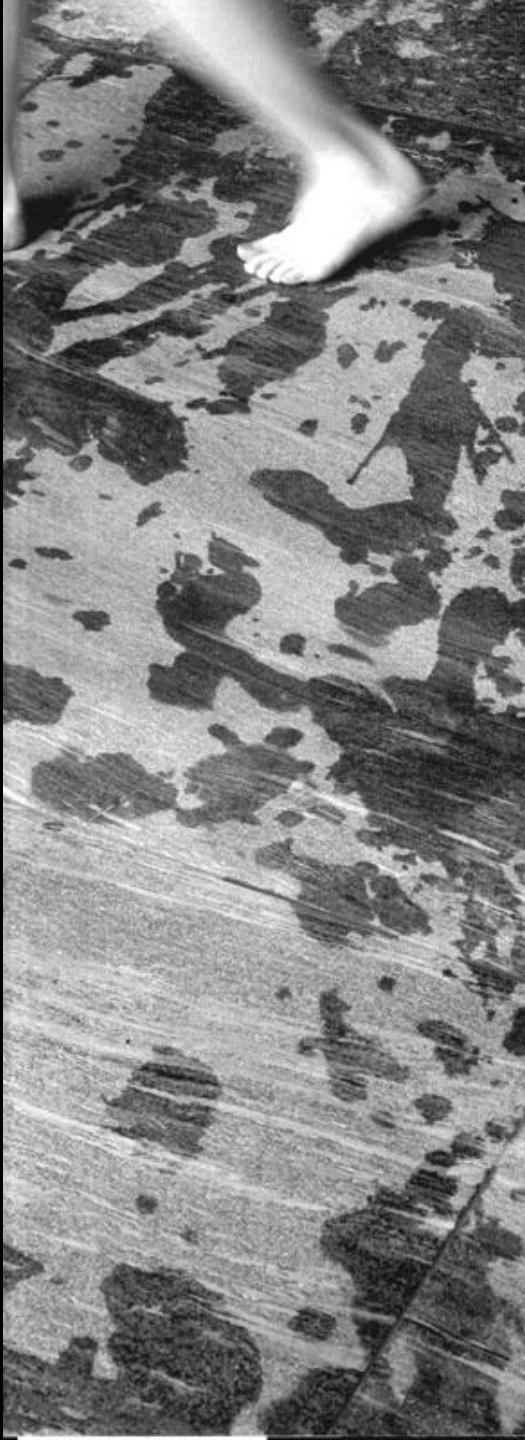


THE TRANSFORMATIVE POWER OF SACRED ARCHITECTURE:

*Exploring Ritual-Architectural Priorities and
Evidence-Based Design for Sacred Spaces*

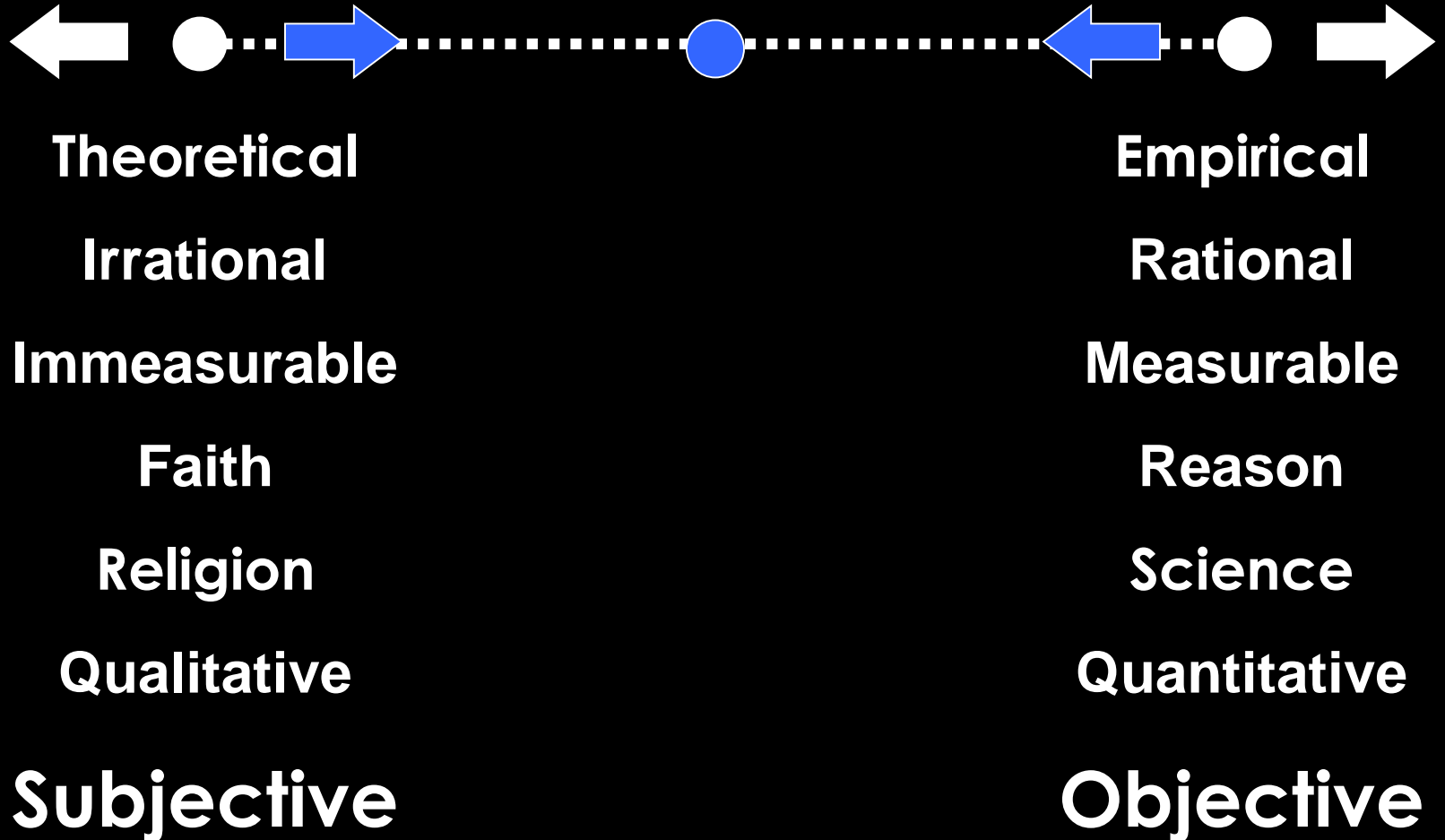
Prof. Brandon Ro, AIA, NCARB
Utah Valley University







Evidence-Based Design



Evidence-Based Medicine Best External Evidence Evidence-Based Design

"The conscientious, explicit and judicious use of current best **evidence in making decisions about the care of individual patients.**"

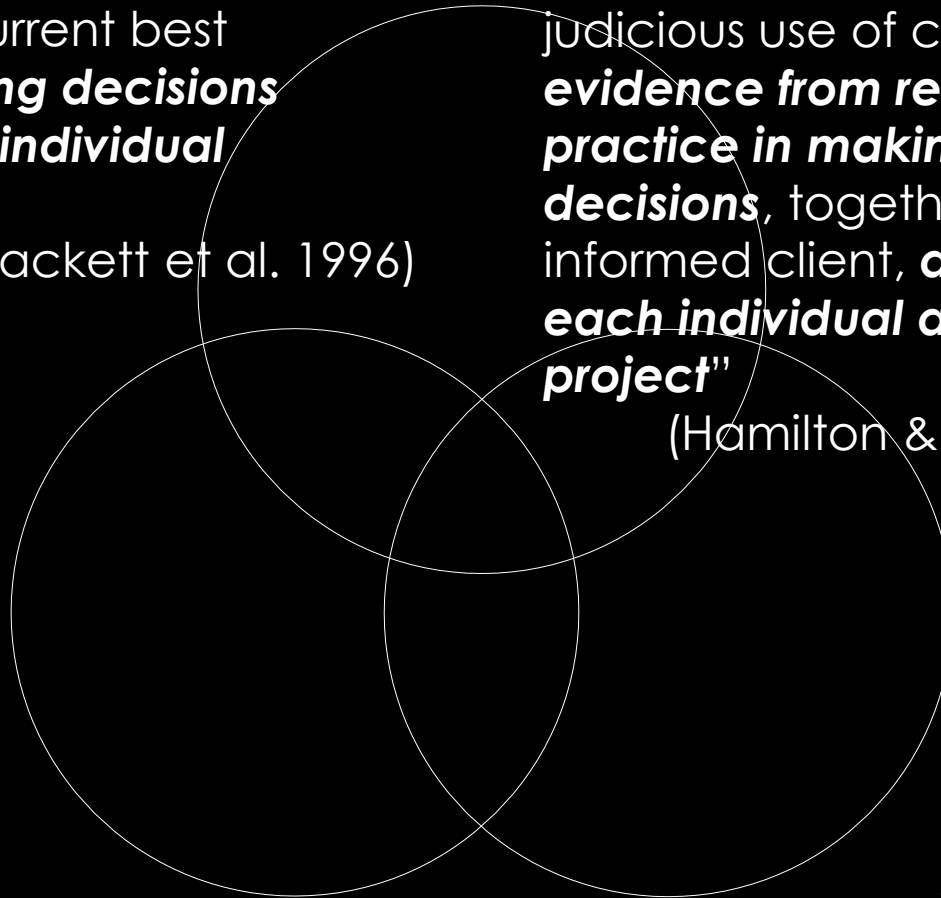
(Sackett et al. 1996)

"the conscientious, explicit, and judicious use of current best **evidence from research and practice in making critical decisions**, together with an informed client, **about the design of each individual and unique project**"

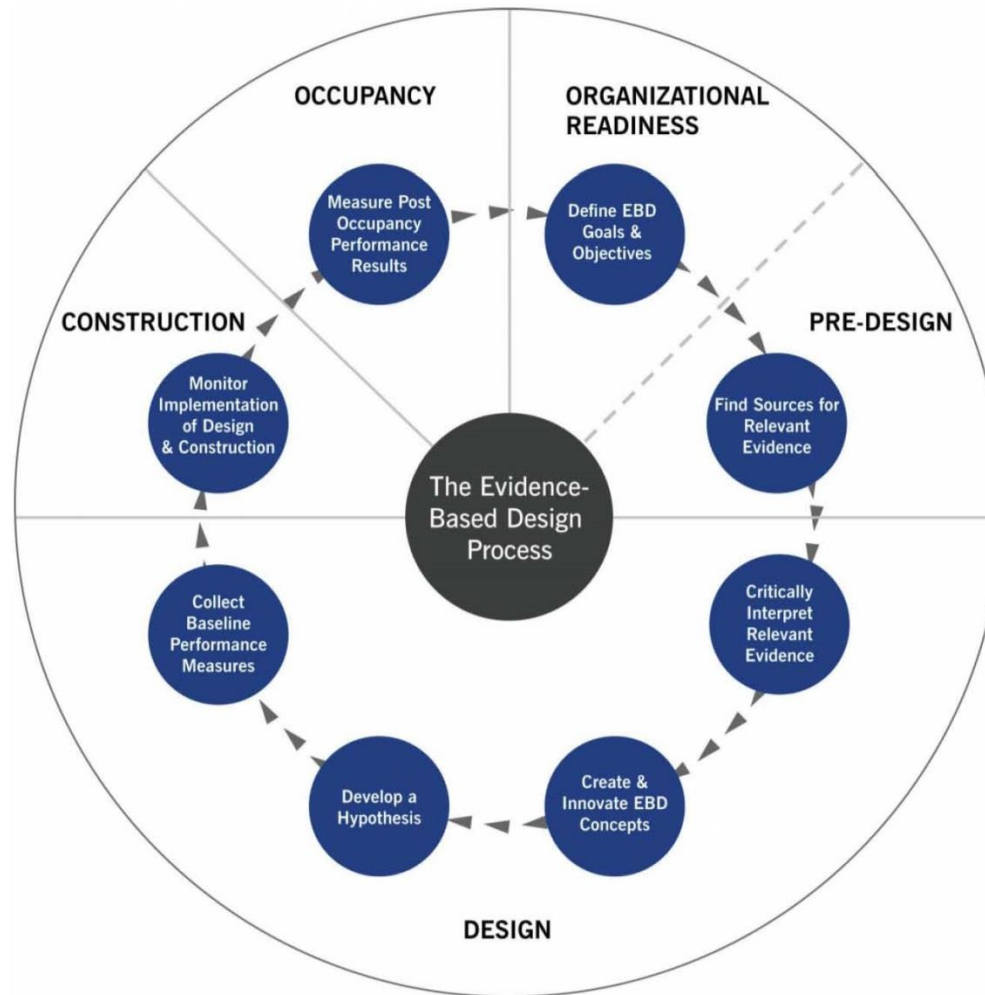
(Hamilton & Watkins, 2009, p.9)

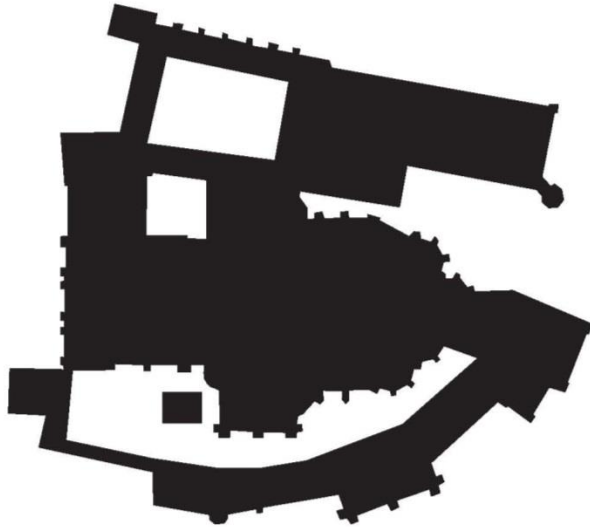
Individual
Practice
Expertise

Client Values
& Expectations



EVIDENCE-BASED DESIGN PROCESS





OBJECTIVE
(BUILT CONDITIONS)

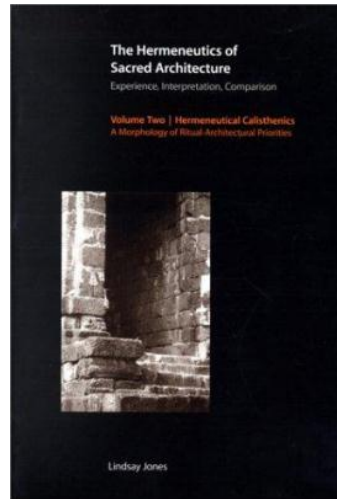
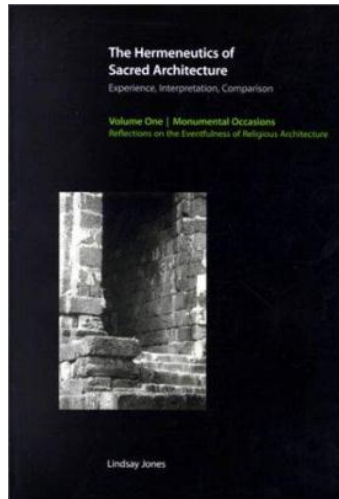
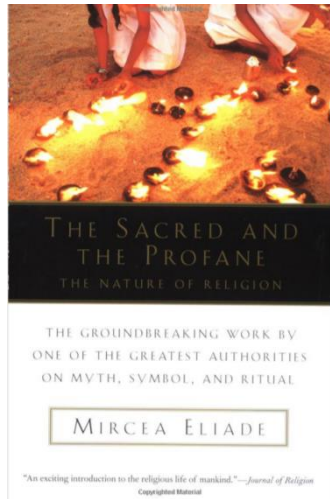
VS



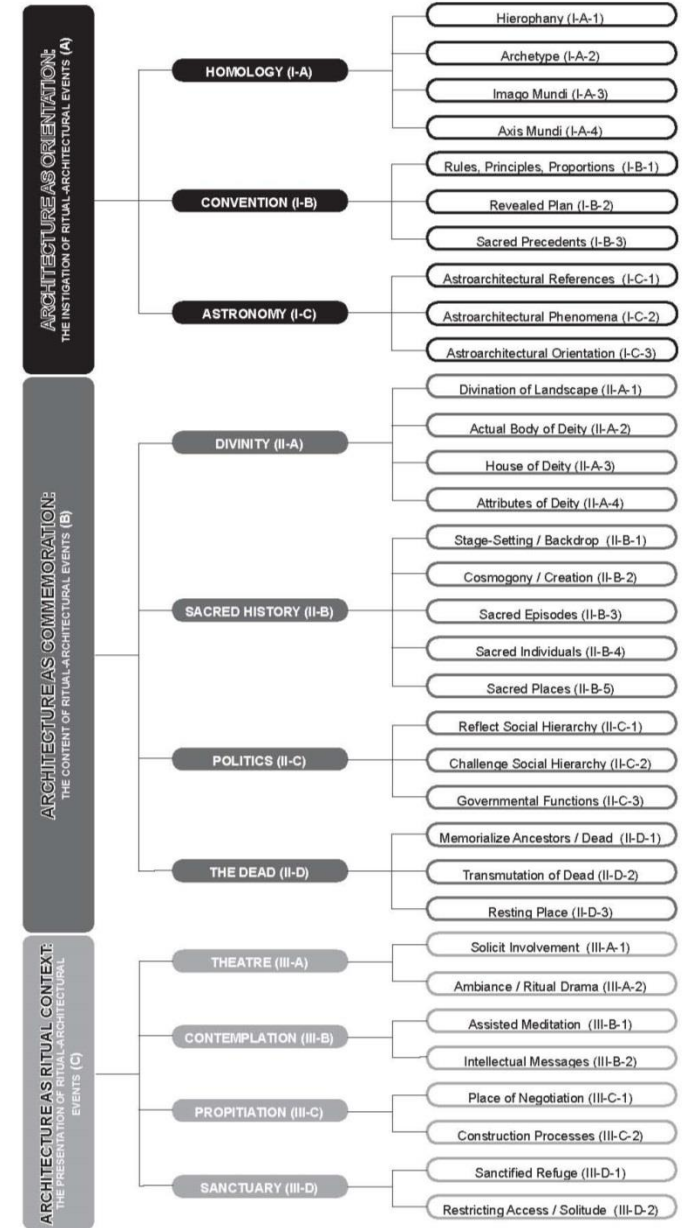
SUBJECTIVE
(HUMAN RESPONSES)

RITUAL-ARCHITECTURAL PRIORITIES:

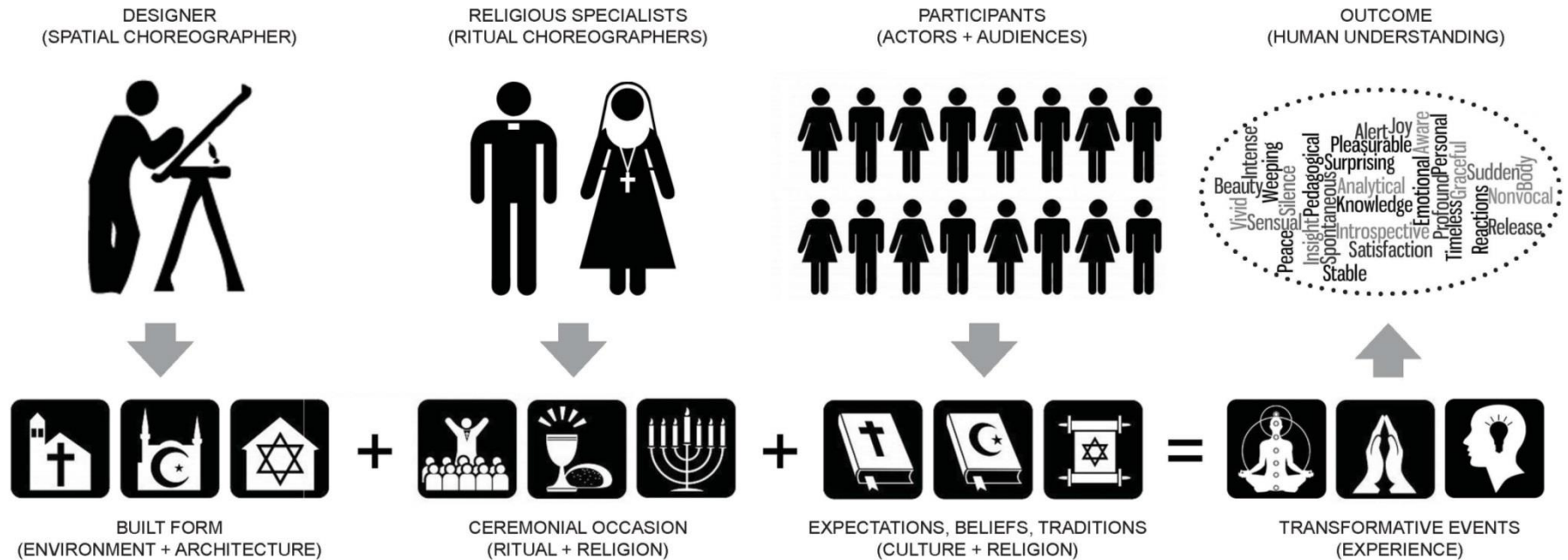
A Conceptual Model for Interpreting Sacred Architecture, Ritual, & Experience



Mircea Eliade
Lindsay Jones
Comparative Historians of Religion
Editors of the Encyclopedia of Religion



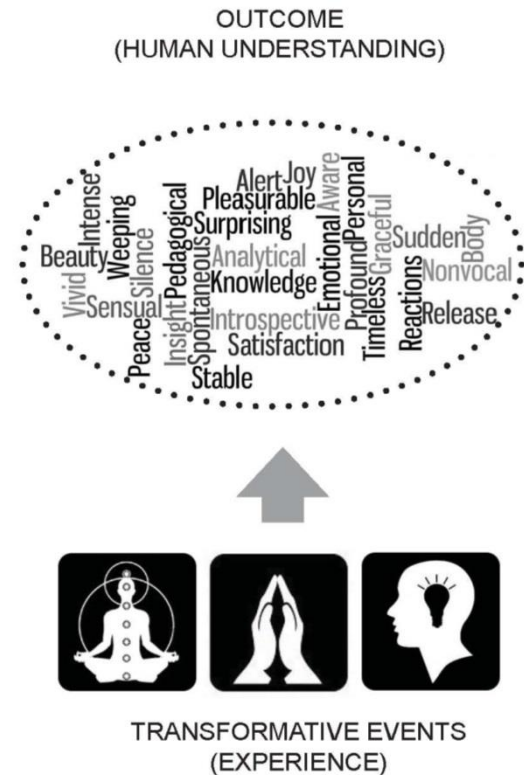
RITUAL-ARCHITECTURAL DESIGN PROCESS



What is a “Transformative Human Experience” in architecture?

A powerful **experience in architecture** which *transforms, affects, or changes* one's **human understanding**. The change can occur at one of the following levels:

1. **metaphysical** – an ontological, existential transformation in “being” (Heidegger, Gadamer)
2. **sociopolitical** – a transintellectual social differentiation (Durkheim, Marx, Foucault)
3. **psychological** – a multisensory bodily transformation (Victor Turner, Catherine Bell)
4. **religious** – the spiritual awakening or heightened awareness uniting one with the divine (Abbot Suger)
5. **pedagogical** – the broadened educational horizons of learning new information (Norberg-Schulz)



EVIDENCE-BASED DESIGN PROCESS

The diagram illustrates the Evidence-Based Design (EBD) process, centered around 'The Evidence-Based Design Process'.

The process is divided into four quadrants, each representing a phase of the design and construction cycle:

- PRE-DESIGN:**
 - Define EBD Goals & Objectives
 - Find Sources for Relevant Evidence
 - Critically Interpret Relevant Evidence
- DESIGN:**
 - Create & Innovate EBD Concepts
 - Develop a Hypothesis
- CONSTRUCTION:**
 - Collect Baseline Performance Measures
 - Monitor Implementation of Design & Construction
- OCCUPANCY:**
 - Measure Post Occupancy Performance Results

The process flows clockwise through these steps, with dashed lines indicating feedback loops from the end of each quadrant back to the beginning of the next.



RITUAL-ARCHITECTURAL DESIGN PROCESS

DESIGNER
(SPATIAL CHOREOGRAPHER)

RELIGIOUS SPECIALISTS
(RITUAL CHOREOGRAPHERS)

PARTICIPANTS
(ACTORS + AUDIENCES)

OUTCOME
(HUMAN UNDERSTANDING)

BUILT FORM
(ENVIRONMENT + ARCHITECTURE)

CEREMONIAL OCCASION
(RITUAL + RELIGION)

EXPECTATIONS, BELIEFS, TRADITIONS
(CULTURE + RELIGION)

TRANSFORMATIVE EVENTS
(EXPERIENCE)

The diagram illustrates the Ritual-Architectural Design Process, showing the flow from Designer to Religious Specialists to Participants to Outcome. Below each stage are icons representing its components: Built Form (Environment + Architecture), Ceremonial Occasion (Ritual + Religion), Expectations, Beliefs, Traditions (Culture + Religion), and Transformative Events (Experience). The Outcome stage is represented by a word cloud of human experiences.

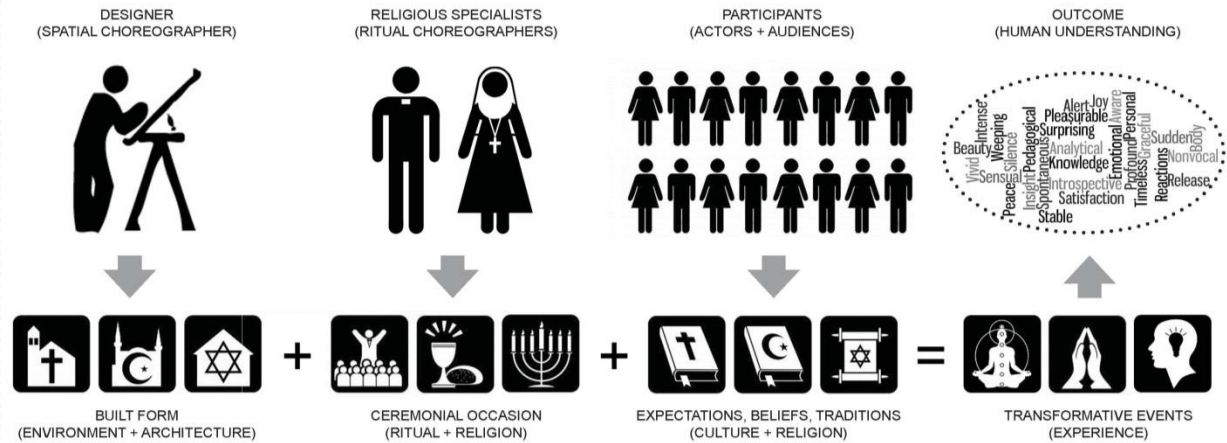
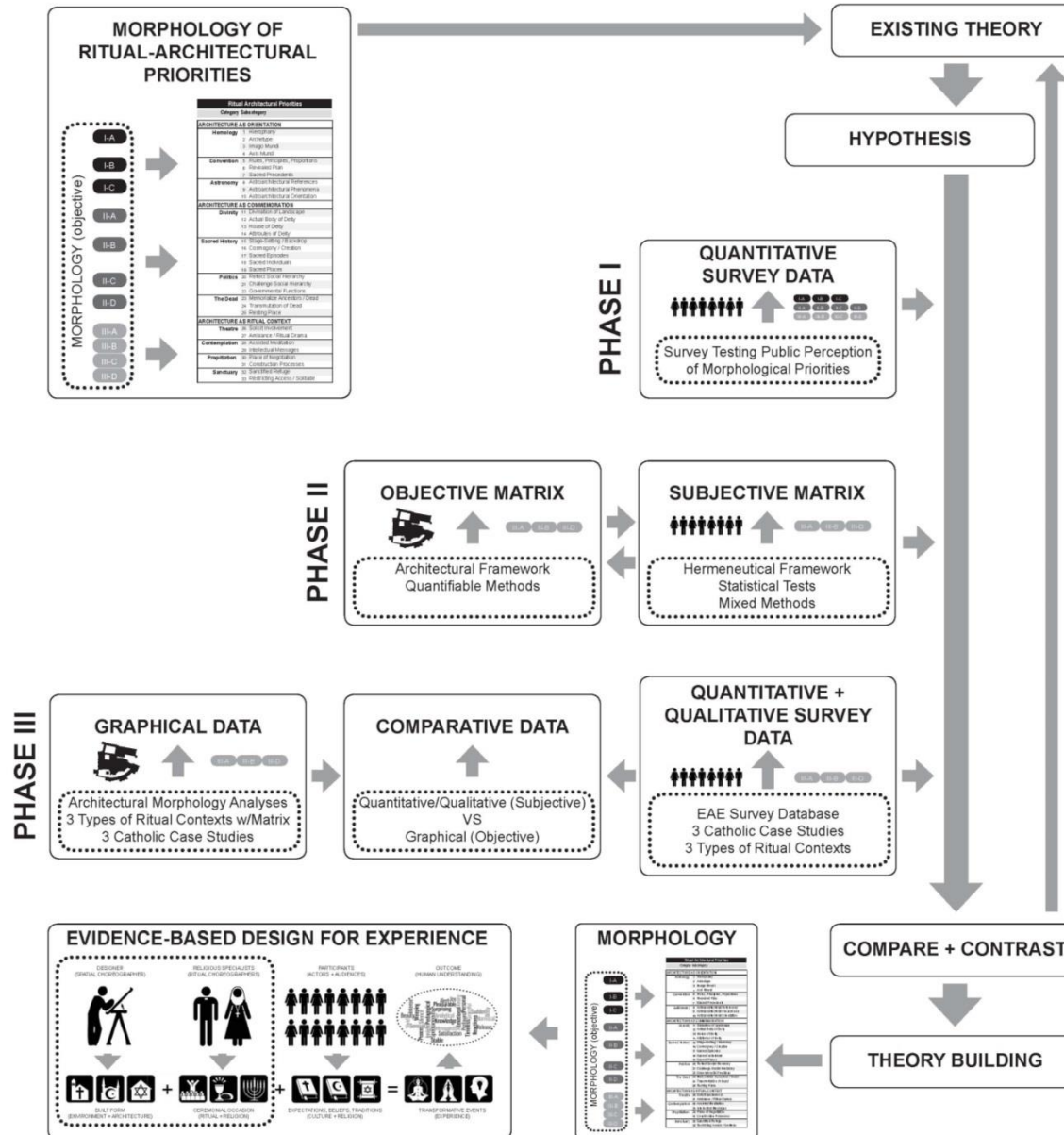


DIAGRAM OVERVIEW OF METHODS



[Phase I]

THE IDEALIZED TEMPLE MORPHOLOGY:

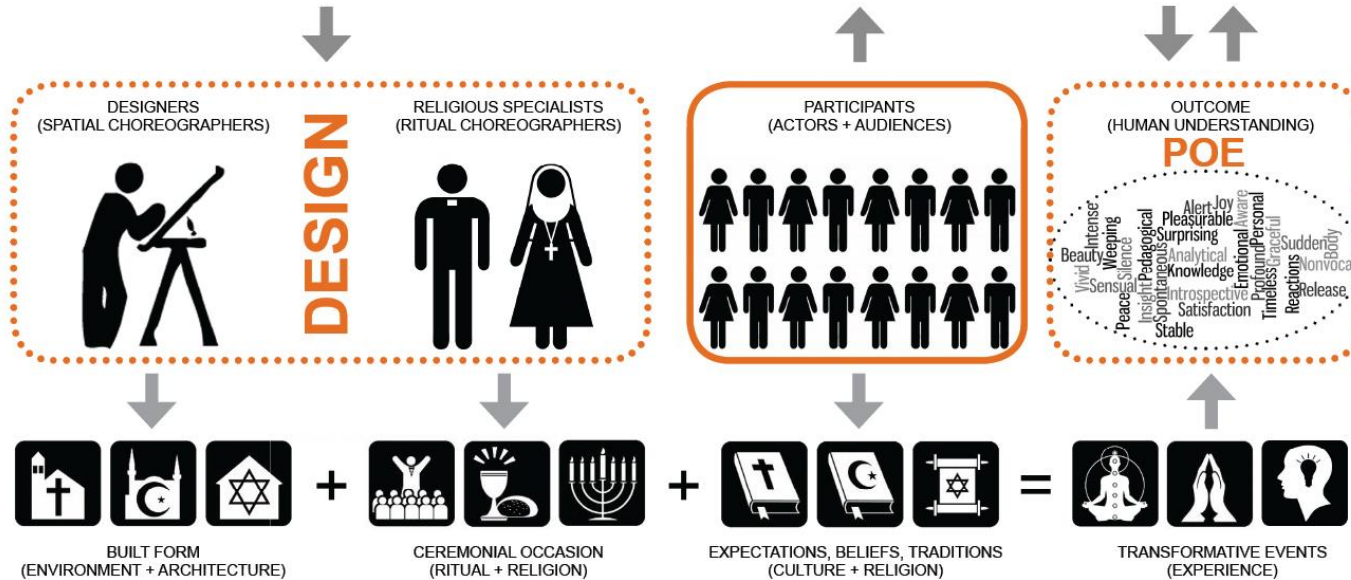
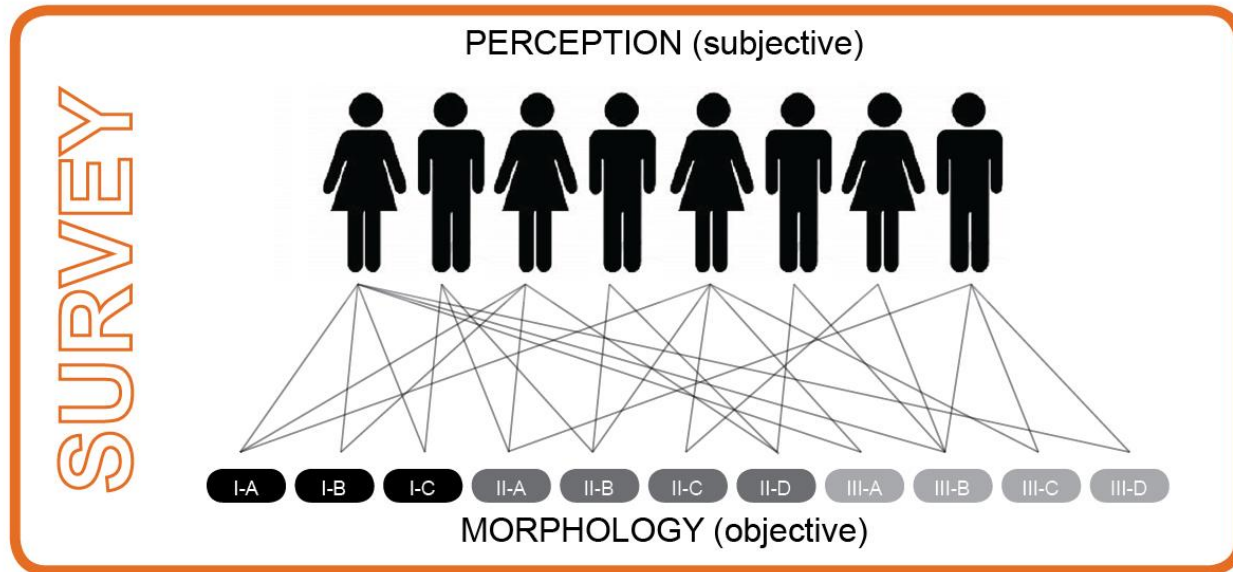
Surveying the Public Perception of Sacred Architecture

A SURVEY TESTING JONES' RITUAL-ARCHITECTURAL PRIORITIES:

OBJECTIVES:

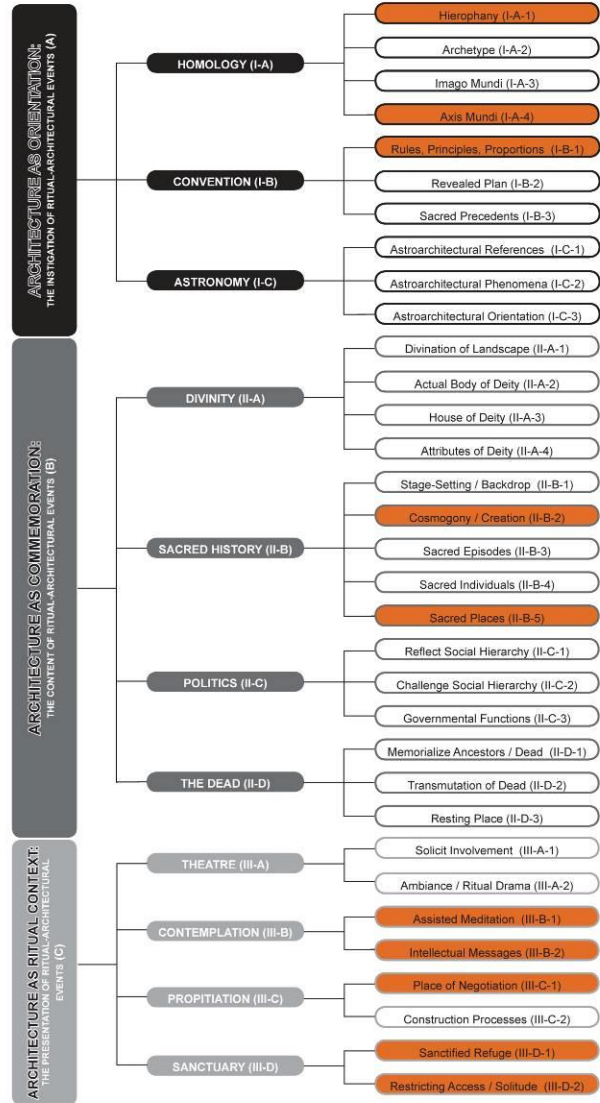
1. to test the relevance and public reaction to Jones' conceptual model and theory of sacred architecture,
2. to provide empirical and quantitative data documenting sacred architecture's effect on human understanding and perception, and
3. to produce an idealized morphology or set of design strategies that can guide architects and religious specialists in the planning phases of new evidence-based design projects.





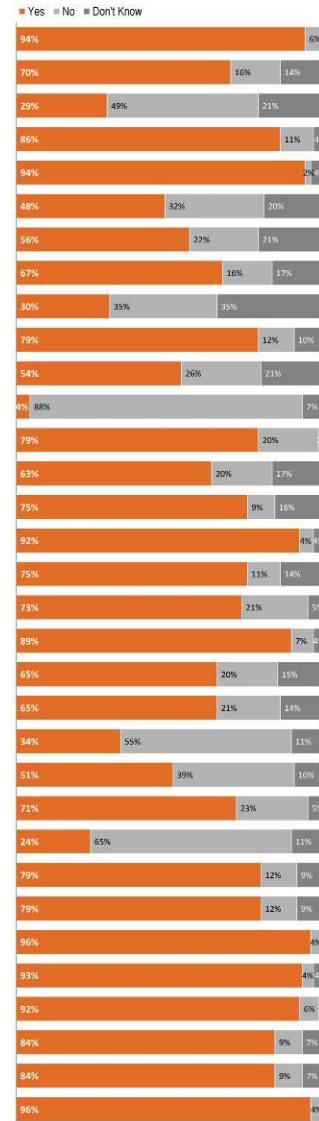
OVERVIEW OF JONES' MORPHOLOGICAL FRAMEWORK

(Top 10 Ritual-Architectural Priorities from Survey)



SURVEY FINDINGS

(Idealized Perceptions of Sacred Architecture)



TOP 10 DESIGN STRATEGIES

(Idealized Perceptions of Sacred Architecture)

1 Assisted Meditation, III-B-1 (96%)
"A temple's architecture or features can help a person meditate or concentrate."
Concepts: path, object of devotion
Case Study: Labyrinth / Rose windows, Chartres Cathedral (Christian)

6 Cosmogony / Creation, II-B-2 (92%)
"The design of temples can honor the creation of heaven and earth."
Concepts: first place of creation, sacred mountain
Case Study: Angkor Wat Temple Complex (Hinduism)

2 Place of Solitude, III-D-2 (96%)
"A temple restricts its access in order to help keep it separate and sacred."
Concepts: retreat, sanctuary, fortress
Case Study: Mont Saint-Michel, France (Christian)

7 Place of Negotiation, III-C-1 (92%)
"A temple is a place of prayer or negotiation with God(s). (i.e. interaction, covenants, contracts)"
Concepts: sacrifice, altar, prayer
Case Study: Ise Shinto Shrine, Japan

3 Hierophany, I-A-1 (94%)
"A temple represents sacredness."
Concepts: representation, sacred place, manifestation
Case Study: Buddhist Stupa at Sanchi

8 Sacred Places, II-B-5 (89%)
"The temple's architecture can honor sacred places. (i.e. Garden of Eden, heaven, Calvary, Mecca, Zion)"
Concepts: site location, mythic place, orientation
Case Study: Jerusalem Temple (Judaism)

4 Rules, Principles, Proportions, I-B-1 (94%)
"An architect uses rules, principles, or proportions in the design of temples."
Concepts: sacred geometry, order, harmony
Case Studies: Vitruvian Man - Leonardo da Vinci
Ideal City for Wangcheng, China

9 Axis Mundi, I-A-4 (86%)
"The temple's location is a sacred gathering place or axis. (i.e. ceremonial center)"
Concepts: vertical link between worlds, centralized plan
Case Study: Papal Altar, St. Peter's, Rome, Italy

5 Messages and Meaning, III-B-2 (93%)
"The temple's architecture or features communicate messages or meanings."
Concepts: myth, symbolism, narrative
Case Study: Borobudur Buddhist Temple

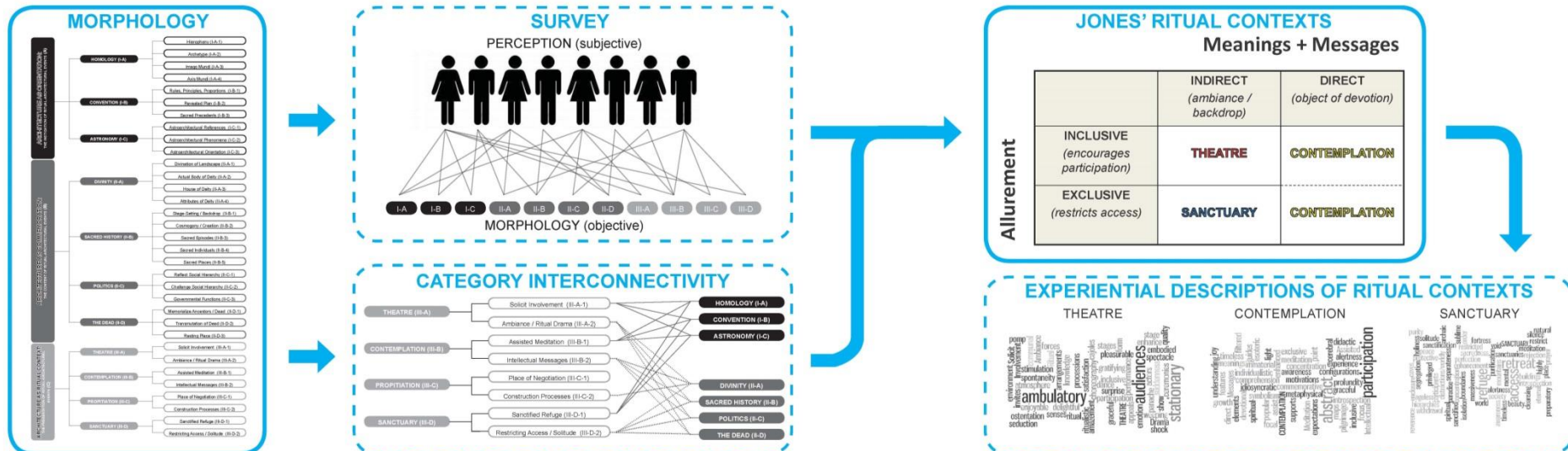
10 Restricting Access, III-D-1 (84%)
"Temples can provide a place of solitude, retreat, and refuge."
Concepts: thresholds, gradations of space
Case Study: Temple Khonsu (Ancient Egypt)

[Phase II]

CREATING A COMPARATIVE FRAMEWORK:

*The Morphological Blending of Subjective and Objective Realms of
Sacred Architecture*

SUBJECTIVE (HUMAN RESPONSES)



JONES' RITUAL CONTEXTS:

THE BRIDGE BETWEEN SUBJECTIVE AND OBJECTIVE:

Meanings + Messages

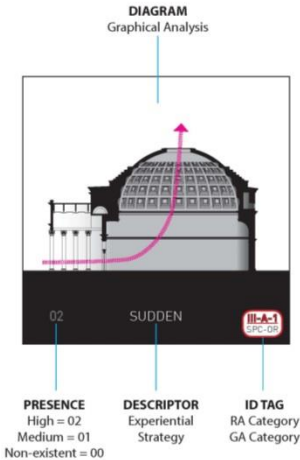
Allurement

	INDIRECT <i>(ambiance / backdrop)</i>	DIRECT <i>(object of devotion)</i>
INCLUSIVE <i>(encourages participation)</i>	THEATRE	CONTEMPLATION
EXCLUSIVE <i>(restricts access)</i>	SANCTUARY	CONTEMPLATION

THE OBJECTIVE SIDE:

ARCHITECTURAL / GRAPHICAL ANALYSES

ID Tag	Category	Key Concepts
ENV	Environment	
UR	Urban	Hierarchy, Scale, Macro/Broader Context, Visibility/Prominence
ST	Site	Micro/Immediate Context, Approach, Orientation, Building Placement on Site
LA	Landscape	Terrain/Topography, Natural Features, Controlled Elements, Nature as Backdrop, Vegetation/Water
FRM	Form	
SH	Shell	Silhouette/Outline, Massing, Façade Geometry, Openings/Fenestrations, Proportions
ED	Exterior Details	Fixed Ornament, Non-Structural Elements, Texture/Materials, Sculpture, Painting
ST	Structure	Grid, Additive/Subtractive, Columns, Buttresses, Planes, Walls
SPC	Space	
CR	Core	Volume/Proportions, Overhead Planes, Spatial Geometry
RT	Ritual	Program Distribution, Public/Private, Sacred/Profane, Ritual/Non-Ritual
OR	Organization	Path/Narrative, Circulation, Spatial Sequence, Transitions/Thresholds, Progression/Gradation, Elevated Planes/Levels
LT	Light	Daylight Factor/Levels, Filtered Light (Colors), Solstice/Equinox, Qualities
AC	Acoustics	Sound Reverberation, Noise Control, Sound Absorption, Music Performance, Sound Distribution/Diffusion
ID	Interior Details	Non-Structural Elements, Fixed Ornament, Floor Paving, Ceiling Décor, Sculpture, Painting, Art, Texture/Materials, Rood Screens/Rails, Curtains/Veils
FN	Furniture	Moveable Elements, Fixed Features, Chairs, Altars, Benches, Pulpit, Lectern



	Meanings + Messages	
	INDIRECT <i>(ambiance / backdrop)</i>	DIRECT <i>(object of devotion)</i>
Inclusive <i>(encourages participation)</i>	THEATRE	CONTEMPLATION
Exclusive <i>(restricts access)</i>	SANCTUARY	CONTEMPLATION

MACRO ←-----→ MICRO

ENVIRONMENT			FORM			SPACE							
URBAN	SITE	LANDSCAPE	SHELL	EXT. DETAILS	STRUCTURE	CORE	RITUAL	ORGANIZATION	LIGHT	ACOUSTICS	INT. DETAILS	FURNITURE	
02 INTROSPECTION	02 OBSERVATION	02 PARADISE	02 SYMBOLIC MEANINGS	02 DIDACTIC	02 RHYTHMIC	02 ANALYTICAL	02 CHOREOGRAPHY	02 ASCENSION	02 EMOTIONAL NARRATIVE	02 UNPREDICTABLE	02 PARTICIPATORY PATH	02 NOISE	



Survey Database

1,890 (E) + 982 (S) = 2,872

*“An encounter with a building or place that **fundamentally alters one's normal state of being**. By 'fundamental alteration' it is meant a powerful and lasting shift in one's physical, perceptual, emotional, intellectual, and/or spiritual appreciation of architecture.”*

Extraordinary Architectural Experiences (EAEs)

THE SUBJECTIVE SIDE:

EAE SURVEY QUESTIONS FOR EXPERIENTIAL ANALYSES

EAEs
SURVEY QUESTIONS

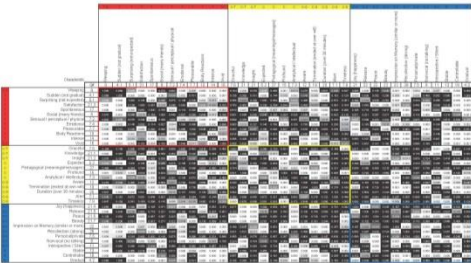
STATISTICS
CHI-SQUARE TESTS

SUMMARY
TOTAL CORRELATIONS

STAGE I - HERMENEUTICS

Meanings + Messages

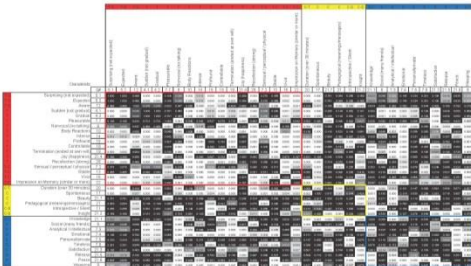
	INDIRECT (ambience / backdrop)	DIRECT (object of devotion)
INCLUSIVE (encourages participation)	<div> <div>15.1</div> <div>10.7</div> <div>1.2</div> </div> <div> <div>4.6</div> <div>7.2</div> <div>12.5</div> </div> <div> <div>10</div> <div>10</div> <div>7.4</div> </div> <div> <div>1.1</div> <div>1.1</div> <div>1.1</div> </div>	<div> <div>21.1</div> <div>1.4</div> </div> <div> <div>1.4</div> </div>
EXCLUSIVE (restricts access)	<div> <div>11</div> <div>8</div> <div>11</div> </div> <div> <div>1.8</div> </div> <div> <div>1.1</div> <div>1.1</div> </div> <div> <div>1.1</div> <div>1.1</div> </div>	<div> <div>7.4</div> </div> <div> <div>1.1</div> </div>



STAGE II - CHI-SQUARE

Meanings + Messages

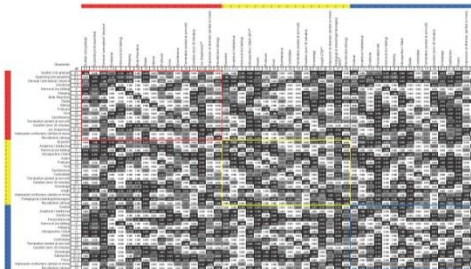
	INDIRECT (ambience / backdrop)	DIRECT (object of devotion)
INCLUSIVE (encourages participation)	<div> <div>10</div> <div>10</div> <div>1.2</div> <div>4.3</div> <div>11</div> </div> <div> <div>10</div> <div>10</div> <div>10</div> <div>10</div> <div>1.2</div> </div> <div> <div>4</div> <div>10</div> <div>4.2</div> <div>1.4</div> </div> <div> <div>1.1</div> <div>1.1</div> <div>1.1</div> </div>	<div> <div>1.1</div> </div>
EXCLUSIVE (restricts access)	<div> <div>8</div> </div> <div> <div>1.1</div> </div> <div> <div>1.1</div> </div> <div> <div>1.1</div> </div>	<div> <div>1.1</div> </div>



STAGE III - COMBINED

Meanings + Messages

	INDIRECT (ambience / backdrop)	DIRECT (object of devotion)
INCLUSIVE (encourages participation)	<div> <div>4.3</div> <div>1.1</div> <div>1.2</div> <div>1.2</div> <div>1.1</div> </div> <div> <div>4</div> <div>10</div> <div>1.1</div> <div>1.1</div> <div>1.1</div> </div> <div> <div>10</div> <div>1.1</div> <div>1.1</div> <div>1.1</div> <div>1.1</div> </div> <div> <div>1.1</div> <div>1.1</div> </div>	<div> <div>1.1</div> </div>
EXCLUSIVE (restricts access)	<div> <div>4.2</div> <div>1.1</div> <div>1.1</div> <div>1.1</div> </div> <div> <div>1.1</div> </div> <div> <div>1.1</div> </div> <div> <div>1.1</div> </div>	<div> <div>1.1</div> </div>



Meanings + Messages

	INDIRECT (ambience / backdrop)	DIRECT (object of devotion)
INCLUSIVE (encourages participation)	THEATRE 66%	CONTEMPLATION
EXCLUSIVE (restricts access)	SANCTUARY 50%	48%

Meanings + Messages

	INDIRECT (ambience / backdrop)	DIRECT (object of devotion)
INCLUSIVE (encourages participation)	THEATRE 71%	CONTEMPLATION
EXCLUSIVE (restricts access)	SANCTUARY 49%	47%

Meanings + Messages

	INDIRECT (ambience / backdrop)	DIRECT (object of devotion)
INCLUSIVE (encourages participation)	THEATRE 77%	CONTEMPLATION
EXCLUSIVE (restricts access)	SANCTUARY 70%	71%

[Phase III]

THE PHENOMENOLOGY OF SACRED SPACE:

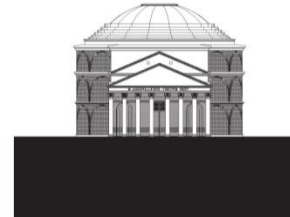
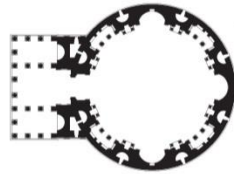
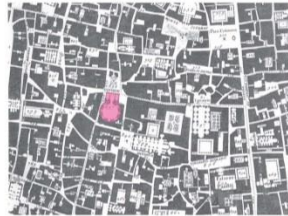
*Ritual Contexts at The Pantheon, Chartres Cathedral,
and the Chapel at Ronchamp*

SELECTION OF CASE STUDIES

(Objective Selection Criteria)

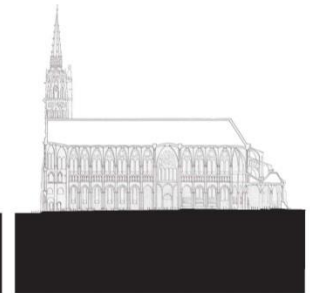
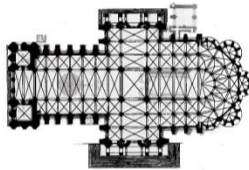
PANTHEON

LOCATION: ROME, ITALY
TIME PERIOD: 126 CE
ARCHITECT: MARCUS AGRIPPA
STYLE: PRE-CLASSICAL
RITUAL PRESENCE: LOW-MEDIUM
STATUS: CATHOLIC



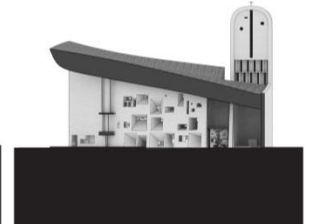
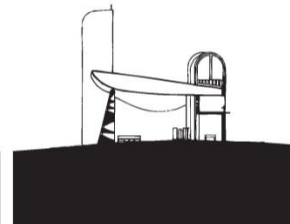
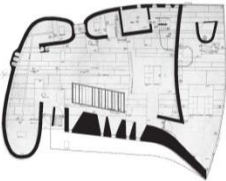
CHARTRES

LOCATION: CHARTRES, FRANCE
TIME PERIOD: 1193-1250 CE
ARCHITECT: UNKNOWN
STYLE: GOTHIC
RITUAL PRESENCE: HIGH
STATUS: CATHOLIC



RONCHAMP

LOCATION: RONCHAMP, FRANCE
TIME PERIOD: 1954
ARCHITECT: LE CORBUSIER
STYLE: MODERN
RITUAL PRESENCE: MEDIUM-HIGH
STATUS: CATHOLIC



SELECTION OF CASE STUDIES

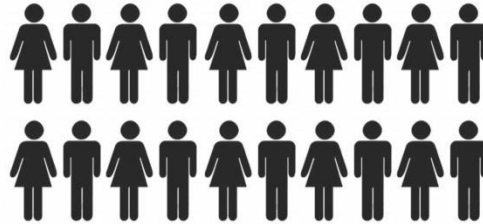
(Subjective Selection Criteria)

EXTRAORDINARY ARCHITECTURAL EXPERIENCES

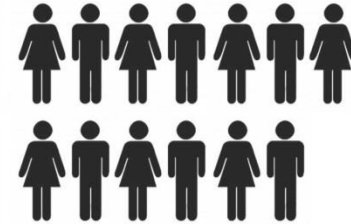
QUANTITY OF SURVEY RESPONDENTS PER CASE STUDY



QUANTITATIVE



QUALITATIVE



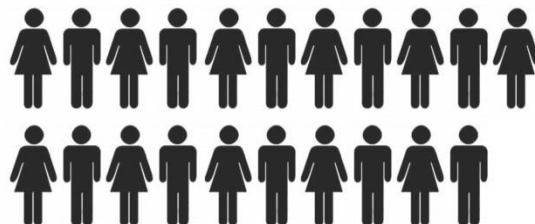
QUANTITATIVE



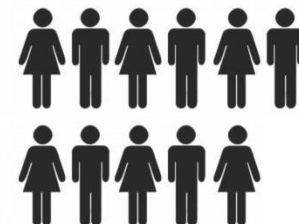
QUALITATIVE



QUANTITATIVE

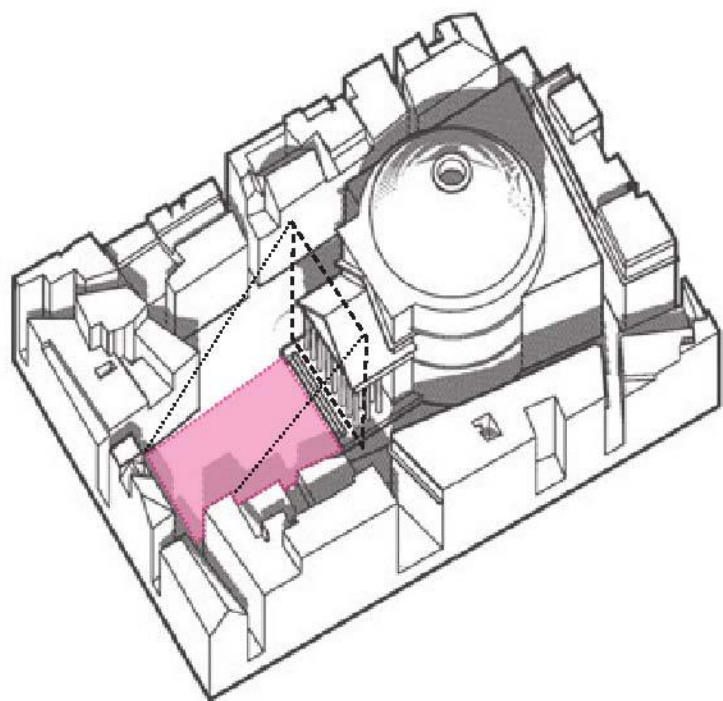


QUALITATIVE





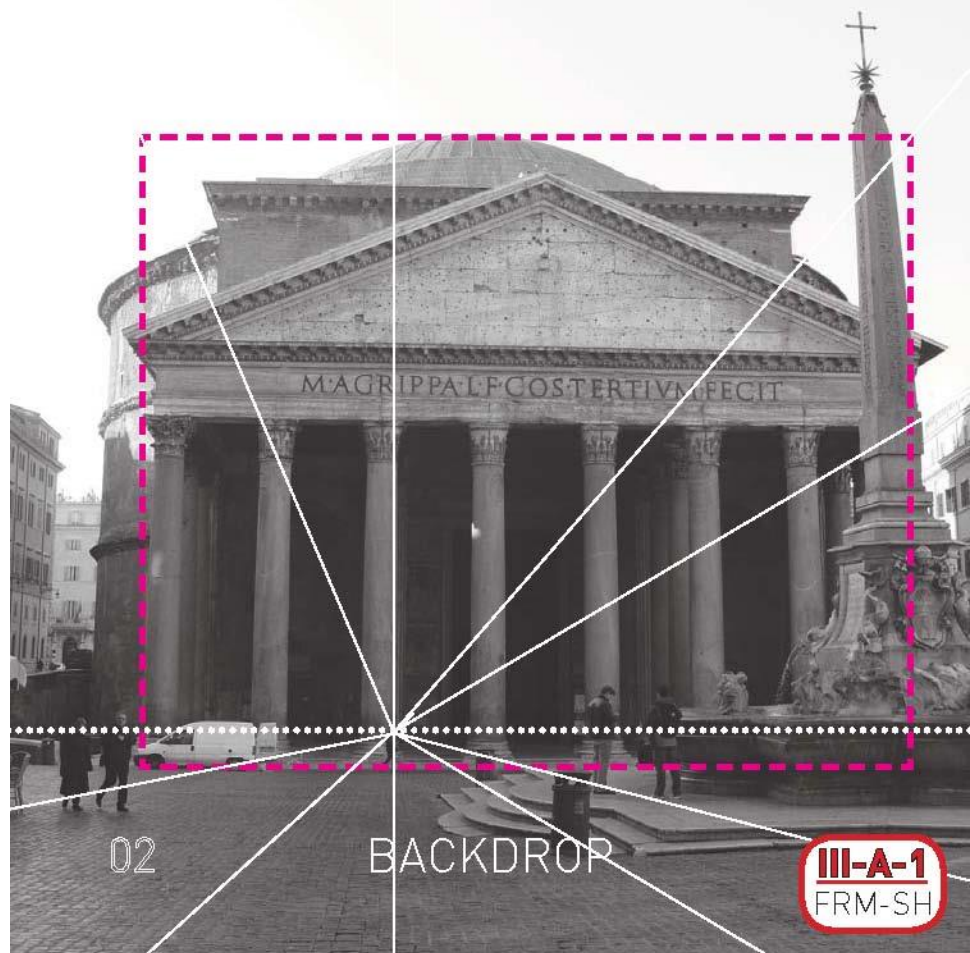
The Pantheon



02

STAGE

III-A-2
ENV-ST

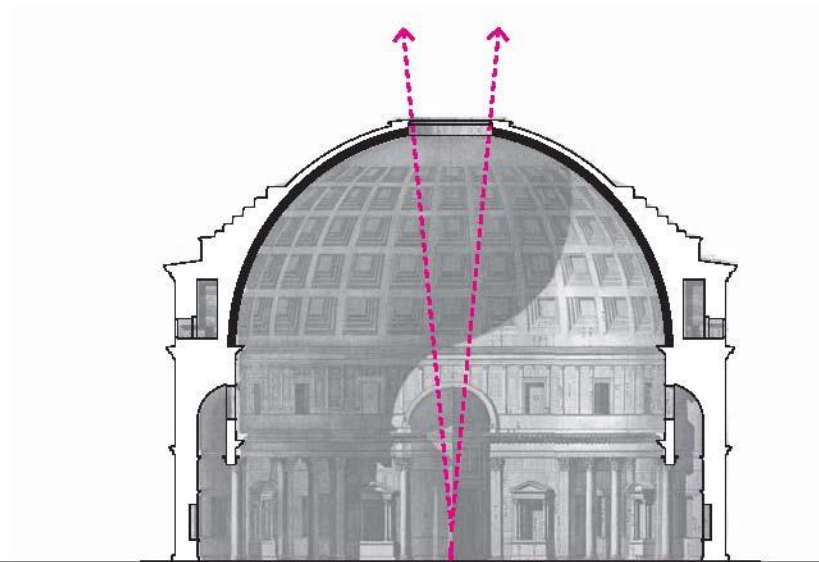


02

BACKDROP

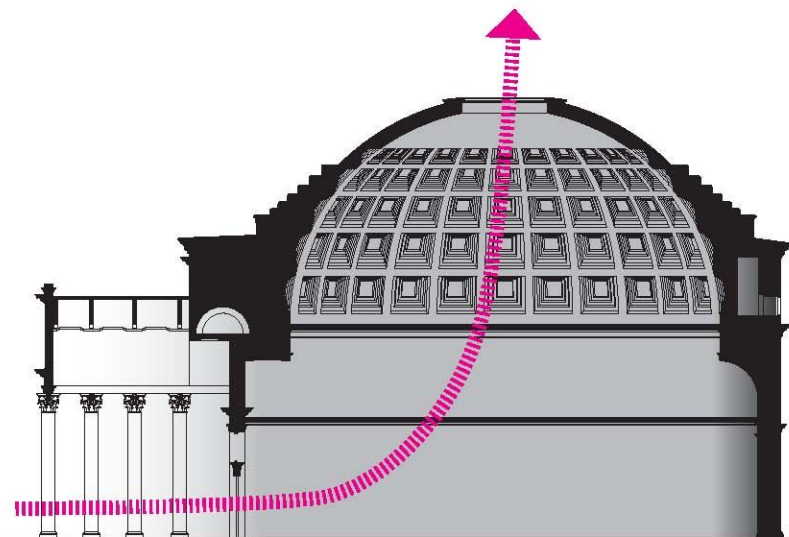
III-A-1
FRM-SH





02

AMAZEMENT



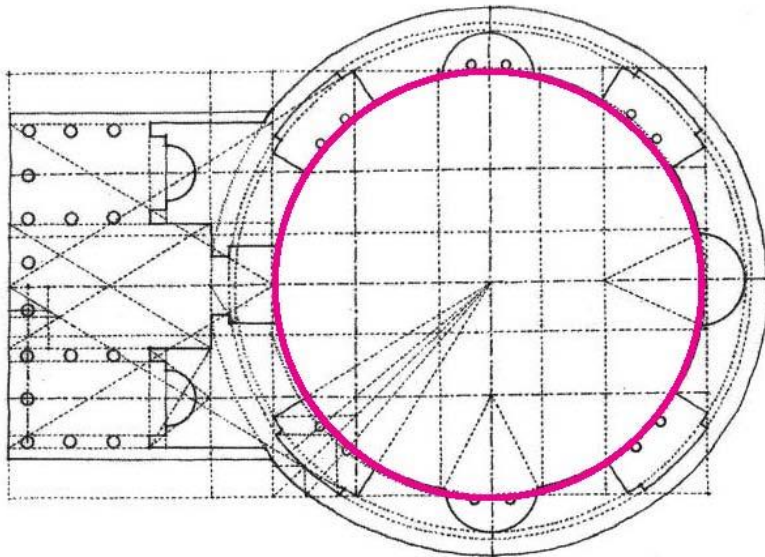
02

SUDDEN



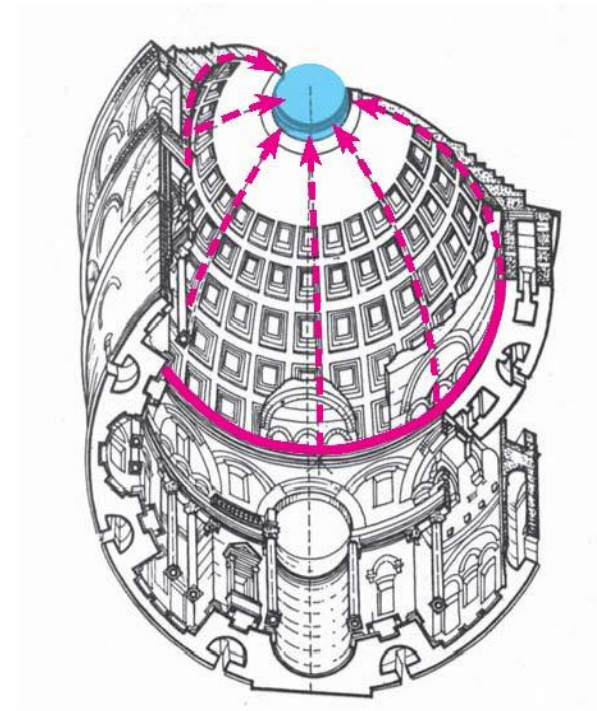






02

SIMPLICITY



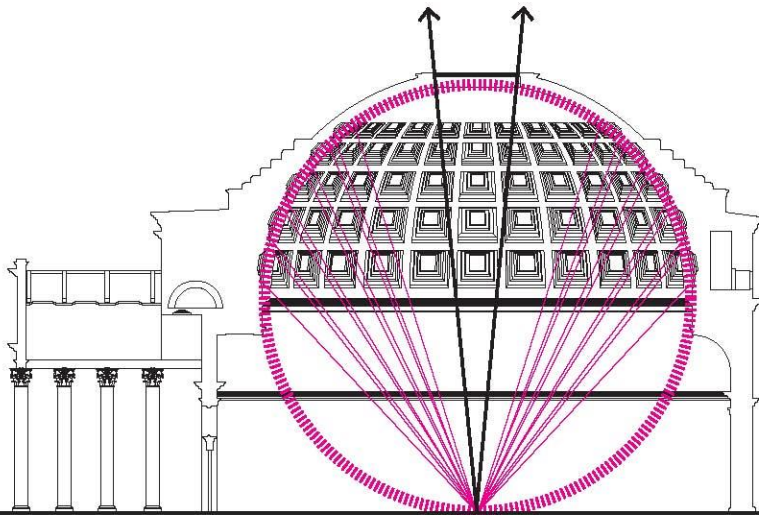
02

CENTRALIZED FOCUS





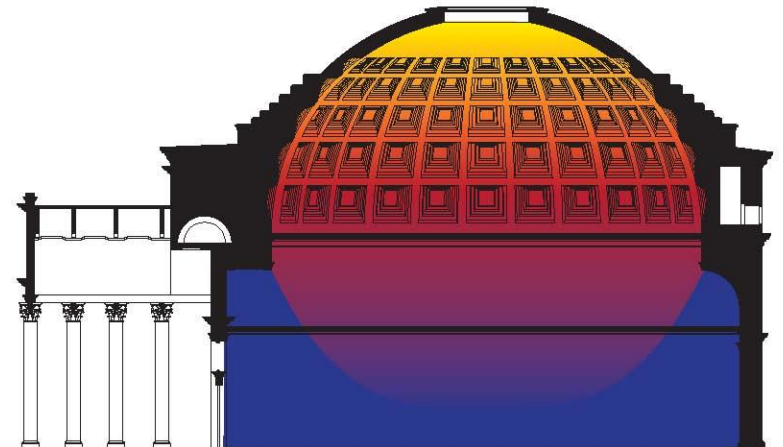




02

PERFECTION

III-D-2
SPC-CR



02

HERMETIC




III-D-1
SPC-LT






Pantheon (Subjective) EAEs

Ritual-Architectural Presentations





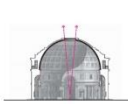
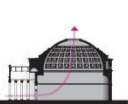



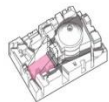






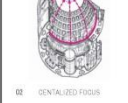

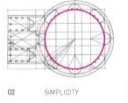

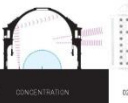
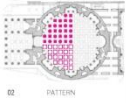


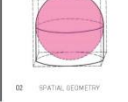
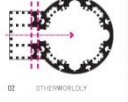

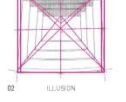
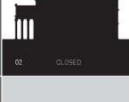







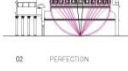
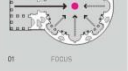


-  Theatre
-  Contemplation
-  Sanctuary

 PANTHEON	
Outcome	
<i>Joy</i>	1 (60%)
<i>Insight</i>	2 (55%)
<i>Peace</i>	2 (55%)
<i>Beauty</i>	3 (50%)
Qualities	
<i>Sensual</i>	1 (75%)
<i>Emotional</i>	2 (65%)
<i>Timeless</i>	3 (50%)
<i>Analytical</i>	
<i>Personal</i>	

PANTHEON

CONTEMPLATION

THEATRE

ENVIRONMENT			FORM			SPACE						
URBAN	SITE	LANDSCAPE	SHELL	EXT. DETAILS	STRUCTURE	CORE	RITUAL	ORGANIZATION	LIGHT	ACOUSTICS	INT. DETAILS	FURNITURE
												
02 APPEALING	02 INCLUSIVE		02 SHELTER		02 INVITING PLATFORM	02 AMBIGUITY		02 SUDDEN	02 SPECTACLE		02 BACKDROP	02 RITUAL FOCUS
												
	02 STAGE		02 PARTISANARY			02 DELIGHTFUL		02 SHOCK	02 EMOEDS		02 GRACIFUL	
												
			02 CONTAINED			02 SENSUALIZED FOCUS	02 DIRECT FOCUS	02 SIMPLICITY	02 AWARENESS	02 CONCENTRATION	02 PATTERN	
												
			02 BALANCE	02 COMMEMORATIVE		02 SPATIAL GEOMETRY		02 OTHERWORLDLY	02 TIMELESS		02 ILLUSION	
												
			02 CLOSED		02 HEAVENNESS	02 ENCLASURE		01 RESTRICTION	02 HELMETIC	02 RETREAT		
												
			01 BEAUTY		02 PROTECTIVE	02 PERFECTION		01 FOCUS	02 CONSPICUOUS	02 SILENCE		

PANTHEON

OBJECTIVE

PERCENT

RANK

SUBJECTIVE

PERCENT

RANK

THEATRE

58%

1

68%

1

CONTEMPLATION

50%

2

66%

2

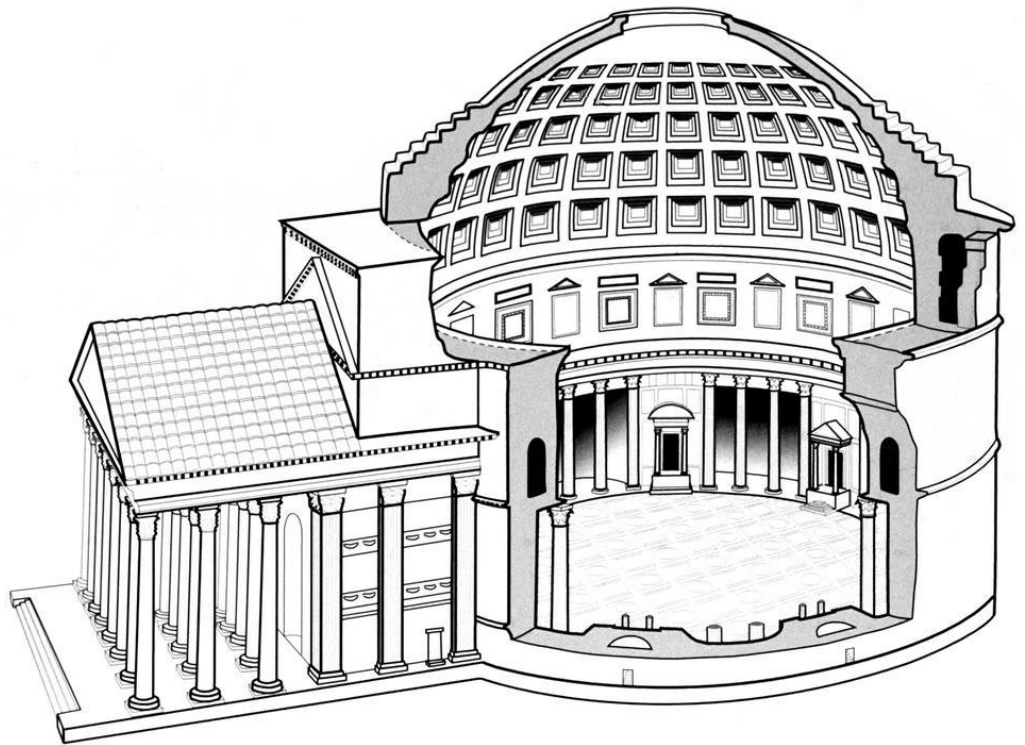
SANCTUARY

40%

3

49%

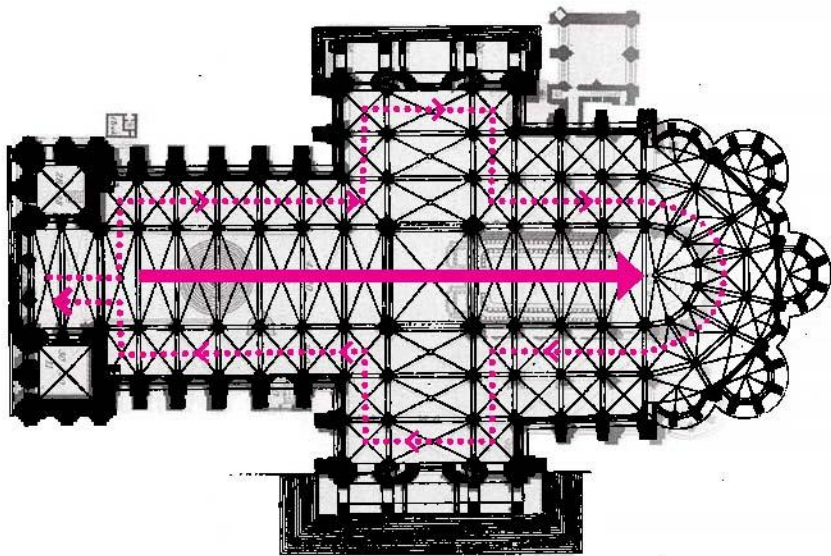
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Chartres Cathedral





02 INCLUSIVE EXPERIENCE



02

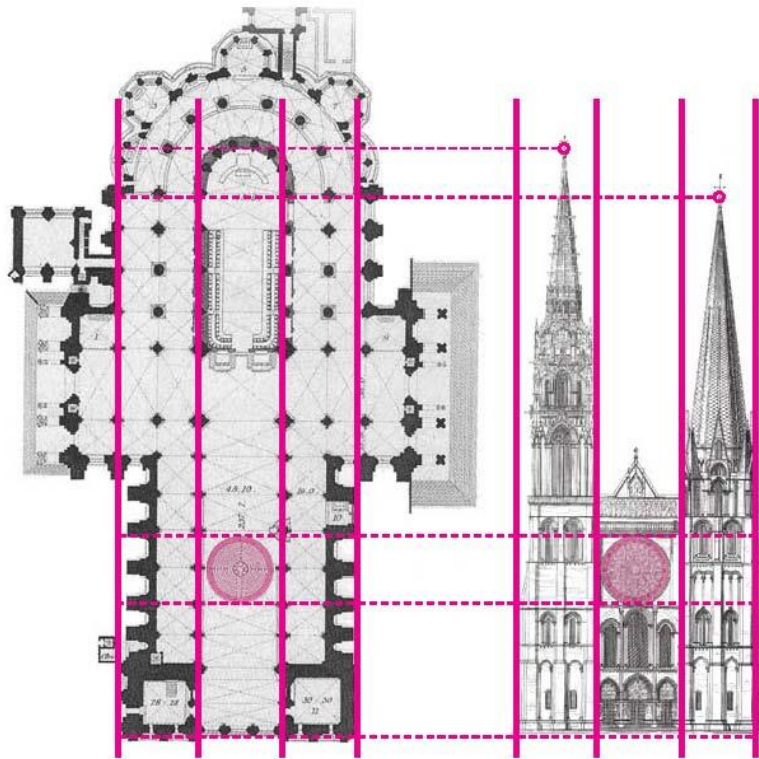
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02 SYMBOLIC MEANINGS

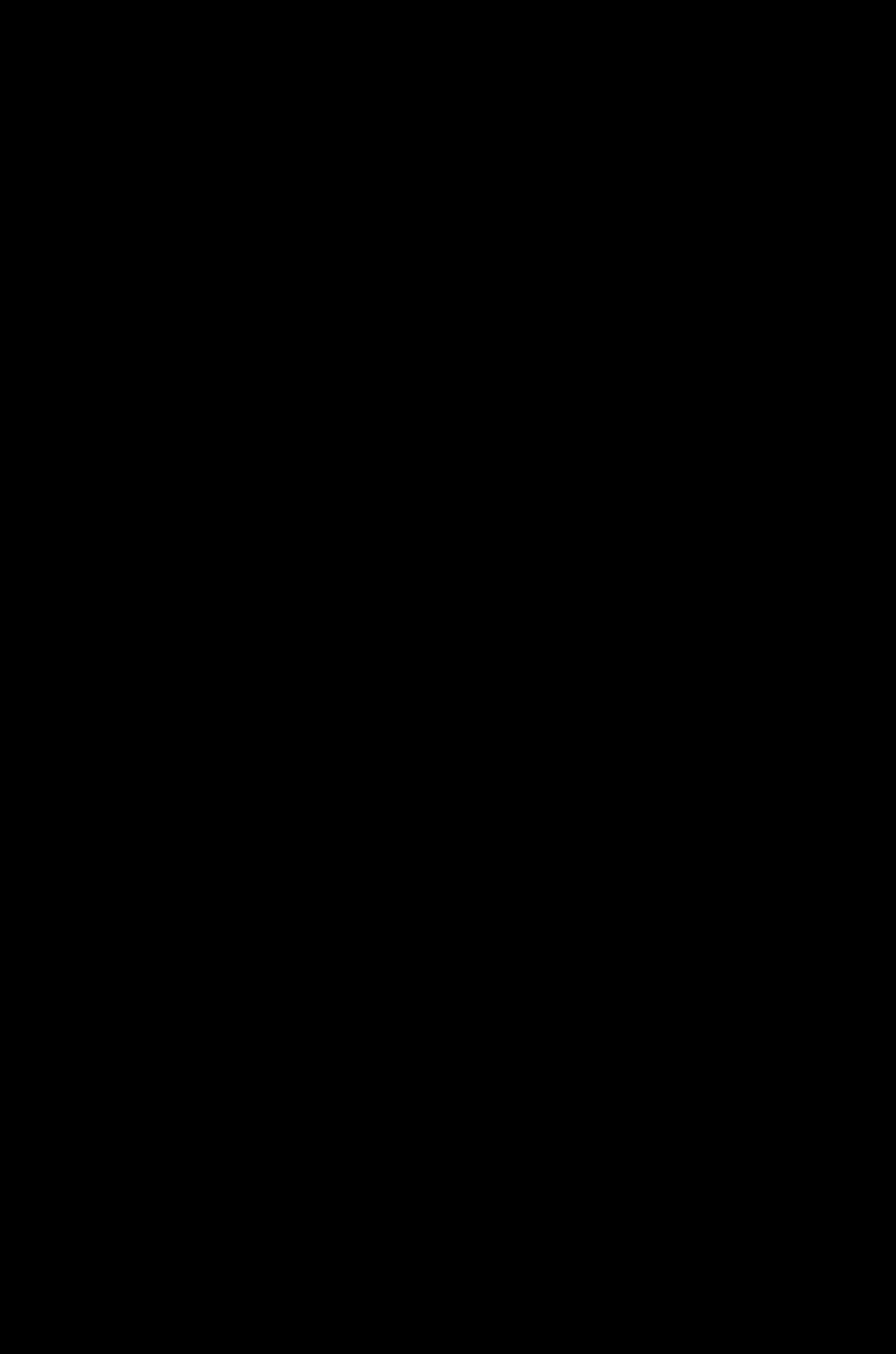
III-B-1
FRM-SH

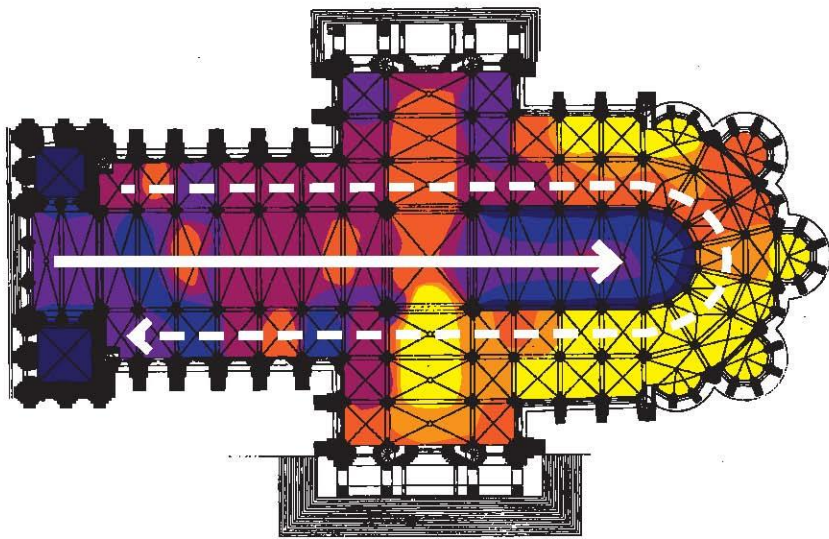


02 ANAGOGICAL

III-B-2
SPC-LT

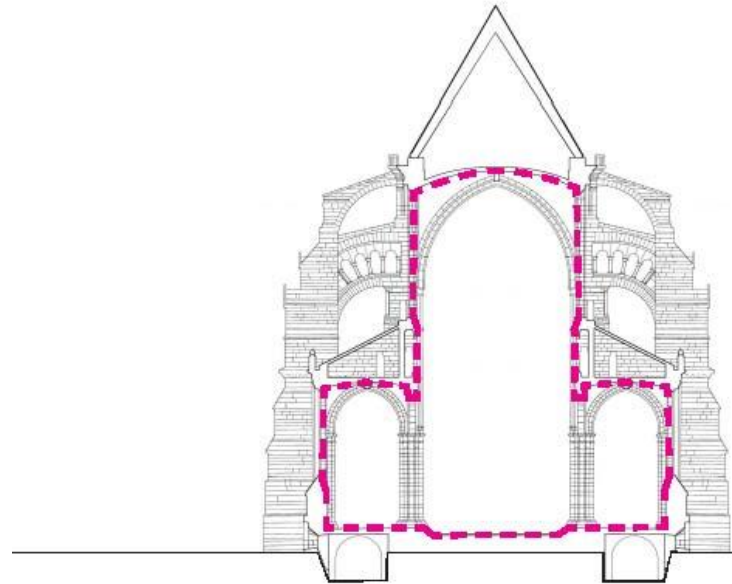






02

PURIFICATION






02

ENCLOSURE



Chartres (Subjective) EAEs

Ritual-Architectural Presentations

-  Theatre
-  Contemplation
-  Sanctuary

























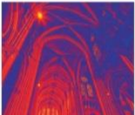
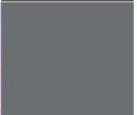





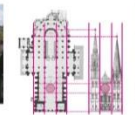

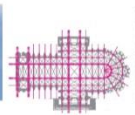
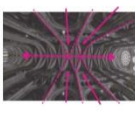

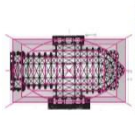







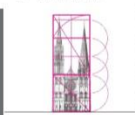







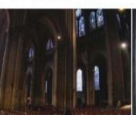







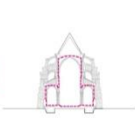

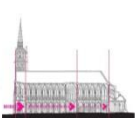







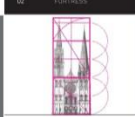





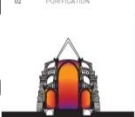



<i>Outcome</i>	CHARTRES
<i>Joy</i>	2 (46%)
<i>Insight</i>	1 (69%)
<i>Peace</i>	2 (46%)
<i>Beauty</i>	2 (46%)
<i>Qualities</i>	
<i>Sensual</i>	3 (62%)
<i>Emotional</i>	1 (85%)
<i>Timeless</i>	2 (77%)
<i>Analytical</i>	5 (46%)
<i>Personal</i>	4 (50%)

CHARTRES

THEATRE

CONTEMPLATION

SANCTUARY

		ENVIRONMENT			FORM			SPACE						
		URBAN	SITE	LANDSCAPE	SHELL	EXT. DETAILS	STRUCTURE	CORE	RITUAL	ORGANIZATION	LIGHT	ACOUSTICS	INT. DETAILS	FURNITURE
ALLUREMENT														
	MESSAGES													
CONTEMPLATION	ALLUREMENT													
	MESSAGES													
SANCTUARY	ALLUREMENT													
	MESSAGES													



CHARTRES

OBJECTIVE

PERCENT

RANK

SUBJECTIVE

PERCENT

RANK

THEATRE

77%

1

67%

1

CONTEMPLATION

75%

2

66%

2

SANCTUARY

63%

3

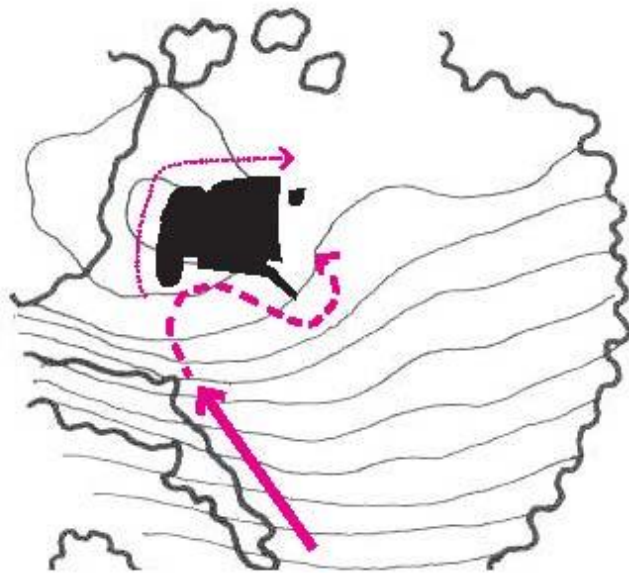
53%

3





Chapel of Ronchamp



02

PARTICIPATORY



02

REVEALING LAYERS

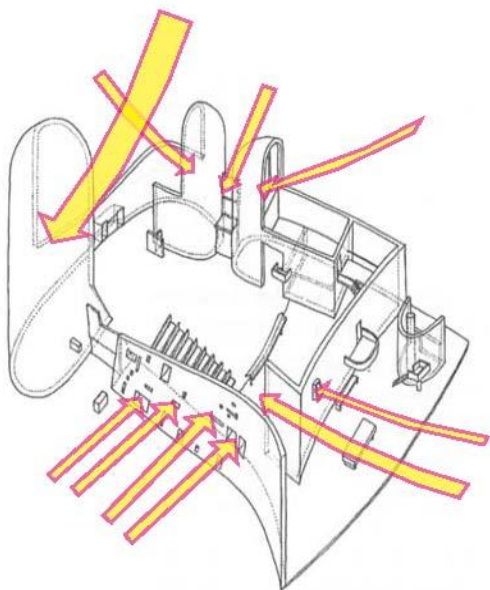






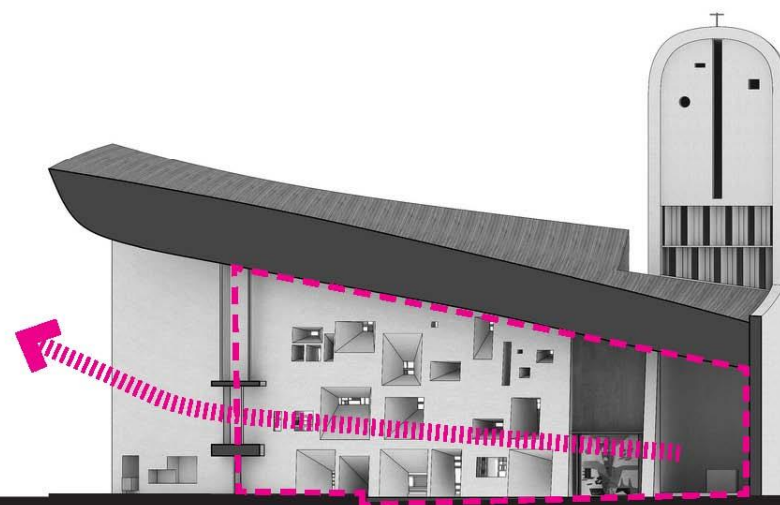






02

FILTERED



02

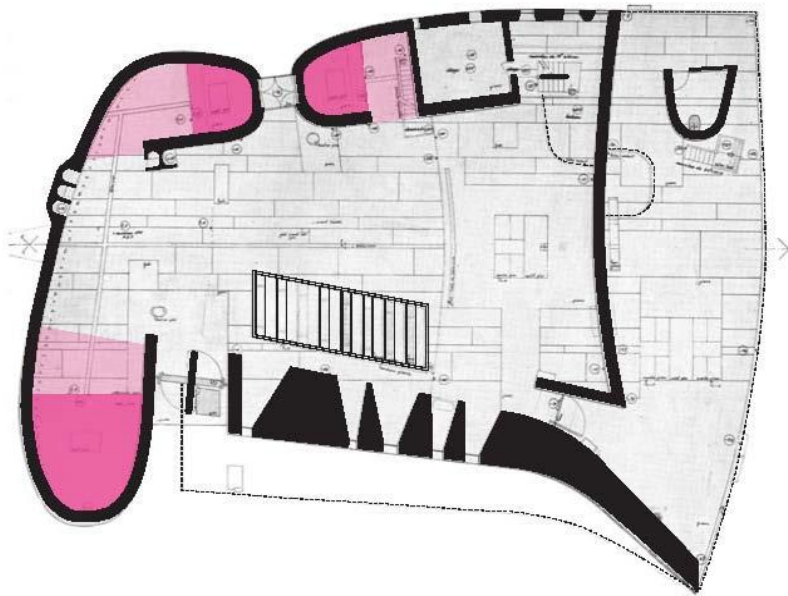
ASCENDING FOCUS





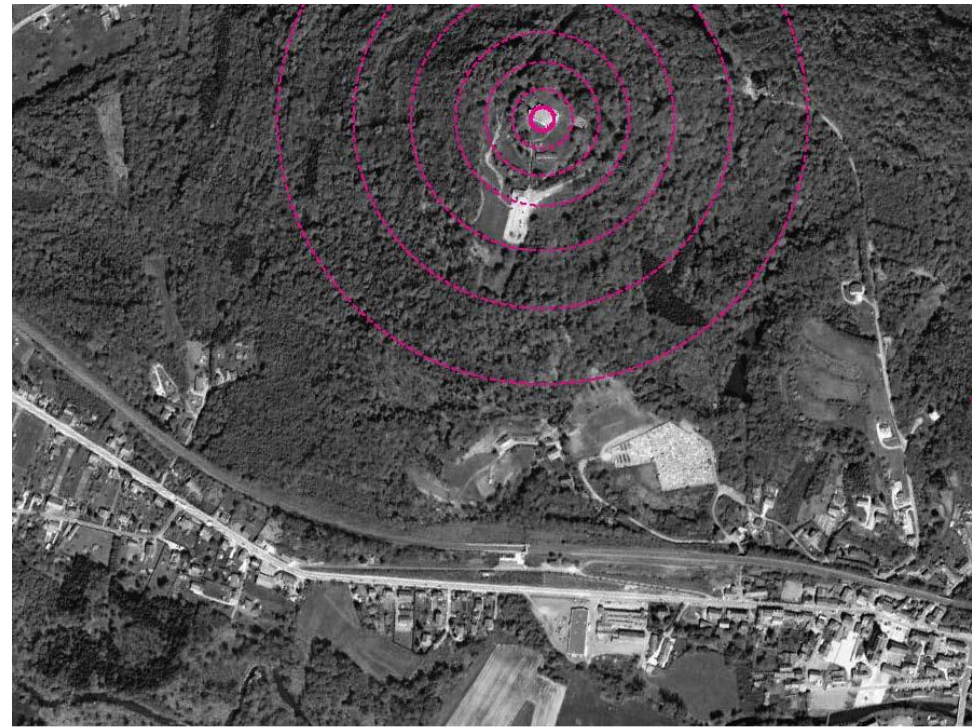






02

SOLITUDE






02


REMOTENESS



Ronchamp (Subjective) EAEs

Ritual-Architectural Presentations

-  Theatre
-  Contemplation
-  Sanctuary




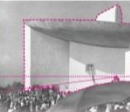
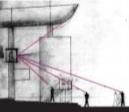

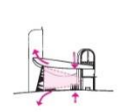










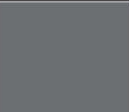
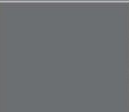


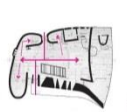

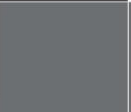



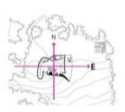

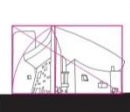







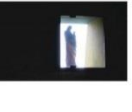
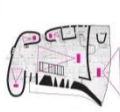

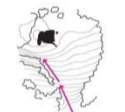







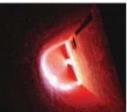






















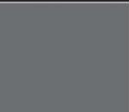

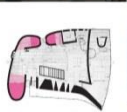

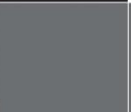




Outcome	RONCHAMP
<i>Joy</i>	2 (57%)
<i>Insight</i>	1 (62%)
<i>Peace</i>	3 (48%)
<i>Beauty</i>	2 (57%)
Qualities	
<i>Sensual</i>	2 (71%)
<i>Emotional</i>	1 (76%)
<i>Timeless</i>	3 (52%)
<i>Analytical</i>	
<i>Personal</i>	4 (50%)

THEATRE

CONTEMPLATION

SANCTUARY

		ENVIRONMENT			FORM			SPACE							
		URBAN	SITE	LANDSCAPE	SHELL	EXT. DETAILS	STRUCTURE	CORE	RITUAL	ORGANIZATION	LIGHT	ACOUSTICS	INT. DETAILS	FURNITURE	
MESSAGES	ALLUREMENT	 02 VISIBILITY	 02 PERFORMATIVE	 02 REVEALING LAYERS	 02 SHELL OF DEVOTION	 02 OBJECT OF DEVOTION	 00	 02 COMPROMISE RELEASE	 02 COMMUNAL	 02 FIXED STAGE	 02 SURPRISE	 02 PERFORMANCE	 02 CONTRADICTION	 02 FIXED AUDIENCE	
	ALLUREMENT	 00	 00	 02 BACKDROP	 02 PARTICIPATORY	 00	 00	 02	 02	 02 SURPRISE	 00 WARMTH	 00	 00	 02 RITUALISTIC	
MESSAGES	ALLUREMENT	 02 PILGRIMAGE	 02 SACRED DIRECTIONS	 02 BLURRED NOISE	 02 GRACEFUL	 02 CURIOSITY	 02 MYSTERY	 02 ASCENDING FOCUS	 02 MEDIATIVE SUPPORTS	 01 PLANAR GEOMETRY	 02 FILTERED	 02 GAVE LIKE	 02 FOCAL PROP	 02 OBJECTS OF FOCUS	
	ALLUREMENT	 02 BEACON	 02 INTROSPECTIVE CLIMB	 00	 02 SIMPLICITY	 02 ABSTRACTION	 00	 00	 00	 00	 02 REDEMPTION	 00	 02 DRIFTED	 00	
MESSAGES	ALLUREMENT	 02 REMITTENCE	 02 ARDUOUS PATH	 02 PROTECTIVE EDGE	 02 PROTECTION	 00	 02 MARSH	 02 FRANKING COLUMN	 02 ERADICATION	 01 CONSTRUCTIVE FOCUS	 02 PURIFICATION	 02 SILENCE	 02 INACCESSIBLE	 02 SEPARATENESS	
	ALLUREMENT	 02 SEPARATENESS	 00	 02 RETREAT	 02 BEAUTY	 00	 00	 00	 00	 02 SOLITUDE	 02 PURIFYING	 00	 00	 00	



OBJECTIVE

PERCENT

RANK

SUBJECTIVE

PERCENT

RANK

THEATRE

73%

1

66%

1

CONTEMPLATION

71%

2

65%

2

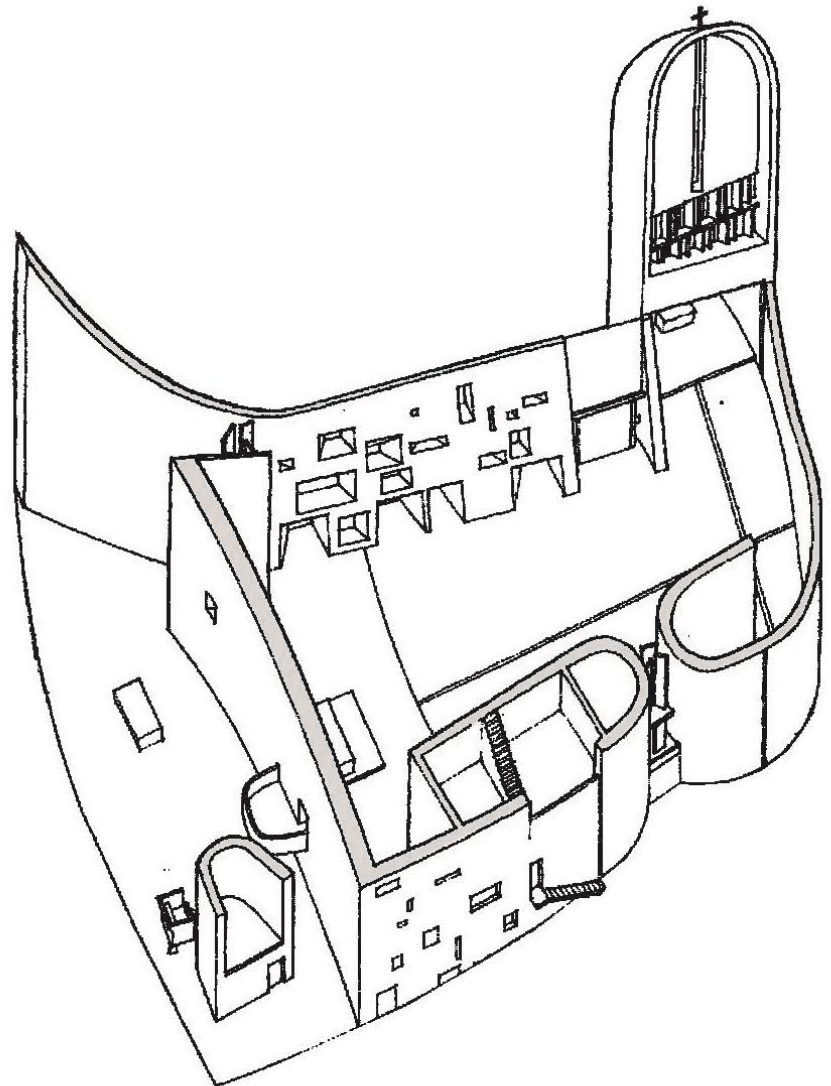
SANCTUARY

65%

3

50%

3






LINKING THE SUBJECTIVE AND OBJECTIVE:

*Conclusions for The Pantheon, Chartres Cathedral,
and the Chapel at Ronchamp*

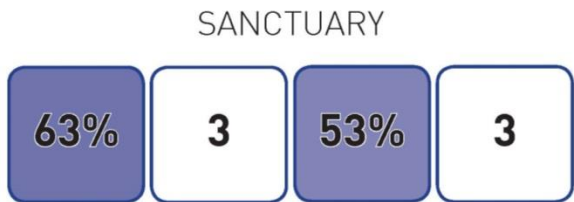
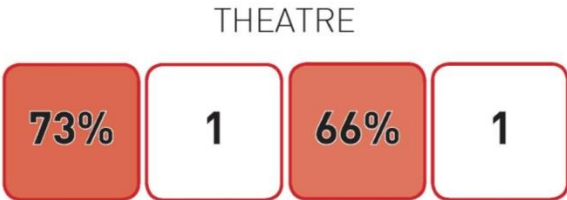
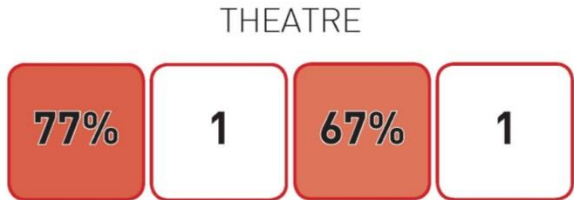
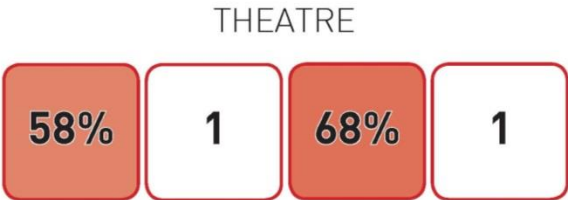
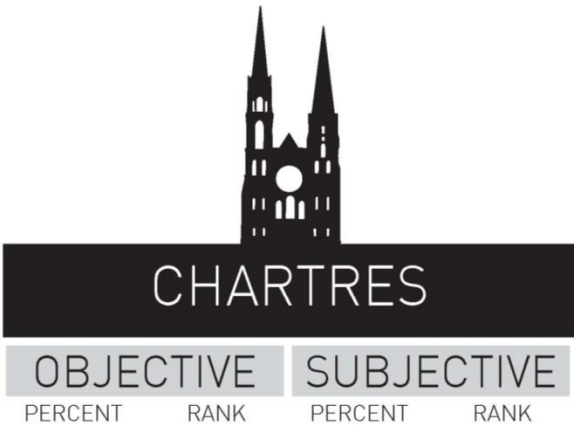
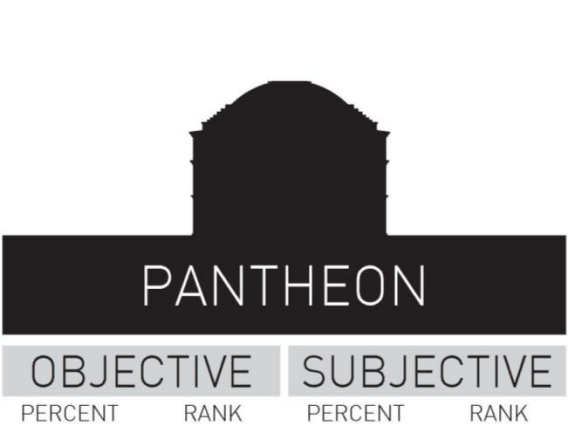
Summary of Subjective EAEs

Ritual-Architectural Presentations

- Theatre
- Contemplation
- Sanctuary

Outcome	 PANTHEON	 CHARTRES	 RONCHAMP
<i>Joy</i>	1 (60%)	2 (46%)	2 (57%)
<i>Insight</i>	2 (55%)	1 (69%)	1 (62%)
<i>Peace</i>	2 (55%)	2 (46%)	3 (48%)
<i>Beauty</i>	3 (50%)	2 (46%)	2 (57%)
Qualities			
<i>Sensual</i>	1 (75%)	3 (62%)	2 (71%)
<i>Emotional</i>	2 (65%)	1 (85%)	1 (76%)
<i>Timeless</i>	3 (50%)	2 (77%)	3 (52%)
<i>Analytical</i>		5 (46%)	
<i>Personal</i>		4 (50%)	4 (50%)

LINKING OBJECTIVE TO SUBJECTIVE: RANKINGS



LINKING OBJECTIVE TO SUBJECTIVE: PERCENTAGES

Jones' RAP		Objective			Subjective	
Category	O / S = DP	Total Points	Percentage	Rank	EAE Percent	EAE Rank

THE PANTHEON

Theatre	-10%	30	58%	1	68%	1
Contemplation	-16%	26	50%	2	66%	2
Sanctuary	-9%	21	40%	3	49%	3

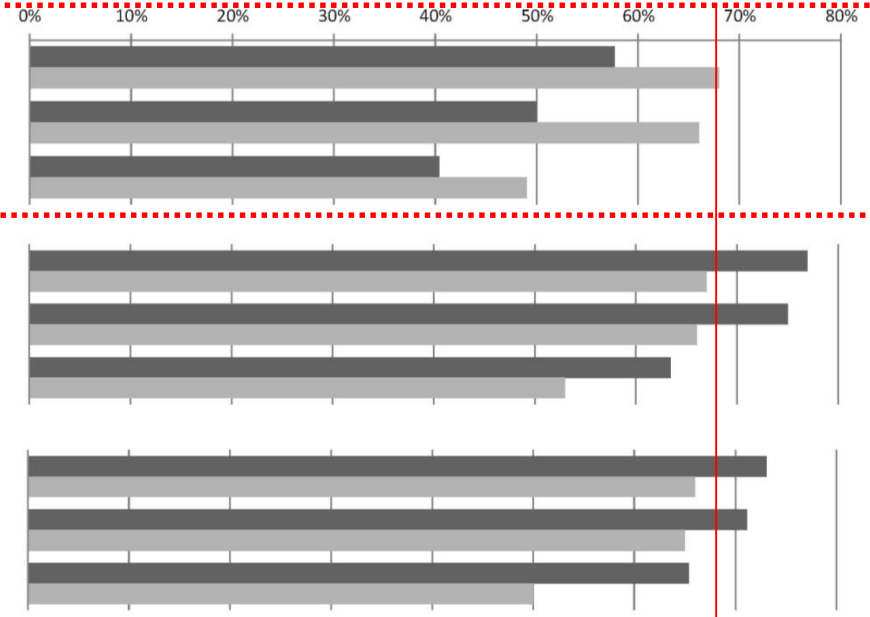
CHARTRES CATHEDRAL

Theatre	10%	40	77%	1	67%	1
Contemplation	9%	39	75%	2	66%	2
Sanctuary	10%	33	63%	3	53%	3


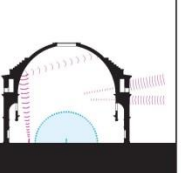

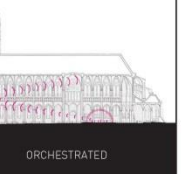


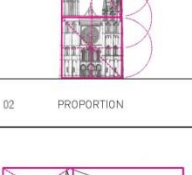
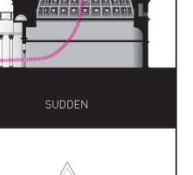

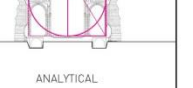
CHAPEL AT RONCHAMP

Theatre	7%	38	73%	1	66%	1
Contemplation	6%	37	71%	2	65%	2
Sanctuary	15%	34	65%	3	50%	3

■ Objective ■ Subjective



CONCRETE FINDINGS LINKING ARCHITECTURE AND EXPERIENCE

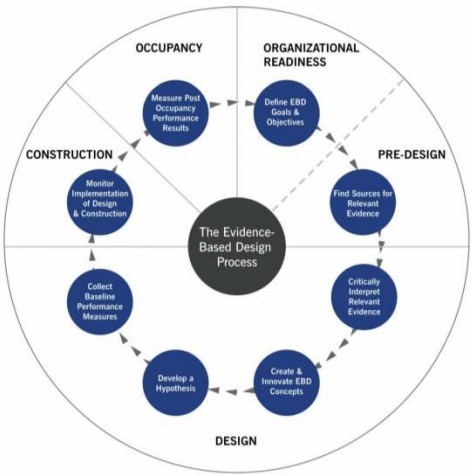
		OBJECTIVE	→ QUALITATIVE ←	SUBJECTIVE			OBJECTIVE	→ QUALITATIVE ←	SUBJECTIVE
SHELL (FORM)	PANTHEON	 02 SPECTACLE		<p>"The real impact took place when I entered the interior, my gaze took me immediately to the shaft of light and then upward to the center of the dome. It really did take my breath away."</p> <p>88% - Nonvocal 80% - Sudden 77% - Body Reactions 75% - Sensual 65% - Emotional</p>	CORE (SPACE)	PANTHEON	 02 CONCENTRATION		<p>"I was not expecting the overwhelming sense of awe and quiet that I felt when I walked inside the space. Even with dozens of other tourists inside, the space felt oddly intimate and as close to anything ethereal that I had ever experienced in a piece of architecture."</p> <p>95% - Silence 88% - Nonvocal 55% - Peace 41% - Controllable</p>
	CHARTRES	 02 EMOTIONAL NARRATIVE		<p>"I remember walking into the nave which seemed to be in twilight ... it was deeply moving and something which still brings tears to my eyes."</p> <p>85% - Emotional 73% - Body Reactions 62% - Sensual 46% - Stable 36% - Weeping</p>		CHARTRES	 02 ORCHESTRATED		<p>"When I finally got there, the big front doors were opened ... and a group of brightly clad priests walked down the aisle, the sunlight was streaming in, the incense was sweet in my nostrils and the power of the Gregorian chants (reverberating at 6 seconds in the stone cavern that is Chartres Cathedral) lifted me almost off my feet."</p> <p>92% - Silence 83% - Nonvocal 54% - Personal 54% - Gradual 46% - Peace 46% - Stable</p>
	RONCHAMP	 02 SURPRISE		<p>"the effect of the light going through the small colourful openings of the thick wall of the chapel ... was breathtaking!"</p> <p>95% - Memory 90% - Spontaneous 76% - Emotional 71% - Sensual 57% - Joy</p>		RONCHAMP	 02 CAVE-LIKE		<p>"At a certain point when there was no one else inside, I felt an intense silence for about 60 seconds ... During this profound acoustic silence I was able to hear and feel volume and space, understanding the spiritual power of the place."</p> <p>95% - Silence 75% - Nonvocal 48% - Personal 48% - Peace 43% - Gradual</p>
	CHARTRES	 02 PROPORTION		<p>"I could see the outline of Chartres Cathedral from maybe 10-15 miles away ... The last 10 miles went by in a dream. The Cathedral was getting more and more detailed as I watched it come closer in a trance."</p> <p>100% - Profound 100% - Memory 90% - Vivid 85% - Awareness 62% - Over 30 minutes 54% - Gradual</p>		PANTHEON	 02 SUDDEN		<p>"I expected it would be impressive, but then I stepped in and as my eyes adjusted to the light and that dome opened around me I didn't see how I could do anything else with my life ... I had to lie on the floor in the center to really see and feel it."</p> <p>80% - Sudden 80% - Spontaneous 77% - Body Reactions 75% - Sensual 65% - Emotional</p>
	RONCHAMP	 02 GRACEFUL		<p>"I recall a visceral reaction to the exterior of the building. The curves were appealing and the scale and proportions moved me ... I did not intellectualize those feelings at the time."</p> <p>95% - Profound 90% - Spontaneous 85% - Vivid 80% - Intense 71% - Surprising</p>		CHARTRES	 02 ANALYTICAL		<p>"Being at Chartres I decided to become a nun. This is particularly noteworthy in that I am a male, Calvinist. I got over the nun part but still recall the feeling of wholeness there."</p> <p>"I made the effort to drive out to Chartres to hopefully have the ultimate experience of being in her presence. She didn't let me down. It was the greatest architectural moment of my life. I felt it in all my senses."</p> <p>100% - Memory 85% - Awareness 82% - Pedagogical 77% - Timeless 69% - Insight 46% - Analytical</p>



Design Guidelines

- Designers aiming for a specific ritual-architectural experience should pay attention to objective conditions
- This includes the external form's **shell** and
- The interior space's **core**, **organization**, **light**, and **interior details**.

EVIDENCE-BASED DESIGN PROCESS



RITUAL-ARCHITECTURAL DESIGN PROCESS

