

Sightfulness

by

Kyle Branchesi

Bachelor of Architecture
Southern California Institute of Architecture, 2014

Submitted to the Department of Architecture
in Partial Fulfillment of the Requirements for the Degree of

Master of Science in Architecture Studies

at the

Massachusetts Institute of Technology

June, 2019

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ABSTRACT

Architecture has historically been situated within the world of mixed reality. Brunelleschi's Baptistery in Florence introduced illusory space inserting depth into a two-dimensional plane in the fifteenth century. Centuries later, the Bauhaus challenged the hegemony of perspectival space in favor of axonometric projection, subverting the perceived experience of architecture for its formal attributes.

Today our perception of the world is mediated by social media, photo manipulation software, and screen resolution. These technologies conspire not for a fidelity to reality but to promote social and political agendas—truth is not truth. Conversely, rapid improvements in camera technology attempts an objective unification of what qualifies as “clear” and “crisp” photography to document the world while counter-cultural technologies, including hallucinogenic drugs, seek clarification of a different kind.

Sightfulness is a guided trip through media phase changes. It fluidly moves between photo realistic representations of common elements in space to impossible infinite multiplications, inversions, distortions and moments of pure abstraction. It leverages advances in computational software that allow a blurring between the virtual and the real. It disorients the viewer through unpredictable transitions, destabilizing their conception of the world that they are inhabiting.

Thesis Supervisor: Jennifer W Leung

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THANK YOU:

TO MY COMMITTEE:

*JENNIFER LEUNG
MARK JARZOMBK
AXEL KILIAN*

TO MY COHORT:

*DARLE SHINSATO
GIDON SCHWARTZMAN
CHRISTOPHER WEAVER
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TO THOSE WHO TRIED SIGHTFULNESS:

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HELLEN AWINO
HELENA RONG
ALINA NAZMEEVA
NOF NATHANSOHN
RODRIGO CESARMAN
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SIGHTFULNESS

KYLE BRANCHESI



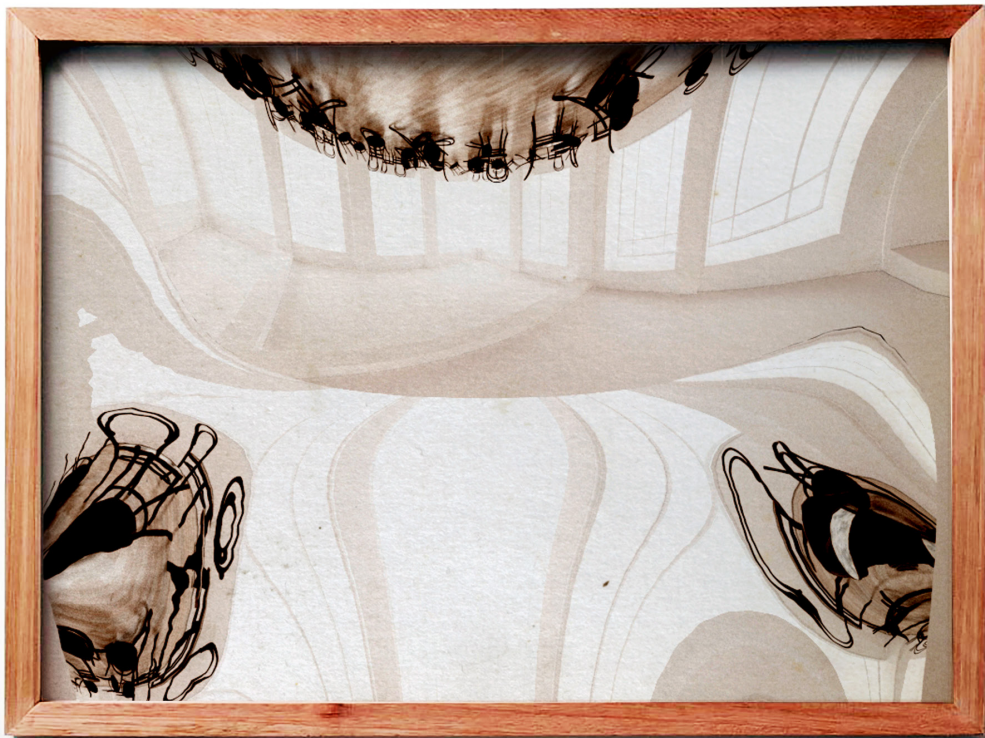
INTERIOR ELEVATION 01
Sightfulness

INTERIOR ELEVATION 01
Sightfulness



FURNITURE LAYOUT 01
Sightfulness

FURNITURE LAYOUT 01
Sightfulness



FURNITURE LAYOUT 02
Sightfulness

FURNITURE LAYOUT 02
Sightfulness



STRUCTURAL ELEVATION 01
Sightfulness

STRUCTURAL ELEVATION 01
Sightfulness



INTERIOR ELEVATION 02
Sightfulness

INTERIOR ELEVATION 02
Sightfulness



STAIR DETAIL 01
Sightfulness

STAIR DETAIL 01
Sightfulness

SIGHTFULNESS IS:

... FAKE NEWS

... BIG DATA

... AUTONOMOUS VEHICLES

... SURVEILLANCE

... JET LAG

... HEALTHCARE & EDUCATION

... THE STATE OF THE UNION

**... THE
VIRTUAL-VIRTUAL
REAL-REAL
REAL-VIRTUAL
VIRTUAL-REAL**

... REPRESENTATION

... MISREPRESENTATION

**... OPERATES IN THE COMPLEX
MEDIA LANDSCAPE THAT WE FIND
OURSELVES IN TODAY**

SIGHTFULNESS

REPRESENTING THE MISREPRESENTED

Architecture has historically been situated within the world of mixed reality. Brunelleschi's Baptistery in Florence introduced illusory space inserting depth into a two-dimensional plane in the fifteenth century. Centuries later, the Bauhaus challenged the hegemony of perspectival space in favor of axonometric projection, subverting the perceived experience of architecture for its formal attributes.

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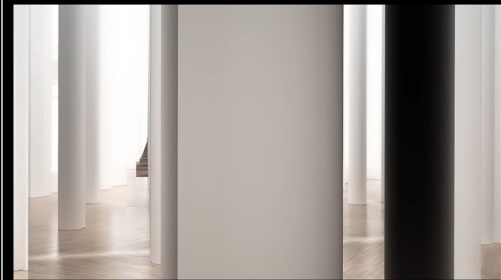
SIGHTFULNESS

<https://youtu.be/KLSiO8rcSFA>

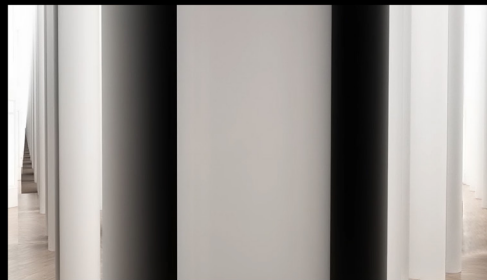
18,559 RENDERS
27 CASE STUDIES
33 SIDE-EFFECT REPORTS

**SIGHTFULNESS
IN ANIMATIONS**

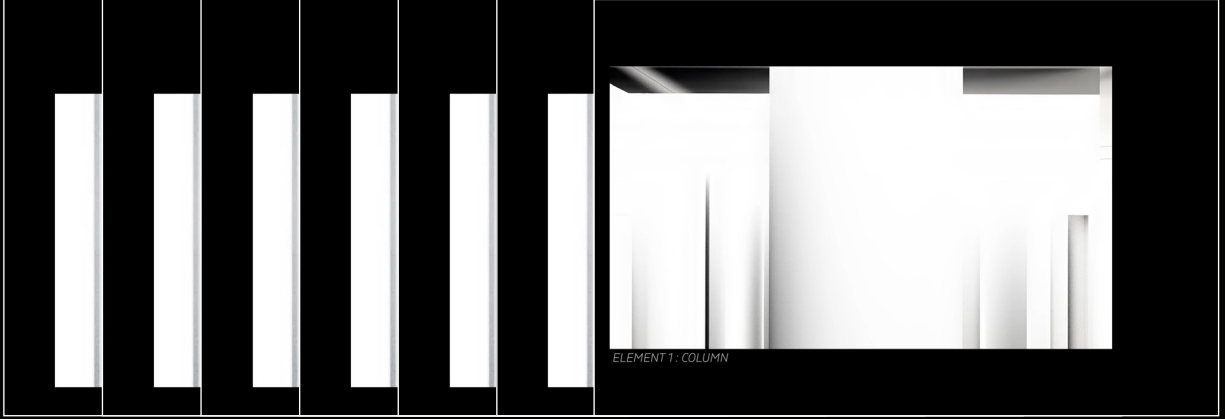
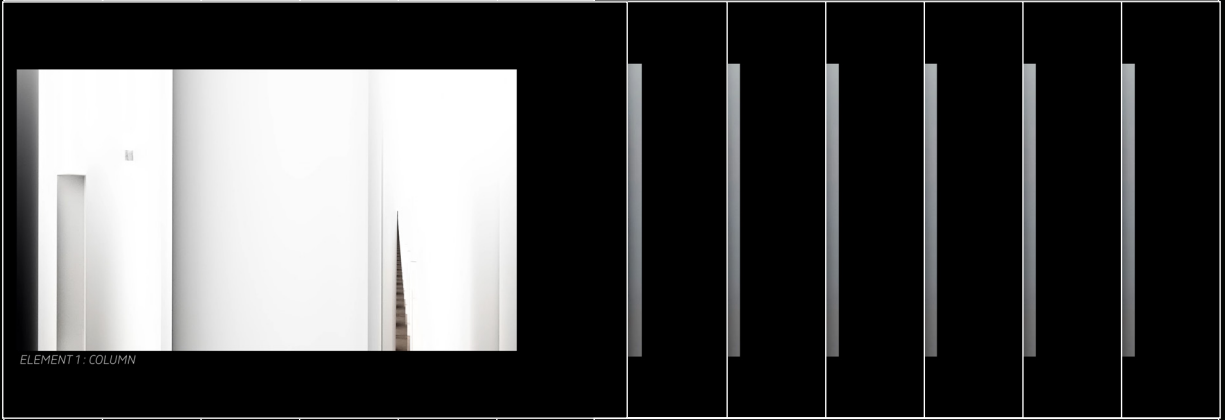
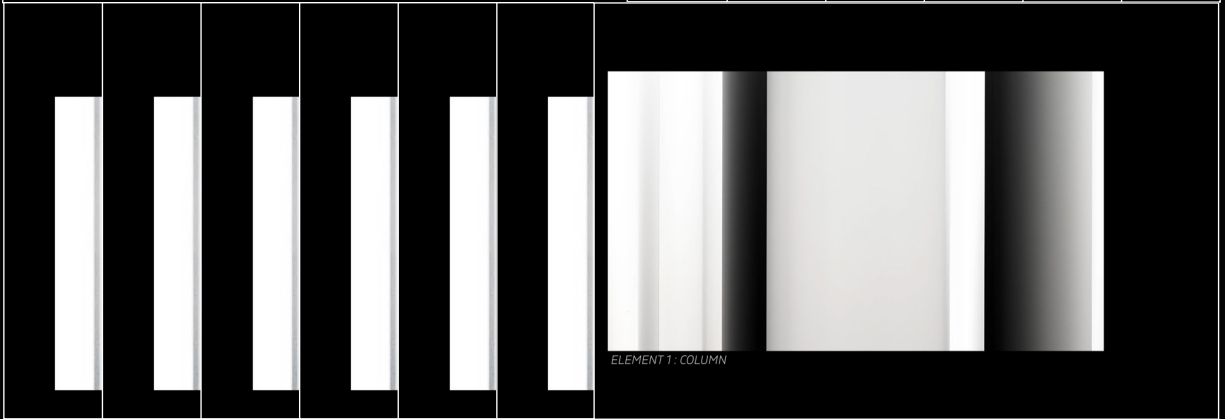
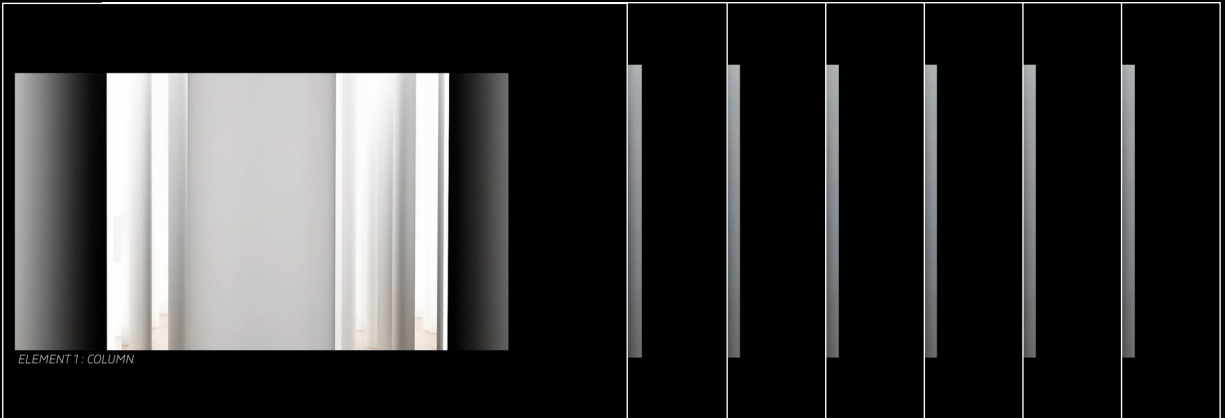
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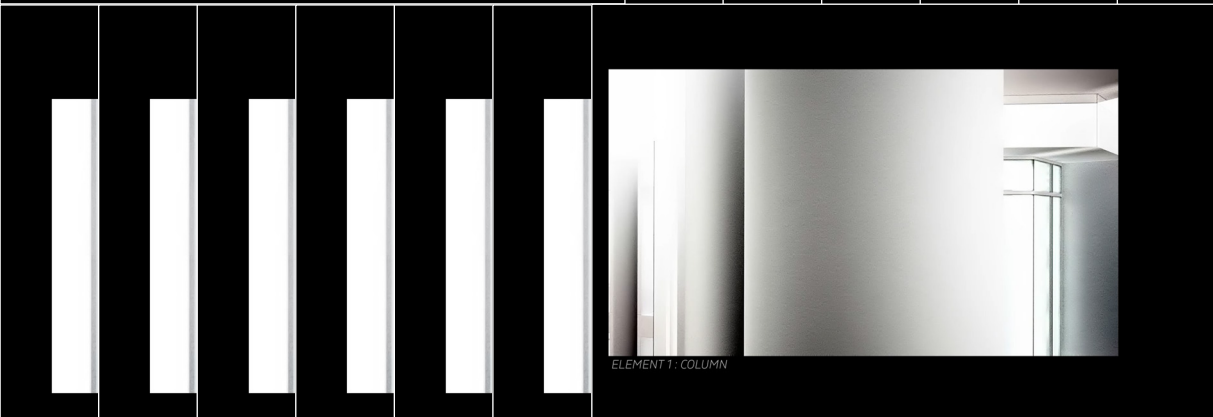


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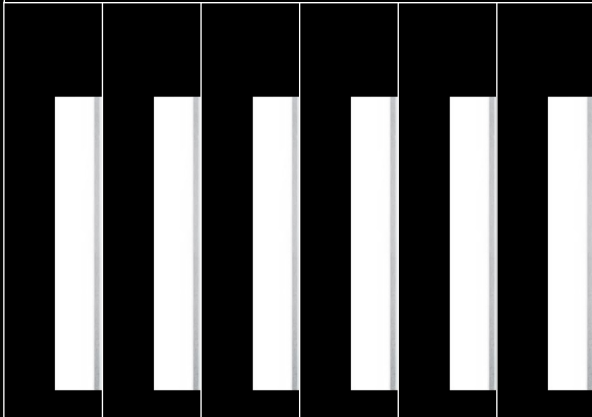
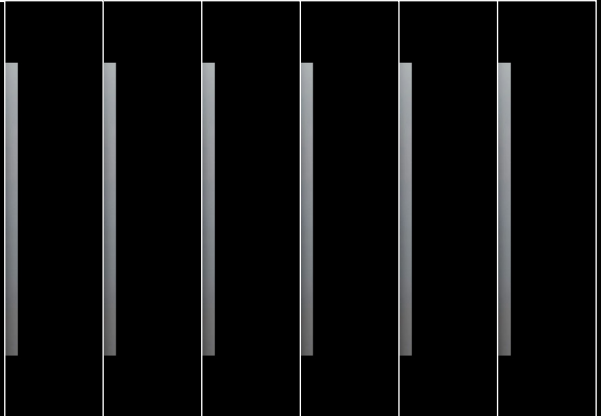
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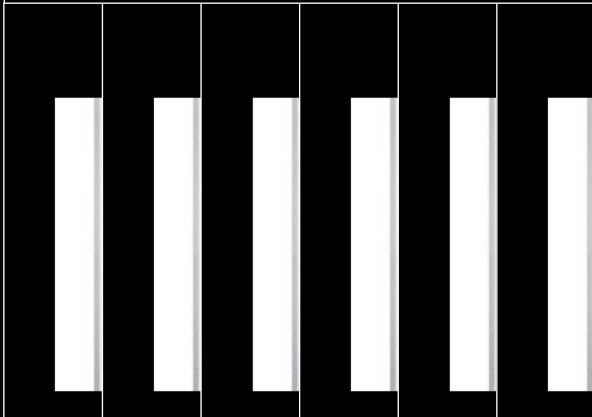
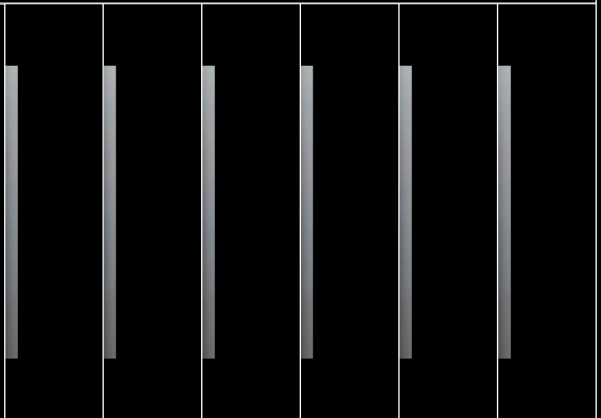
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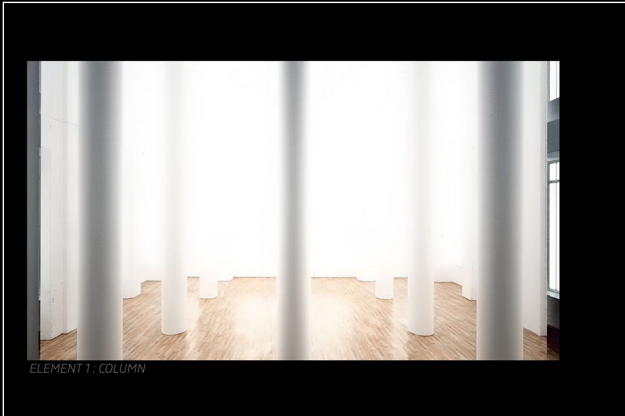
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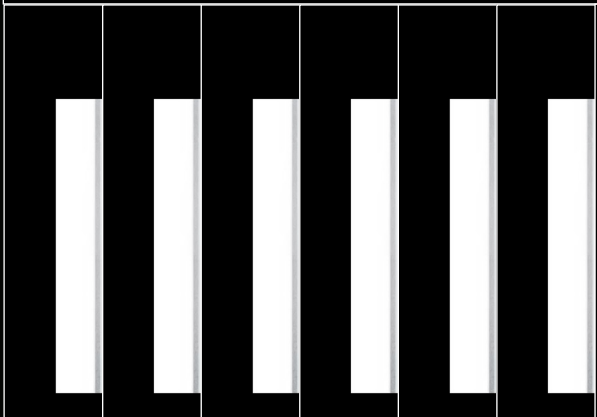
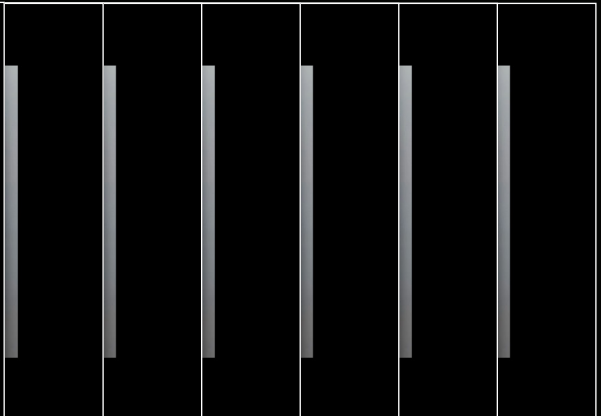
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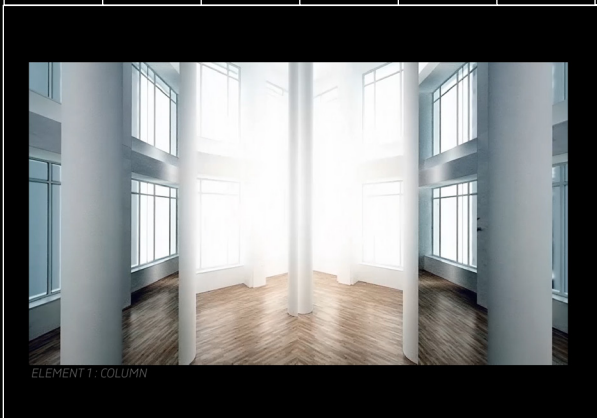
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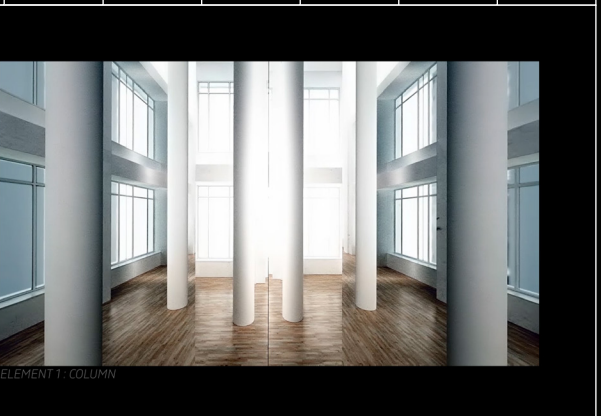
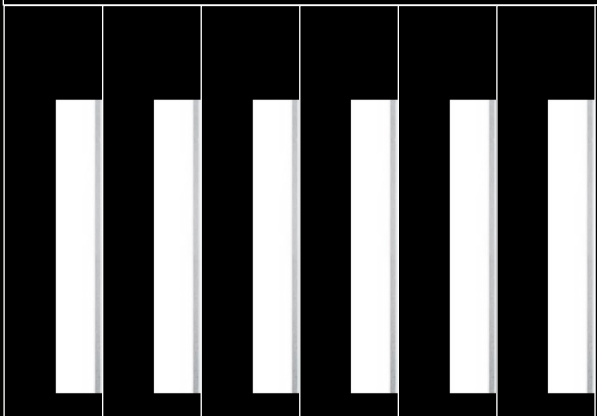
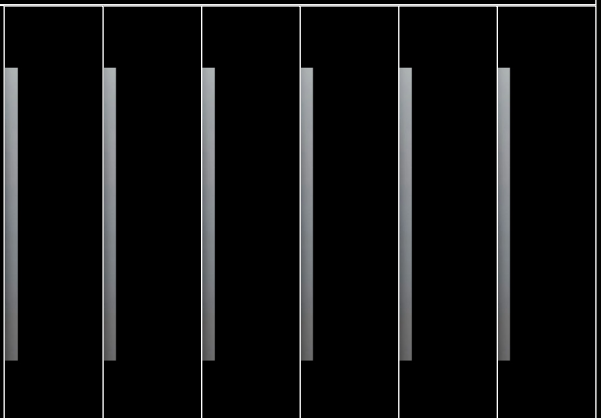
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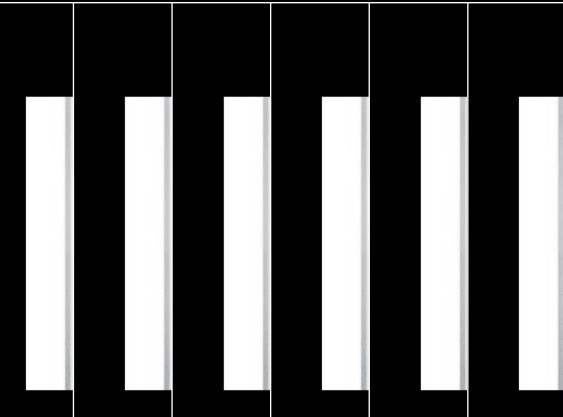
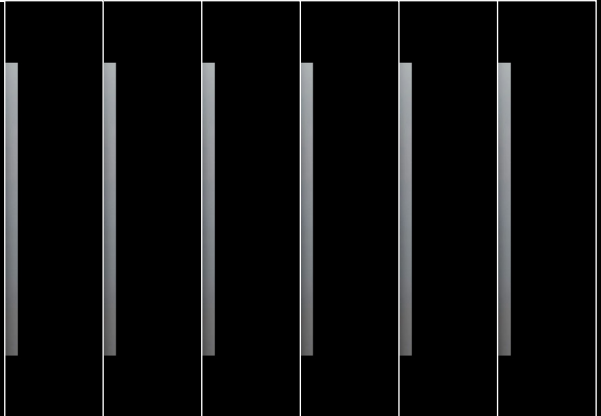
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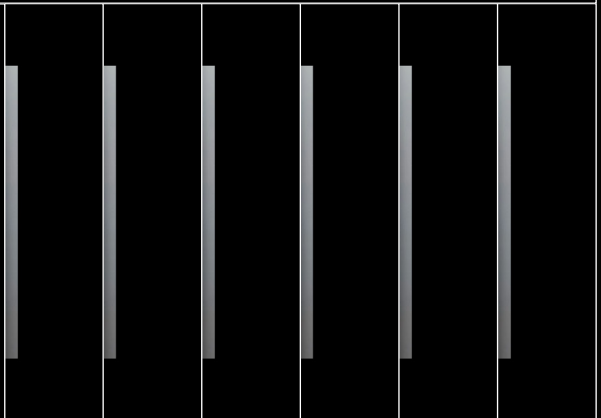
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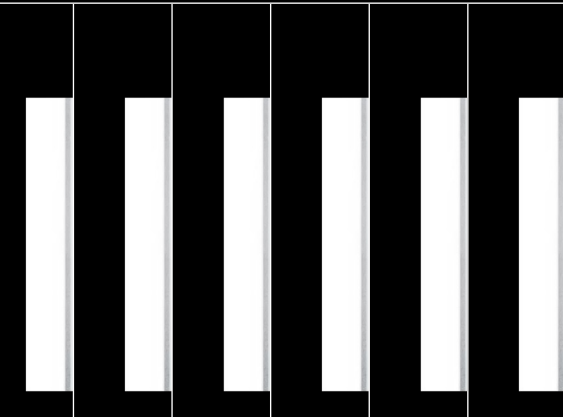
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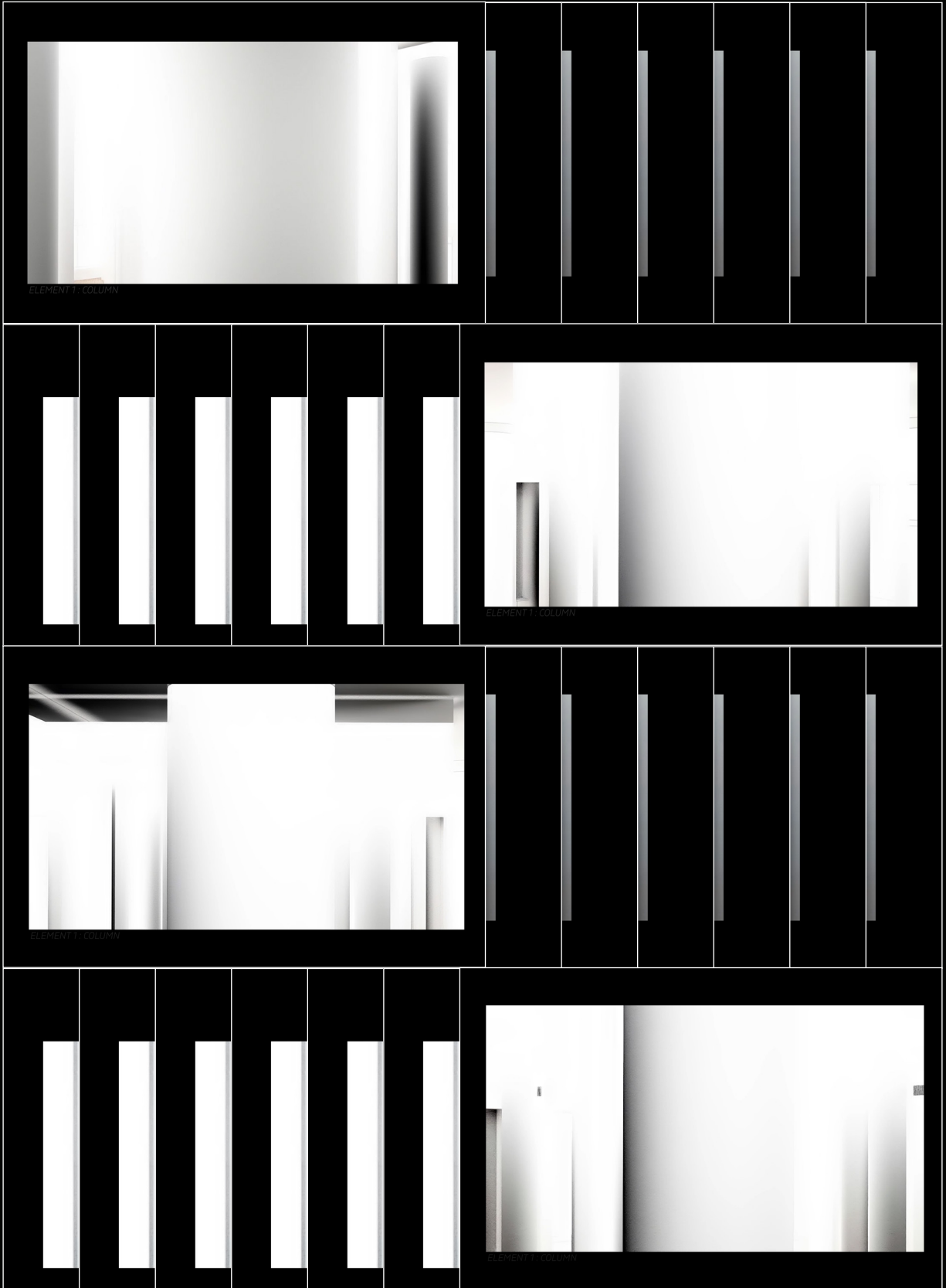
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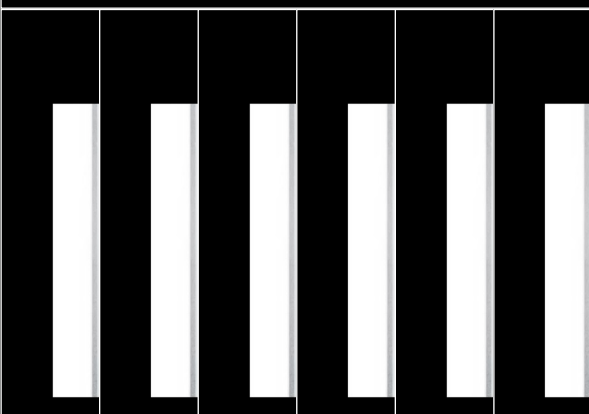
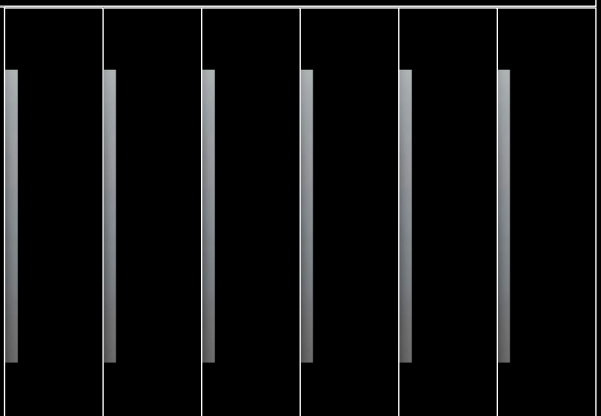
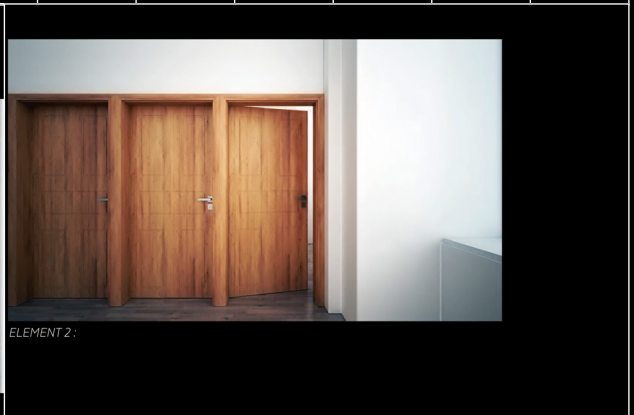
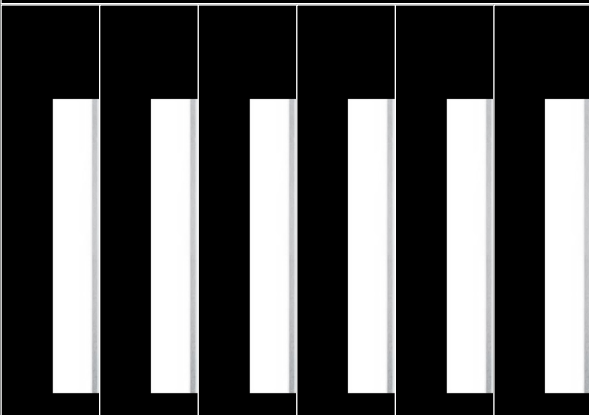
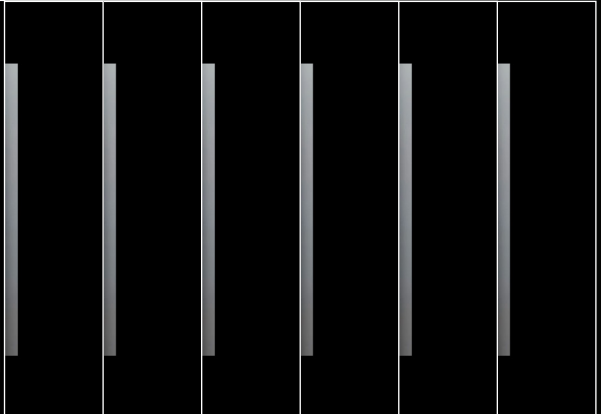
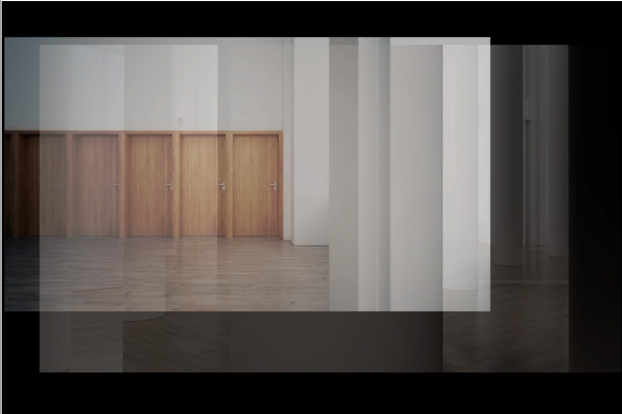
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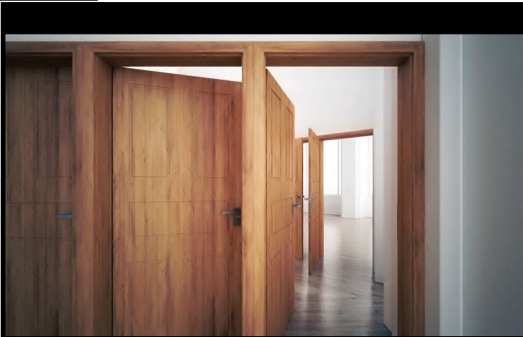


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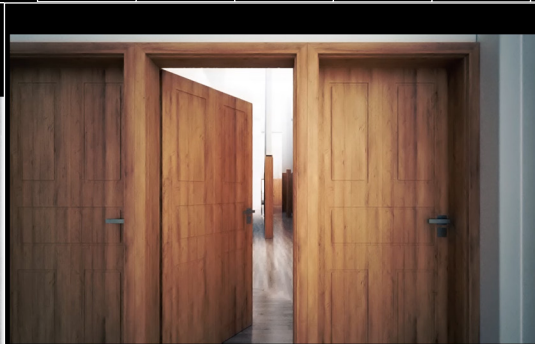
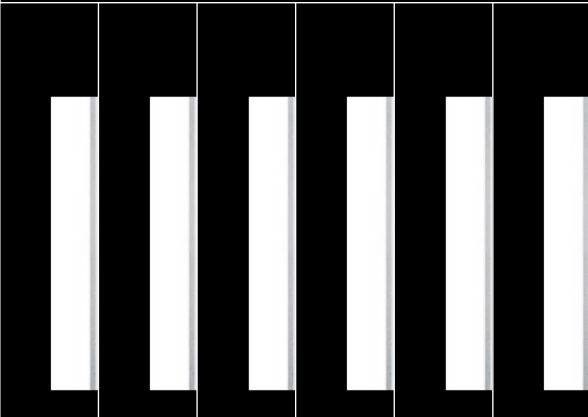
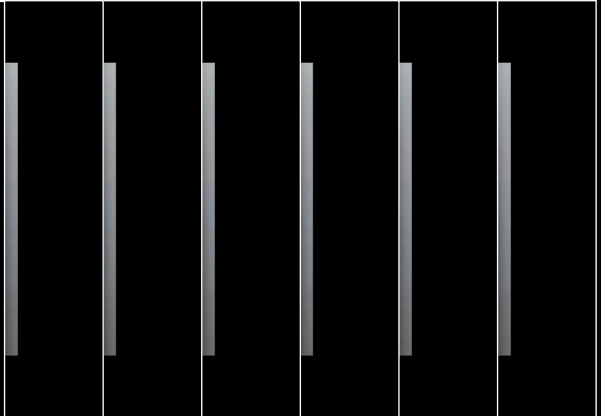




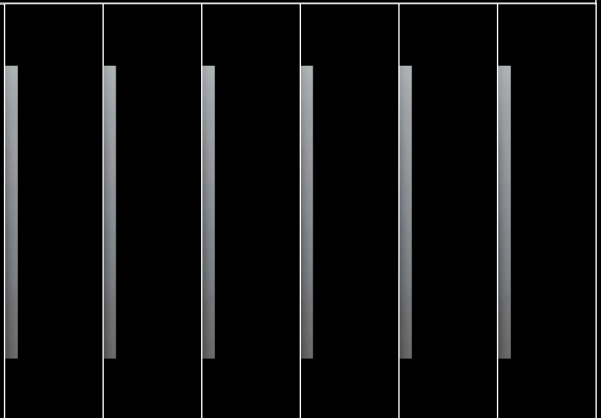




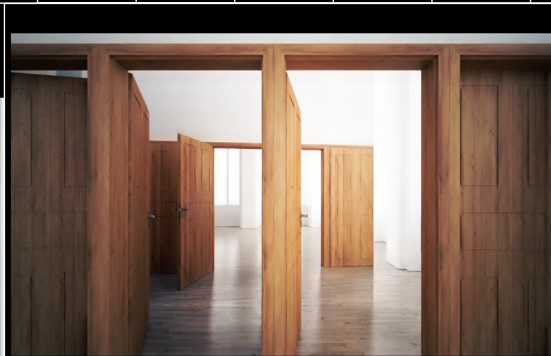
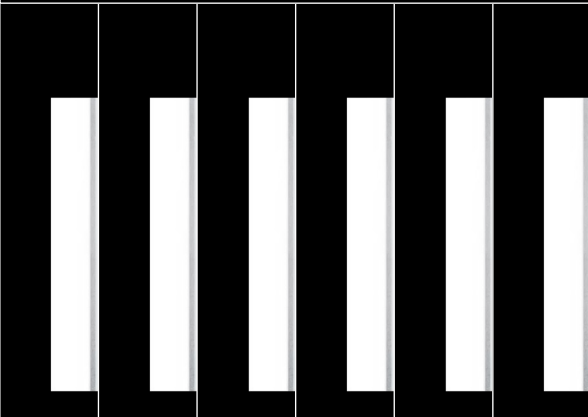
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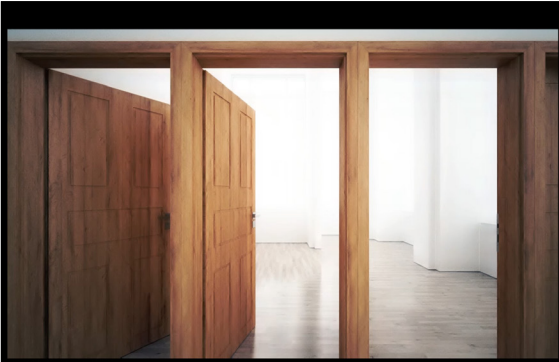
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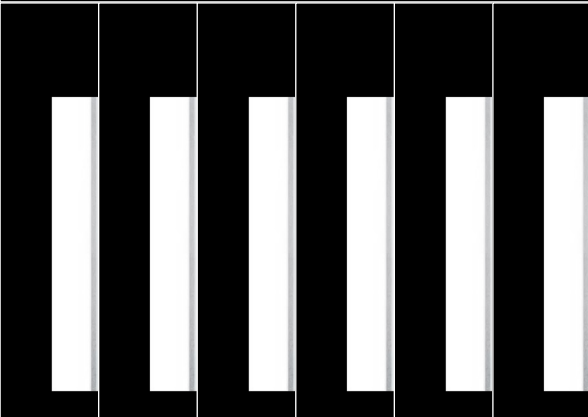
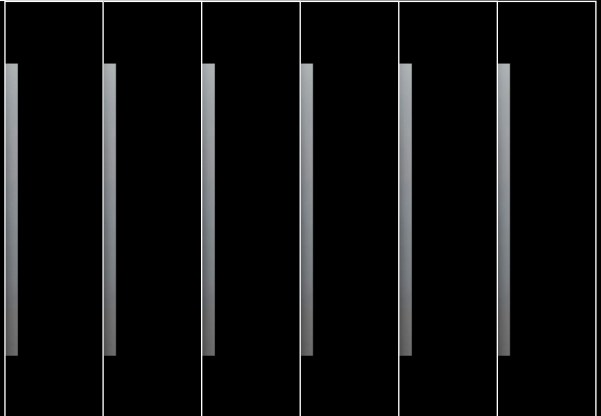
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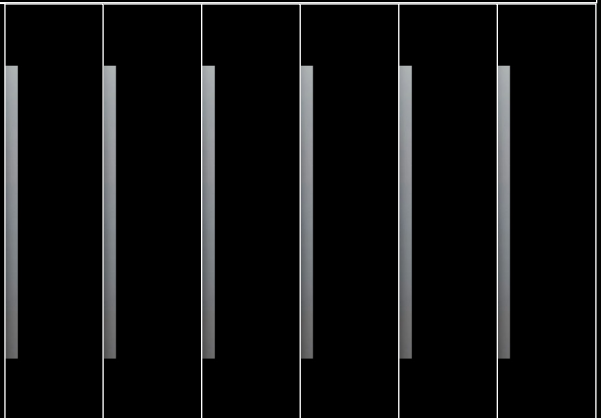
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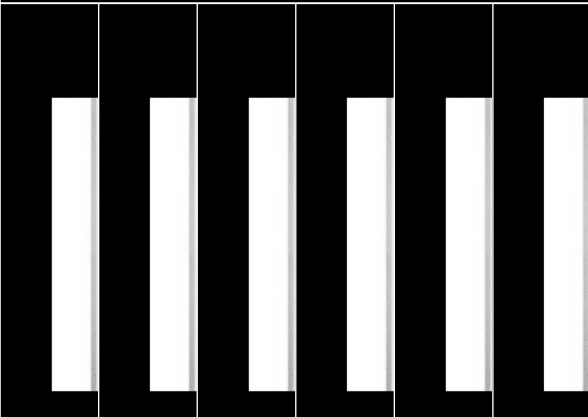
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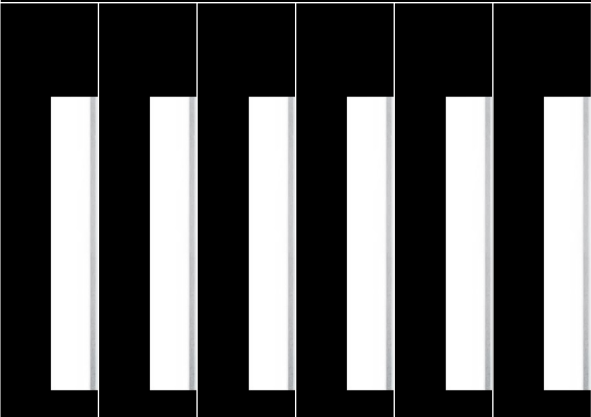
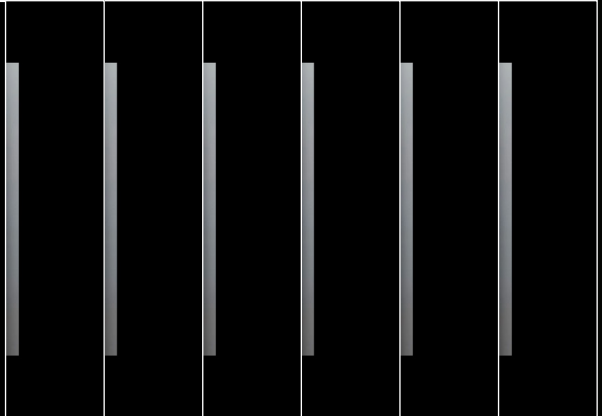
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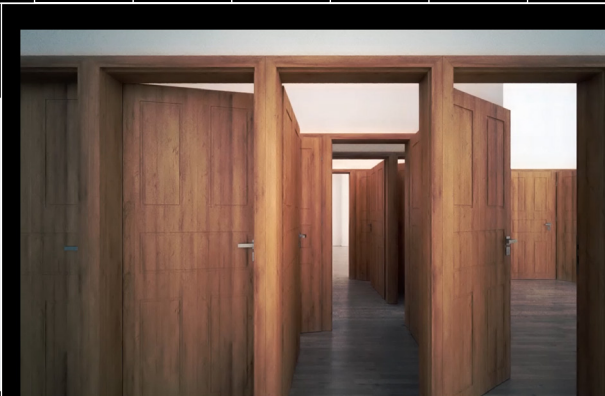
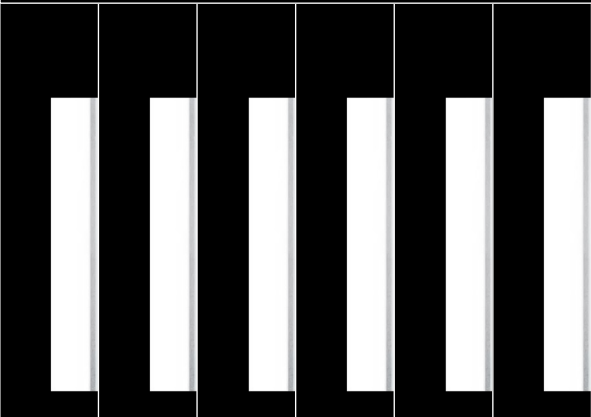
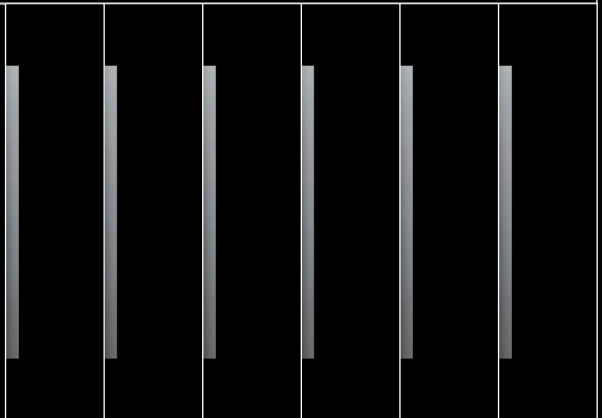
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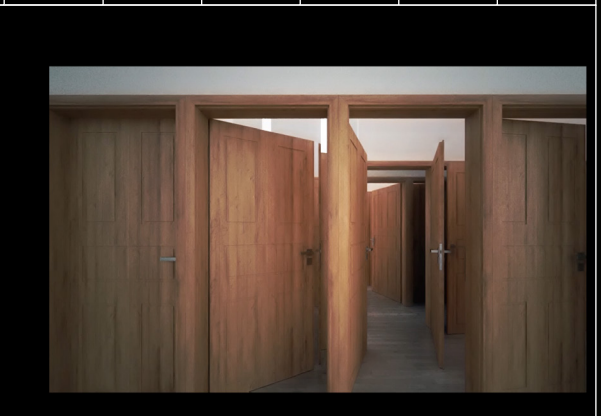
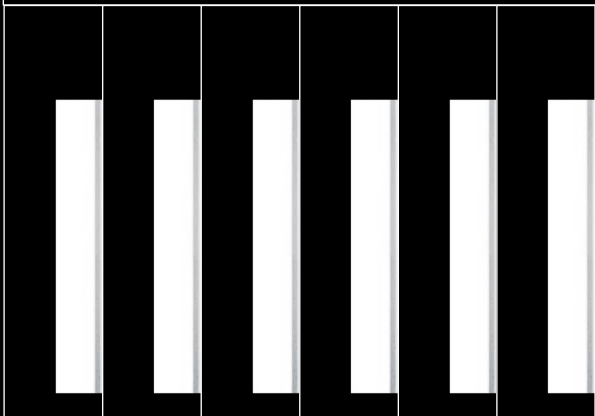
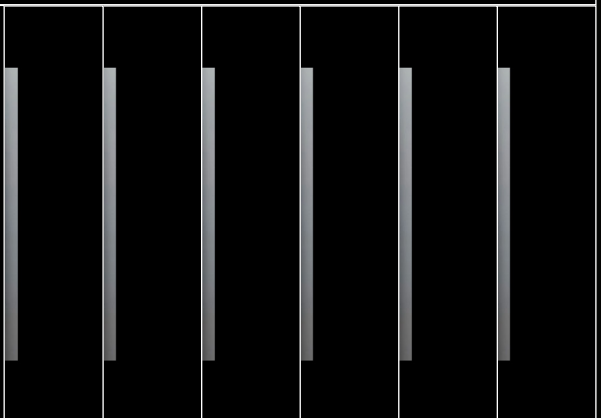
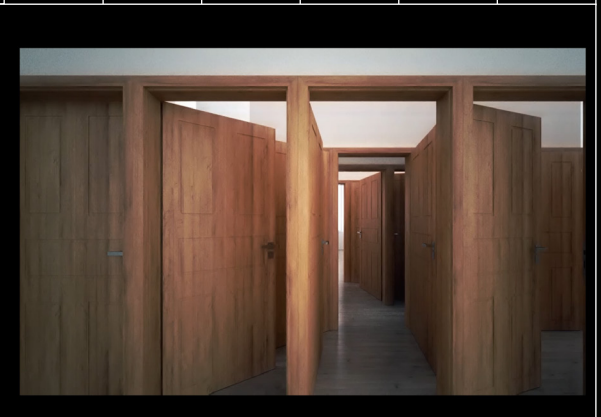
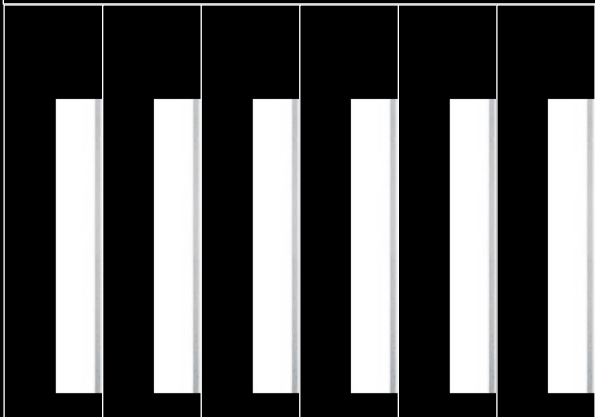
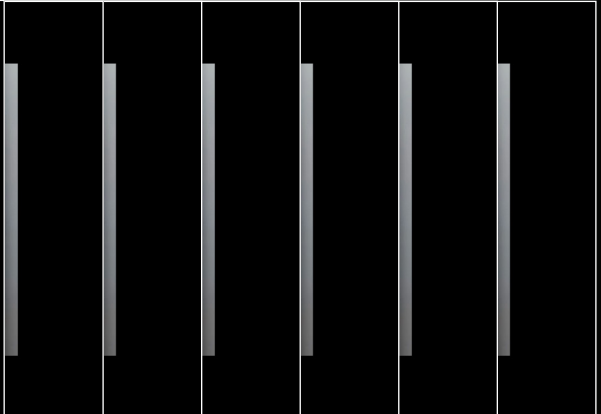


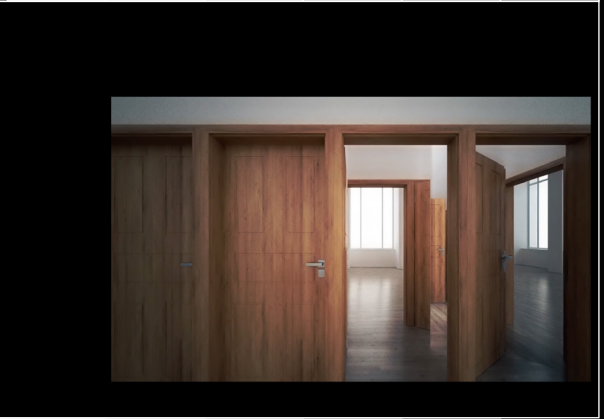
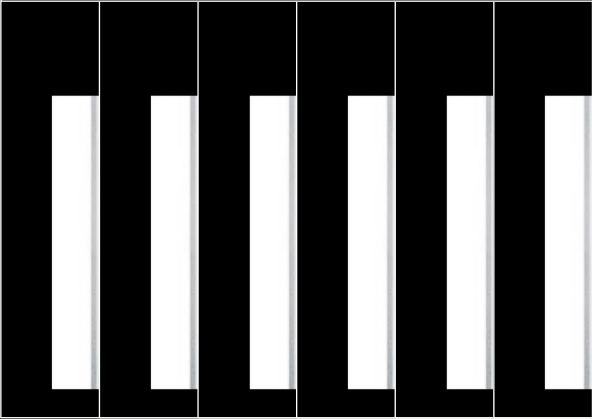
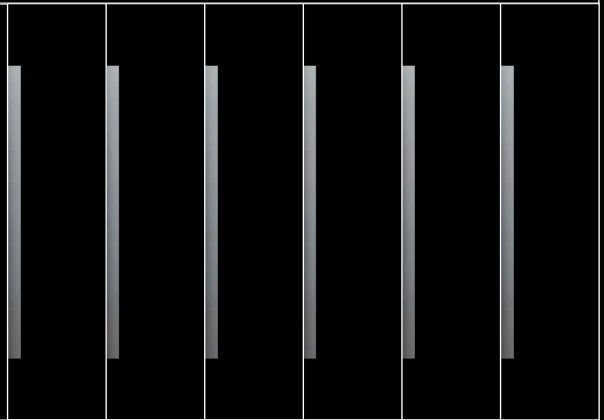
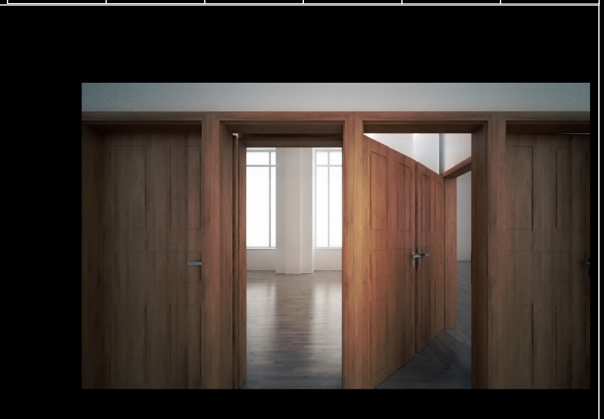
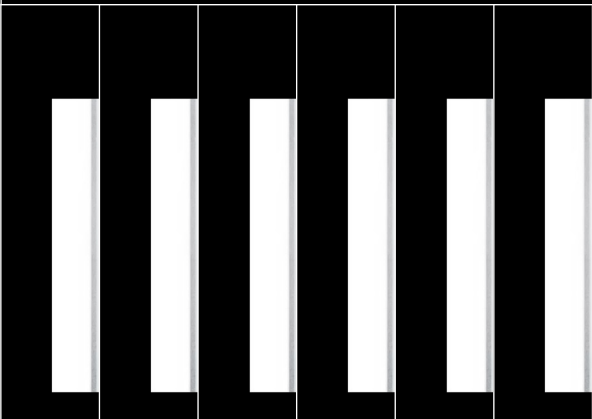
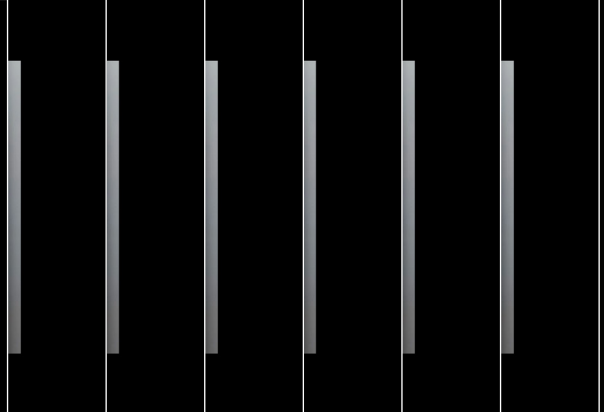
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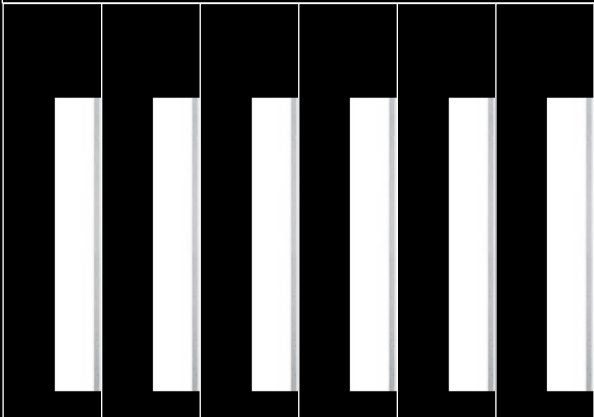
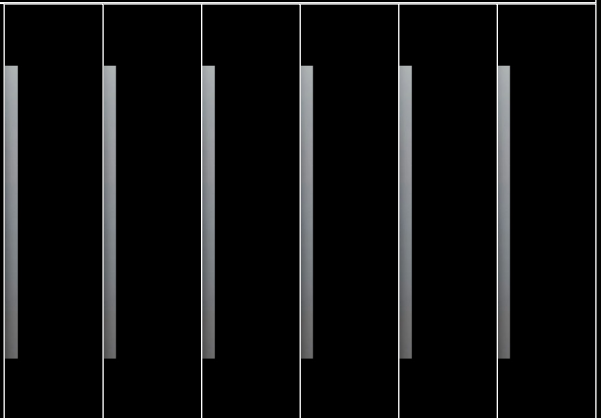
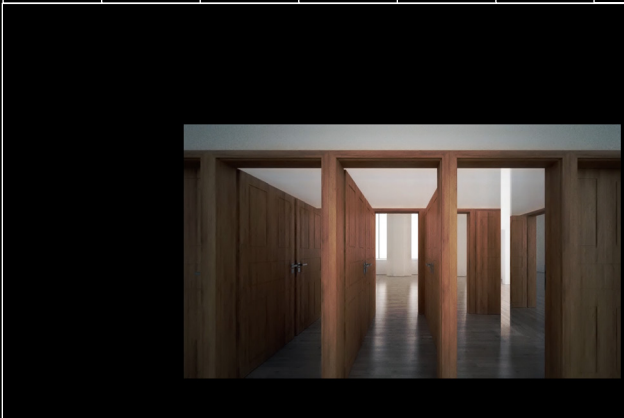
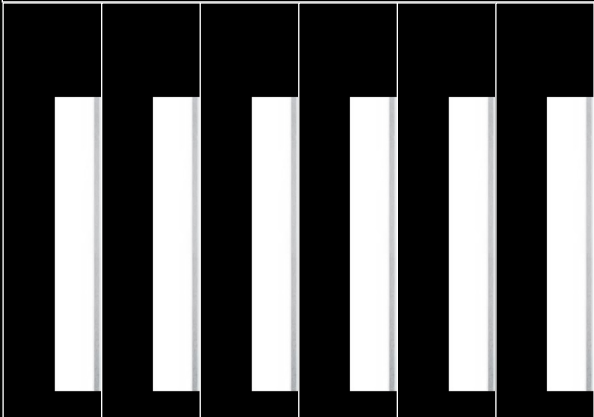
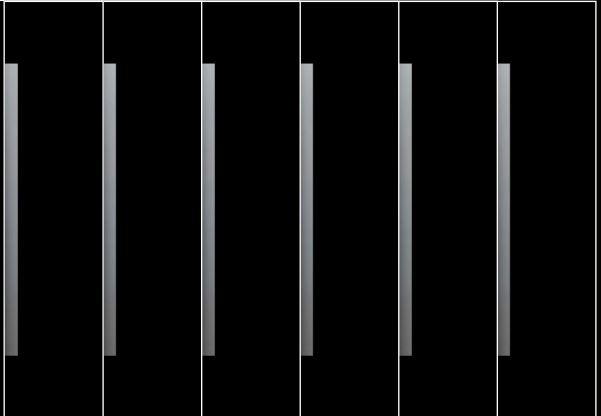


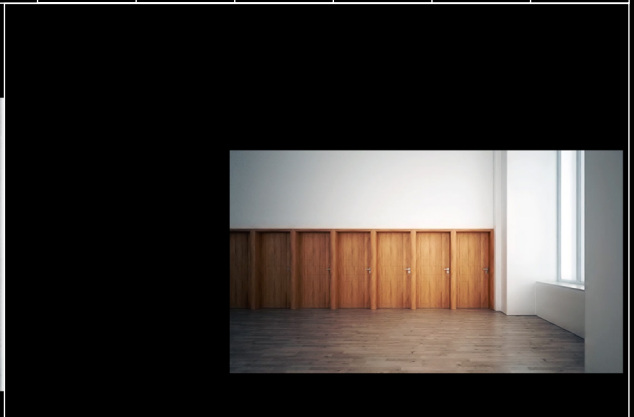
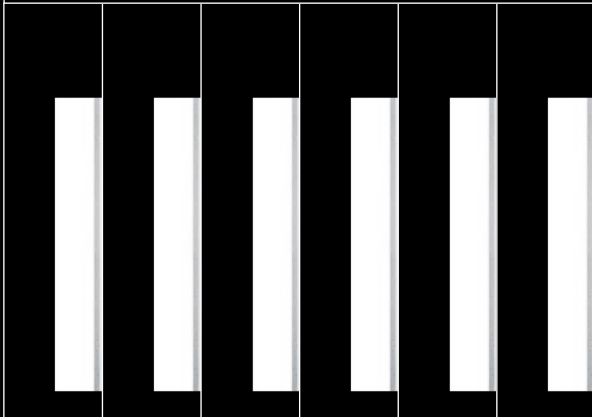
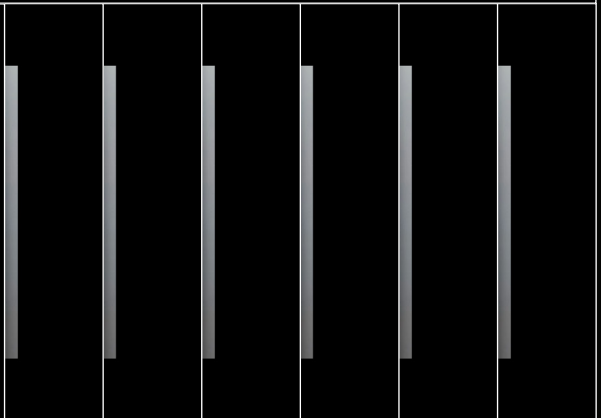
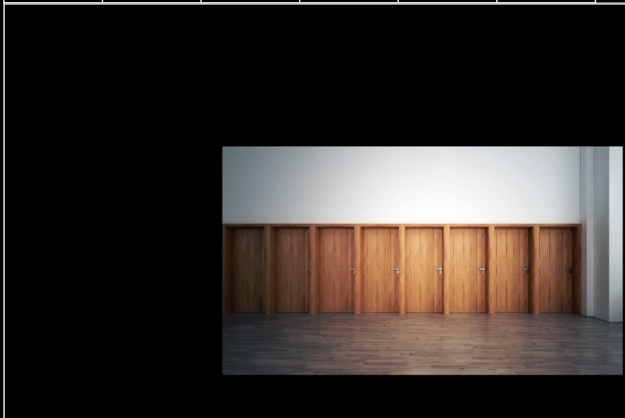
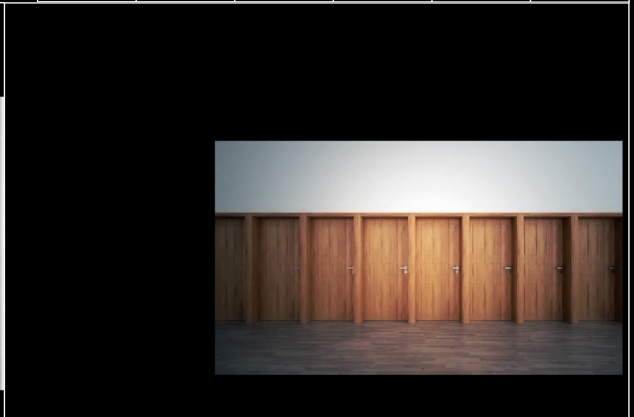
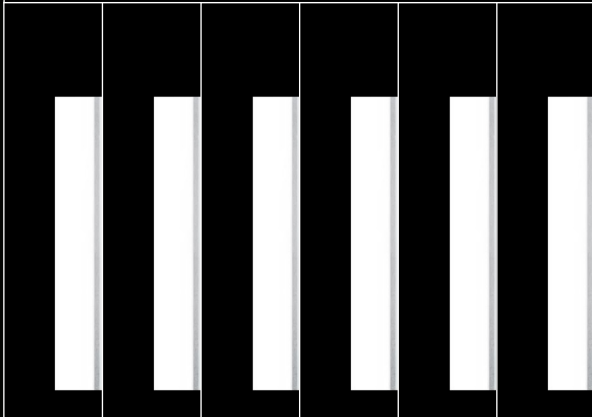
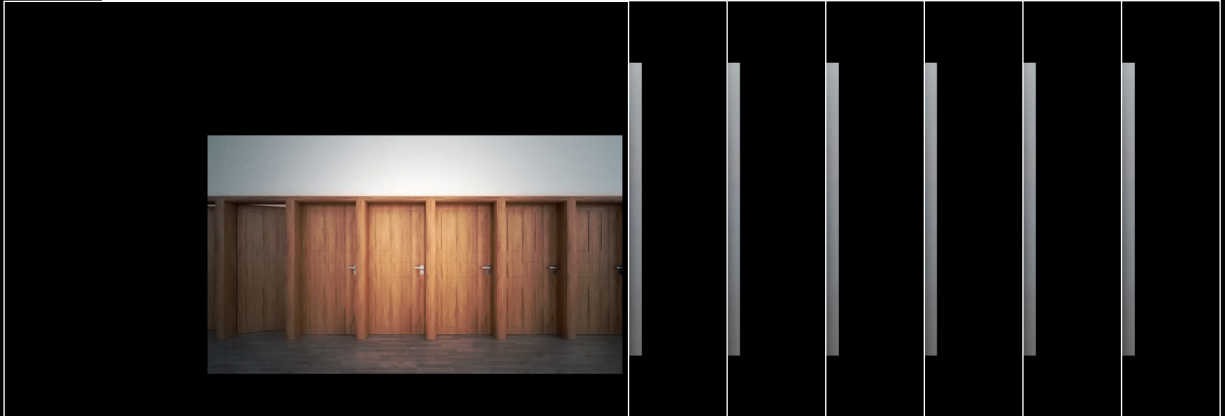
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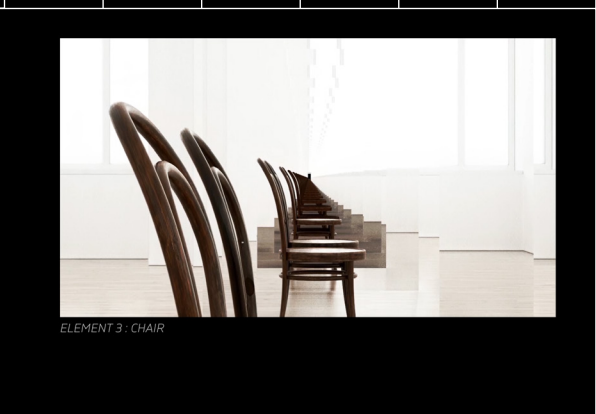
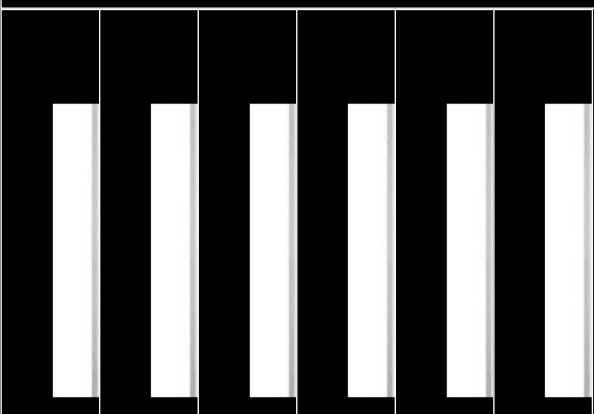
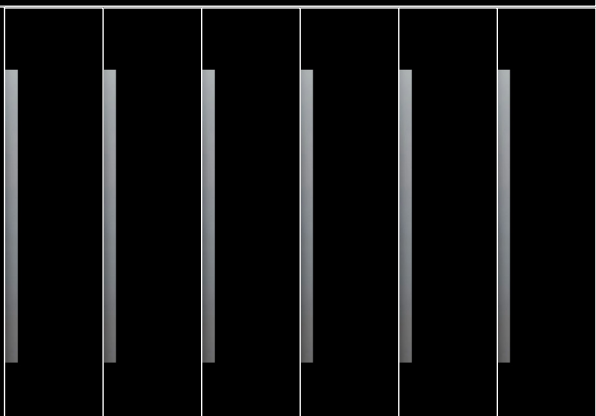
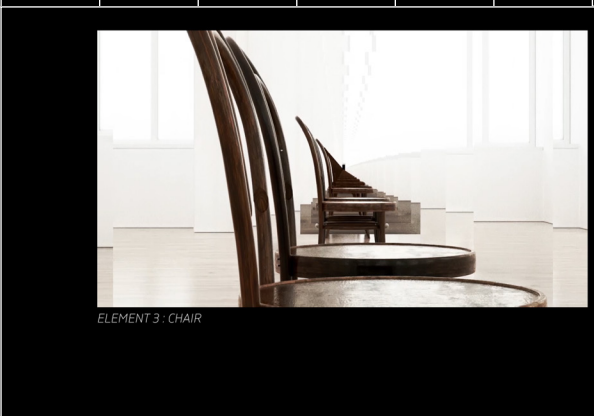
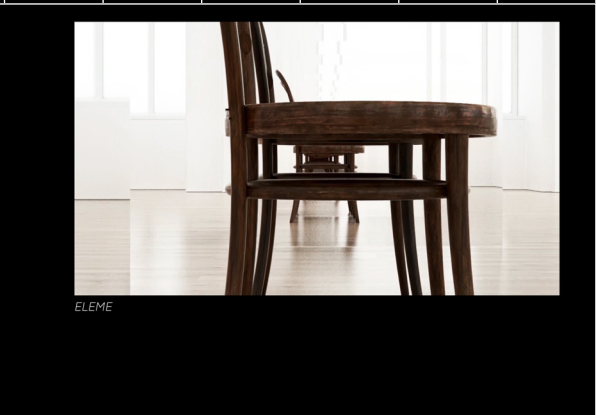
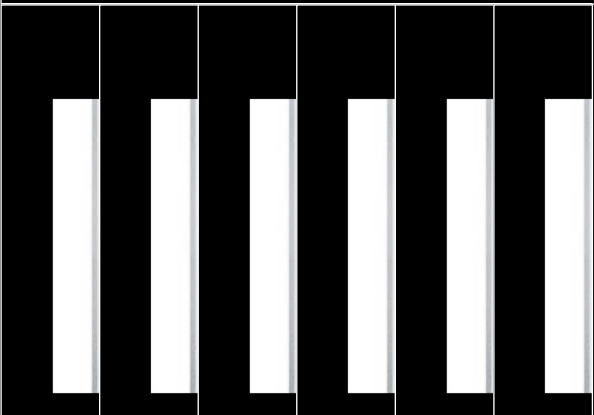
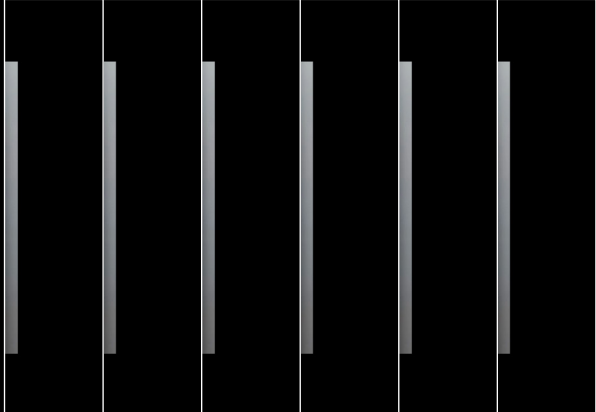


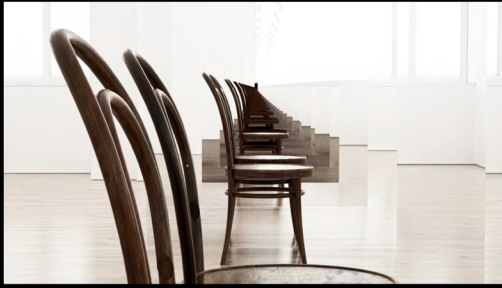




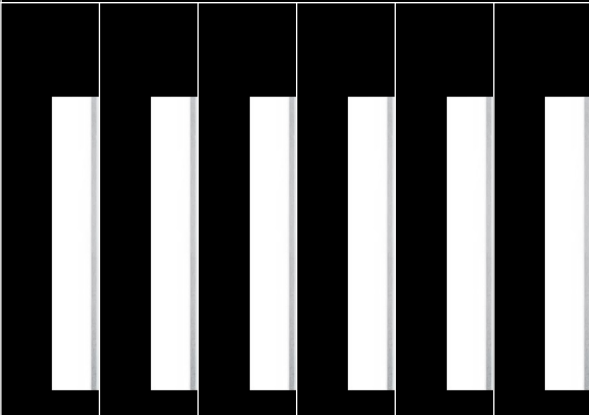
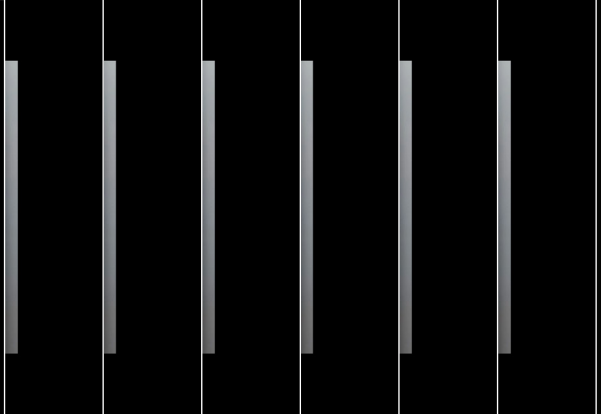








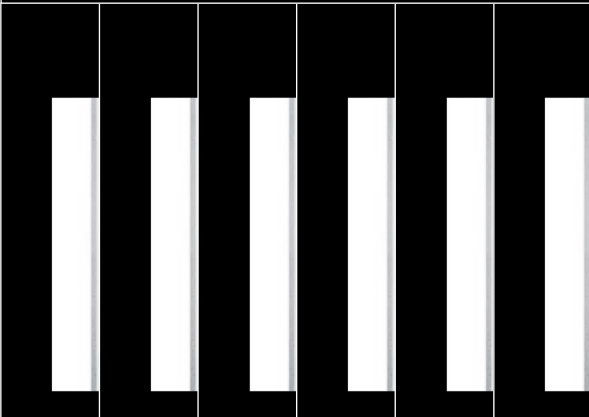
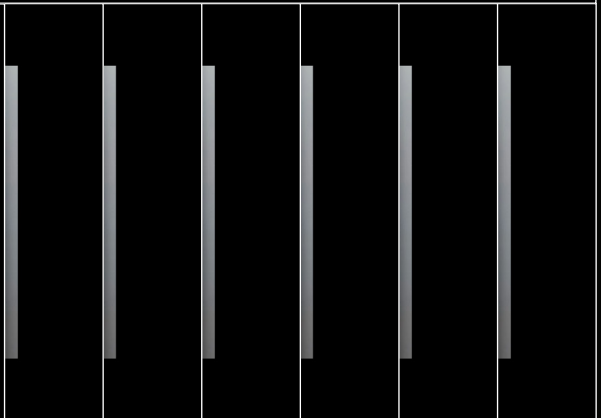
ELEMENT 3 : CHAIR



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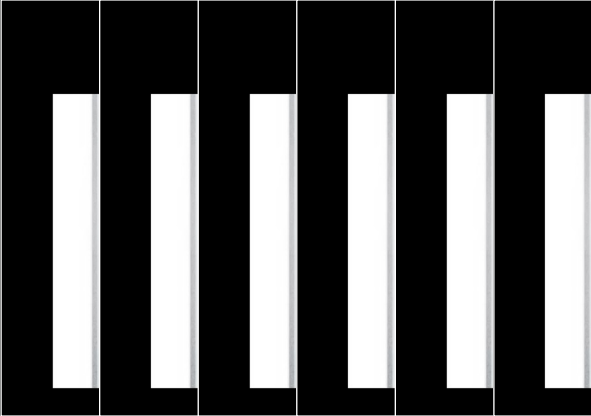
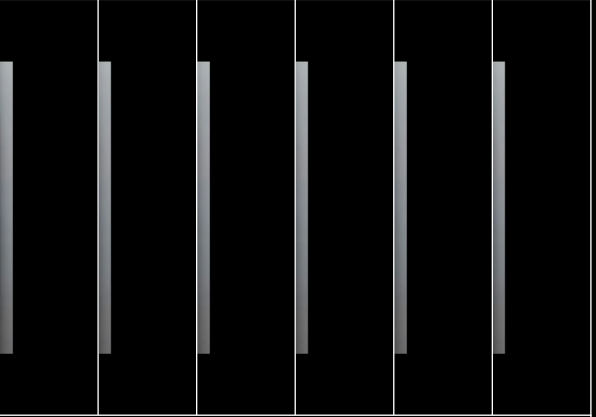
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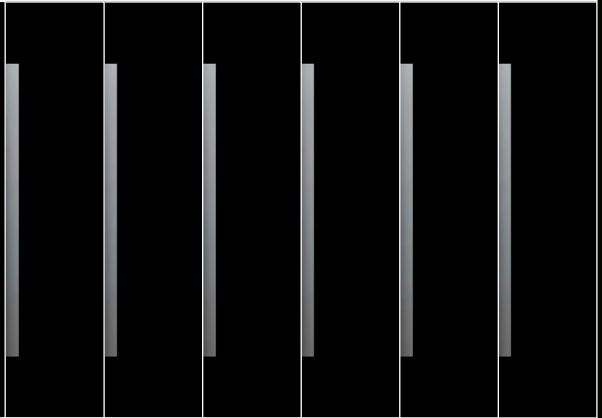
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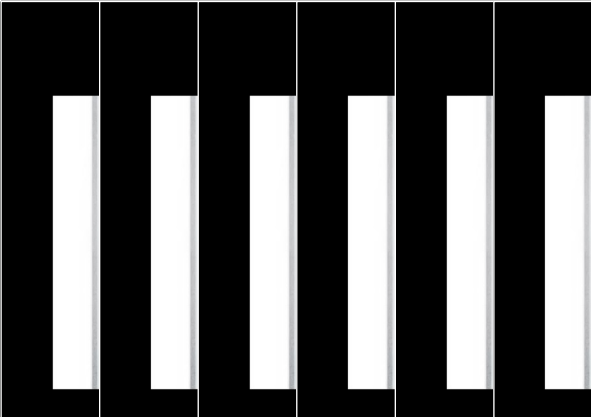
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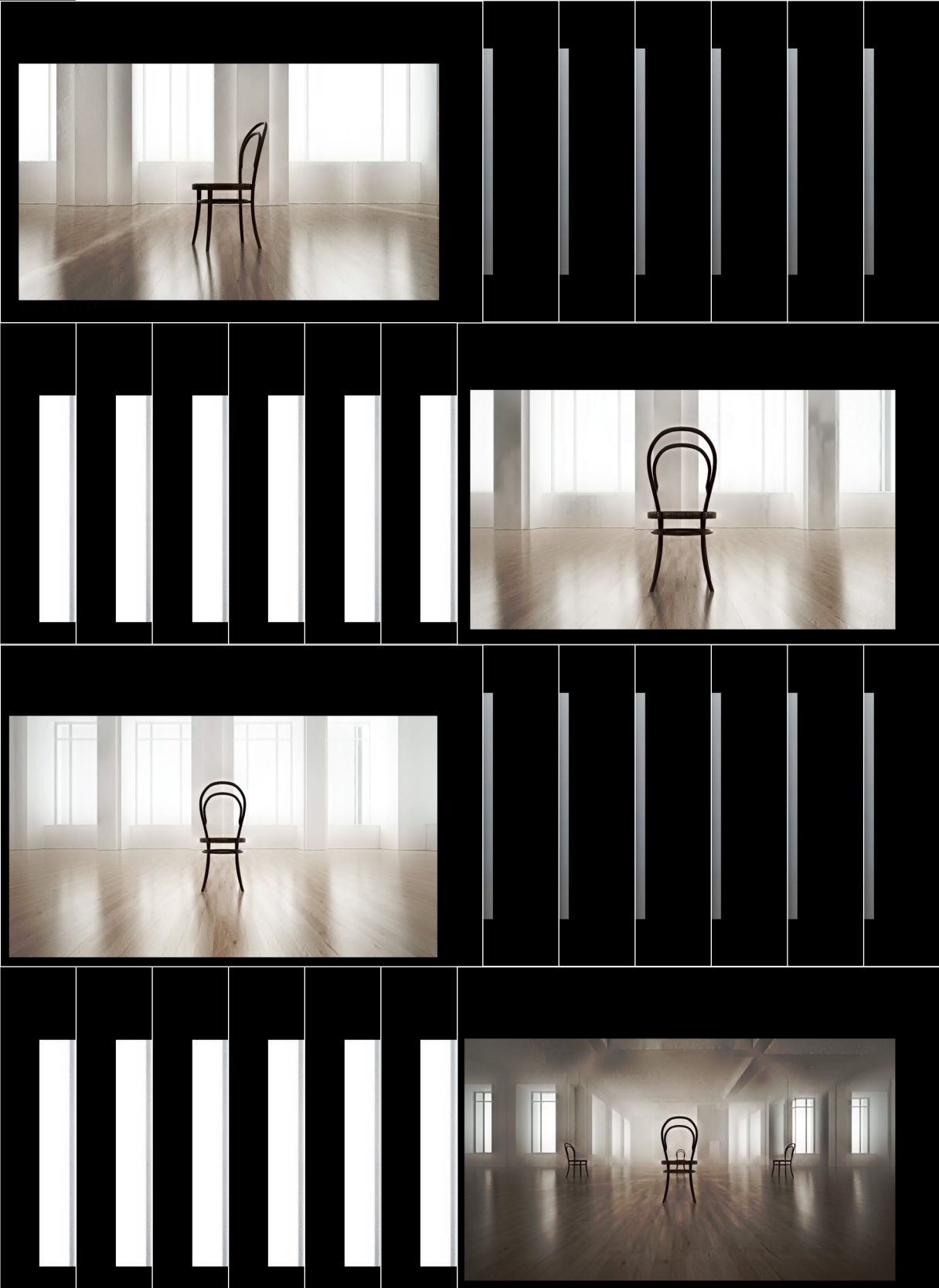
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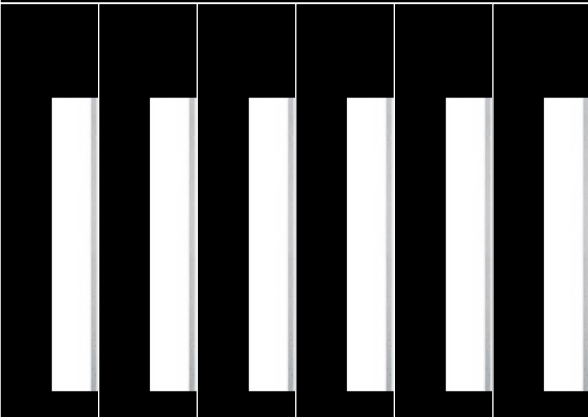
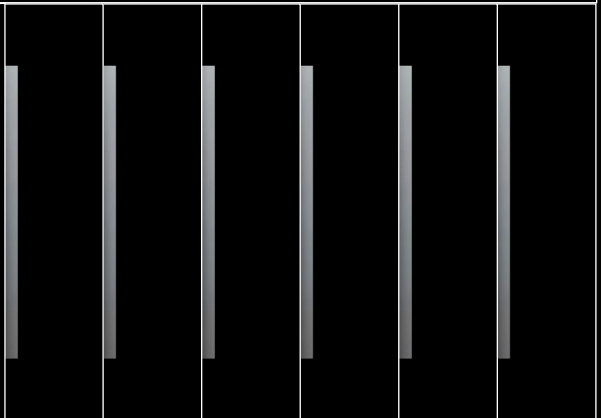
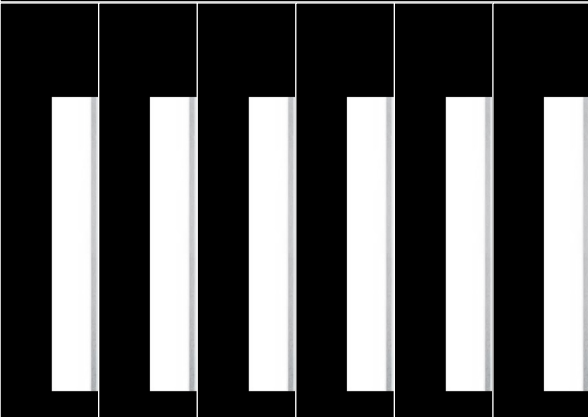
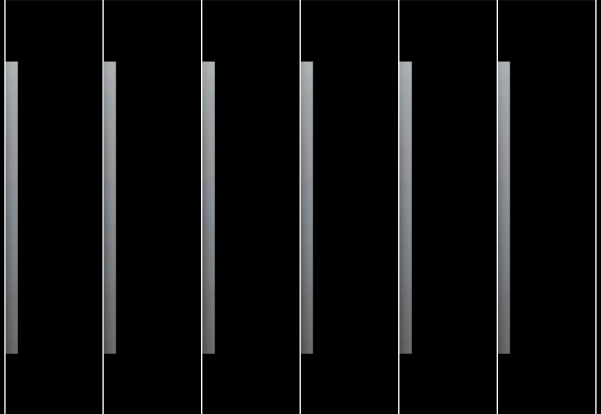


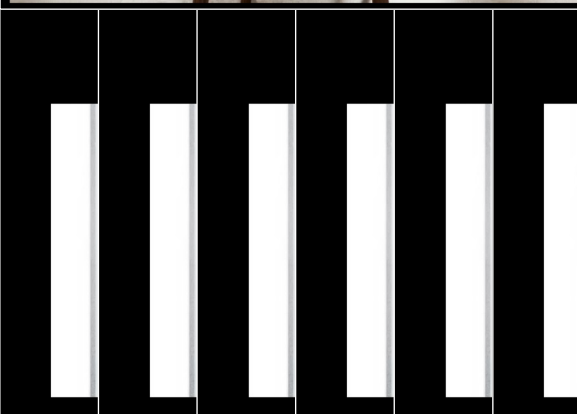
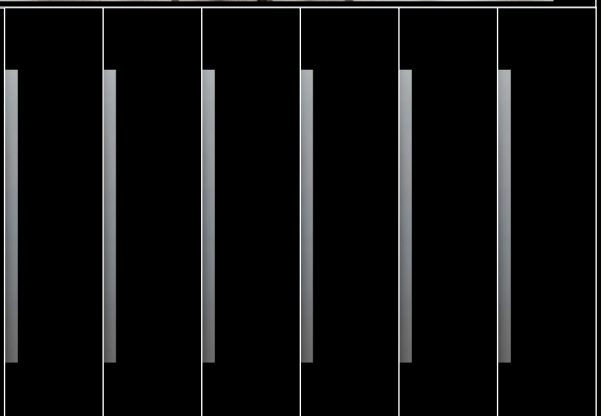
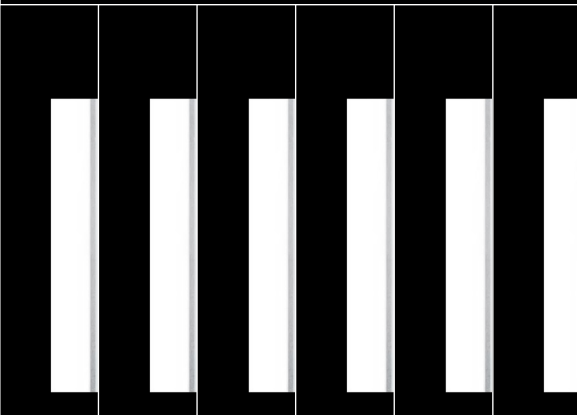
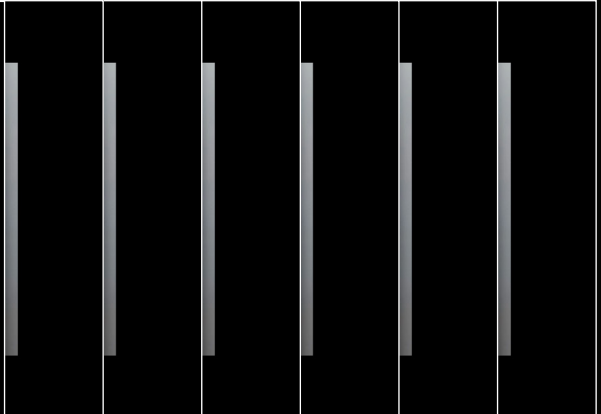
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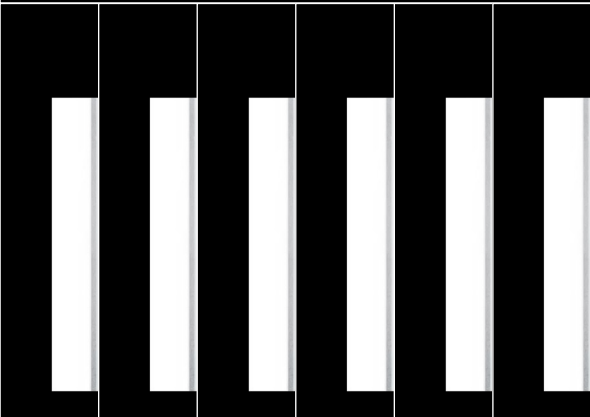
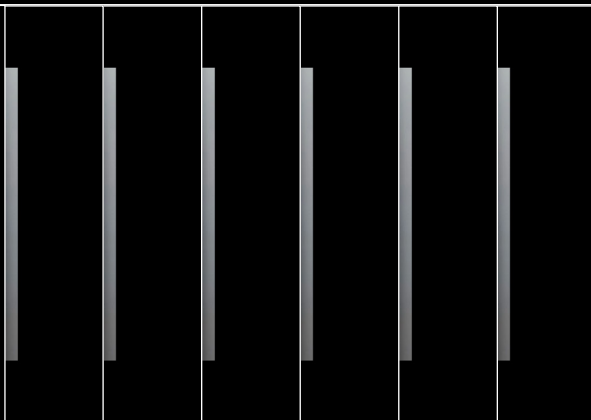
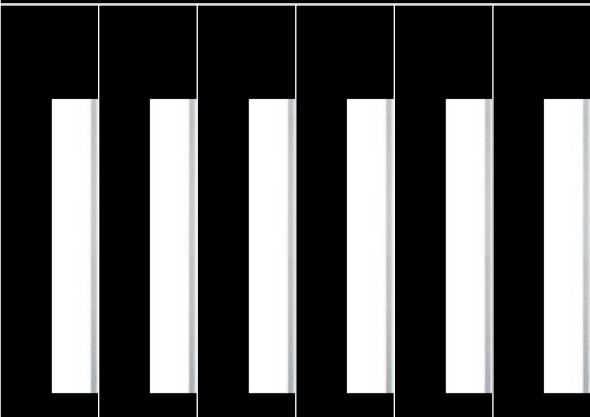
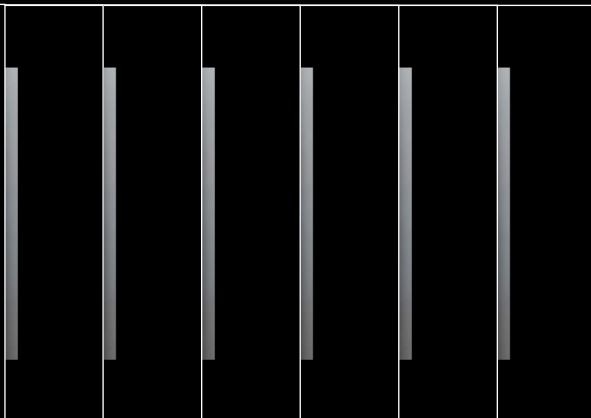


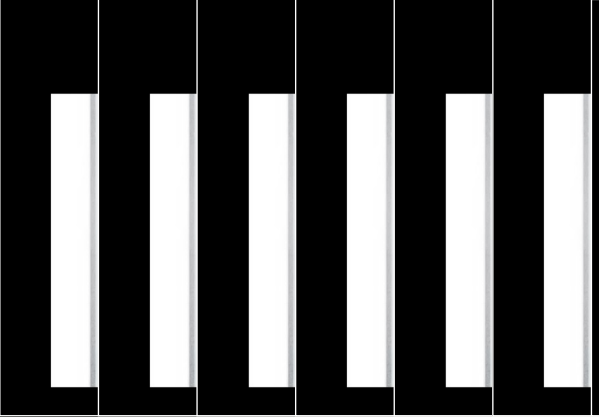
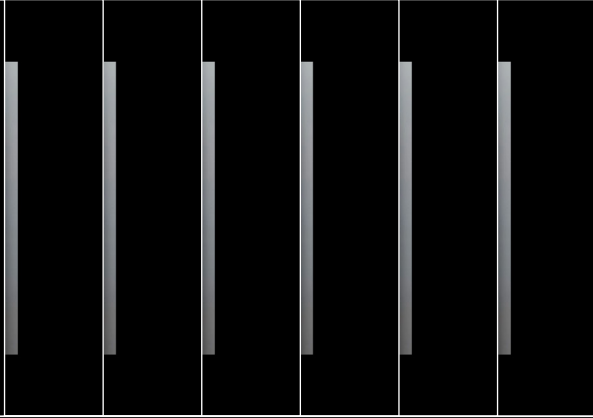
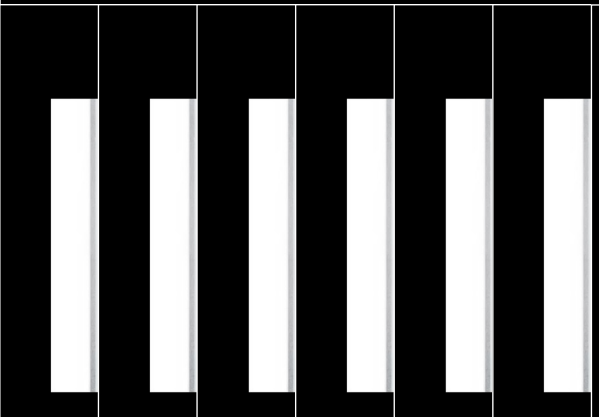
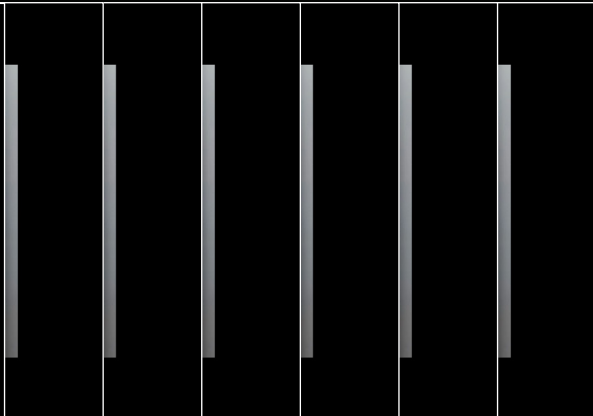
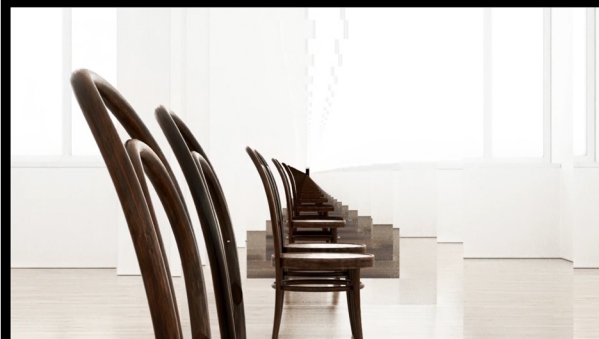
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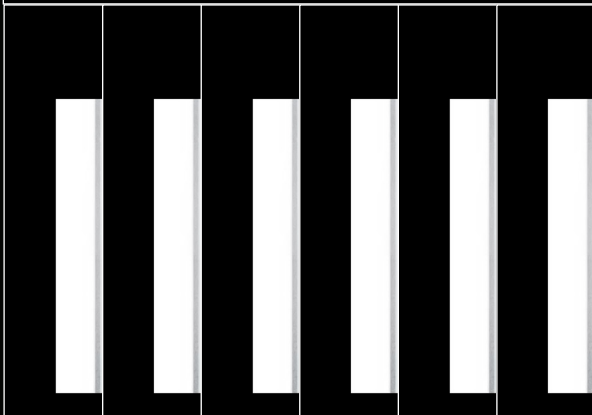
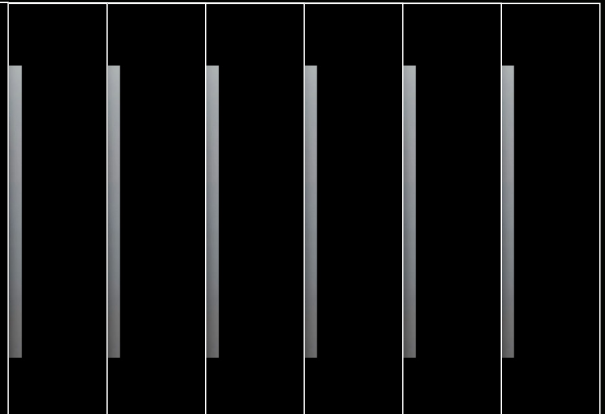




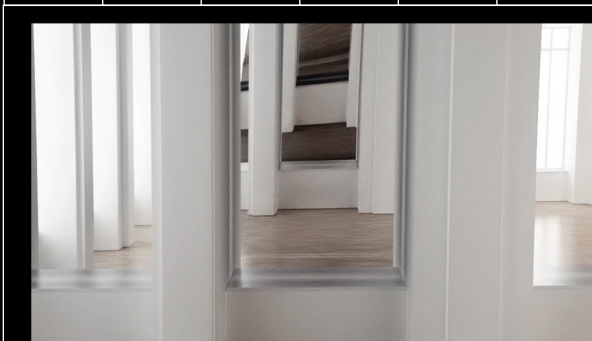




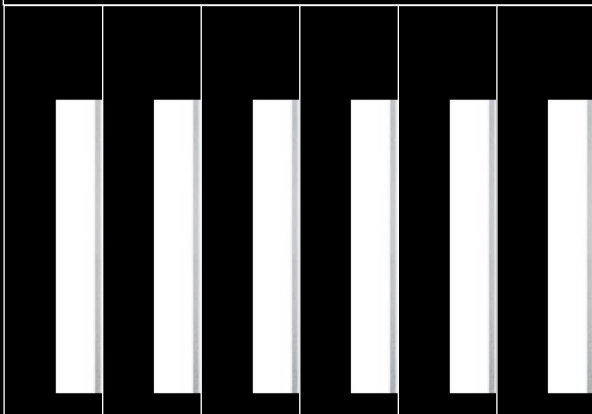
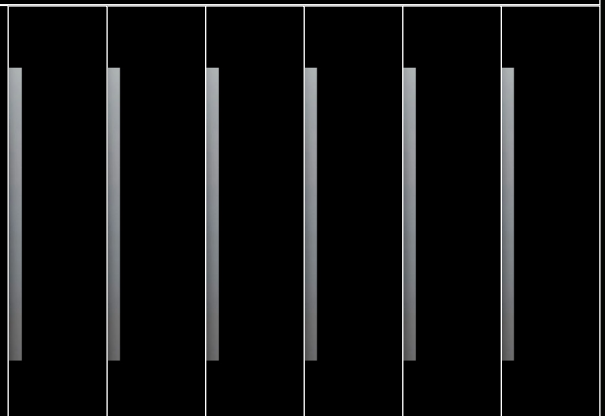




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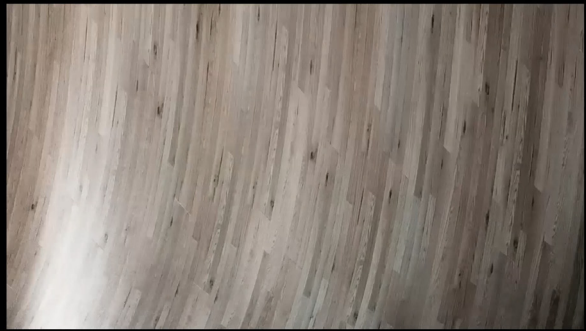
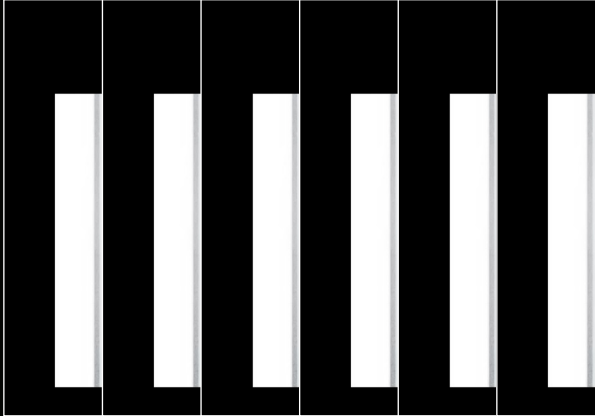
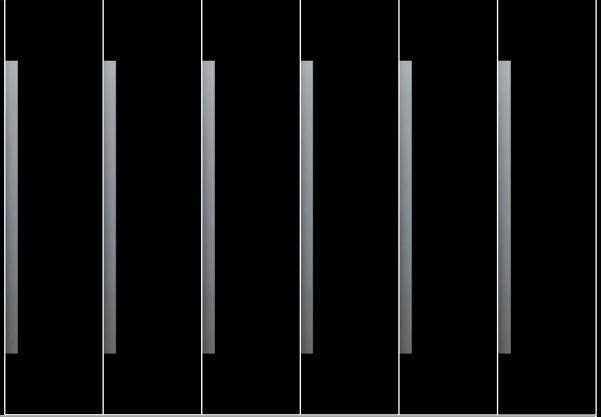
ELEMENT 4 : WINDOW



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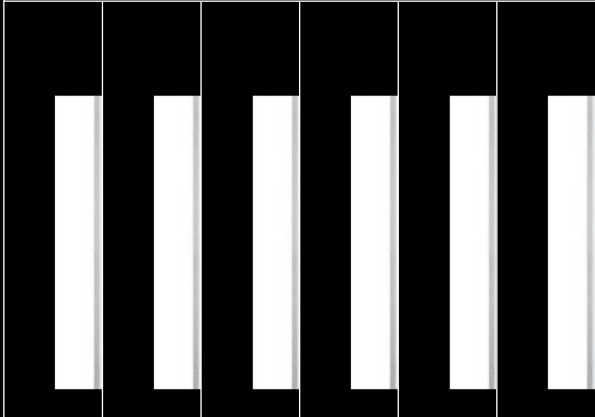
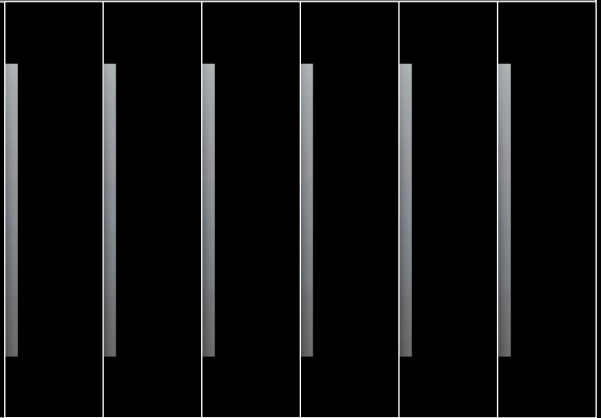
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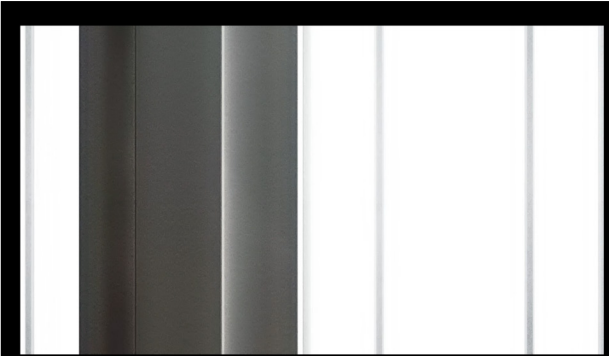
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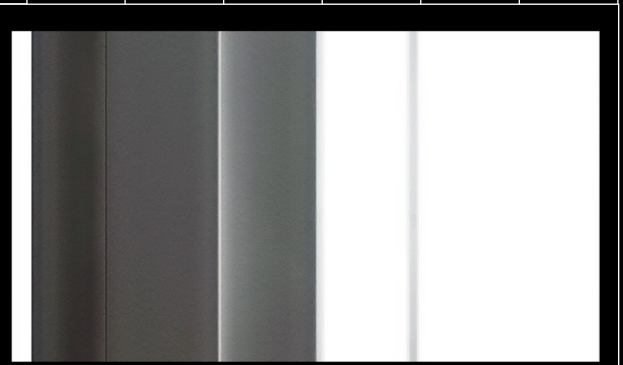
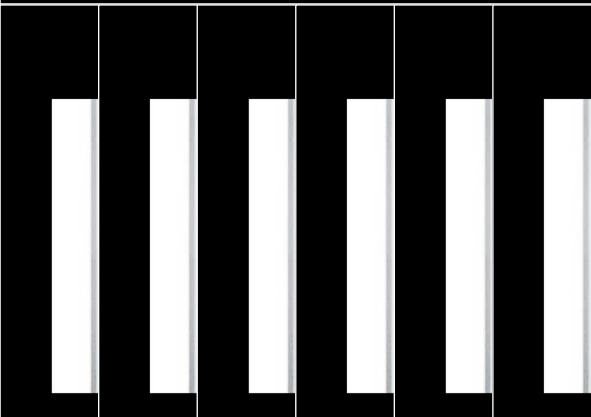
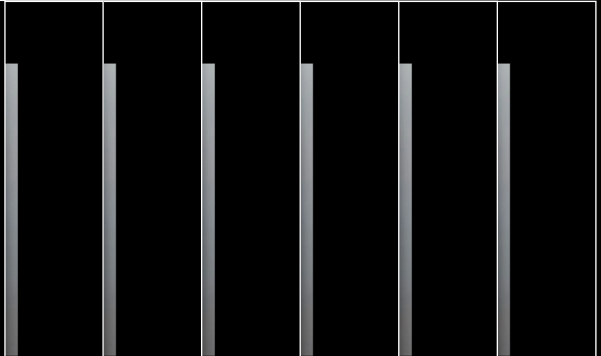
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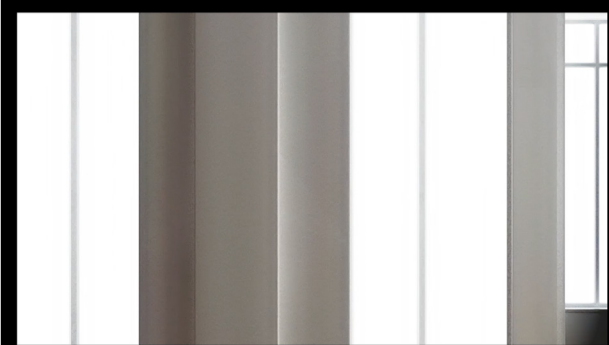
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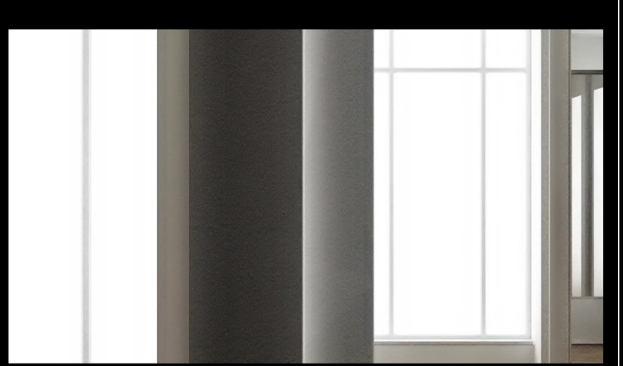
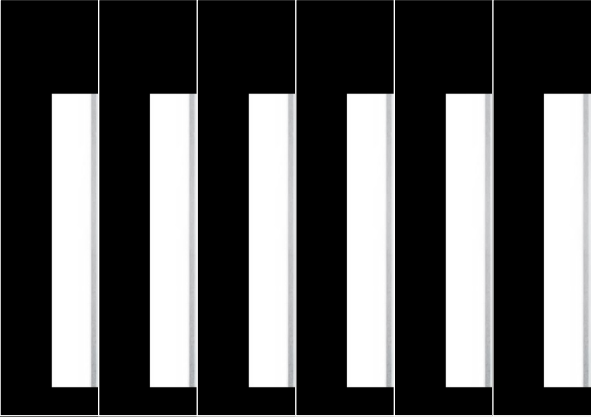
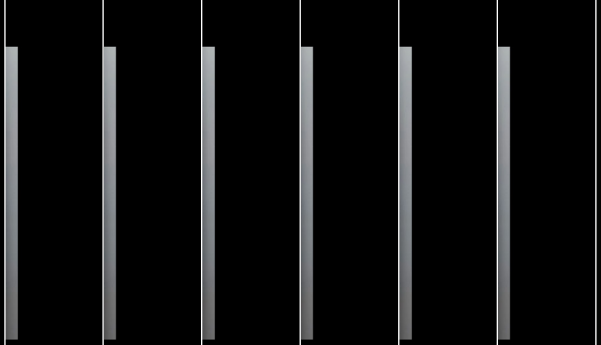
ELEMENT 4 - WINDOW



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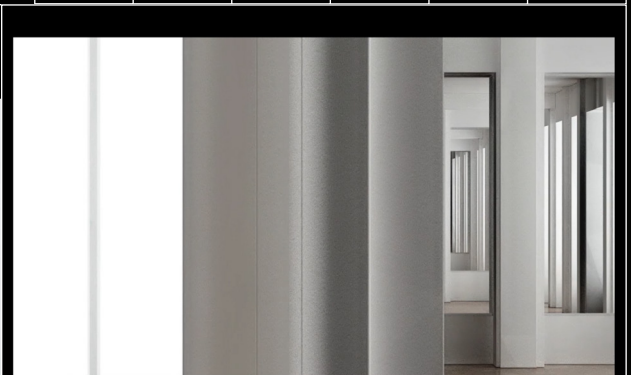
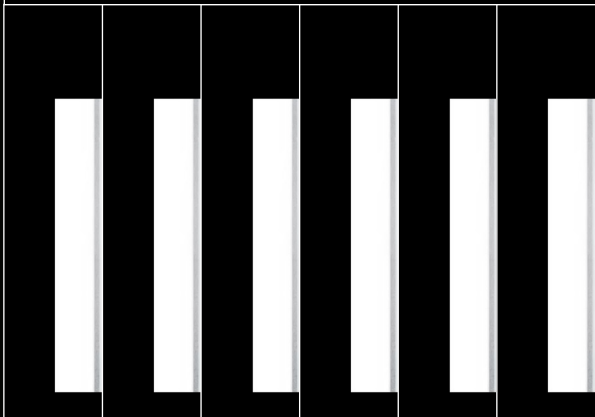
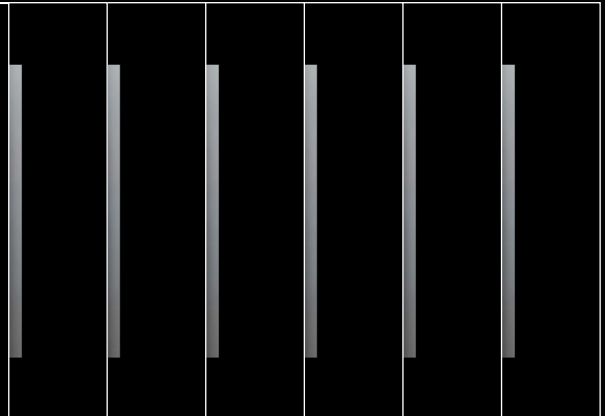
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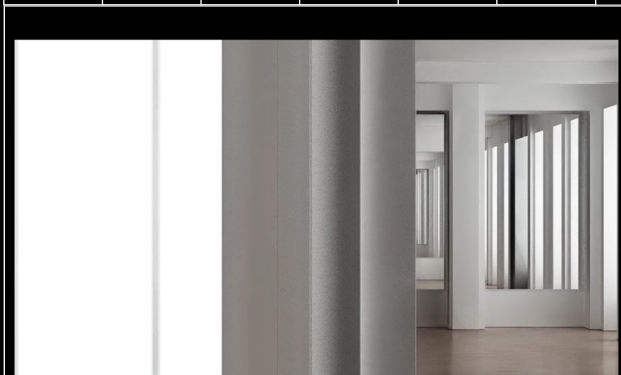
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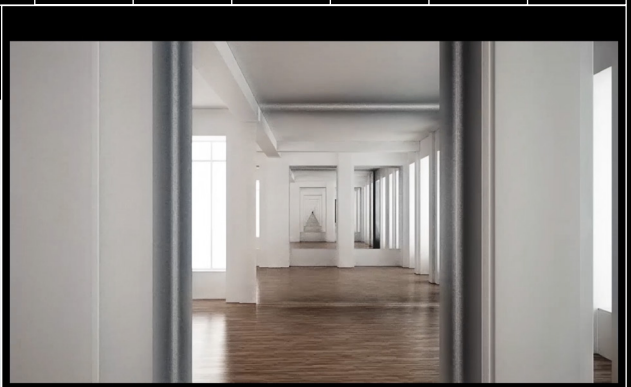
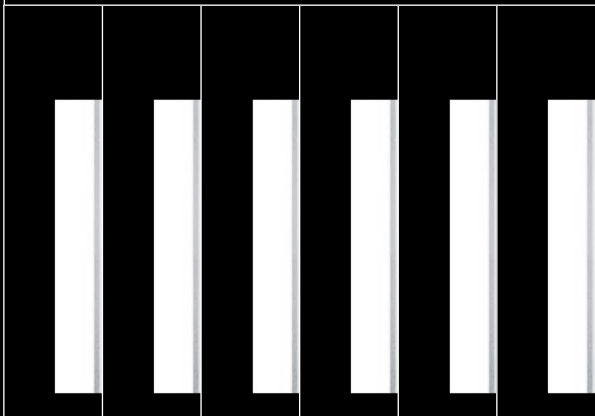
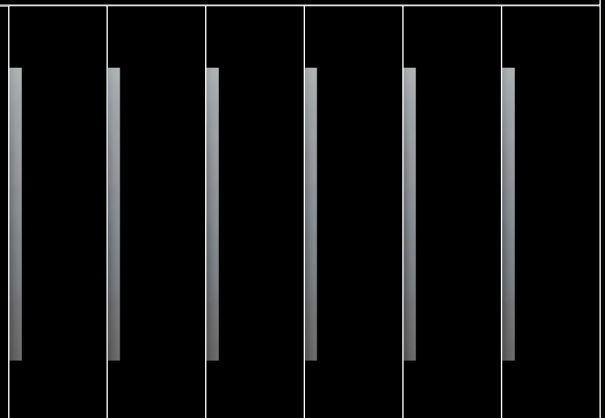
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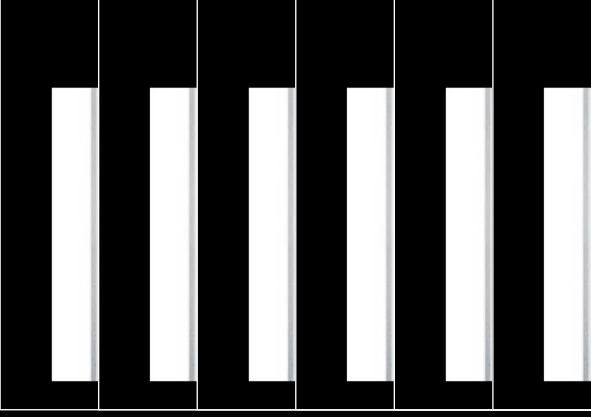
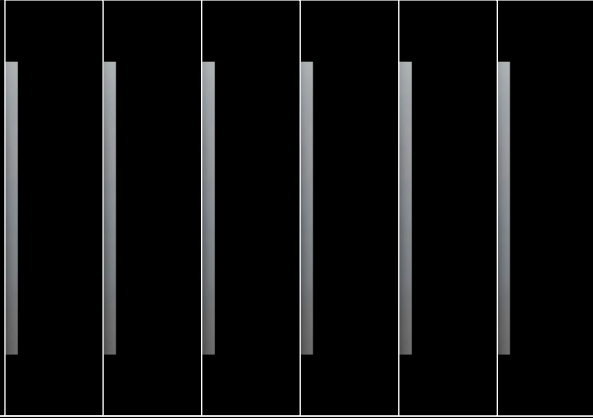
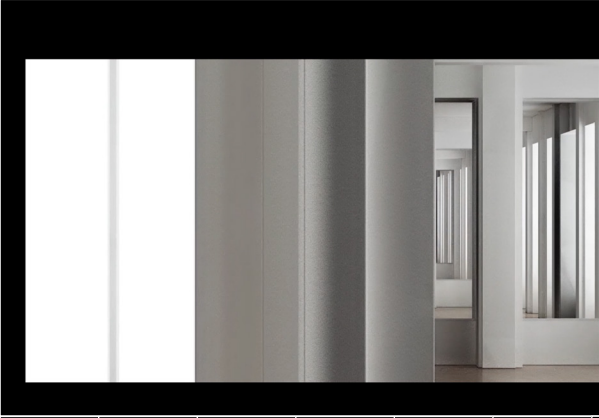
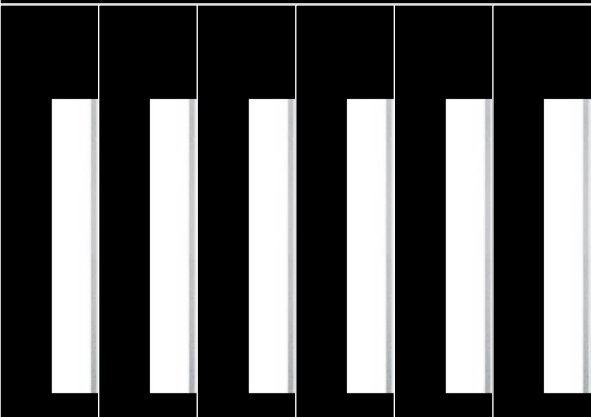
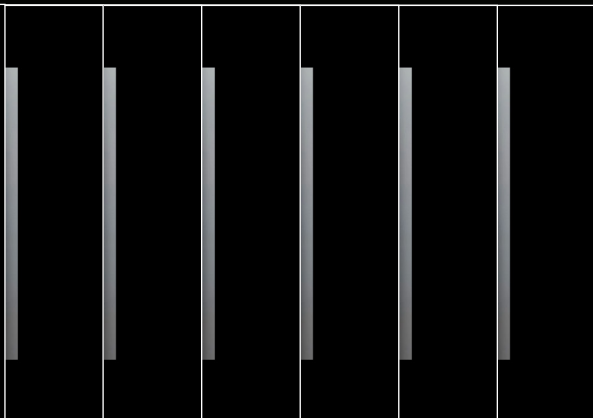


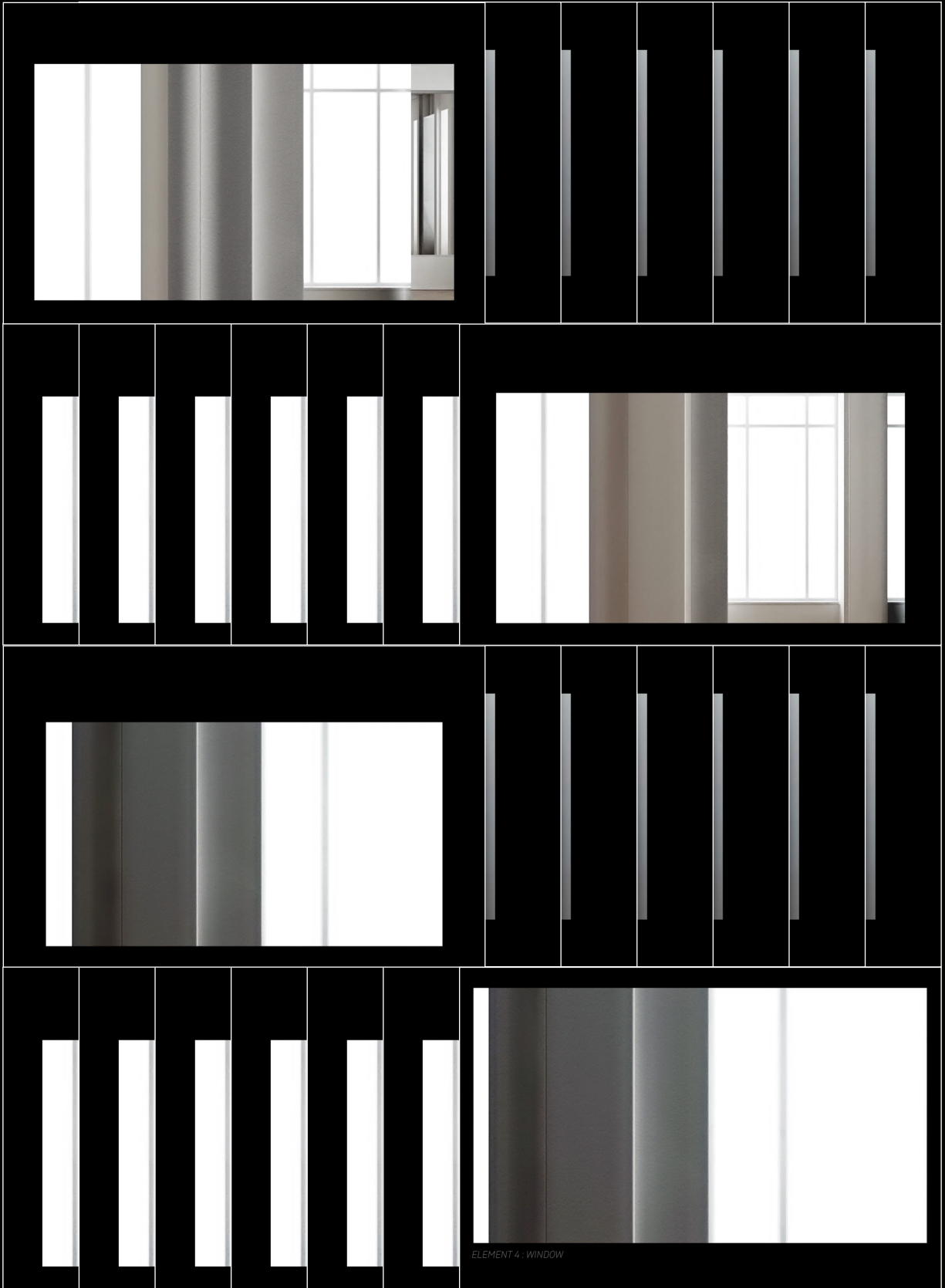
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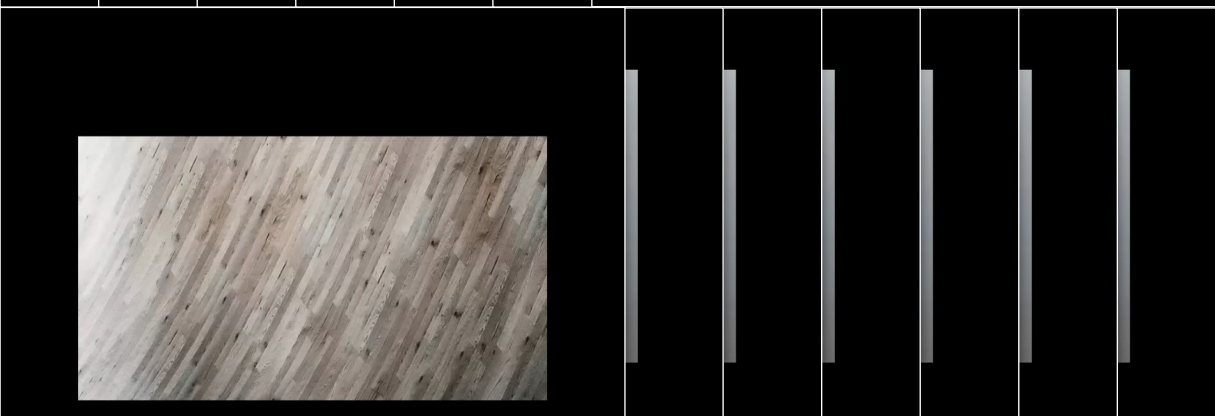
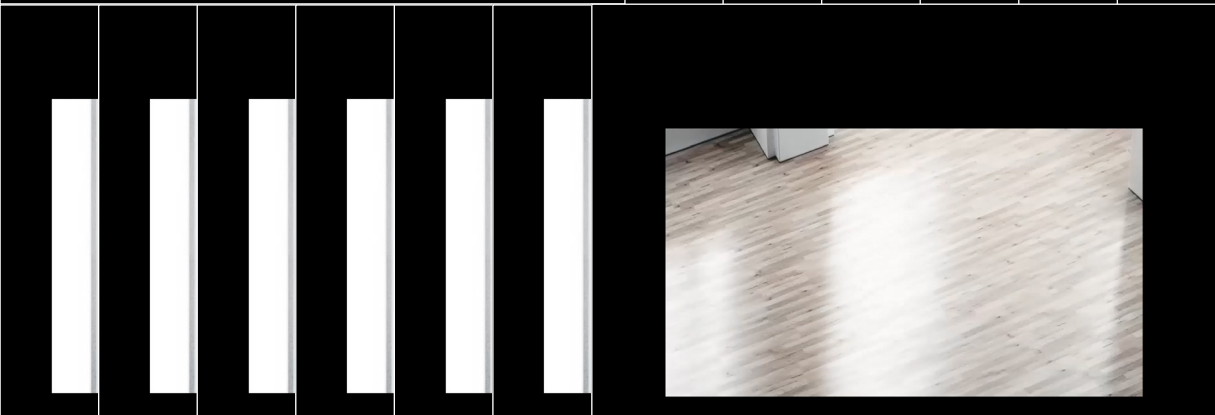
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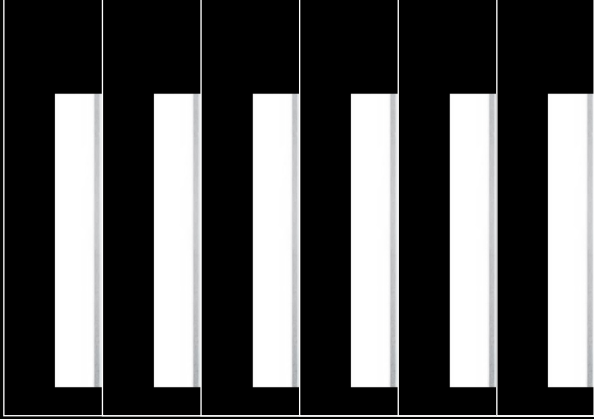
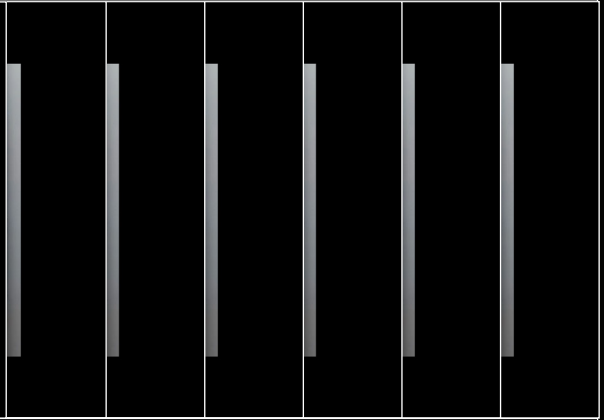
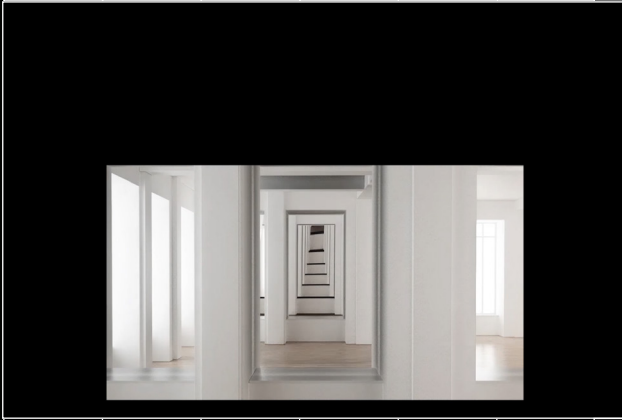
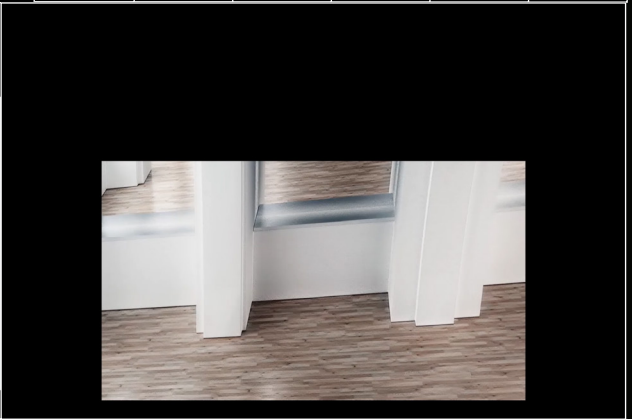
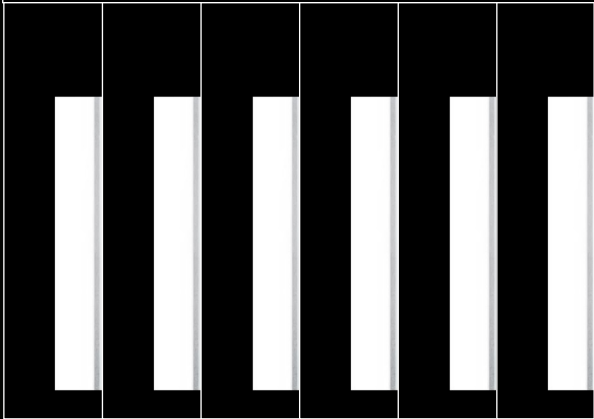
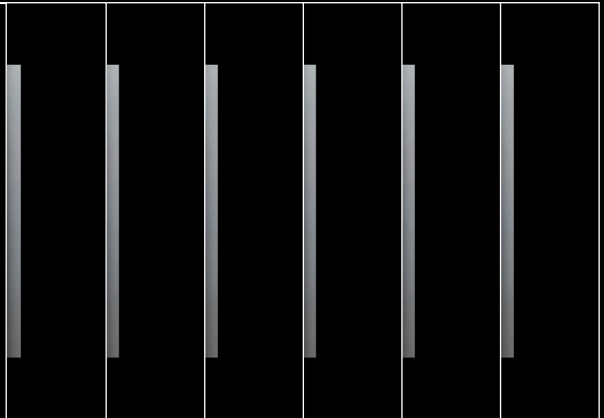
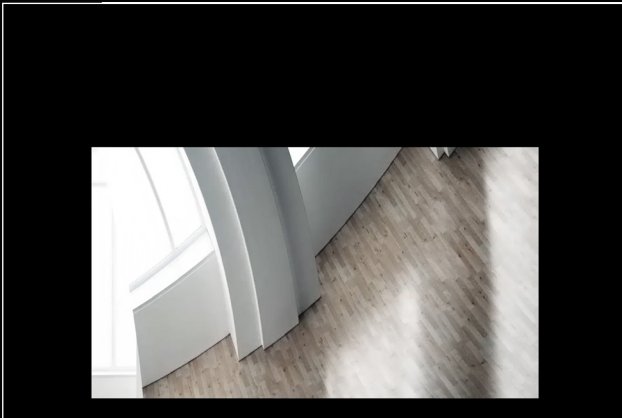


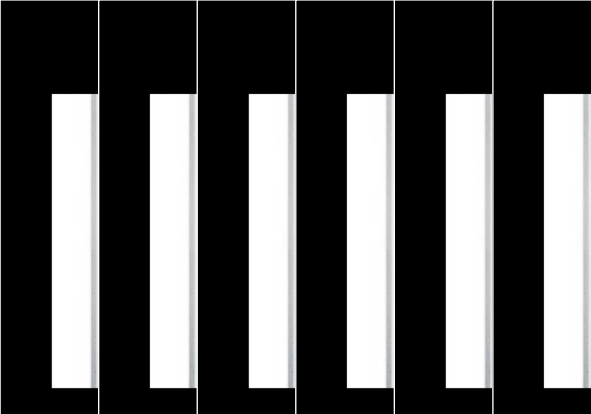
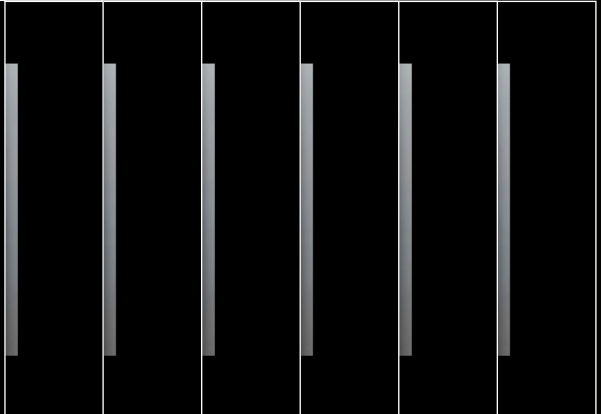




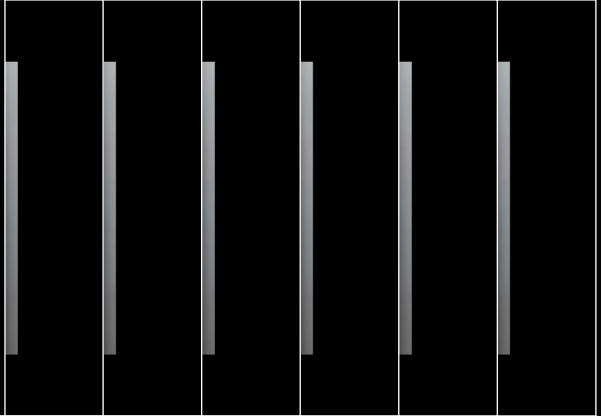
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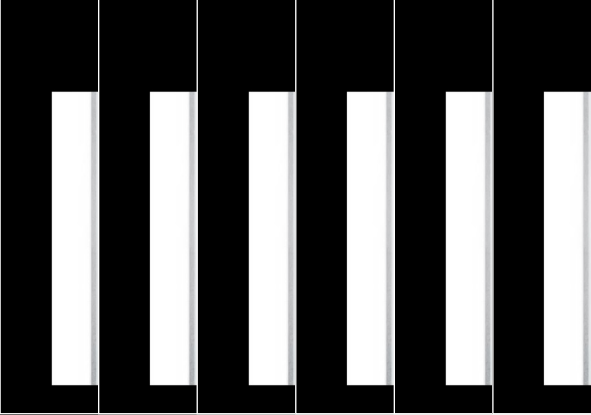




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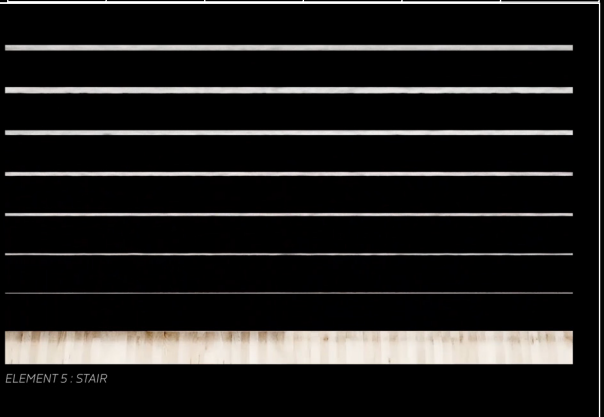
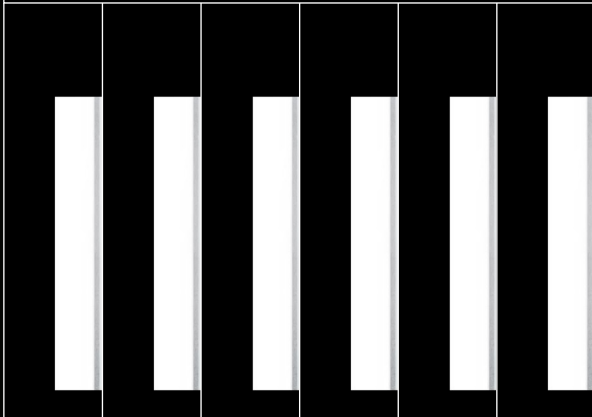
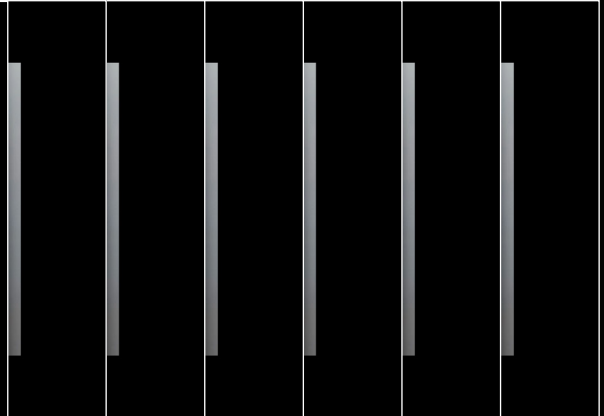
ELEMENT 5 -



ELEMENT 5 - STAIR



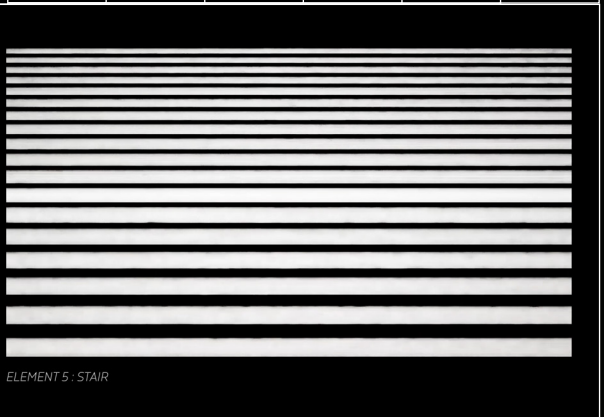
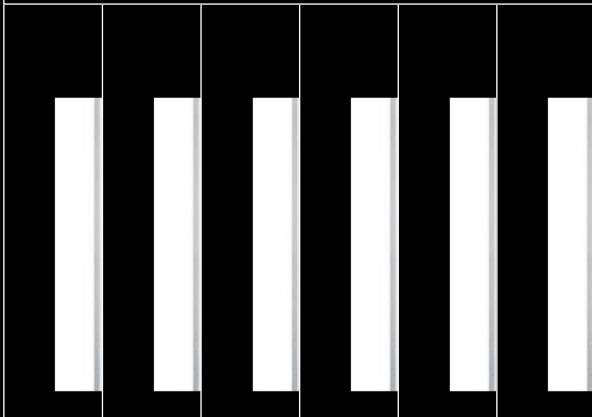
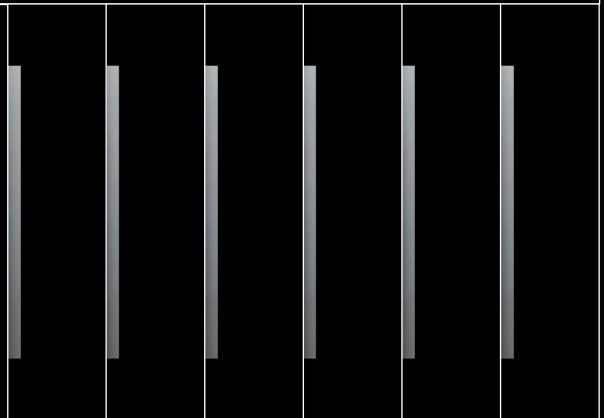
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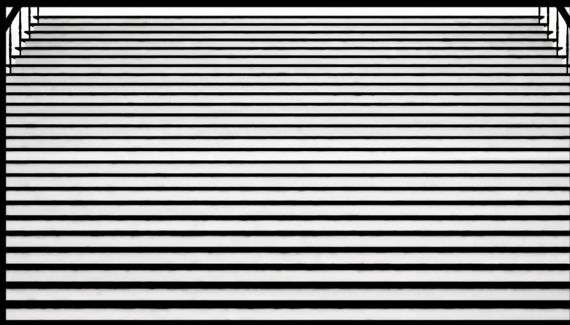
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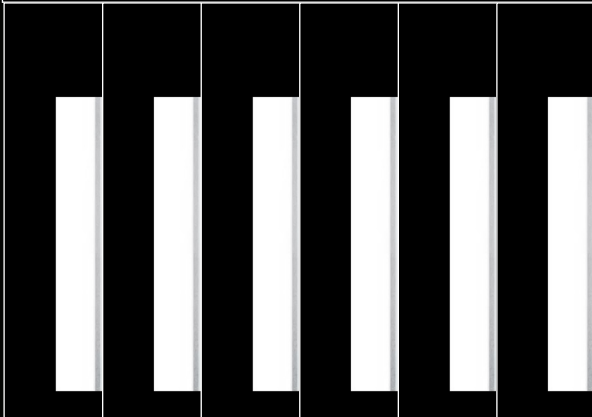
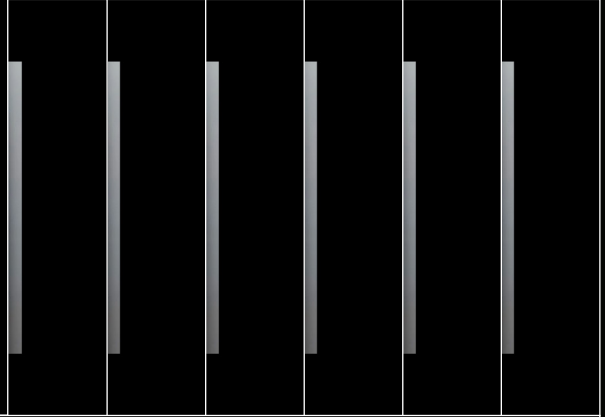
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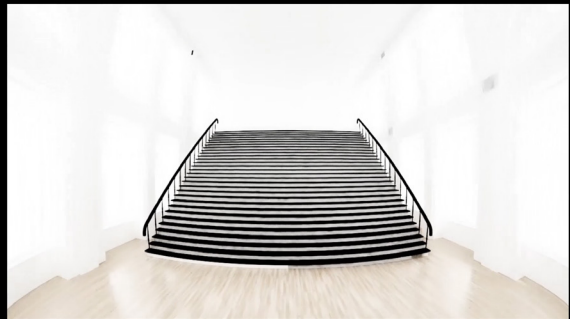
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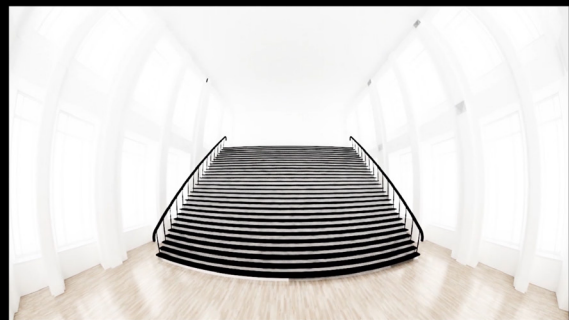
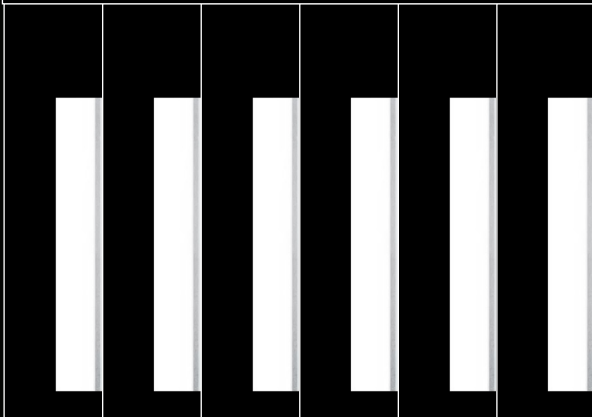
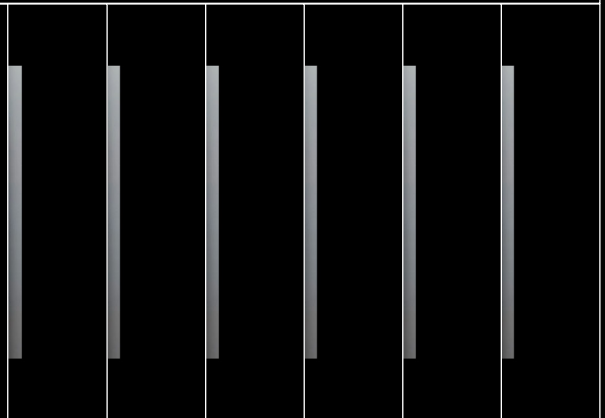
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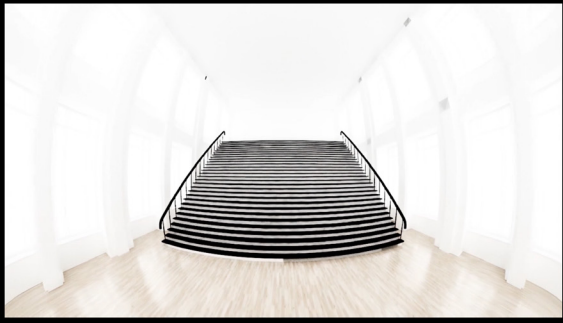
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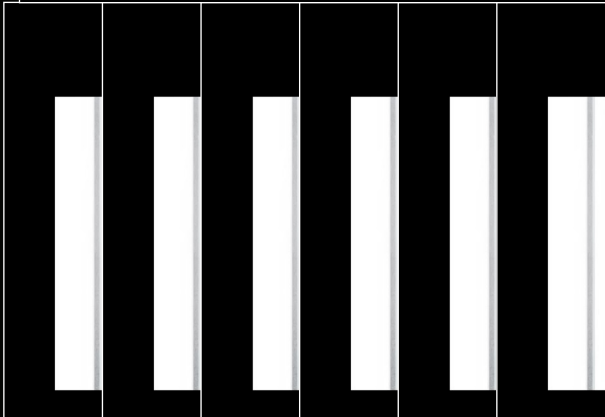
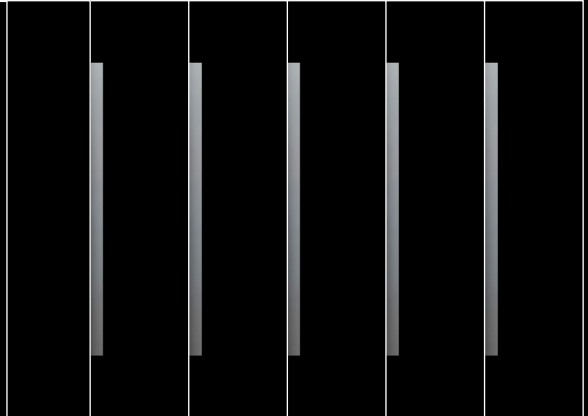
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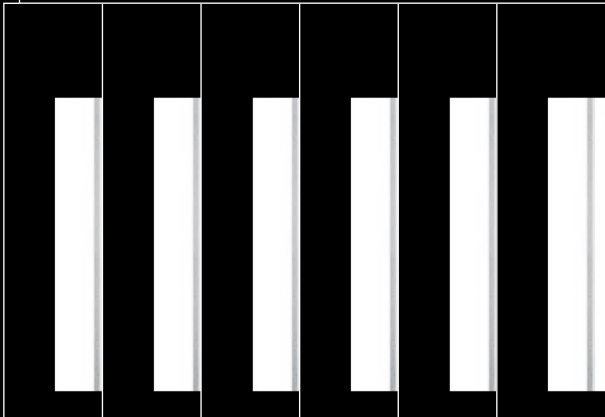
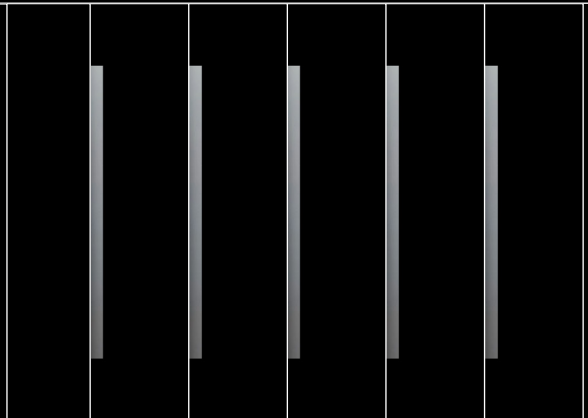
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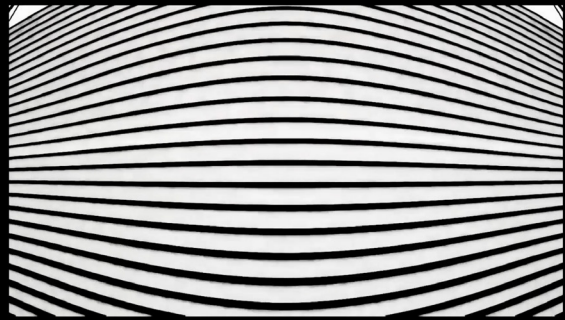
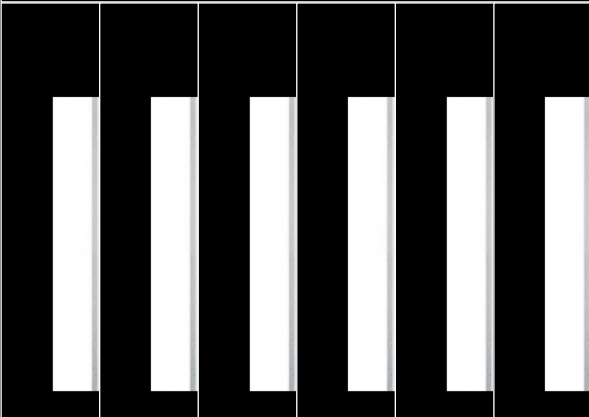
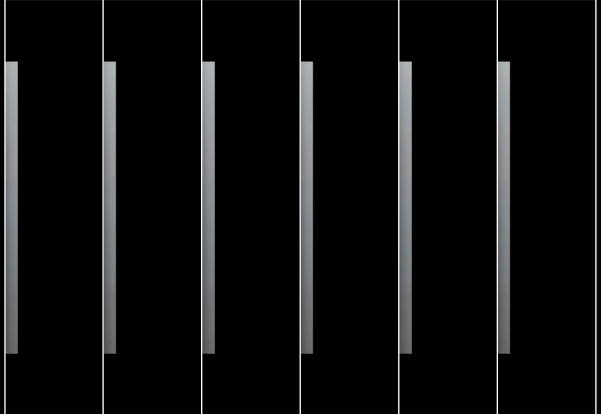
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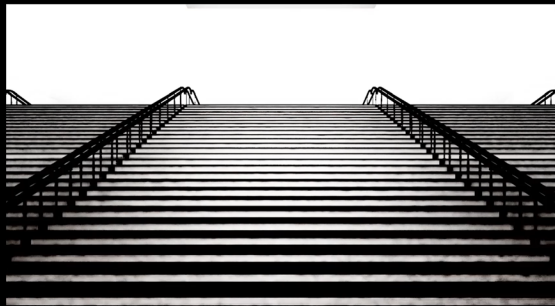
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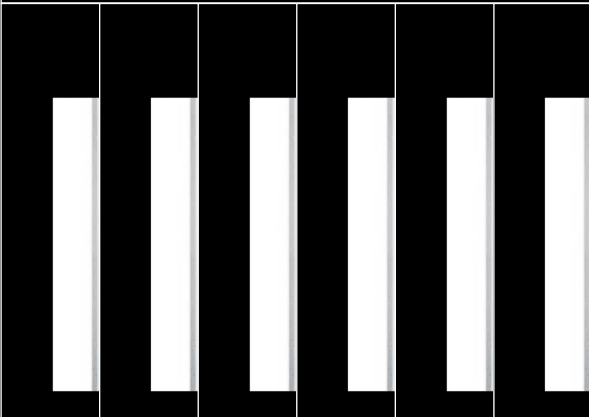
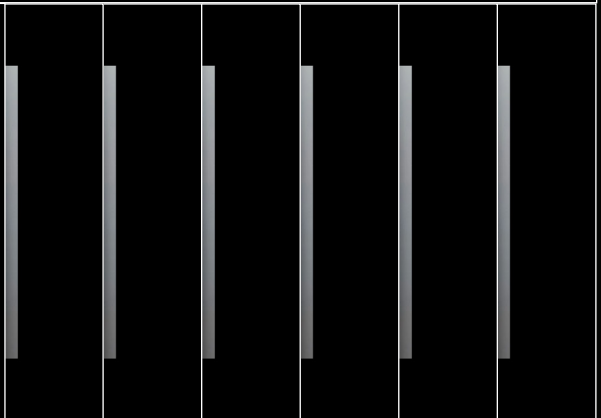
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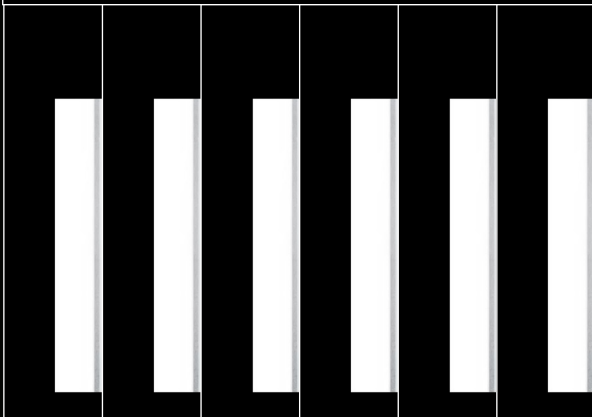
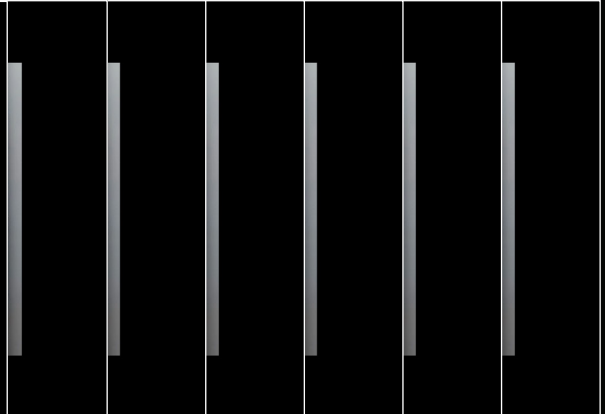
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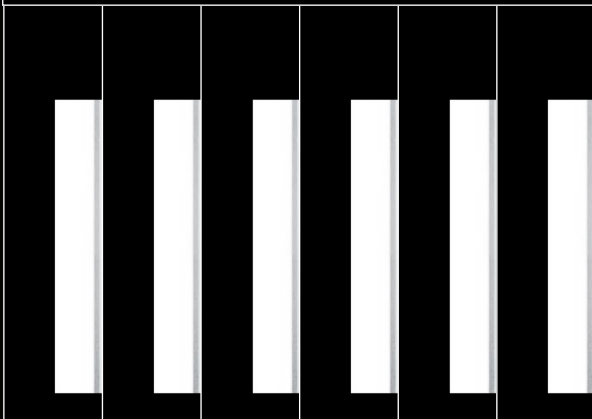
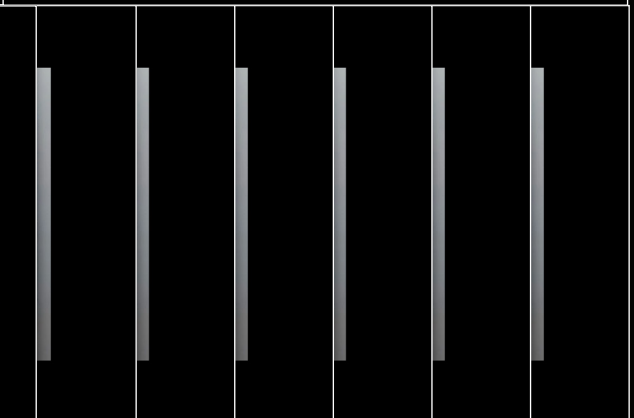
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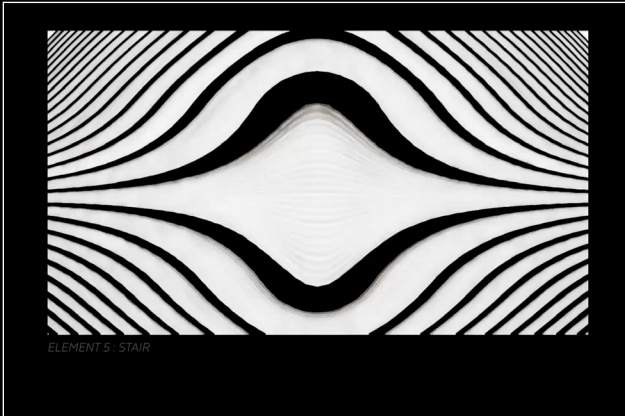
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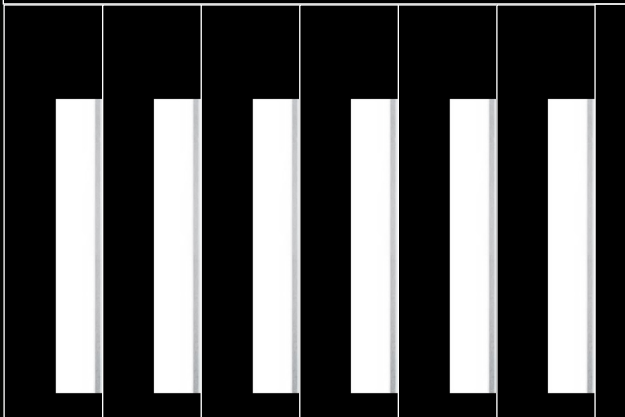
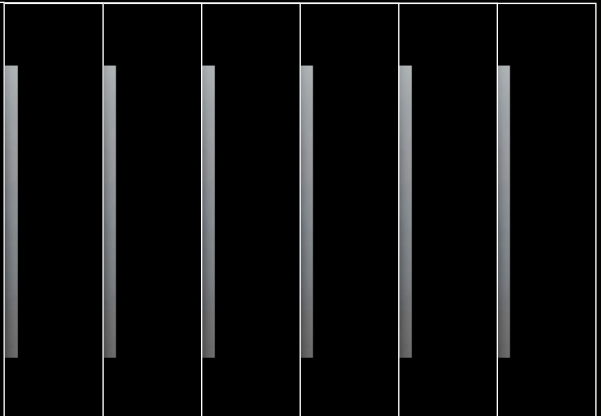
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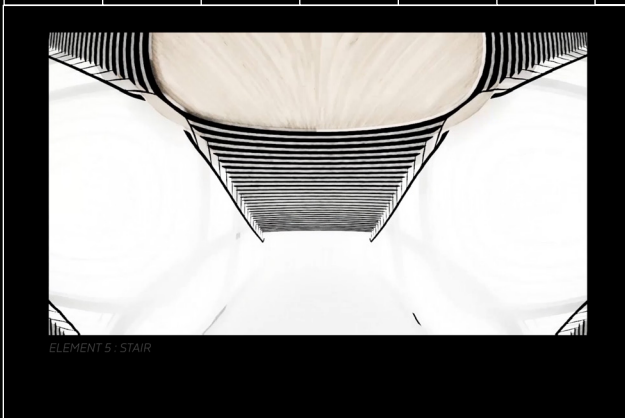
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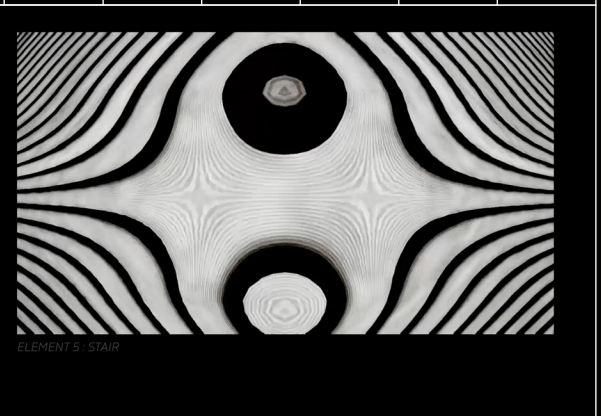
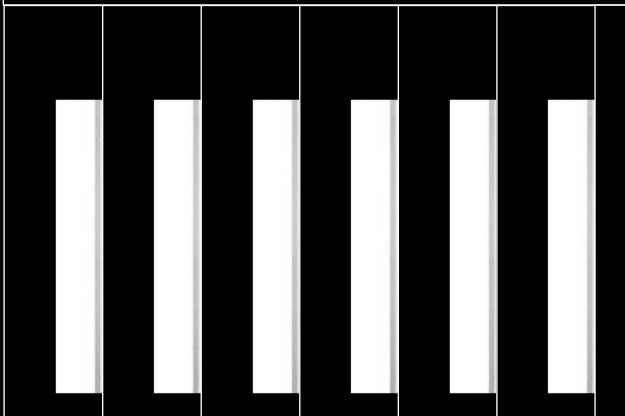
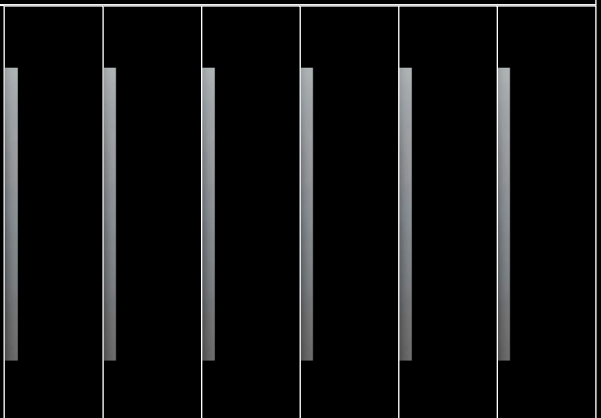
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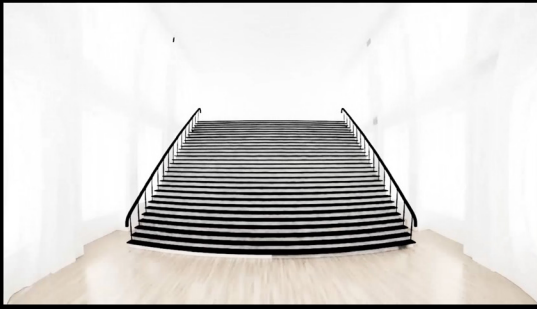
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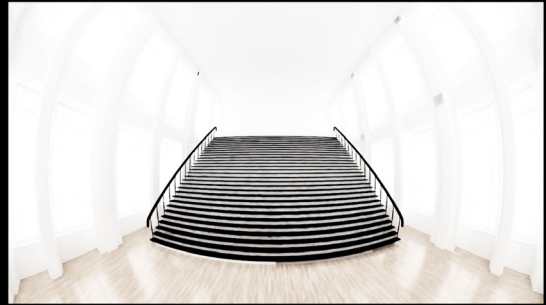
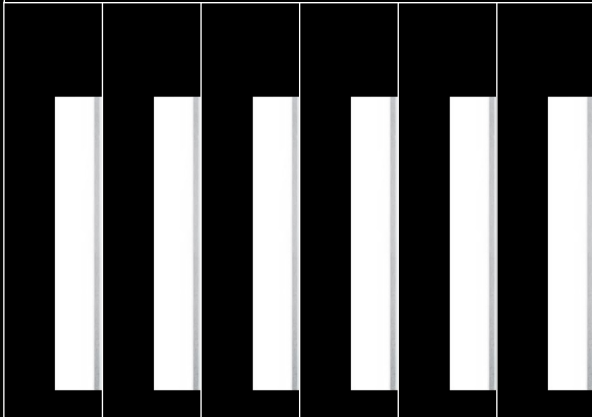
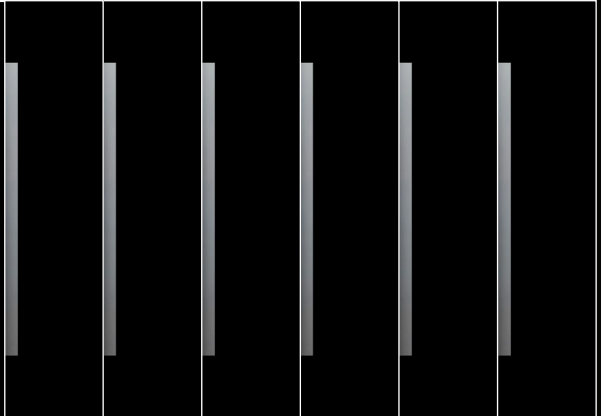
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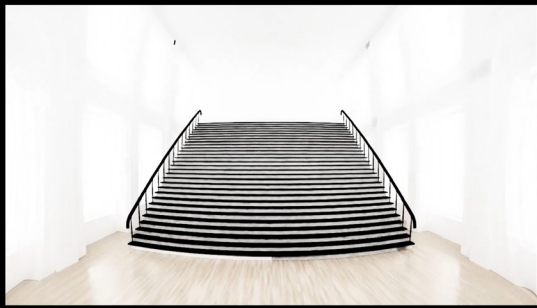
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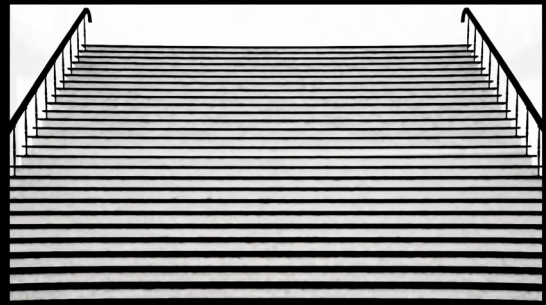
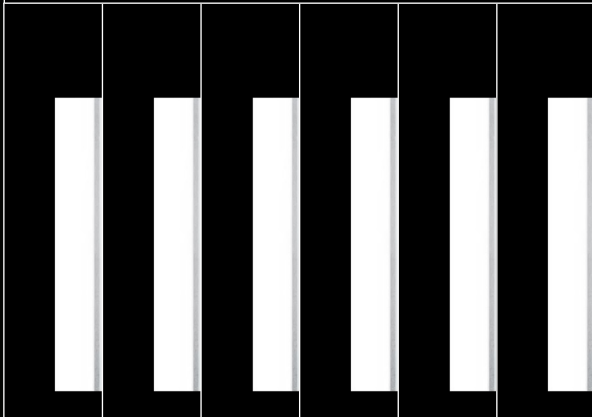
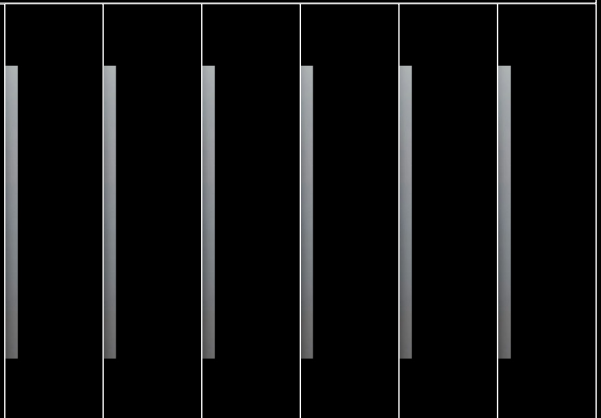
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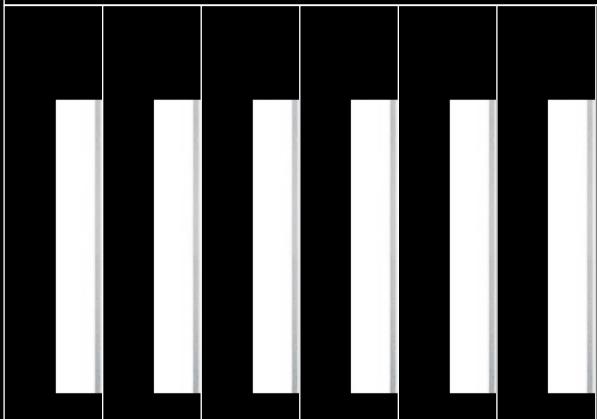
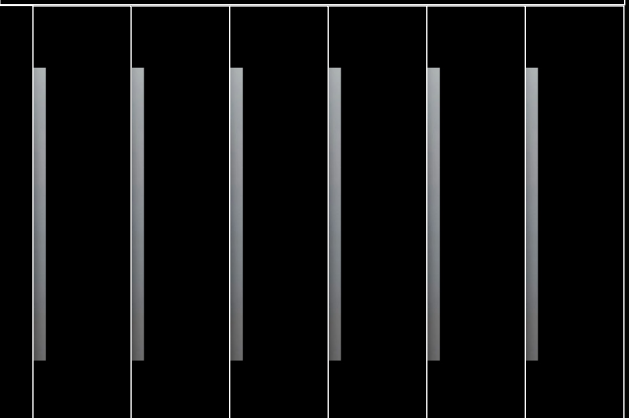
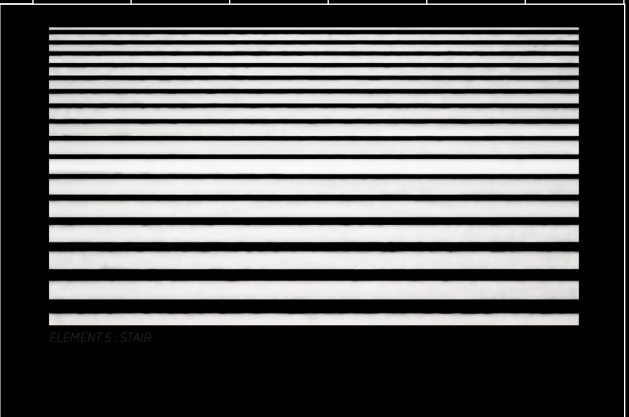
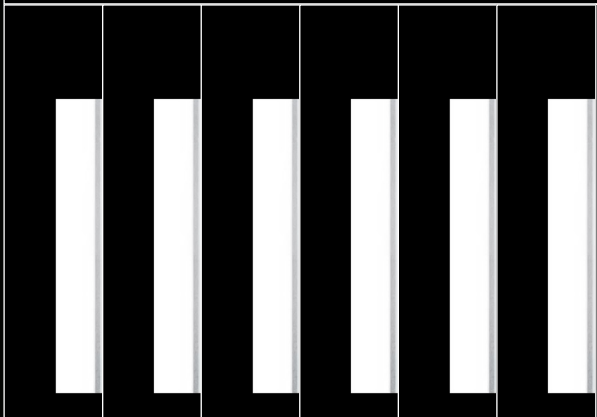
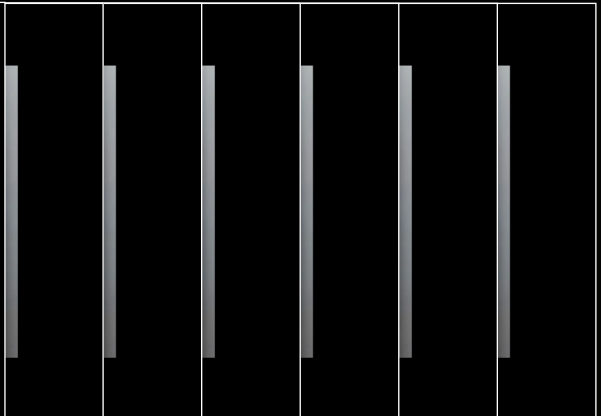
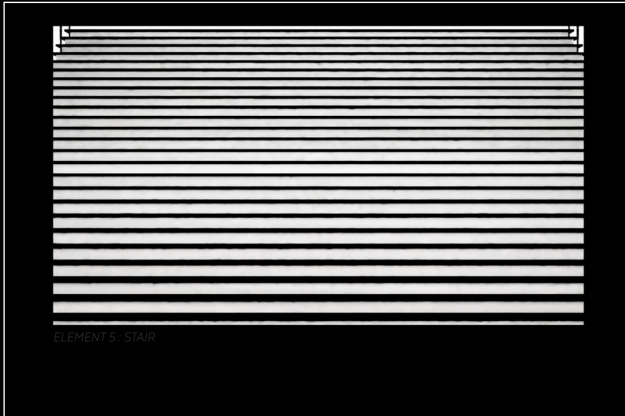
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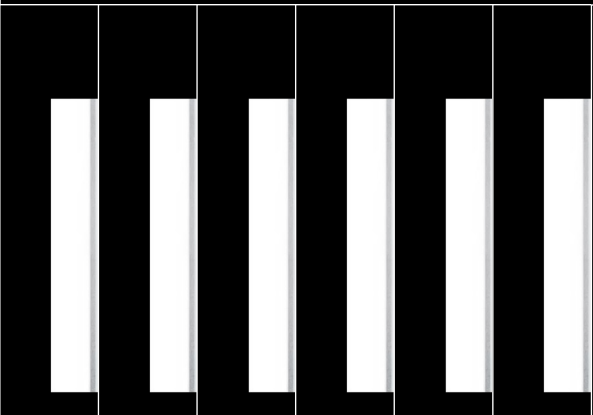
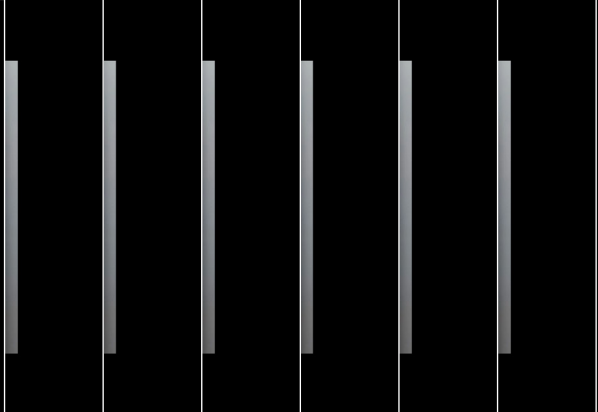


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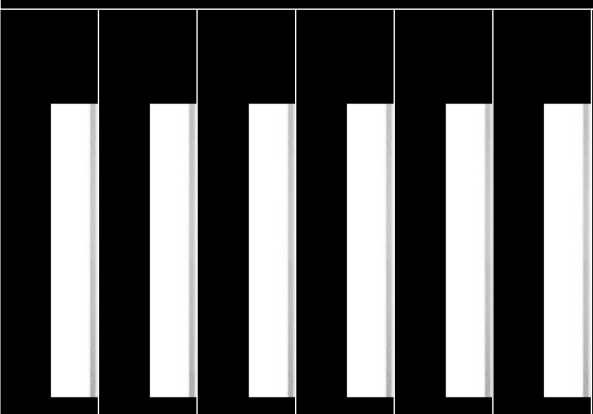
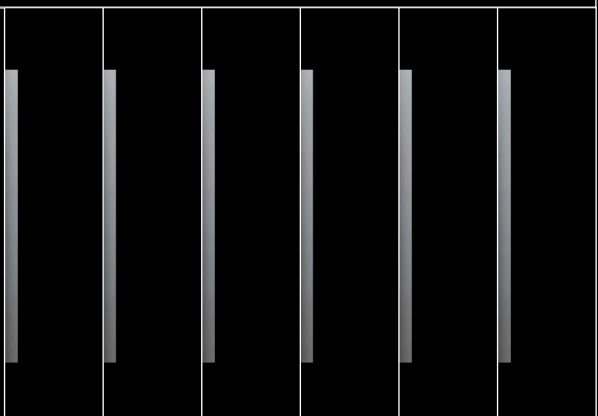
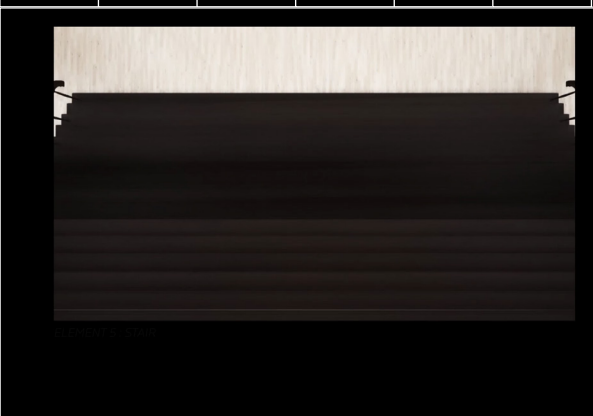


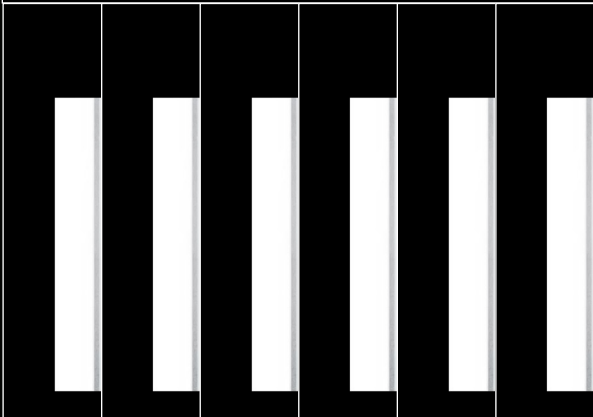
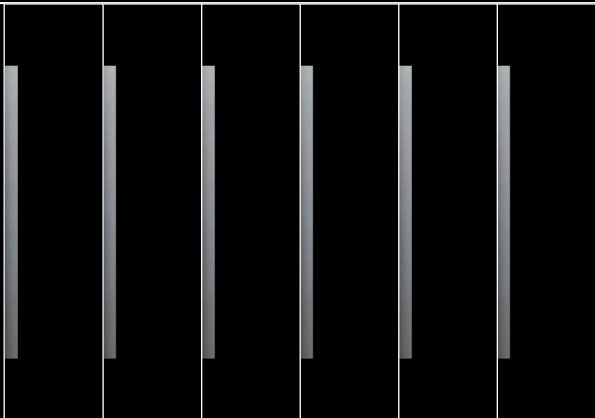
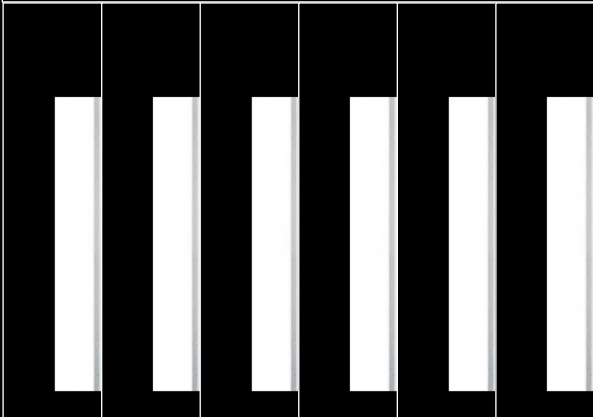
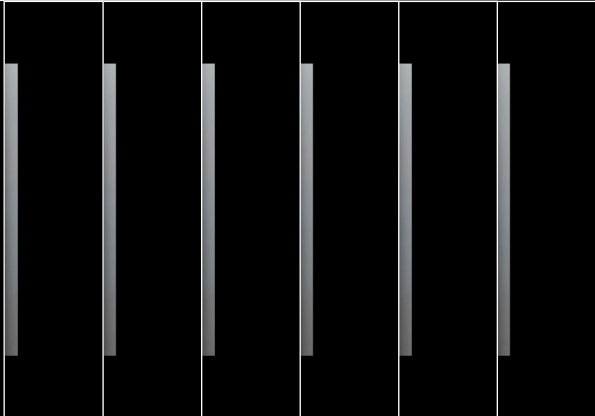
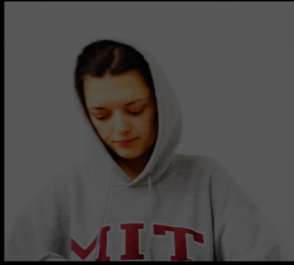


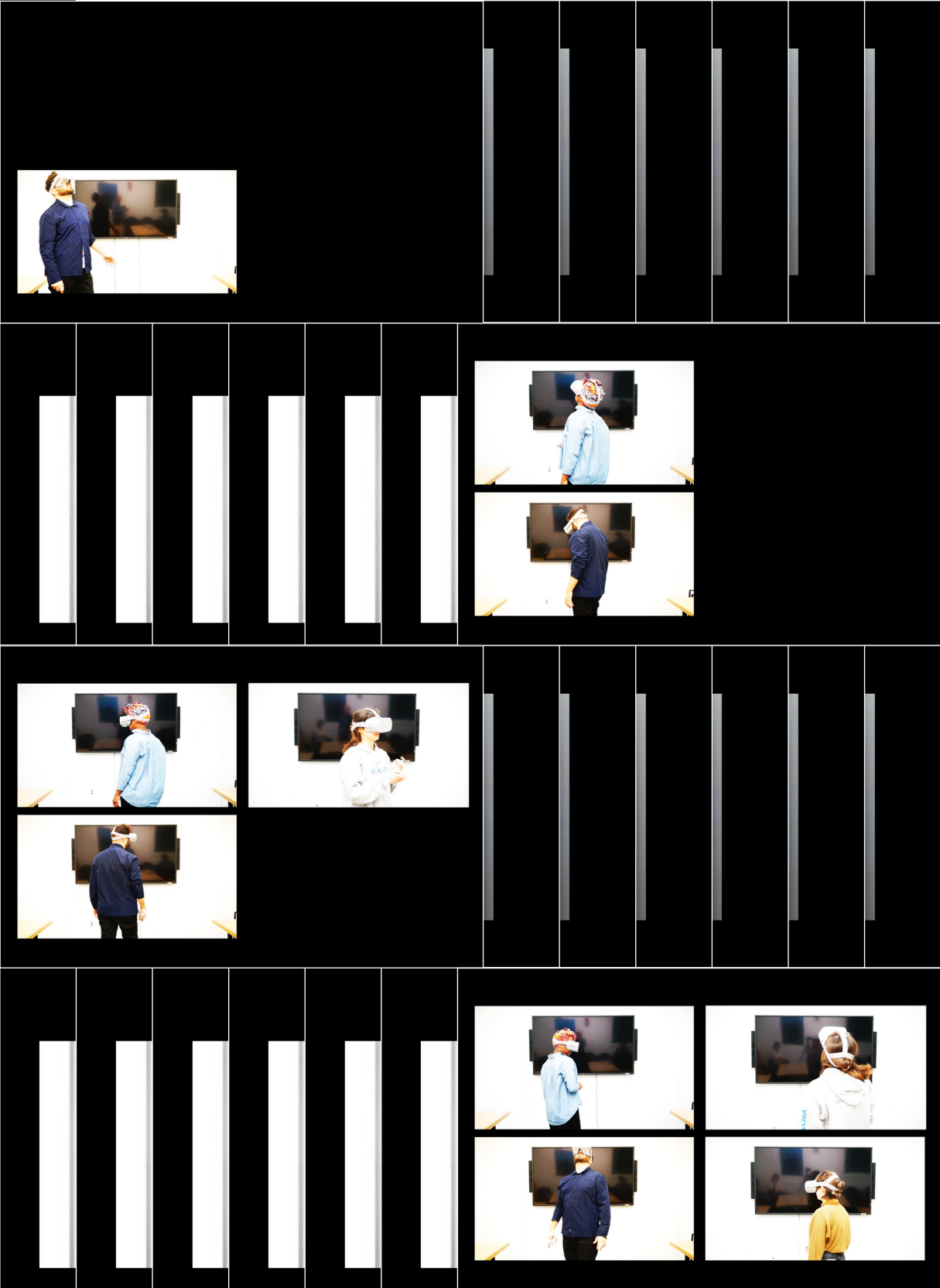
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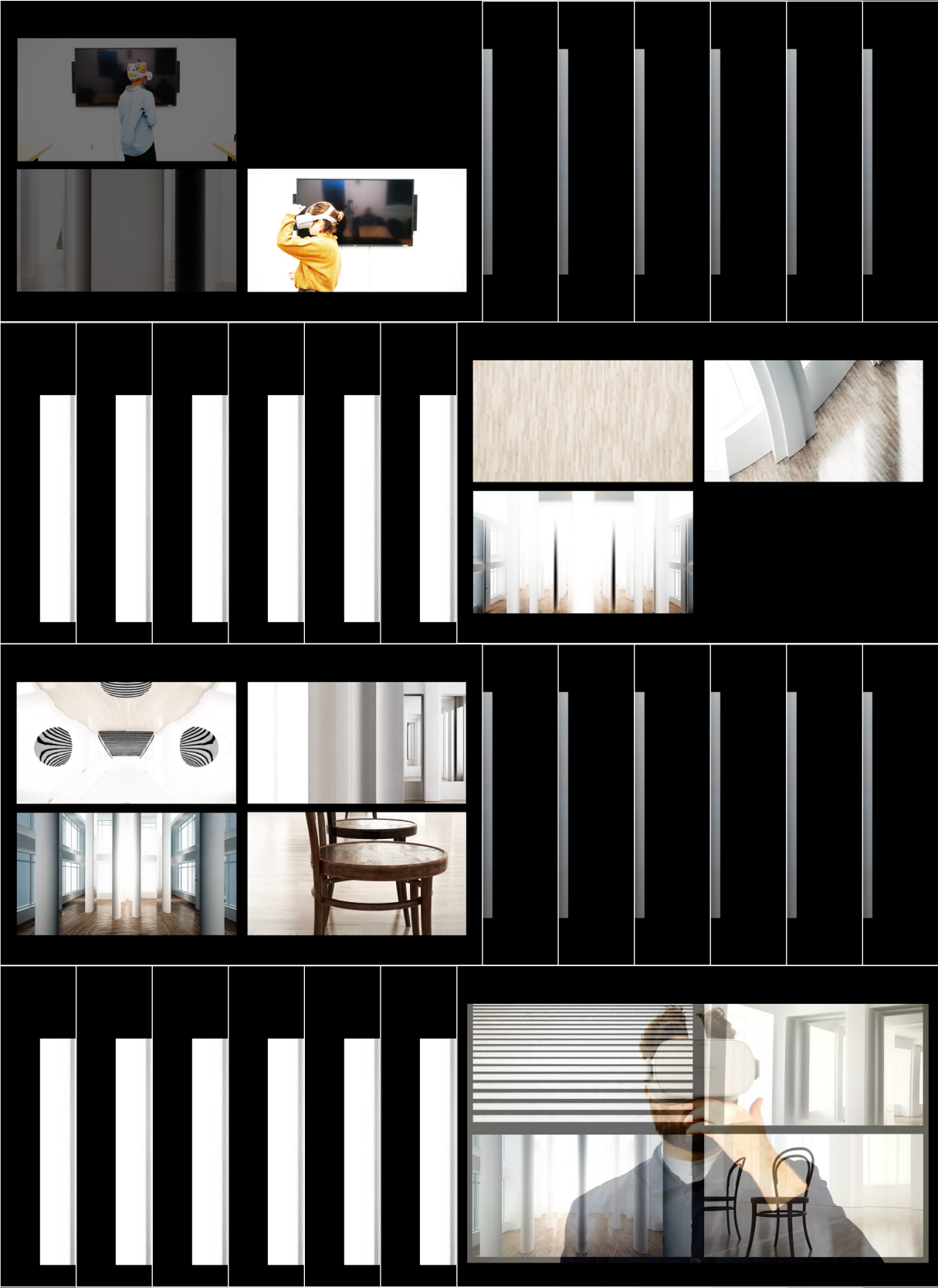


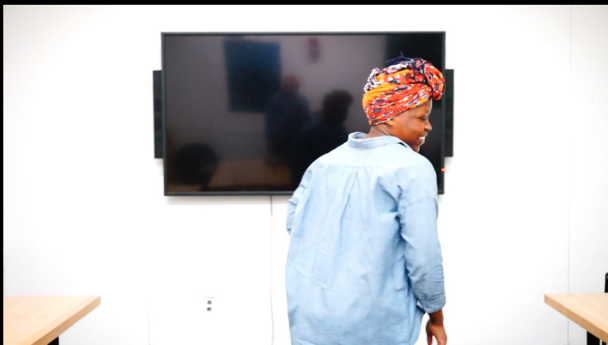
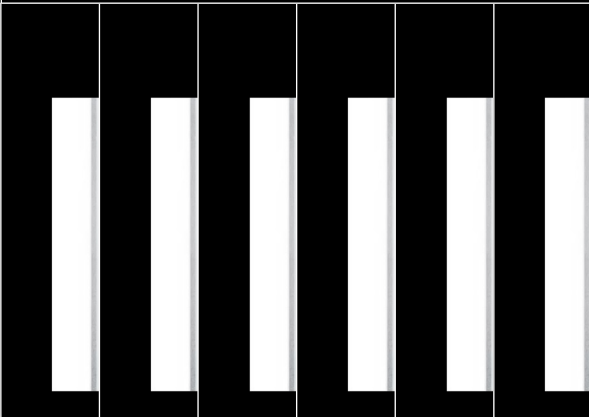
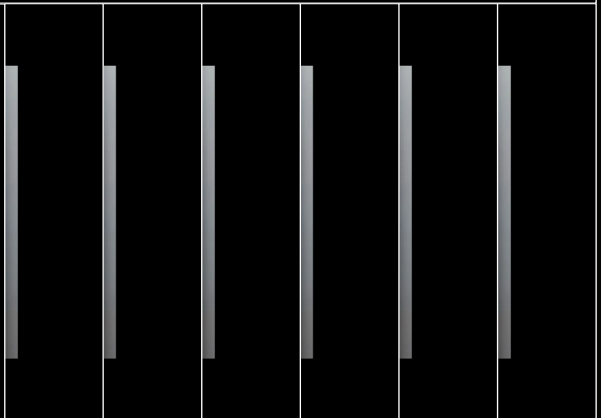
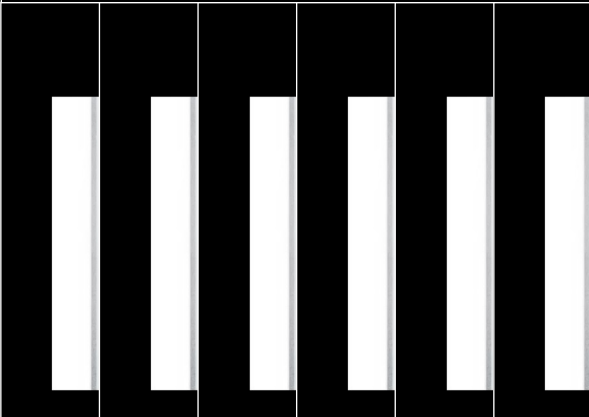
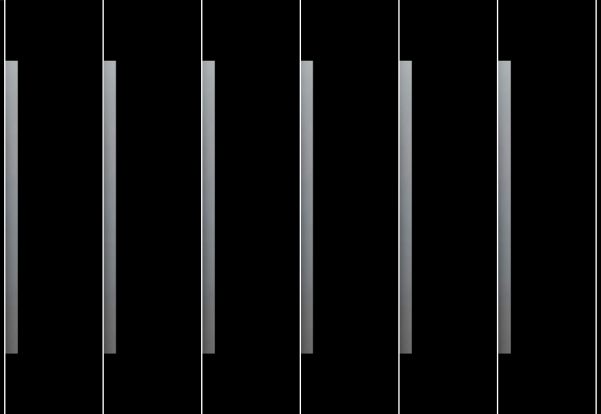
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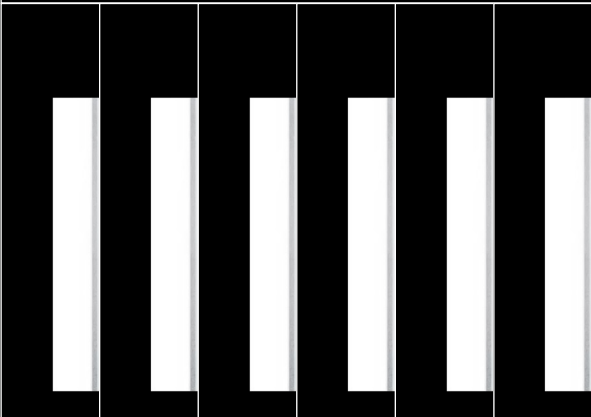
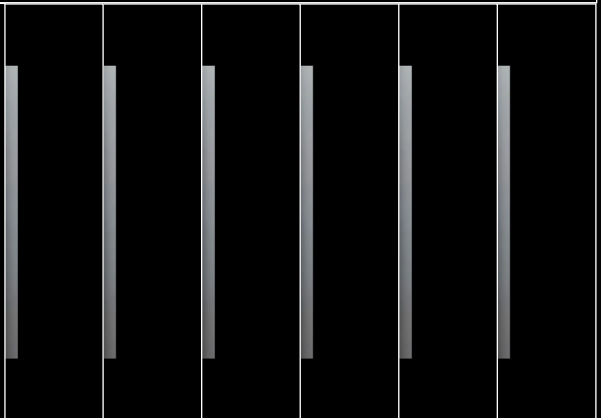
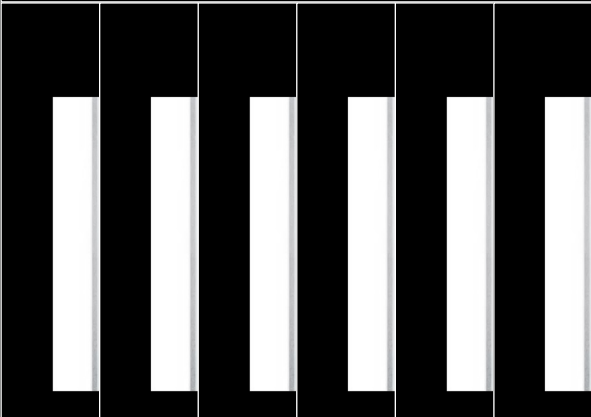
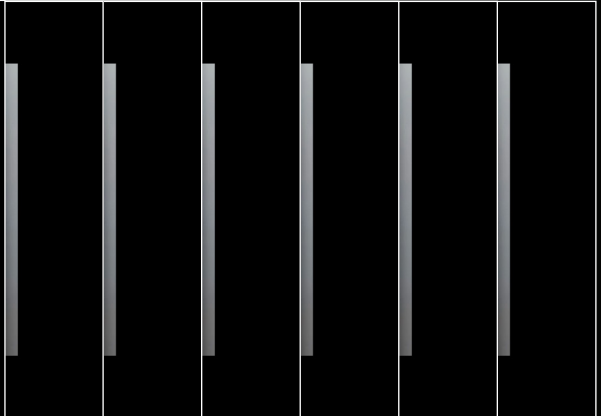


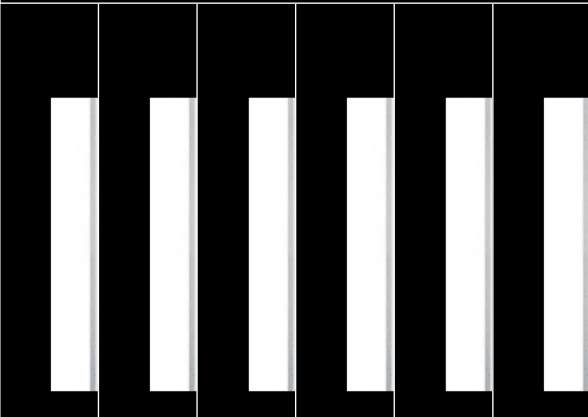
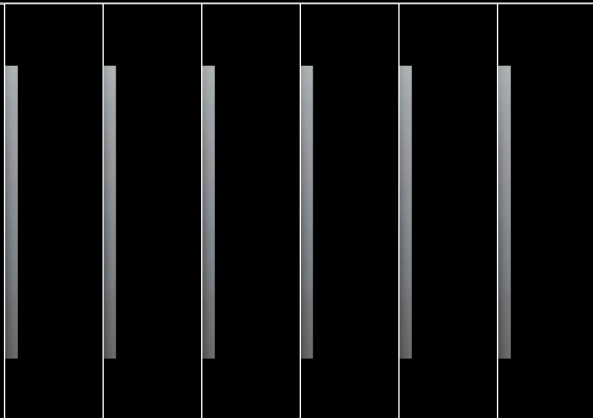
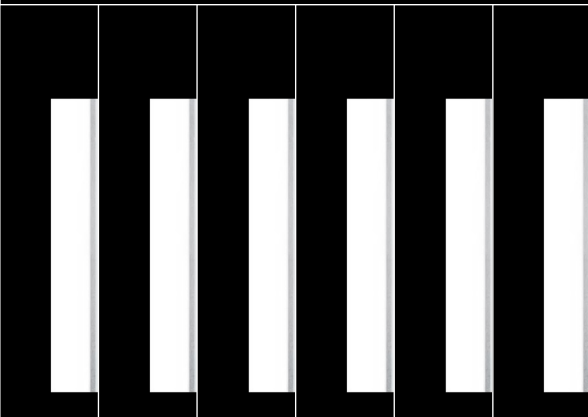
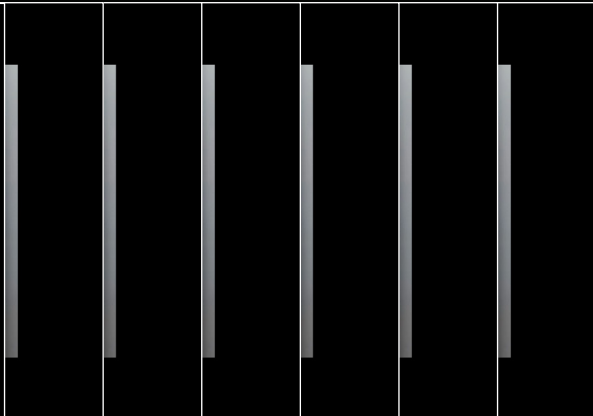












Our perception of the world is defined by our technology and limited by our biology. The process of producing imagery is complicated and is never a one-to-one representation of what is out there. Cell phone companies tout cleaner and crisper images with each update – the advancements are focused more and more on software developments. When you take a picture with your phone – over one trillion operations per photo are returned, fusing information and generating new information to create each image. If we seek a better camera in a smaller package companies have algorithms to construct a digital image from less and less information gathered by smaller and smaller lenses.

This is similar to the ways our brain constructs images; our brain is not given access to full the visual information that enters our eyes. Our eyes carry 130 million photoreceptors but most of the information comes from a tiny area known as the fovea. The fovea is a couple millimeters in diameter (2° viewing area), it is high resolution and full of color. Marshall McLuhan would refer to this as capturing hot media – it leaves nothing to the imagination – everything is defined. Outside of the fovea is low resolution and mostly black and white. Marshall McLuhan would refer to this as capturing cool media. Our brain fills in the gaps of information to construct the image. What we see, are simply reconstructions of what is out there. “The whole function of the brain is summed up in: error correction.”

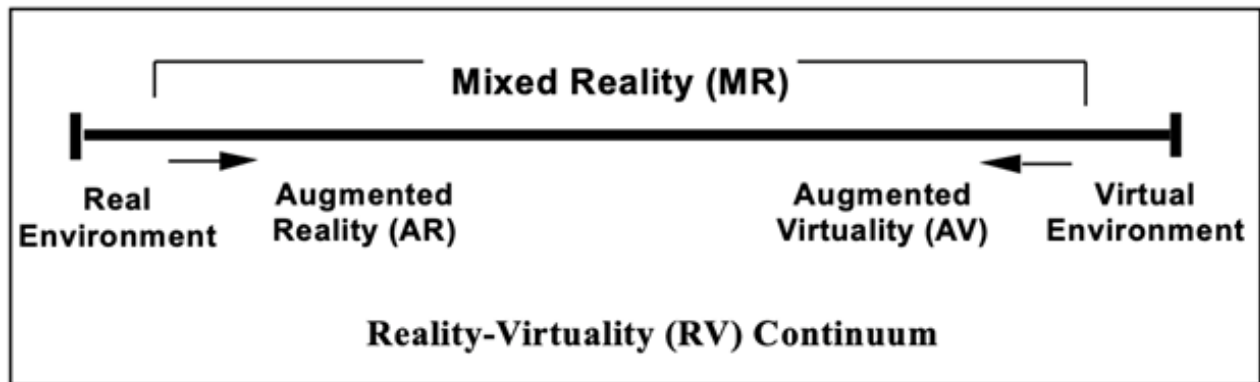
Whether through conscious or subconscious means, we have agency over what we see. In *New Philosophy For New Media*, Mark Hansen argues that the digital image encompasses the entire process by which information is made perceivable, the viewer ends up filtering information they receive to construct images rather than simply receiving images. Florian Rotzer states the world is simply a rendering based on data, a person does not see the world out there, only the model created by the brain is projected.

We are in a time where reality is being infused with virtuality. As new companies tout new products that enhance our perception, there are instances in which we can hack our ability to alter the outcome. Technology is simply an extension of human ability and our rendering of the world has taken place well before the introduction of the digital image. This is not something that is new for architecture, architecture has always been exhibited through the constructed image. The view is carefully chosen and crafted for the subject in orientations which are not physically possible, parallel projections, floating planes, and enhanced lighting combine to construct an image of a reality that doesn't and cannot exist. This all

1. Mehta, Ivan (September, 2018) How Apple has improved the new iPhone Xs camera, <https://thenextweb.com/plugged/2018/09/12/how-apple-has-improved-the-new-iphone-xs-camera/>
2. Clark, A. Whatever next? Predictive brains, situated agents, and the future of cognitive science. *Behav. Brain Sci.* 36, 181–204 [2013].

comes without the blemish marks of poor construction details. Architecture is a form of technology built on representation and it has always been mixed reality.

Paul Milgram introduced the concept of the Virtuality Continuum in 1994. In his paper *Augmented Reality: A Class Of Displays On The Reality-Virtuality Continuum* Milgram presents the range between pure reality and pure virtuality, discussing in depth how real objects and virtual objects are juxtaposed within what he calls 'mixed reality'.



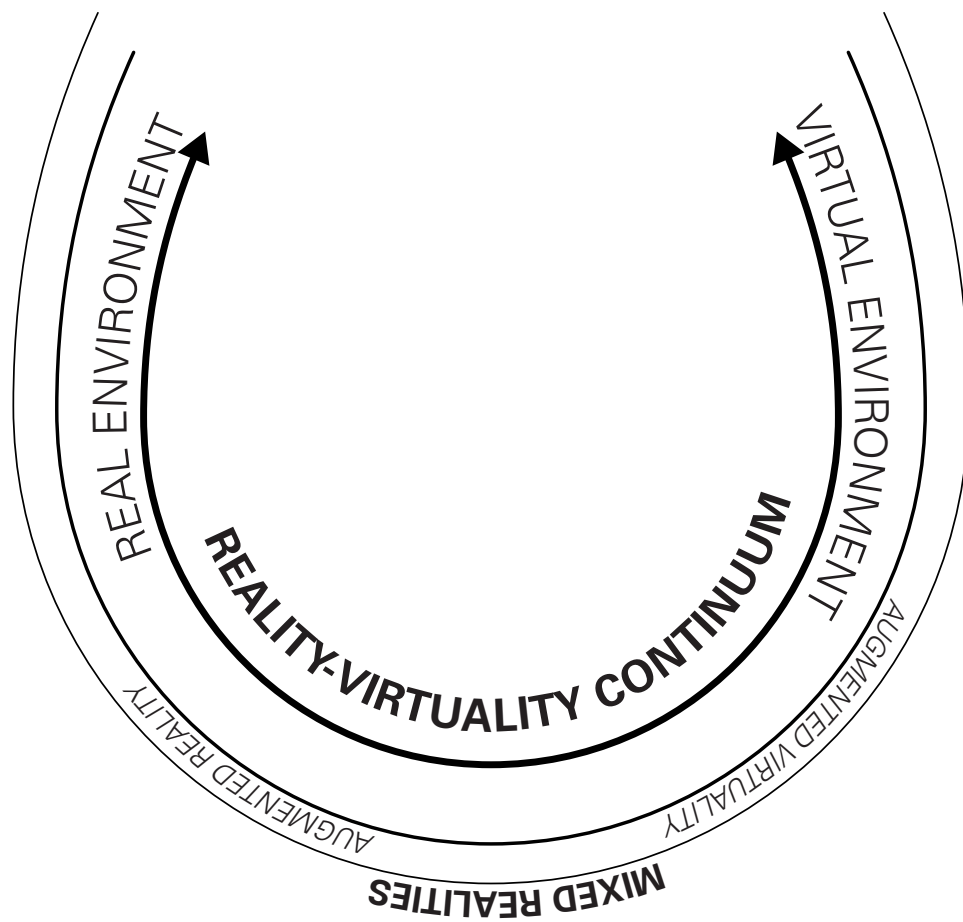
Milgram presents a linear graph to showcase the continuum. The left side of the graph represents pure reality, a reality which has no digital interventions, consisting of only 'real' 'physical' 'objects'. The right side of the graph is entirely digital, as Milgram states "it defines environments consisting solely of virtual objects". Between these two ends of the graph is the area which is termed 'Mixed Reality', where both real world and virtual world objects are presented together juxtaposing each other.

The linear progression of the graph puts the real-world environments, which are forced to deal with real world physics as the opposite of the virtual, an environment which no longer is defined by real physics or even the passing of time, objects in the virtual are not subject to the same affordances that real objects are subject to.

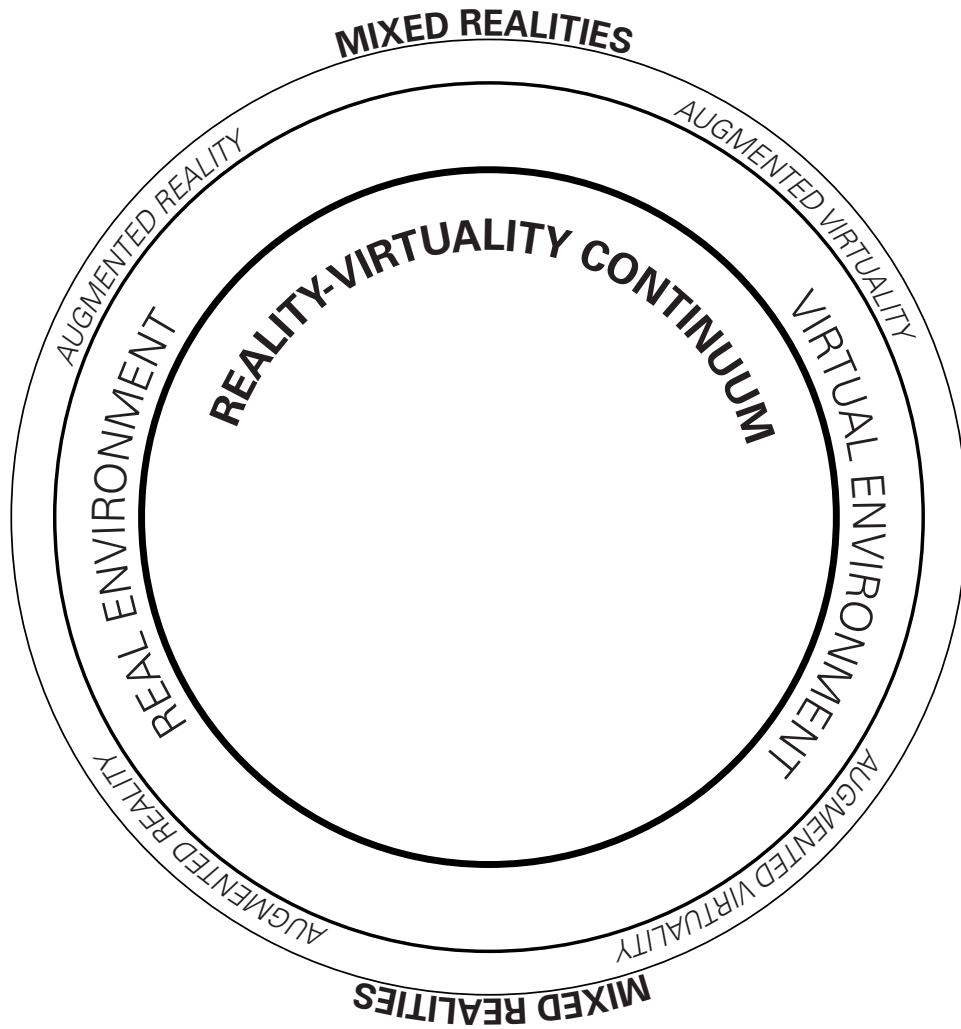
The linear continuum longer represents these realities, each end of the continuum are closer together and in many ways connect rendering the difference between reality and virtuality meaningless. We have always lived with and represented a pure virtual world even before the computer, from film animation and art. The virtual world is not uncanny nor is it abnormal to us, in the same way the real world is neither uncanny nor abnormal. New media is not virtual reality, but the in-between that juxtaposes the virtual and the real.

3 McLuhan, Marshall, and Lewis H. Lapham. *Understanding Media : The Extensions Of Man*. Cambridge, Mass: MIT Press, 1994. Print.

4 Summed up from Ashby's Online Journal: <http://www.rossashby.info/index.html>



The Reality-Virtuality Continuum as a Horseshoe



The Reality-Virtuality Continuum as Circular

- The Allegory of the Cave was written by Plato in his work Republic. The theme was the comparison of the effect education has and therefore the lack of education has on us and on nature. Within the writing a group of individuals lived chained to the wall of a cave all their lives, they only ever face another wall of the cave. Behind them is fire, they can see the glow of the fire, between them and the fire is a row of puppeteers giving life to puppets. The prisoners of the cave can only ever see the shadows casted by the puppets. To the prisoners the shadows are alive, they are real. The prisoners mistake appearance for reality. If a book passes behind them casting a shadow, and they say they see a book, they may think they are talking about a book, but they are talking about a shadow. We acquire concepts by our perceptual experience of physical objects – this does not translate into a one-to-one relation of what is real.

- Optical eyeglasses were first introduced in the 12th century in Northern Italy. Written about between 1220 and 1235, Robert Grosseteste's treatise *Di iride* mentioned the ability to read the smallest letters at far distances. According to the Vision Council of America over 75% of Americans use some form of vision correction. The use of optics has been featured throughout the art world, in one example is a piece by Lygia Clark. Lygia Clark created the sensorial object called *Óculos* in 1968. *Óculos* is a pair of goggles which were able to be worn by a single person, or by two people facing each other. The goal of *Óculos* was to address the issue of a single gaze. Due to the fracture in the gap between the two people, there is no single vision.

- Hallucinogens alter a person's perception and mental awareness. From counter-culture drugs like psychedelic mushrooms, LSD, and Ayahuasca to regulated prescriptions like Lexapro, and Lunesta – hallucinogens have affected our vision of the world. We take these under the guise of happiness, better sleep, detoxification, pain relief, and for many with the goal to escape their surroundings. Hallucinogens alter sensory perception in the brain distorting signals to receptors in the brain's cortex.

Dan Graham's piece "Side Effects/Common Drugs" was printed in 1966. This piece showcases a grid, and plots common prescription drugs, such as tranquilizers, against side effects like blurred vision. Graham's piece demonstrates the commonality of drugs in our everyday life and therefore the effects of hallucinogens on society.

5 Hansen, Mark B. *New Philosophy For New Media*. Cambridge, Mass: MIT Press, 2004. Print. pp. 105

6 *Ibid*, pp. 109 – Quote from Florian Rötzer, German Culture Critic

7 Milgram, Paul; H. Takemura; A. Utsumi; F. Kishino (1994). "Augmented Reality: A class of displays on the reality-virtuality continuum" [pdf]. *Proceedings of Telem manipulator and Telepresence Technologies*. pp. 23–34.

8 *Ibid*, pp. 31-32

- Harold Edgerton created the electronic flash – this invention allowed the ability to take high-speed photography, which captured a bullet traveling through an apple. Edgerton's life work was centered around a single idea to make the invisible visible. ³⁰ Bullet Piercing an Apple succeeded in photographing phenomena that moved too quickly to have been captured by a traditional camera.

Zago Architecture's XYT: Detroit Streets reorder the mechanics of depth and movement to draw out ephemeral atmosphere's within Detroit. Zago claim's that the film swaps time and motion for depth.

- The love story of the Australian Jewel Beetle and the beer bottle. The male beetle identifies females based on three characteristics, she must be brown, she must be covered in dimples, and she must be big. These were the only criteria for millions of years that the jewel beetle used to seek out love until man-made beer bottles started to be littered across the outback. These beer bottles were also brown, covered in dimples, and big. The male jewel beetles found new mates that and in short, the beetles almost went extinct. Biology has equipped these beetles with a simple perception model of the world. This perceptual model served this insect well, but this perceptual model did not correlate one-to-one with reality.

9 Plato, and Benjamin Jowett. The allegory of the cave. Place of publication not identified: Enhanced Media, 2017. Print.

10 ".Optics Highlights: II. Spectacles". University of Maryland, Department of Electrical & Computer Engineering. Retrieved 2007-09-01.

11 Searle, A (2014). Lygia Clark at MoMA review – playing cat's cradle at the edge of art. The Guardian. <https://www.theguardian.com/artanddesign/2014/may/29/lygia-clark-review-art-moma-new-york>

12 Bryner, J (March, 2010) How Do Hallucinogens Work?, <https://www.livescience.com/32130-how-do-hallucinogens-work.html>

13 Schwarting, J (July, 2009) Dan Graham: Beyond. <https://brooklynrail.org/2009/07/artseen/dan-graham-beyond>

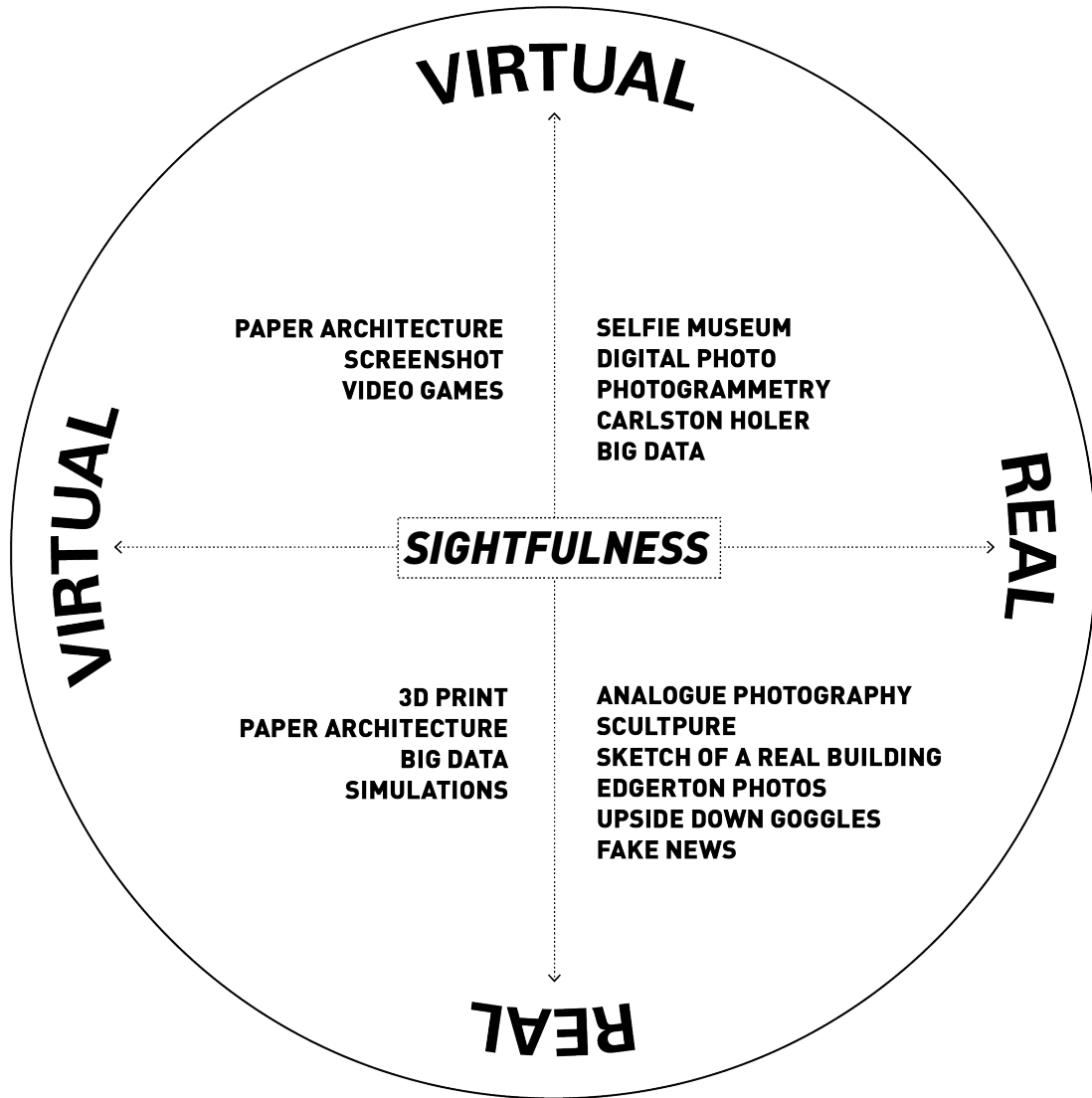
14 Zago, A (2008) XYT: Detroit Streets, <http://www.zagoarchitecture.com/XYT-Detroit-Streets>

15 Akten, M (March, 2017) FIGHT! <https://medium.com/@memoakten/fight-virtual-reality-binocular-rivalry-89a0a91c2274>

16 Welcome to COUHES, <https://couhes.mit.edu/> December 2018

DIAGRAM A

TRANSMISSION OF MEDIA



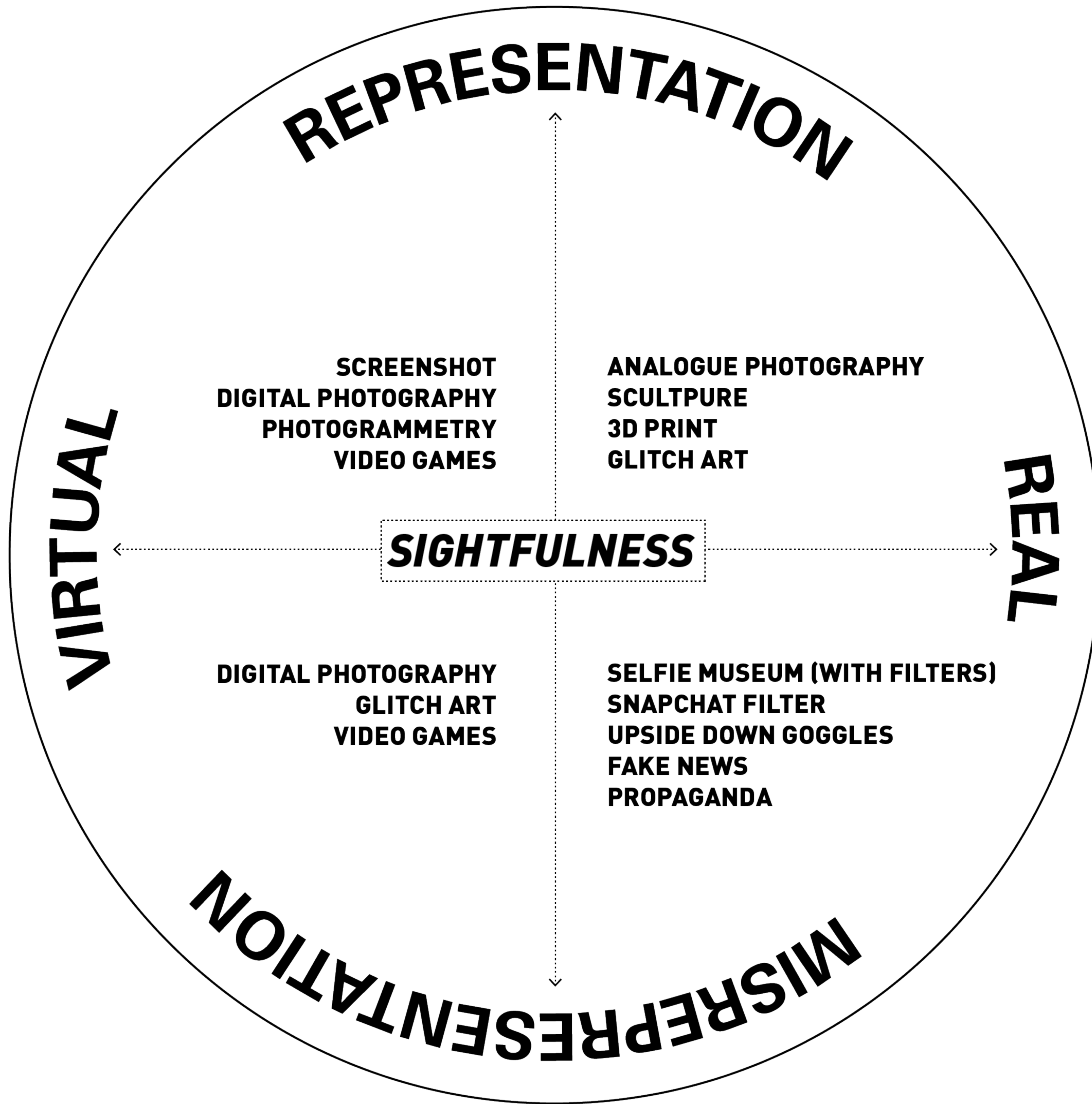
**ORIGINAL STATE
VS
MAPPED STATE**

TRANSMISSION OF MEDIA

- REAL to REAL*
- REAL to VIRTUAL*
- VIRTUAL to REAL*
- VIRTUAL to VIRTUAL*

DIAGRAM B

NATURE OF MEDIA



*NATURE OF MEDIA
REAL REPRESENTATION
REAL MISREPRESENTATION
VIRTUAL REPRESENTATION
VIRTUAL MISREPRESENTATION*

This new fluid landscape can be described by this pair of diagrams which examine media transmission and fidelity of representation.

In Diagram A (previous pages), the horizontal axis positions media in its original state. The vertical axis positions media in its mapped state. For example the "virtual real" maps a 3d model into the real world as a 3d print. The "real virtual" is exemplified by the selfie room which maps real world into the flattened space of social media - period.

Diagram B (previous pages), characterizes the mapped media with respect to a fidelity of representation. For example a 3D print is a faithful reconstruction in the real world of its original virtual self.

Situated at the intersection of all axis sightfulness operates in the phase changes between virtual media, real media, faithful representations and misrepresentations.

CASE STUDY OF SIDE EFFECTS

THE FOLLOWING ARE SIDE EFFECTS
EXPERIENCED BY THOSE WHO WORE
SIGHTFULNESS AND INTERACTED WITH IT
IN A VIRTUAL THREE DIMENSIONAL
ENVIRONMENT

33 SUBJECTS TRIED ON SIGHTFULNESS

The Side Effect Charts showcases common side-effects with each subjects input.

included subjects are:

Subject 1
Subject 7
Subject 9
Subject 17
Subject 25
Subject 31

**SIDE EFFECTS
MISREPRESENTATION**

Blurred Vision
Headache
Dizziness
Confusion
Spotted Vision
Hallucination
Agoraphobia
Unconscious
Inert
Participant Entry

	Blurred Vision	Headache	Dizziness	Confusion	Spotted Vision	Hallucination	Agoraphobia	Unconscious	Inert	Participant Entry
REFLECTIVE	●					●				
Stair					●					
Window				●			●			
Chair		●								
Column		●								
Door										
CONVEX			●				●			
Stair					●					
Window				●						
Chair								●		
Column			●							
Door										
COMBINATION	●									
Door Window Chair							●			
Column Stair Window										

SUBJECT 1

SIDE EFFECTS MISREPRESENTATION

Blurred Vision
 Headache
 Dizziness
 Confusion
 Spotted Vision
 Hallucination
 Agoraphobia
 Unconscious
 Inert
 Participant Entry

	Blurred Vision	Headache	Dizziness	Confusion	Spotted Vision	Hallucination	Agoraphobia	Unconscious	Inert	Participant Entry
REFLECTIVE	●									
Stair				●			●			
Window		●								
Chair						●				
Column			●							
Door										
CONVEX		●		●						
Stair								●		
Window			●							
Chair						●				
Column				●						
Door										
COMBINATION		●								
Door Window Chair								●		
Door Stair Window										

SUBJECT 7



**SIDE EFFECTS
MISREPRESENTATION**

Blurred Vision
Headache
Dizziness
Confusion
Spotted Vision
Hallucination
Aoraphobia
Unconscious
Inert
Participant Entry

REFLECTIVE	Stair			●				●		
	Window	●								
	Chair				●				●	
	Column						●			
	Door									
CONVEX	Stair					●			●	
	Window			●						
	Chair							●		
	Column	●								
	Door									
COMBINATION	Door Window Chair					●				
	Door Stair Window			●						
	Column Stair Window									

SUBJECT 9



**SIDE EFFECTS
MISREPRESENTATION**

Blurred Vision
Headache
Dizziness
Confusion
Spotted Vision
Hallucination
Agoraphobia
Unconscious
Inert
Participant Entry

	Blurred Vision	Headache	Dizziness	Confusion	Spotted Vision	Hallucination	Agoraphobia	Unconscious	Inert	Participant Entry
REFLECTIVE	●									
Stair				●			●			
Window		●								
Chair						●				
Column			●							
Door										
CONVEX		●		●						
Stair								●		
Window			●							
Chair						●				
Column				●						
Door										
COMBINATION		●								
Door Window Chair								●		
Column Stair Window										

SUBJECT 17



**SIDE EFFECTS
MISREPRESENTATION**

Blurred Vision
Headache
Dizziness
Confusion
Spotted Vision
Hallucination
Aoraphobia
Unconscious
Inert
Participant Entry

REFLECTIVE	Stair			●					●	
	Window	●							●	
	Chair				●					
	Column							●		
	Door									
CONVEX	Stair	●								●
	Window		●						●	
	Chair				●					
	Column			●						
	Door									
COMBINATION	Door Window Chair	●								
	Door Stair Window								●	
	Column Stair Window									

SUBJECT 25



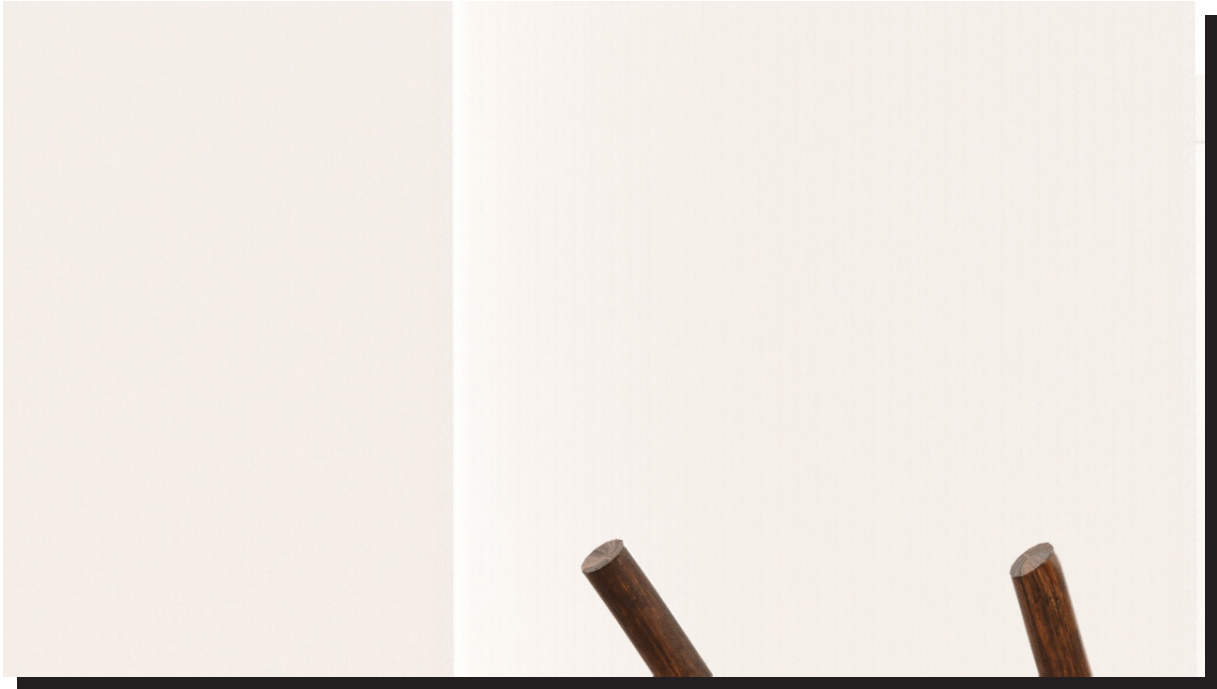
SIDE EFFECTS MISREPRESENTATION

Blurred Vision
 Headache
 Dizziness
 Confusion
 Spotted Vision
 Hallucination
 Agoraphobia
 Unconscious
 Inert
 Participant Entry

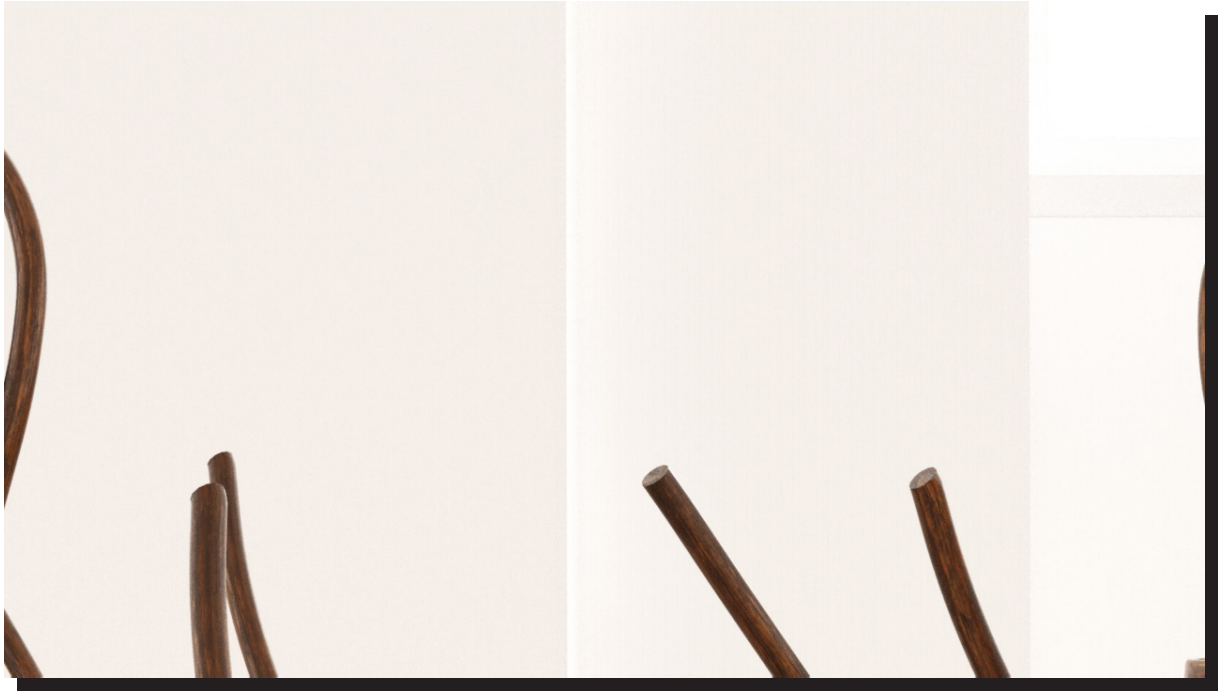
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REFLECTIVE	Stair				●						
	Window	●								●	
	Chair			●							
	Column					●					
	Door	●									
CONVEX	Stair				●					●	
	Window		●					●			
	Chair								●		
	Column			●							
	Door										
COMBINATION	Door Window Chair				●						
	Column Stair Window			●							

SUBJECT 31

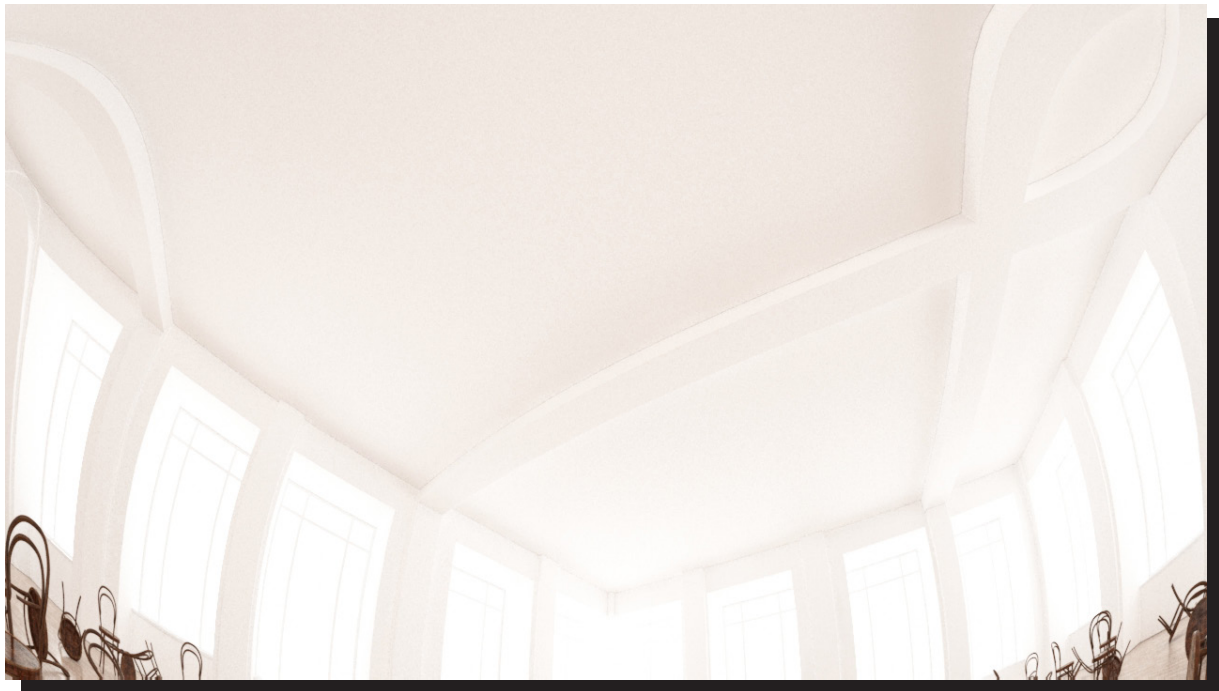




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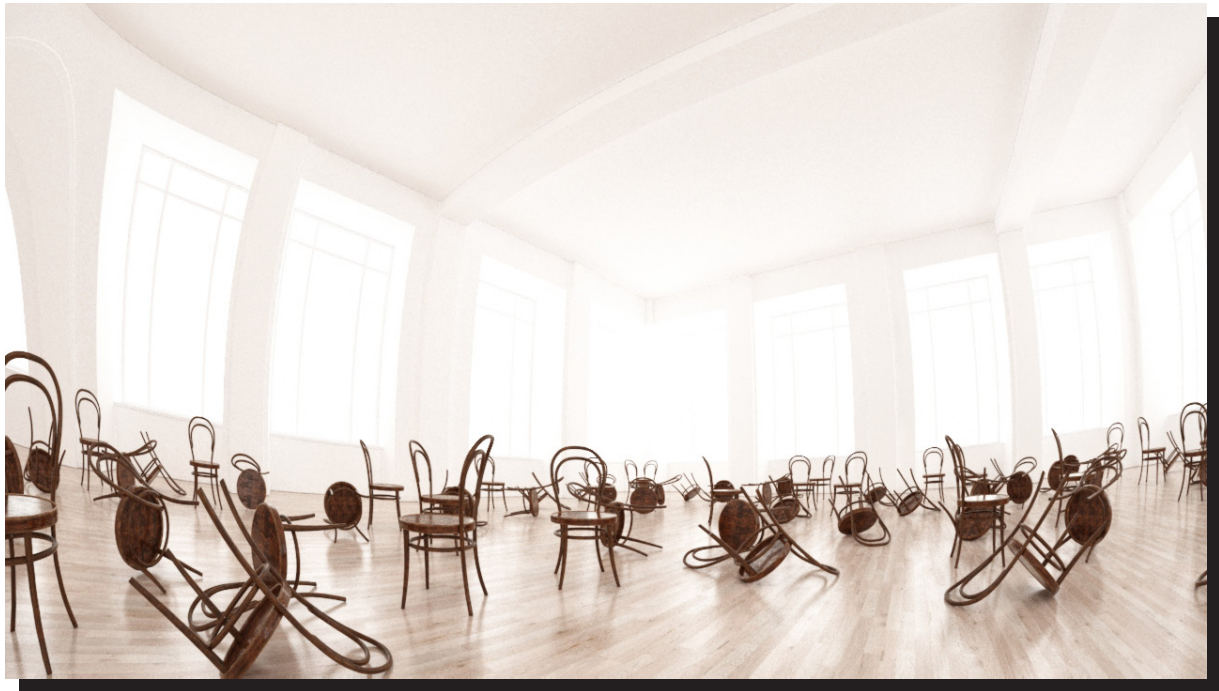
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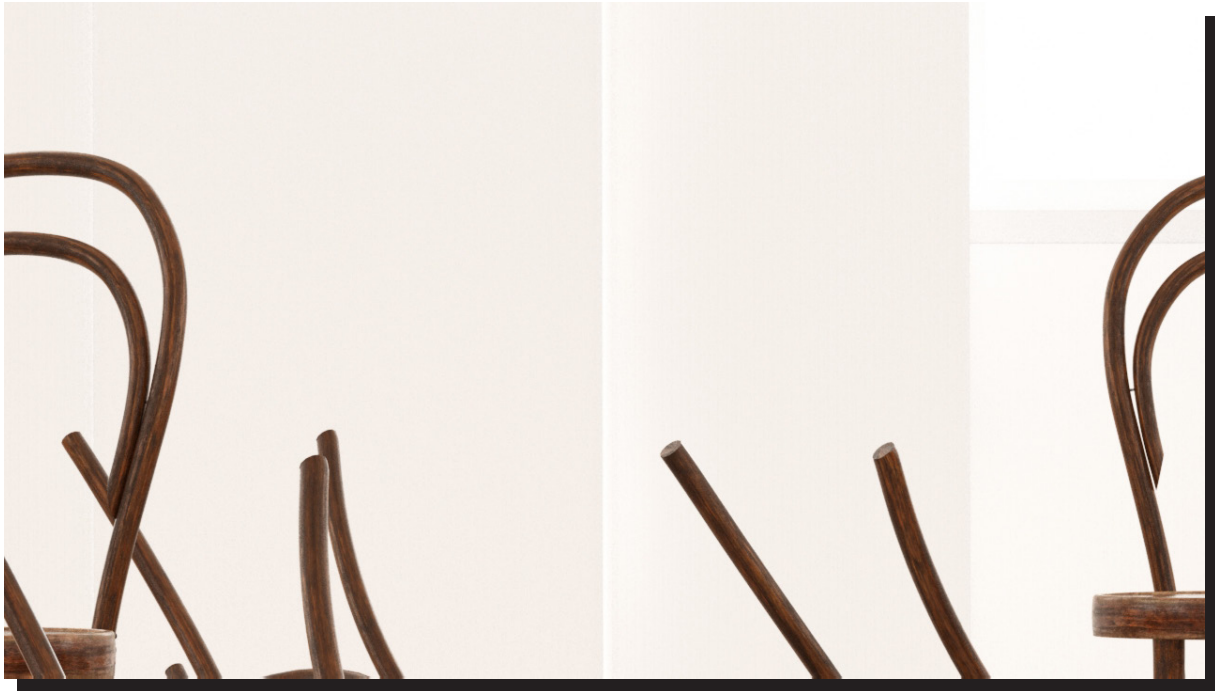
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CHAIR CONVEXING CONCAVING



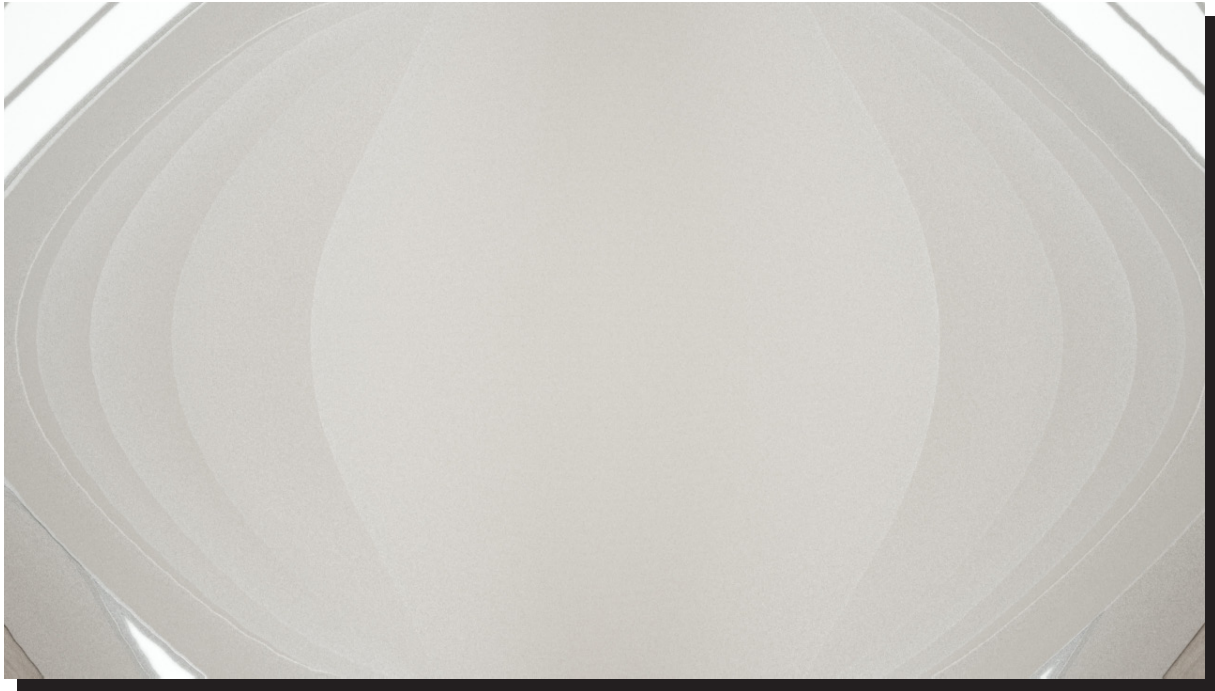
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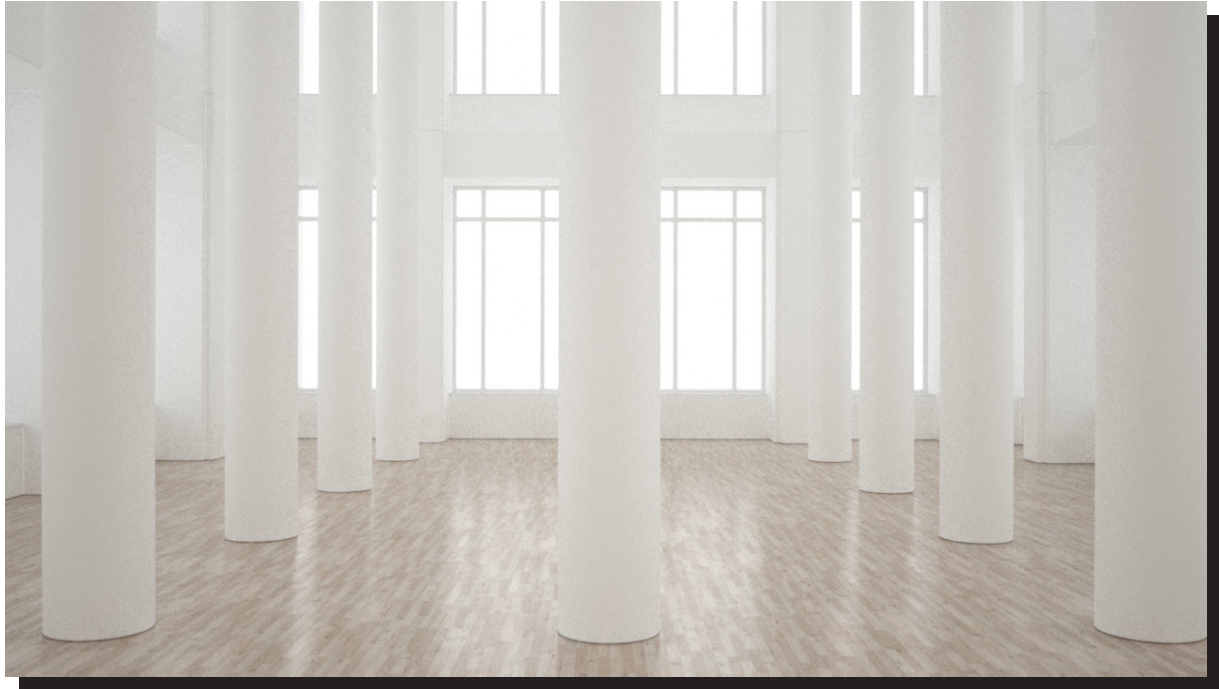
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COLUMN CONVEXING CONCAVING



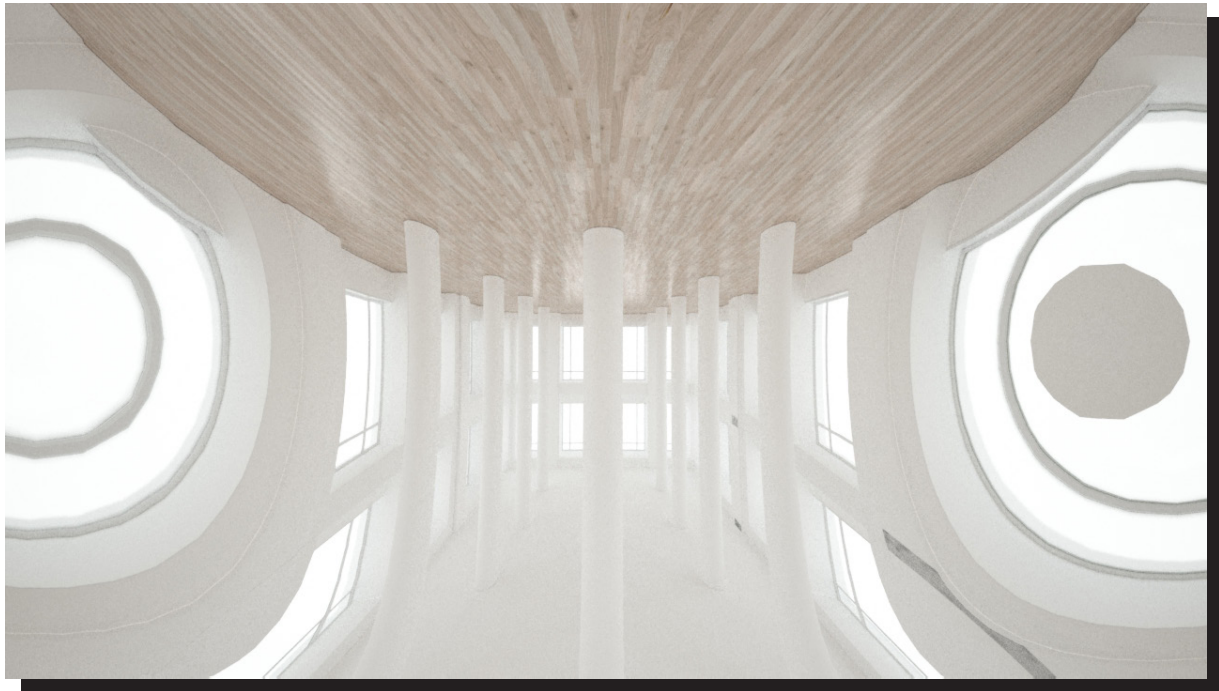
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COLUMN CONVEXING CONCAVING



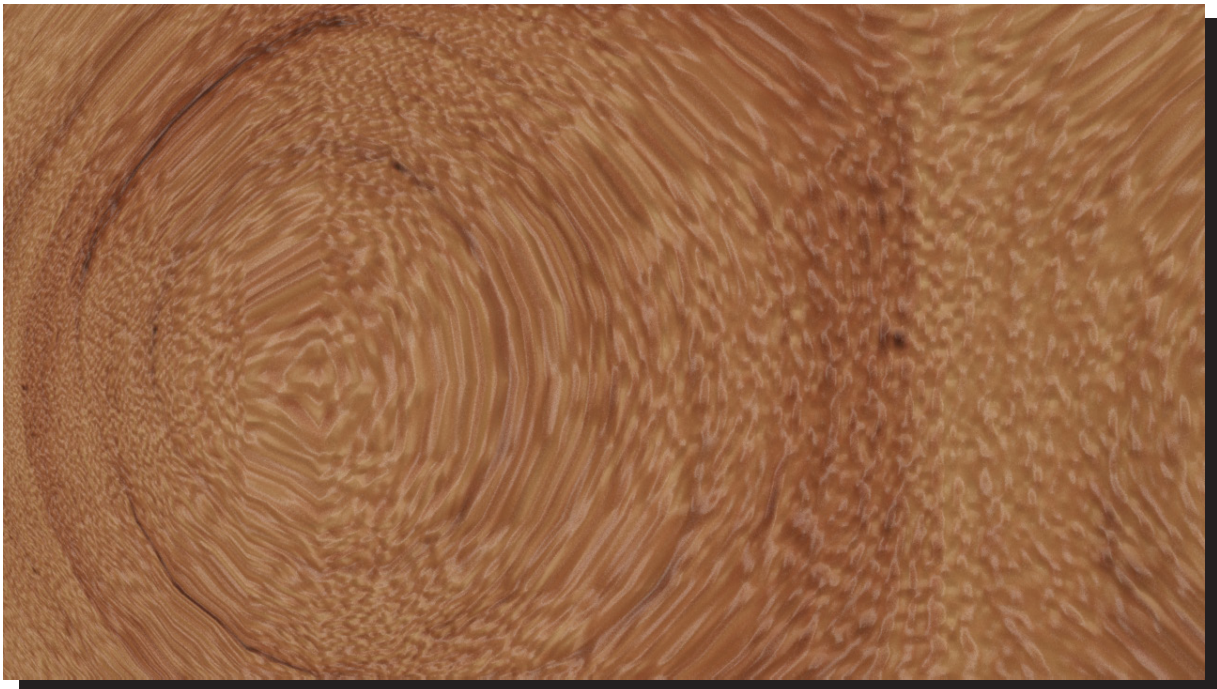
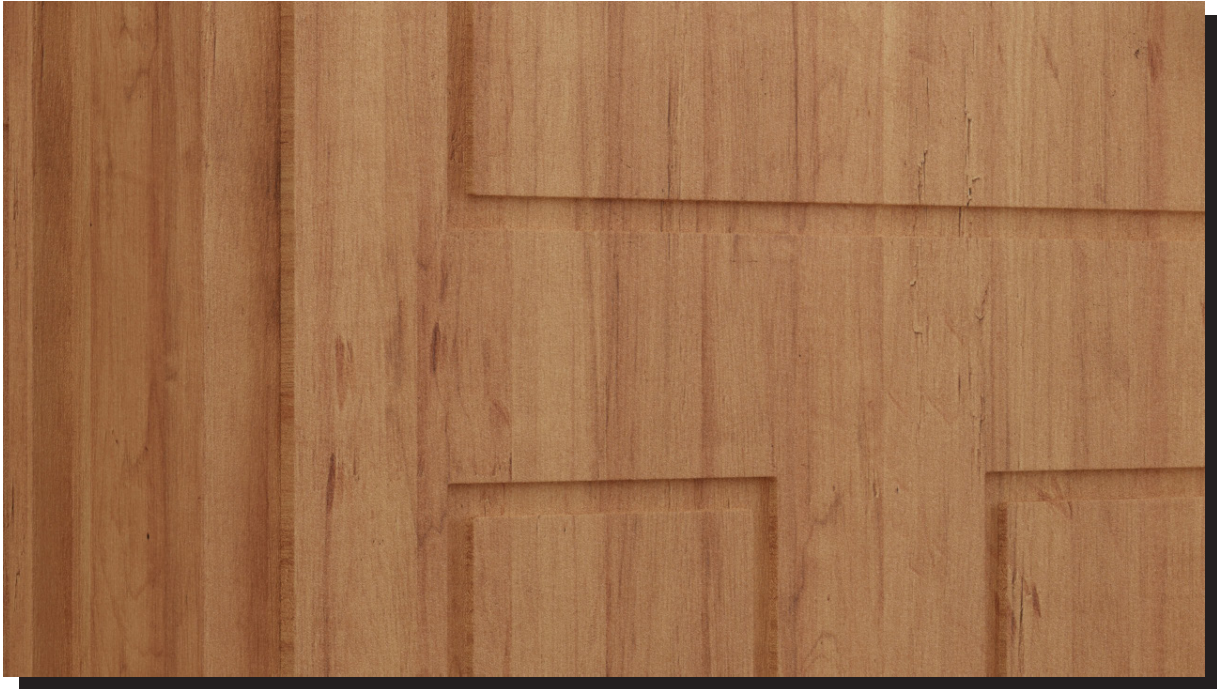
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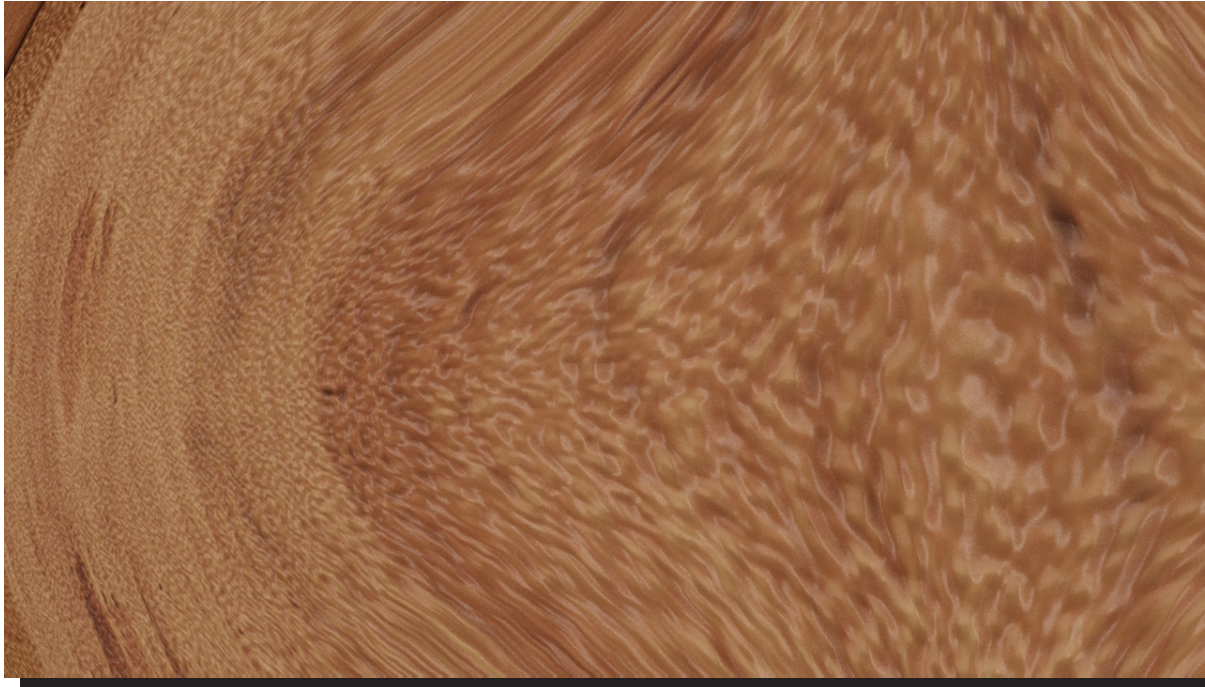
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COLUMN CONVEXING CONCAVING



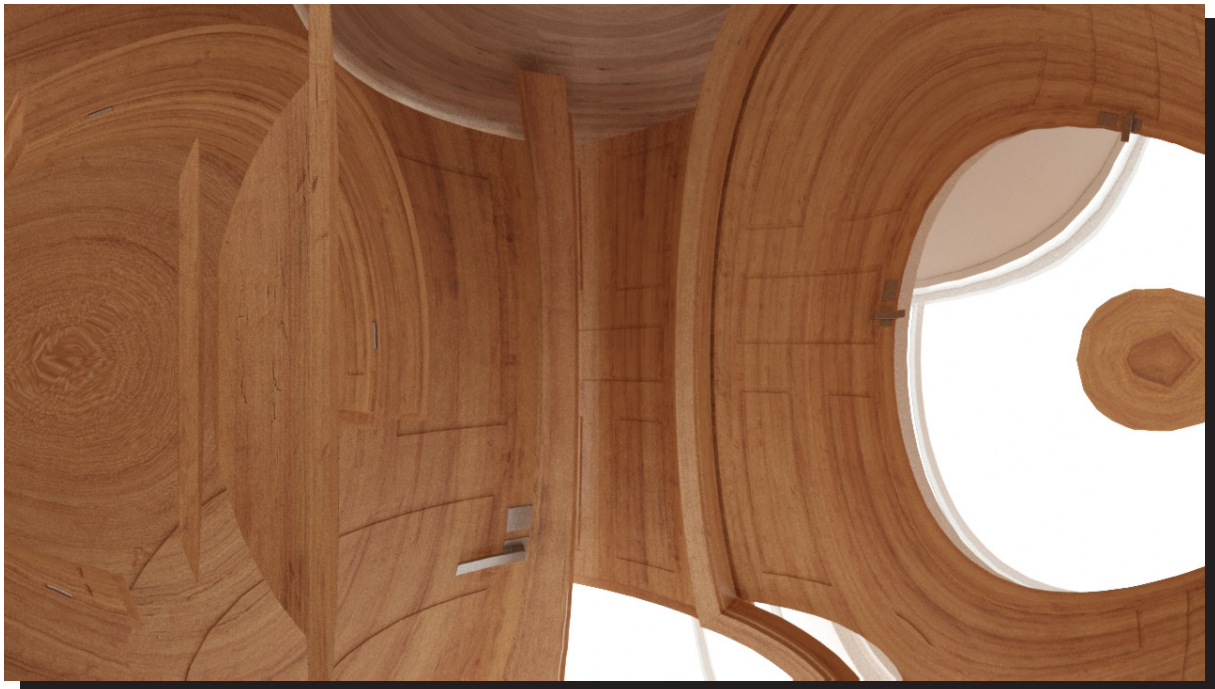
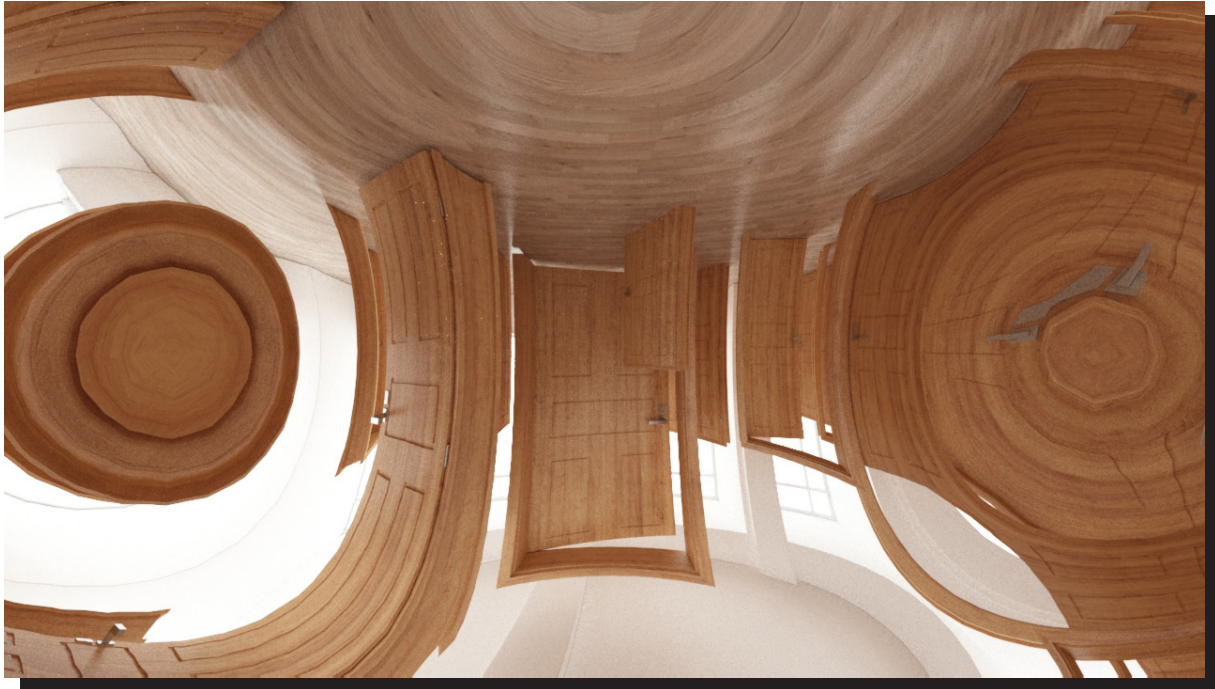
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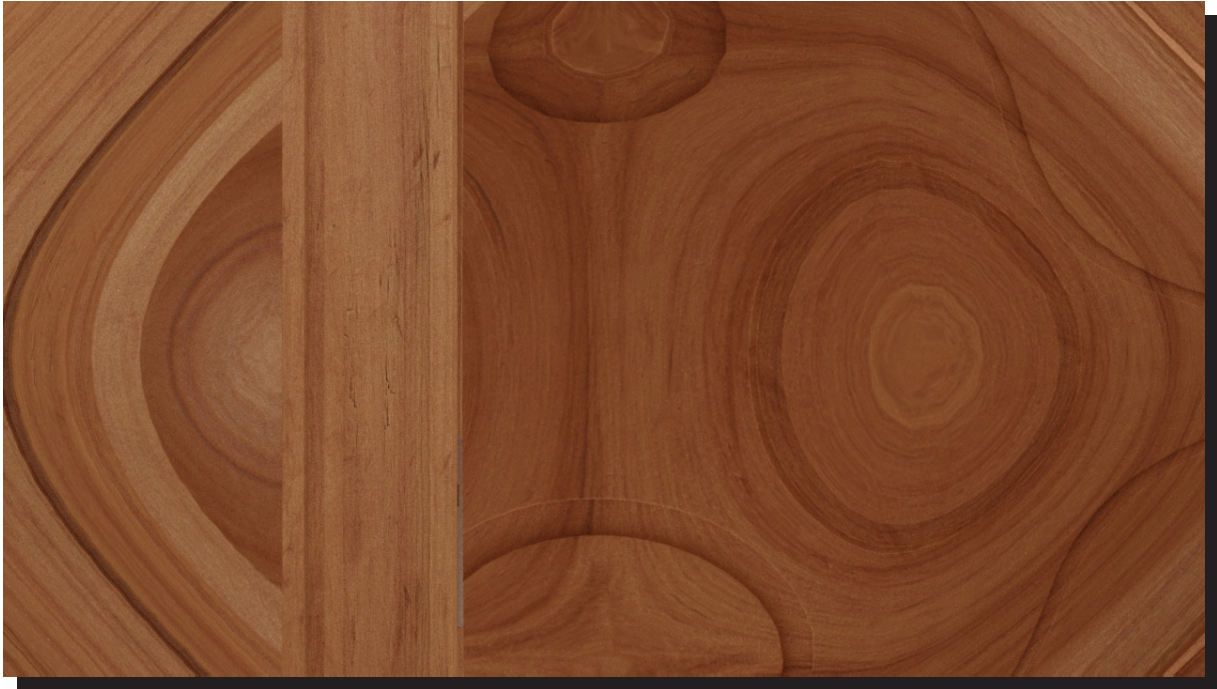
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DOOR CONVEXING CONCAVING



DOOR CONVEXING CONCAVING



DOOR CONVEXING CONCAVING



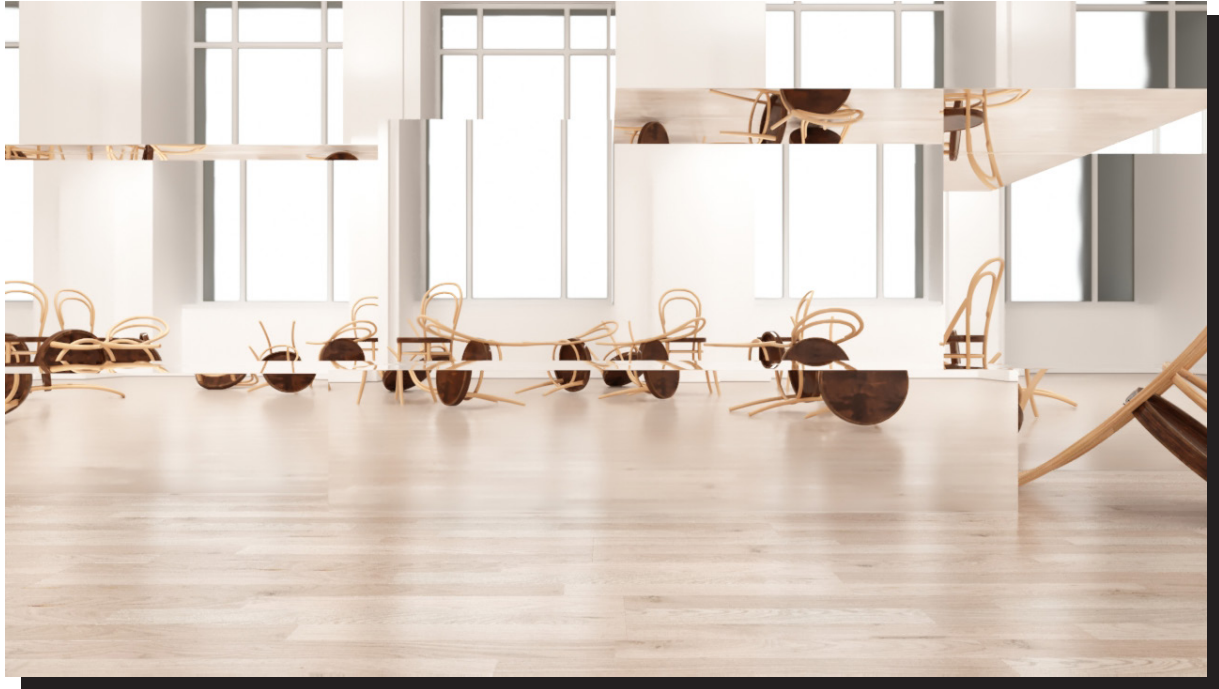
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CHAIR REFLECTIONS



CHAIR REFLECTIONS



CHAIR REFLECTIONS



CHAIR REFLECTIONS



CHAIR REFLECTIONS



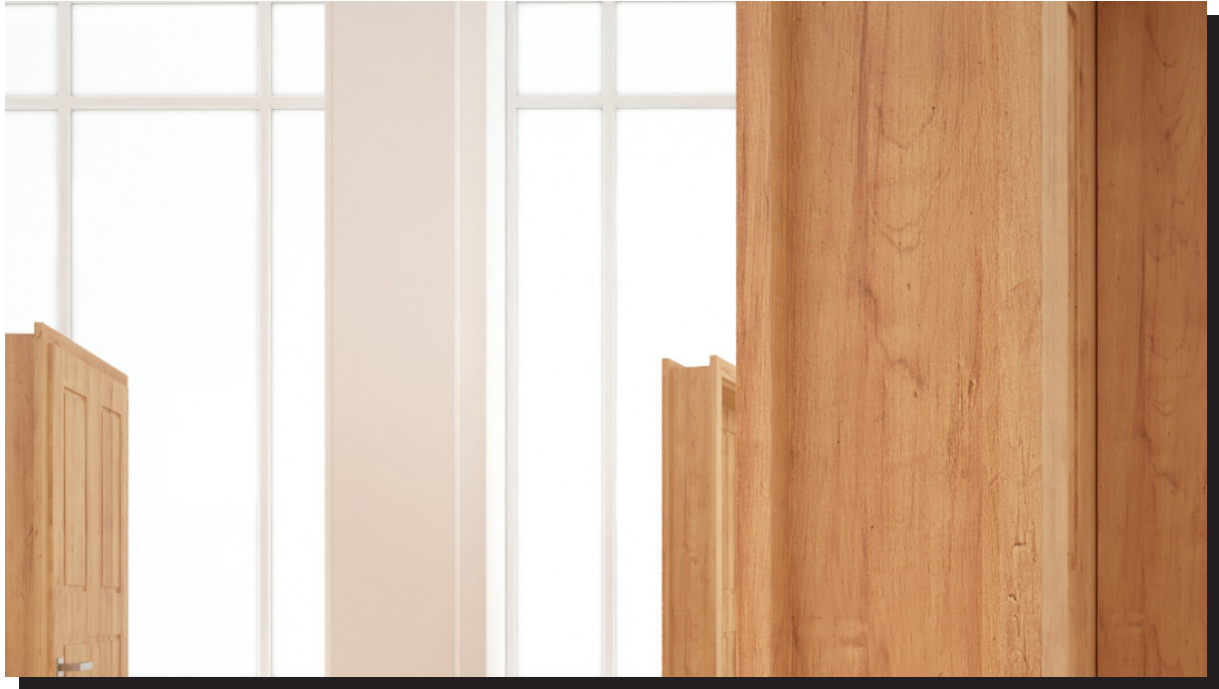
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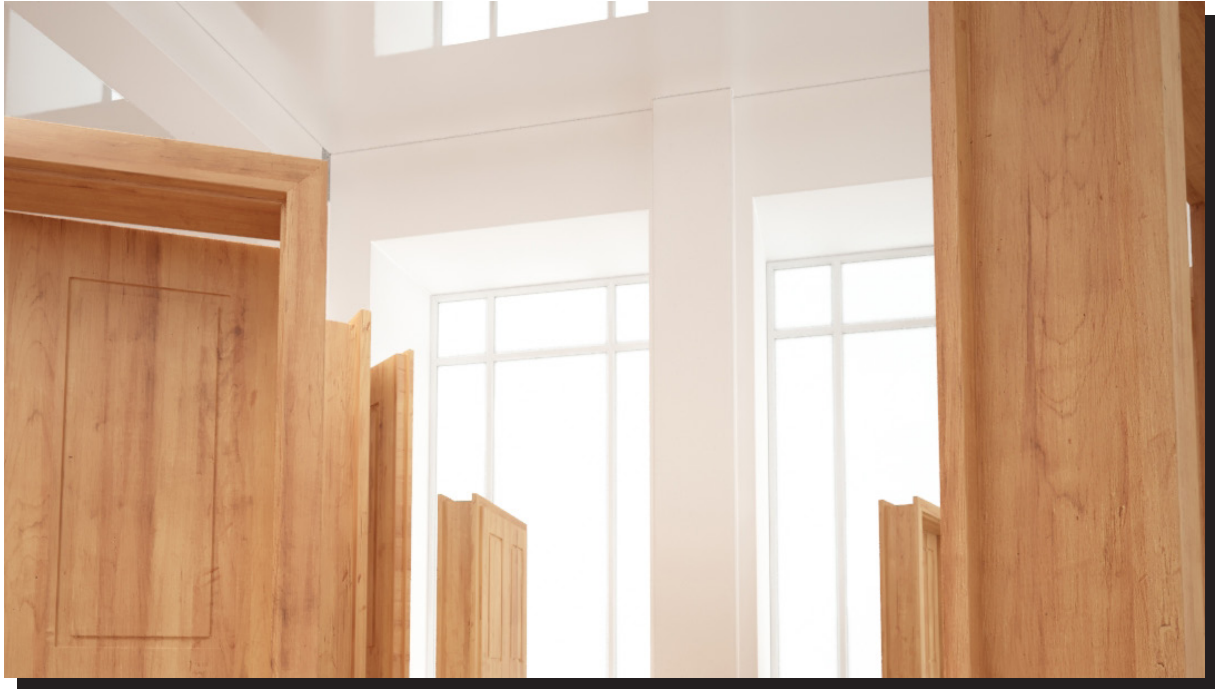
CHAIR REFLECTIONS



CHAIR REFLECTIONS



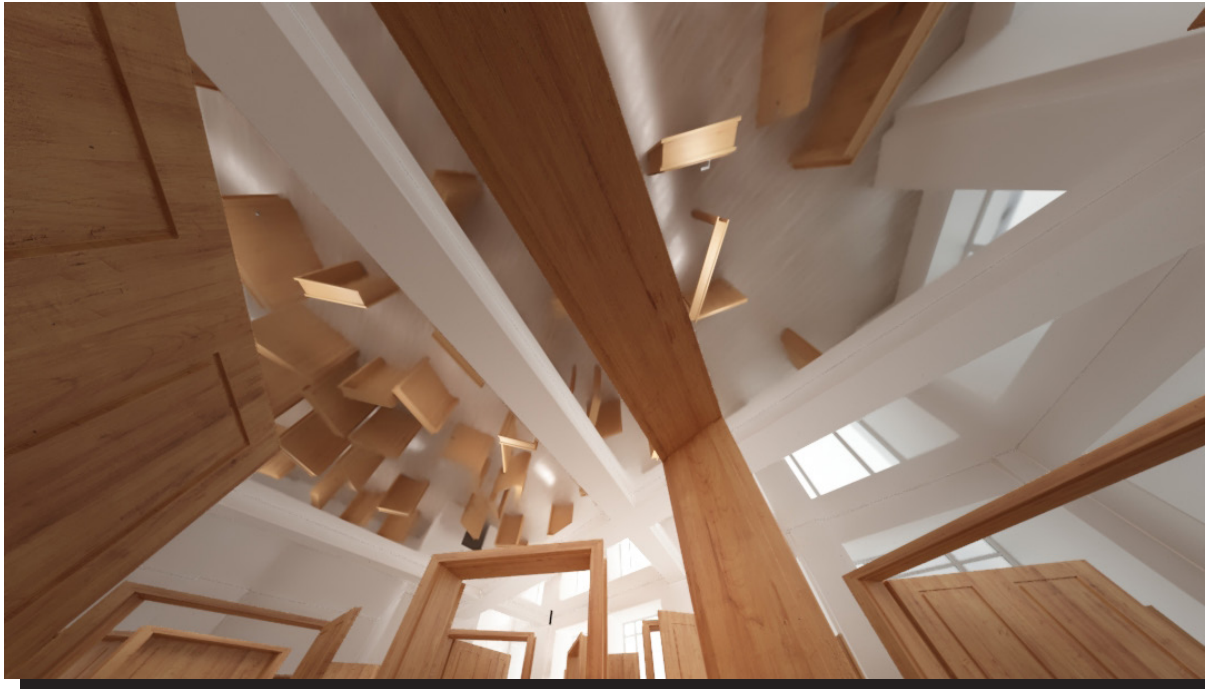
DOOR LENS



DOOR LENS



DOOR LENS



DOOR LENS



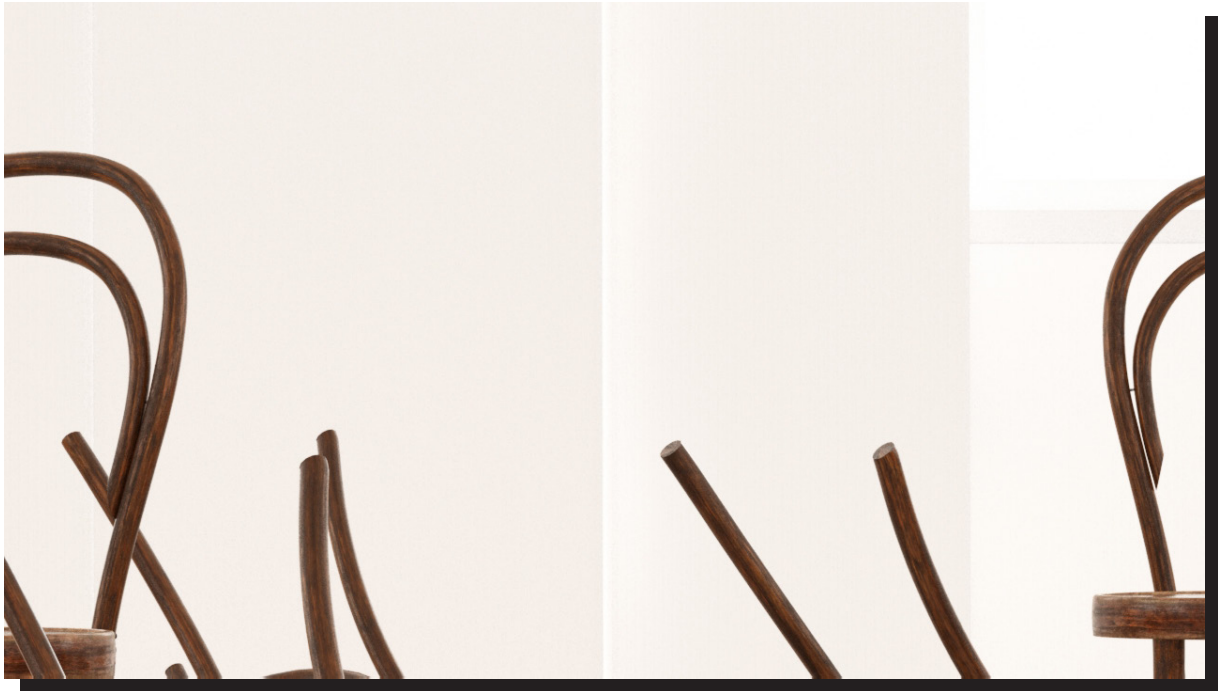
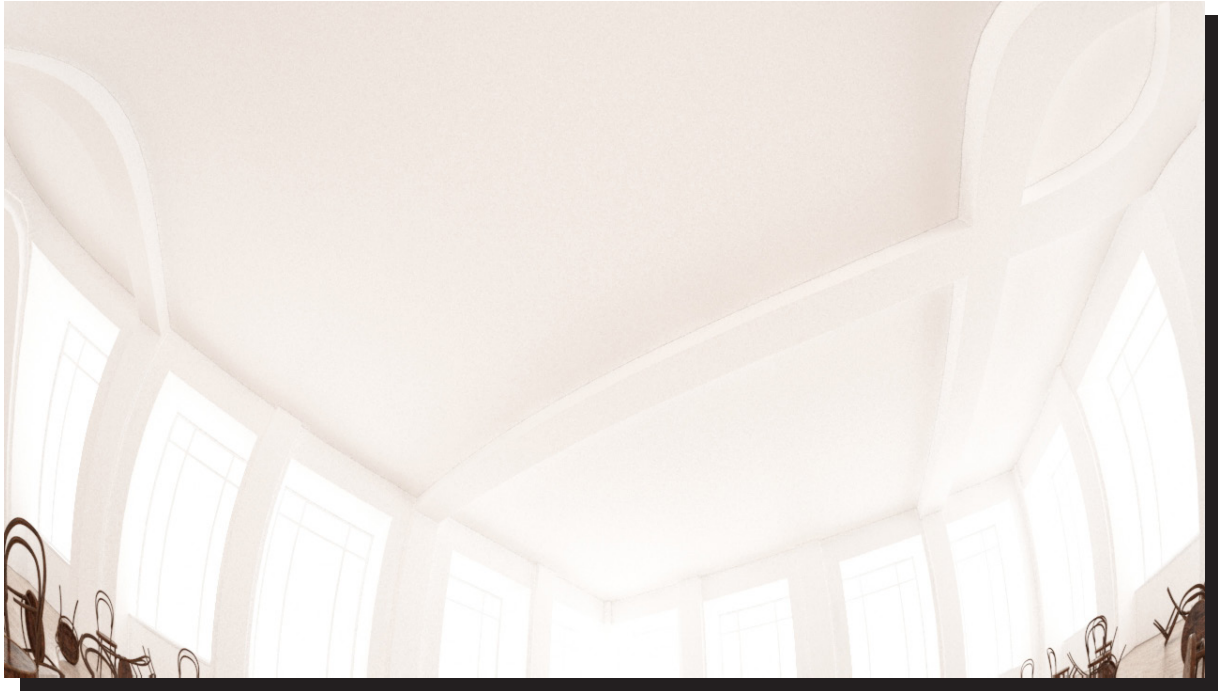
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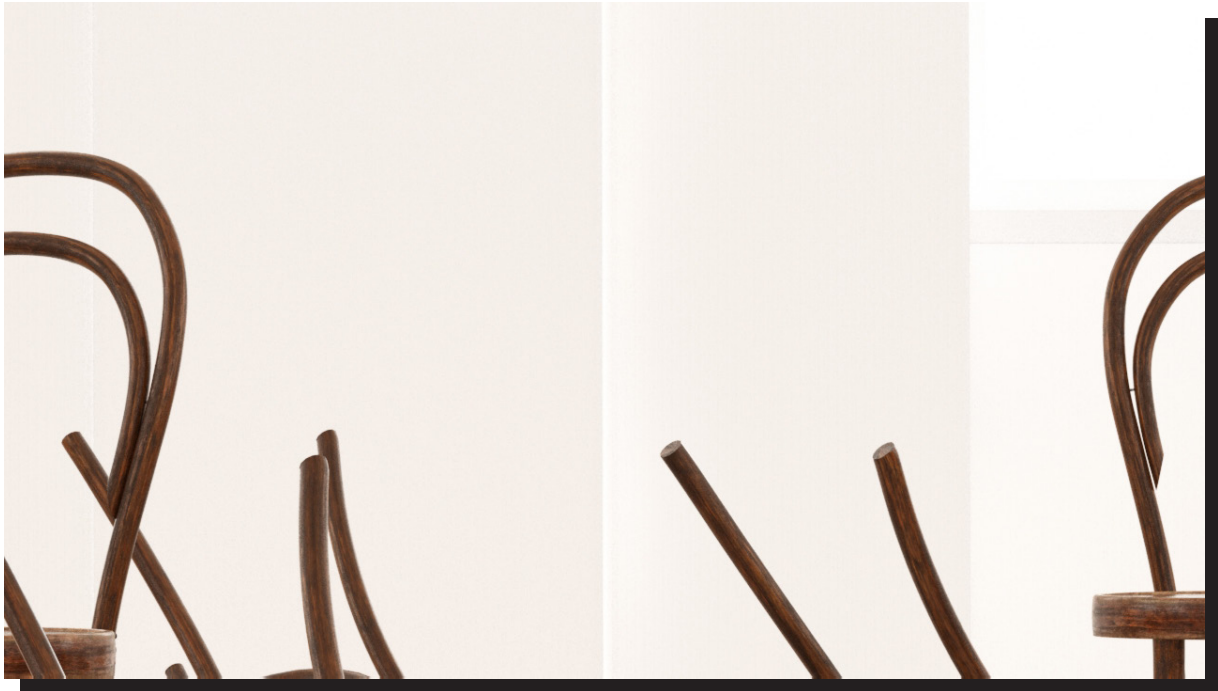
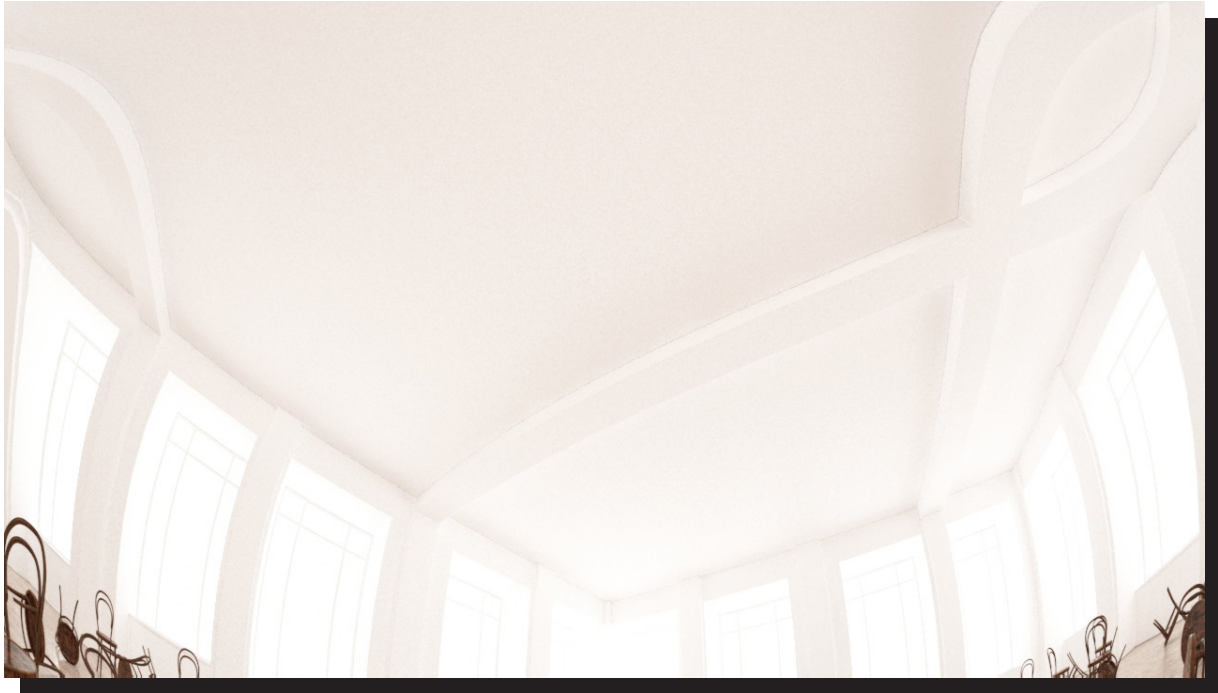
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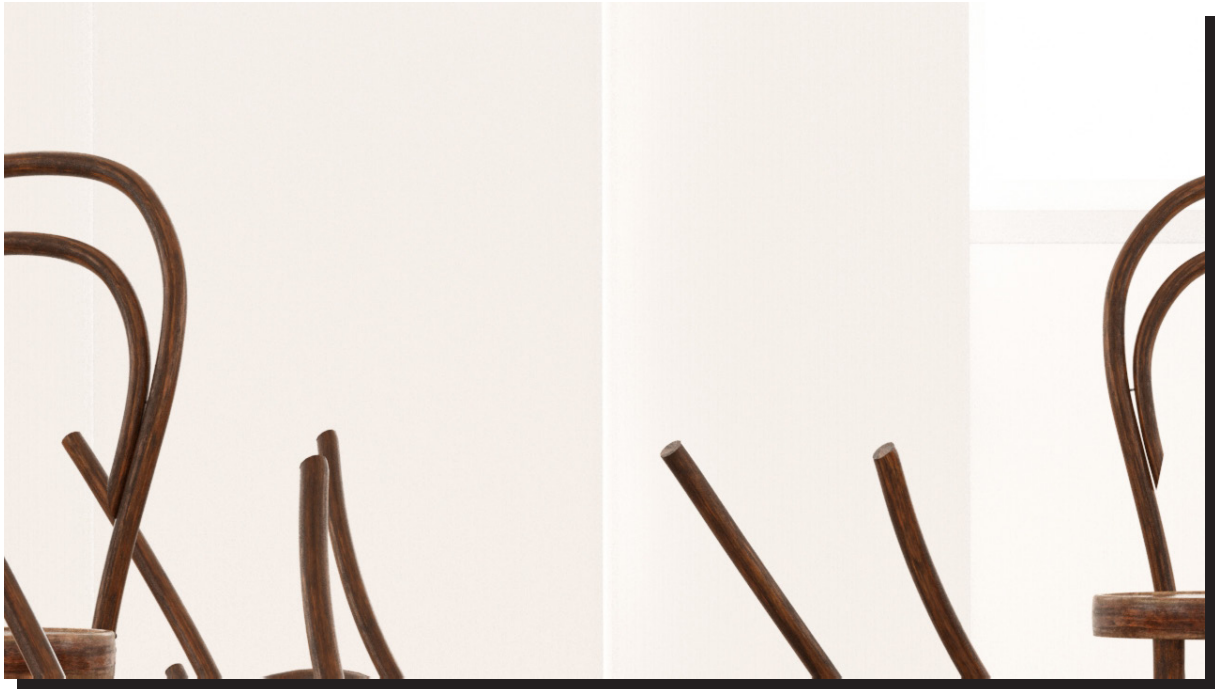
CHAIR REFLECTIONS



CHAIR REFLECTIONS



CHAIR REFLECTIONS



CHAIR REFLECTIONS

DEFINITIONS

Worlds

A aspect of human life, but now it can be defined as a real world, one that exists in reality outside of the digital. The digital world – one that is created and deployed by a computer. A virtual world, deployed by the computer but with real world consequences.

One-way Cognitive Process

The process where the subject viewing has no control, they are being force fed the information. They take in what is specifically shown to them, they have no agency. Film, imagery and sound rely on this process.

Laws of Physics

Refers to the physics within the observable world. These laws don't apply to objects within a virtual environment – leading to new possibilities and speaks to the affordances of objects within the virtual worlds.

Passing of Time

The passing of time in the real world vs the passing of time in the virtual world are independent of each other. In a MR environment the user has agency over time, or if they are conforming, perhaps a company has this agency and power. Time can be used to situate power in MR environments.

Utopian

A society that is nearly perfect or perfect for everyone. In this situation technology companies usually showcase their products in a utopian environment – there is no bad, there is no evil in a utopia.

Dystopian

In this thesis dystopian refers to a world, in the not-so-distant future where everything is bad. Usually we are creating these worlds in a critique against technology, or corporate overreach. In fiction we are placated on the worst aspects of human behavior, and a world where everything is bad is formed.

Traditional Modes of Representation

Refers to representation that is commonly used by the designer and artist, from painting and image making, to film and sound clips. In this thesis I will expand this into a simpler understanding of representation where the participant has no control, no agency over what they are showed or presented.