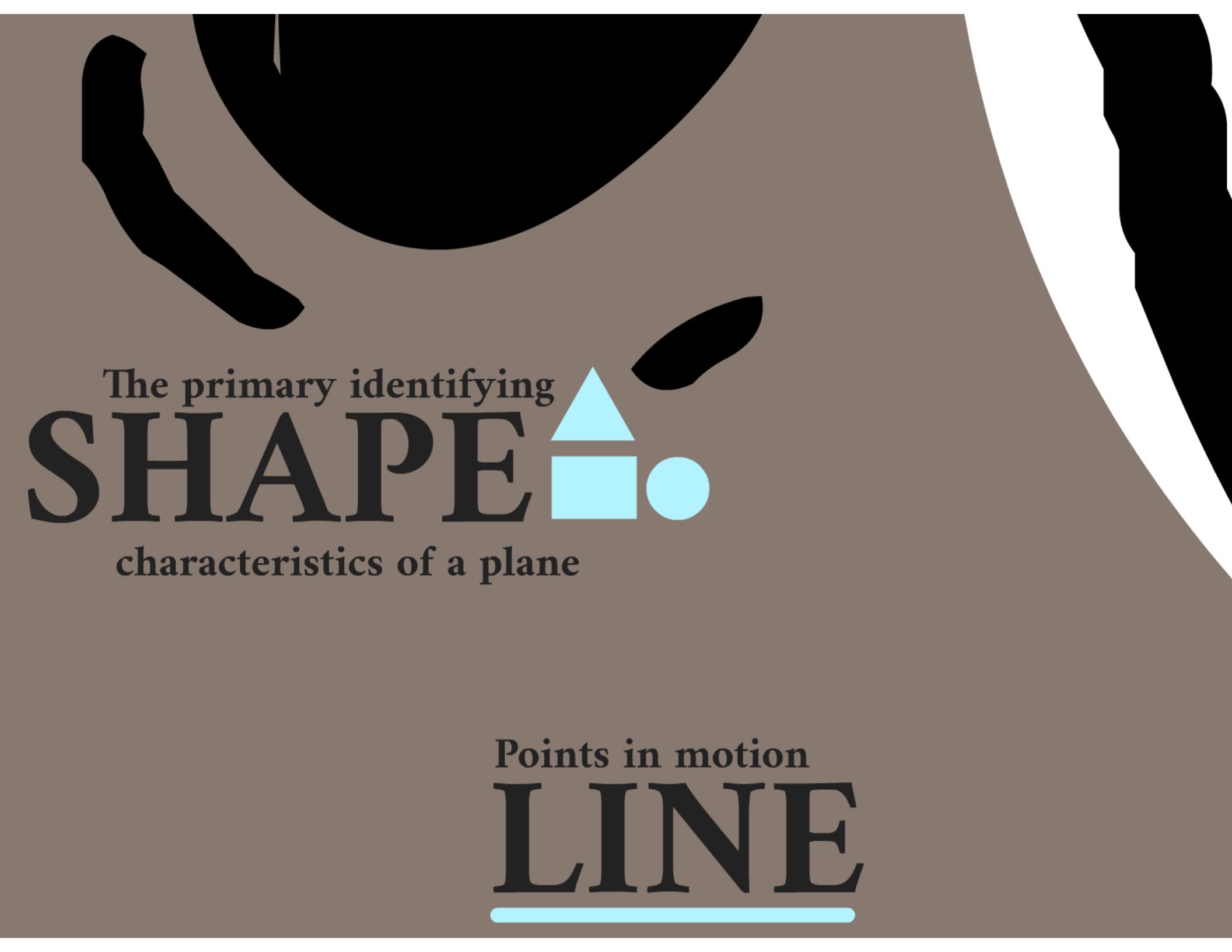
Indicates position in space



of a plane

Points in motion

LINE

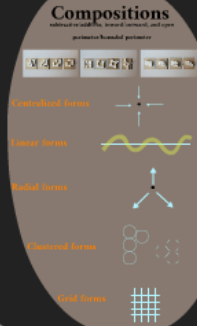
The background is a solid brown color. In the upper left, there is a large, dark, curved shape. To its right, there is a smaller, dark, curved shape. In the upper right, there is a large, dark, curved shape. In the center, there are three light blue geometric shapes: a triangle, a square, and a circle, arranged horizontally. The word "SHAPE" is written in a large, bold, serif font, with the "S" being particularly large and stylized. Above "SHAPE" is the text "The primary identifying" and below it is "characteristics of a plane".

The primary identifying
SHAPE
characteristics of a plane

Points in motion
LINE

FORM

Identifying characteristic of



Basic ordering principles of design



Principles of composition



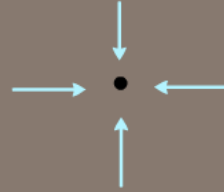
Compositions

subtractive/additive, inward/outward, and open

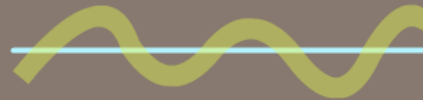
perimeter/bounded perimeter



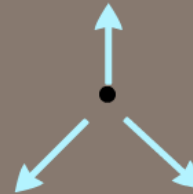
Centralized forms



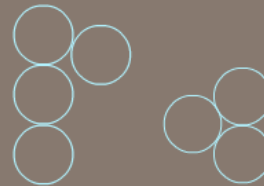
Linear forms



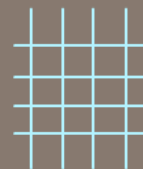
Radial forms



Clustered forms



Grid forms

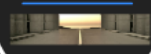


Basic ordering principles of design

HIERARCHY



AXIS



REPETITION



DATUM



TRANSFORMATION



SYMMETRY



Principles of composition 1:

التلاعب بالاشكال

the manipulation of forms to a design context

TRANSFORMATION



like moon
reference were other elements relate

DATUM



patterned recurrence of elements

REPETITION



التدرج

show distinctive degree of importance

HIERARCHY



imaginary line that implies symmetry

AXIS



SYMMETRY



Principles of composition

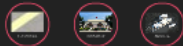
relationship of sizes
PROPORTION
Golden section
Modeler *Ken*



differentiation of treatment
CONTRAST



manifestation of internal quality
CHARACTER



equality of arraignment
BALANCE



the organized repetition
RHYTHM



suggests harmony
UNITY



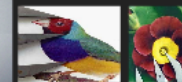
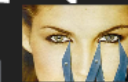
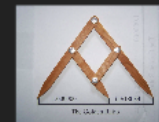
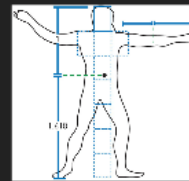
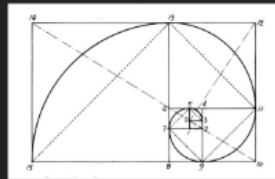
judgment in relation to a point of reference
SCALE



relationship of sizes

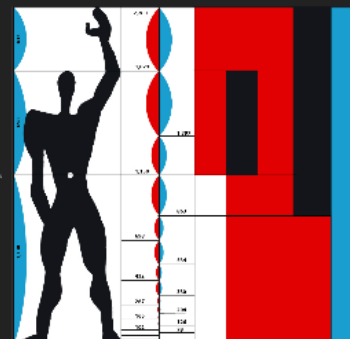
PROPORTION

Golden section



Modular

A system of human measurements with dimensions used to determine the proportions of sculpture and artistic designs in general.

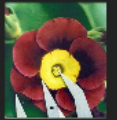
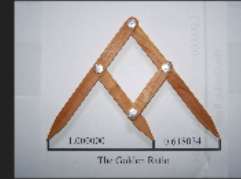
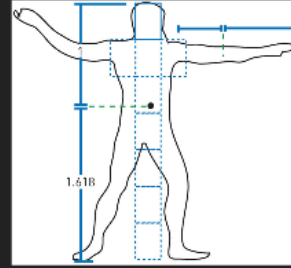
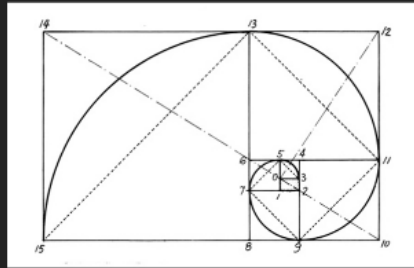


Ken

relationship of sizes

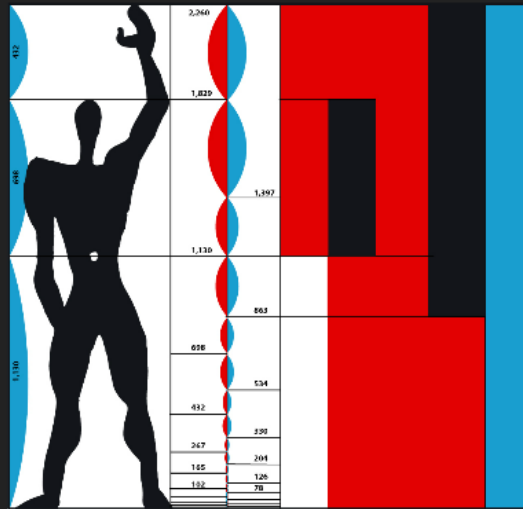
PROPORTION

Golden section



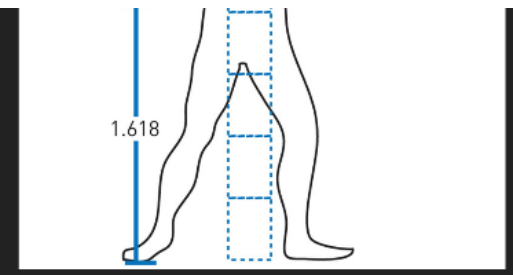
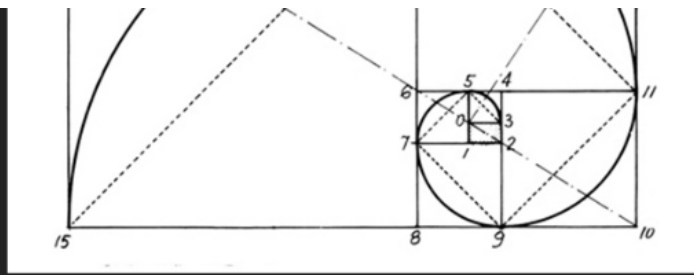
Modular

A system of human measurements with dimensions used to determine the proportions of sculptures and artistic designs in general



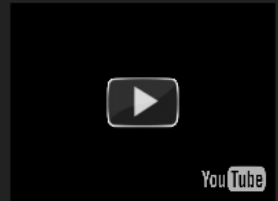
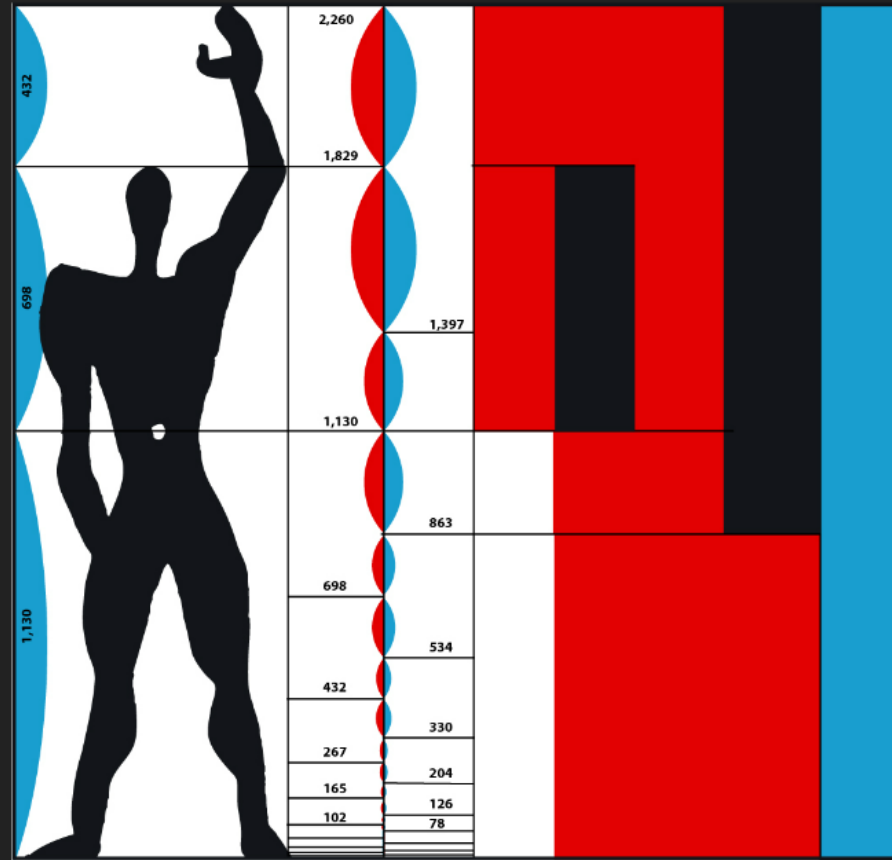
Ken

Golden section



Modular

A system of human measurements with dimensions used to determine the proportions of sculptures and artistic designs in general



Modular

A system of human measurements with dimensions used to determine the proportions of sculptures
and artistic designs in general

698

1,130

differentiation of treatment

CONTRAST



manifestation of internal quality

CHARACTER



FUNCTIONAL



ASSOCIATED



PERSONAL



FUNCTIONAL



ASSOCIATED



PERSONAL

equality of arraignment

BALANCE



the organized repetition

RHYTHM



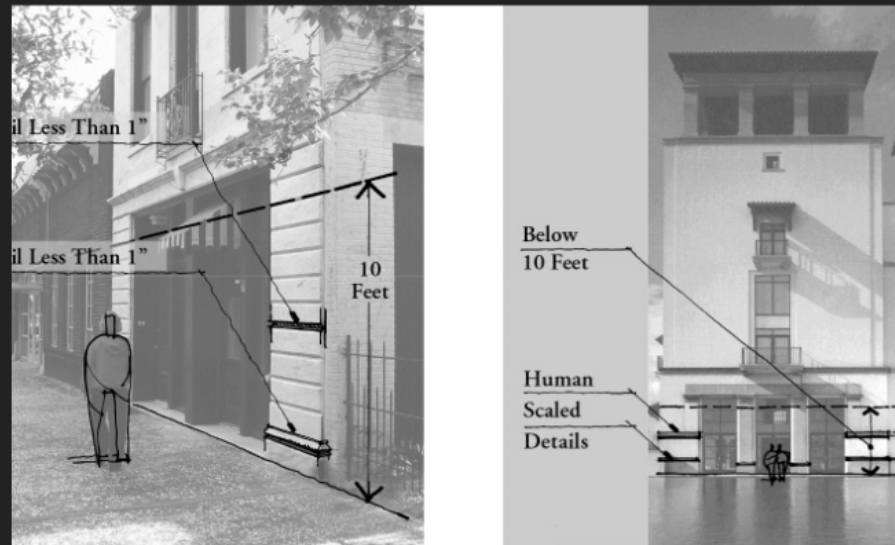
suggests harmony

UNITY



judgement in relation to a point of reference

SCALE





Emphasizes individuality

TEXTURE



COLOR



Color theory

COLOR
Perspective



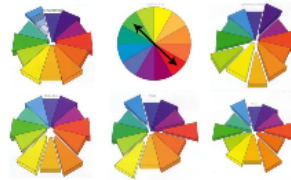
Color
Perspective

3 Dimensions of Color

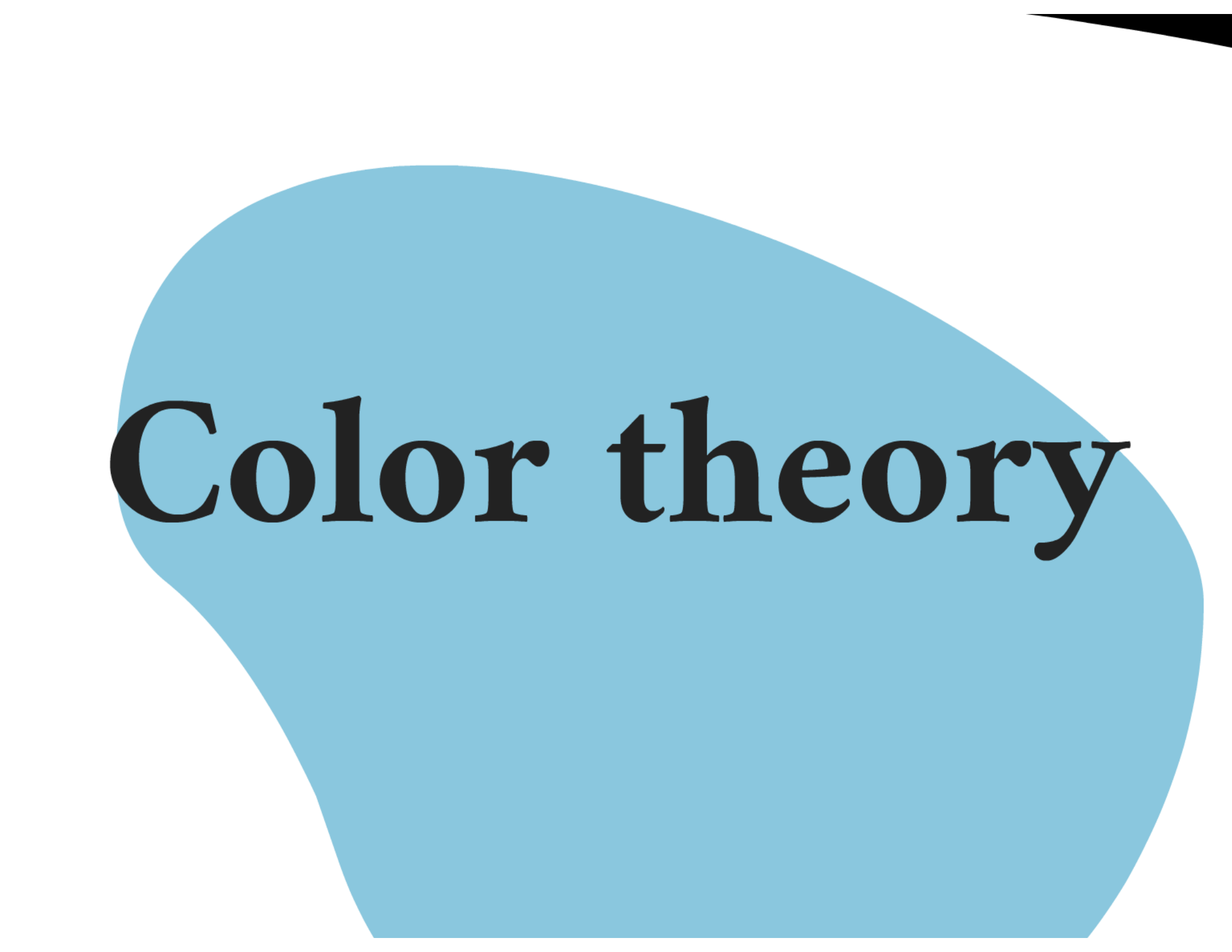


HUE
SATURATION
VALUE

COLOR



Color Wheel

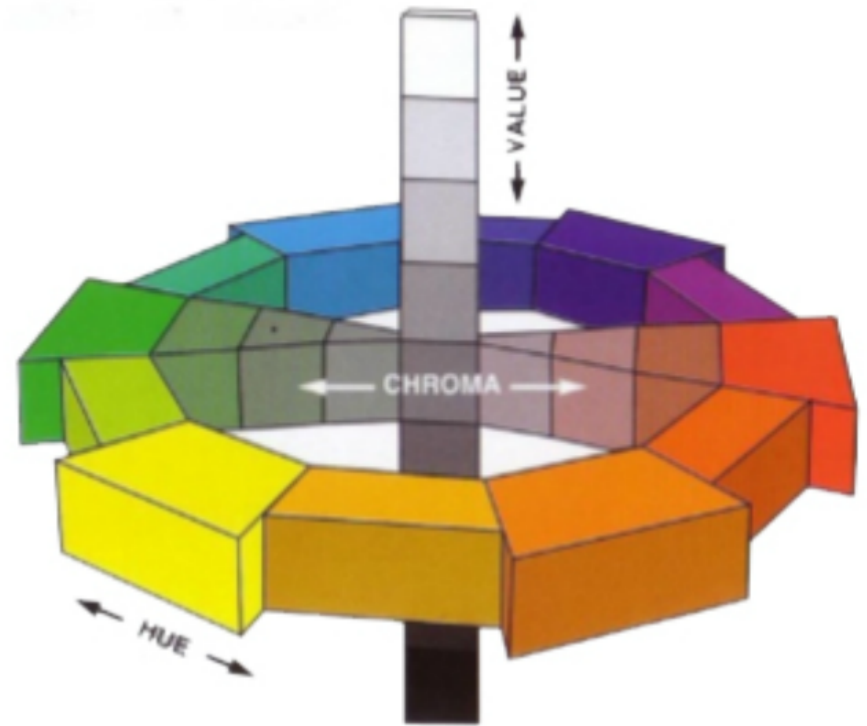


Color theory



Color Wheel

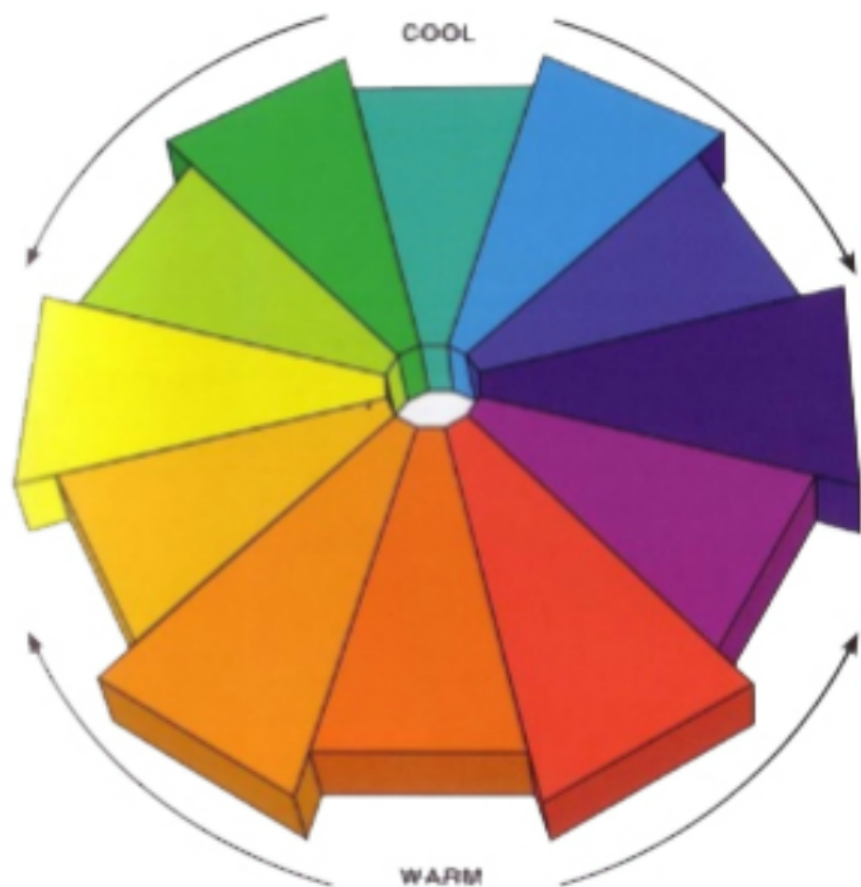
3 Dimensions of Color



Hue/Color the name for a color

Value the lightness or darkness of a color

Chroma/Saturation the intensity of a color



Color Temperature

COLOR Perspective

Further Color



Nearer Color





SAFETY RED

Fire protection equipment
Containers of flammable liquids
Lights at barricades and obstructions
Stop bars and switches on machinery
Fire alarm boxes
Fire exit signs
Sprinkler piping



SAFETY YELLOW

Caution, physical hazard
Construction equipment
Handrails, Guardrails
Material Handling Equipment
Piping systems containing dangerous materials
Waste containers
Exposed, unguarded edges



SAFETY ORANGE

Dangerous parts of machinery
Inside of movable guards
Safety starting buttons
Exposed parts



SAFETY BLUE

Caution, equipment under repair
Warnings should be located at the starting point or power source of machinery.



SAFETY GREEN

Safety
First aid equipment
Safety bulletin boards
Gas masks
Stretchers
Safety deluge showers



BLACK & WHITE

Traffic and housekeeping markings
Dead ends of aisles or passageways
Stairways
Directional signs
Refuse cans



SAFETY PURPLE

Designates radiation hazards. Often used in combination with yellow on tags, labels, signs, and floor markers.

Safety
COLOR
guide

COLOR schemes

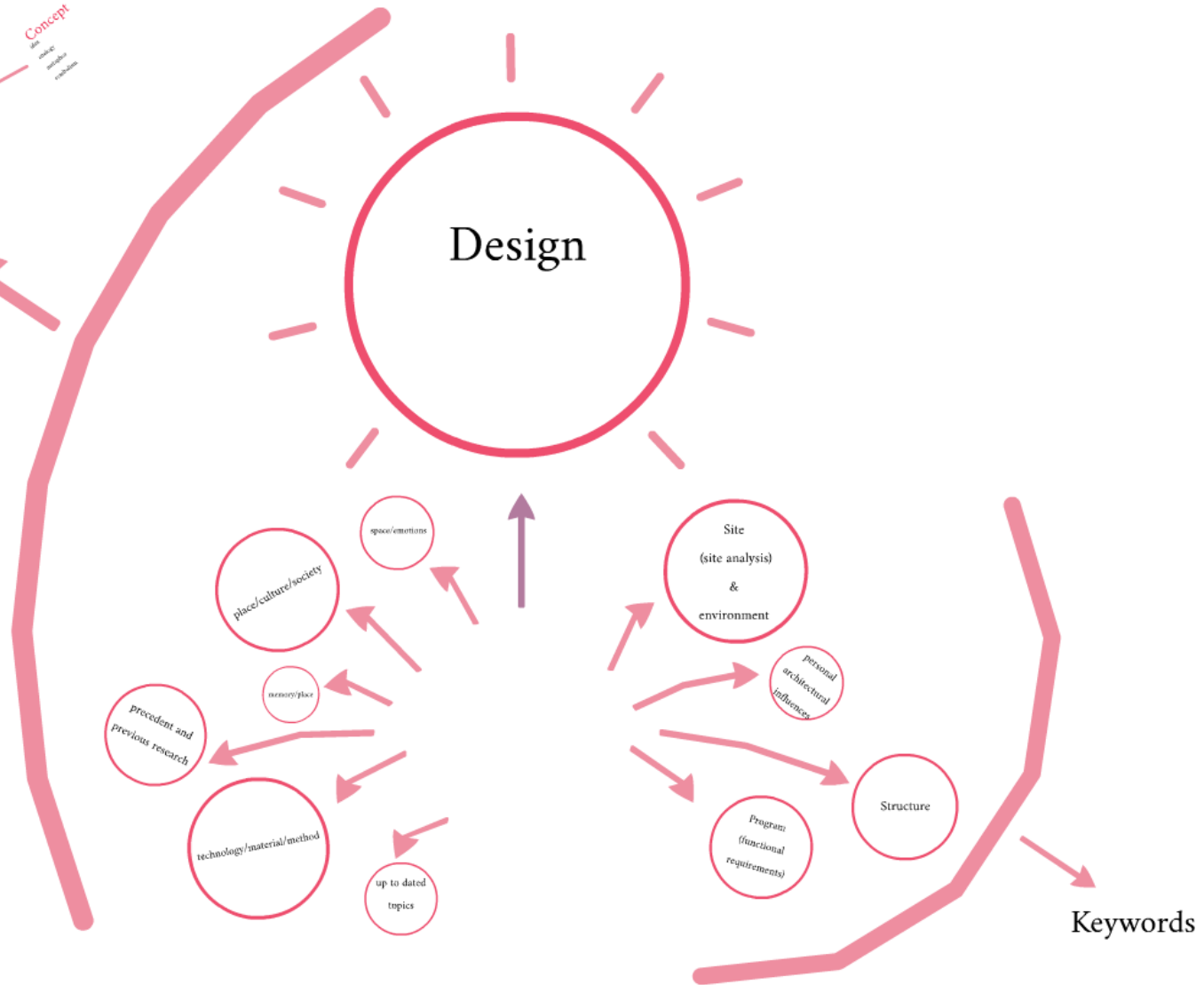
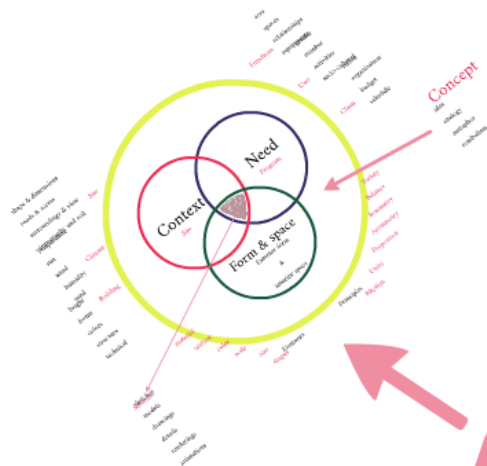


COLOR



Concept

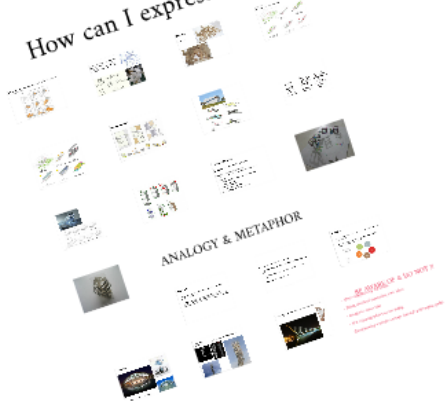


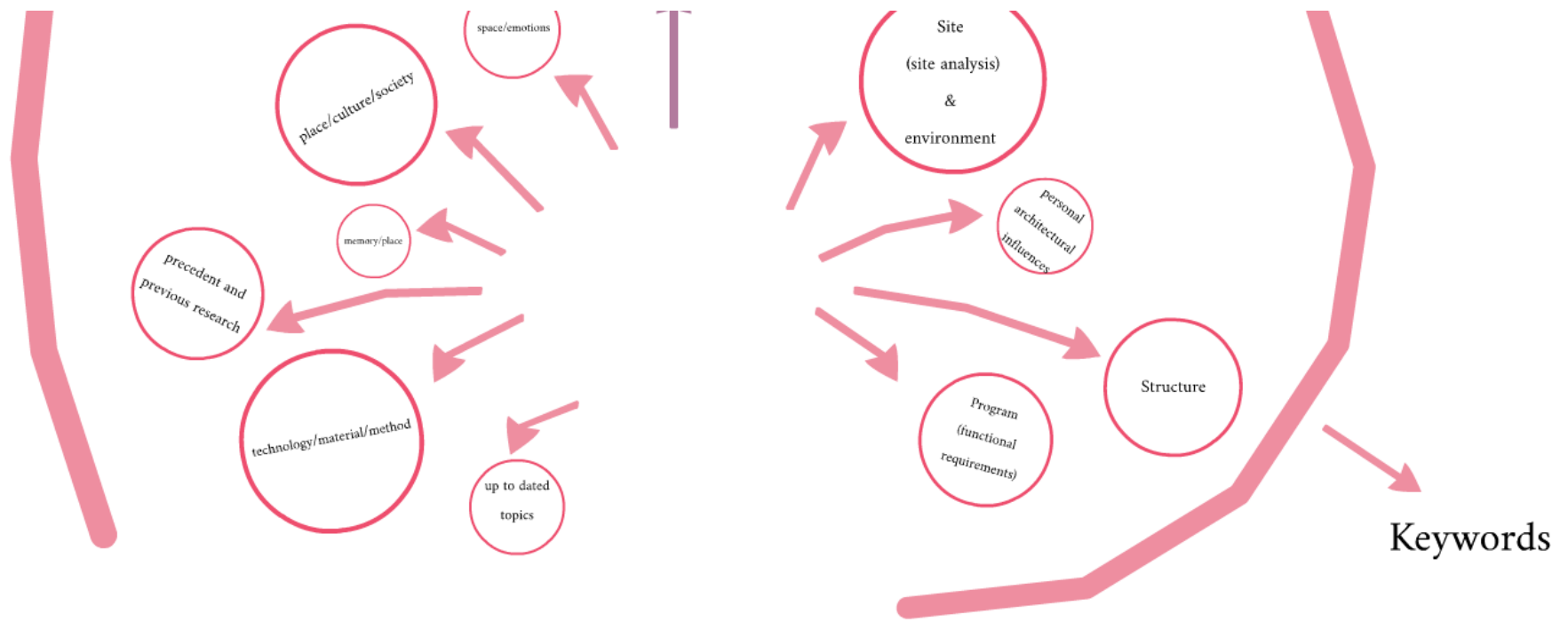


where do ideas "concepts" come from

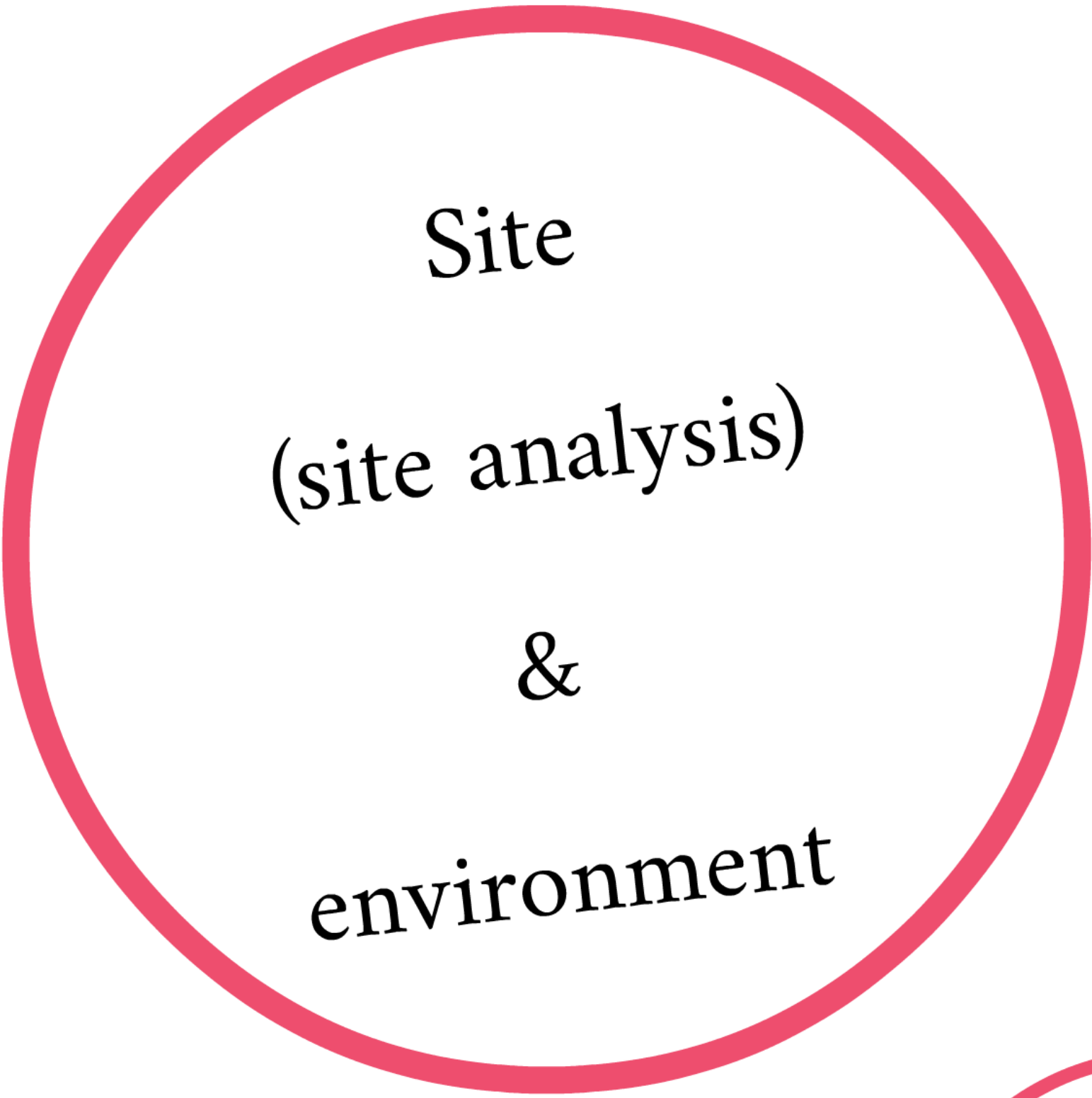
TYPES OF CONCEPTS

How can I express a concept

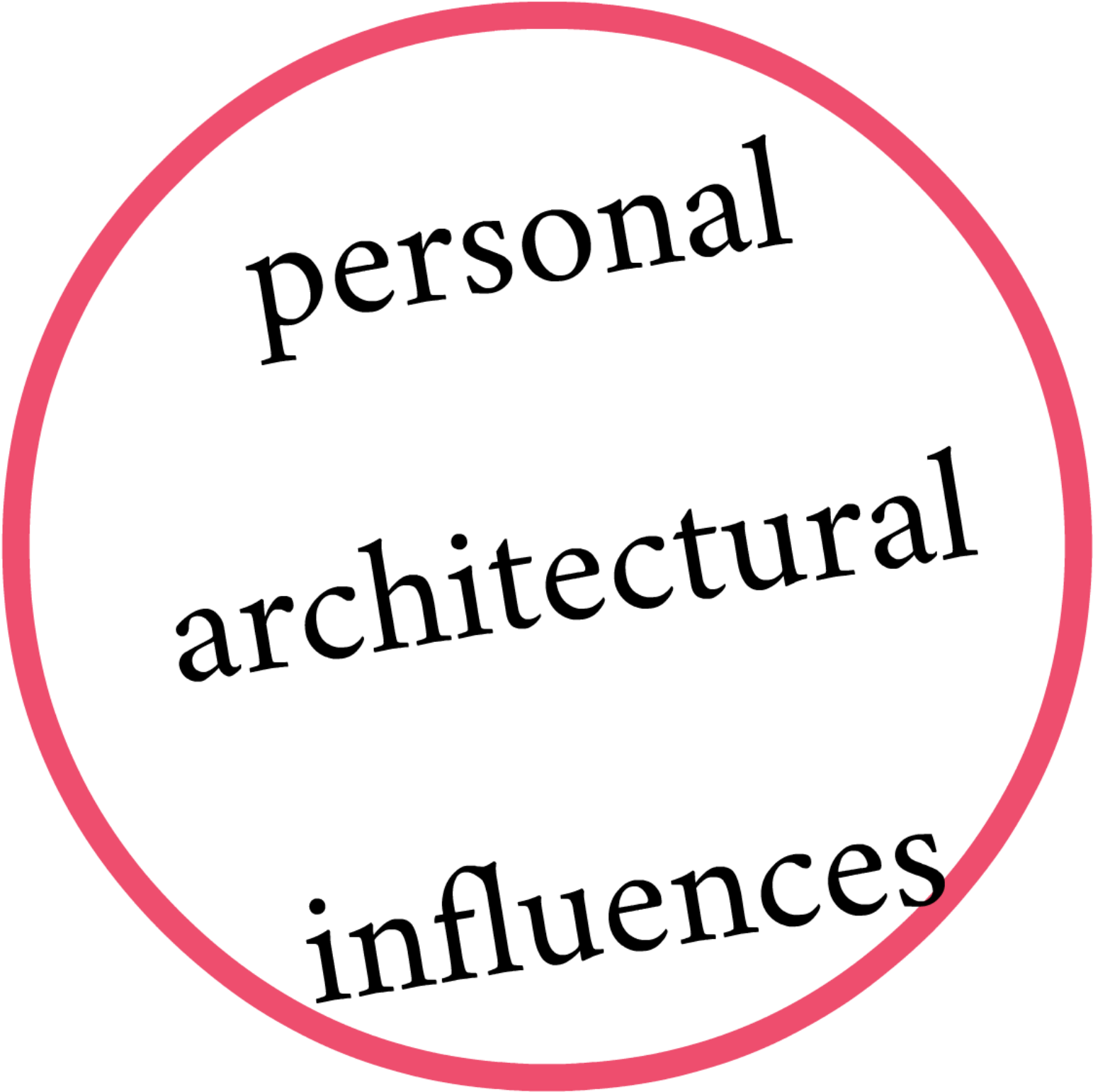




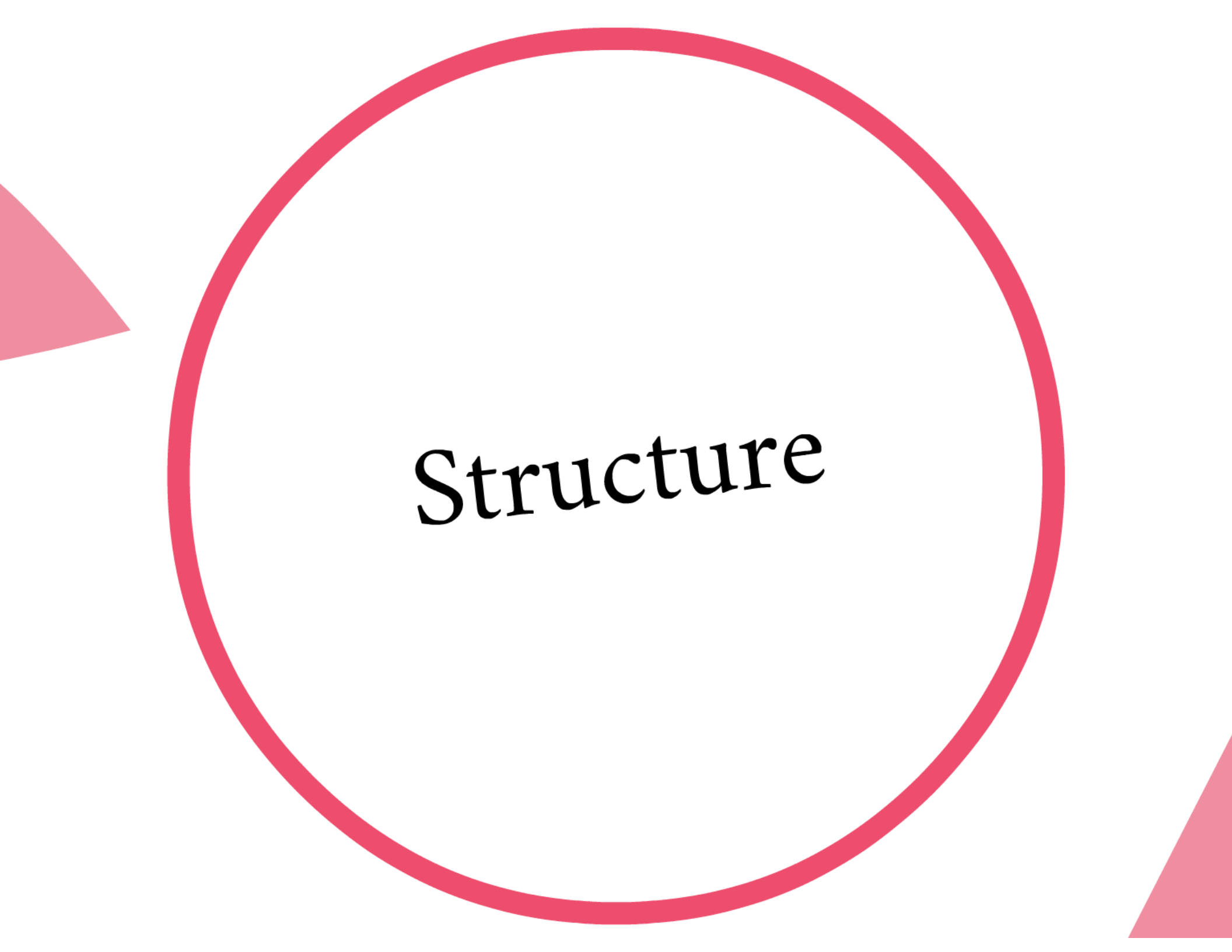
where do ideas "concepts" come from

A large pink circle with a thick border. Inside the circle, the text "Site (site analysis) & environment" is written in a black serif font. The text is arranged vertically: "Site" at the top, "(site analysis)" in the middle, "&" below it, and "environment" at the bottom. The text is slightly tilted to the right. In the bottom left corner, outside the circle, is a pink arrow pointing upwards and to the right. In the bottom right corner, outside the circle, is a pink curved line.

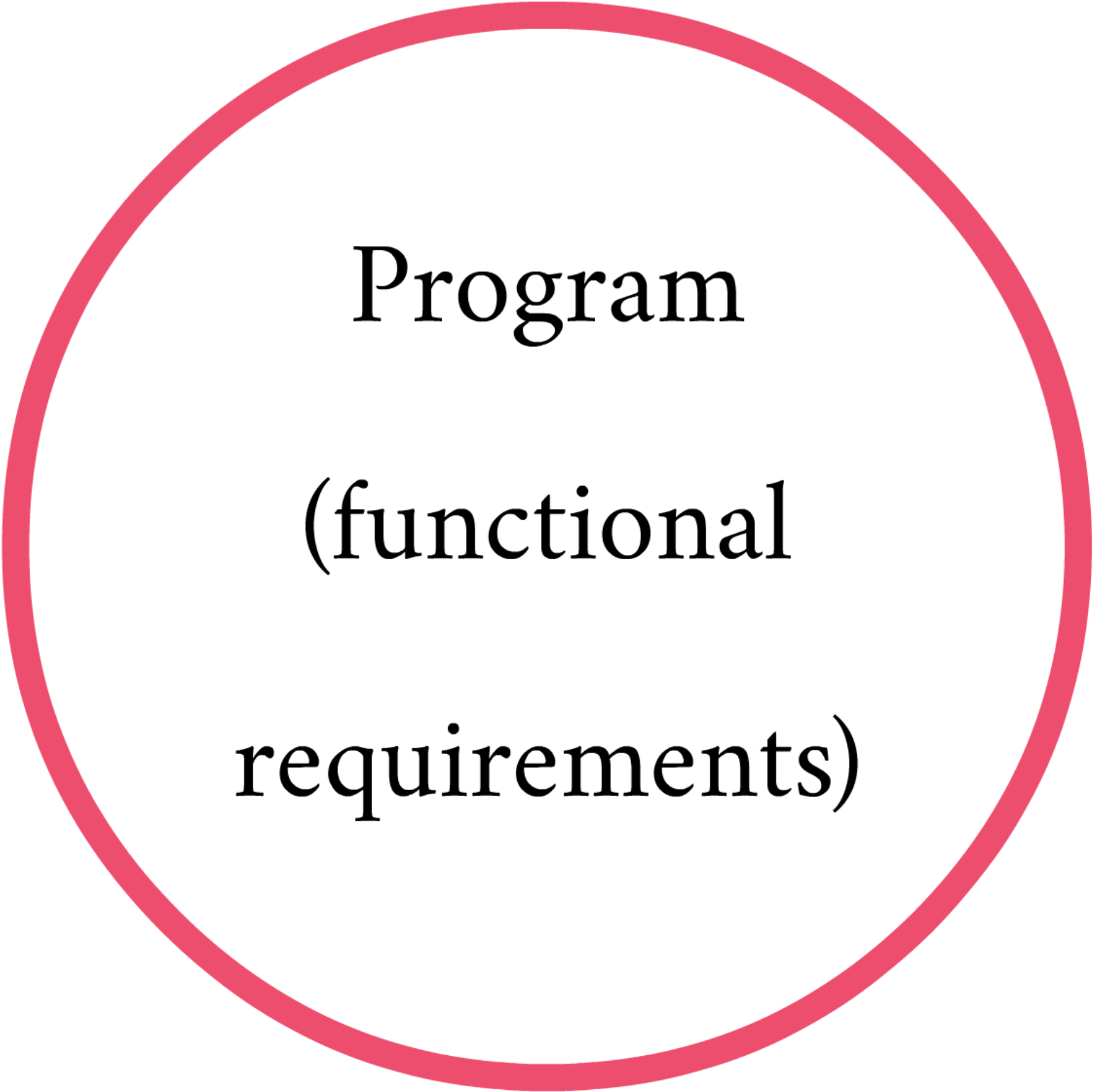
Site
(site analysis)
&
environment

A large pink circle with a thick border, containing the text 'personal architectural influences' in a black serif font. The text is arranged in three lines, following the curve of the circle. A small pink triangular shape is visible in the bottom-left corner of the image.

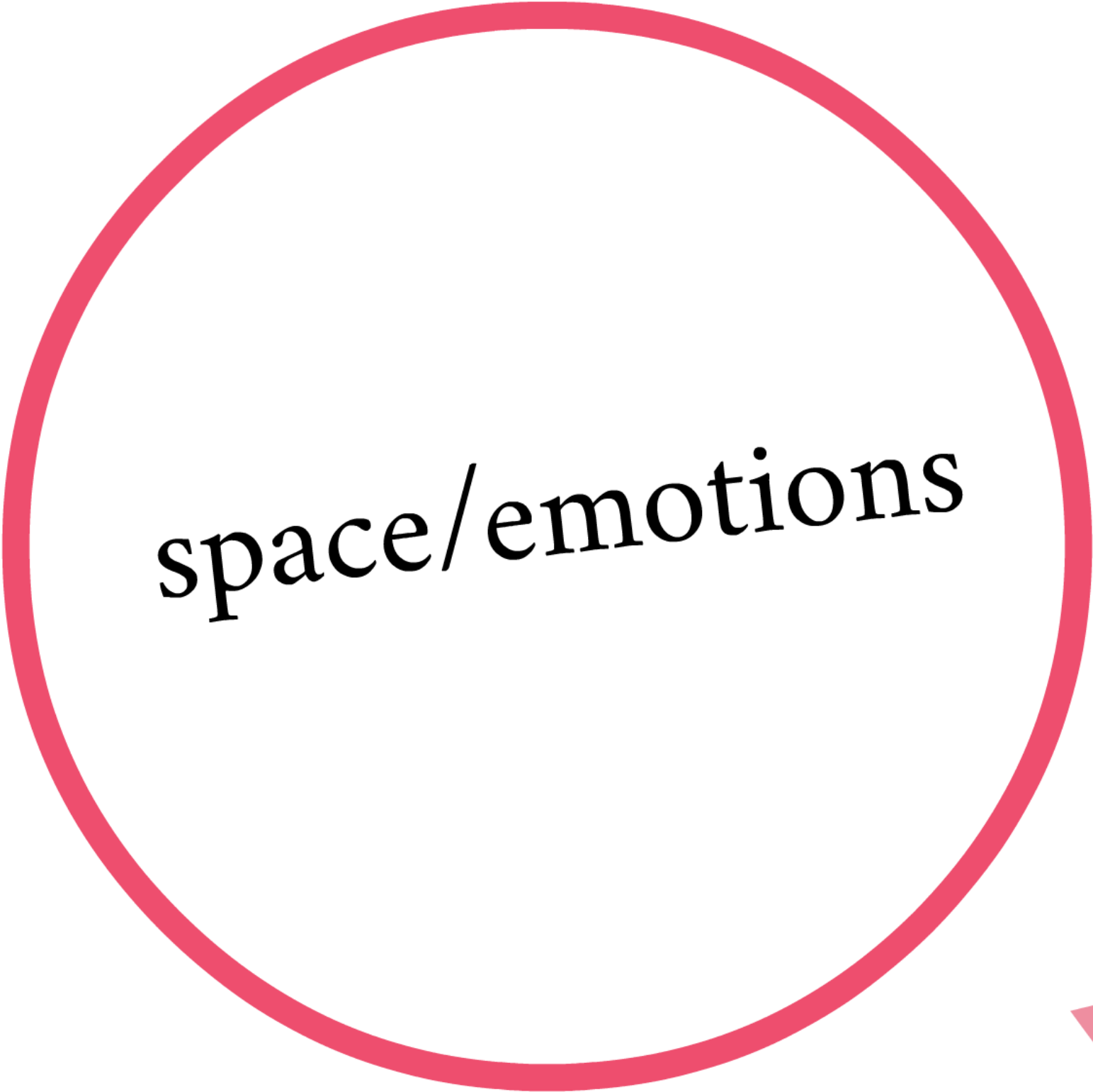
personal
architectural
influences



Structure



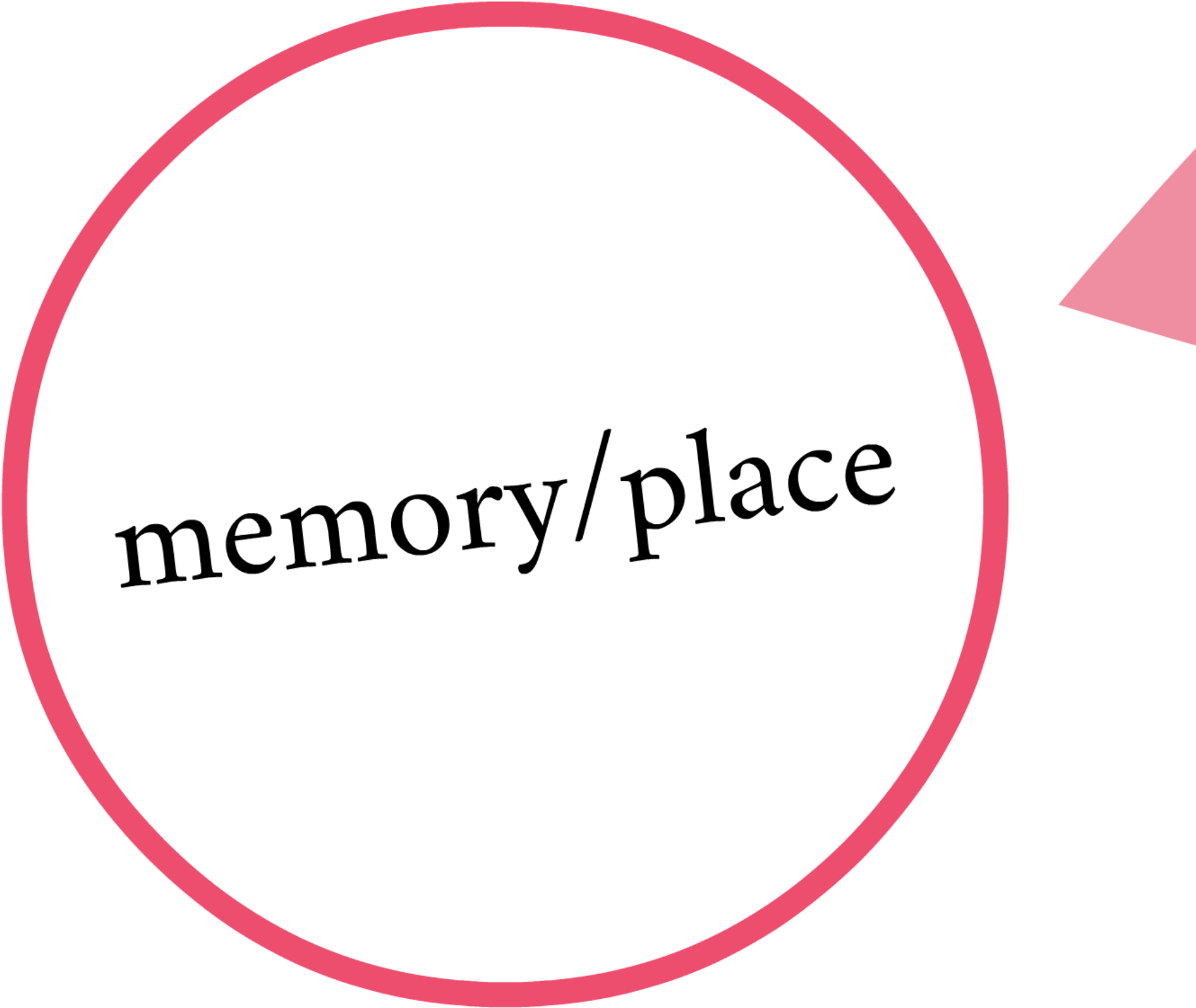
Program
(functional
requirements)



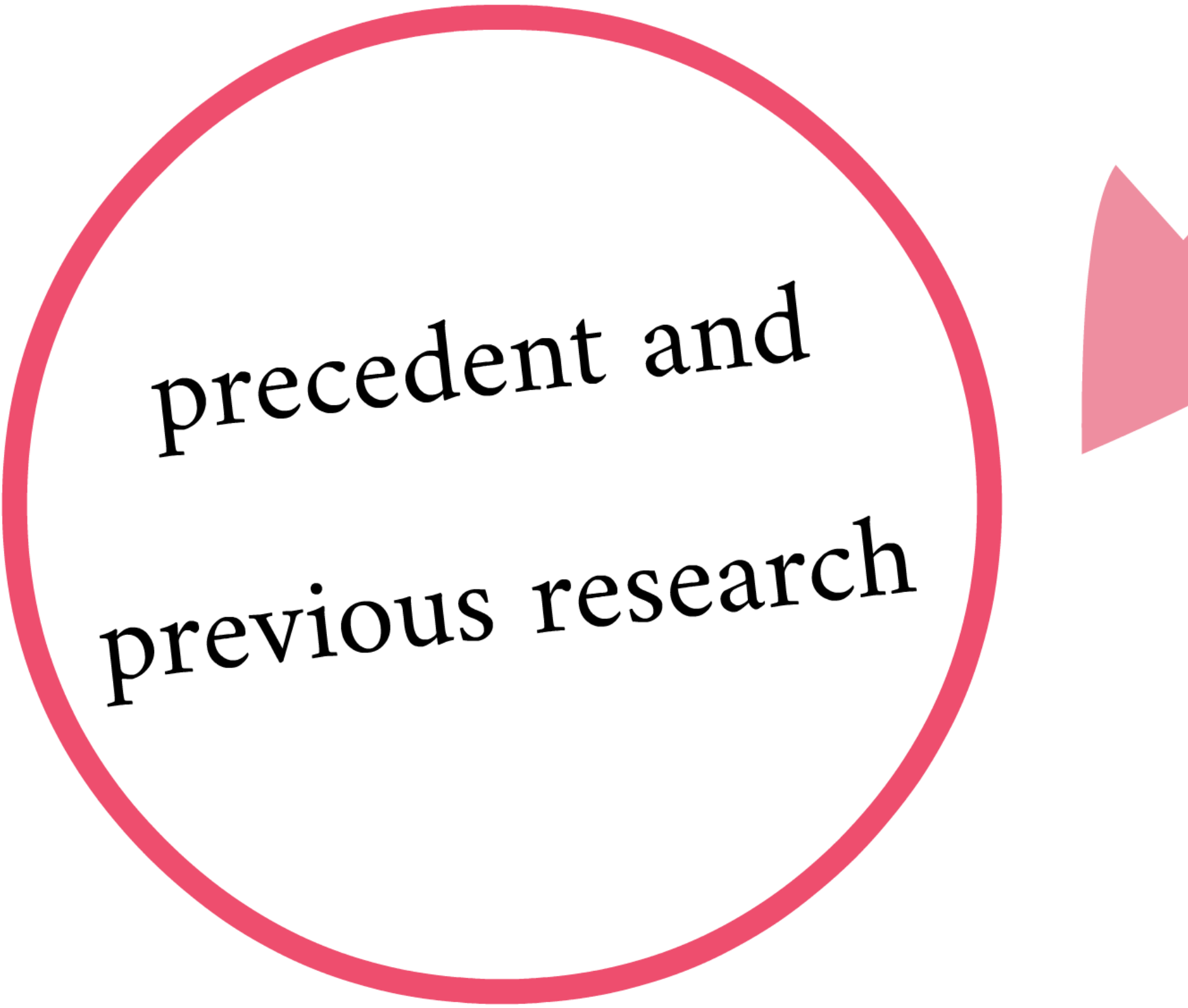
space/emotions



place/culture/society

A large pink circle is centered on the page. To its right, a pink triangle points towards the circle.

memory/place

A large pink circle is centered on the page. To its right, a pink arrow points towards the right edge of the frame.

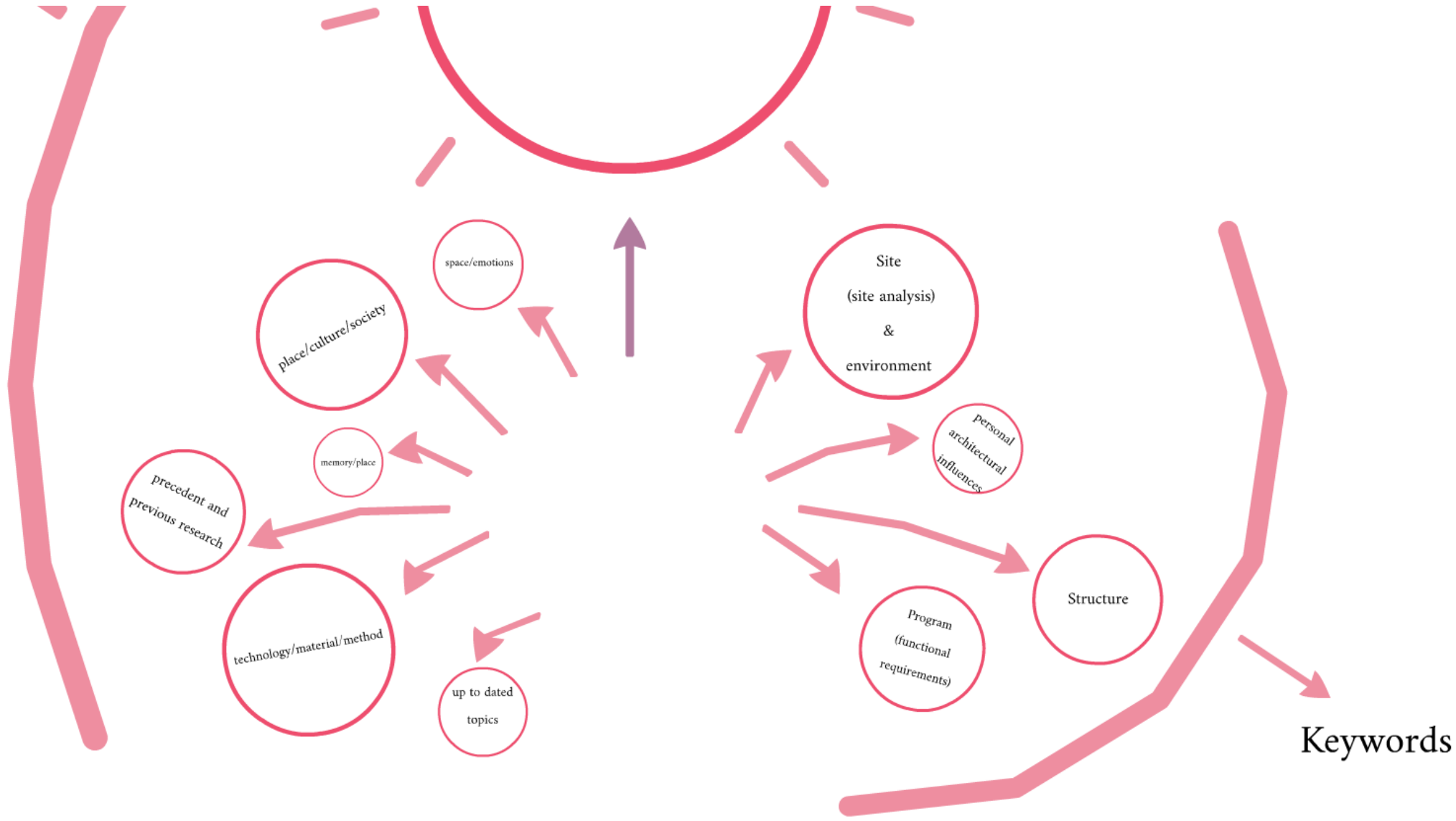
precedent and
previous research



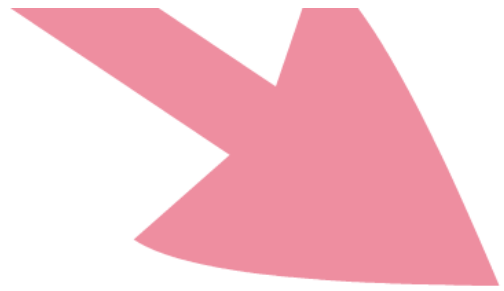
technology/material/method



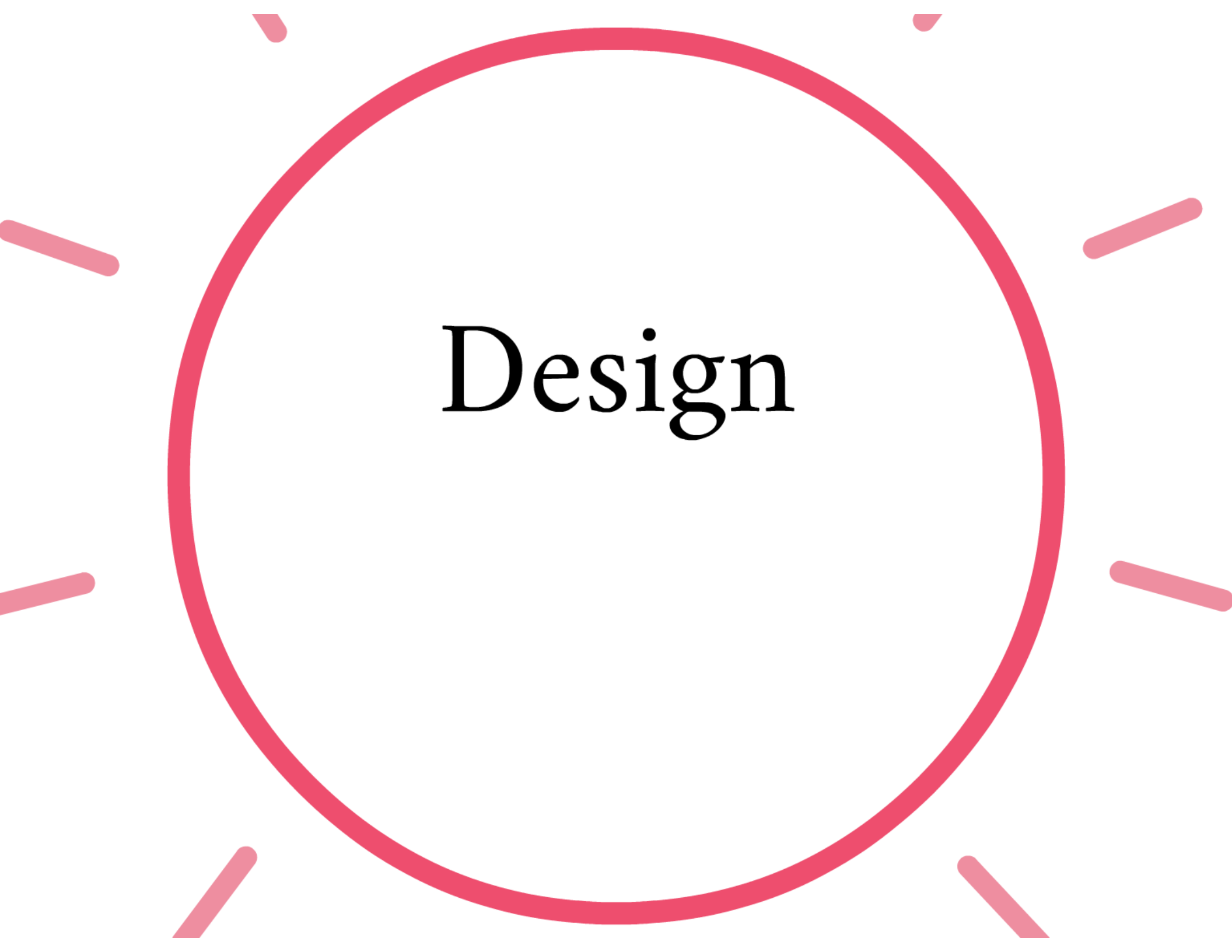
up to dated
topics



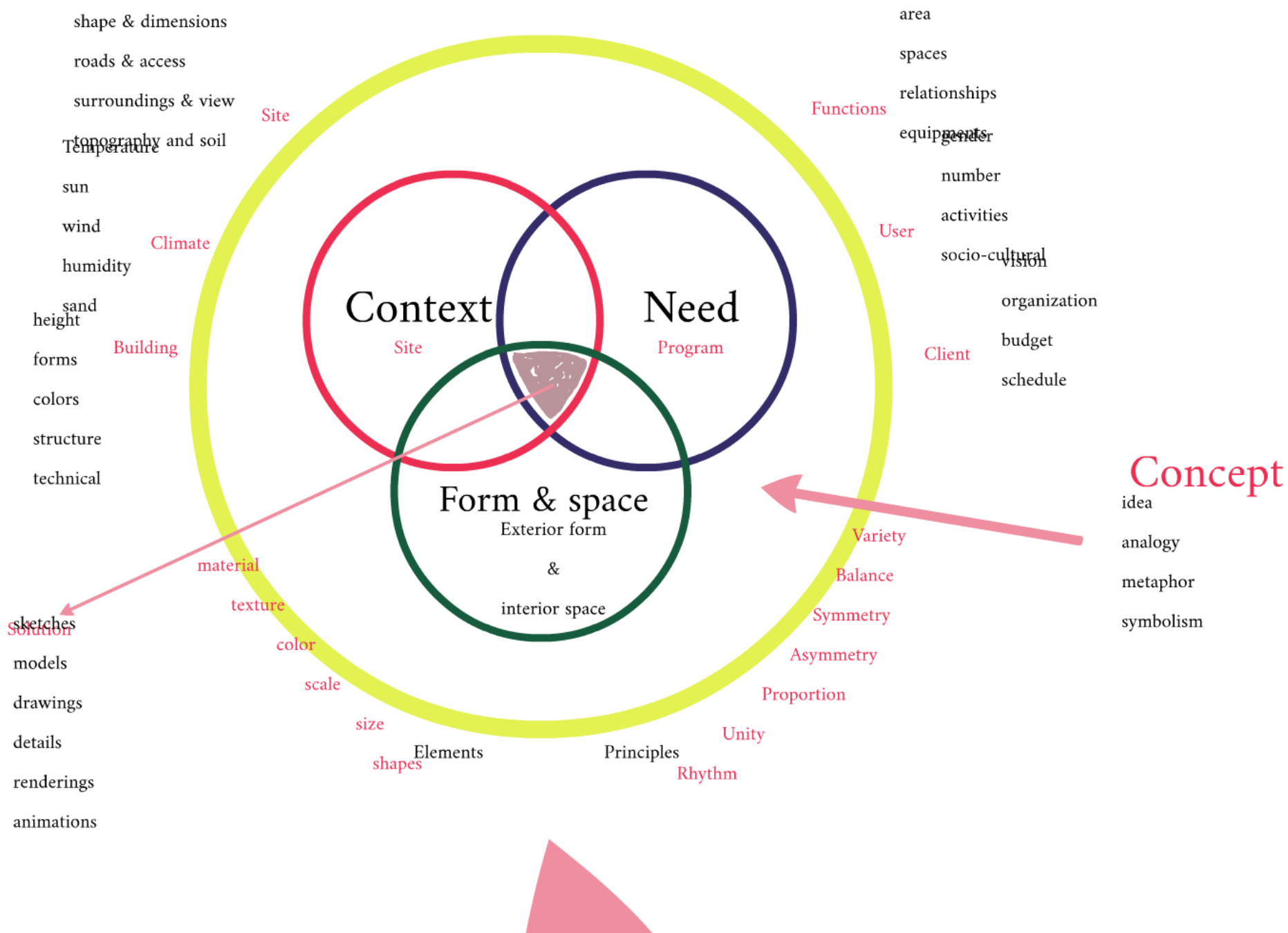
where do ideas "concepts" come from

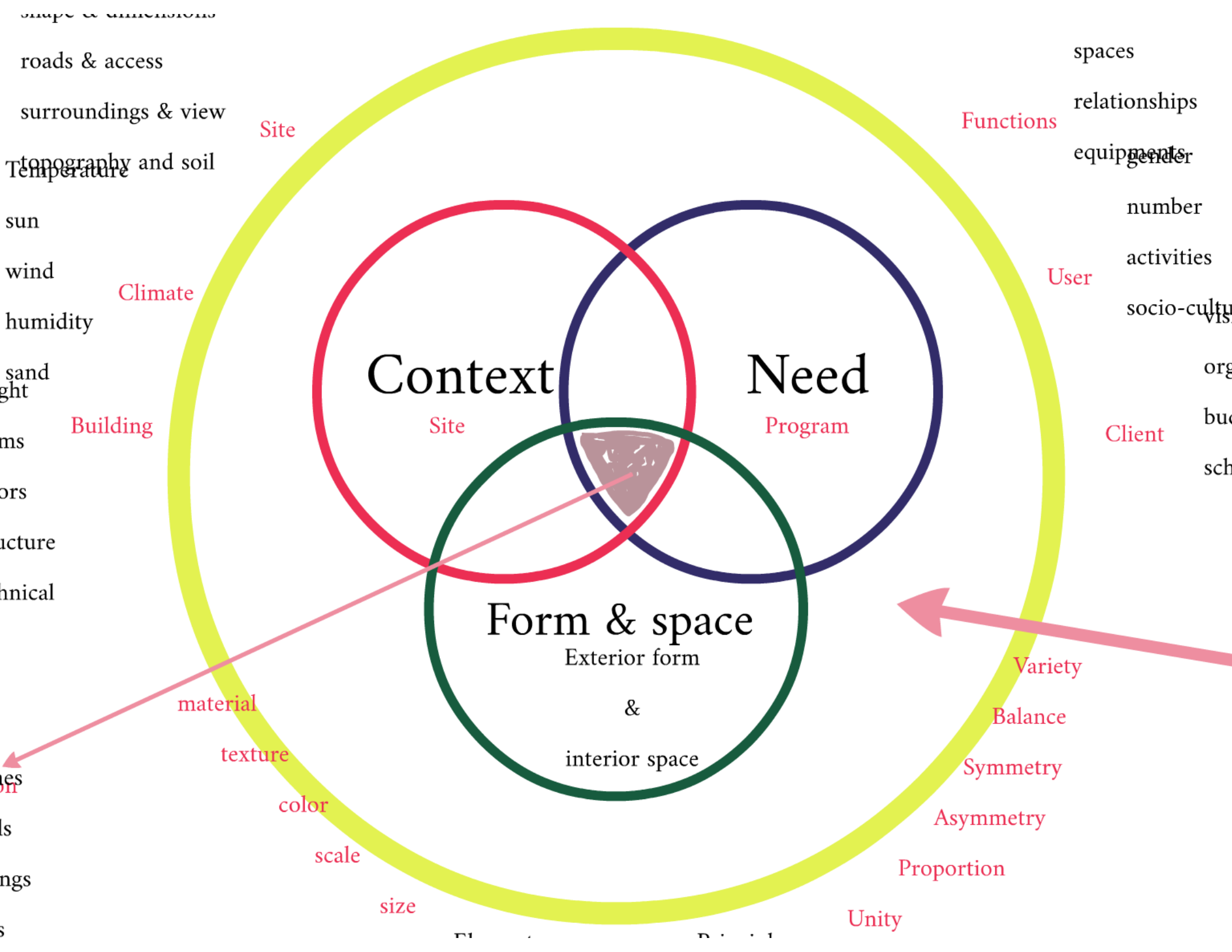


Keywords



Design





shape & dimensions

roads & access

surroundings & view

topography and soil
Temperature

Site



sun

wind

humidity

Climate

material

forms

colors

structure

Building



sketches

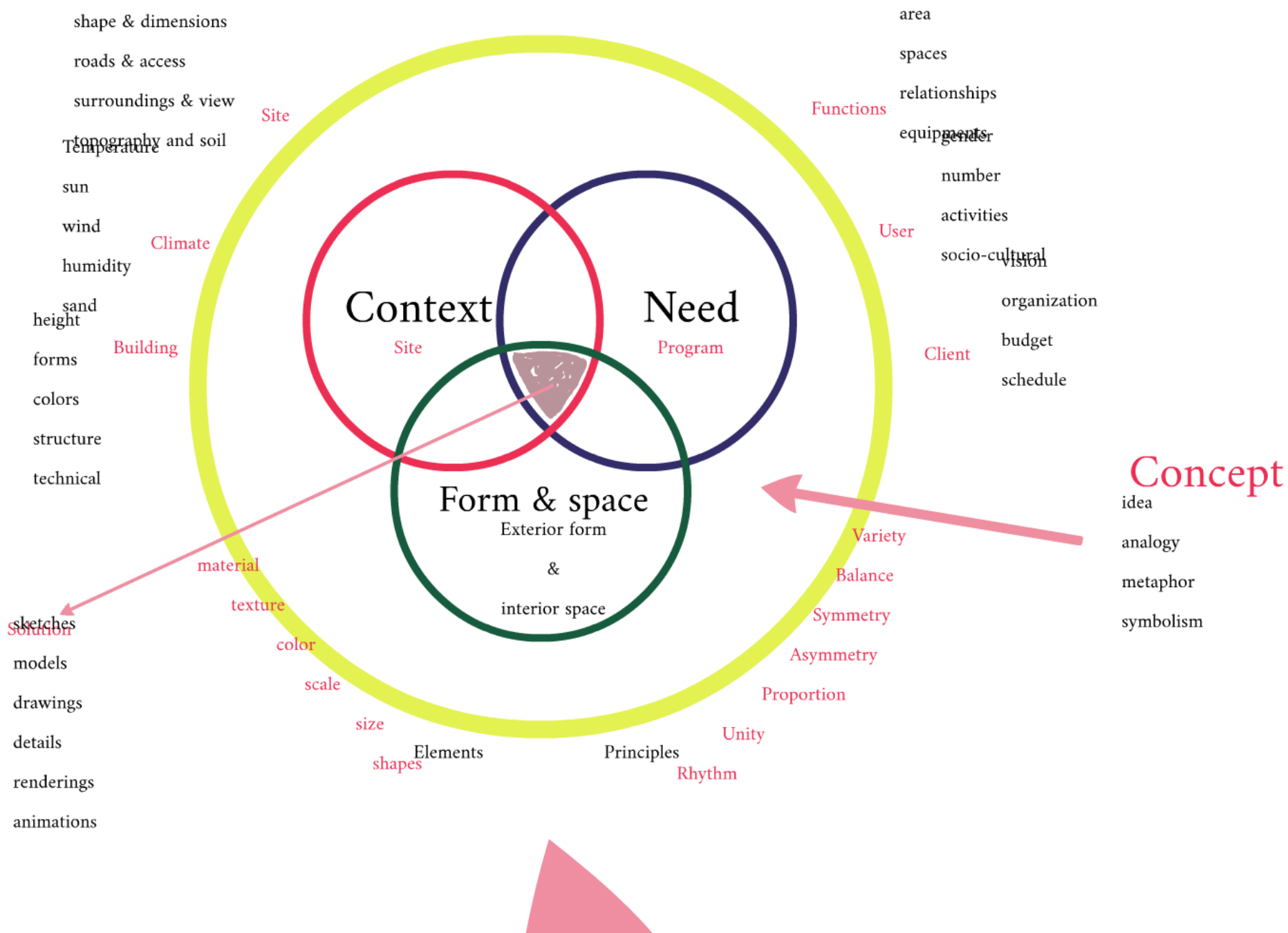
Solution

models

drawings

details

renderings



ons

equipments
gender

number

activities

User

socio-cultural
vision

equipment
gender

number

activities

User

socio-cultural
vision

SOCIO-CULTURAL
vision

organization

budget

Client

schedule

Space
rior form

&

interior space

Variety

Balance

Symmetry

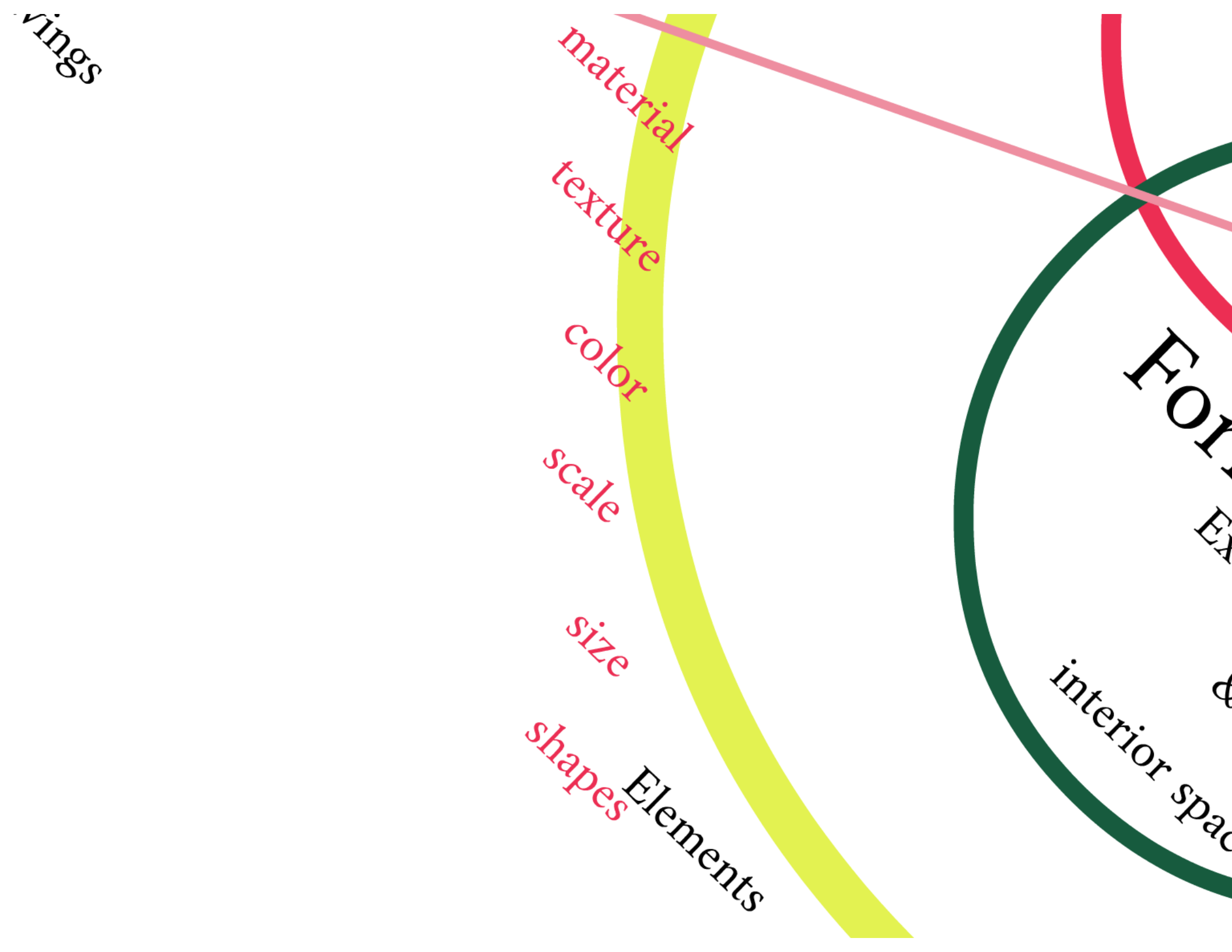
Asymmetry

Proportion

Unity

Rhythm

Principles



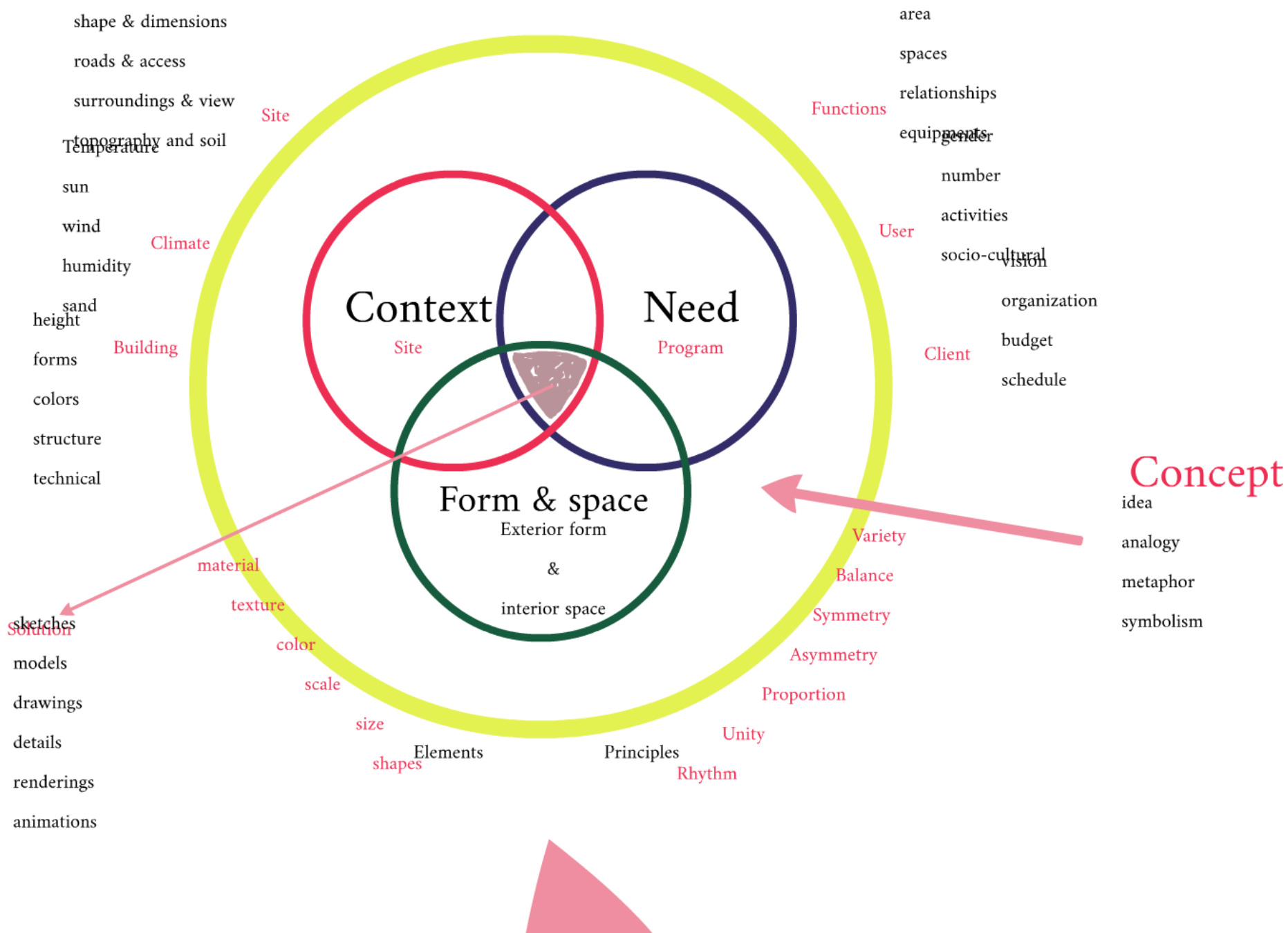
Concept

idea

analogy

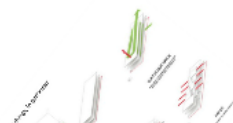
metaphor

symbolism

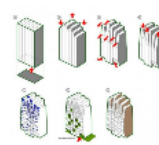
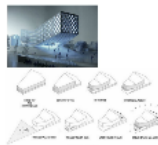
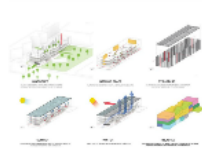
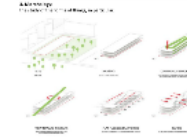
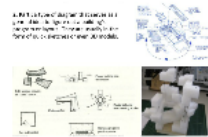
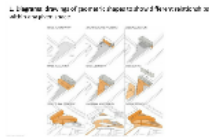


TYPES OF CONCEPT

concept



How can I express a concept



Conceptual models

How you communicate ideas into a model

- Conceptual model can be described as:
 - A series of images, diagrams, sketches and drawings that
 - Represent the
 - Development of the
 - Design process
 - From the initial concept to the final design



ANALOGY & METAPHOR

Definition

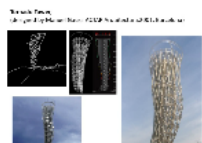
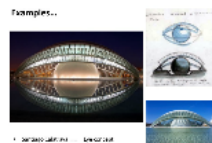
- Analogy is a comparison between two things, often with a purpose of making a point or showing a similarity.
- Metaphor is a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.

Analogy and metaphor in architecture

- Analogy and metaphor are used in architecture to describe and explain complex ideas and concepts in a simple and accessible way.
- They are used to help architects communicate their ideas and concepts to others, and to help them understand and appreciate the complexity of their work.

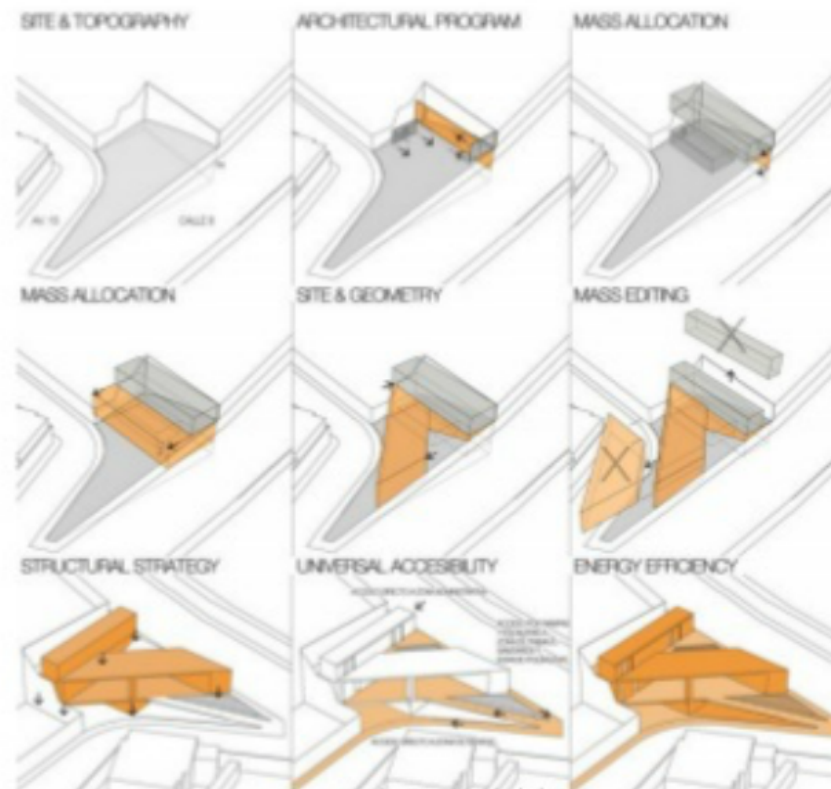
Metaphor

- Metaphor is a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.

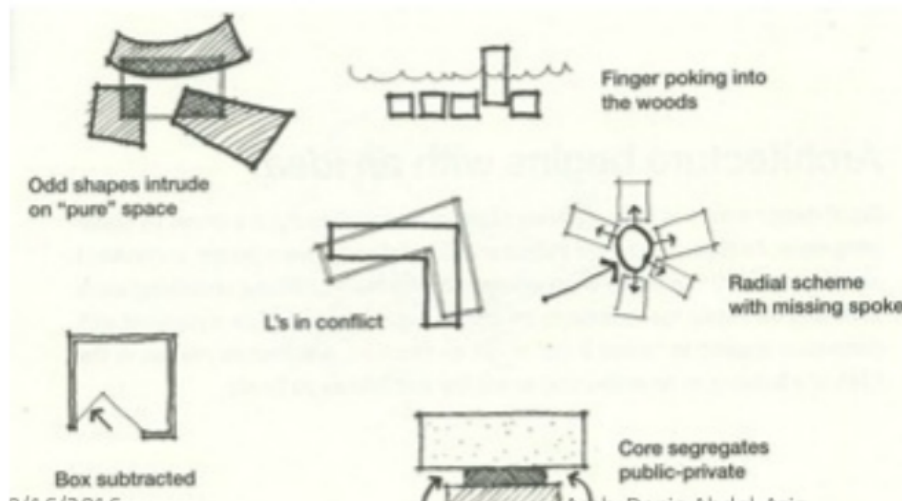
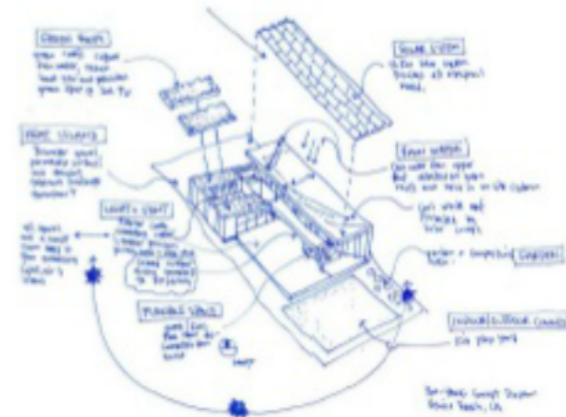


- BE AWARE OF & DO NOT !!**
- Over complicating the issues
- Being afraid of expressing your ideas
- Using too much text
- Not enjoying what you are doing
- Complicating a simple concept through philosophic paths

1. Diagrams: drawings of geometric shapes to show different relationships within any given space.



2. Parti: a type of diagram that serves as a general idea to figure out a building's program or layout . They are usually in the form of quick sketches or even 3D models.



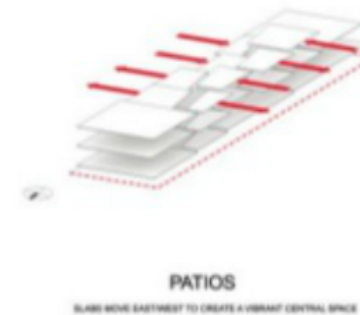
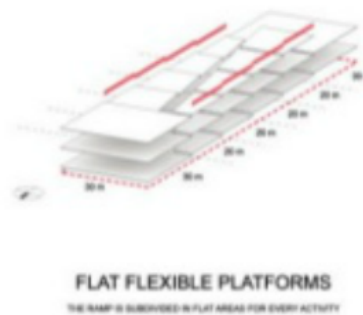
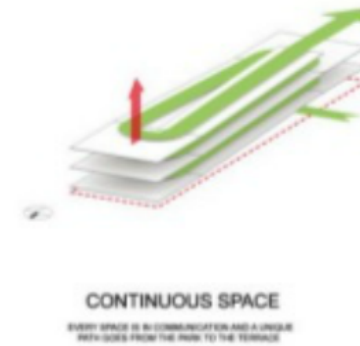
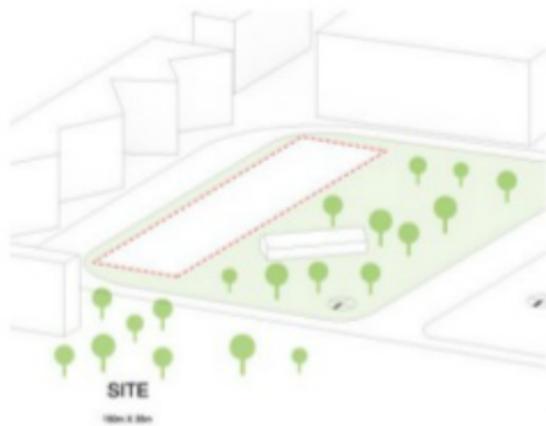
Examples..

- Parti model



3. Morphology:

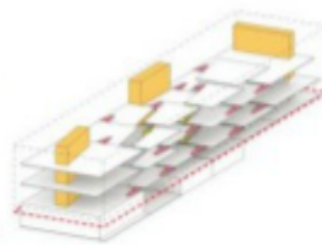
the study of the forms of things, in particular.





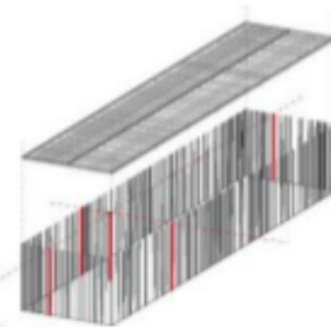
LANDSCAPE

COLUMNS INSIDE CREATE A CONTINUATION OF THE PARK AND THE BRIDGE IS LIFTED UP CREATING A HILL SUPPORTING THE BUILDING



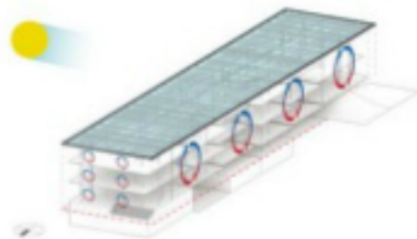
INTERIOR SPACE

PLATFORMS ARE CONNECTED BY RAMPS, A CENTRAL STAIR AND 3 CORES



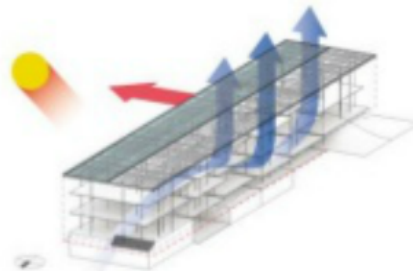
STRUCTURE

MISALIGNMENT RANDOM DISPOSITION THAT CREATE A "COSS" EFFECT IS RATIONALLY COORDINATED BY ALIGNED COLUMNS



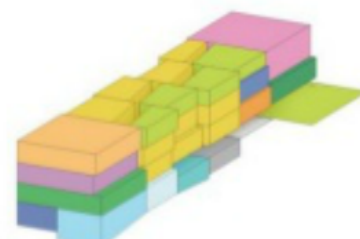
SUMMER

EVERY SPACE IS IN COMMUNICATION WITH THE OTHERS IN ORDER TO MAXIMIZE AIR FLOW AND HEAT DISPERSION



WINTER

EACH SLAB IS A "MICROCLIMATE" TO MAXIMIZE HOT AIR RECYCLE

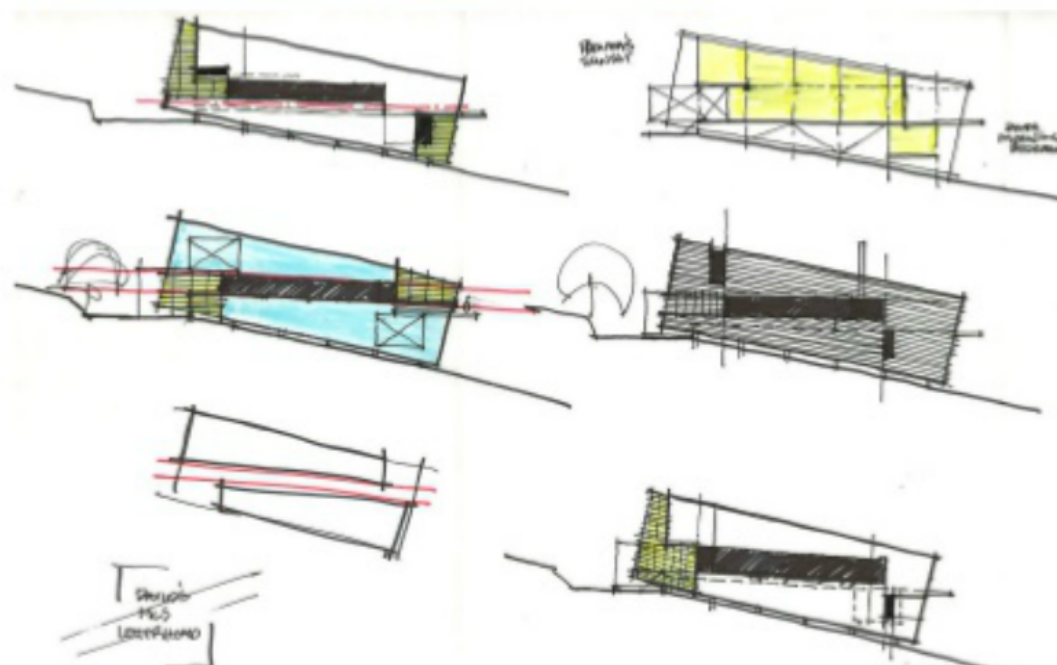


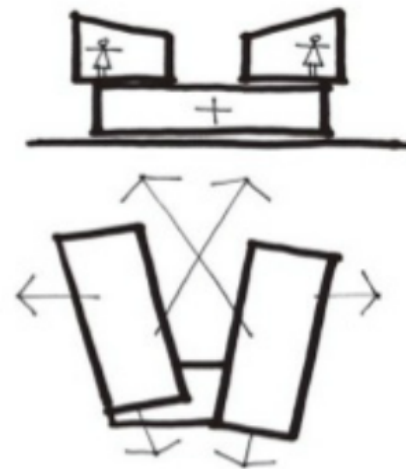
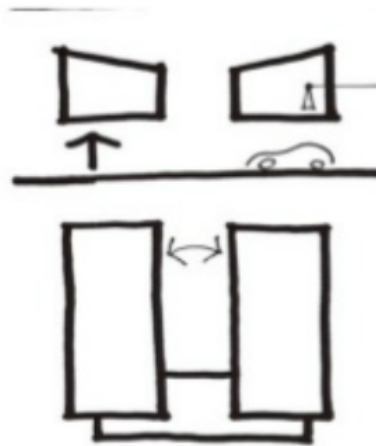
PROGRAM

THE LIBRARY COLLECTION IS IN THE CENTRE, THE OTHER ACTIVITIES ARE ON THE PERIPHERY. CINEMA IS UNDERGROUND AND AT THE TOP ARE INTERIOR TERRACES

Diagrams Examples...









OFFICE TOP
AND
SHOPPING BASE



DETACHED OFFICE



ENTRANCES



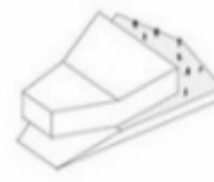
STREET LEVEL ACCESS



URBAN SPACE IN FRONT



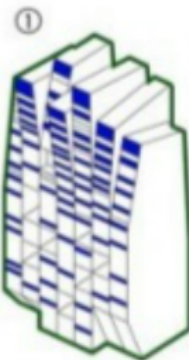
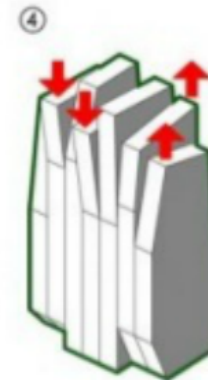
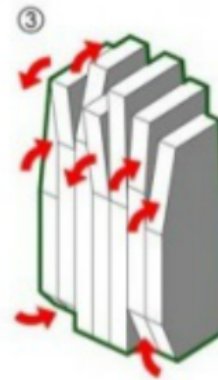
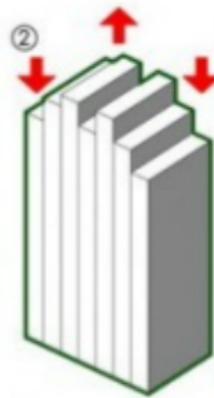
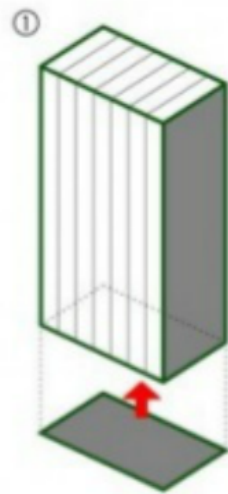
URBAN SPACE ON BASE



URBAN SPACE IN BACK



URBAN SPACES ALL AROUND

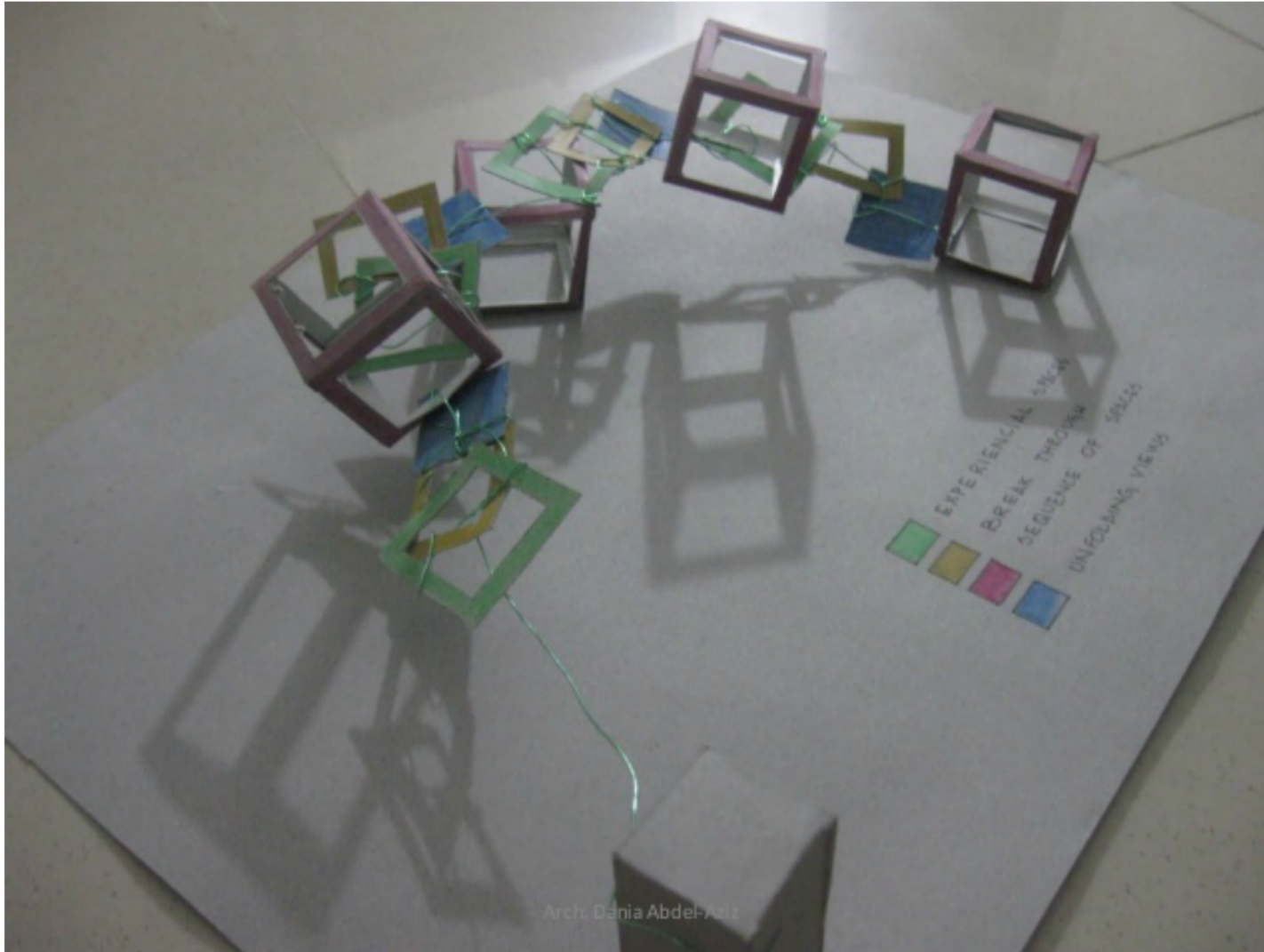


Conceptual models

Yes you can turn your idea into a model!

Conceptual model can be used to express:

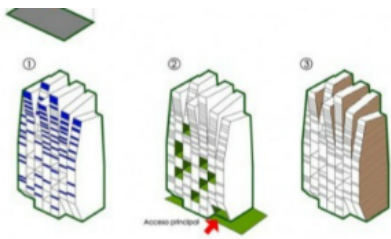
- **Layers** of a project; vertical, horizontal and rotated planes.
- **Outer Shell.**
- **Circulation**, whether vertical or horizontal and types.
- **Materials** and **colors**
- Any **construction** issues
- Coherence with **Topography**
- Any other idea u want to communicate



Arch. Dania Abdel-Aziz



Arch. Dania Abdel-Aziz



- **Outer Shell.**
- **Circulation**, whether vertical or horizontal and types.
- **Materials and colors**
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ANALOGY & METAPHOR

Definition

- **Analogy** : a similarity between like features of two things, on which a comparison may be based.
- Analogy is a cognitive process of transferring information from a particular subject (the analogue or source) to another particular subject (the target), and a linguistic expression corresponding to such a process.

- **Analogy: A comparison based on such similarity;**

a. superficial analogy: to take the same shape of sth without any change. (direct)

b. structural analogy: to make a structure of building from a shape or something.

c. holistic analogy: combination of both.

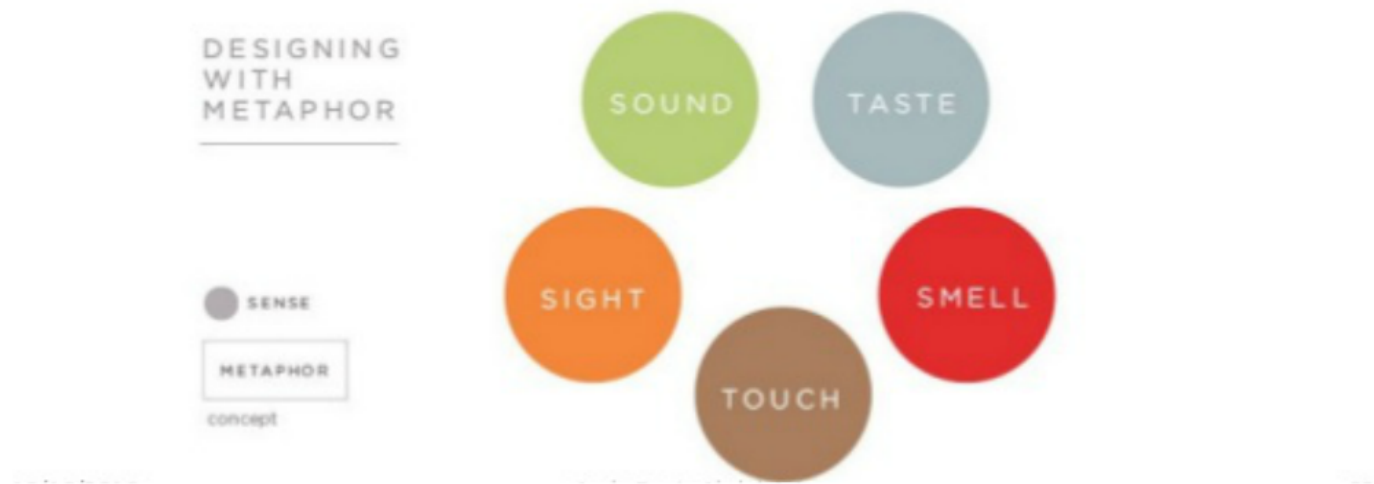
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Metaphor

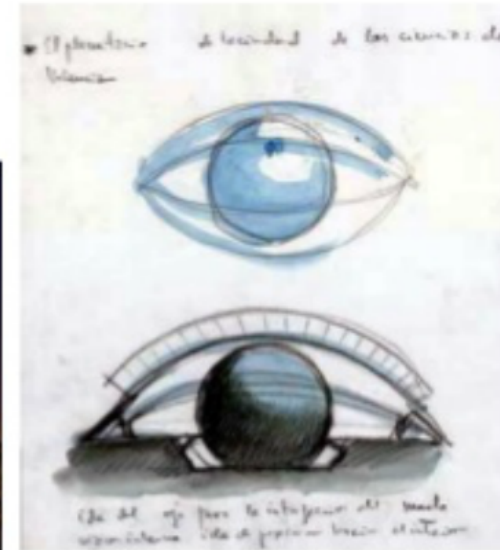
- Metaphor is a literary term which means "carrying-over and a synonym is the word transfer.
- It associates meanings, emotions, things , times and places which otherwise would not have been related.



Examples...

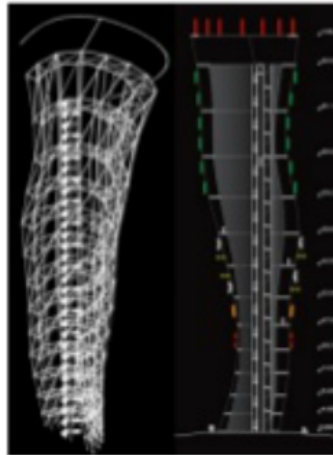
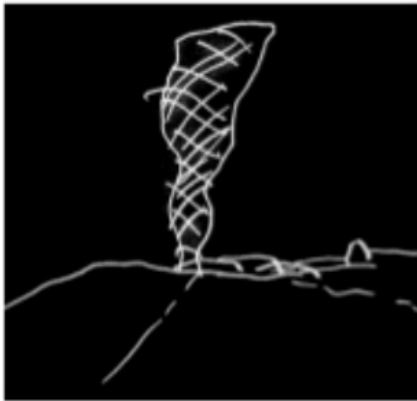


- Santiago Calatrava Eye concept



Tornado Tower,

(designed by Manuel Gausa ACTAR Arquitectura, 2001, Barcelona)



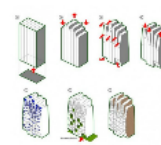
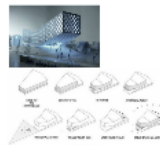
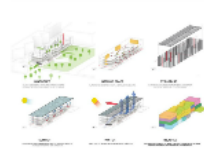
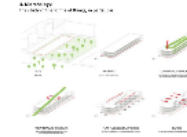
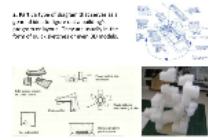
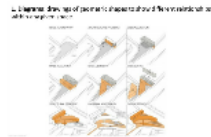
The shape of the spar and its cables is said to evoke an image of a harp lying on its edge



BE AWARE OF & DO NOT !!

- Over complicating the issues
- Being afraid of expressing your ideas
- Using too much text
- Not enjoying what you are doing
- Complicating a simple concept through philosophic paths

How can I express a concept



Conceptual models

How you convey your idea into a model

- Conceptual model can be described as:
 - A series of images, diagrams, sections and sections, plans, elevations, etc.
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ANALOGY & METAPHOR

Definition

- Analogy is a comparison between two things, one of which is familiar, to make an unfamiliar thing more familiar.
- Metaphor is a comparison between two things, one of which is familiar, to make an unfamiliar thing more familiar.

Analogy & Metaphor in Architecture

- Analogy and metaphor are used to describe a building or a space in a way that is familiar to the audience.
- Analogy and metaphor are used to describe a building or a space in a way that is familiar to the audience.

Metaphor

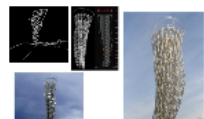
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Examples...



Examples...



Examples...



- BE AWARE OF & DO NOT !!**
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Design

Concept

COLOR

TEXTURE

FORM

SHAPE

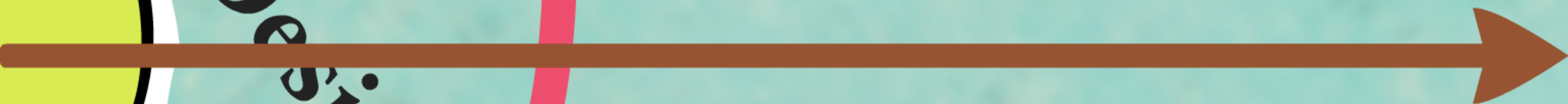
LINE

POINT



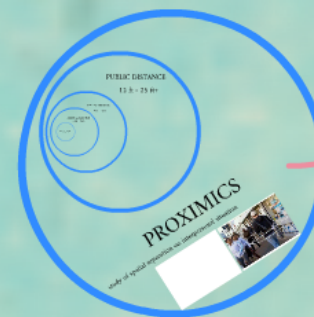
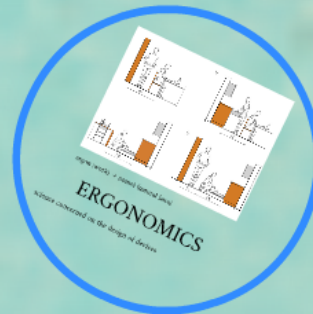
Design

lements of
Structural Design

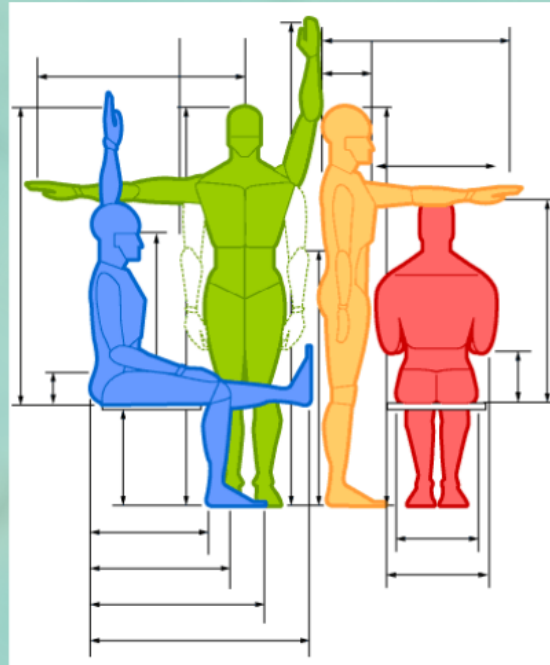


DESIGN PERCEPTION

الادراك الحسي للفراغ ومتعلقاته



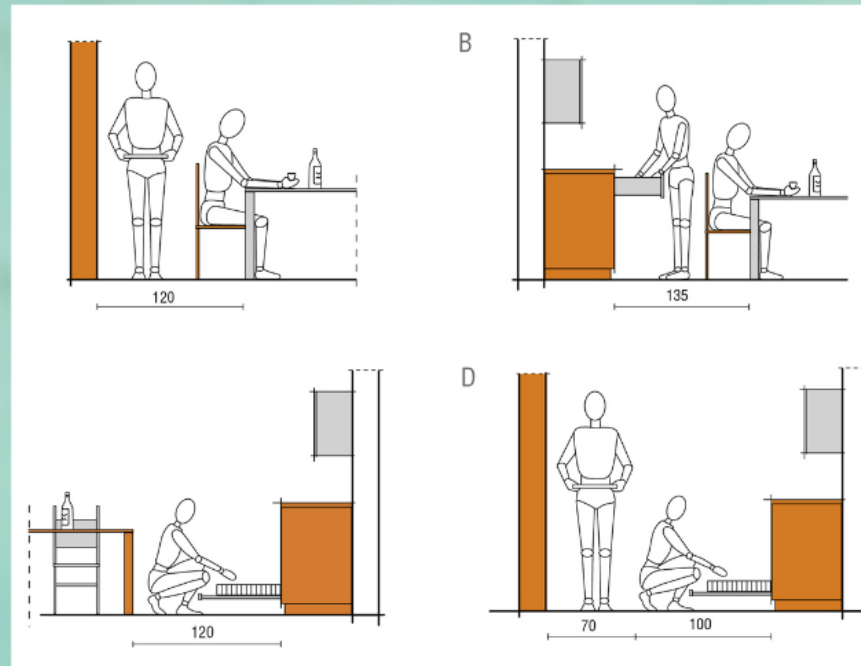
functional privacy
proxemics



Anthropos (man) + metrics (measure)

ANTHROPOMETRIC

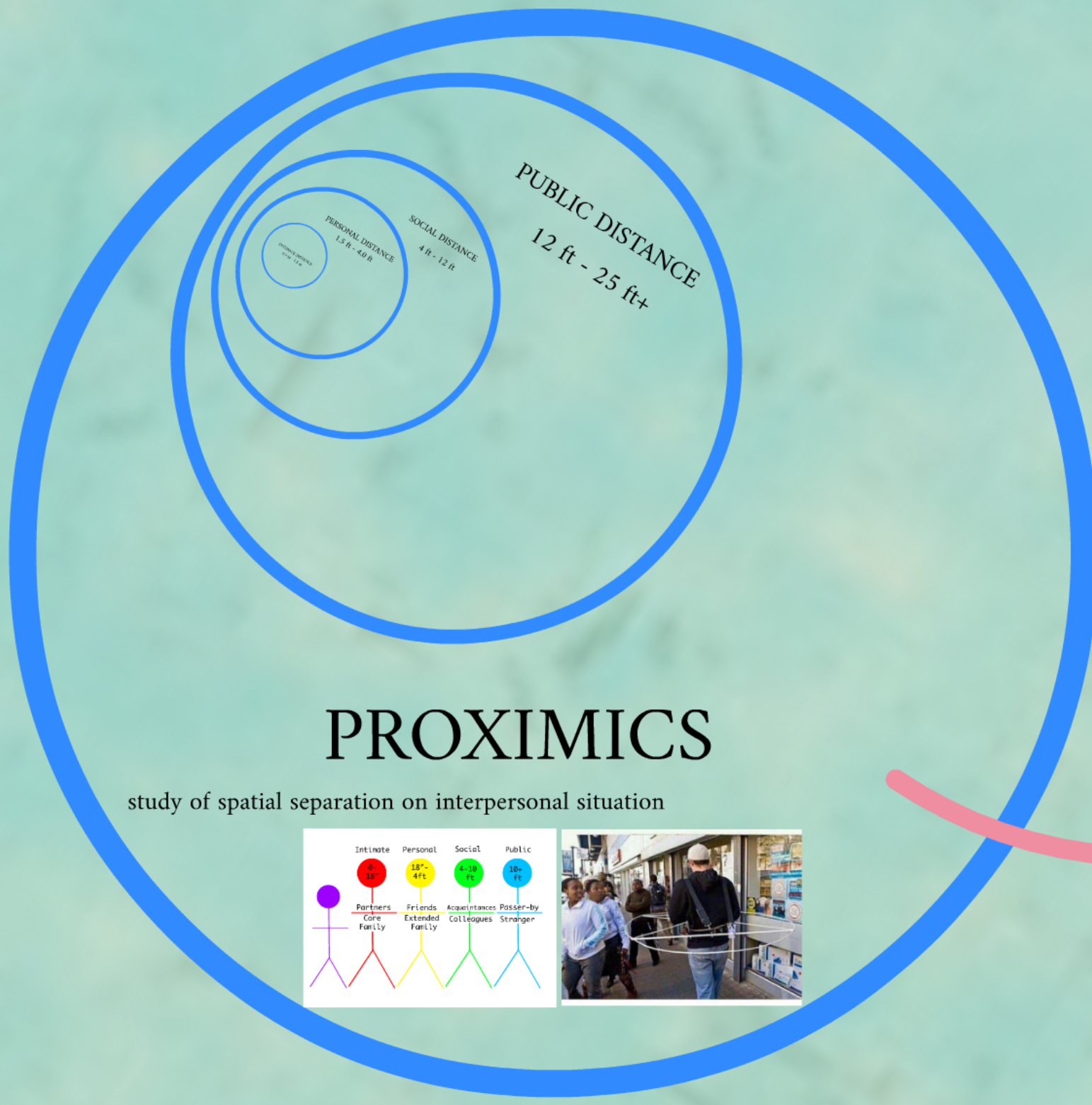
study of measurements of human body



ergon (work) + nomoi (natural laws)

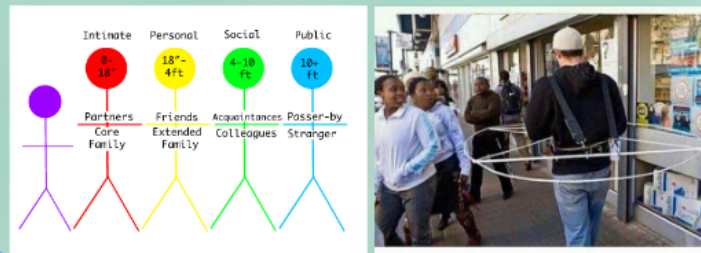
ERGONOMICS

science concerned on the design of devices



PROXIMICS

study of spatial separation on interpersonal situation



PUBLIC DISTANCE

12 ft - 25 ft+

SOCIAL DISTANCE

4 ft - 12 ft

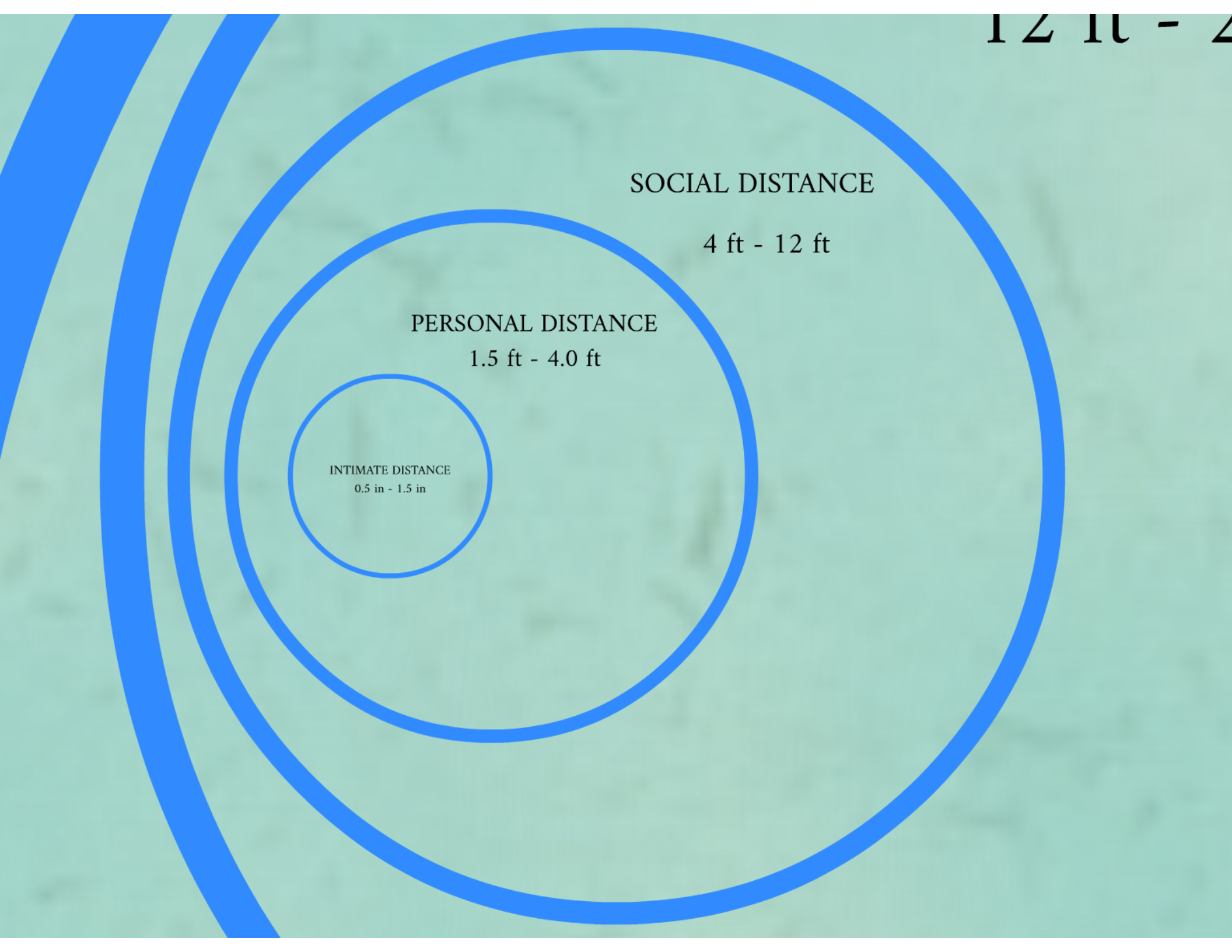
PERSONAL DISTANCE

1.5 ft - 4.0 ft

INTIMATE DISTANCE

0.5 in - 1.5 in

PHYSICS
nati



SOCIAL DISTANCE

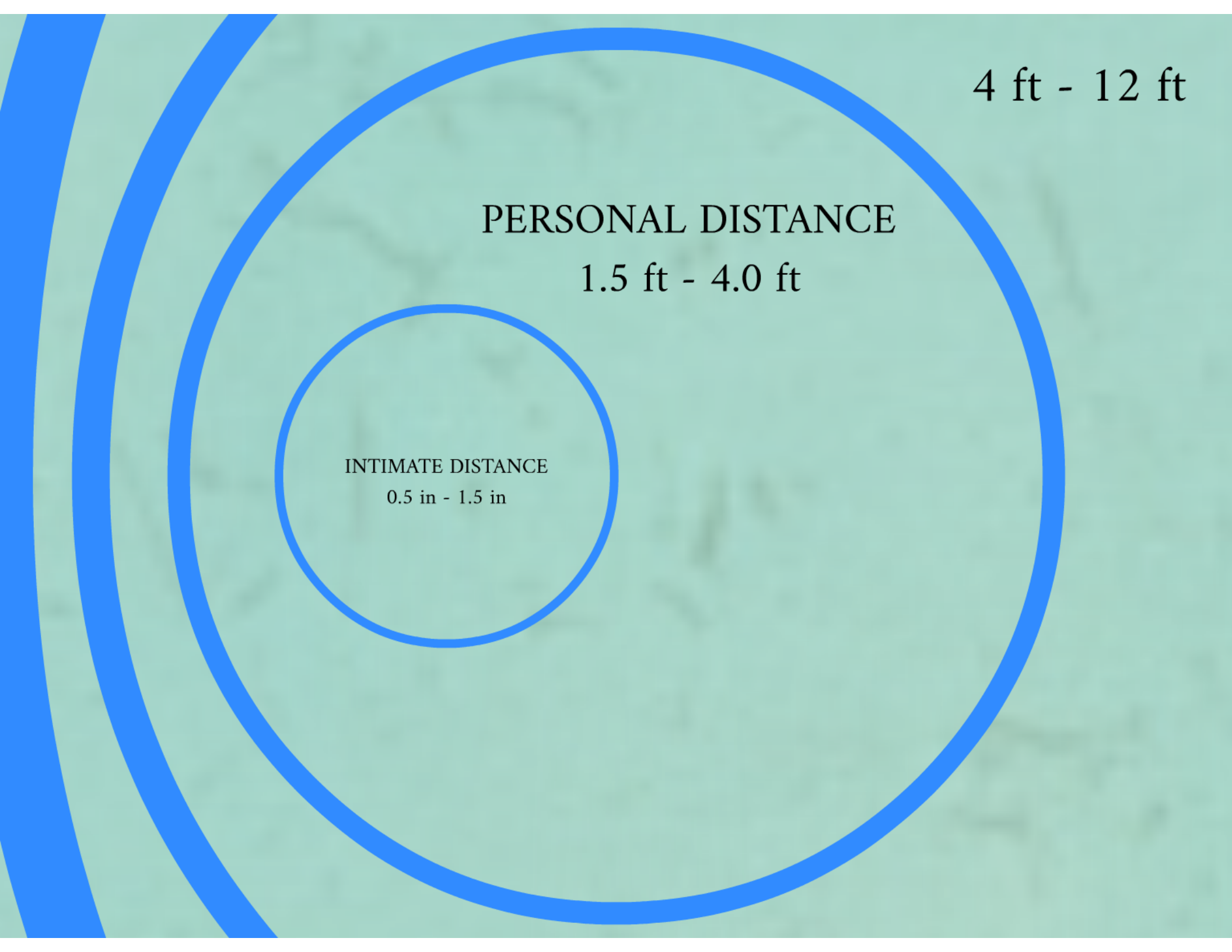
4 ft - 12 ft

PERSONAL DISTANCE

1.5 ft - 4.0 ft

INTIMATE DISTANCE

0.5 in - 1.5 in

The diagram consists of two concentric blue circles on a light teal background. The inner circle is labeled 'INTIMATE DISTANCE' with a range of '0.5 in - 1.5 in'. The outer circle is labeled 'PERSONAL DISTANCE' with a range of '1.5 ft - 4.0 ft'. In the top right corner, outside the circles, is the text '4 ft - 12 ft'.

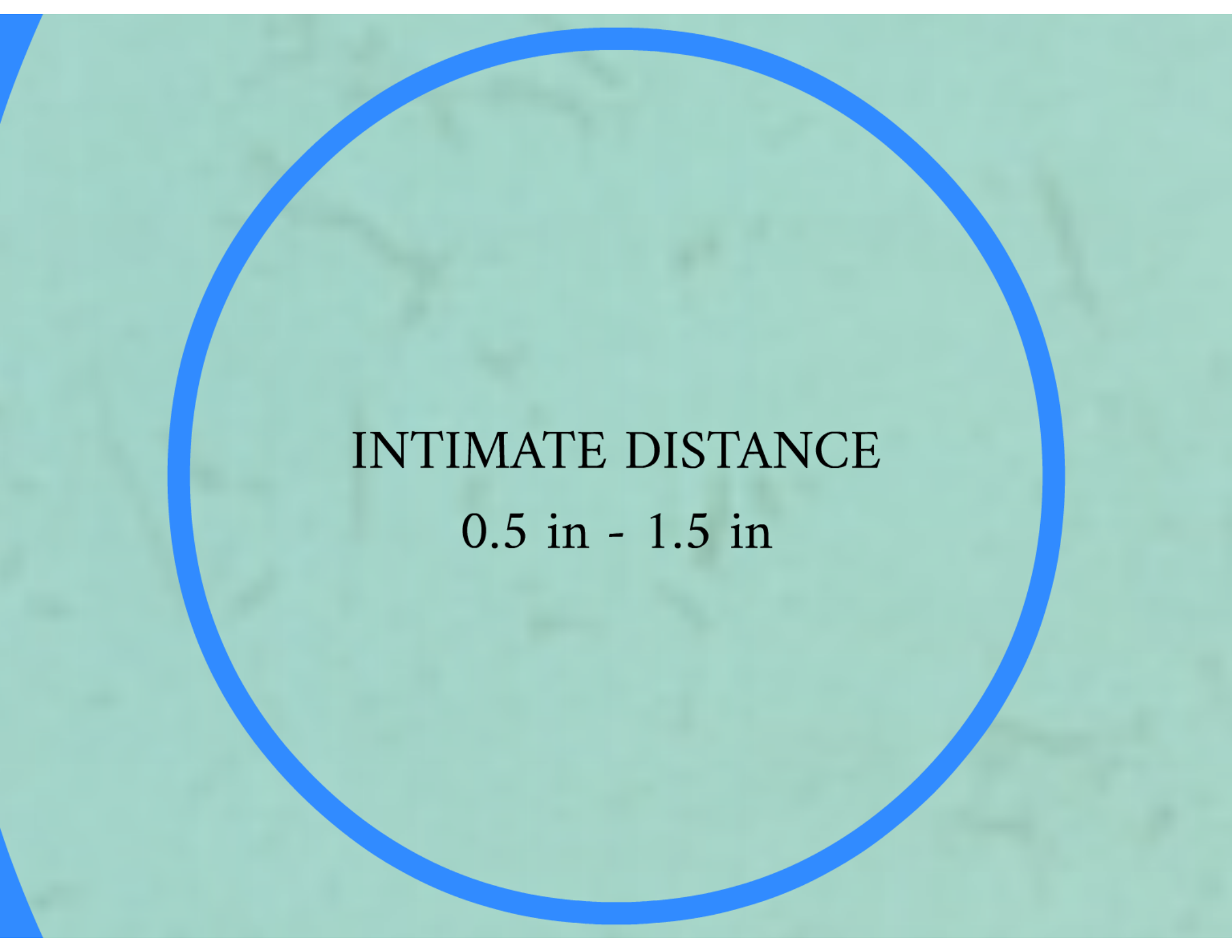
4 ft - 12 ft

PERSONAL DISTANCE

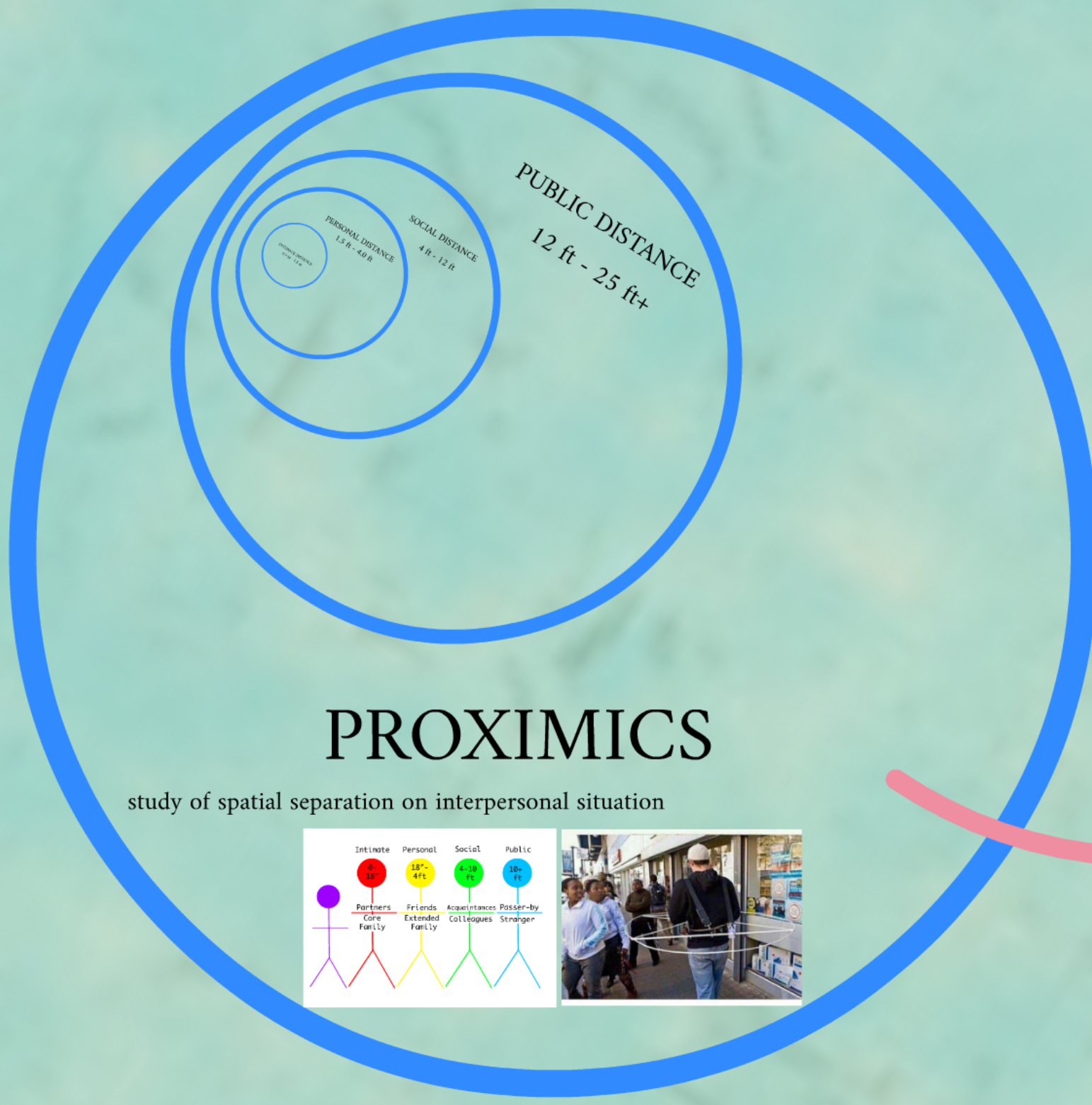
1.5 ft - 4.0 ft

INTIMATE DISTANCE

0.5 in - 1.5 in

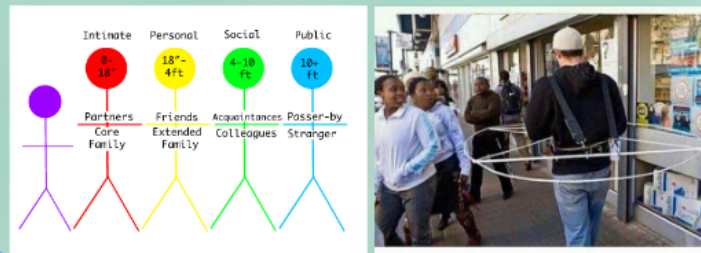


INTIMATE DISTANCE
0.5 in - 1.5 in



PROXIMICS

study of spatial separation on interpersonal situation





being free from others

SOLITUDE



being with another person or persons but free from outside

INTIMACY



PRIVACY levels

ability to control relations with others



being unknown in a crowd

ANONYMITY



employing psychological barriers

RESERVE



being free from others

SOLITUDE



being with another person or persons but free from outside

INTIMACY



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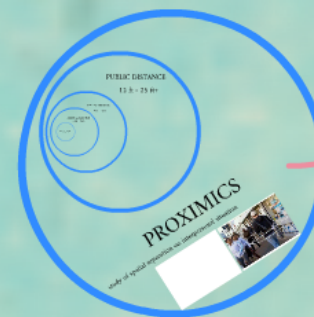
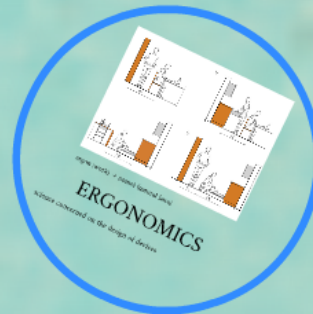


employing psychological barriers

RESERVE

DESIGN PERCEPTION

الادراك الحسي للفراغ ومتعلقاته



functional privacy
proxemics

Conditions to be provided in architecture

What should

ARCHITECTURE

provide

Benefit



- two ways to judge if success or not
- 1- Characteristics of the space/height, volume, furniture?
 - 2- Position of the space

Durability



- three ways to judge if success or not
- 1- correct structural design and analysis
 - 2- selecting construction materials
 - 3- accuracy in construction processes
- building and construction strategies
- related to dead loads, live loads, and natural effects like wind

Beauty



- two ways to judge if success or not
- 1- how does the beauty affects person or the influence something leaves on person
 - 2- Aesthetic measures such as golden ratio and its different from one culture to another like food taste
- RELATIVE
- related to the psychological condition of a person, varies from person to another
- A tool to measure beauty is that we cant add, remove or edit anything

Saving & Cost



- construction cost
- & operation cost
- two ways to judge if success or not
- comparing with other buildings, or if their a scale related to construction in the country such as the cost/m²
 - the cost of related aspects such as land, material, and energy consumption

functional framework
- suitable place for daily activities and cultural symbolism
environment control shelter social context

- building success when its working
as a function and fail when it
doesn't, even if it was beautiful
- commercial, residential, public,,,
- two aspects in this concept:

1-the spaces to do activities inside"names"

2- dimensions, circulation, organization, relation of these spaces

Benefit



two ways to judge if success or not

1- Characteristics of the space"height, volume,
furniture"

2-Position of the space

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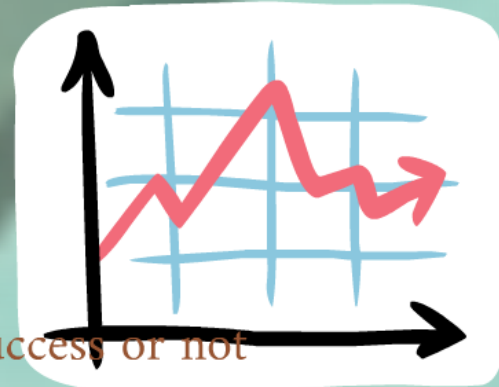


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construction cost & operation cost Saving



& Cost

two ways to judge if success or not

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Sustainability

or at least

environmentally



THE 3 TIER APPROACH TO SUSTAINABLE HEATING, COOLING, AND LIGHTING OF BUILDINGS
 - PART BY SHARAD KUMAR WISDOM

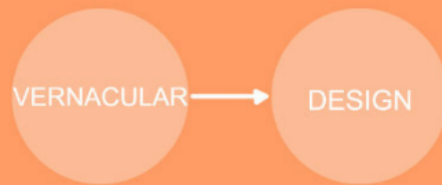


mental



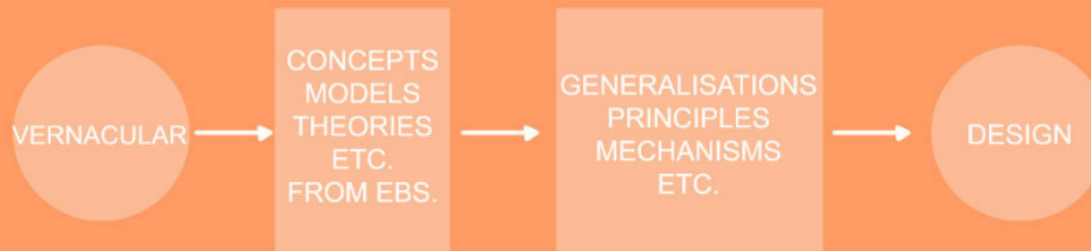
Drawn by Barbara Jo Agnew at Auburn University





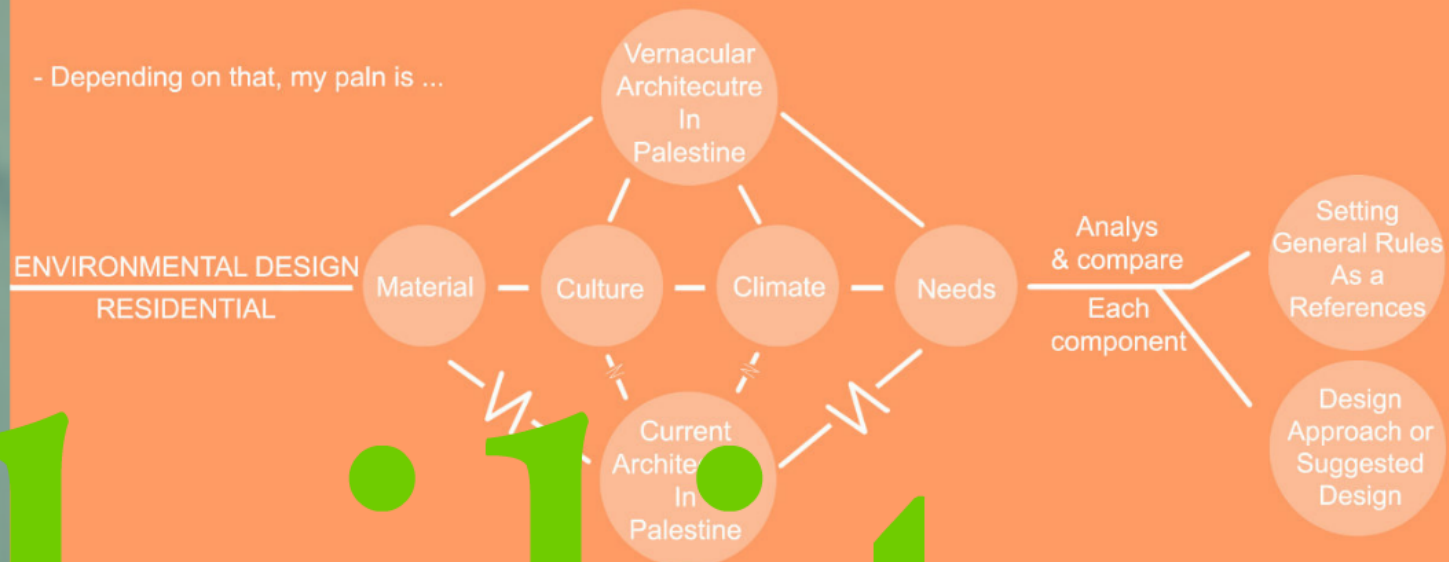
Amos Rapoport's model of 'Learning from the vernacular' through analysis as apposed to copying

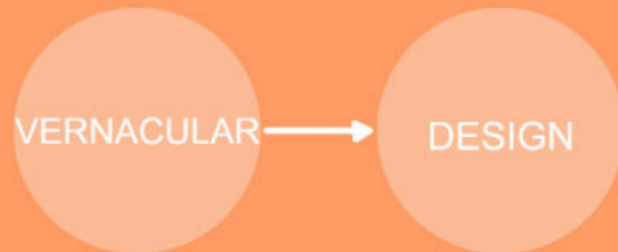
- LEARNING BY COPYING



- LEARNING THROUGH ANALYSIS

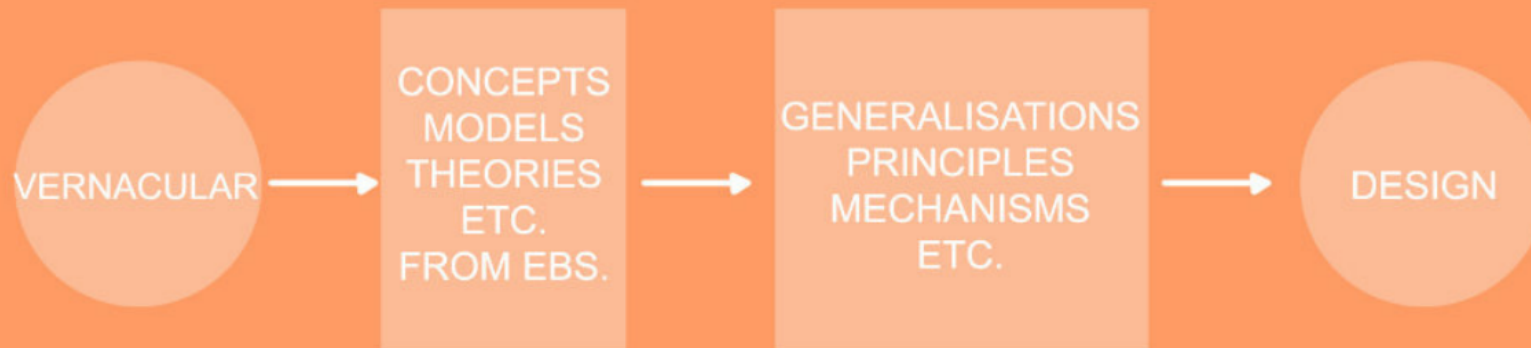
- Depending on that, my pain is ...





- LEARNING BY COPYING

Amos Rapoport's model of 'Learning from the vernacular' through analysis as apposed to copying



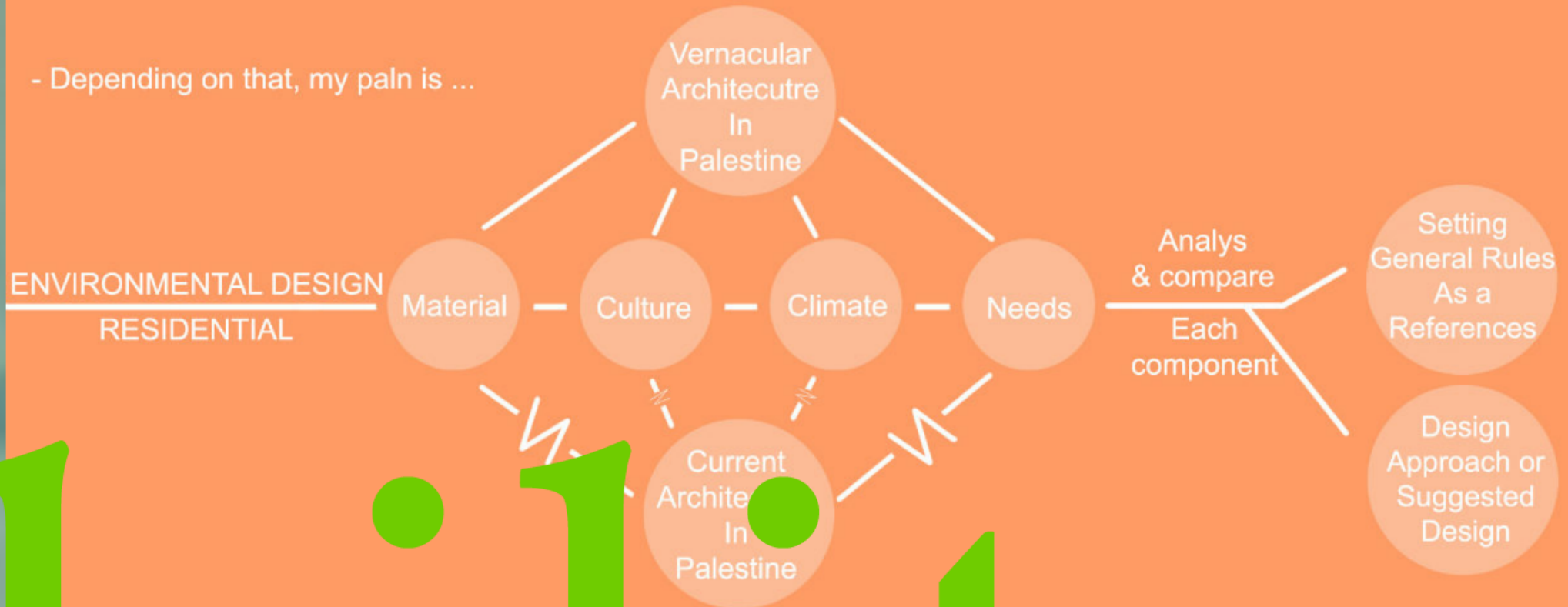
- LEARNING THROUGH ANALYSIS

- Depending on that, my pain is ...

Vernacular
Architectre
In
Palestine

- LEARNING THROUGH ANALYSIS

- Depending on that, my pain is ...



bibility



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THESE TOOLS ARE USED
JUDGING STUDENTS WORK
BESIDE OTHER ASPECTS

DEVELOPMENT

BEUATY

BENEFIT or FUNCTION

LAYOUT

COMPOSITION





THE 3 TIER APPROACH TO SUSTAINABLE HEATING, COOLING, AND LIGHTING OF BUILDINGS

* PART OF SOLAR RESPONSIVE DESIGN

Drawn by Barbara Jo Agnew at Auburn University

Drawn by Barbara Jo Agnew at Auburn University





PV (photovoltaics) (highest cost)

Active solar

Ventilation preheating

Daylighting (increasing cost)

Passive solar (low to moderate cost)

Shading (moderate cost)

Window size (free ?)

Window placement (free)

Building color (free)

Building orientation (free)

Mosque



Limitations

- Orientation toward Macca
- Continuity between lines & stacking
- No obstacles such as columns
- No direct entrance to the prayer hall
- No waste of space, modesty
- Orientation of toilets

