



ARCHITECTURE DESIGN THEORY

PART 7: PRINCIPLES

© JT Wunderlich PhD 2019

<http://users.etaown.edu/w/wunderjt/>

ARCHITECTURE DESIGN THEORY



LECTURE SERIES

- ❑ PART 1 PRIMARY ELEMENTS [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 2 FORM [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 3 FORM & SPACE [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 4 ORGANIZATION [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 5 CIRCULATION [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 6 PROPORTION & SCALE [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 7 PRINCIPLES (*This Lecture*) [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)

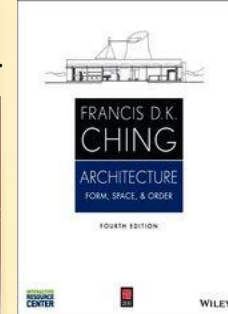
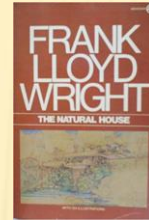
SOURCES

* Personal Architecture projects, frequent international travel, BS Architectural Engineering (U.Texas 84), plus 1-1/2 years of Urban Design (UCSD 1986-87)

COURSE TEXTBOOKS

[1] Ching, Francis D.K. *Architecture: Form, Space, and Order*. 4 ed., Wiley, 2014.

[2] Wright, Frank Lloyd. *The Natural House*. Bramhall House; 1954.



OTHER SOURCES

[3] Storrer, William A. *The Architecture of Frank Lloyd Wright, Complete Catalog*. 4TH ed. U. of Chicago Press, 2017.

[4] Bacon, Edmond. *Design of Cities*. Thames & Hudson Ltd, 1978.

[5] Lynch, Kevin. *The Image of The City*. MIT Press, 1960.

[6] Wright, Frank Lloyd. *Testament*. New York, Bramhall House, 1957.

[7] Froebel; *Brief History of the Kindergarten*. Froebel Gifts, 2013.

<http://www.froebelgifts.com/history.htm>

[8] *PENN Rare Book and Manuscript: Frank Lloyd Wright's Paternal Family*. Penn Library. University of Pennsylvania, Feb. 20, 2014.

<http://www.library.upenn.edu/rbm/featured/mscoll822.html>

[9] Huxtable, Ada Louise. *Frank Lloyd Wright*. New York Times, Oct. 31, 2004.

<https://www.nytimes.com/2004/10/31/books/chapters/frank-lloyd-wright.html>

[10] Burns, Ken, and Novick, Lynn. *Frank Lloyd Wright: A Film by Ken Burns and Lynn Novick DVD*. PBS Home Video, August 28, 2001.

[11] Wright, Frank Lloyd. *The Art and Craft of the Machine*, Vol. 8, No. 2 pp. 77-81, 83-85, 87-90, May, 1901.

<https://www.jstor.org/stable/pdf/25505640.pdf>

[12] Wright, Frank Lloyd. *In the Cause of Architecture*. Architectural Record, vol. XXIII, March 1908.

[13] Wright, Frank Lloyd. *In the Cause of Architecture; Second Paper*. Architectural Record, May 1914.

PATH

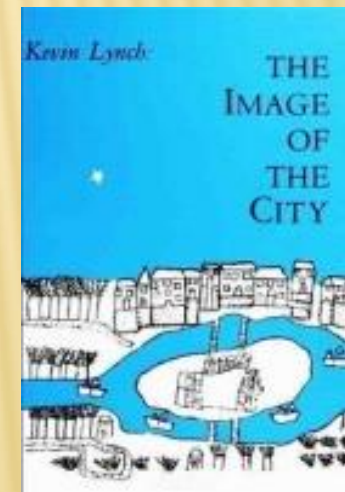
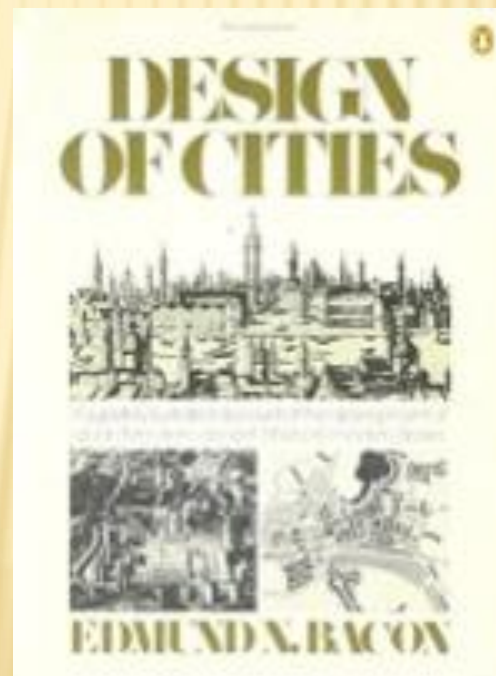
EDGE

AXIS

NODES

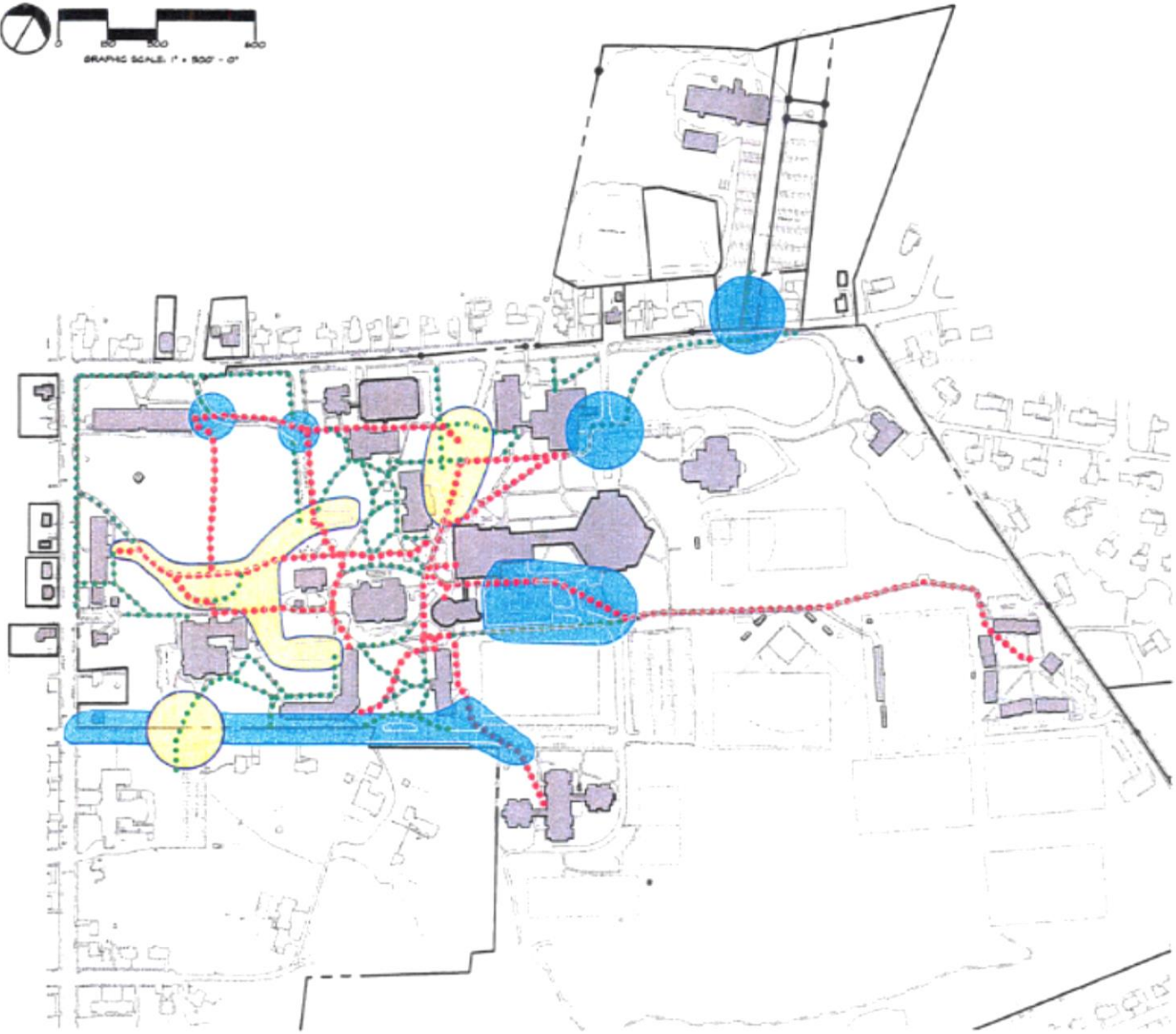
LANDMARKS

DISTRICTS (or “PRECINCTS”)



[4] Bacon, Edmond. *Design of Cities*. Thames & Hudson Ltd, 1978.

[5] Lynch, Kevin. *The Image of The City*. MIT Press, 1960.



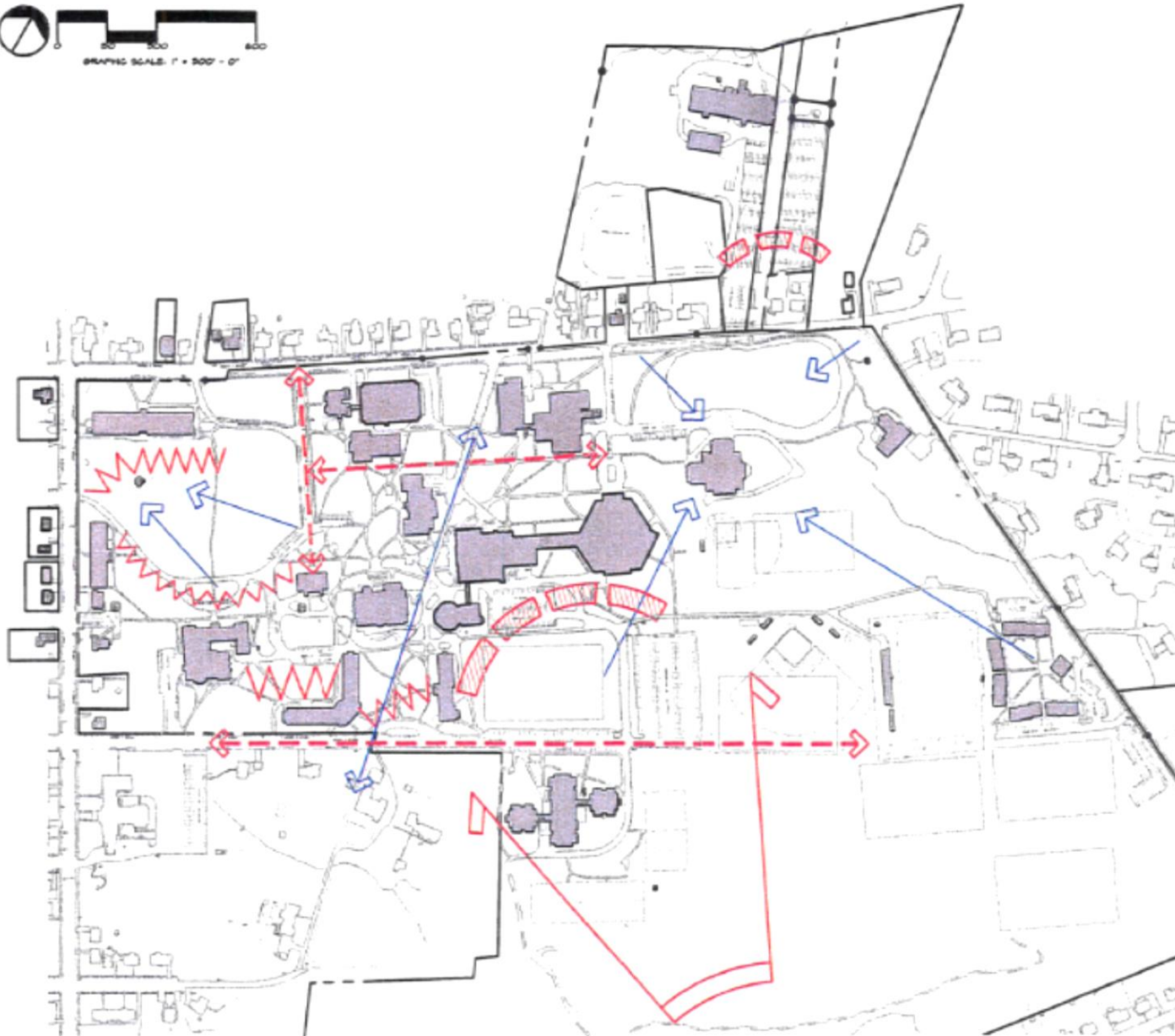
Legend

- MAJOR PEDESTRIAN PATH
- MINOR PEDESTRIAN PATH
- MAJOR VEHICULAR/PEDESTRIAN CONFLICTS
- MINOR VEHICULAR/PEDESTRIAN CONFLICTS

Existing Pedestrian Circulation Plan
EXC-05
October 14, 1999

Elizabethtown College

Derck & Edson Associates, LLP
Landscape Architects, Land Planners
32 South Broad Street, Littleton, CO 80120



Legend

- ← EXISTING VIEW
- ↔ POTENTIAL AXIS
- ▨ UNATTRACTIVE VIEW
- ⚡ DENSE TREE COVER
- ⚡ POTENTIAL VIEW

Existing Vistas and Axis Plan
EXC-03

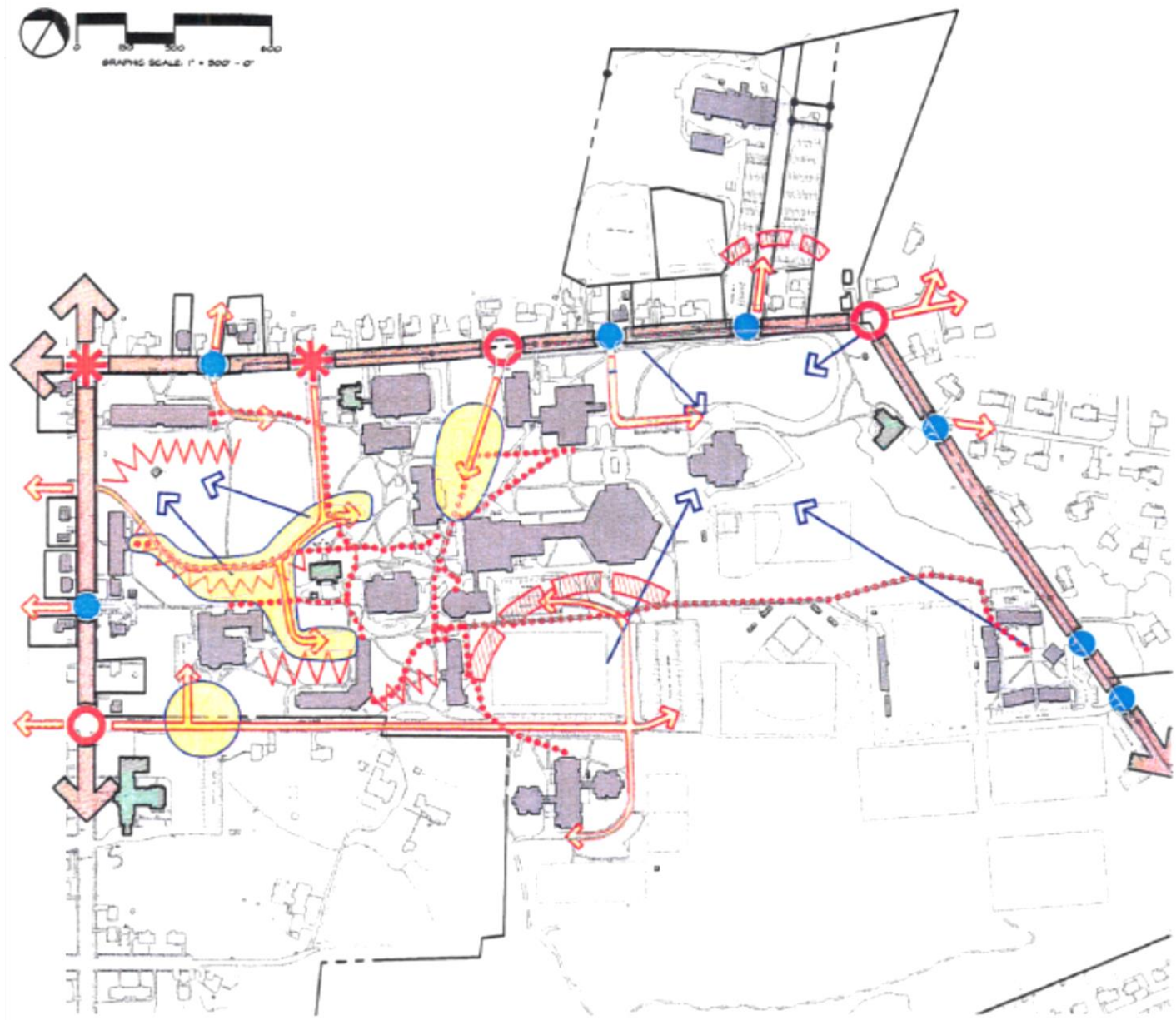
October 14, 1999

Elizabethtown
College

Derck & Edson Associates, LLP
Landscape Architects, Land Planners
23 South Broad Street, LEBANON, PA 17040

COMPOSITE of PATHS, NODES, AXIS, and VISTAS

URBAN DESIGN PRINCIPLES



Legend

- MAJOR ROAD
- MINOR ROAD
- PRIMARY VEHICULAR ENTRANCE ONTO CAMPUS
- SECONDARY VEHICULAR ENTRANCE ONTO CAMPUS
- TERTIARY VEHICULAR ENTRANCE ONTO CAMPUS
- MAJOR PEDESTRIAN PATH
- MAJOR VEHICULAR/PEDESTRIAN CONFLICTS
- EXISTING VIEW
- UNATTRACTIVE VIEW
- DENSE TREE COVER
- EXISTING HISTORIC BUILDINGS

Composite Analysis Plan
 EXC-06
 October 14, 1999
**Elizabethtown
 College**

Derck & Edson Associates, LLP
 Landscape Architects, Land Planners
 22 South Broad Street, Little, Pa 17640



- ### Legend
- EXISTING UNDERGROUND ELECTRIC LINES
 - - - EXISTING UNDERGROUND FIBEROPTIC LINES
 - EXISTING UNDERGROUND TV CABLE LINES
 - EXISTING UNDERGROUND GAS LINES
 - EXISTING SANITARY SEWER LINES
 - EXISTING STORMWATER SEWER LINES
 - EXISTING WATER LINES
 - EXISTING WETLANDS

Existing Utilities Plan
EXC-07
October 14, 1999
**Elizabethtown
College**

Derck & Edson Associates, LLP
landscape Architects, land Planners
23 South Broad Street, LEBs, PA 17640



Legend

EXISTING CAMPUS PRECINCTS

- ACADEMIC
- ADMINISTRATIVE
- SUPPORT
- ATHLETIC / RECREATIONAL
- RESIDENTIAL
- SOCIAL / CULTURAL
- CAMPUS PROPERTY

Existing Precincts Plan
EXC-02

October 14, 1999

Elizabethtown College



2018 PROJECTS

URBAN DESIGN PRINCIPLES

ART/EGR499A&B Architecture Studio I & II Semester Project 20-year projected Housing for Elizabethtown College

MEYER HALL CONFERENCE CENTER

Use remaining infrastructure in kitchen area from when building included Meyer dining hall; Also add a new honor's student center (with conference rooms and a design studio) on northwest corner of first floor. Add an art gallery and a stage for plays and live music. Include LEED criteria.

Team: Initial Building Analysis including many photo's of existing building conditions; especially those that need the most attention. Discuss improved connectivity between existing spaces.

Brendan: Revit drawings (Including natural and man-made lighting)

Tommy & Fan: Analyze architecture of comparable development at other colleges, and help with drawings.

Team: Create a "prospectus" to give to potential investors or donors.

GRADUATE STUDENT HOUSING

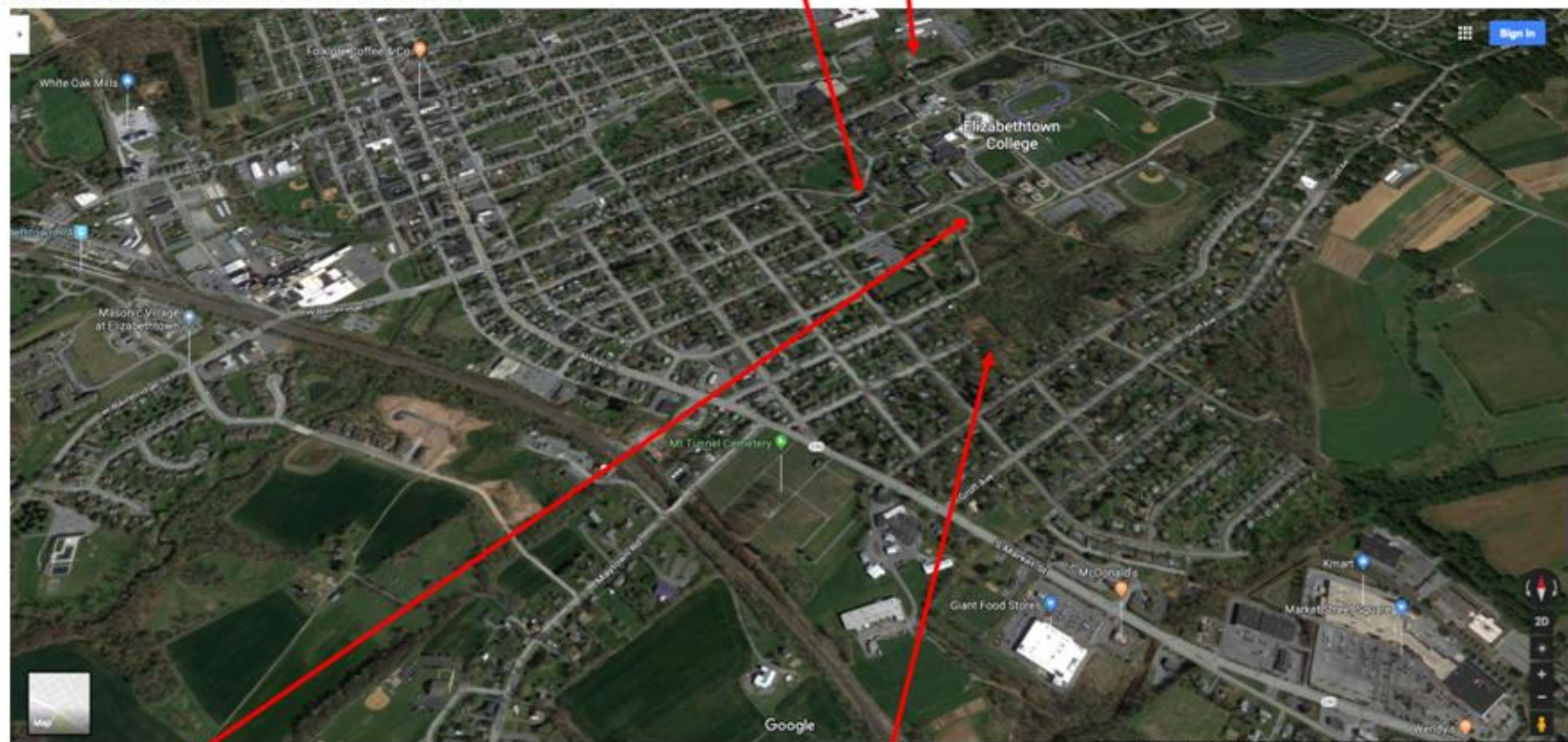
Across College Avenue from Masters Center. (behind the small houses owned by the College); Include a daycare center, and several SDLC's (Student Directed Learning Centers) for STEM, the Arts, and Architecture. Including a studio space. Include LEED criteria.

Team: Initial site analysis including photo's and analysis of car and pedestrian traffic, landscaping, paths (including lighting). Create a topographical model in Revit or using topographical maps pasted on foam board. Reference College Comprehensive plan.

Haley & Madison: Revit drawings (Including natural and man-made lighting)

Abby: Collect data on architecture of comparable developments at other colleges; and help with Revit drawings

Team: Create a "prospectus" to give to potential investors or donors.



CEDAR STREET HOUSING

Four-person units including commons with laundry, kitchen, and gathering space. Include an SDLC (Student Directed Learning Center) for the Arts with a studio space. Include LEED criteria.

Team: Initial site analysis including photo's and analysis of car & pedestrian traffic, landscaping, paths (including lighting). Create a topographical model in either Revit, Minecraft, or using maps pasted on foam board. Reference College Comprehensive plan.

Grant: Revit Drawings (Including natural and man-made lighting)

Hunter: Minecraft simulation

Kyla: Collect architecture of comparable developments at other colleges

Team: Create a "prospectus" to give to potential investors or donors.

HOUSING & ARTS DEVELOPMENT AT LEMON STREET

Apartments, an international students space, an international café/restaurant, an international food store, an art gallery, and a small theatre for movies, plays, and live music. Include LEED criteria.

Joseph: Initial site analysis including photo's and analysis of car & pedestrian traffic, landscaping, and paths (including lighting). Analyze present cafés, restaurants, and food stores within walking distance of campus. Create a topographical model in Revit and/or maps on foam board. Reference College Comprehensive plan.

Joseph: Revit drawings (Including natural and man-made lighting), Tutor other students on use of Revit, Create a "prospectus" to give to potential investors or donors.

URBAN DESIGN PRINCIPLES

PATH ... more in PART 5 CIRCULATION

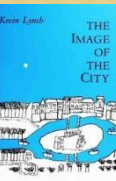
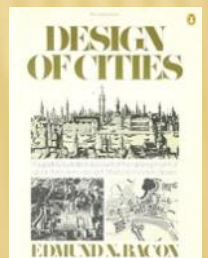
EDGE ... more in PART 5 CIRCULATION

AXIS ... more in PART 5 CIRCULATION

NODES ... more in PART 5 CIRCULATION

LANDMARKS

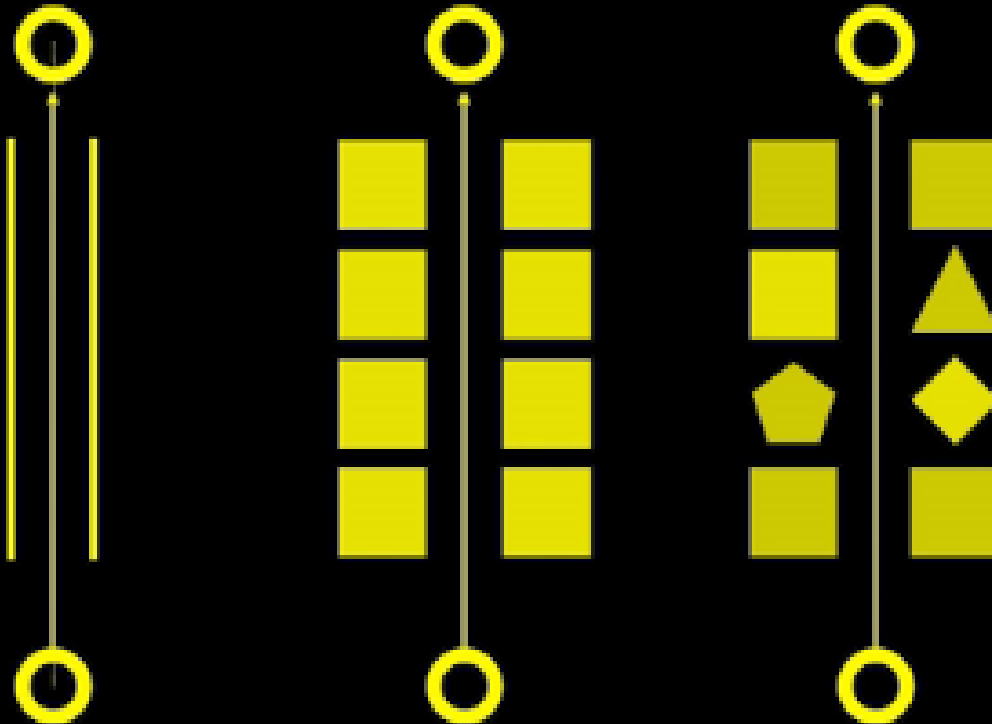
DISTRICTS (or "PRECINCTS")



**PRINCIPLES
of both
URBAN DESIGN
and
ARCHITECTURE**

AXIS

*“ INDUCES MOVEMENT and PROMOTES VIEWS along path
... REINFORCED by EDGES
along its length,
by lines on the ground plane,
or by vertical planes that define a coincident linear space”[1]*



“should be TERMINATED at ENDS by a significant form or space which send and receive its visual thrust.

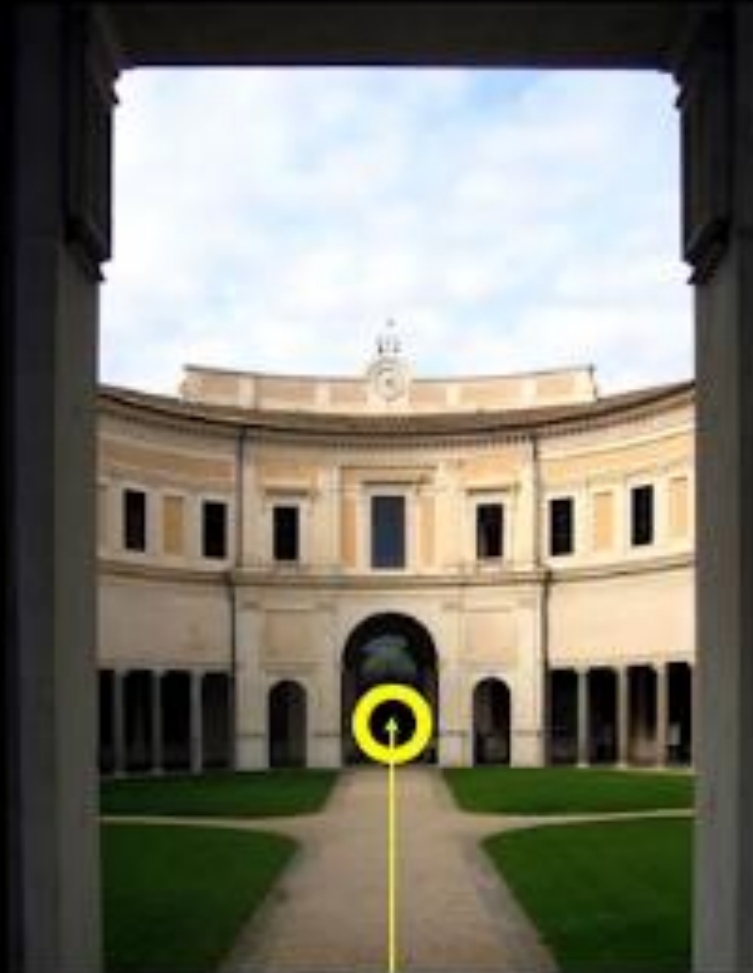
TERMINATING-ENDS of an axis can be POINTS established by vertical linear elements, or centralized building forms ...



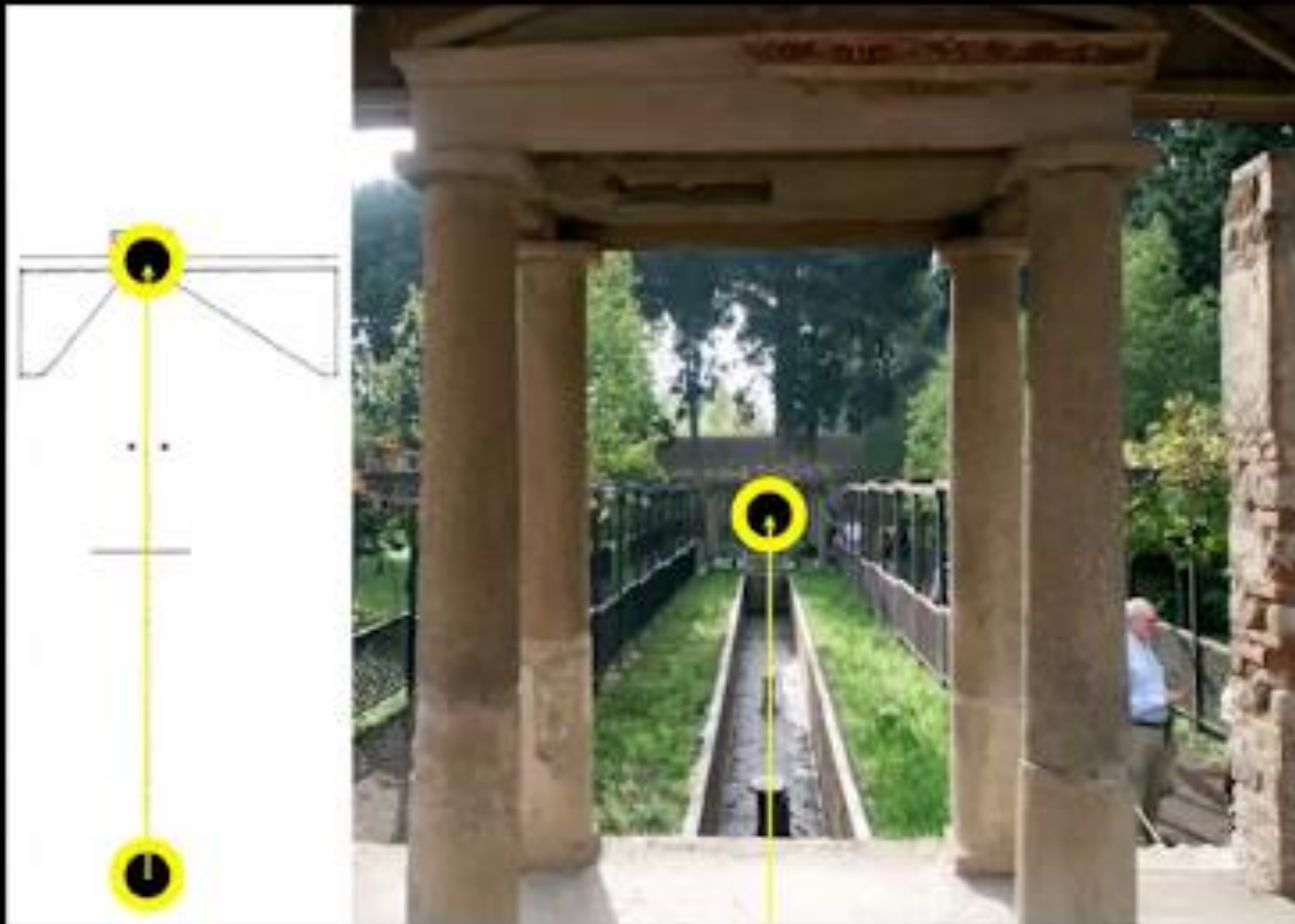
... or TERMINATING-ENDS of an axis can be VERTICAL PLANES, such as a symmetrical building facade, preceded by a forecourt or similar open space...



... or TERMINATING-ENDS of an axis can be Well-defined SPACES, generally centralized or regular in form ...



... or *TERMINATING-ENDS* of an axis can be *GATEWAYS* that open outward toward a view or vista beyond” [1]

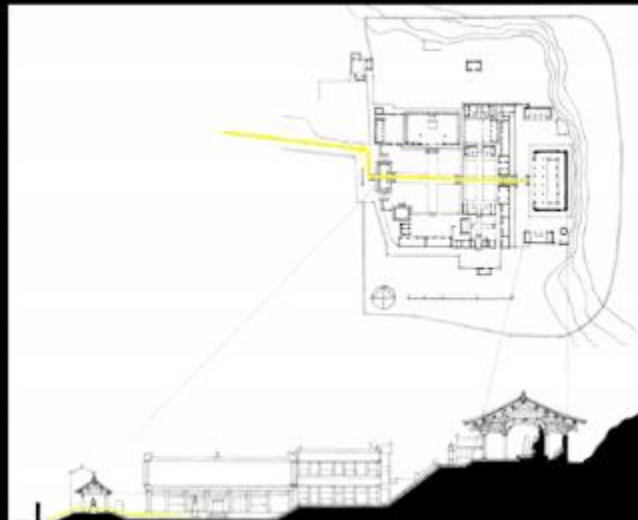


AXIS

“An AXIS can be implied by symmetrical arrangement of forms and spaces

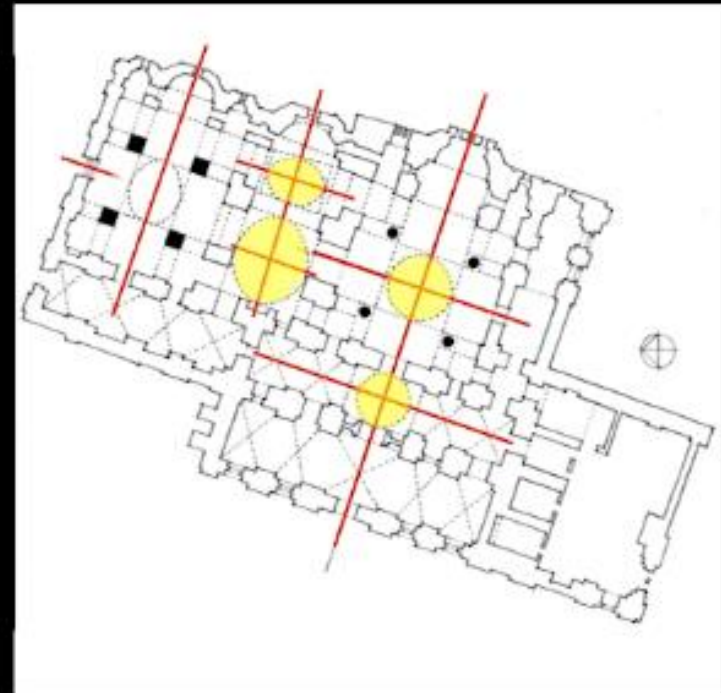
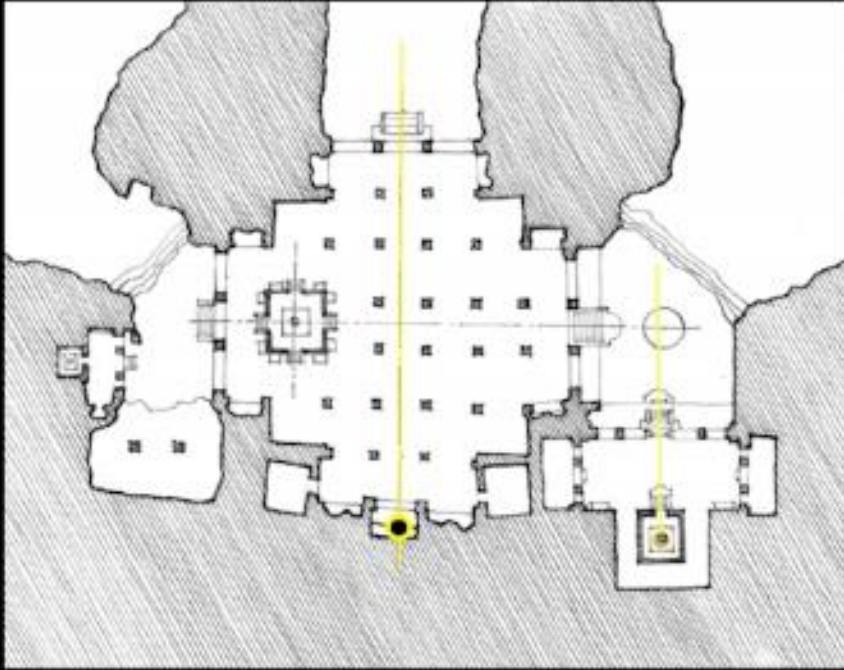


... and an AXIS survive changes in topography and asymmetries in building composition” [1]

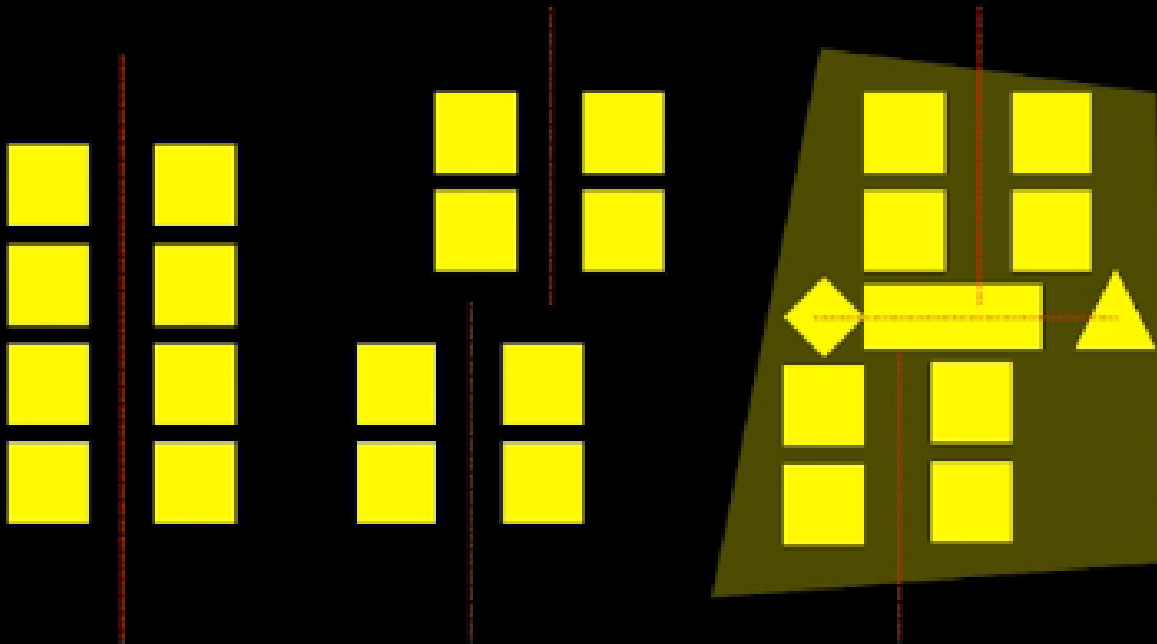


AXIS

“Multiple AXIS'S can establish relationships in an asymmetrical organization of forms and spaces” [1]

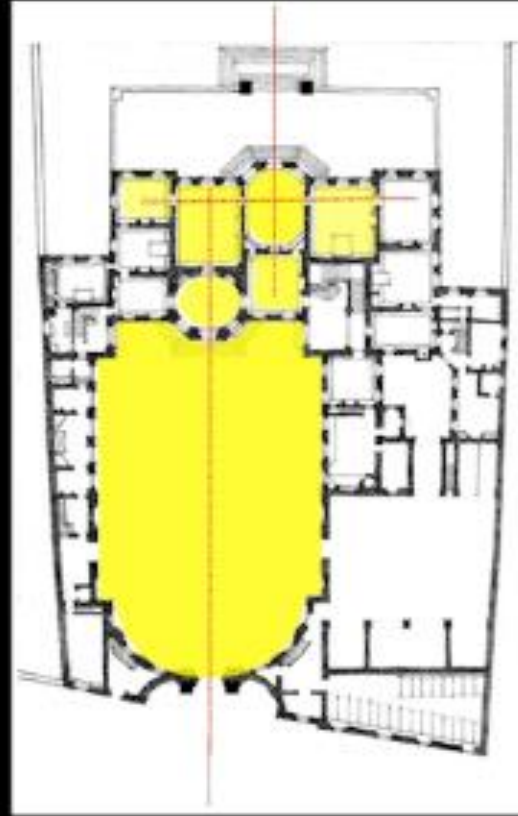
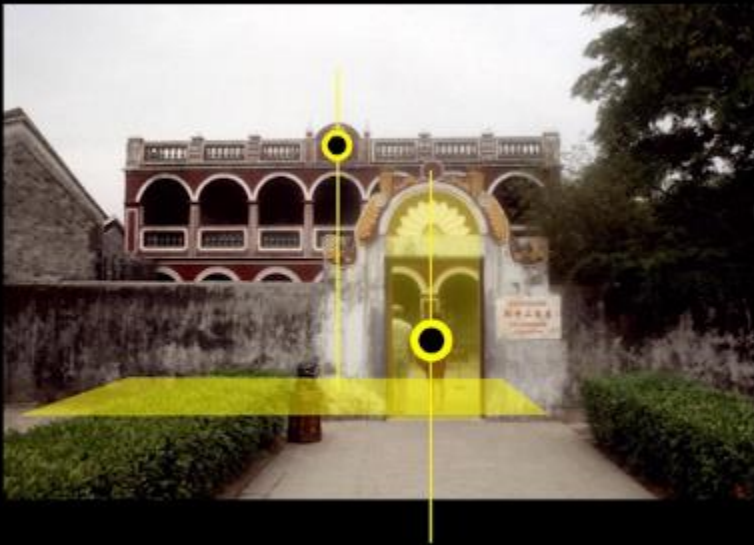


“While an entire building can be symmetrical, any symmetrical arrangement within, must RESOLVE ASYMMETRY of its PROGRAM, SITE, or CONTEXT” [1]

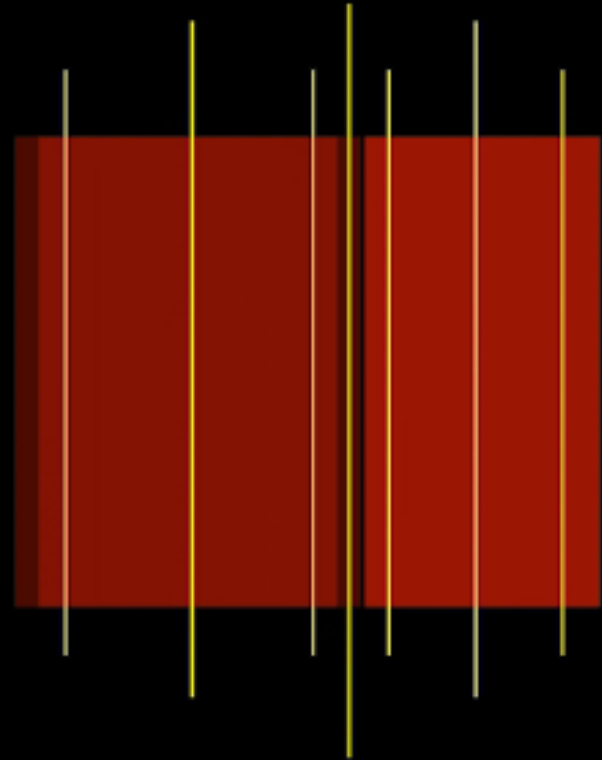
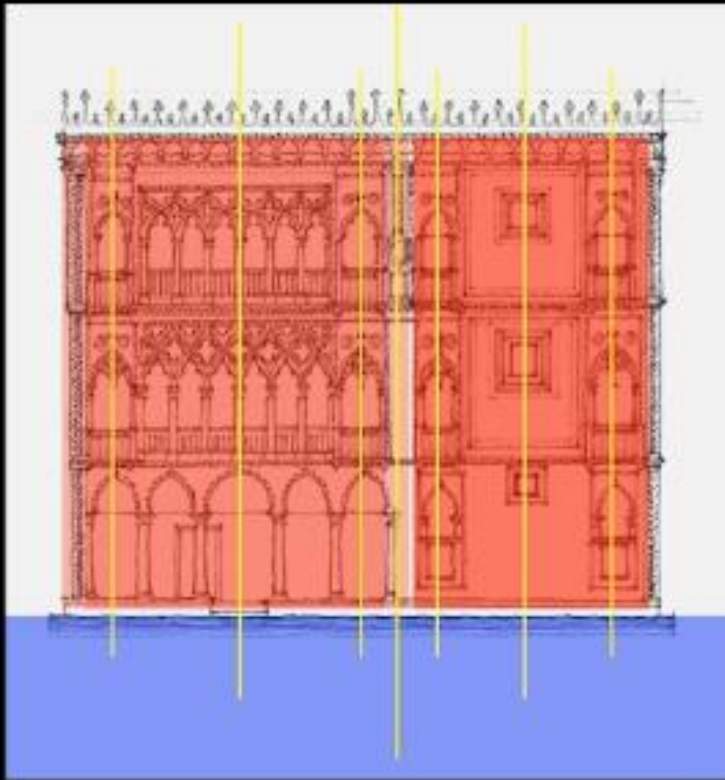


AXIS

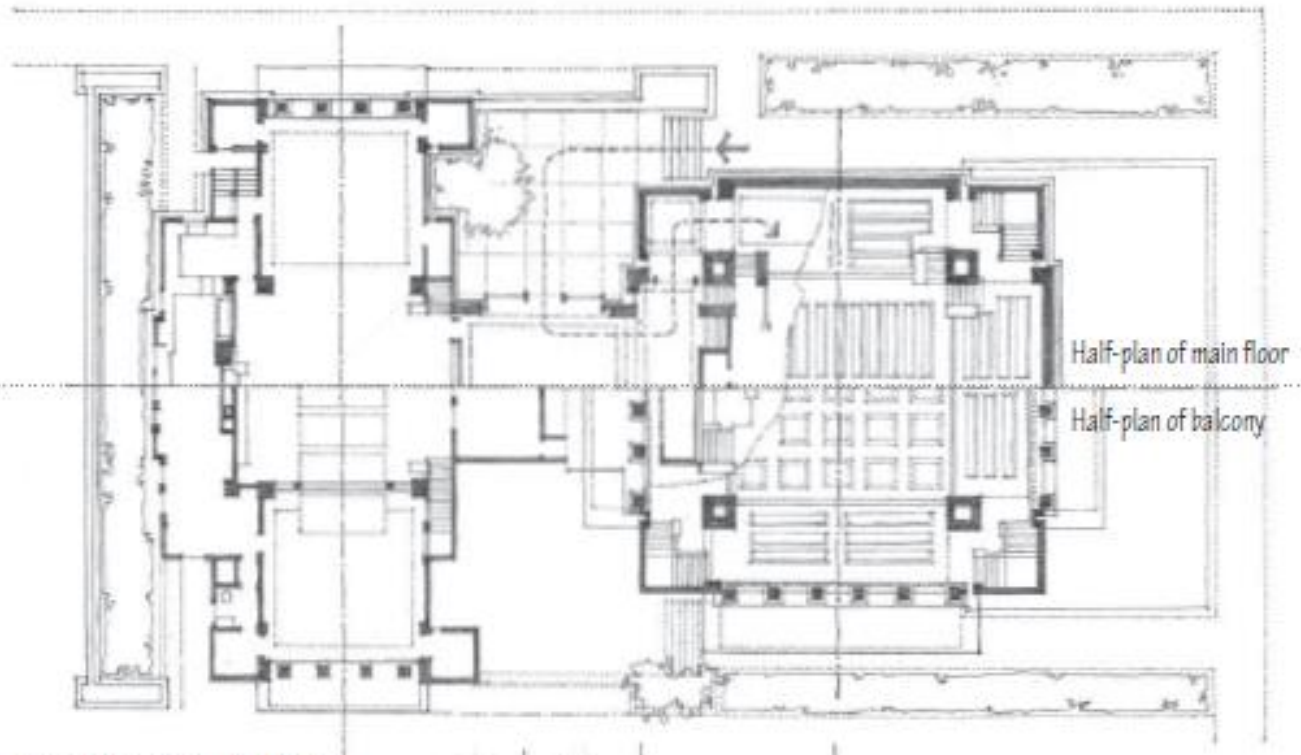
“An AXIS can be for significant or important spaces within the organization” [1]



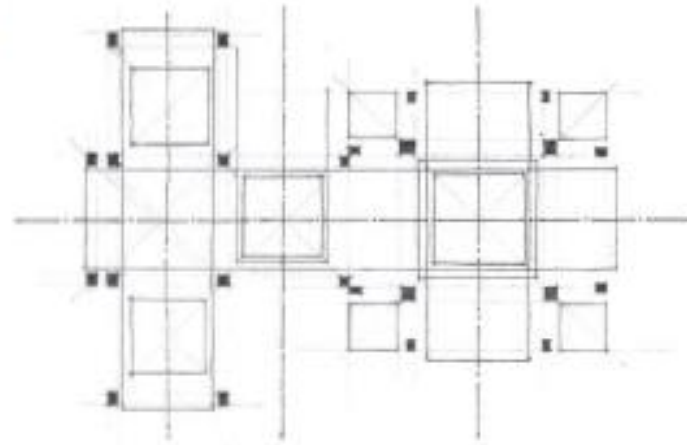
“An intervening space can aid in accommodating a lateral shift in axes and symmetrical conditions” [1]



SYMMETRY



Unity Temple, Oak Park, Illinois, 1905–1907, Frank Lloyd Wright





THE LIFE AND WORK OF FRANK LLOYD WRIGHT

PART 3:
Ages 34 (1901) to 41 (1908)
In Chicago



JT Wunderlich PhD

website: <http://users.etown.edu/w/wunderjt/> [Architecture Portfolio](#)

8/28/2018



PART 1: Frank Lloyd Wright Age 0-19 (1867-1886) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: Post Civil War recession. Industrial Revolution. Farm life. Preacher/Musician-Father, Teacher-Mother. Mother's large influential Unitarian family of Welsh farmers. Nature. Parent's divorce.

Architecture: Froebel schooling (e.g., blocks). Barns/farm-houses ([PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)). Organic Architecture roots.

PART 2: Frank Lloyd Wright Age 20-33 (1887-1900) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#).

Context: Rebuilding Chicago after the Great Fire. Wife Catherine and first five children.

Architecture: Architects Joseph Silsbee and Louis Sullivan. Oak Park. Home & Studio. "Organic Architecture" begins.

PART 3: Frank Lloyd Wright Age 34-41 (1901-1908) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#). **THIS LECTURE**

Context: First Japan trip ([PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)). Arts & Crafts movements. Six children.

Architecture: Prairie Style. Oak Park & River Forest, Unity Temple, Robie House, Larkin Building.

PART 4: Frank Lloyd Wright Age 42-47 (1909-1914) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: Secession movement. Lived in Italy ([Page](#) [MP4](#) [YouTube](#)). Built Taliesin on family farmland. Mistress murdered.

Architecture: Wasmuth Portfolio published(Germany). Taliesin. Many operable windows for health & passive cooling. Sculptures.

PART 5: Frank Lloyd Wright Age 48-62 (1915-1929) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: WWI, Roaring 20's. Short 2nd marriage. Lives 3 yrs in Japan, then California and Wisconsin. 3rd marriage (Olga).

Architecture: Tokyo Imperial Hotel. Textile Houses in California (with Mayan influences).

PART 6: Frank Lloyd Wright Age 63-78 (1930-1945) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: 1930's Great Depression. WWII. Taliesin Fellowship/school. Utopian-Ideals(communal-living) Winters in AZ.

Architecture: Broadacre City, Fallingwater, Johnson Wax Building, Taliesin-West, Hanna-Honecomb House, Usonian Homes.

PART 7: Frank Lloyd Wright Age 79-91 (1946-1958++) [PDF](#) [MP4](#) [PPTX-w/audio](#) [YouTube](#)

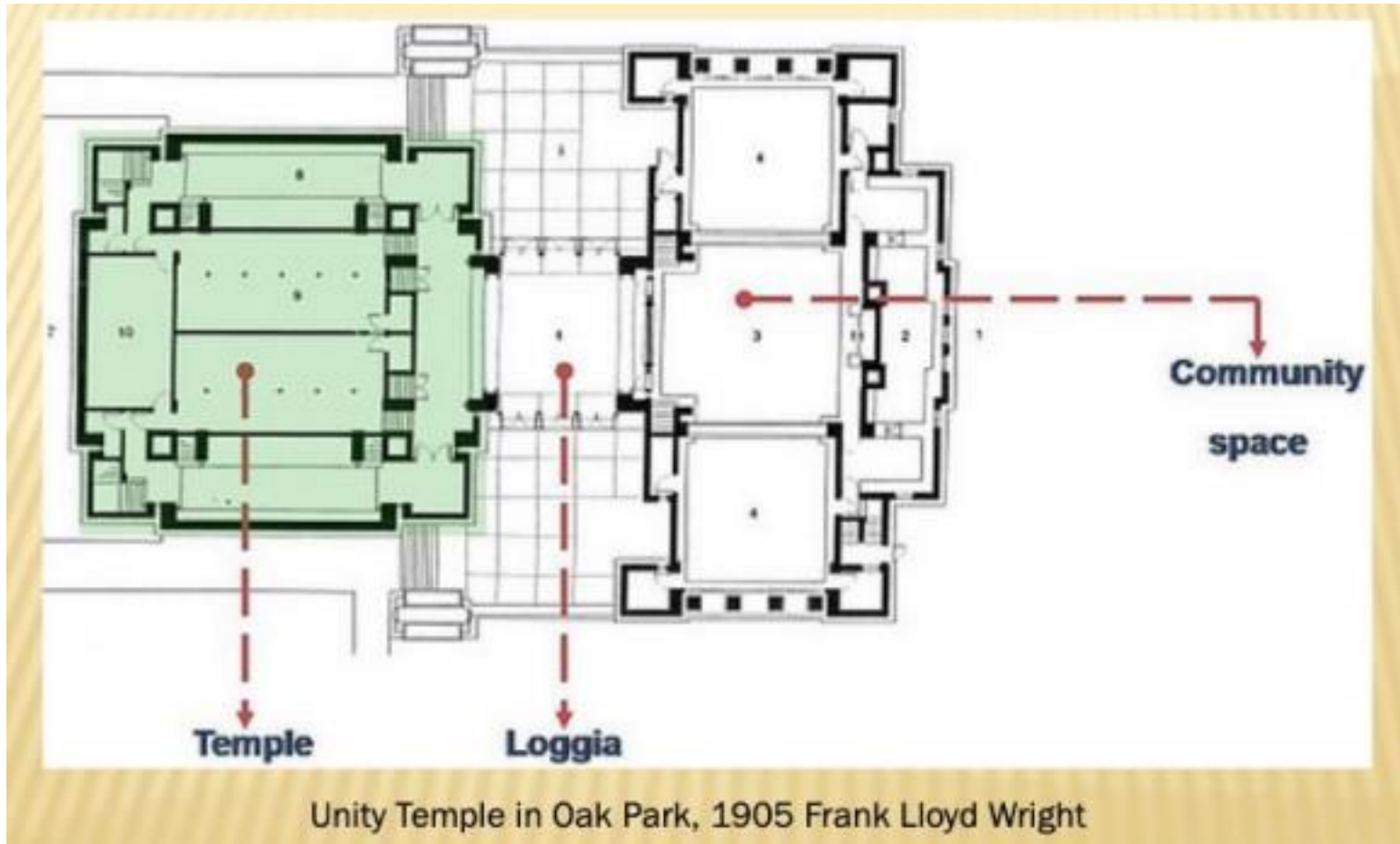
Context: Post-WWII boom. Cold War. Communal living at Taliesin. FLW dies in 1959. Fellowship/school continued at Taliesin & Taliesin-West by Olga for 27 years -- and still exists today with some very recent changes (2020)

Architecture: Price Tower, Churches/Synagogue/Auditoriums. The Guggenheim. AZ homes, Modern materials.



SYMMETRY

<http://users.etaown.edu/w/wunderjt/Architecture%20Lectures/Frank%20Lloyd%20Wright%20AGE%2034%20TO%2041.pdf>



38 YEARS OLD (1905)

[FRANK LLOYD WRIGHT TRUST 2018]

Wright stated *“Unity Temple is where you will find the first real expression of the idea that the space within the building is the reality of that building”*



Frank Lloyd Wright



Unity Temple, Oak Park IL







Frank Lloyd Wright
38 YEARS OLD
(1905)

Wunderlich
Vlog Lectures
on
YouTube & Sound



Unity Temple, Oak Park IL





Joseph Wunderlich

30 subscribers

CUSTOMIZE CHANNEL

MANAGE VIDEOS

HOME

VIDEOS

PLAYLISTS

CHANNELS

ABOUT



Created playlists

≡ SORT BY



Liked videos



VIEW FULL PLAYLIST



Family Creations

VIEW FULL PLAYLIST



Intro Hi-Tech LECTURES
(egr/cs230)

Updated 3 days ago
VIEW FULL PLAYLIST



Travel

VIEW FULL PLAYLIST



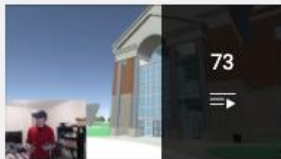
Advanced Hi-Tech LECTURES

Updated 5 days ago
VIEW FULL PLAYLIST



Hi-Tech STUDENT WORKS

Updated 5 days ago
VIEW FULL PLAYLIST



Architecture STUDENT WORKS

VIEW FULL PLAYLIST

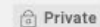


Architecture LECTURES

Updated 3 days ago
VIEW FULL PLAYLIST



Favorites



VIEW FULL PLAYLIST



SYMMETRY



Architecture LECTURES

34 videos • 496 views • Updated 3 days ago

Public 




No description 



Joseph Wunderlich

<https://www.youtube.com/playlist?list=PLK3MJsXEYEQJTnhBd-lz6zdrLrk-CLifU>

 SORT



A&E PORTFOLIO for JT Wunderlich PhD

Joseph Wunderlich



2019 LECTURE: VLog of 31 Frank Lloyd Wright Chicago sites visited, plus two FLW influenced homes

Joseph Wunderlich



2018 LECTURES: Upcoming Book on Frank Lloyd Wright's Organic Architecture, [JTW COPYRIGHT]

Joseph Wunderlich



2022 LECTURE: Architecture Theory -- PRIMARY ELEMENTS

Joseph Wunderlich



2022 LECTURE: Architecture Theory -- FORM

Joseph Wunderlich



2022 LECTURE: Architecture Theory FORM & SPACE II

Joseph Wunderlich



2020 LECTURE: Participants and Standards in Architecture

Joseph Wunderlich



2018 LECTURE: Part 1, Frank Lloyd Wright, Ages 0-19(1867-86) [JTW COPYRIGHT]

Joseph Wunderlich



2019 LECTURE: VLog of 31 Frank Lloyd Wright Chicago sites visited, plus two FLW influenced homes

397 views · Jul 10, 2019

👍 5 🗑️ DISLIKE ➦ SHARE ⬇️ DOWNLOAD ⚙️ SAVE ...



Joseph Wunderlich
30 subscribers

ANALYTICS

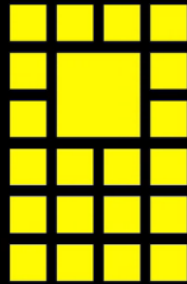
EDIT VIDEO

Created by Joseph Thomas Wunderlich III PhD and Joseph John Wunderlich IV (Portfolio)

HIERARCHY

“Hierarchy reflects degree of importance, and FUNCTIONAL, FORMAL, and SYMBOLIC ROLES in the organization

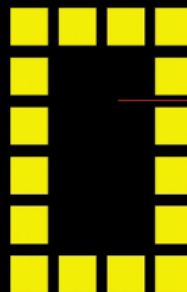
... to be seen as important, it must be made uniquely visible by:



1. Size

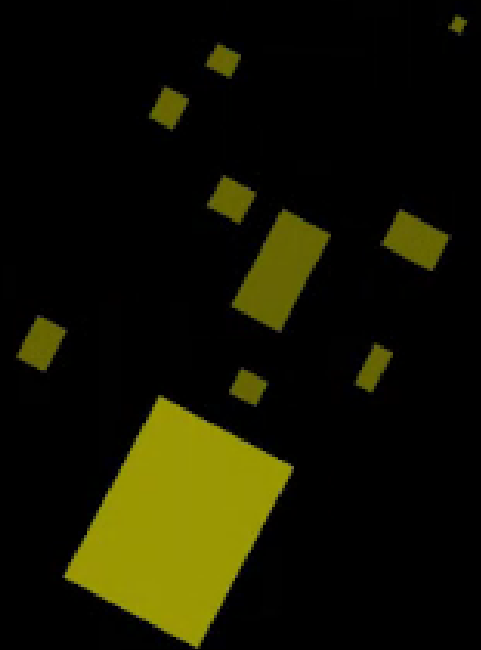
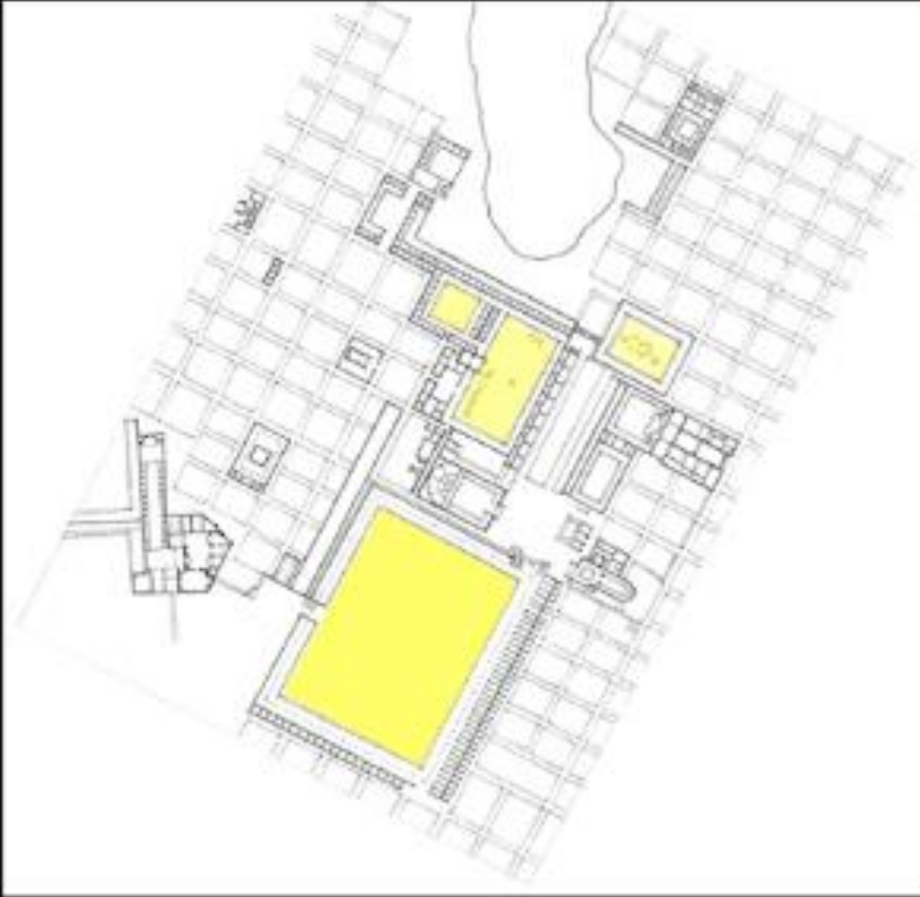


2. Shape, orientation, or surrounding space

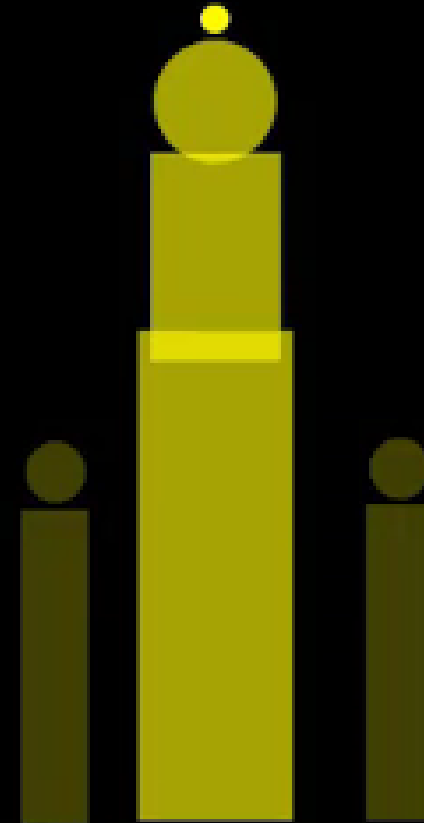
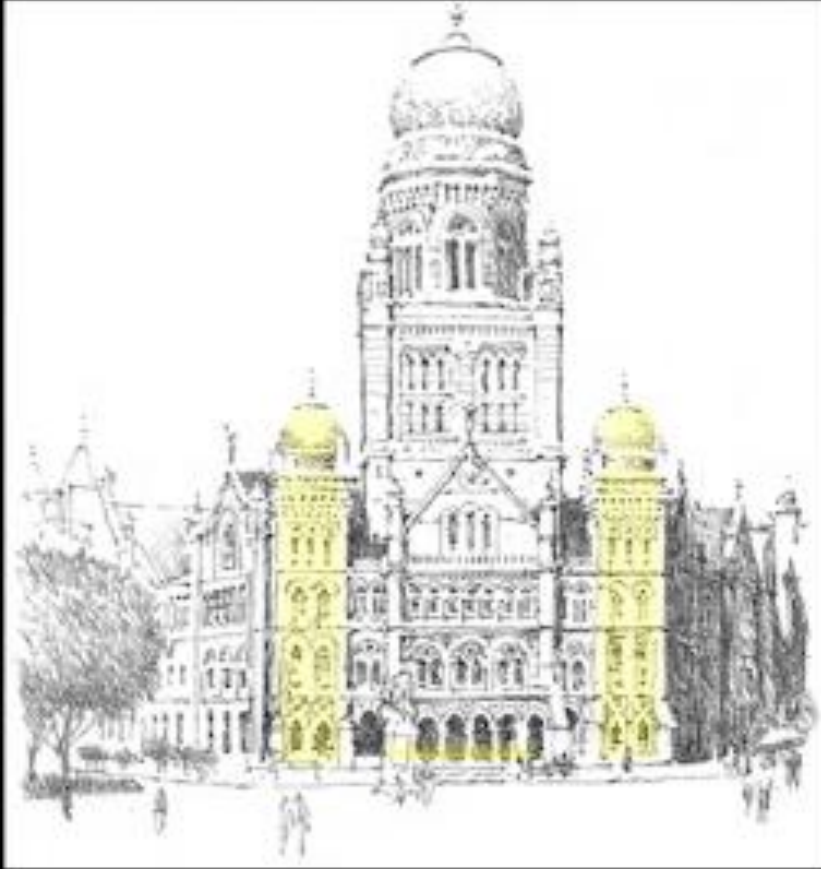


3. Strategic Location” [1]

HIERARCHY



HIERARCHY



HIERARCHY



Florence trips 2008, 2014

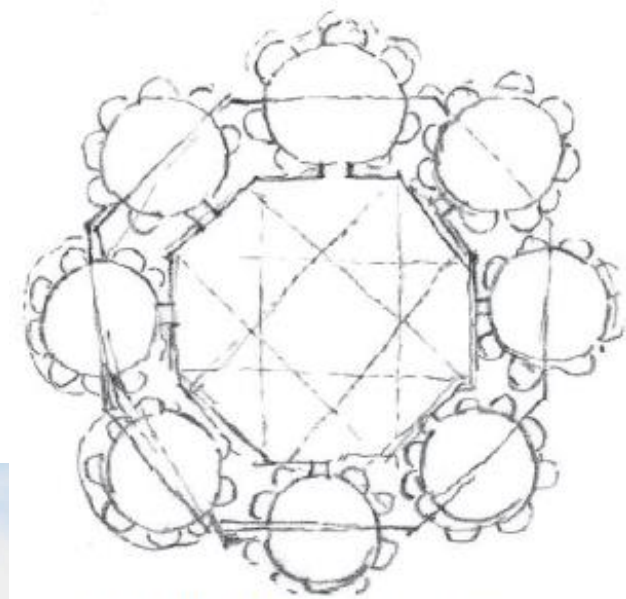
HIERARCHY

View of Florence illustrating the dominance of the cathedral over the urban landscape

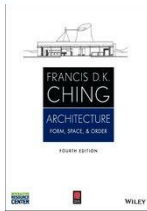


HIERARCHY

Venice trips 2008, 2011, 2014, 2017

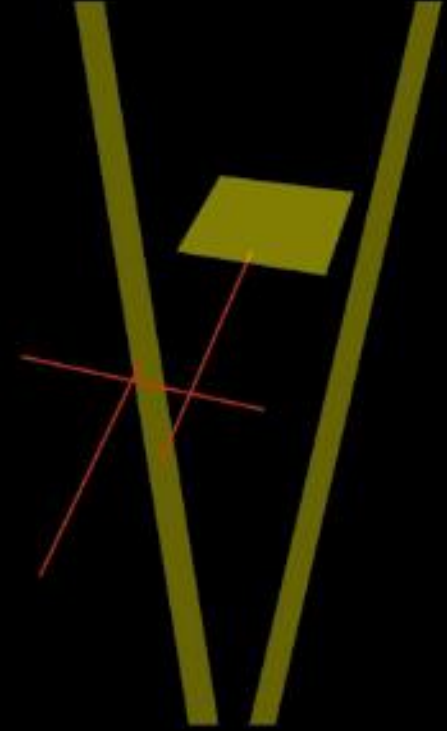
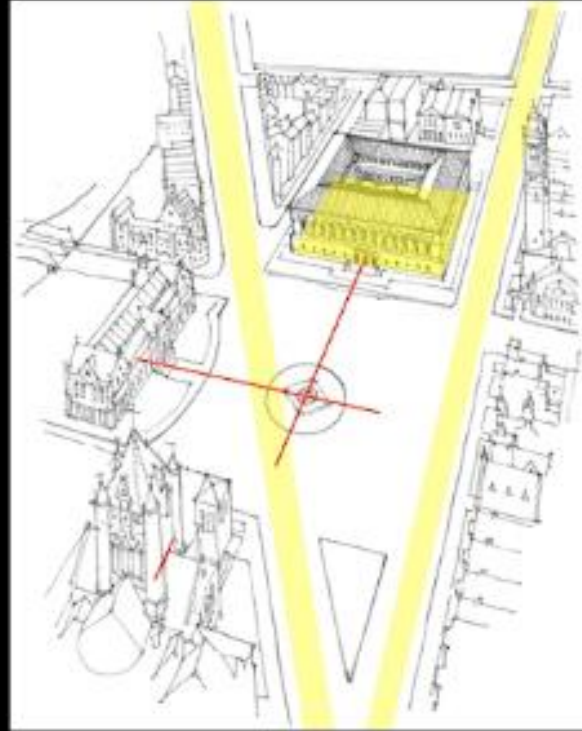
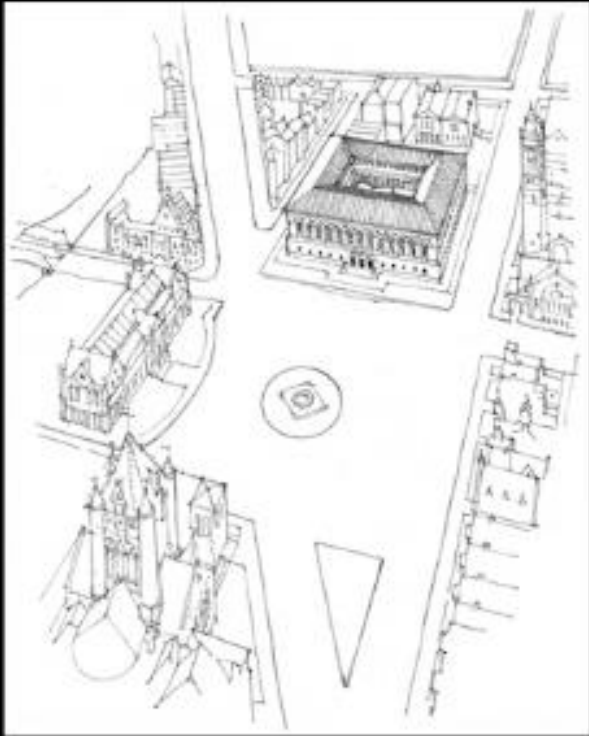


Plan of an Ideal Church, c. 1490, Leonardo da Vinci



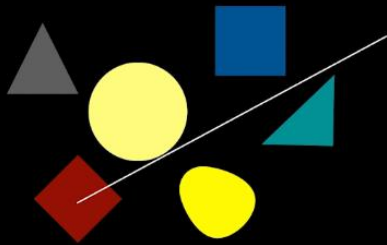
St. Maria Della Salute,
Venice, Italy, 1631-1682

HIERARCHY

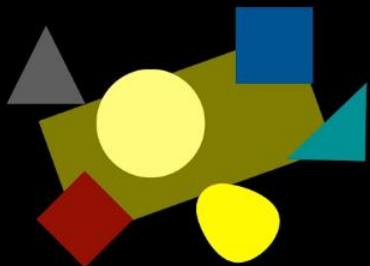


DATUM

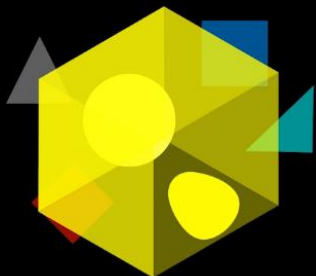
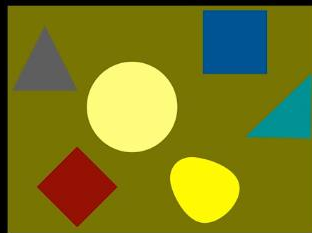
“A *DATUM* is a *LINE*, *PLANE*, or *VOLUME*, to which other elements in a composition *RELATE*”



... A *LINE* must have visual continuity to cut through or bypass the elements being organized



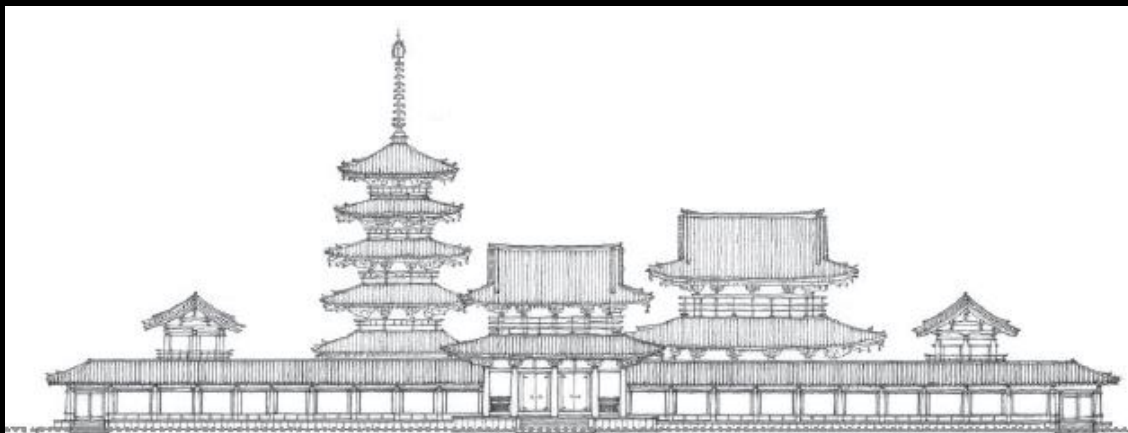
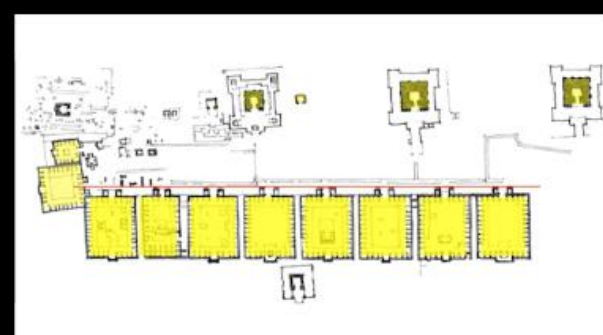
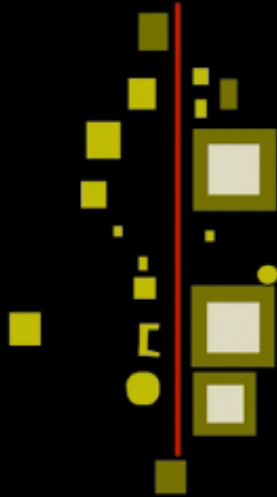
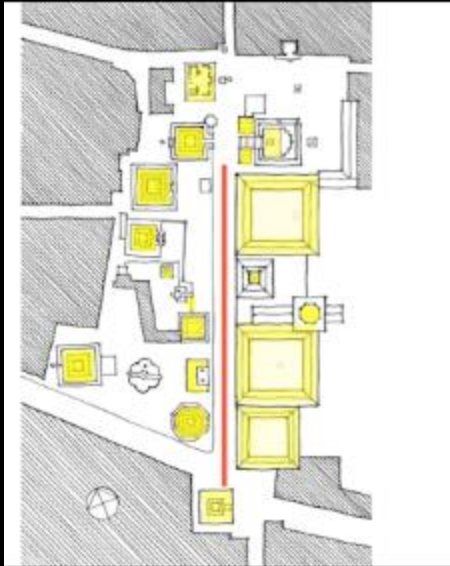
... A *PLANE* can gather elements beneath it be an encompassing background to frame them



... A *VOLUME* can collect elements within, or organize them along its perimeter” [1]

DATUM

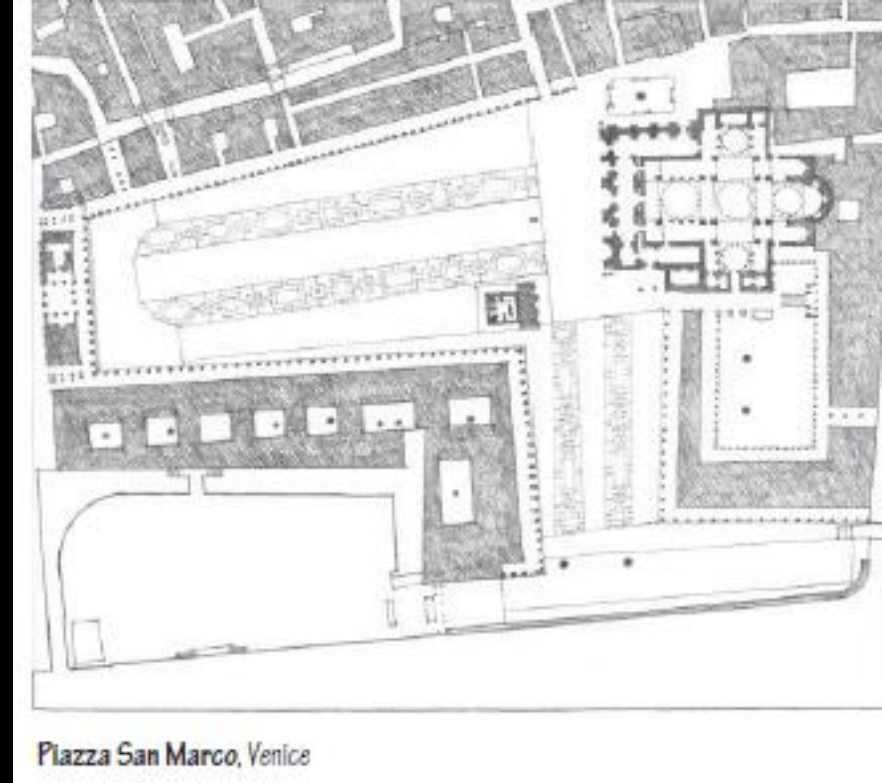
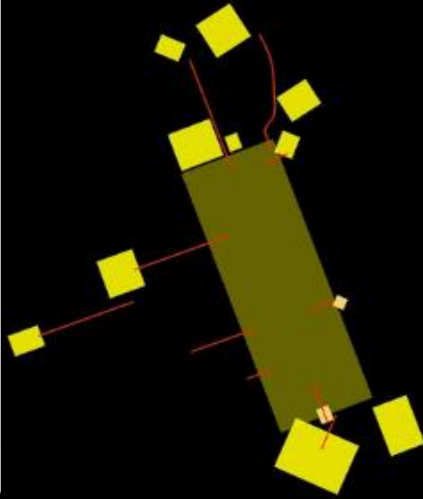
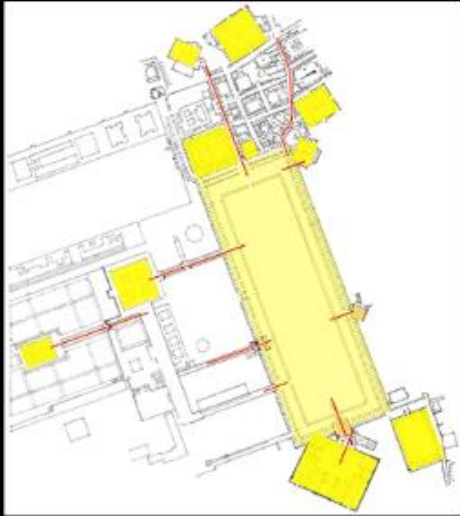
“A LINE can cut through or form a common edge” [1]



West Precinct, Horyu-ji Temple, Nara Prefecture, Japan, A.D. 607-746

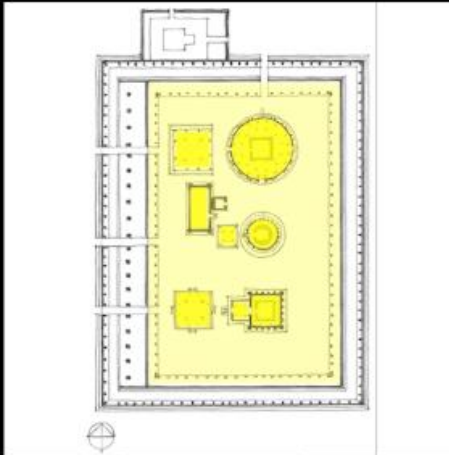
DATUM

"A PLANE can gather elements



Piazza San Marco, Venice

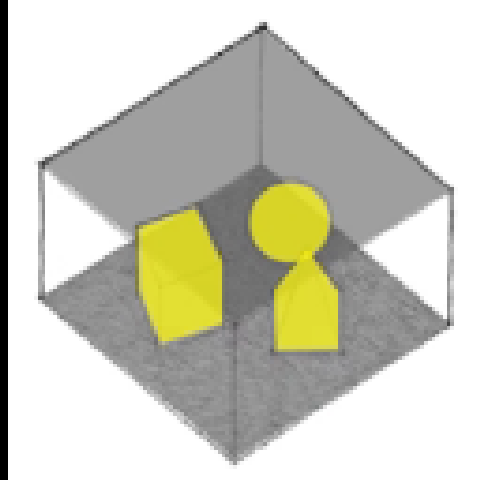
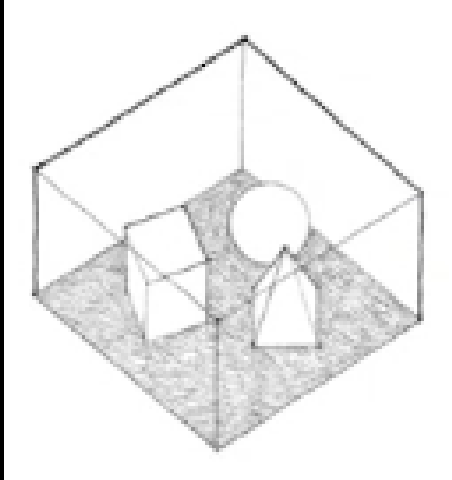
... or be an encompassing background" [1]



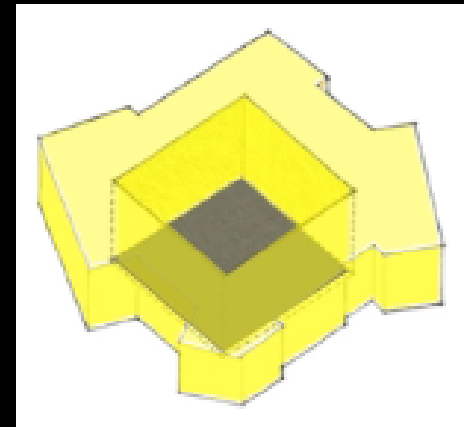
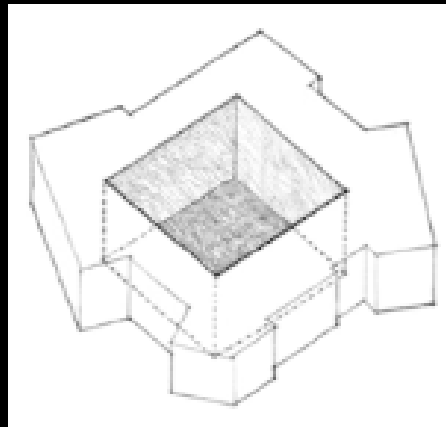
Venice

DATUM

“A VOLUME can collect elements within its boundaries



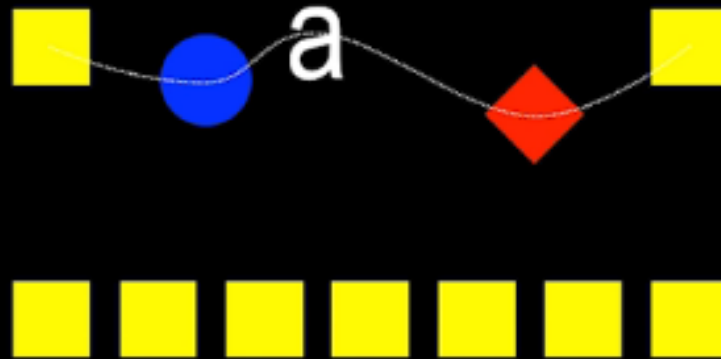
... or organize them along its perimeter” [1]



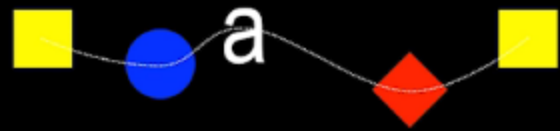
RYTHM

“a patterned recurrence of elements or motifs at regular or irregular intervals.

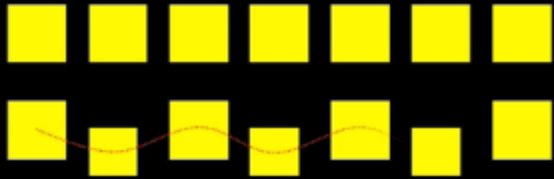
The movement may be of OUR EYES as we follow elements in a composition, or of OUR BODIES as we advance through spaces” [1]



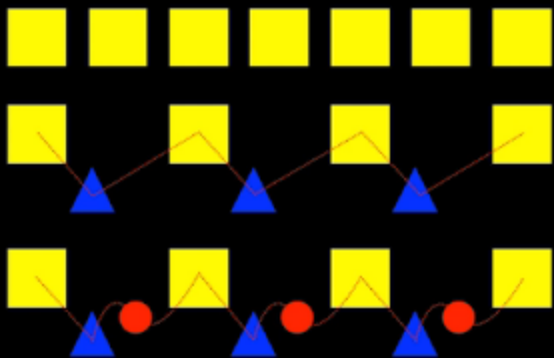
RHYTHM



“As in MUSIC, a rhythmic pattern may be *LEGATO* (smoothly connected), *CONTINUOUS*, and *FLOWING*



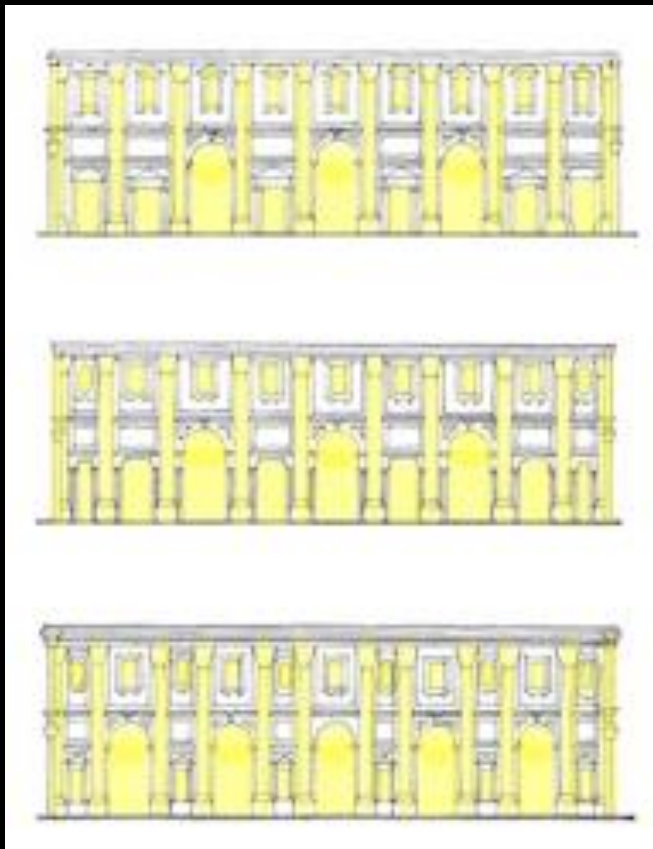
...or *STACCATO* and *ABRUPT* in *PACE* or *CADENCE*



... they provide continuity and lead us to anticipate what comes next.” [1]

RHYTHM

“Rhythmic patterns created by POINTS OF EMPHASIS or exceptional INTERVALS. These ACCENTS or BEATS differentiate between major and minor themes” [1]



RYTHM

*“Rhythmic patterns ... POINTS OF EMPHASIS or INTERVALS.
ACCENTS or BEATS differentiate” [1]*



THE LIFE AND WORK OF FRANK LLOYD WRIGHT

PART 1:
Birth to Age 19 (1867-1886)
Mostly in Wisconsin, but also New England

©

JT Wunderlich PhD

website: <http://users.etoyn.edu/w/wunderjt/> [Architecture Portfolio](#)

8/28/2018



RYTHM

“Rhythmic patterns ... POINTS OF EMPHASIS or INTERVALS.
ACCENTS or BEATS differentiate” [1]

FATHER: WILLIAM CAREY WRIGHT

[BURNS 2001, FIND GRAVE 2018, HUXTABLE 2004]

- Preacher, Lawyer, Superintendent of Schools,
→ Musician & Composer (teacher and author)

- Colgate University B.A. and M.A.

- First wife was his music student
They had five children, three lived to adulthood

- After her death, he was a preacher when he met
his second wife **Anna Lloyd in Wisconsin**

- ○ Frank's father's love of **music influenced Frank's architecture** – Frank would say
“Architecture is like composing a symphony, you arrange and build, plot and plan, in very much the same way.”

- ○ Frank often specified a piano in his large spaces, and required students at Taliesin
Architecture Fellowship/School/Studio to learn music



RYTHM

“REPETITIVE elements ... WINDOWS and DOORS puncture surfaces to allow LIGHT, AIR, VIEWS, and PEOPLE to enter” [1]



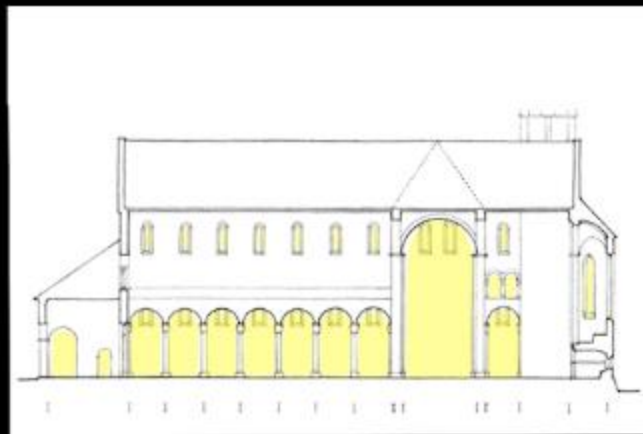
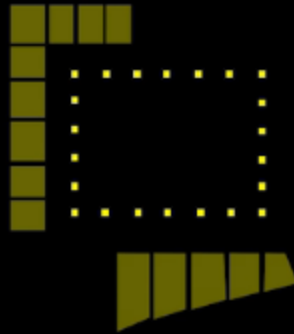
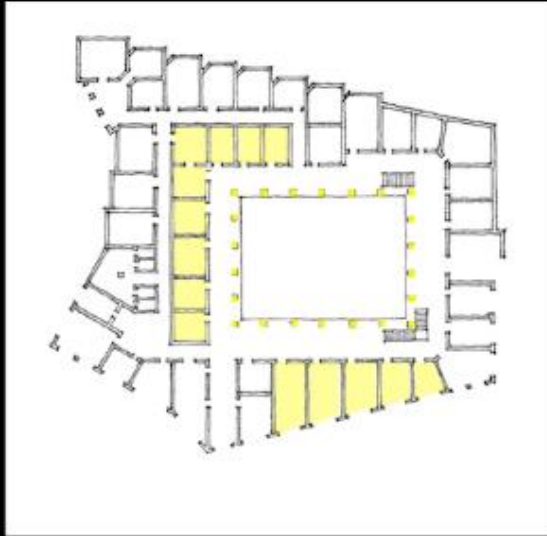
RYTHM

“BEAMS and COLUMNS repeat to form REPETITIVE STRUCTURAL BAYS and MODULES of space” [1]



RYTHM

“Spaces recur for REPETITIVE FUNCTIONAL REQUIREMENTS in the building program” [1]

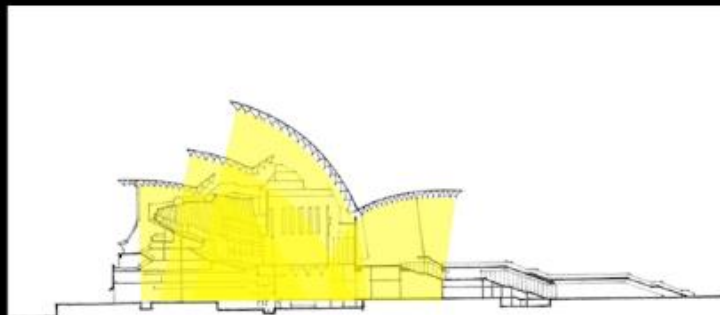
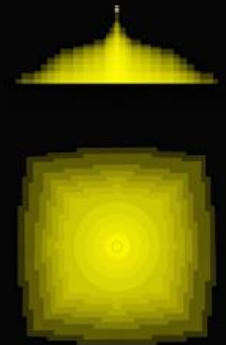
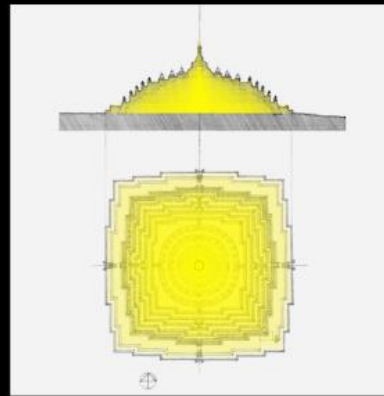
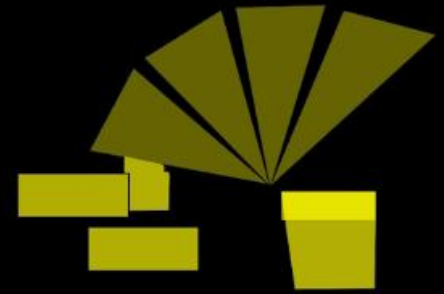
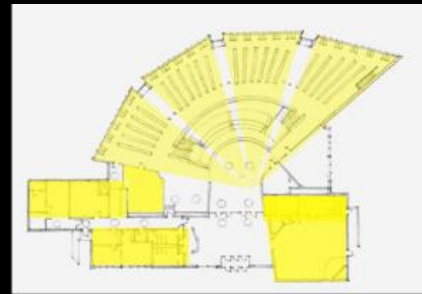


“REVERBERATION creates a sensed order of shaped elements hierarchically graded in size

... progressive reverberating patterns of forms and spaces can be organized in the following ways:

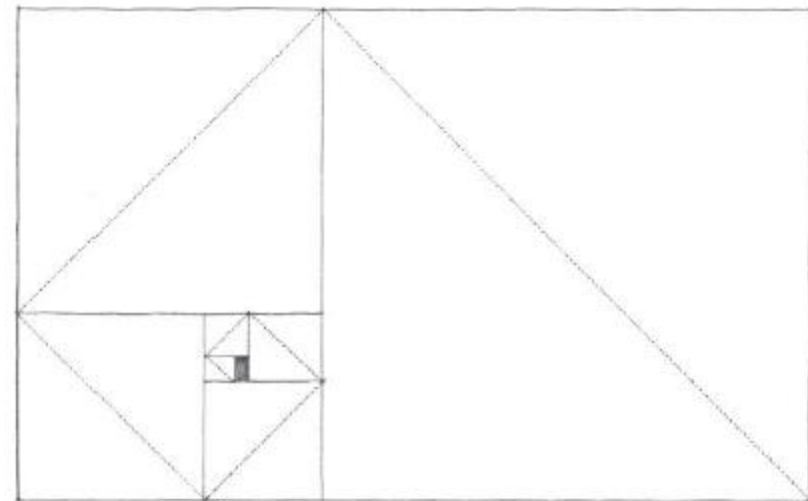
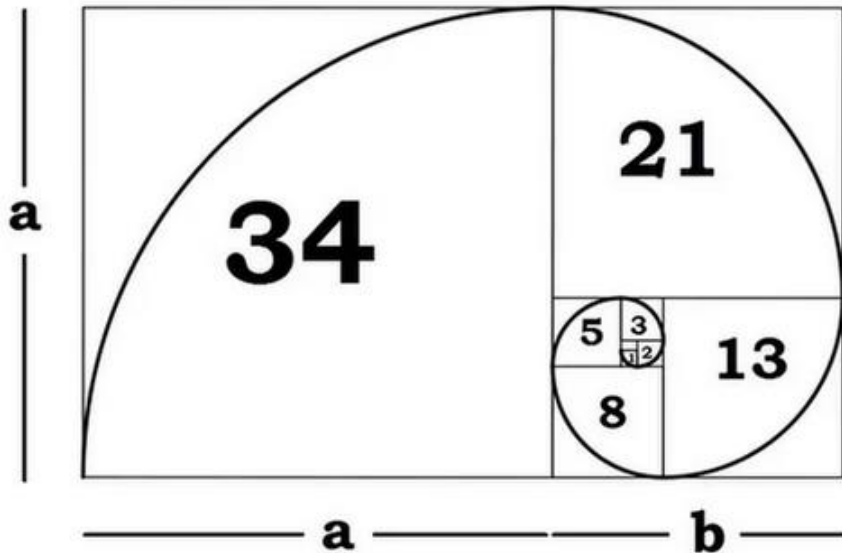
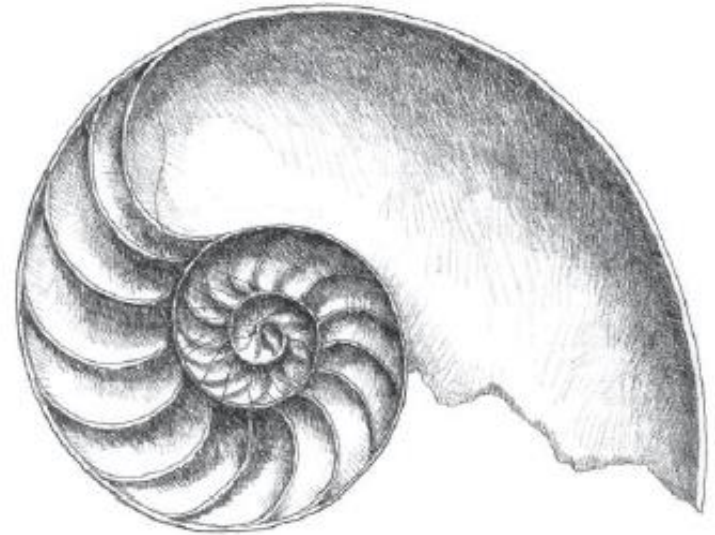
RYTHM

1) Radial or concentric ...



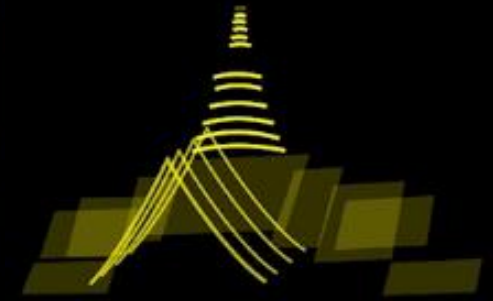
RYTHM

- 1) Radial or concentric ...
Golden Section/ Golden Ratio:



RYTHM

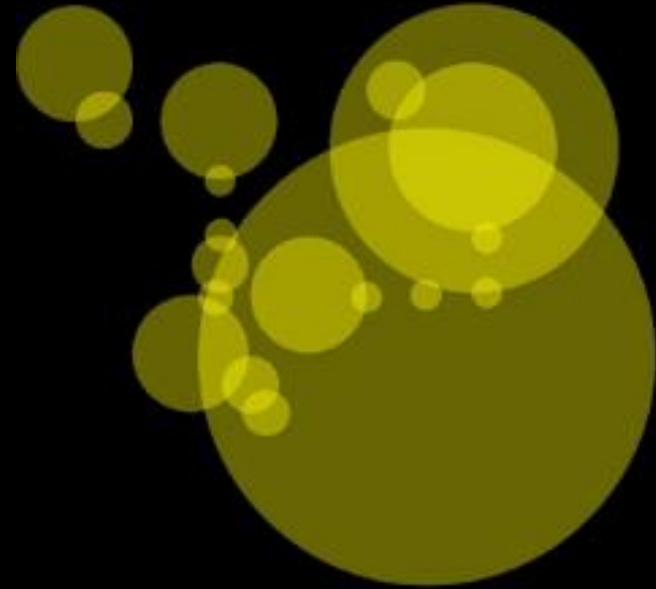
2) Sequentially ...



Narita, Tokyo, Osaka, KYOTO, 2013

RHYTHM

3) *RANDOMLY* but related by proximity as well as similarity of form” [1]



RYTHM

Saint Peters Village Pennsylvania 2019



Rhythm created by connecting points in space



CONTRAST

“Horizontal vs. vertical



... light and airy vs. heavy and grounded

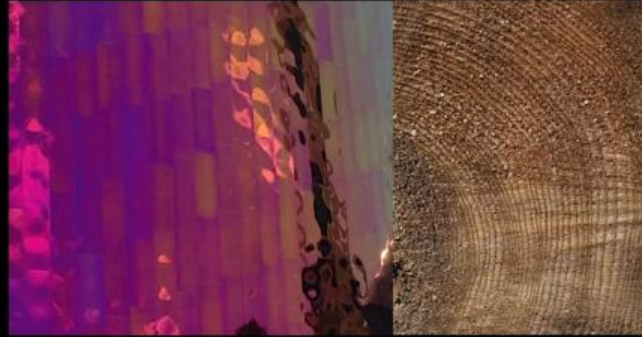


... fine and polished vs. rough or coarse



CONTRAST

... smooth and shiny vs. textured or grainy



... freeform and flowing vs. geometric

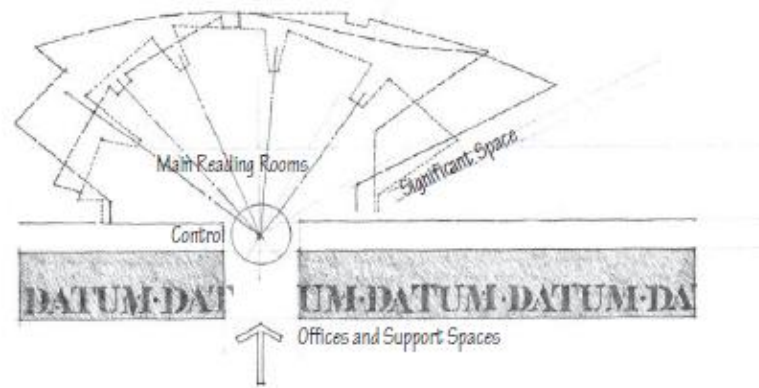


... organic and natural vs. synthetic” [1]

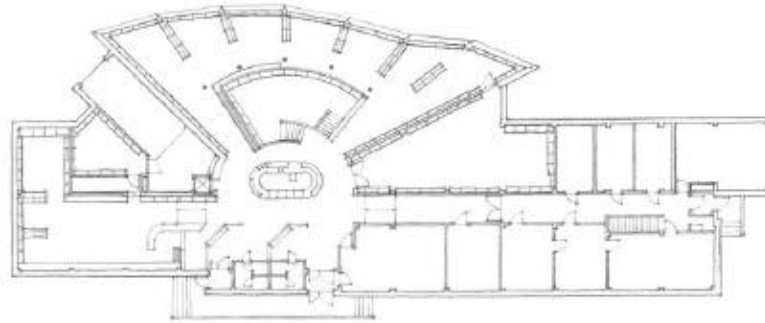


TRANSFORMATION

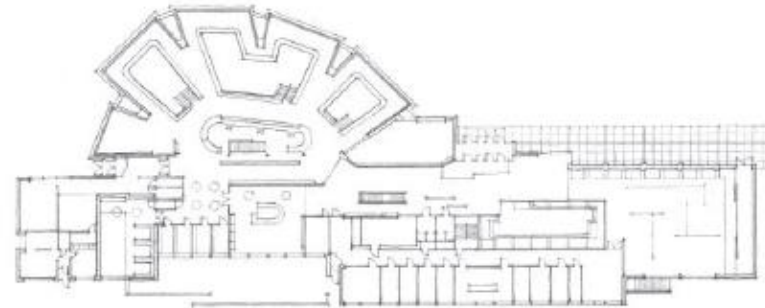
Scheme for 3 libraries by Alvar Aalto



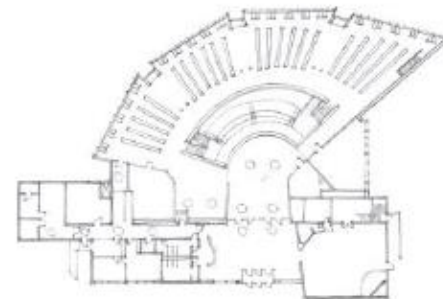
Seinäjoki Public Library, Seinäjoki, Finland,
1963-1965



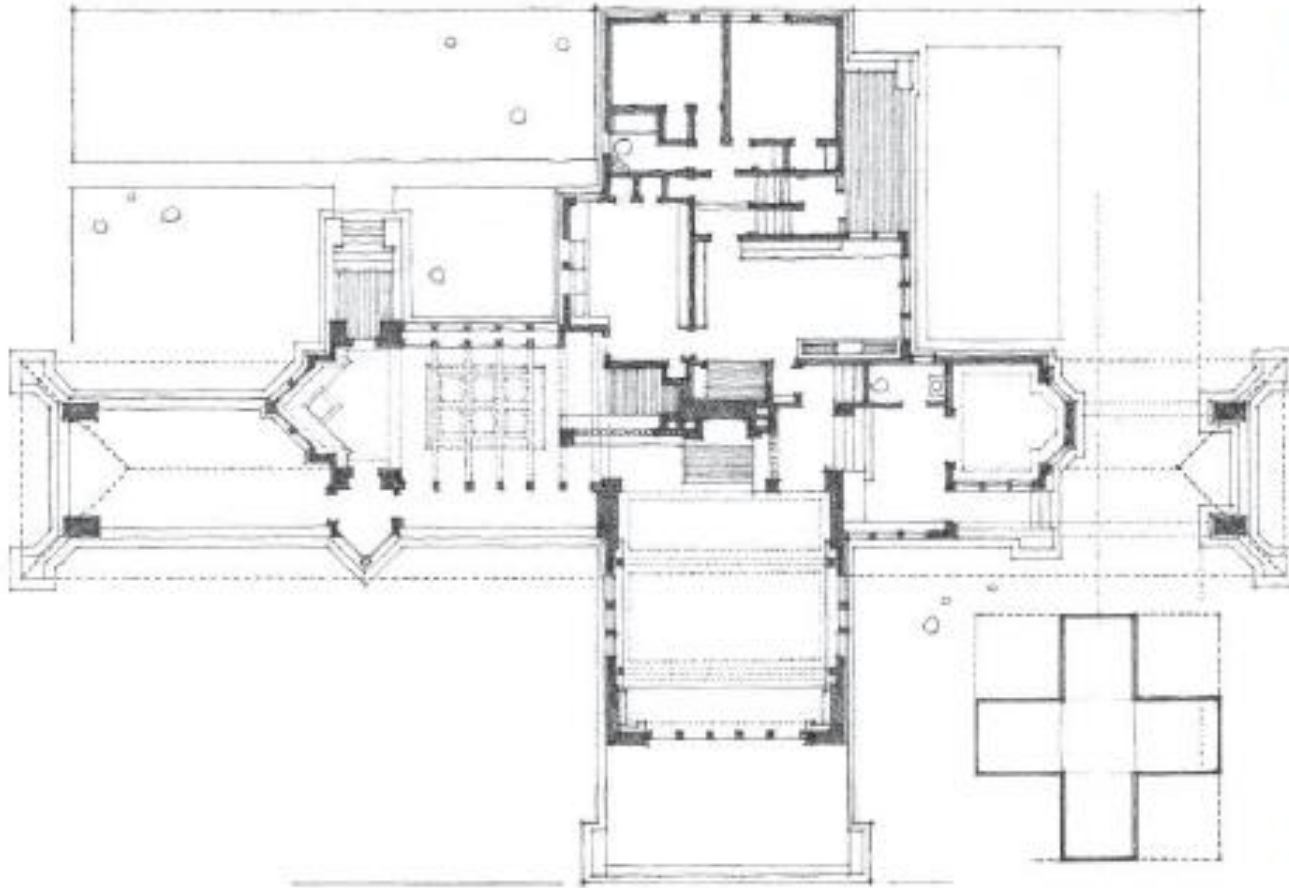
Rovaniemi City Library, Rovaniemi, Finland,
1963-1968



Library of Mount Angel, Benedictine College,
Mount Angel, Oregon, 1965-1970



TRANSFORMATION



Ward Willits House, Highland Park,
Illinois, 1902

Transformation of a **Cruciform Plan**
Organization by Frank Lloyd Wright



THE LIFE AND WORK OF FRANK LLOYD WRIGHT

PART 2:
Ages 20 to 33 (1887-1900)
In Chicago



JT Wunderlich PhD

website: <http://users.etown.edu/w/wunderjt/> [Architecture Portfolio](#)

8/28/2018



TRANSFORMATION

<http://users.eto.edu/w/wunderjt/Architecture%20Lectures/Frank%20Lloyd%20Wright%20AGE%2020%20TO%2033.pdf>

PART 1: Frank Lloyd Wright Age 0-19 (1867-1886) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: Post Civil War recession. Industrial Revolution. Farm life. Preacher/Musician-Father, Teacher-Mother. Mother's large influential Unitarian family of Welsh farmers. Nature. Parent's divorce.

Architecture: Froebel schooling (e.g., blocks). Barns/farm-houses ([PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)). Organic Architecture roots.

PART 2: Frank Lloyd Wright Age 20-33 (1887-1900) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#). **THIS LECTURE**

Context: Rebuilding Chicago after the Great Fire. Wife Catherine and first five children.

Architecture: Architects Joseph Silsbee and Louis Sullivan. Oak Park. Home & Studio. "Organic Architecture" begins.

PART 3: Frank Lloyd Wright Age 34-41 (1901-1908) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: First Japan trip ([PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)). Arts & Crafts movements. Six children.

Architecture: Prairie Style. Oak Park & River Forest, Unity Temple, Robie House, Larkin Building.

PART 4: Frank Lloyd Wright Age 42-47 (1909-1914) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: Secession movement. Lived in Italy ([Page](#) [MP4](#) [YouTube](#)). Built Taliesin on family farmland. Mistress murdered.

Architecture: Wasmuth Portfolio published(Germany). Taliesin. Many operable windows for health & passive cooling. Sculptures.

PART 5: Frank Lloyd Wright Age 48-62 (1915-1929) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: WWI, Roaring 20's. Short 2nd marriage. Lives 3 yrs in Japan, then California and Wisconsin. 3rd marriage (Olga).

Architecture: Tokyo Imperial Hotel. Textile Houses in California (with Mayan influences).

PART 6: Frank Lloyd Wright Age 63-78 (1930-1945) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

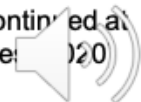
Context: 1930's Great Depression. WWII. Taliesin Fellowship/school. Utopian-Ideals(communal-living) Winters in AZ.

Architecture: Broadacre City, Fallingwater, Johnson Wax Building, Taliesin-West, Hanna-Honecomb House, Usonian Homes.

PART 7: Frank Lloyd Wright Age 79-91 (1946-1958++) [PDF](#) [MP4](#) [PPTX-w/audio](#) [YouTube](#)

Context: Post-WWII boom. Cold War. Communal living at Taliesin. FLW dies in 1959. Fellowship/school continued at Taliesin & Taliesin-West by Olga for 27 years -- and still exists today with some very recent changes.

Architecture: Price Tower, Churches/Synagogue/Auditoriums. The Guggenheim. AZ homes, Modern materials.



TRANSFORMATION

<http://users.etown.edu/w/wunderjt/Architecture%20Lectures/Frank%20Lloyd%20Wright%20AGE%2020%20TO%2033.pdf>

30 YEARS OLD (1897)

[STORRER 2017]



Rollin Furbeck
Residence
Oak Park IL

- Precursor to more mature “Prairie School Style” to come



Broad Central Chimney

Broad Low Hip Roof

Long Overhanging Cantilevers

Brickface up to windowsill

Limestone Trim

Symmetrical Windows

Banding of Windows
and Picture Windows

2019,20 LECTURE: 31 Frank Lloyd Wright sites, plus two FLW influenced family homes

203 views • Jul 10, 2019



Joseph Wunderlich
9 subscribers

2 0 SHARE SAVE ...

SUBSCRIBE

Wunderlich
Vlog Lecture
on
YouTube Channel



TRANSFORMATION

<http://users.etown.edu/w/wunderjt/Architecture%20Lectures/Frank%20Lloyd%20Wright%20AGE%2020%20TO%2033.pdf>

30 YEARS OLD (1897)

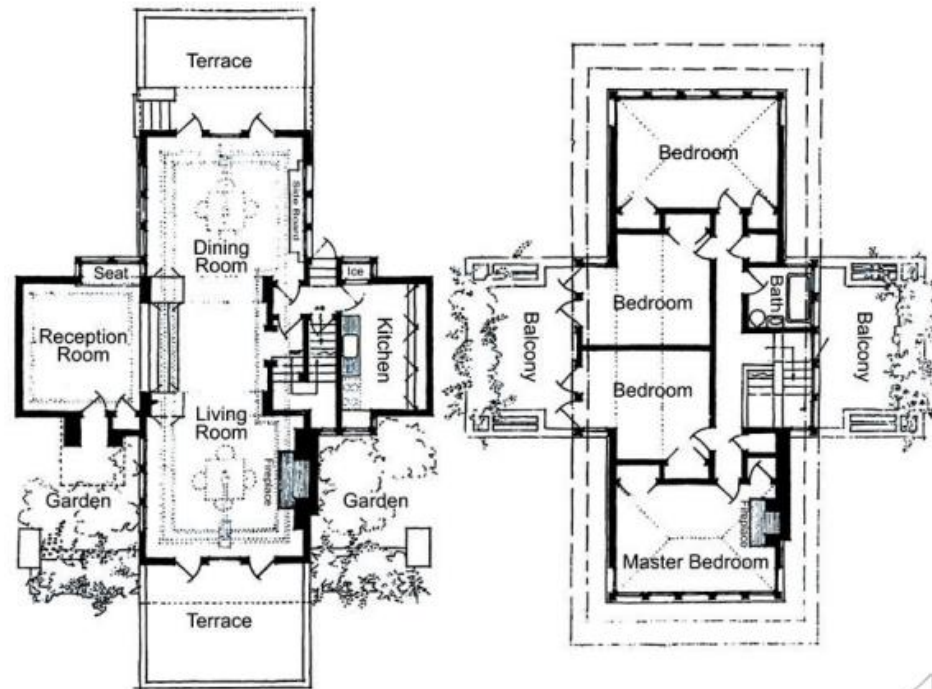
[STORRER 2017]



- *“A transitional work from early square and rectangle plans to upcoming Prairie Cruciform and pinwheeled-planes designs” [Storror 2017]*



Rollin Furbeck Residence, Oak Park IL



Later (early 1900's) FLW Prairie Cruciform pinwheeled-plane type floor plan

<http://www.steinerag.com/flw/Artifact%20Pages/PhRtS142.htm>



TRANSFORMATION

ORGANIC ARCHITECTURE PHILOSOPHY [2, 6]

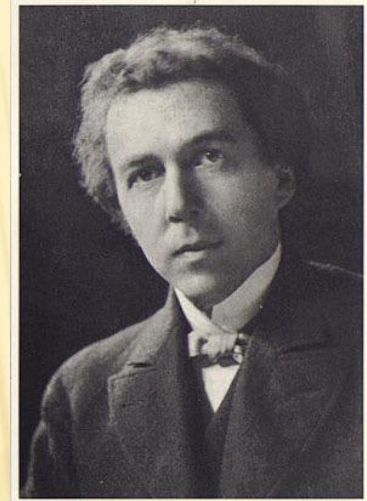
- ✘ *“Nature had become my Bible”*
- ✘ *“Grow Form in realm of human spirit”*
- ✘ *“Forms more naturally significant of idea and purpose”*

- ✘ **Oppose:**
 - ✘ Neoclassicism
 - ✘ *“Senseless excess”*
 - ✘ *“Senseless expedience”*
 - ✘ Victorian ornamentation and compartmentalization

- ✘ *“True ornament had to mean something ... Integral ornament”*

- ✘ Building *“Plasticity... like skin surface defined by skeleton”*
- ✘ *“Esthetic and structure become one”* *“Form and Function are one”*

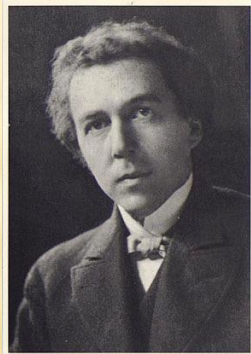
- ✘ Entry *“Compression/Embrace and Release”*
- ✘ *“I don't build a house without predicting the end of the present social order“*



Frank Lloyd Wright

TRANSFORMATION

ORGANIC ARCHITECTURE DESIGN PRINCIPLES [12]



Frank Lloyd Wright

“In 1894, I formulated the following:

- I. **Simplicity** ... true value of any work of art ... **few rooms... Openings as integral features** of the structure ... Excessive love of detail ruins fine things ... **Decoration is dangerous unless you understand it... fixtures assimilated into the design of the structure... Furniture built in**
- II. There should be **as many kinds** (styles) of houses as there are kinds (styles) of people
- III. The building should appear to grow easily from its site and be shaped to **harmonize with its surroundings**
- IV. Go to the woods for **color schemes. Use the soft warm optimistic tones of earths and autumn leaves** in preference to the pessimistic blues, purples, or cold greens and grays
- V. **Bring out the nature of the materials...** Reveal the nature of the wood, plaster, brick, or stone
- VI. A House that has good character stands good chance of growing more valuable as it grows older, while a house in the prevailing mode... is soon out of fashion”



THE LIFE AND WORK OF FRANK LLOYD WRIGHT

PART 3:
Ages 34 (1901) to 41 (1908)
In Chicago



JT Wunderlich PhD

website: <http://users.etoyn.edu/w/wunderjt/> [Architecture Portfolio](#)

8/28/2018



TRANSFORMATION

<http://users.etoan.edu/w/wunderjt/Architecture%20Lectures/Frank%20Lloyd%20Wright%20AGE%2034%20TO%2041.pdf>

PART 1: Frank Lloyd Wright Age 0-19 (1867-1886) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: Post Civil War recession. Industrial Revolution. Farm life. Preacher/Musician-Father, Teacher-Mother. Mother's large influential Unitarian family of Welsh farmers. Nature. Parent's divorce.

Architecture: Froebel schooling (e.g., blocks). Barns/farm-houses ([PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)). Organic Architecture roots.

PART 2: Frank Lloyd Wright Age 20-33 (1887-1900) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#).

Context: Rebuilding Chicago after the Great Fire. Wife Catherine and first five children.

Architecture: Architects Joseph Silsbee and Louis Sullivan. Oak Park. Home & Studio. "Organic Architecture" begins.

PART 3: Frank Lloyd Wright Age 34-41 (1901-1908) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#). **THIS LECTURE**

Context: First Japan trip ([PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)). Arts & Crafts movements. Six children.

Architecture: Prairie Style. Oak Park & River Forest, Unity Temple, Robie House, Larkin Building.

PART 4: Frank Lloyd Wright Age 42-47 (1909-1914) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: Secession movement. Lived in Italy ([Page](#) [MP4](#) [YouTube](#)). Built Taliesin on family farmland. Mistress murdered.

Architecture: Wasmuth Portfolio published(Germany). Taliesin. Many operable windows for health & passive cooling. Sculptures.

PART 5: Frank Lloyd Wright Age 48-62 (1915-1929) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: WWI, Roaring 20's. Short 2nd marriage. Lives 3 yrs in Japan, then California and Wisconsin. 3rd marriage (Olga).

Architecture: Tokyo Imperial Hotel. Textile Houses in California (with Mayan influences).

PART 6: Frank Lloyd Wright Age 63-78 (1930-1945) [PDF](#) [PPTX-w/audio](#) [MP4](#) [YouTube](#)

Context: 1930's Great Depression. WWII. Taliesin Fellowship/school. Utopian-Ideals(communal-living) Winters in AZ.

Architecture: Broadacre City, Fallingwater, Johnson Wax Building, Taliesin-West, Hanna-Honecomb House, Usonian Homes.

PART 7: Frank Lloyd Wright Age 79-91 (1946-1958++) [PDF](#) [MP4](#) [PPTX-w/audio](#) [YouTube](#)

Context: Post-WWII boom. Cold War. Communal living at Taliesin. FLW dies in 1959. Fellowship/school continued at Taliesin & Taliesin-West by Olga for 27 years -- and still exists today with some very recent changes (2020)

Architecture: Price Tower, Churches/Synagogue/Auditoriums. The Guggenheim. AZ homes, Modern materials.

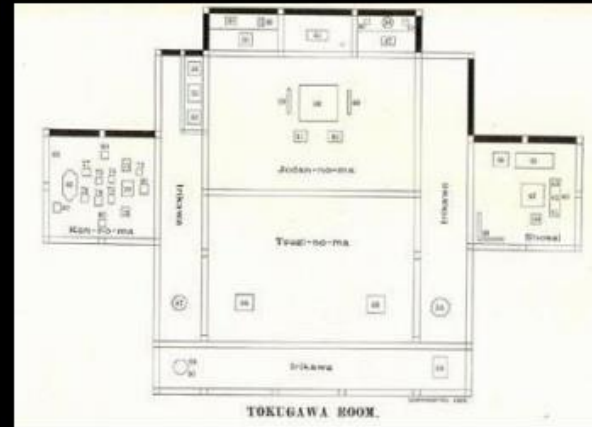


TRANSFORMATION

<http://users.etoyn.edu/w/wunderjt/Architecture%20Lectures/Frank%20Lloyd%20Wright%20AGE%2034%20TO%2041.pdf>

The OPEN FLOOR PLAN by FLW, is common in Japan (with movable screens for separating spaces), as seen by FLW in 1893 Chicago worlds fair, as well as on his 1906 Japan trip.

PERCEIVED SEPERATIONS via window/door bands, colonnades, furnishings, lighting, changes in ceiling heights, and strategically aligning lines of site between spaces.



Frank Lloyd Wright



From Wunderlich
Lecture Series on
ARCHITECTURE
THEORY

And
Lecture on
"INTERIORS"
in Materials & Methods
course
on
YouTube Channel



34 YEARS OLD (1901)

[WRIGHT 1908 , WRIGHT 1954, WRIGHT 1957, WRIGHT 1908, STORRER 2017]



Frank Lloyd Wright

His “**PRAIRIE STYLE**” emphasizes the **HORIZONTAL**

“I extended horizontal spacing without enlarging the building by cutting out all the room partitions that did not serve the kitchen or give needed privacy... Freedom of floor space and elimination of useless Heights ...Sense of repose in flat planes and quiet streamline effects”

His **PRAIRIE STYLE** expands on his **ORGANIC ARCHITECTURE**

- *“Planes close to earth identify with ground”*
 - Complimenting wide open plains of the Midwest

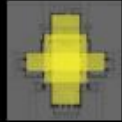
His” **HORIZONTAL**” also emphasized by:

- Low ceilings and **bands of windows**
- Wall above window bands painted same color as ceiling
- **Bands of interior horizontal trim work**
- **Extended roof overhangs**, and long **cantilevered balconies**
- Exterior facades of **horizontal Board and Batten** or **Roman Brick** (*thin*)
- **Folded Plane** -- like origami ... *“Continuity”*...
 - *“walls, ceilings, and floors become one”*
- **Pin-wheeled Planes**



TRANSFORMATION

34 YEARS OLD (1901)



CRUCIFORM + PERCEIVED VERTICAL PLANES



Frank Lloyd Wright

These three 1901 designs are each considered his first *mature PRAIRIE- SCHOOL STYLE* by *different scholars*

Willetts House
Highland Park, IL



Frank W Thomas House
Oak Park, IL



B. Harley Bradley House
Kankakee, IL



Even though FLW said that the Thomas house was the first of his prairie houses, he also said his earlier 1894 Winslow residence was a prairie style. The Thomas house is more of the mature established Prairie school style with all the accompanying features



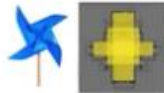
Wunderlich
[Vlog Lecture](#)
on
[YouTube Channel](#)



ORGANIC ARCHITECTURE DESIGN PRINCIPLES

CONFORM TO SITE, sun, topography, environment

PINWHEELED PLANES -- CRUCIFORM



- PRAIRIE-SCHOOL, BROAD CENTRAL CHIMNEY, LONG CANTILEVERS (overhangs & balconies)

FOLDED PLANE like origami ...continuity...walls, ceilings, and floors become one



SIMPLE GEOMETRIES

HUMAN SCALE

FROEBEL
BLOCKS



UNITARIAN
MOTHER
Teacher

OPEN FLOOR PLAN

- o DESTROY BOX, no Victorian box-type rooms, - FLOW between rooms, and inside/outside
- o Walls become screens, BANDS of WINDOWS, FRAME VIEWS - like ENGAWA
- o Use MATERIALS IN NATURAL STATE -- same on exterior and interior

FORM and FUNCTION are one! Harmony, *not one following other, secondarily*

A UNIFIED WHOLE - inside and out - ORCHESTRATE SUN

BRING NATURE OUT OF MATERIALS, but Innovate (Textile Blocks, Modular "Ken" Design, etc.)

STRUCTURAL ART like in Nature (e.g., the veins in Leaves) - Interior space made exterior as architecture

SOFT WARM OPTIMISTIC COLOR TONES of earth, and autumn leaves

ASSIMILATE FIXTURES into structure, BUILT-IN FURNITURE many plants & planters

ARCHITECTURE = MUSIC



© JT Wunderlich PhD

Arts & Crafts, Italy, JAPAN



MUSICIAN
Preacher
FATHER



ARCHITECT
MENTOR
Louis Sullivan



NOTE: COMPRESSION & RELEASE is not Organic Design, but commonly used by FLW to cramp/hide entries so as to magnify destination Architecture

2018 LECTURES: Upcoming Book on Frank Lloyd Wright's Organic Architecture, [JTW COPYRIGHT]

305 views • Jul 31, 2020

👍 12 💬 DISLIKE ➦ SHARE ⬇️ DOWNLOAD ≡+ SAVE ...



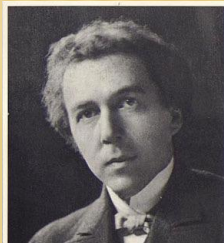
Joseph Wunderlich
30 subscribers

ANALYTICS EDIT VIDEO

<https://www.youtube.com/watch?v=rMOroJhMu18&list=PLK3MJsXEYEQJThBd-lz6zdrLrk-CLifU&index=3&t=11s>

See more on **ORGANIC ARCHITECTURE DESIGN PRINCIPLES:**

Wunderlich Lecture Series on *“The Life and Work of Frank Lloyd Wright”* ©



Frank Lloyd Wright
1867-1958

ARCHITECTURE DESIGN THEORY



LECTURE SERIES

- ❑ PART 1 PRIMARY ELEMENTS [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 2 FORM [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 3 FORM & SPACE [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 4 ORGANIZATION [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 5 CIRCULATION [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 6 PROPORTION & SCALE [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)
- ❑ PART 7 PRINCIPLES (*This Lecture*) [PPTX](#) [MP4](#) [YouTube](#) [PDF](#)

APPENDIX: ARCHITECTURAL DESIGN MEDIUMS

PHOTOGRAPHS

- + Site Selection
- + Views, sun angles, topography, vegetation, access, hazards, adjacencies, cultures, Art
- + Inspirations
- + Before & after

MAPS & SITE PLANS

- + Urban Design, master plans, topography, climate, views, environmental impacts, geological, mass transit, pedestrian & vehicle traffic, utilities, zoning, real estate, demographics

FREE-HAND DRAWINGS

- + One, Two, and Multi-point perspective, Site and Floor Plans, Elevations, Sections
- + Pencil, ink, charcoal – on vellum, Mylar, canvas

PAINTINGS

- + Oil, water, acrylic

MODELS

- + **Study Models** (massing, daylighting, circulation, adjacencies, etc); Presentation models
- + Card stock, Chipboard, Foamboard, Wood (Balsa or Bass), Clay, Plastic, etc
- + Computer (Google Sketchup, Minecraft, Revit, 3D Studio Max, Lumion, etc)