# Virtual Spaces in contemporary exhibitions /presentation

Thesis submitted to
Politecnico di Milano
for Master of Science degree
in INTERIOR AND SPATIAL DESIGN
by. Qian Jinyu
Thesis Supervisor: Luca Guerrini
October 4, 2022

**#Virtual reality** 

#Digital media

#### **CHAPTER 1**

#### Introduction

Research background
Research goal and innovation
Research stratagy

#### **CHAPTER 2**

# Stolen Space: The Core Meaning of the Exhibition's Physical Space

Demonstrate authority and educate the public

Historical Documentary and Cultural Remodeling

Avant-garde cultural dissemination

Consumerism and entertaining the masses

Landscape and Symbols

Situations and Events

#### CHAPTER 3

#### Parallel Lines: The "Temptation" of Virtual Space

Definition of virtual space

The impact of virtual technology on real space

#### **CHAPTER 4**

# Contemporary Exhibition and the "Deadly" Game of Virtual Space

Virtual as an alternative to reality
Virtual as a complement to reality
Virtual becomes reality

#### **CHAPTER 5**

# Design Practice: R ebuilding the Universe Italian Futurism Exhibition

Analysis of the background of the exhibition

Design project

#### **CHAPTER 6**

#### Conclusion

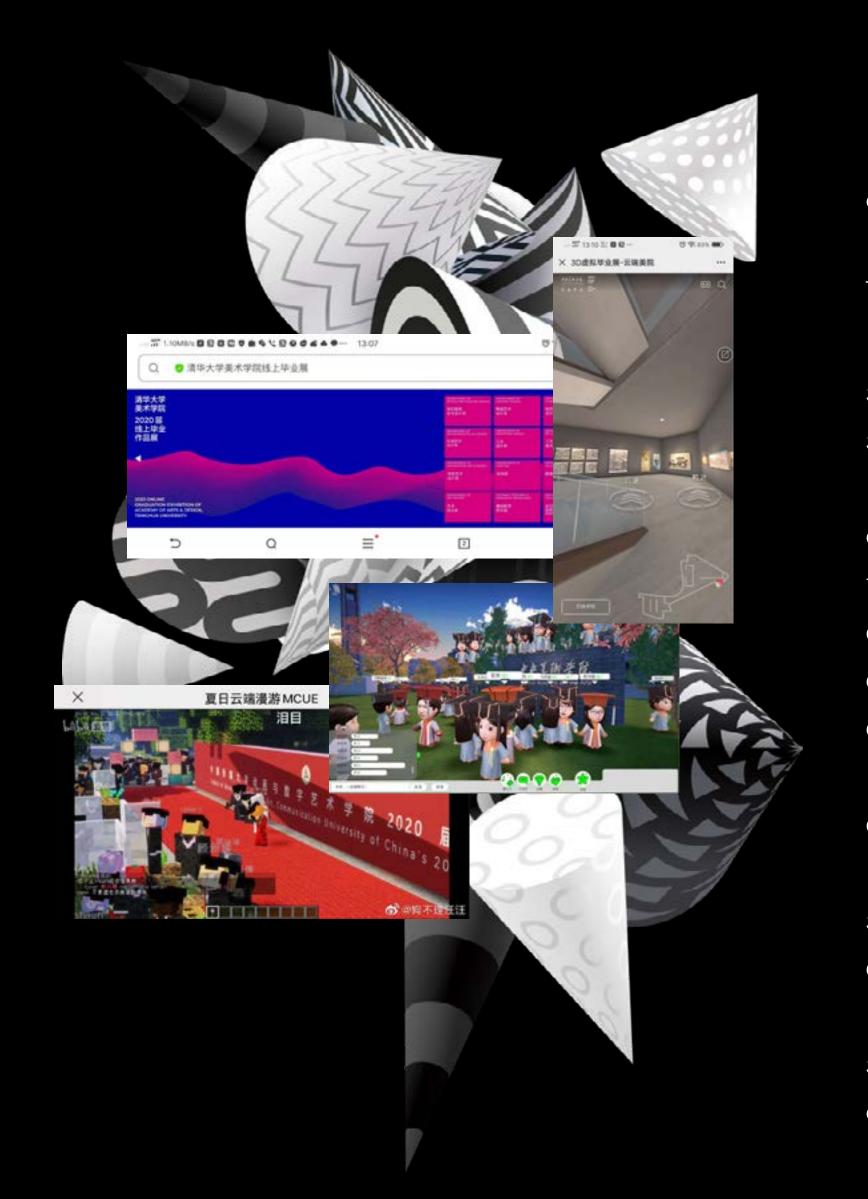
Summary of views
Future Outlook

## CONTENT

INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

## ABSTRACT

In the information age, based on the extensive application of virtual reality technology and network information technology, virtual exhibition and network exhibition based on virtual exhibition have come into being. With the macro development idea of the country's 13th Five-Year Plan, "virtual reality", "big data" and other cutting-edge technologies are pushed to the cusp of silent development. Especially from the year 2020, novel Coronavirus epidemic has strengthened the dependence of real life on information media. Technology is forever reshaping our lives, but "virtual reality" isn't just a technical concept. European philosophers have worried about "virtual" environments since the last century. Nowadays, more and more philosophers, curators and designers begin to pay attention to digital and "virtualized" exhibitions in order to help the transformation of museum exhibitions and obtain a wider communication space. However, few



people pay attention to the difference between on-site and online, and lack of research on the integration of physical space and virtual space. The virtual space in the exhibition studied in this paper is not to completely virtualize the physical space, but to study how to take the virtual space as the supplement and extension of the physical space. This paper aims to establish a clear principle of virtual space creation under the digital virtual framework. In fact, it is an exhibition design with virtual digitization as the design means, space as the design object and display as the design purpose. This paper is mainly divided into five parts, which respectively expound the social role of the physical space of museums and exhibitions, the definition of virtual space and its impact on physical space, and analyze the integration and interaction between physical space and virtual space based on specific cases. means, try to summarize a series of design methods, and finally carry out design practice.

#exhibition design

**#Virtual reality** 

**#Virtual space** 

#Museolog

# Core Values of **Exhibition** Physical Space

7

**CHAPTER** 

**TYPE** 

CASES

#### **Demonstrate** authority **Educate the public**



German museum island



Goetz collection



Horyu-ji Treasure Museum

These art museums are often compared to formal, monumental structures such as palaces and temples, and are intentionally designed to resemble them in architectural form. Or combine with nature to form a poetic, transcendental relics. experience. The space is mostly closed inward and isolated from the outside world.

#### **Historical Documentary Cultural Remodeling**



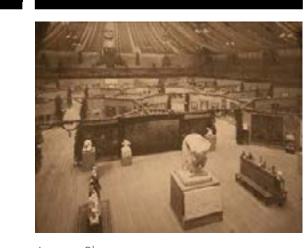
Germanic Museum "History Room"



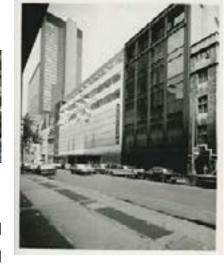
Acropolis Museum

The number of historical museums and sites accounts for a large proportion of all museums, and they are the most common

#### **Avant-garde** cultural dissemination



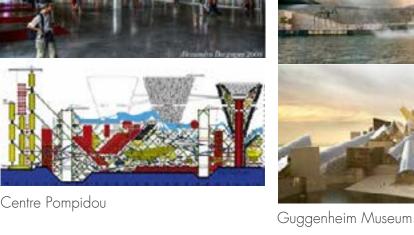
Armory Show



and easiest to visit. The design of history 'Unofficial', 'Not mainstream' or Collect goods. The Arts Center did end up being museums always bears a responsibility and exhibit recent works of avant- a vibrant "street theater" as well. not to look like a cultural tomb, but to garde art. The museum itself is modern, store only the "dry bones" of cultural the exhibition has an open plan, is transparent, and integrates with the city or the community.

#### Consumerism **Entertaining the masses**





Architecture can provide a variable, nonfixed property like ordinary consumer

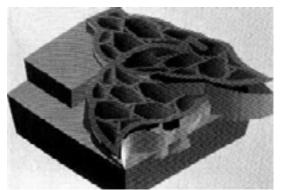
#### Landscape and Symbols





**Situations and Events** 

Dibedo Francis Carlyle



When a museum and its contents become a complete aesthetic whole, maybe even a brand.

"Event", "Game" and "Mobility", bring art into the everyday realm and show it to the public, challenging the tradition that art only exists in a certain institution, or can only be seen by the educated.

Frank Stella's projects

Modern and

#### **EXHIBITS**

SPACIAL

**FEATURES** 

Historically recognized exhibits screened by official institutions

Historical relics, historical rooms

contemporary art, avant-garde works that came out soon contemporary art, art performance, urban activity center

Contemporary artcultural symbols The space itself is an exhibit

contemporary art art event

INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

2022/10/4

**#Virtual reality** 

## The balance under the "temptation" of virtual space

The simulacrum is never that which conceals the truth-it is the truth which conceals that there is none. The simulacrum is true.

-- Ecclesiastes

Baudrillard, Jean. Simulacra and Simulations

#### The value of Four-level order of simulacrum Intention/image concept **STAGE** "things" Simulation was the dominant mode in the Imagery is a reflection of grand reality "classical" period from the Renaissance to the Natural stage Use value Industrial Revolution Imagery encapsulates and naturalizes the Exchange **Commodity** Production is the dominant mode in the era of the Industrial Revolution grand reality value stage Simulation is currently the dominant mode in this Imagery masks the absence of grand reality Symbolic value Structural stage code-dominated phase The image no longer has any relation to the Stages of splitting of values (viral or radioactive) Exchange of grand reality: it becomes a simulacrum of Split stage The law of value does not exist popular value

The four stages of simulacra in Baudrillard's "Simulation and Simulation" (painted by the author)

#### exhibition format

Demonstrate authority and educate the public

Historical Documentary and Cultural Remodeling

Consumerism and entertaining the masses

**Landscape and Symbols** 

Virtual Exhibits/Virtual Art Gallery

**#Virtual reality** 

#Digital medi

#### Problem solved:

How does the virtual space relate to the corresponding real world?

What types of real-world systems are suitable for electronic doubles? Why?

How do we build such a world?

How can we use these virtual spaces to study the real world?

What types of behavior can stand out from inter-agent interactions within virtual and reality?

John L. Castie, translated by Wang Qianxiang, translated by Quan Ning. Virtual World[M]. Shanghai Science and Technology Education Press, 1999.

21

CHAPTER 3

#Virtual reality

#Virtual space

#Museolog

#exhibition design

#Digital media

2022/10/4

# The social value of exhibition space

Demonstrate authority and educate the public

Historical Documentary and Cultural Remodeling

Avant-garde cultural dissemination

Consumerism and entertaining the masses

Landscape and Symbols

**Situations and Events** 

Four stages of simulacra

Natural stage

Commodity stage

Structural stage

Split stage

Virtual as an alternative to reality

Virtual space design

strategy

Virtual
as a complement
to reality

Virtual becomes reality

**CHAPTER 4** 

21

INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

2022/10/4

**#Virtual reality** 

#### **Design Practice:** Recinstruction the Universe -**Italian Futurism Exhibition**

Analysis of the background of the exhibition Design project



**Exhibit Type** 

Virtual Space Design

#### THA MANIFESTO



# 未来主义宣言装置

Futuristic Manifesto Installation

#### Costellation 1 ENERGIES





Futuristic painting Installation



HALL OF THE CONQUEST

OF THE AIR



INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

CHAPYER

21

CHAPYER 5

21

**Exhibit Type** 

Virtual Space Design

**#Virtual reality** 

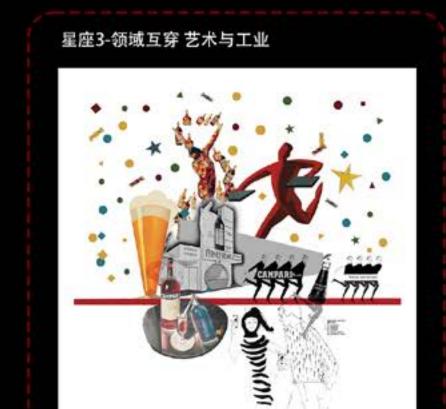
# Costellation2 BODIES IN MOVEMENT





Futuristic Sculpture Installation







Futuristic Life Installation



FUTURE ARCHITECTURE

Costellation 5



Futuristic Architectural Installation

INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

**#Virtual space** #Museolog #exhibition design

#Digital media

2022/10/4

**#Virtual reality** 

### Exhibit classification layout

星座1-能量 征服天空厅 16245 Costellation 1 HALL OF THE CONQUEST MYMYM **ENERGIES** OF THE AIR 运动宣言 THA MANIFESTO 星座3-领域互穿 艺术与工业 星座2-运动中的身体 ART AND INDUSTRY Costellation 2 **BODIES IN MOVEMENT** 星座5-新建筑 **FUTURE ARCHITECTURE** 

Costellation 3-**INTERPRENETATIONS** 

Costellation5

**CHAPYER** 

TSINGHUA UNIVERSITY ART MUSEUM

#### FUTURISM | RECONSTRUCTION OF THE UNIVERSE

• Vol-01 • Edi-03• 15

June 2022

#exhibition design

**#Virtual reality** 

**#Virtual space** 

#Digital media

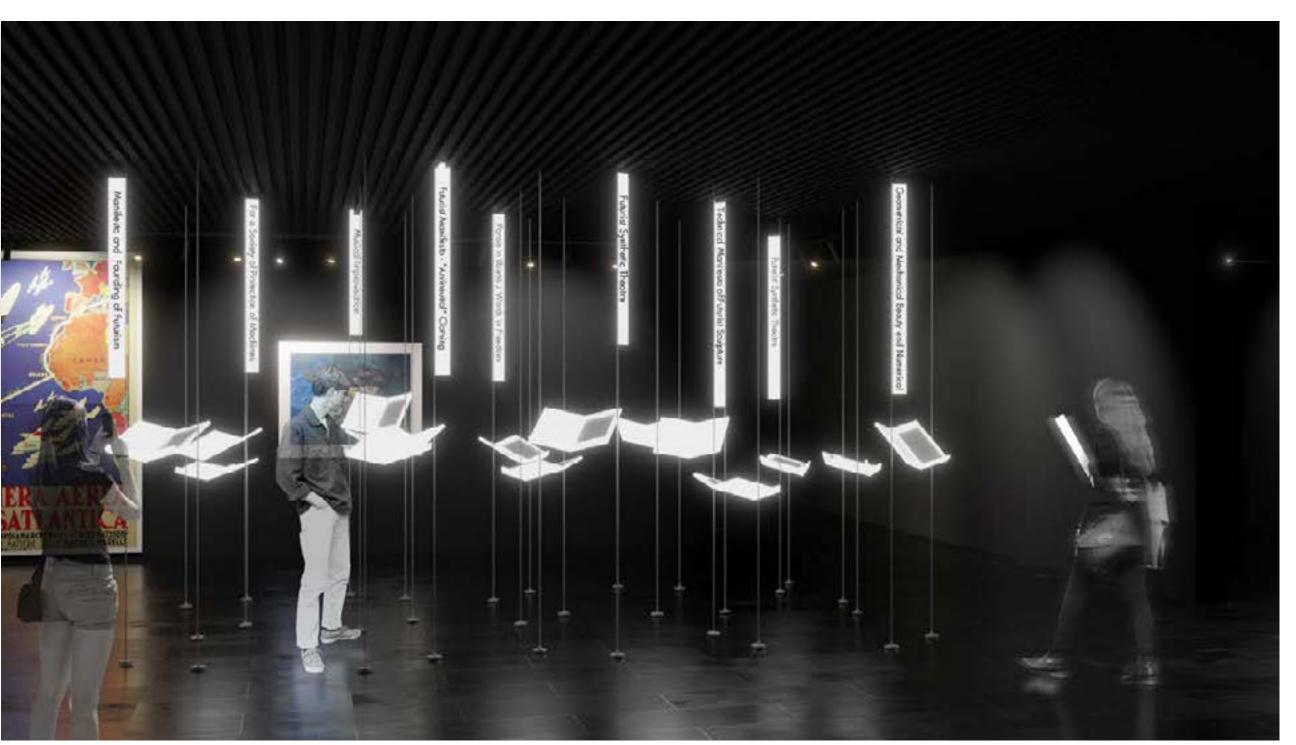
#Museolog

THA MANIFESTO

The Manifesto section covers 17 manifestos of skills in different fields, including Manifesto Futurist, published in Le Figaro by members of Futurism, such as Manifesto Manifesto - "Anti-Neutral" Clothing futurista Il vestito antineutrale /Futurist Manifesto - "Antineutral" Clothing, (1914), Musical Improvisation (1921), Futurist Synthetic Theatre (1915), etc., Manifesto for the rise of Futurism And development is extremely important content, and it has also become a form of propaganda that various movements in the 20th century scrambled to imitate.



There is no virtual part in this installation, it is to express the media nature of the Futurism Manifesto published in newspapers and publications, hoping to bring the audience back to the time and space environment where Futurism is located, and combine their advocating flight, movement and aerial painting to shape A weightless effect. Viewers can travel through the 17 manifestos and read the contents of the manifesto up close.

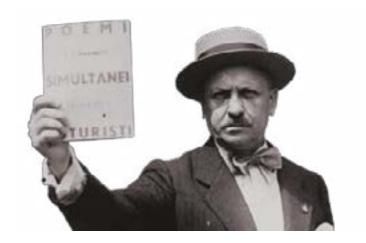


Futurist manifesto

Keywords: installation | immersive experience

It is from Italy that we now establish Futurism with this manifesto of overwhelming and burning violence, because we want to free this country from its fetid gangrene of professors, archaeologists, antiquarians and rhetoricians.

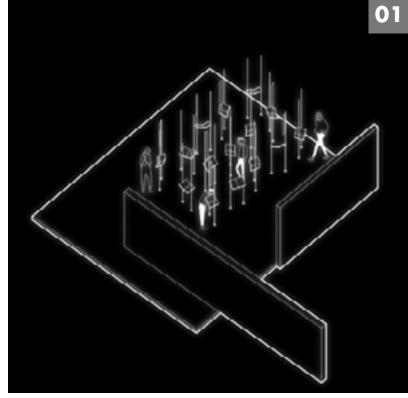
— The Founding and Manifesto of Futurism Filippo Tommaso Marinetti (front page, Le Figaro 20 Feb. 1909)



#### **THA MANIFESTO**

#### 征服天空厅





INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

**#Virtual space** #Museolog thibition design

#Digital media

2022/10/4

**#Virtual reality** 

TSINGHUA UNIVERSITY ART MUSEUM

## 02

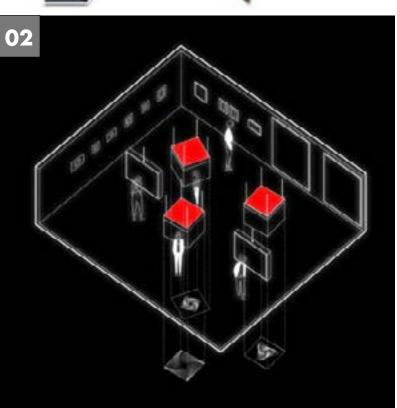
#### 未来主义——重建宇宙

### FUTURISM | RECONSTRUCTION OF THE UNIVERSE

#### **Futurist Painters**



清华大学艺术博物馆



This installation is a supplement of virtuality as and inpnite extension of time in futuristic painting through one-way mirror glass and digital LED screen. The content of the LED screen is a digitized and vectorized moving video of futuristic painting



Untitled (recto/verso) 贾科莫•巴拉 **Giacomo Balla** 1918 c

Futurist artists hope to express the "dynamic theory", they hope to present the "dynamic force" that cannot be seen in their paintings, and they regard the lack of reaction movement, speed, and force as the creative aesthetics of futurist art. The exhibits in this part are mainly to give the audience a new perspective to understand the dynamic that futuristic painting is to express. One of the most important of these is Giacomo Balla's double-sided painting (Fig. 5.8), which features expressionist figures and landscapes on one side and abstract and dynamic paintings on the other. geometric figures. These two double-sided paintings most prominently reflect the rebellion of Futurist painting.

Our forebears drew their artistic inspiration from a religious atmosphere which fed their souls; in the same way we must breathe in the tangible miracles communications which envelops the earth, transatlantic liners, the dreadnoughts, those marvelous flights which furrow our skies, the profound courage of our submarine navigators and the spasmodic struggle to conquer the unknown.

-- Manifesto of the Futurist Painters Umberto Boccioni, Carlo Carrà, Luigi Russolo, Giacomo Balla, Gino Severini



Futuristic Painting - Animation Generation Installation Keywords: interactivity | installation | immersive experience



# Costellation 1 – ENERGIES 星座1-能量 未来主义绘画

**CHAPYER** 

未来主义-

### FUTURISM | RECONSTRUCTION OF THE UNIVERSE

#exhibition design

#Digital media

**#Virtual reality** 

**#Virtual space** 

#Museolog

THE ART OF NOISE

# HALL OF THE CONQUEST OF THE AIR

#### 噪音的艺术

#### 路易吉·鲁索洛

#### The Art of Noise | Luigi Russolo | 1913

art and the production ideas of Louie Russolo's noise machine recorded by the Zhongsheng factory line, different welding processes are selected, such as: electricity, aircraft, aircraft The sounds of aircraft, new assembly line machines, individual percussion processing, etc., are synthesized and arranged by electronic music, and the background sound of the exhibition

Let us cross a great modern capital with our ears more alert than our eyes, and we will get enjoyment from distinguishing the eddying of water, air and gas in metal pipes, the grumbling of noises that breathe and pulse with indisputable animality, the palpitation of valves, the coming and going of pistons, the howl of mechanical saws, the jolting of a tram on its rails, the cracking of whips, the flapping of curtains and flags. We enjoy creating mental orchestrations of the crashing down of metal shop blinds, slamming doors, the hubbub and shuffling of crowds, the variety of din, from stations, railways, iron foundries, spinning mills, printing works, electric power stations and underground railways.

离开! 让我们爆发吧, 因为我们再也无法抑制我们最 终创造一个新的音乐现实的愿望, 在脸上慷慨地发出 响亮的耳光,抛弃小提琴、钢琴、低音提琴和哀伤的 风琴。让我们爆发吧!

让我们用耳朵比眼睛更警觉地穿越一个伟大的现代首 都,我们将从金属管道中的水、空气和气体的涡流 中,从无可争辩的动物性呼吸和脉搏的咕噜声中,从 心悸中获得乐趣。阀门,活塞的来来去去,机械锯的 嚎叫声, 电车在铁轨上的颠簸, 鞭子的劈啪声, 窗帘 和旗帜的飘动。我们喜欢在金属商店的百叶窗倒塌 砰的一声关上、人群的喧嚣和洗牌、车站、铁路、铸 铁厂、纺纱厂、印刷厂、发电站和地下铁路的各种喧 嚣中创造心理协调。









路易吉・鲁索洛

Intonarumori (noise machines) Luigi Russolo



**CHAPYER** 

**CHAPYER** 

**#Virtual reality** 

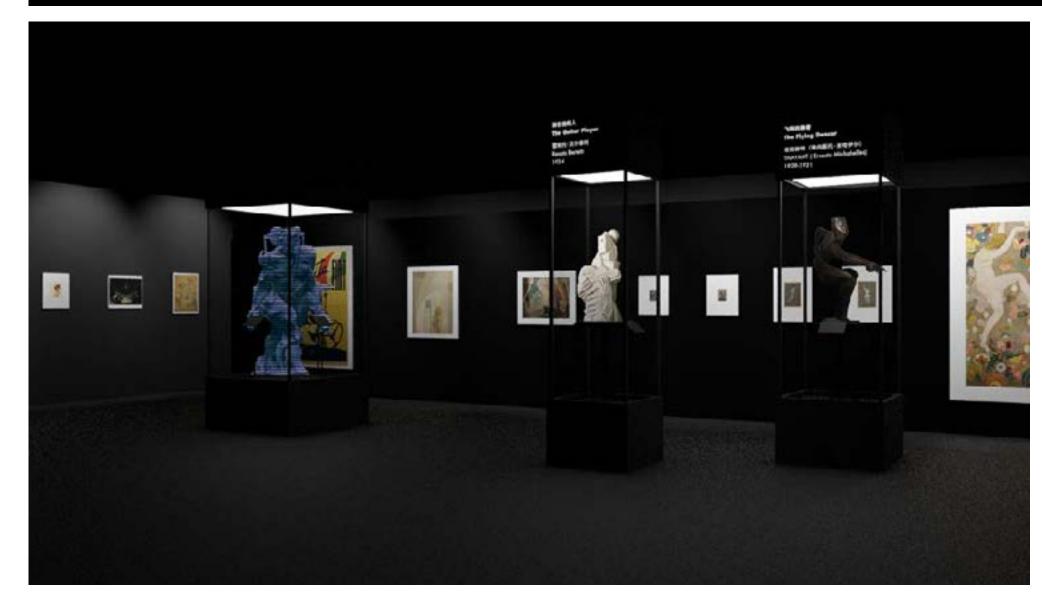
**#Virtual space** 

清华大学艺术博物馆

TSINGHUA UNIVERSITY ART MUSEUM

FUTURISM | RECONSTRUCTION OF THE UNIVERSE

#### **BODIES IN MOVEMENT**



Futuristic Sculpture - Sculpture Holographic Projection Installation Key words: interactivity | telepresence | installation

## Costellation 2 - BODIES IN **MOVEMENT** 星座2-运动中的身体

#### **Futuristic Sculpture** Umberto Boccioni

generated by the sculpture, the audience can better understand the relationship between the body and space that Futurism focuses on.

In sculpture as well as in painting, one can renew art only by seeking the style of movement that is, by forming systematically and definitively into a synthesis that which Impressionism offered in a fragmentary, accidental, and consequently analytical way.

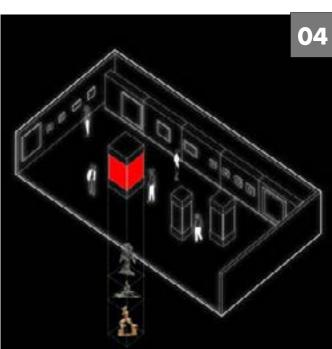
Naturally we will create a sculpture of environment. A Futurist sculptural composition will contain in itself the marvelous mathematical and geometric elements of modern objects. These objects will not be placed alongside the statue, many explanatory attributes or separate decorative elements but, following the laws of a new conception of harmony, they will be embedded in the muscular lines of a body.

— — Technical Manifesto of Futurist Sculpture Umberto Boccioni

The themes expressed in this part of the exhibits are all related to people, including poster designs for operas and circuses, sculpture painting sketches, human sculptures, and more. Sculptures include photography of sculptures by Emilio Sommariva, as well as Renato Bertelli's "The Guitarist" and THAYAHT's "Flying Dancer" ", these works well reflect the "movement style" and the fusion of the body and mathematical geometry described by Umberte Boccione in the Manifesto of Futurist Sculpture Technique. They preserve the paths and curves in motion and shape them into solids.



• Vol-01 • Edi-03• 15





Unique Forms of Continuty in Space



Unique Forms of Continuty in Space



INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

**#Virtual space** 

**#Virtual reality** 

• Vol-01 • Edi-03• 15 #exhibition design June 2022

#Digital media

05

未来主义一

FUTURISM | RECONSTRUCTION OF THE UNIVERSE

#### **ART AND INDUSTRY**





# 星座3-领域互穿 艺术与工业 Costellation 3 - INTERPRENETATIONS (ART AND INDUSTRY)

This part of the exhibit includes geometric tessellation weaving patterns by Studio Boggeri, tessellation weaving and floor pattern designs by Dario Di Gese, Nicola Dierge Ceramic tea set and TATO by Nikolay Diulgheroff are part of the overall design for Italian aviator Italo Balbo's living room. The most important thing is to create a futuristic influence on daily consumption and life. Giacomo Balla, who had tried to provide new patterns for the tailoring of shirts and suits based on the geometrical principles of non-objective painting, innovated a pragmatism and unisex dress based on progressivism Form and volume only follow the concept of inherent constructive principles. It reflects the purpose of futuristic cooking to increase the sensory experience of meals.

Every neutral of our future hopefuls, cut off from every neutral nation, terror and widow, tragic and tragic, romantic future and us we want to look at with future liberalism and our future freedom.

--- Manifesto futurista Il vestito antineutrale /Futurist Manifesto - "Antineutral" Clothing Giacomo Balla

Combine futuristic furniture, utensils, patterns, advertising and other industrial and commercial products to create a historic space, magnify the small draft of the Boor pattern on the virtual screen in the space, reshape a "futuristic time and space", and let the audience understand the future Doctrine is an all-round movement that not only includes literature and art, but also penetrates into people's lives through industrial manufacturing. At the same time, the Plter interactive device of futuristic clothing is added, which can give the audience photos of



Futuristic Life - Scenario Reproduction Installation Keywords: installation | immersive experience | remote #Museolog

**CHAPYER** 

INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

**#Virtual reality** 

04

清华大学艺术博物馆

#### 上来主义——重建宇宙

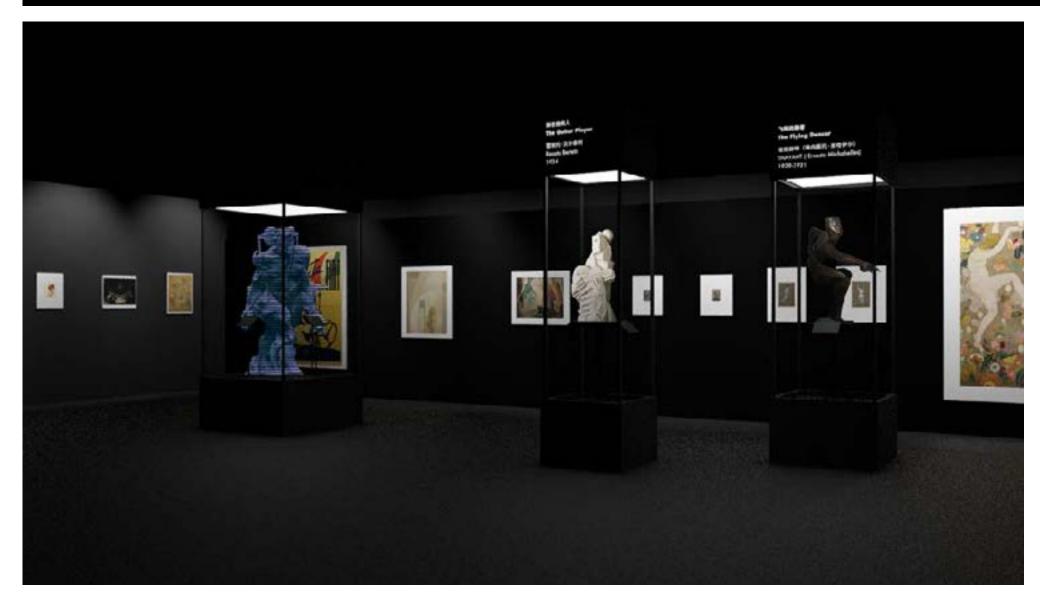
#### FUTURISM | RECONSTRUCTION OF THE UNIVERSE

• Vol-01 • Edi-03• 15

June 2022

#### **BODIES IN MOVEMENT**

TSINGHUA UNIVERSITY ART MUSEUM



Futuristic Sculpture - Sculpture Holographic Projection Installation Key words: interactivity | telepresence | installation

# Costellation 2 - BODIES IN MOVEMENT 星座2-运动中的身体

# Futuristic Sculpture Umberto Boccioni

The sculpture installation is located in the area of "Constellation 2 - Body in Motion". As mentioned above in the exhibit list, some sculptures such as Umberto Boccioni's "Unique Form in the Continuity of Space" and "A Bottle in Space" The Extension of "has only photographs, no originals, and both are representative works, both reßecting the creative methodology of Futurist sculpture. Therefore, the author hopes that through the holographic projection of the sculpture and the dynamic display generated by the sculpture, the audience can better understand the relationship between the body and space that Futurism focuses on.

In sculpture as well as in painting, one can renew art only by seeking the style of movement that is, by forming systematically and definitively into a synthesis that which Impressionism offered in a fragmentary, accidental, and consequently analytical way.

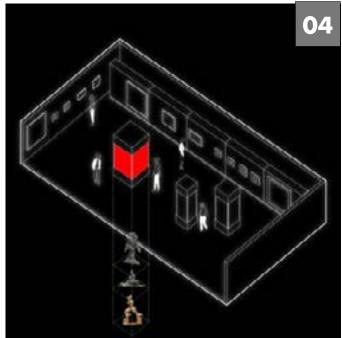
Naturally we will create a sculpture of environment. A Futurist sculptural composition will contain in itself the marvelous mathematical and geometric elements of modern objects. These objects will not be placed alongside the statue, like so many explanatory attributes or separate decorative elements but, following the laws of a new conception of harmony, they will be embedded in the muscular lines of a body.

— — Technical Manifesto of Futurist Sculpture

Umberto Boccioni

The themes expressed in this part of the exhibits are all related to people, including poster designs for operas and circuses, sculpture painting sketches, human sculptures, and more. Sculptures include photography of sculptures by Emilio Sommariva, as well as Renato Bertelli's "The Guitarist" and THAYAHT's "Flying Dancer" ", these works well reflect the "movement style" and the fusion of the body and mathematical geometry described by Umberte Boccione in the Manifesto of Futurist Sculpture Technique. They preserve the paths and curves in motion and shape them into solids.







空间连续状态下的独特形式

| 1913 | 翁贝托・薄邱

> Unique Forms of Continuty in Space Umberto Boccioni



空间连续状态下的独特形

1913 翁贝托・薄邱尼

Unique Forms of Continuty in Space Umberto Boccioni



INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

#Virtual space

**#Virtual reality** 

#exhibition design

#Digital media

さ 不 博 物 頃 TSINGHUA UNIVERSITY ART MUSEUM

未来主义——重建宇宙

FUTURISM | RECONSTRUCTION OF THE UNIVERSE

**ART AND INDUSTRY** 



# 星座3-领域互穿艺术与工业

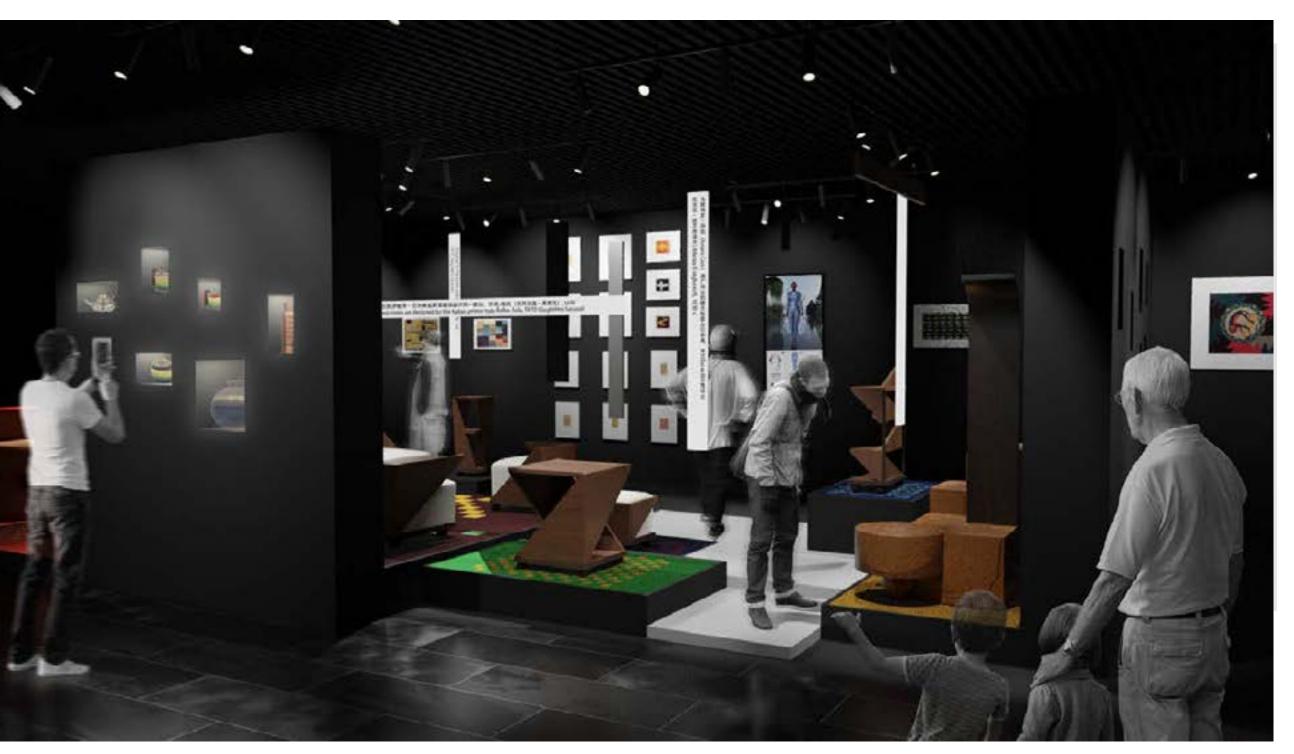
## Costellation 3 - INTERPRENETATIONS (ART AND INDUSTRY)

This part of the exhibit includes geometric tessellation weaving patterns by Studio Boggeri, tessellation weaving and floor pattern designs by Dario Di Gese, Nicola Dierge Ceramic tea set and TATO by Nikolay Diulgheroff are part of the overall design for Italian aviator Italo Balbo's living room. The most important thing is to create a futuristic influence on daily consumption and life. Giacomo Balla, who had tried to provide new patterns for the tailoring of shirts and suits based on the geometrical principles of non-objective painting, innovated a pragmatism and unisex dress based on progressivism Form and volume only follow the concept of inherent constructive principles. It reflects the purpose of futuristic cooking to increase the sensory experience of meals.

Every neutral of our future hopefuls, cut off from every neutral nation, terror and widow, tragic and tragic, romantic future and us we want to look at with future liberalism and our future freedom.

Militant clothes.

Combine futuristic furniture, utensils, patterns, advertising and other industrial and commercial products to create a historic space, magnify the small draft of the Boor pattern on the virtual screen in the space, reshape a "futuristic time and space", and let the audience understand the future Doctrine is an all-round movement that not only includes literature and art, but also penetrates into people's lives through industrial manufacturing. At the same time, the Plter interactive device of futuristic clothing is added, which can give the audience photos of the scene in the futuristic scene.



Futuristic Life - Scenario Reproduction Installation Keywords: installation | immersive experience | remote

**CHAPYER 5** 

21

19

5

**CHAPYER** 

**#Virtual reality** 

• Vol-01 • Edi-03• 15

June 2022

#### 未来主义-

#### FUTURISM | RECONSTRUCTION OF THE UNIVERSE

#### **ARCHITECTURE**

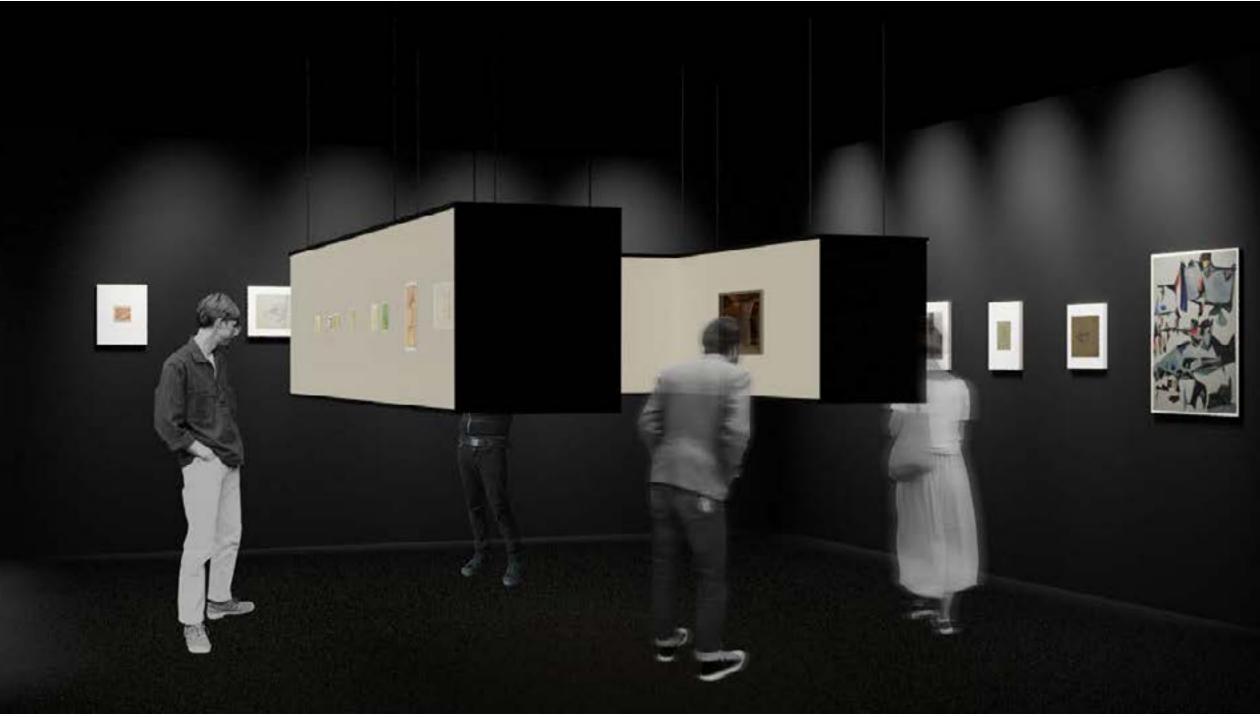
TSINGHUA UNIVERSITY ART MUSEUM

Works in the architectural section include architectural sketches by Antonio Sant'Elia and architectural drawings and stage models by Virgilio Marchi. Anthony Sant'Elia is a representative figure of futuristic architecture. Before modernism became popular, he predicted the architectural scene of today - cement, steel, glass and textile fibers will replace the traditional wood and stone and become the new future of futuristic architecture. Material. But his most iconic work is not included in the exhibit. In his most important work, Città Nuova, Santa Elia argues that the primary task of an industrial age city should be to facilitate transportation in the most efficient way possible.

The futuristic stage performance is reproduced using virtual technology and perspective effects. At the same time, the form and material of the space installation are combined with the modern form advocated by futuristic architecture. The stage model mainly shows the stage model of the first act and the third stage designed by Virgilio Marchi for the famous historical stage play "Boris Godunov", showing the scene of the spring festival in Florence.



"Boris Godunov", opera



#### Futuristic Architecture - Stage Performance Installation Keywords: installation | immersive experience | remote

That Futurist architecture is the architecture of calculation, of audacious temerity and of simplicity; the architecture of reinforced concrete, of steel, glass, cardboard, textile fiber, and of all those substitutes for wood, stone and brick that enable us to obtain maximum elasticity and lightness;

That Futurist architecture is not because of this an arid combination of practicality and usefulness, but remai art, i.e. synthesis and expression.

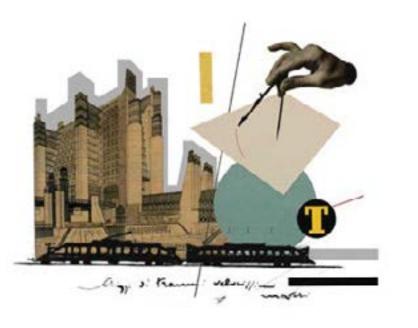
> Manifesto of Futurist Architecture **Antonio Sant'Elia**

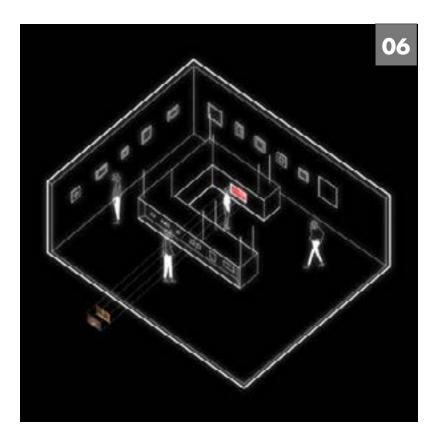




"Boris Godunov" Act 1 Scene 3 Virgilio Marchi Stage Model, ca.1930

## Costellation5 **FUTURE ARCHITECTURE**





2022/10/4

INTERIOR AND SPATIAL DESIGN, Politecnico di Milano

#Virtual reality

#Virtual space

#Museolog

#exhibition design

#Digital media

20

# CHAPYER 5

#### 21

#### exhibition effect



**#Virtual reality** 

At present, due to the development of information technology, both the environmental design industry and the Internet industry have entered a state of saturation. Environmental design has been able to use a wealth of technical means to realize various complex spatial forms. Since postmodern, the breakthrough of spatial forms and the process of visual art have also been inseparably linked, and contemporary art has been separated from the form itself, thinking about space. It should also be detached from the material itself space is a social product, but also has a political nature. For such public spaces as exhibitions, it is necessary to consider the relationship between space and society in order to clarify the form, content and needs of exhibition design.

The saturation of the Internet 2.0 stage has made more social resources pour into the development of Internet 3.0. All sectors of society are full of expectations for the experience era of the Internet of Everything, and people can't wait to develop virtual space. This confirms Baudrillard's speculation about virtual reality to a certain extent. Virtual space allows the curatorial team to create, quantify, and enhance various exhibition experiences, but as an environmental designer, what should be paid attention to is how to use virtual space reasonably to optimize the exhibition, so as not to over-rely on, abuse and lose the spirit of the exhibition itself. . Since the process of building a fully virtualized space and the participating designers are different from traditional physical spaces, the study of the essential functions of museums and exhibitions also provides a reference for the designers of virtual spaces for user needs and experience.

#### **Future Outlook**

With the upgrading of the virtual space in China, more images, digital art, and new media art will be added to the exhibition. As environmental designers, we still need to consider how to make better use of the resources in the exhibition space to display works such as these. While the viewing experience of the audience is constantly upgrading, we should also increase more crossdepartmental cooperation to show how the exhibition is presented.

Virtual technology provides super-ordered means for space design. Due to various physical constraints, the solutions provided by virtual space also have many new opportunities for realization of architectural designs on paper. Environmental designers can serve as a new direction of exploration in the future.

The Internet has accumulated a huge user base, and virtual space has actually opened a more "democratic" entrance for exhibitions. Virtual space will become a new virtual world and become a communication platform and exhibition. Designers and curators can use this "entrance" to give the public a better education and experience.

2022/10/4