



**UNIVERSITÀ DI PARMA**

DIPARTIMENTO DI INGEGNERIA E ARCHITETTURA  
CORSO DI LAUREA IN ARCHITETTURA E CITTA' SOSTENIBILI

**BUILDING INFORMATION MODELING:  
DIGITAL MODELING OF ARCHITECTURE  
DIGITAL VISUALIZATION OF PROJECT**

A.A. 2022-2023, Prof. Sandra Mikolajewska  
11/05/2023

# RELATIONSHIP BETWEEN VISUAL ARTS (PHOTOGRAPHY) AND ARCHITECTURE COMMUNICATION. COMPOSITION ANALYSIS.



YHLAA Studio (Photograph)



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## WHAT DOES THE WORD **RENDERING** MEAN?

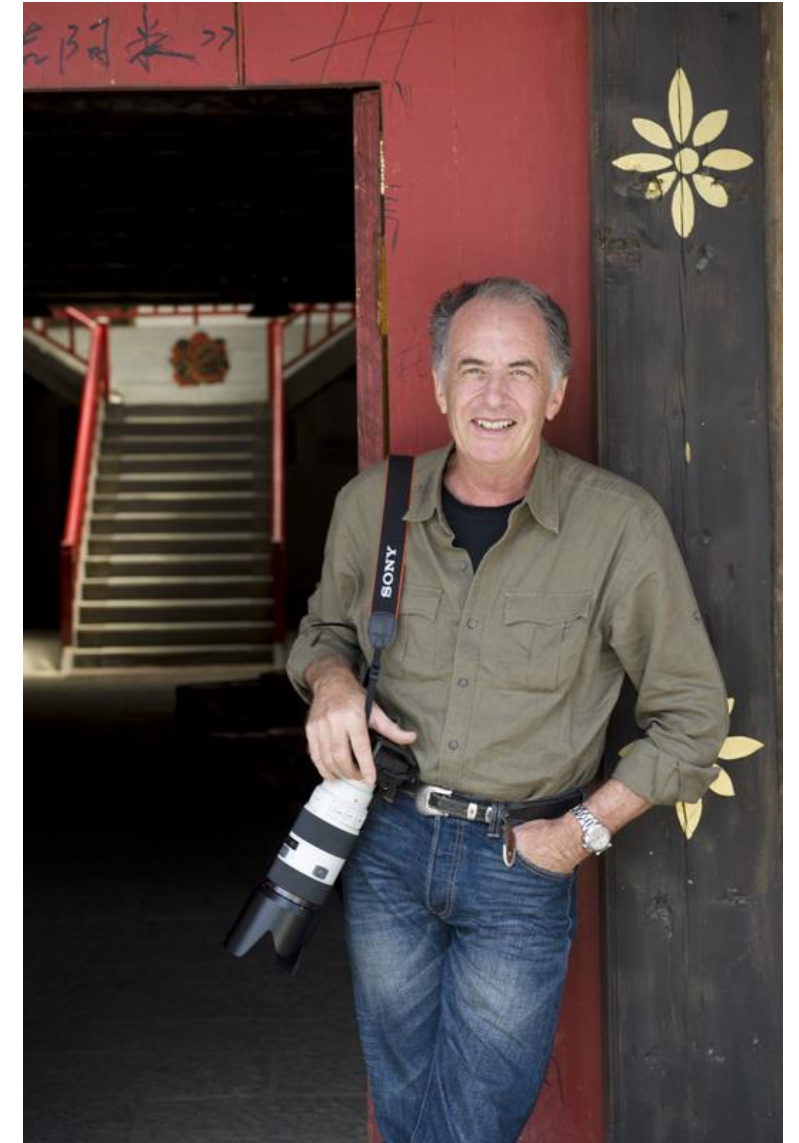
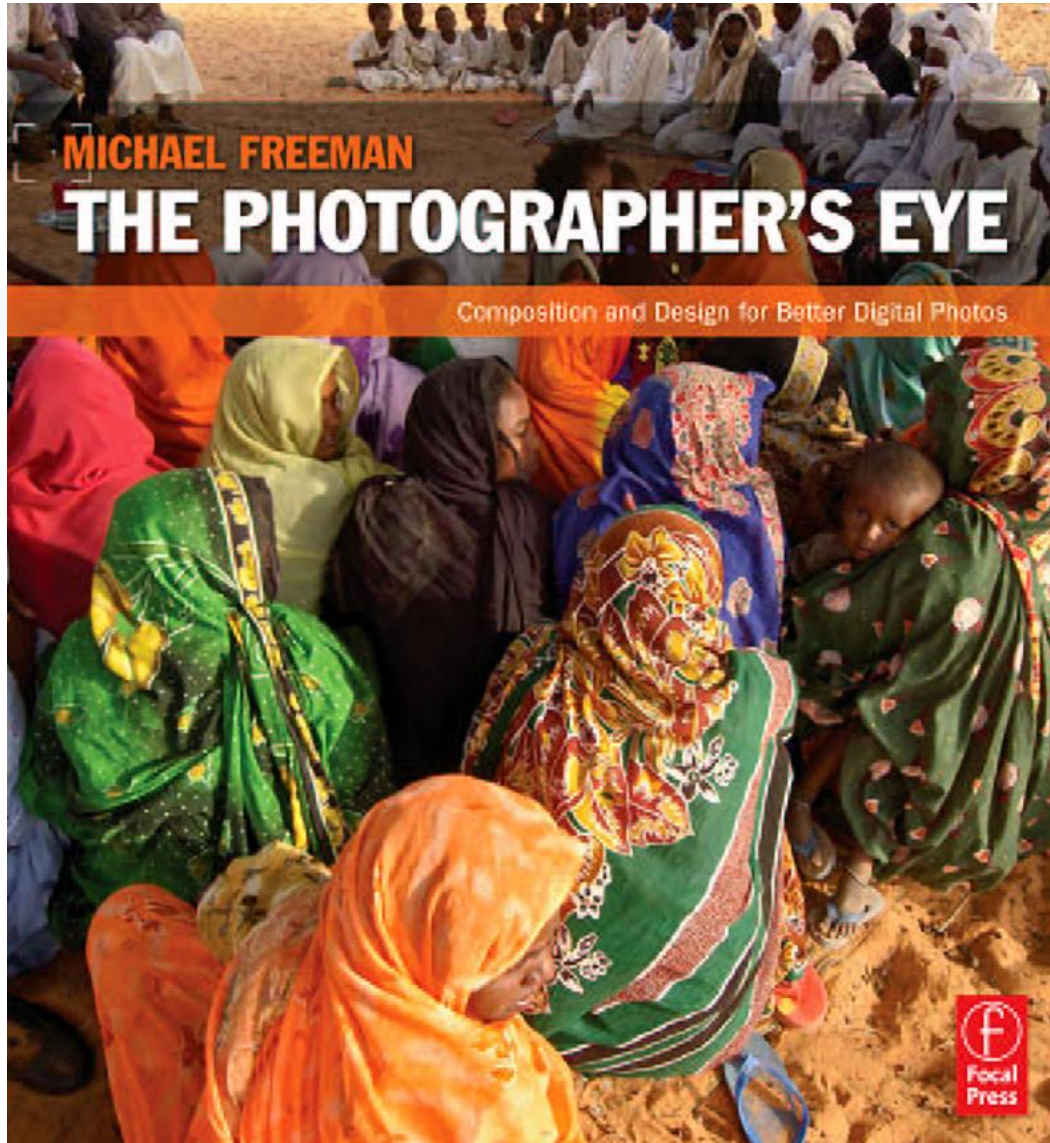
**RENDERING** IS THE **PROCESS** OF GENERATING BITMAP IMAGES (2D) FROM 3D MODELS VIEWS (IT BASICALLY MEANS TAKING A **PHOTOGRAPH** OF THE SCENE WITH A VIRTUAL CAMERA).

THE PROCESS OF CREATING A RENDERING IS ANALOGOUS TO THE DESIGN PROCESS OF AN ARCHITECTURE; IT REQUIRES **SPECIFIC CHOICES AND PREPARATORY STUDIES** (ON COMPOSITION, SETTINGS, ATMOSPHERE, COLORS, ETC.).

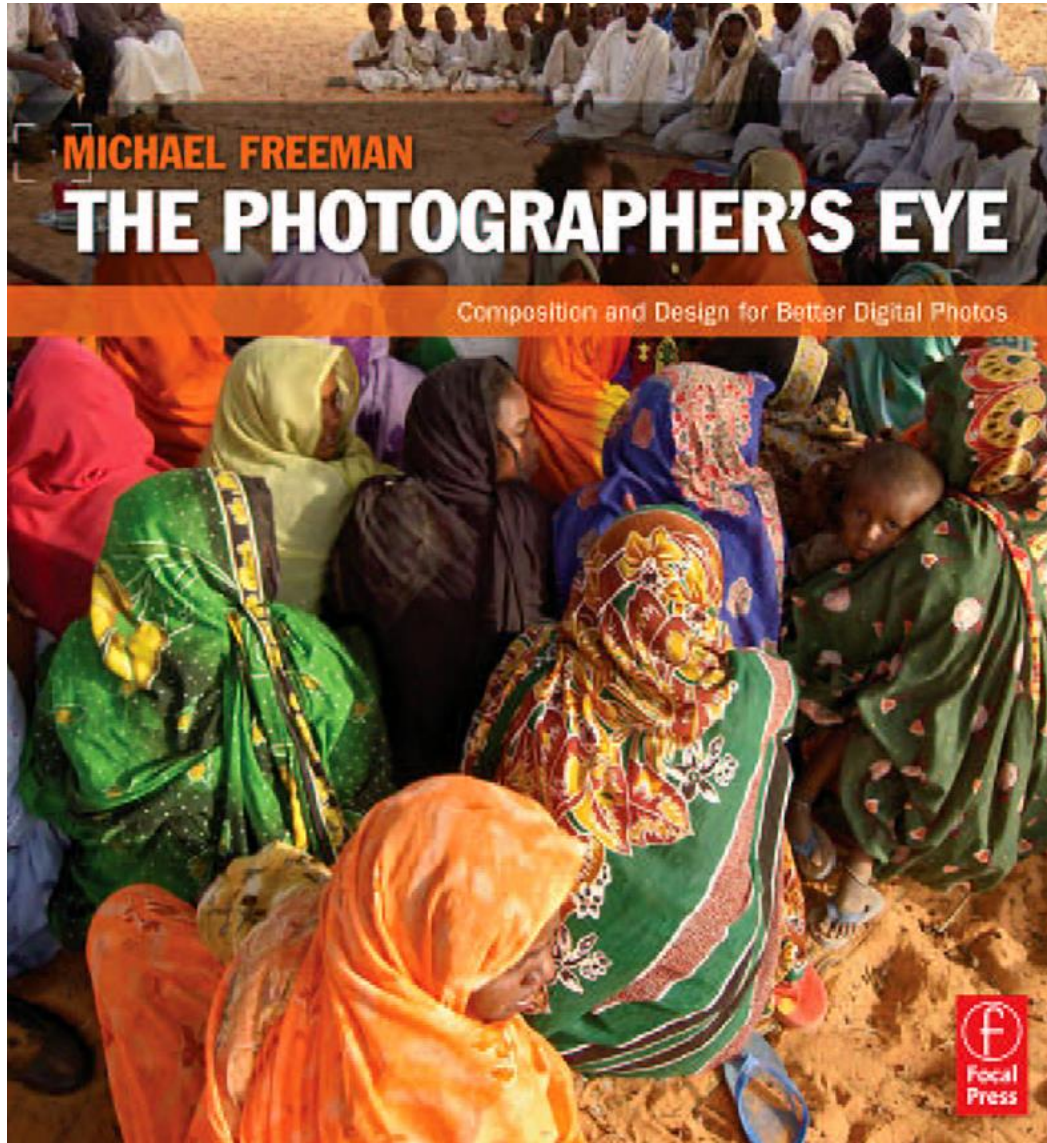
COMPOSITION ESSENTIALLY MEANS *ORGANIZATION* (OF THE ALL GRAPHIC ELEMENTS WITHIN THE FRAME).



MICHAEL FREEMAN, THE PHOTOGRAPHER'S EYE.  
COMPOSITION AND DESIGN FOR BETTER DIGITAL PHOTOS.



# MICHAEL FREEMAN, THE PHOTOGRAPHER'S EYE. COMPOSITION AND DESIGN FOR BETTER DIGITAL PHOTOS.



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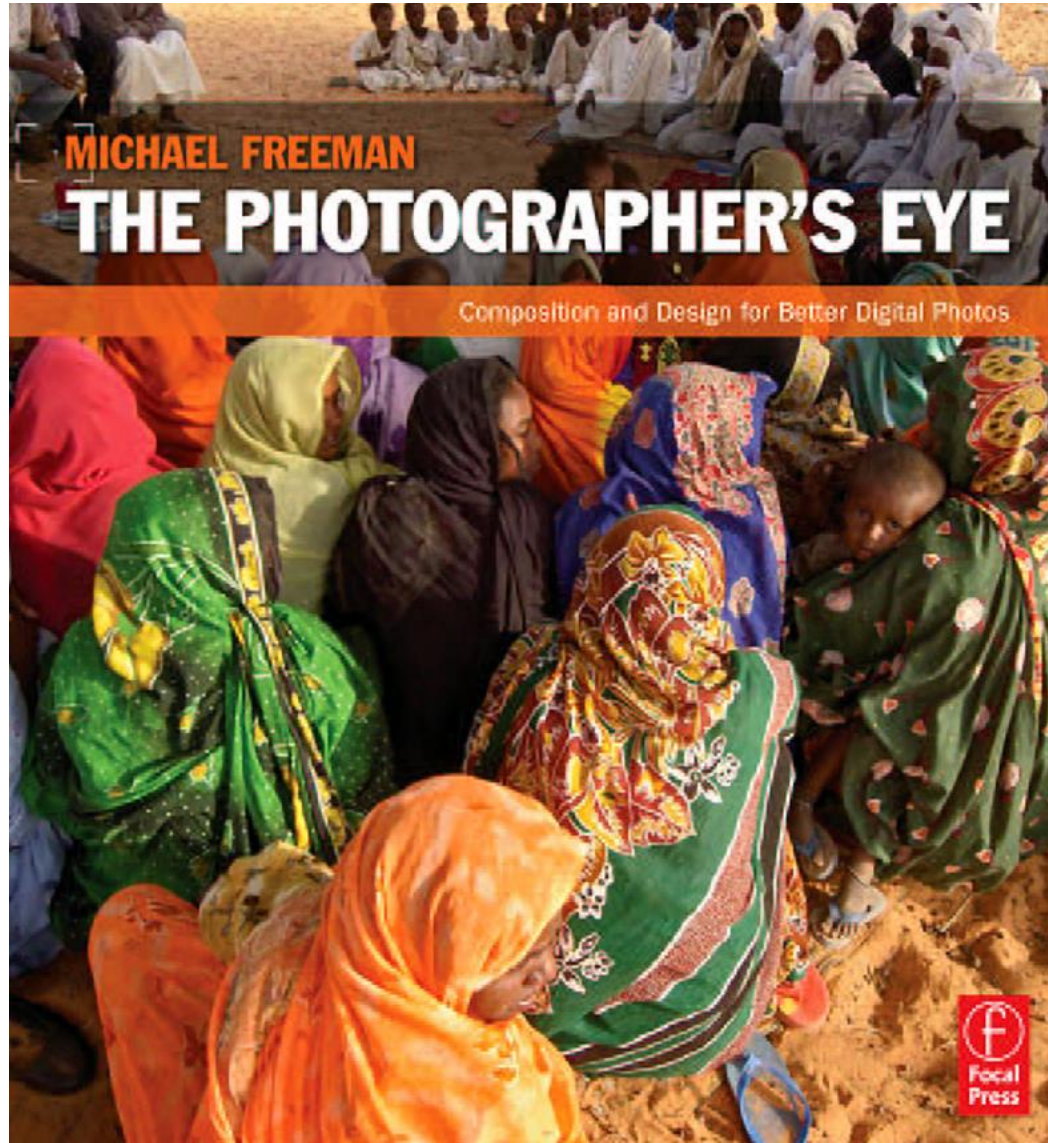


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“THE ABILITY OF FRAMING DEPENDS ON TWO FACTORS:  
**KNOWLEDGE** OF THE PRINCIPLES OF COMPOSITION AND  
**EXPERIENCE** GAINED FROM TAKING MANY PHOTOGRAPHS.”

A SOLID **CULTURAL BACKGROUND** IS FUNDAMENTAL!

PHOTOGRAPHY FIELD [architectural photography] & RENDERING FIELD [architectural renderings]



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FG+SG fotografia de arquitetura | architectural photography

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recent work by Fernando Guerra

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1336 projects

**Álvaro Siza**  
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S81  **Álvaro Siza**  
Casa do Cinema Manoel de Oliveira, Parque de Serralves, Porto, Pt 2019


S80  **Álvaro Siza**  
IN/DISCIPLINA, Museu de Serralves, Porto, Pt 2019


S79  **Álvaro Siza + Carlos Castanheira**  
Mausoléu no Cemitério "Chin Pao San", Jinshan, Taiwan 2017

S78  **Álvaro Siza + Carlos Castanheira**  
Igreja Saya Park, Coreia do Sul 2017

S77  **Álvaro Siza + Carlos Castanheira**  
China Design Museum, Hangzhou, China 2017

S76  **Álvaro Siza + Carlos Castanheira**  
(in construction) China Design Museum, Hangzhou, China 2017


S75  **Álvaro Siza + Carlos Castanheira**  
Saya Park, Coreia do Sul 2017

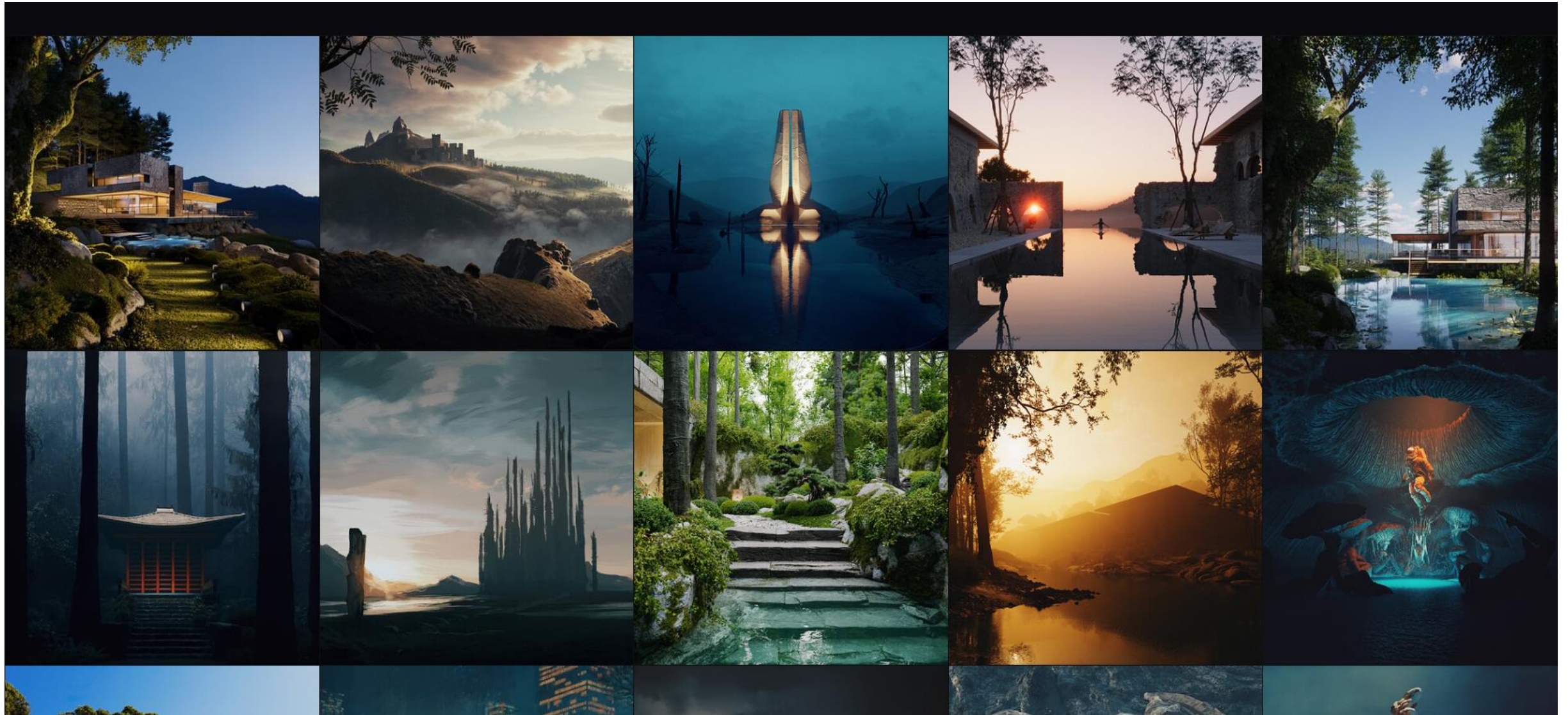
S74  **Reabilitação do Museu Municipal Abade Pedrosa**  
Santo Tirso, Pt 2017

S76 - Álvaro Siza + Carlos Castanheira, (in construction) China Design Museum, Hangzhou, China (35 imgs)

▶ Play

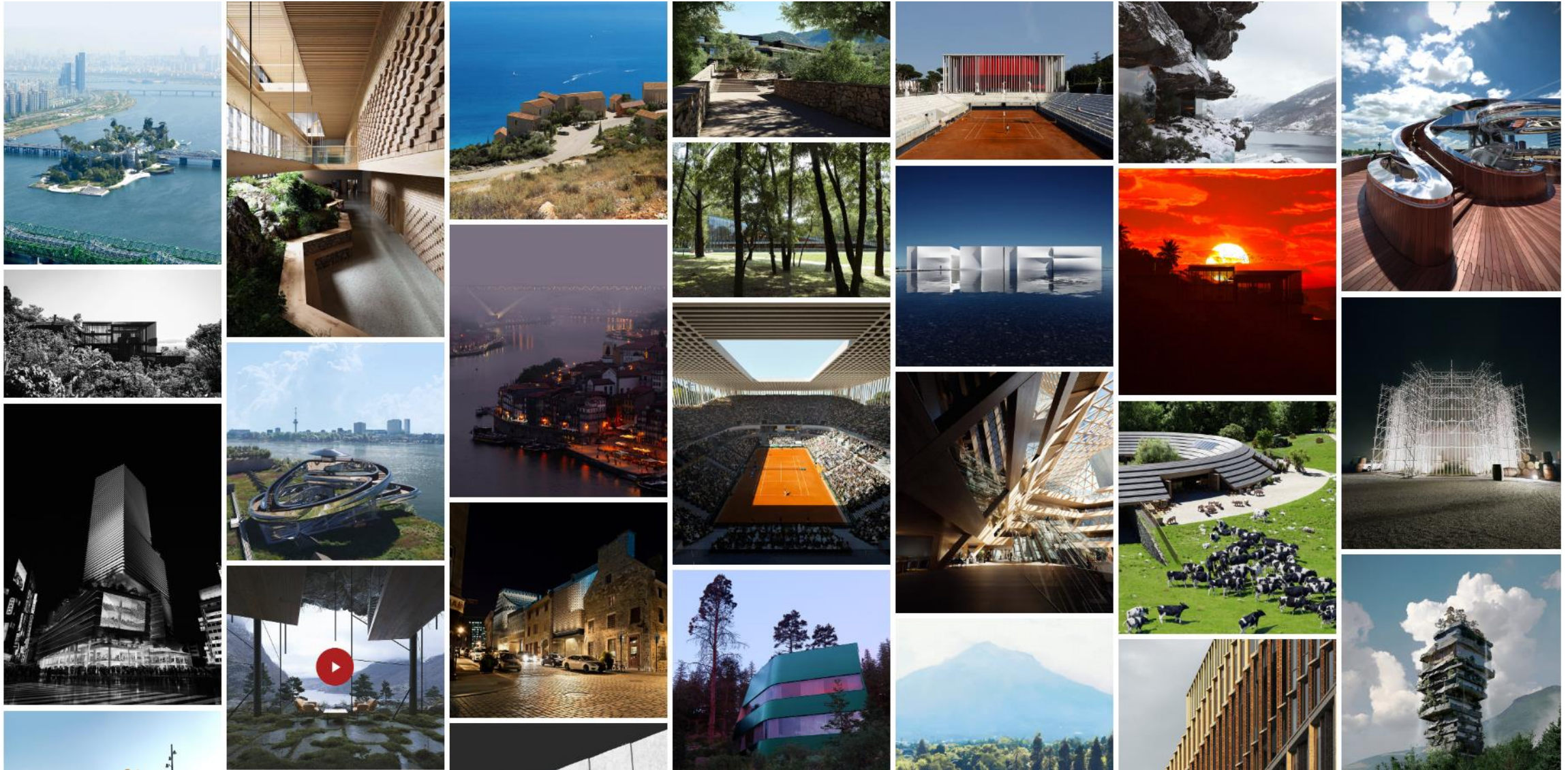
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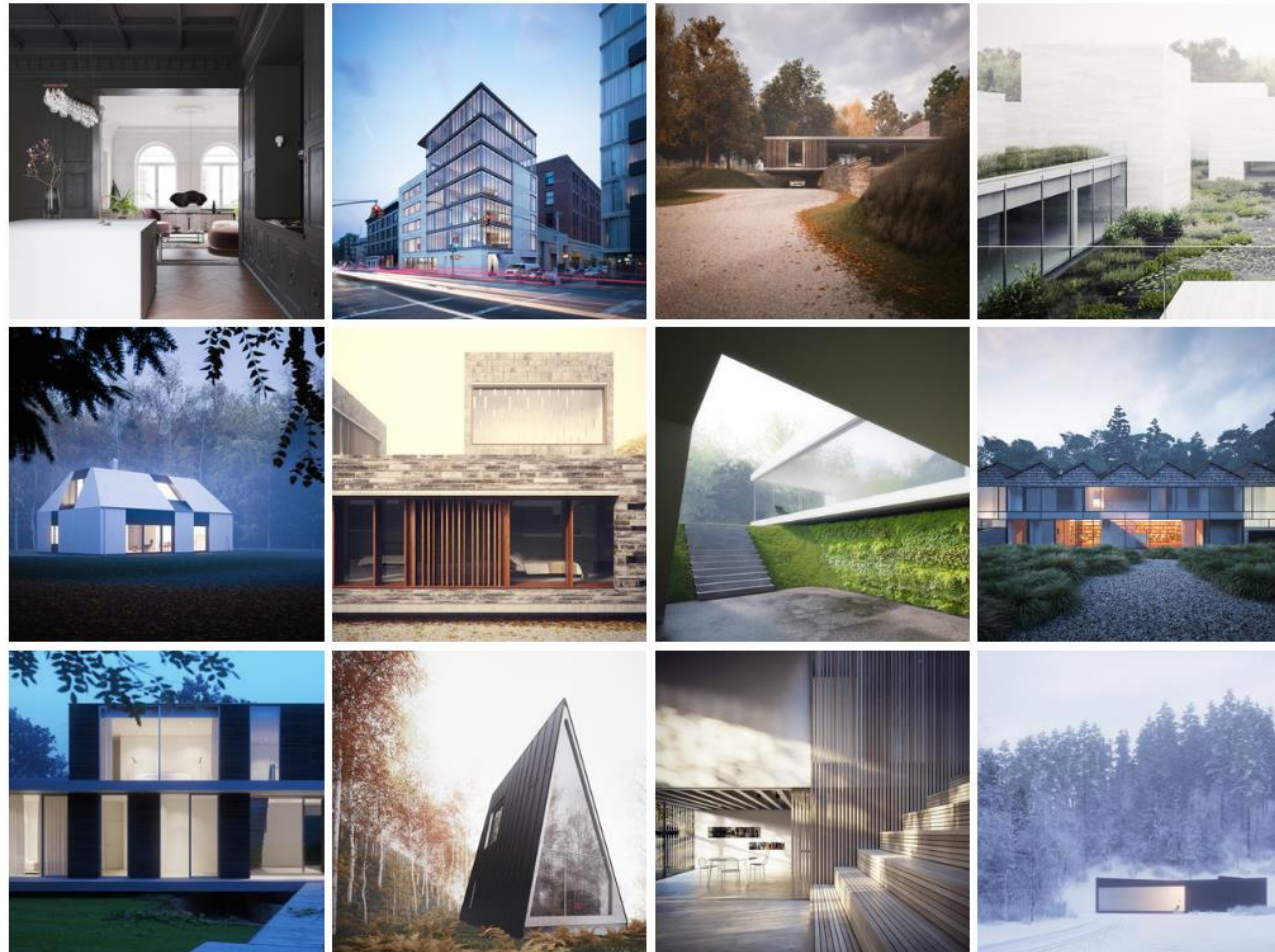
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# PETER GUTHRIE

WORK BLOG SCRAPBOOK PG SKIES



Crilo

Work

Archviz

Illustration

Studio

Research

Contact



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# 2023 COMPETITION

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# 3D Awards 2021

[Rules](#) [Judges](#) [Prizes](#) [Gallery](#) [Winners](#) [FAQs](#)

## Winners

“ This year we had some amazing winners, check them out!

—  
All Image Film Interactive  
—

Commissioned

Non-Commissioned

Student

THE **ASPECT RATIO** OF AN IMAGE IS THE RATIO OF ITS WIDTH TO ITS HEIGHT, AND IS EXPRESSED WITH **TWO NUMBERS** SEPARATED BY A COLON, SUCH AS **16:9** [SIXTEEN-TO-NINE].

FOR THE "x:y" ASPECT RATIO, THE IMAGE IS "x" UNITS **WIDE** AND "y" UNITS **HIGH**.

**COMMON ASPECT RATIOS** IN STILL PHOTOGRAPHY INCLUDE:



- 1:1



- 5:4 [1.25:1]



- 4:3 [1.3:1]



- 3:2 [1.5:1]



- 5:3 [1.6:1]

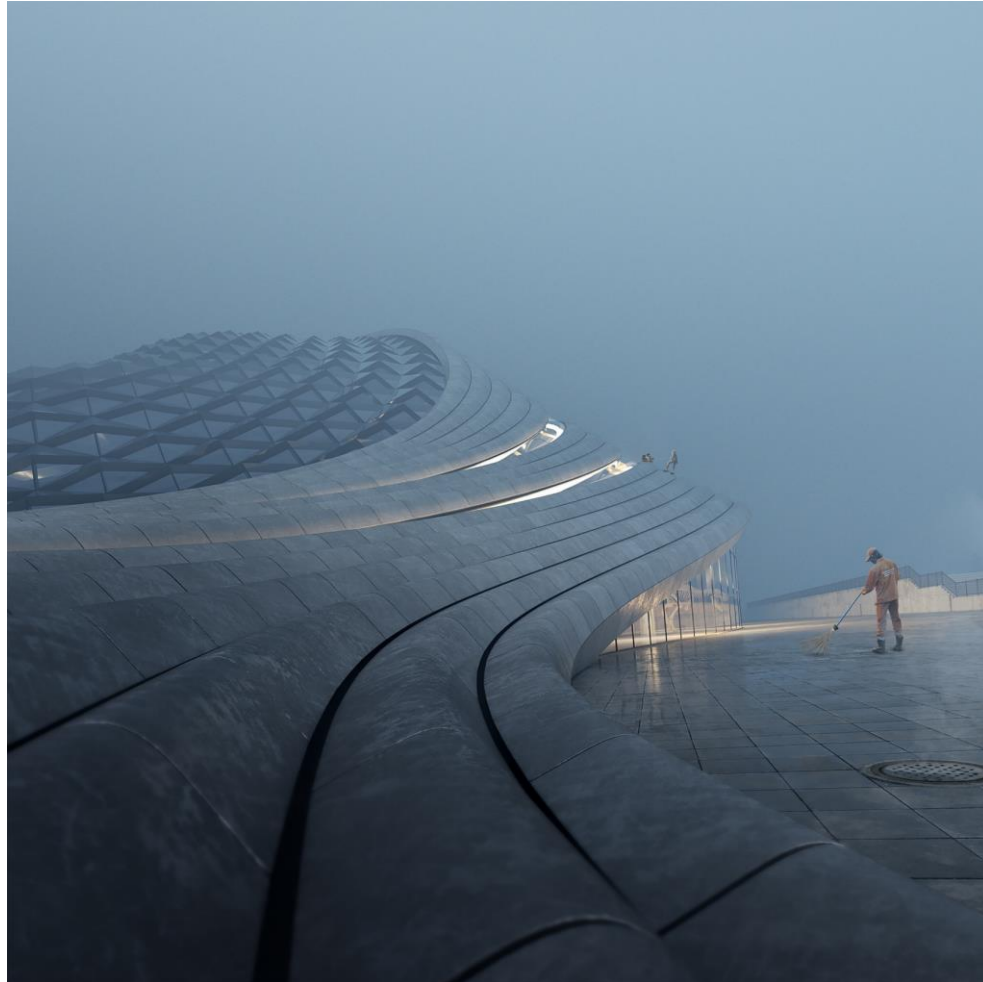


- 16:9 [1.7:1]



- 3:1

Reinaldo Handaya



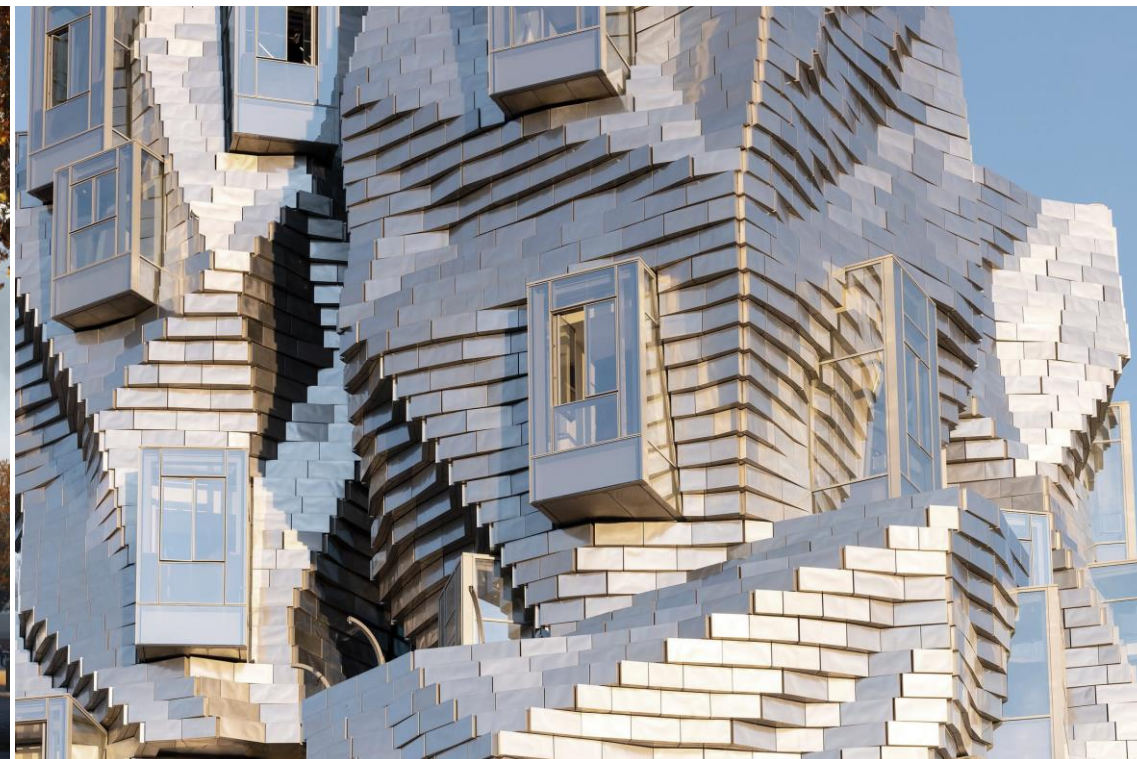
Richard Pare (Photograph)



Arqui9



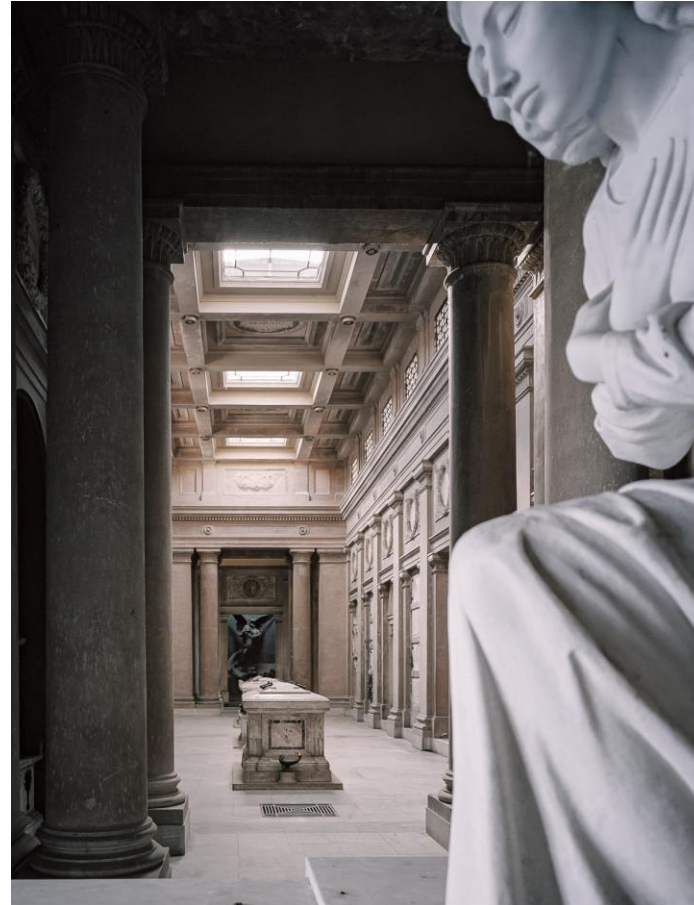
Iwan Baan (Photograph)



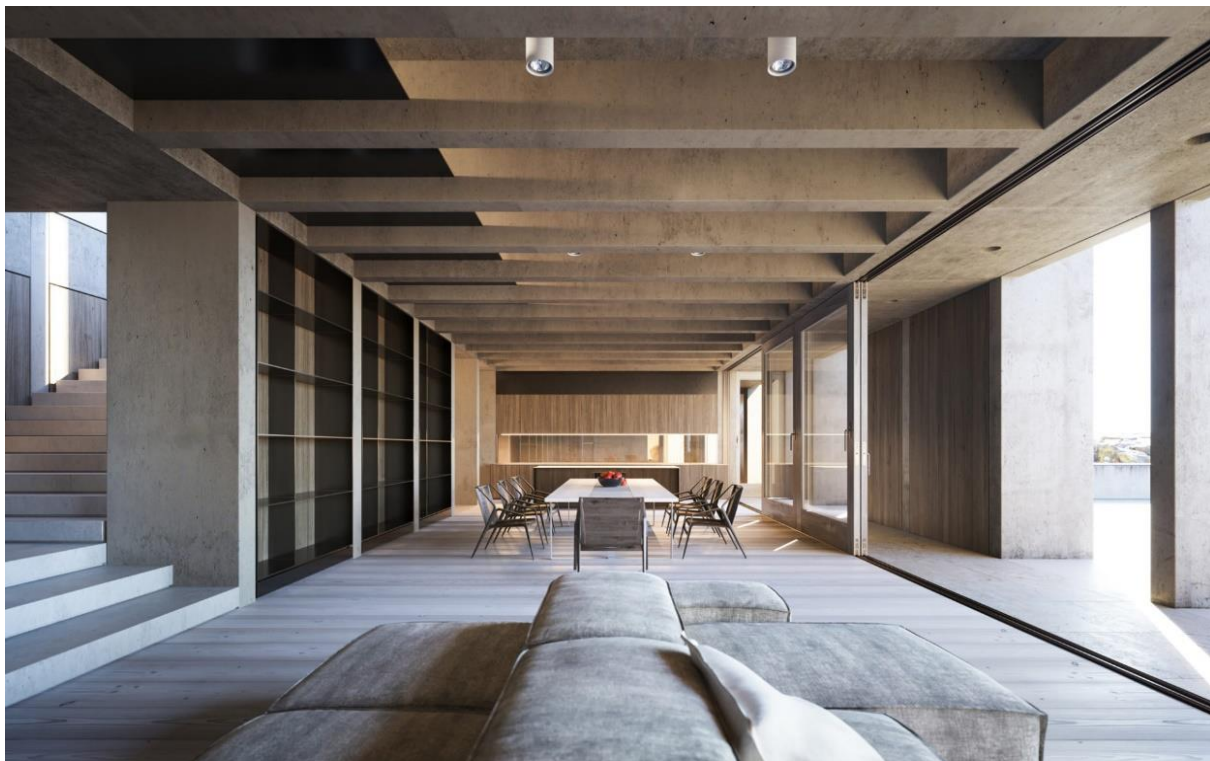
Peter Guthrie



Aldo Amoretti (Photograph)



The Boundary



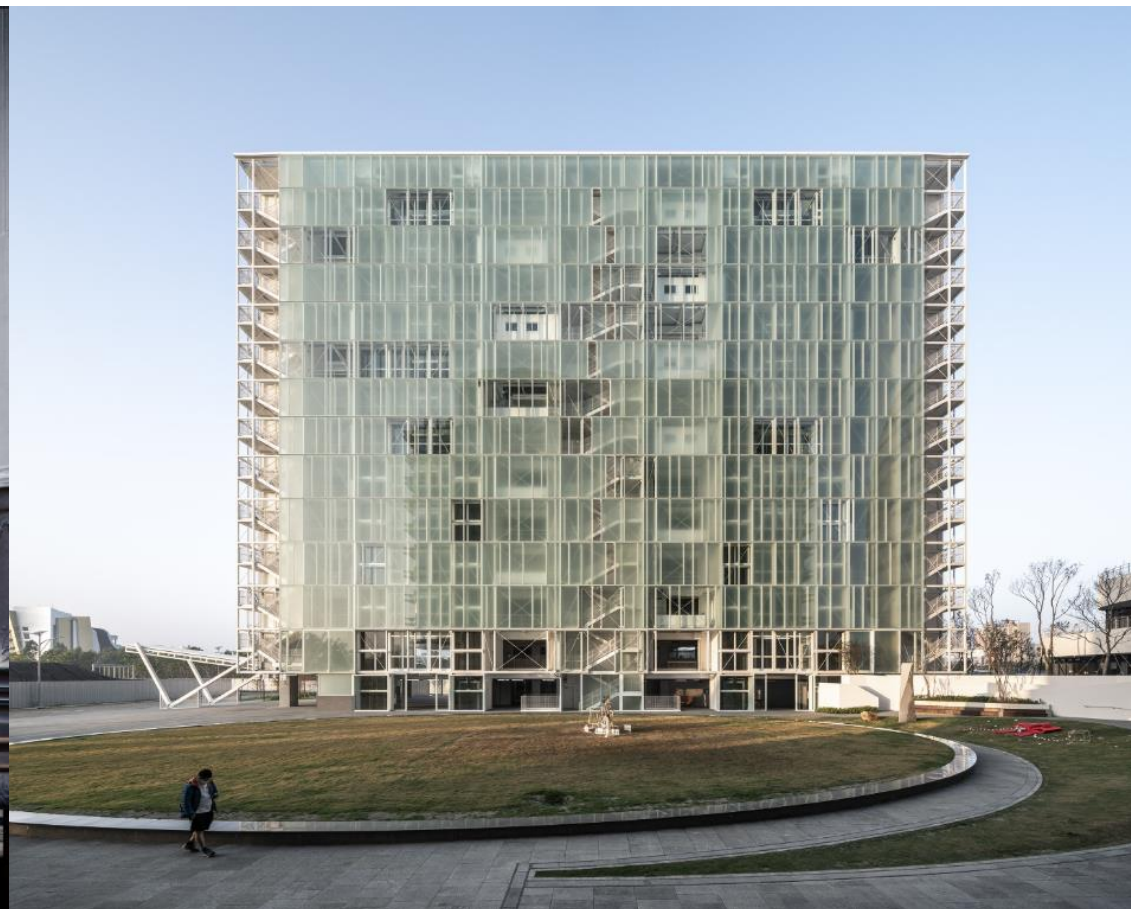
Alessandra Chemollo (Photograph)



Bertrand Benoit



YHLAA Studio (Photograph)



Milinski Studio



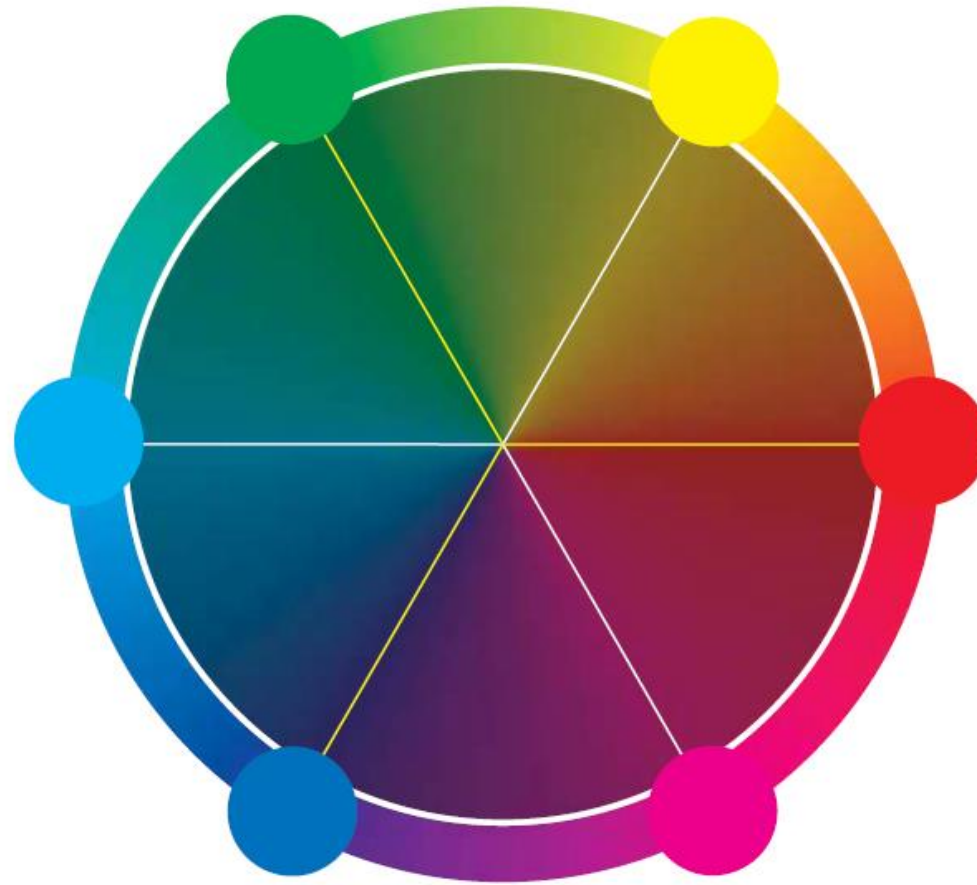
YHLAA Studio (Photograph)





Atelier Crilo





## ▲ THE COLOR CIRCLE

Hue is typically measured in degrees, from  $0^{\circ}$  to  $360^{\circ}$ , and in this arrangement, the relationships across the circle are important. Colors opposite each other are known as complementaries, and these form the basis of the principle of color harmony. Here the classic

digital color wheel shows that the printer's primaries (cyan, magenta, and yellow) lie directly opposite red, green, and blue. The painter's primaries, however, do not produce such even spokes, with varying definitions of blue and green.

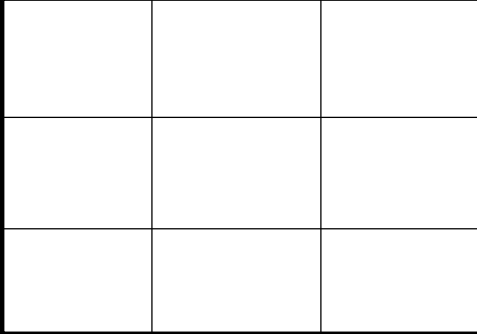
[FREEMAN 2007, p. 115]

COMPOSITION **VOCABULARY** CONSISTS MAINLY OF WHAT WE MIGHT CALL **GRAPHIC ELEMENTS**: TWO-DIMENSIONAL ELEMENTS THAT APPEAR WITHIN THE IMAGE: **DOT, LINE, FIGURE**.

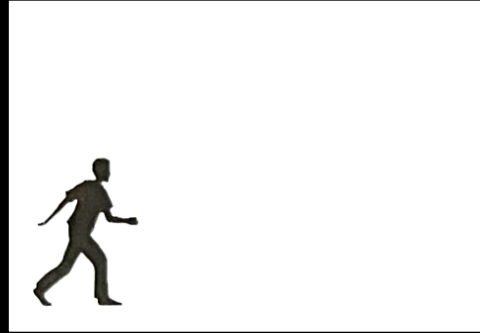
IN THE REPRESENTATION OF ARCHITECTURE, THE ELEMENT OF **LINE** PREDOMINATES (**HORIZONTAL, VERTICAL OR DIAGONAL**).



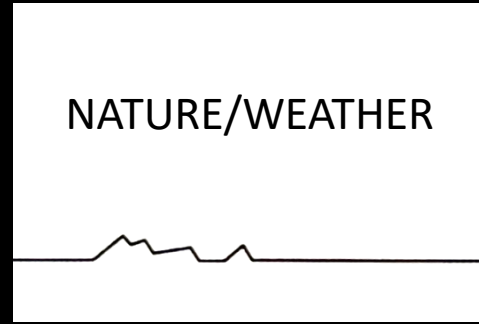
RULE OF THIRDS



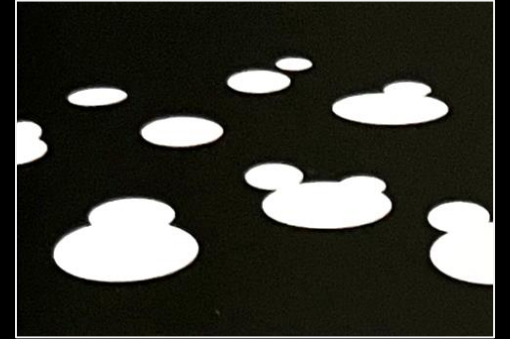
SCENES OF DAILY LIFE



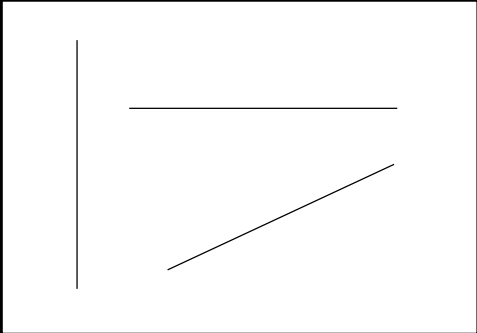
NATURE DOMINATE



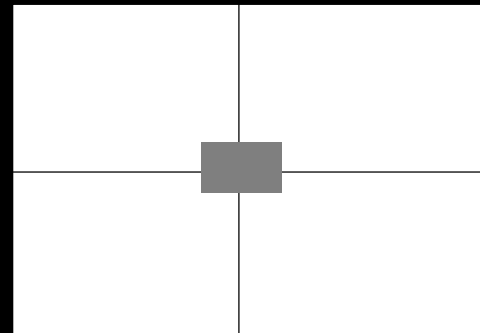
SHADOWS/PATTERN



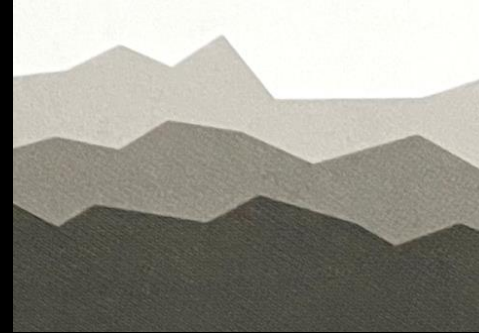
LINES (V,H,D)



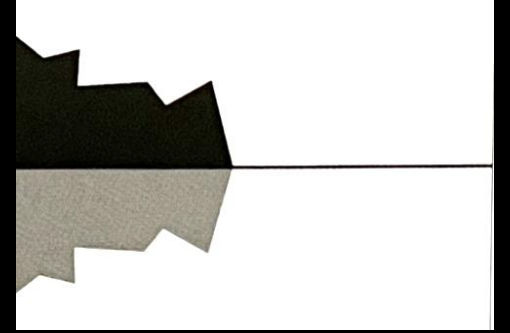
CENTERING THE OBJECT



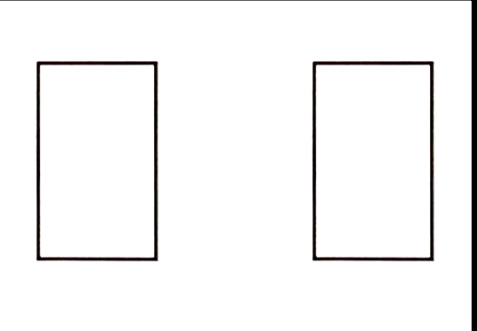
PLANES



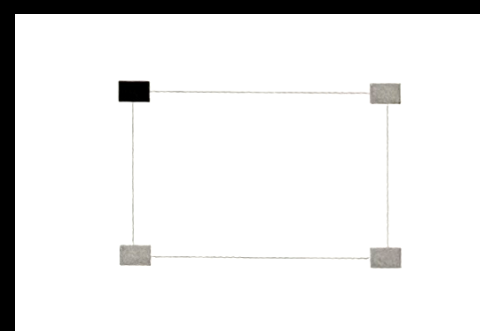
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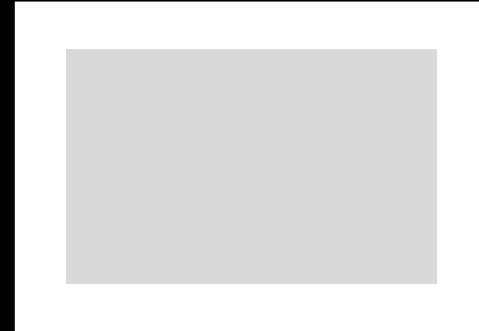
SYMMETRY



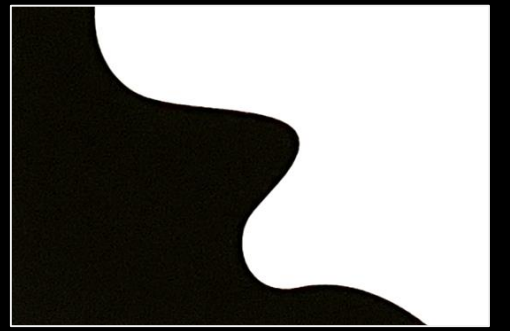
DECENTERING THE OBJECT



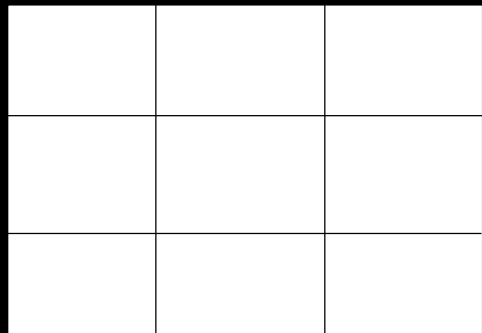
FRAME



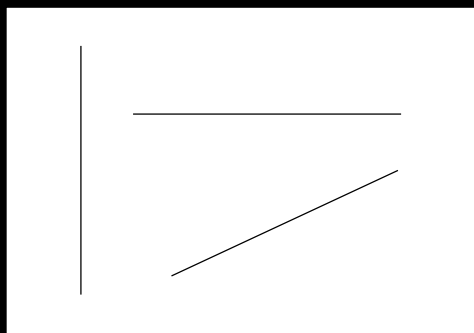
CONTRAST



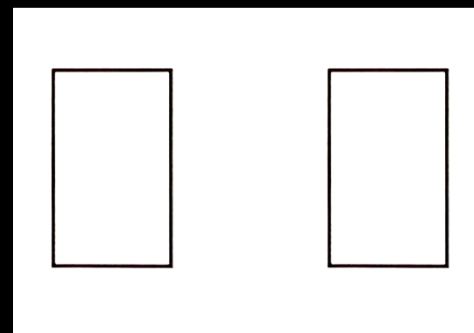
RULE OF THIRDS



LINES (V,H,D)



SYMMETRY





Mir.



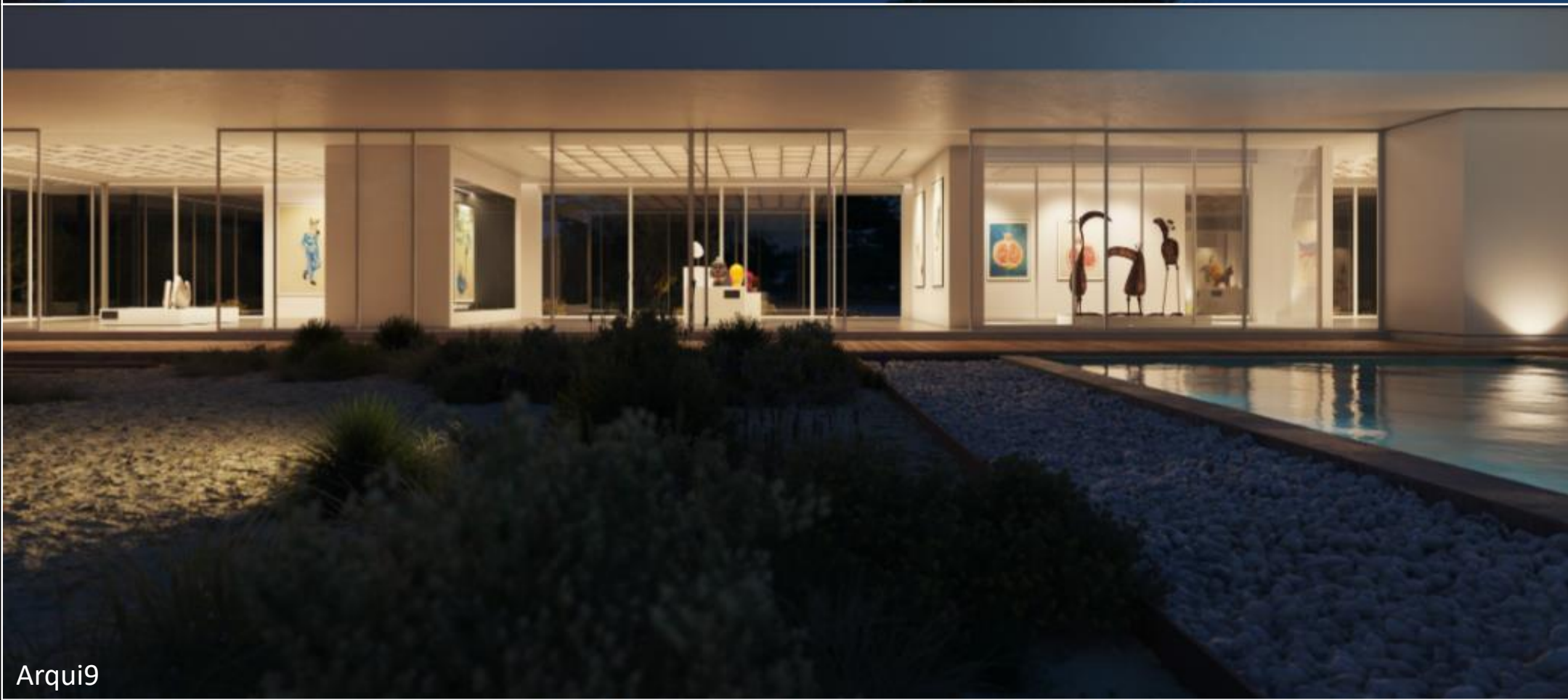


Andrzej Drawc











Iwan Baan (Photograph)









Peter Guthrie





Tony Cowburn (Photograph)



Mir.

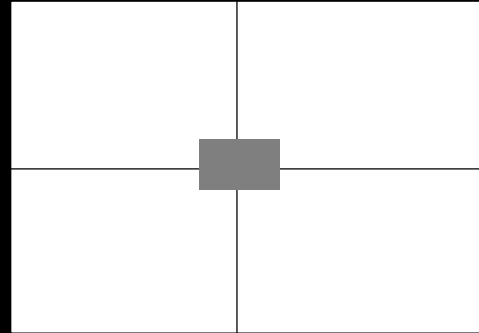


Richard Pare (Photograph)



Mir.

## CENTERING THE OBJECT





YHLAA Studio (Photograph)





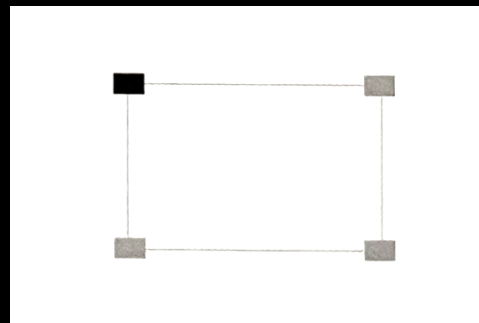
Enrico Cano (Photograph)





The Boundary

## DECENTERING THE OBJECT





Aldo Amoretti (Photograph)



YHLAA Studio (Photograph)



Fabio Del Ghianda (Photograph)

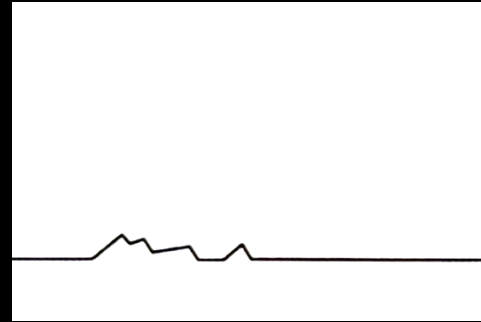


Visual



Lasse Rode

NATURE DOMINATE



[weather conditions]





YHLAA Studio (Photograph)





The Boundary



Kauan Gama



Margit Lisa Roeder (Photograph)



Arqui9



Peter Guthrie



Mir.





The Boundary







Mir.









Atelier Crilo





## PLANES





Lasse Rode





Mark Benham (Photograph)



Mir.





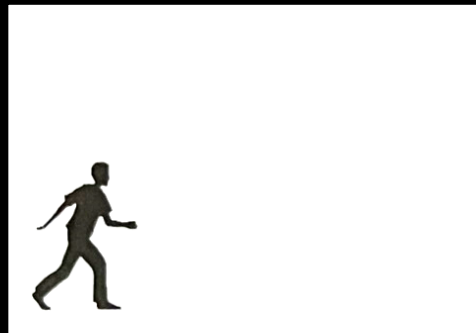


Arqui9





## SCENES OF DAILY LIFE





Iwan Baan (Photograph)



Iwan Baan (Photograph)



Iwan Baan (Photograph)



Iwan Baan (Photograph)



Donell Gumiran (Photograph)



Iwan Baan (Photograph)



YHLAA Studio (Photograph)





YHLAA Studio (Photograph)



Reinaldo Handaya



Mir.



Mir.






Pedro Fernandez

FRAME





Ezra Stoller (Photograph)







Aldo Amoretti (Photograph)







Enrico Cano (Photograph)



YHLAA Studio (Photograph)



Richard Pare (Photograph)



Mir.

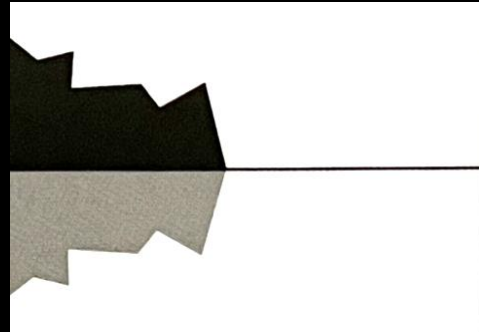






The Boundary

REFLECTION





Iwan Baan (Photograph)



Iwan Baan (Photograph)



Beatrice Wong (Photograph)



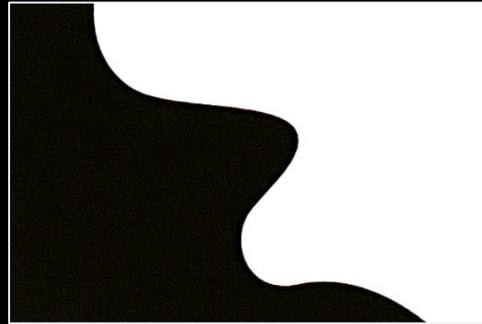
Vusal Abbasov & Khayal Jalilov



Bertrand Benoit



CONTRAST





YHLAA Studio (Photograph)



卓越大樓





Iwan Baan (Photograph)



Iwan Baan (Photograph)



Albrecht Voss (Photograph)



Robert Bolton (Photograph)

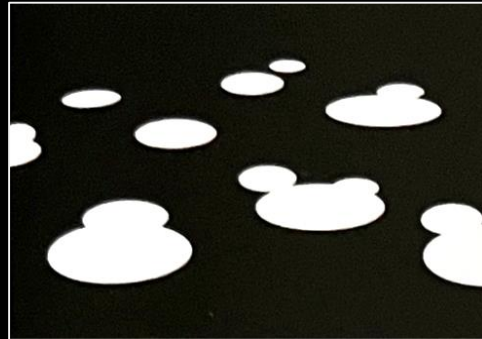








SHADOWS



[patterns]



YHLAA Studio (Photograph)



YHLAA Studio (Photograph)

CREATE YOU OWN **CULTURAL REFERENCE BACKGROUND** (BOTH IN PHOTOGRAPHY AND RENDERING FIELD).

**BE ORGANIZED** IN THIS PHASE. I SUGGEST YOU TO SAVE AT LEAST THE FOLLOWING INFORMATION: THE NAME OF THE AUTHOR OF THE IMAGE, THE YEAR, THE ARCHITECTURE REPRESENTED AND THE ARCHITECT (IN THE CASE OF THE PHOTOGRAPH), THE COMPOSITION CATEGORY, THE ASPECT RATIO, ETC.



CREATE YOU OWN **CULTURAL REFERENCE BACKGROUND** (BOTH IN PHOTOGRAPHY AND RENDERING FIELD).

**BE ORGANIZED** IN THIS PHASE. I SUGGEST YOU TO SAVE AT LEAST THE FOLLOWING INFORMATION: THE NAME OF THE AUTHOR OF THE IMAGE, THE YEAR, THE ARCHITECTURE REPRESENTED AND THE ARCHITECT (IN THE CASE OF THE PHOTOGRAPH), THE COMPOSITION CATEGORY, THE ASPECT RATIO, ETC.

### **MID-TERM EXERCISE**

START CREATING YOUR DATABASE USING THE PHOTOGRAPHS I ASKED YOU TO PREPARE (RELATED TO RENZO PIANO ARCHITECTURES).

UPLOAD ON THE ELLY PORTAL THE **PDF FILE** WITH AT LEAST 5 PHOTOS AND REPORT THE INFORMATION PREVIOUSLY INDICATED. YOU CAN ALSO ADD A SHORT EXPLANATION OF WHY DID YOU CHOOSE THOSE PHOTOS/WHY DO YOU THINK THEY ENHANCE SELECTED ARCHITECTURES).

