

# UNDER THE SKIN

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The theme of the exhibition, Under the Skin, is based on research into people's exploration of their own bodies, exploring the changes that have accompanied the internal world of the human body from the microscopic to the macroscopic, and understanding the progress in the way people have explored the internal world of the human body. This theme of the different levels of the human body creates a vertical space of content from which to begin to explore the relationship between the theme and the space.

## **Chapter 2 Spatial Development 12-----25**

At this stage, the form of the space began to develop further, and it began to explore how vertical curatorial ideas could be incorporated into the space to form the foundation form of the space. The use of colour, the basic layout of the space, the basic form of the stand, the use of audio-visual and multimedia, and the specific details between the different floors are explored to refine the feeling of being in the space at this stage.

## **Chapter 3 Final Outcome 26-----61**

At this stage the final detailed part of the design is determined, the flow and transformation of the specific space, the display of exhibits on the exhibition walls, the use of multimedia in the space, and the detailed immersive spatial experience with people. Through this exhibition the viewer is expected to understand the change in scale from macro to micro within people's bodies and to contemplate whether there is a more micro world in the future that brings more thought.



# Chapter 1

## Concept Development

The theme of the exhibition, Under the Skin, is based on research into people's exploration of their own bodies, exploring the changes that have accompanied the internal world of the human body from the microscopic to the macroscopic, and understanding the progress in the way people have explored the internal world of the human body. This theme of the different levels of the human body creates a vertical space of content from which to begin to explore the relationship between the theme and the space.

# CONCEPT

The curiosity to explore the world within and beyond humans is endless, and the question of what makes a human being, and what humans are made of, has been explored since time immemorial. The theme of this exhibition, Beneath the Skin, takes us on a journey from the macrocosm to the microcosm of the human body, to consider how people are built, how they work together, and even what people are made of. From the advent of anatomy, people began to recognize the basic levels of organs and muscles, to the invention of scientific instruments such as the microscope, people began to explore the cellular level, and nowadays, through the electron microscope, people can clearly recognize the double helix structure of DNA and even explore the electrons formed within amino acids. and neutrons. Whether it is to heal the human being or to satisfy the curiosity to explore the composition of the self, the search for the inner self is endless, often accompanied or aided by scientific progress and the invention of medical devices at different stages. This exhibition takes a longitudinal look at the process of moving from the macroscopic to the microscopic within the human body. And with future technological developments, is it possible to access the more microscopic world?

1 Outside appearance of human body  
Showcases depictions of people's appearance from ancient times and explores the external organs and functions of people.

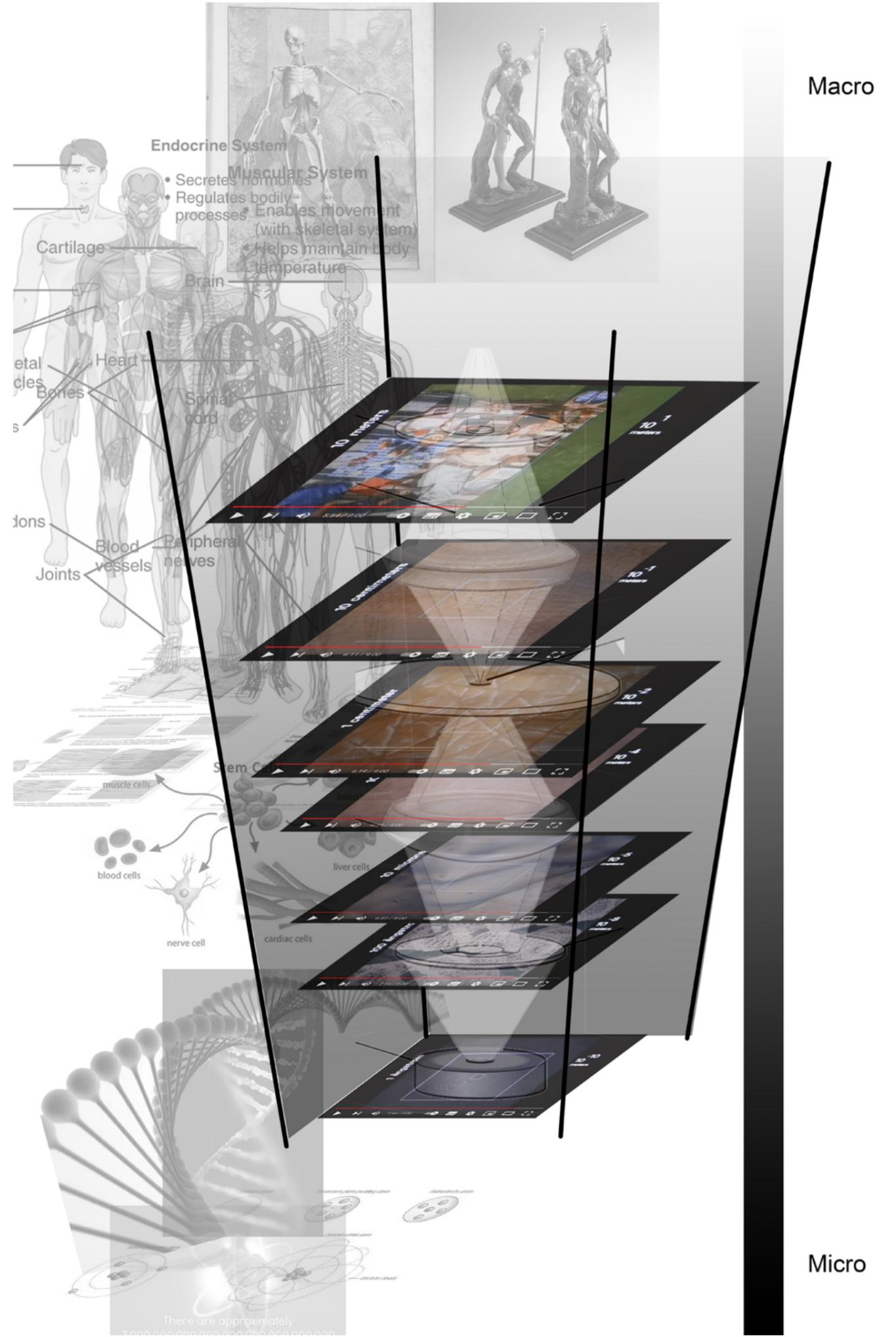
2 Organs  
With the advancement of primitive basic medicine and anatomy, one can clearly know the internal organs of the human body, the distribution and functions of the five internal organs, etc.

3 Tissues  
With the invention of the primitive microscope, it became clear that organs, for example, were made of tissue, and that the form and function of the different tissues made up of different organs were very different.

4 Human cells  
As science progressed and modern medical devices such as microscopes became available, people began to recognize that different tissues and organs are made up of different types of cells to do their work and that the form and function of different cells are very different.

5 Chromosomes and DNA  
After the invention of the electron microscope, people became aware of the double helix structure of specific DNA and began to study the effects and changes of genes on people's bodies.

6 Electrons, neutrons, and protons  
With the invention of mass spectrometers and other instruments, people began to explore the world of microscopic particles, but they still could not really see this microscopic world, only the trajectories of particles with the help of instruments.

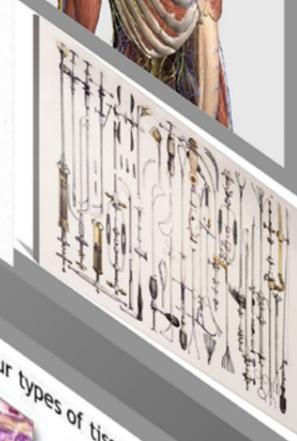
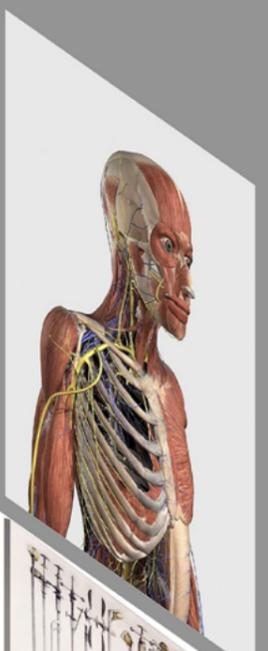
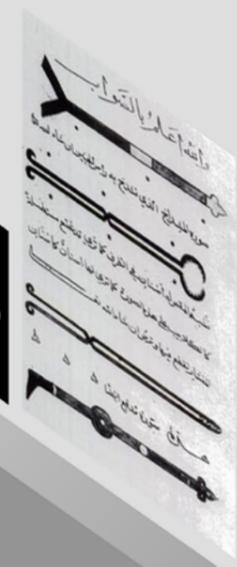


CONCEPT OBJECT

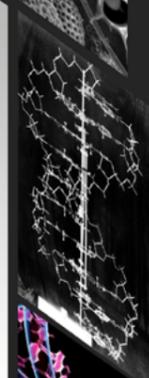
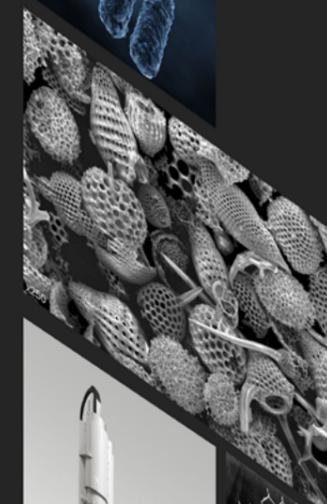
Macro



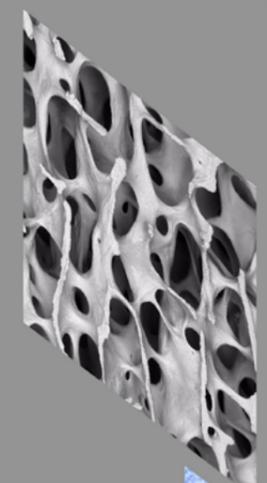
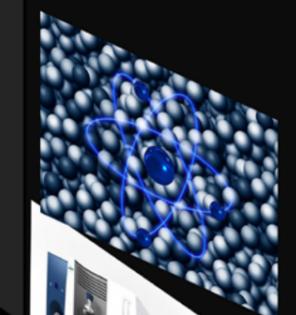
1 Ancient historical anatomy  
Archaeological historical evidence  
Archaeological human skeleton  
Ancient paintings of the human skeleton



4 Chromosomes and DNA  
Electron microscope  
Information on the invention of the electron microscope  
DNA double helix structural model  
Gene editing information



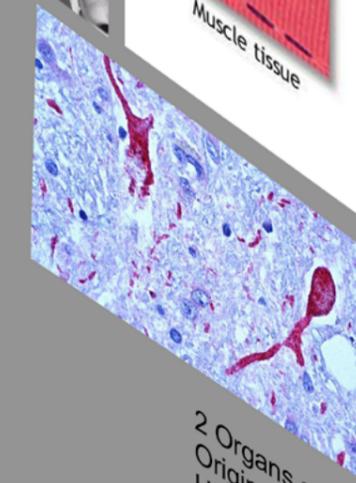
5 Electrons neutrons, and protons  
Mass Spectrometer  
Mass Spectrometer information  
Can we observe microscopic particles?  
A model for the operation of microscopic particles



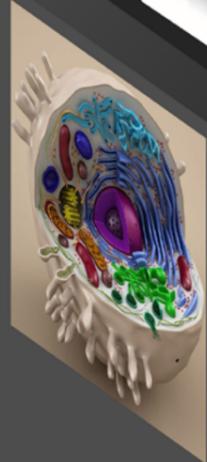
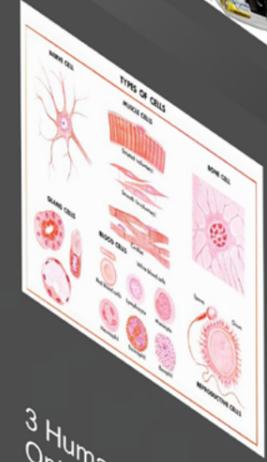
Four types of tissue

Connective tissue	Epithelial tissue
Muscle tissue	Nervous tissue

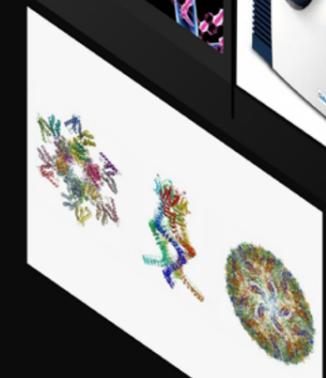
ADAM



2 Organs and tissues  
Original textbook of anatomy  
Human organ tissue specimens  
Anatomical instruments  
Human organ tissue statues



3 Human cells  
Optical microscope  
Microscopy research material  
Human somatic cell model



Micro

# CONCEPT VISUAL

MACRO

OLD

HUMAN INTERIOR WORLD

THE SCIENTIFIC METHODS

Outside Human



Human Drawings



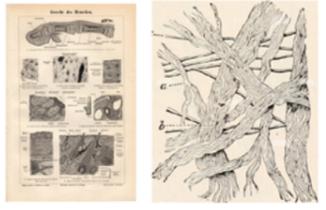
Human Organs



Anatomical Instruments



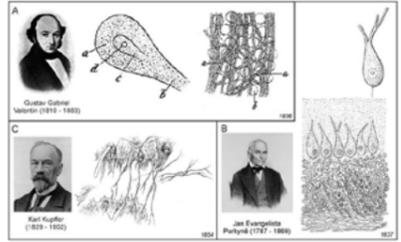
Human Tissues



Primitive Optical Microscope



Human Cells



Optical Microscope



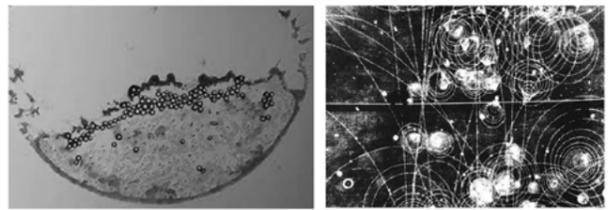
Human Chromosomes and DNA



Electron Microscope



Microscopic Particles



Mass Spectrometer

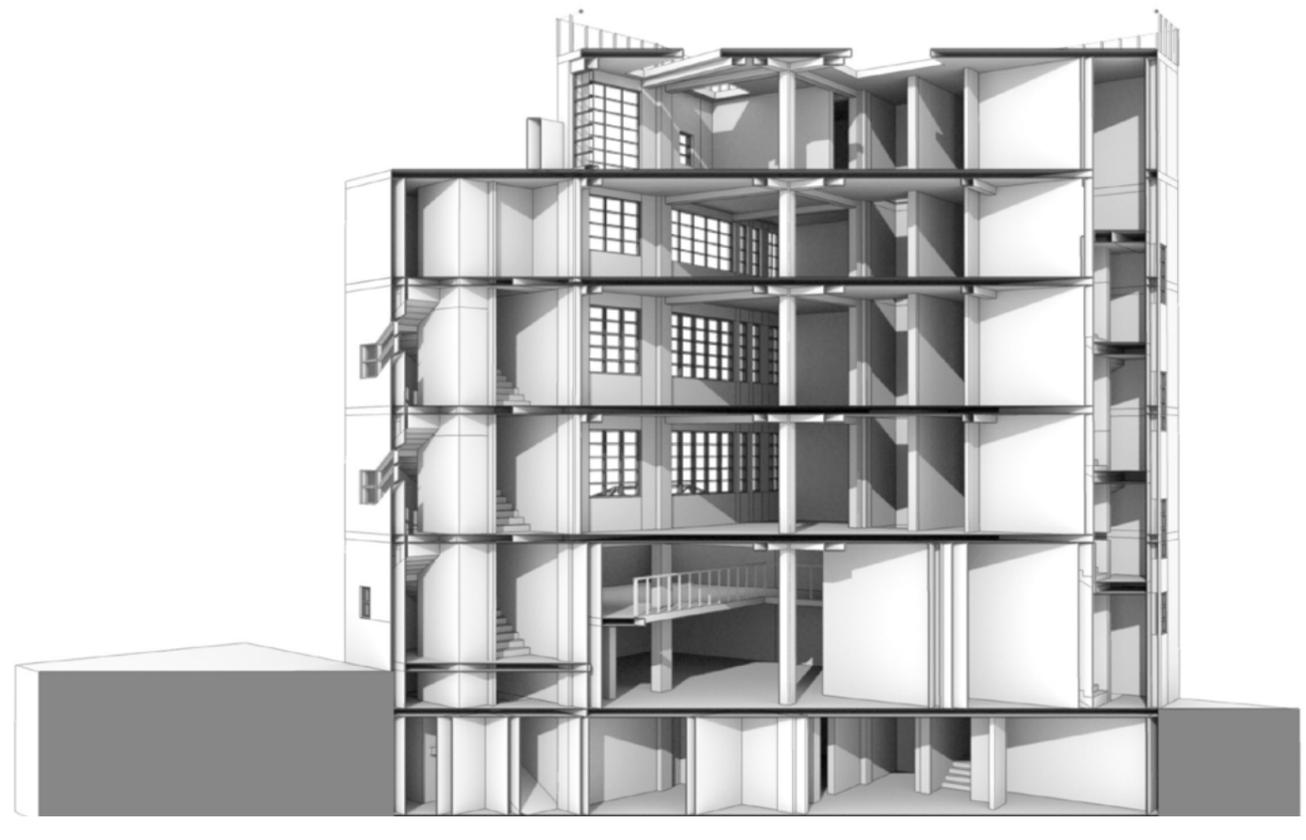
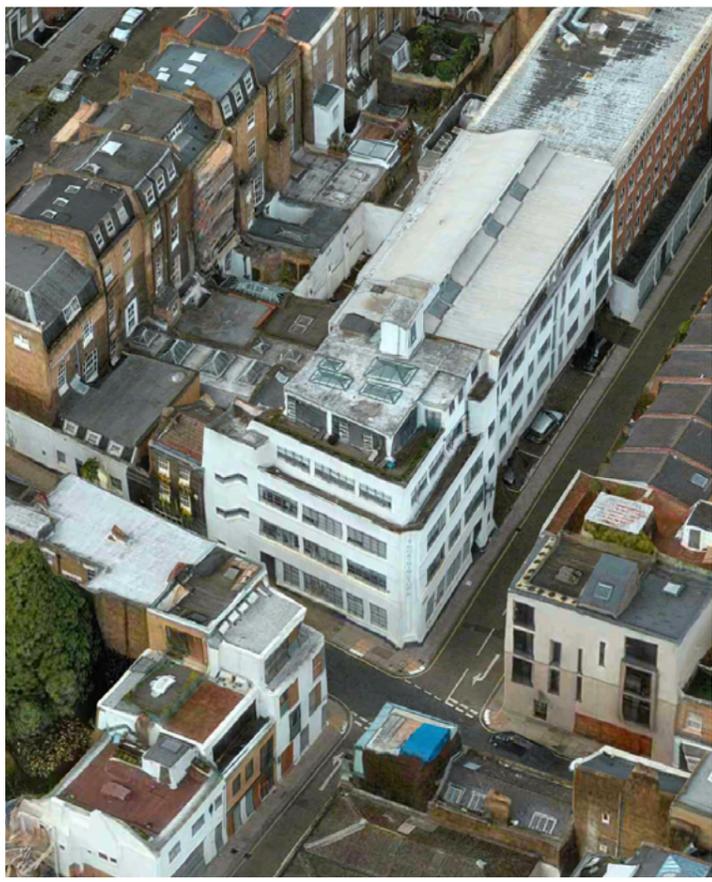
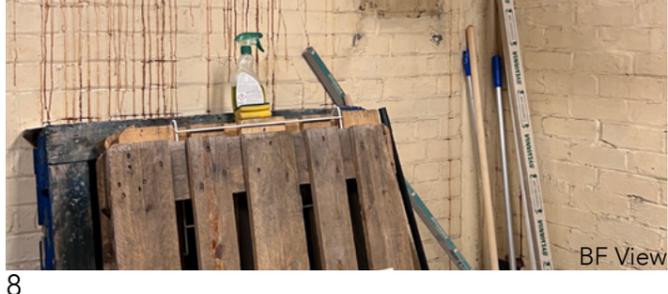
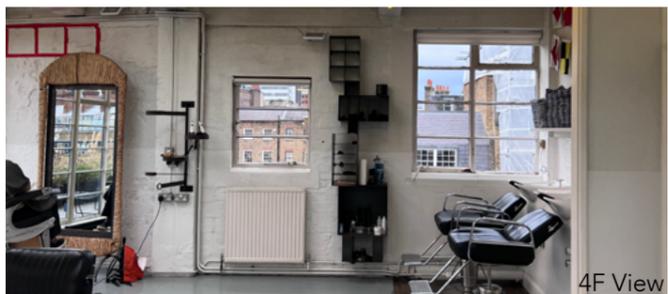


MICRO

NEW

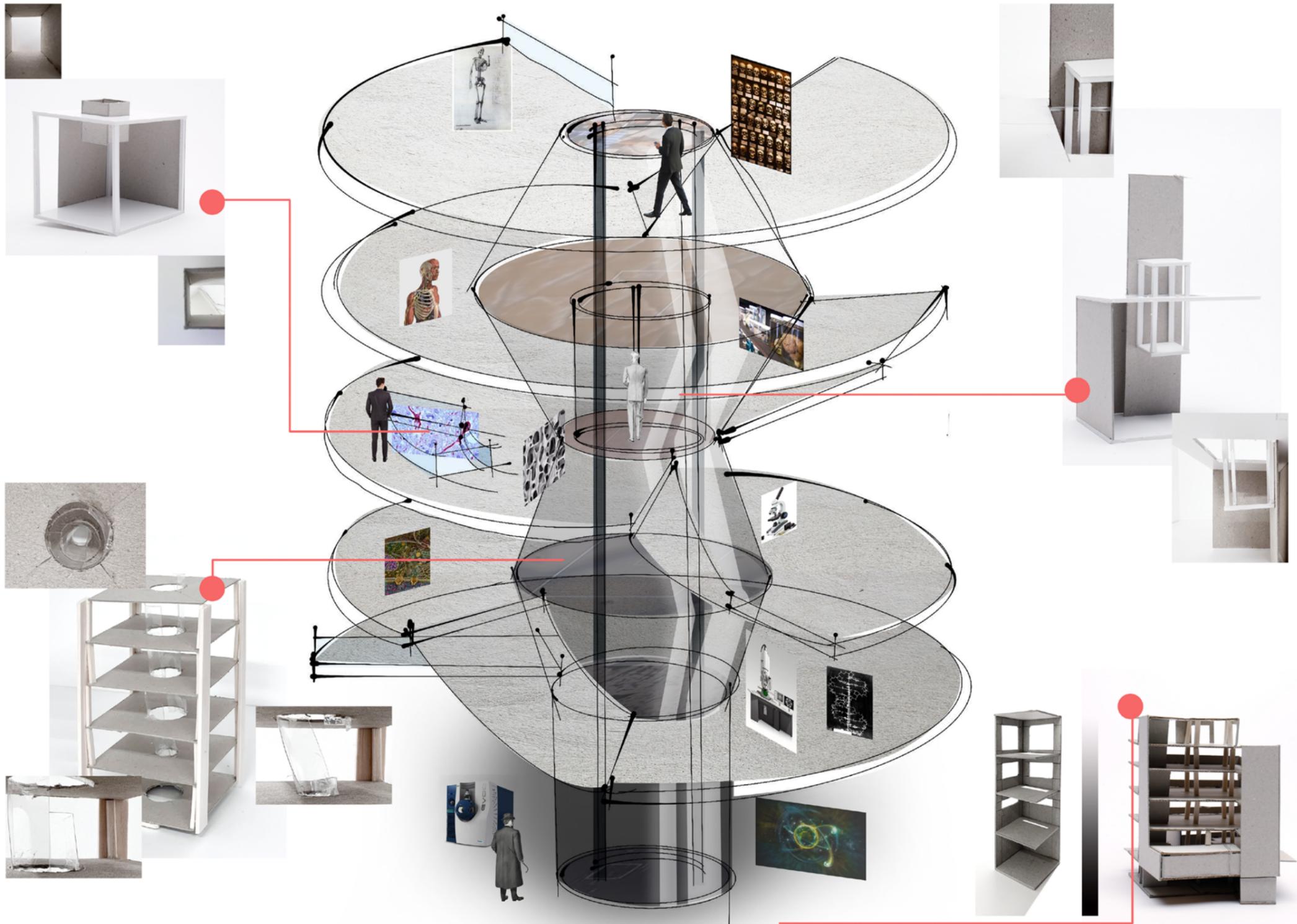
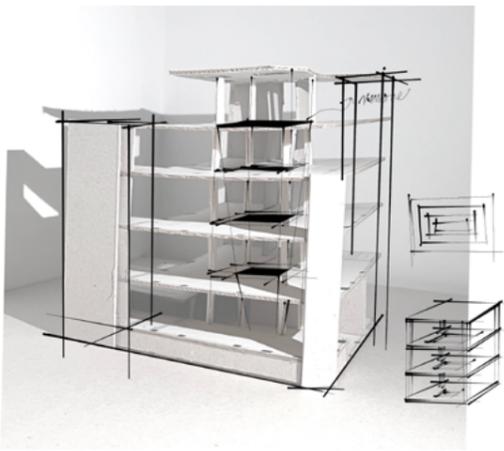
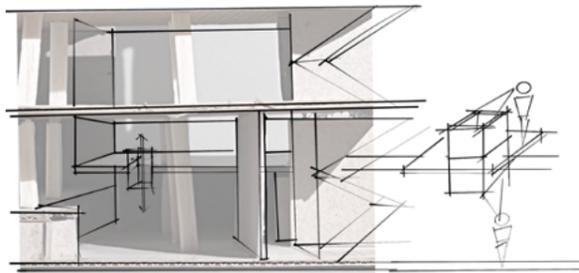
# SITE

The exhibition site is located at WC1N 2JG in London and is a white building with five floors above ground and one below. The level of the building is the same as the level of the human body being explored, which better facilitates the implementation of my exhibition aims and strategies.



# CONCEPT MODEL 1

The model explores people's visual relationships in vertical space, in a microscope-inspired exploration of how people explore the internal world of the human body through the lens of a microscope from the macro to the microscopic. The conceptual model is extrapolated to transform the microscope into a transparent circular lift that runs through the whole space and incorporates different visual variations of space.



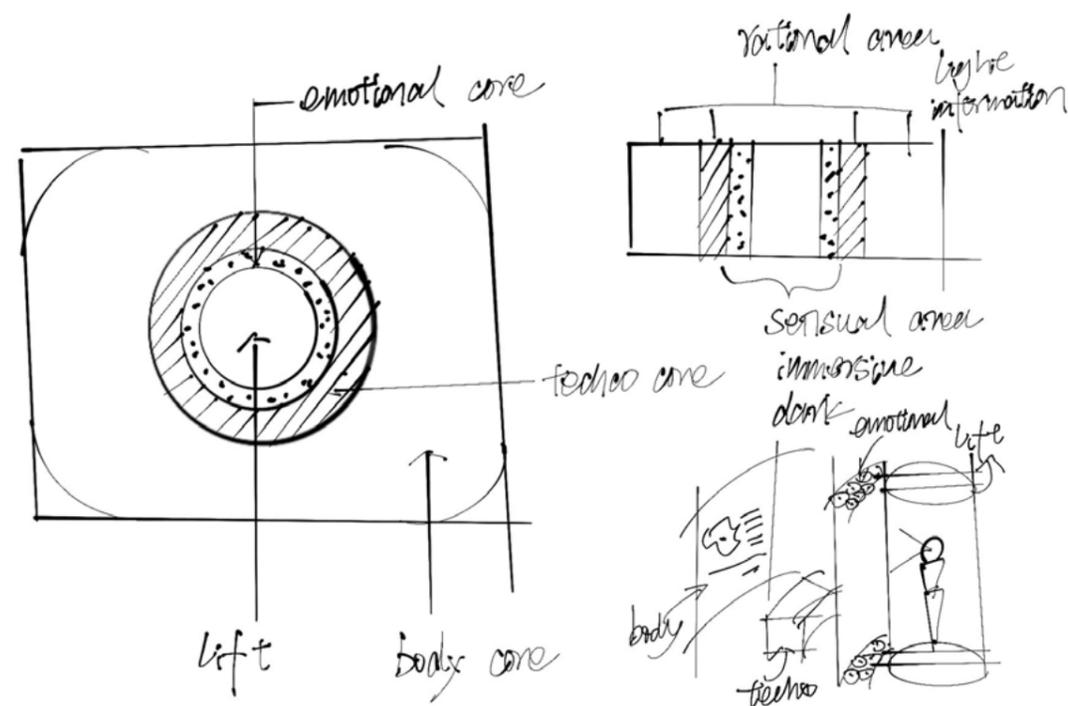
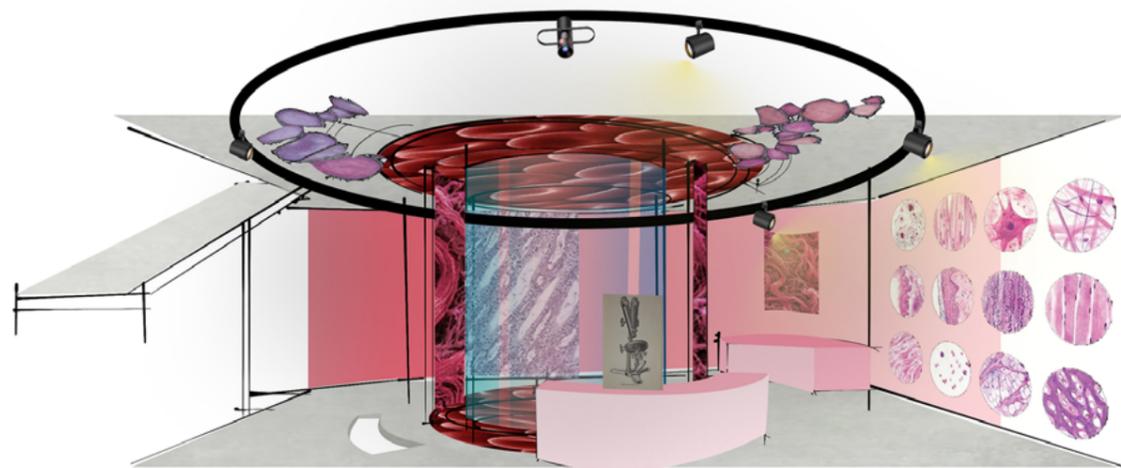
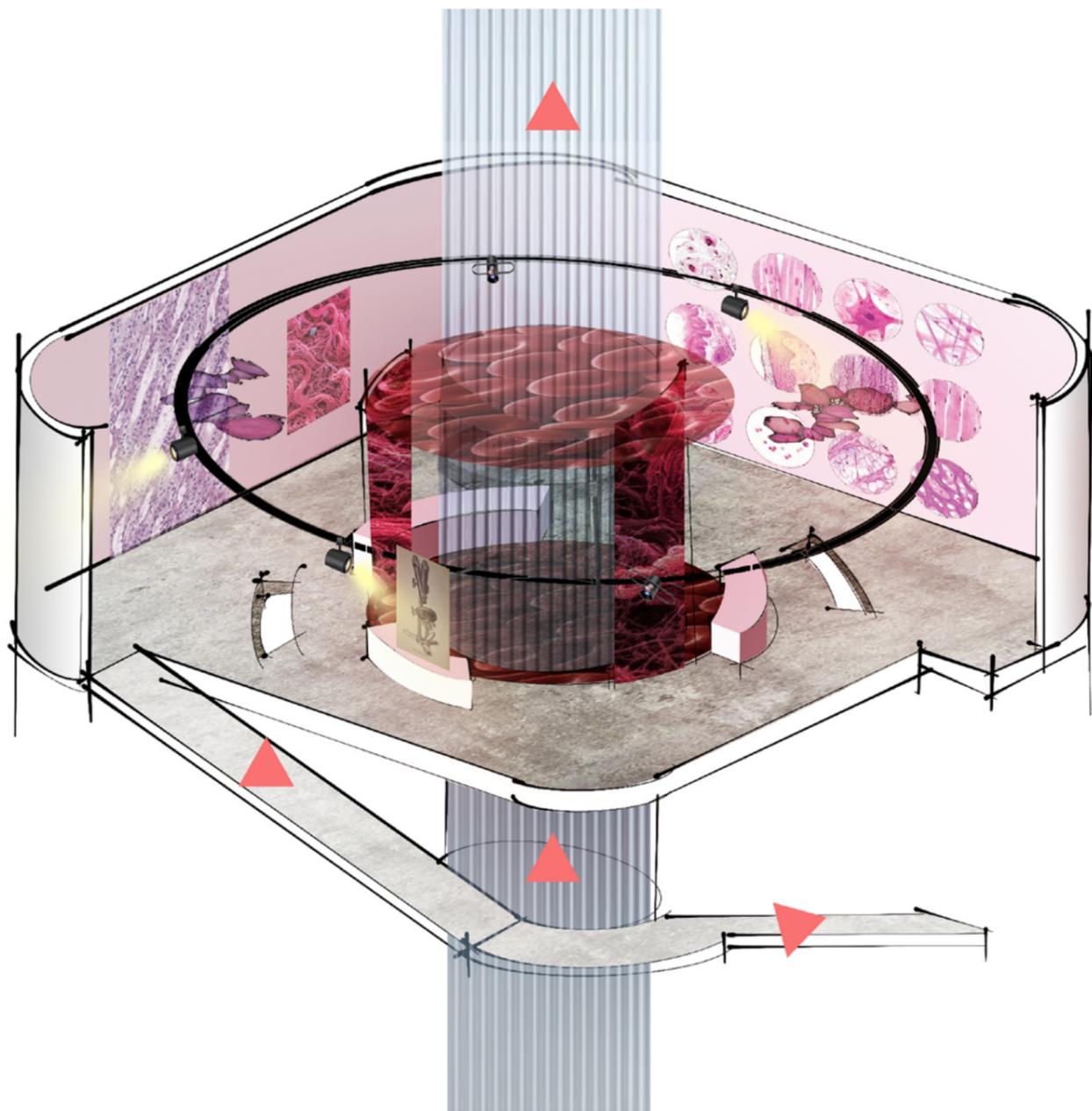


## **Chapter 2**

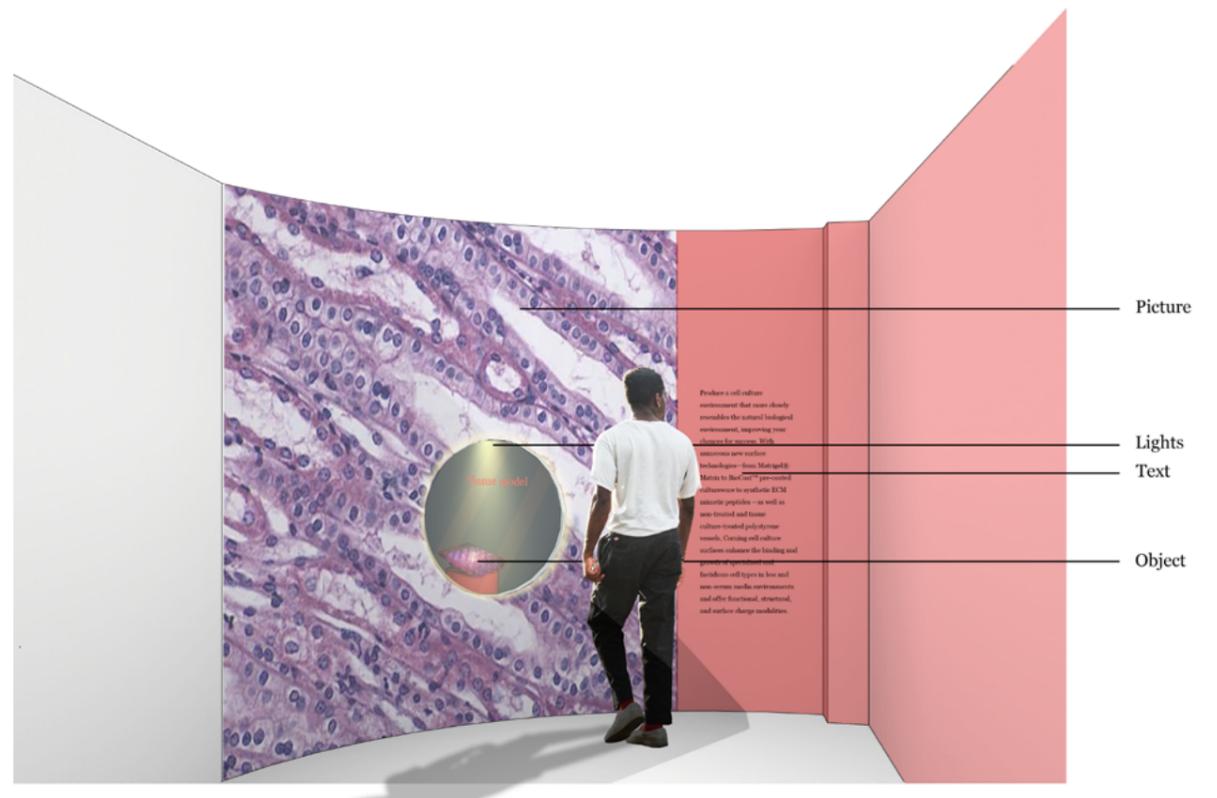
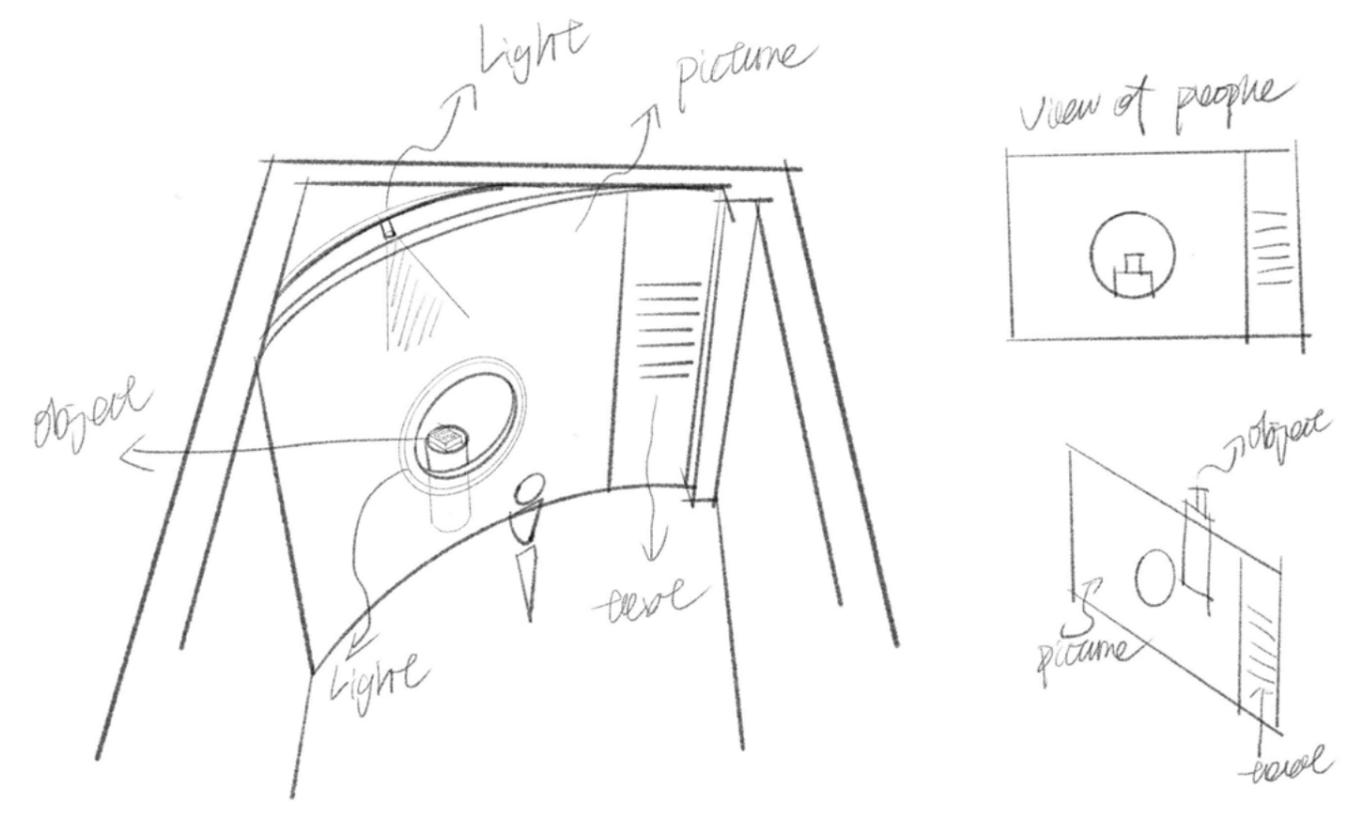
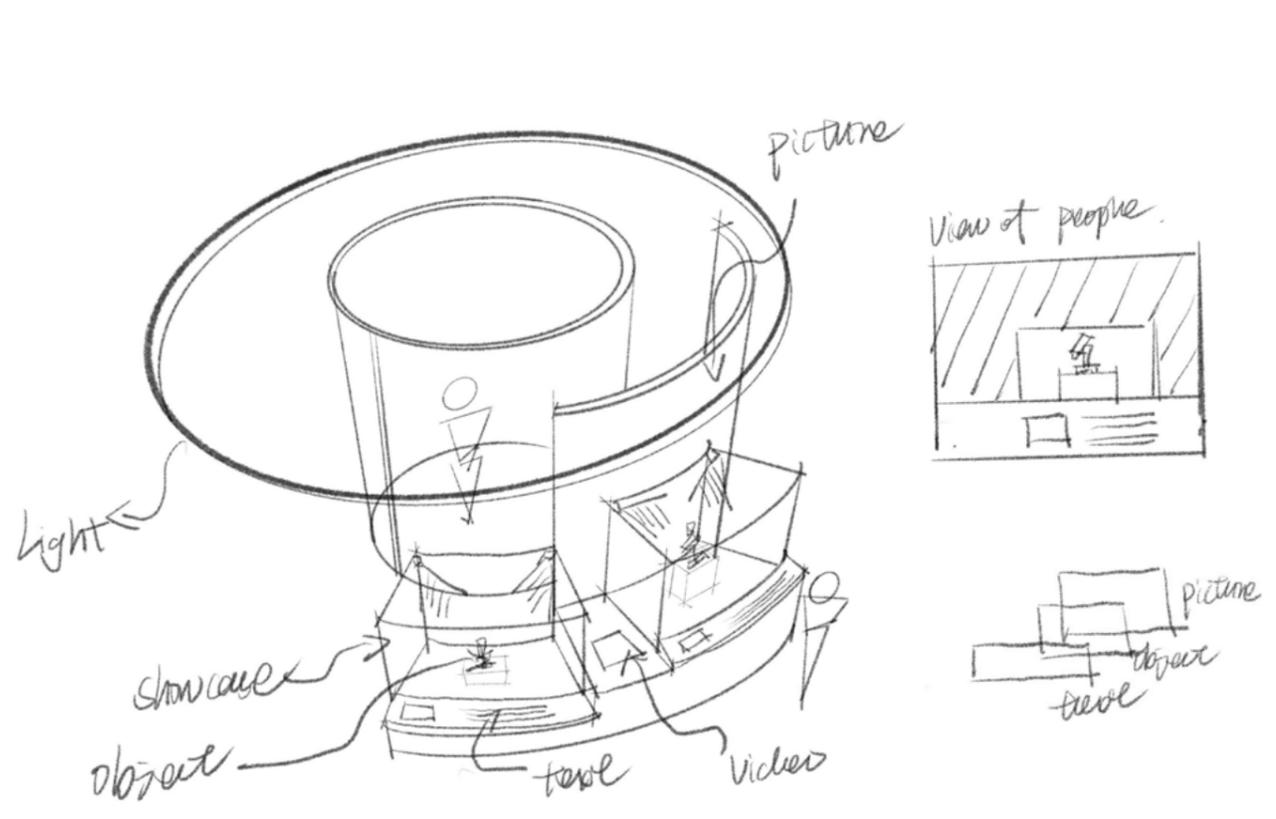
# **Spatial Development**

At this stage, the form of the space began to develop further, and it began to explore how vertical curatorial ideas could be incorporated into the space to form the foundation form of the space. The use of colour, the basic layout of the space, the basic form of the stand, the use of audio-visual and multimedia, and the specific details between the different floors are explored to refine the feeling of being in the space at this stage.

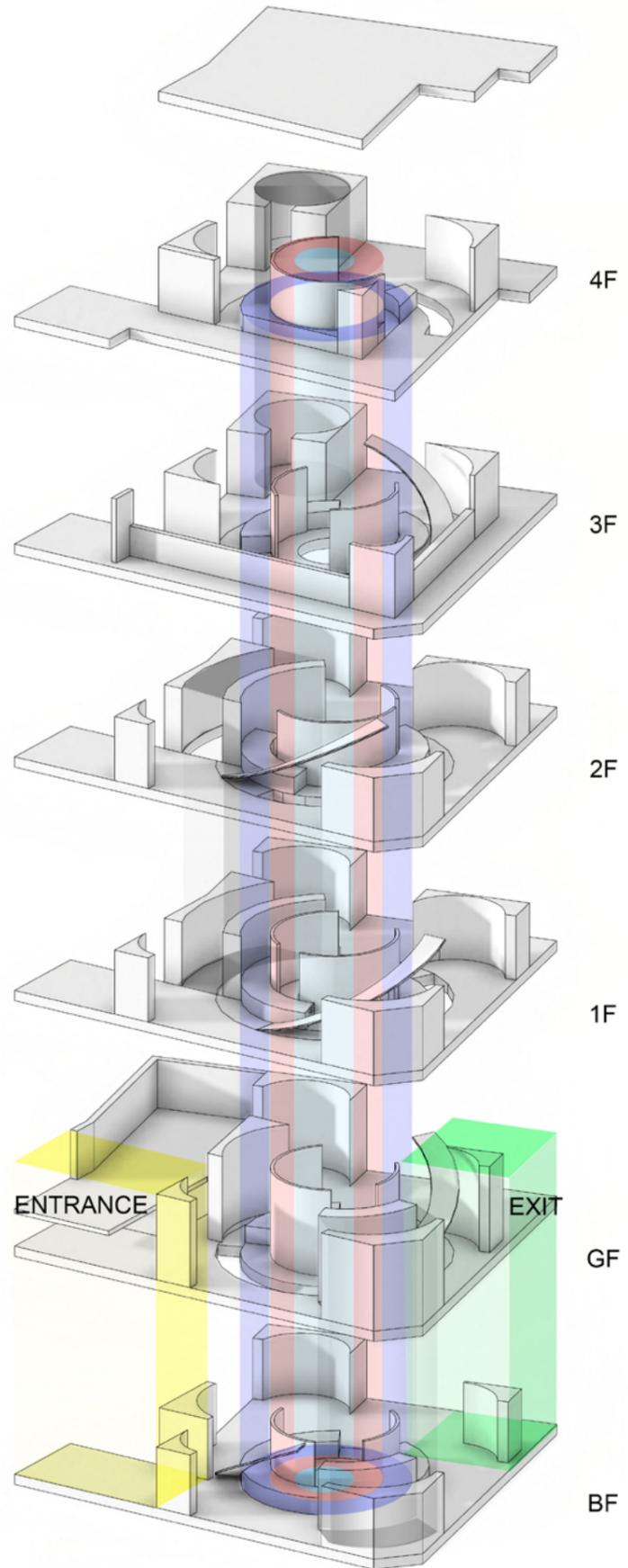
CONCEPT LAYOUT



CONCEPT DISPLAY WAY



# CONCEPT SPATIAL ANALYSIS

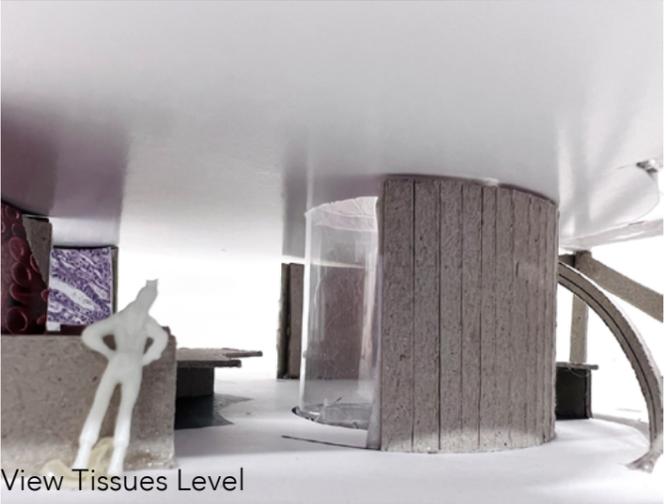


# CONCEPT MODEL 2

A conceptual model to explore the zoning and flow of the overall exhibition, and the underlying perspectives of the different layers of people. The concept model revealed that the ramp occupied much of the exhibition space and made the transparent glass concept developed from the central concept less visible, which was subsequently discarded in the design.



View Organs Level



View Tissues Level



View Cells Level



View Particals Level

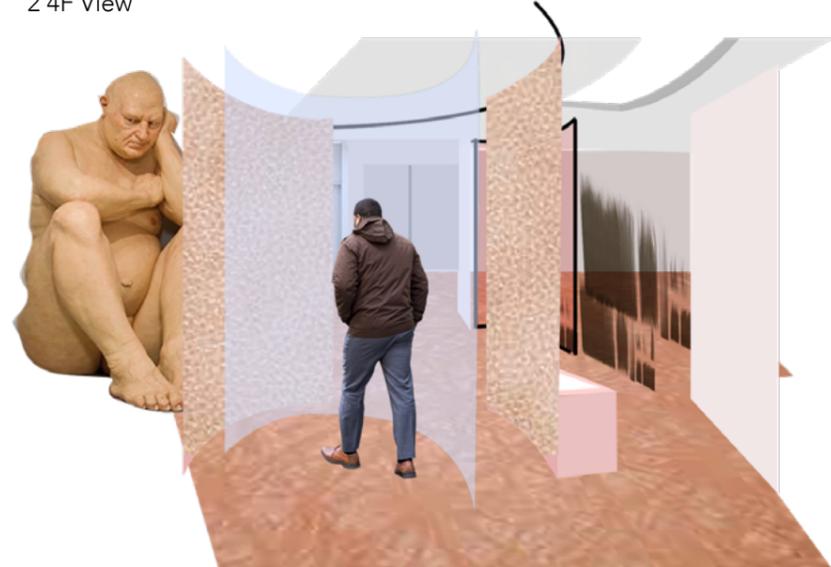
# STORYBOARD

The colours associated with the exhibits are chosen to create the atmosphere of the space, from the yellow of the skin to the pink of the cells to the blue of the DNA tech and the black of the particle world, naturally forming a gradient in the space to better help the exhibits and multimedia to enhance the viewer's experience of entering the human body and to better convey the cultural heritage of the exhibition.

1 Reception



2 4F View



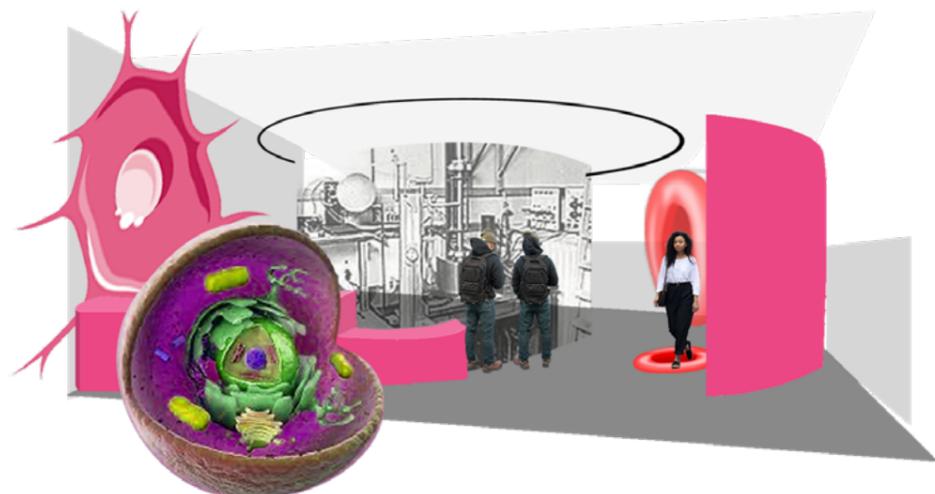
3 3F View



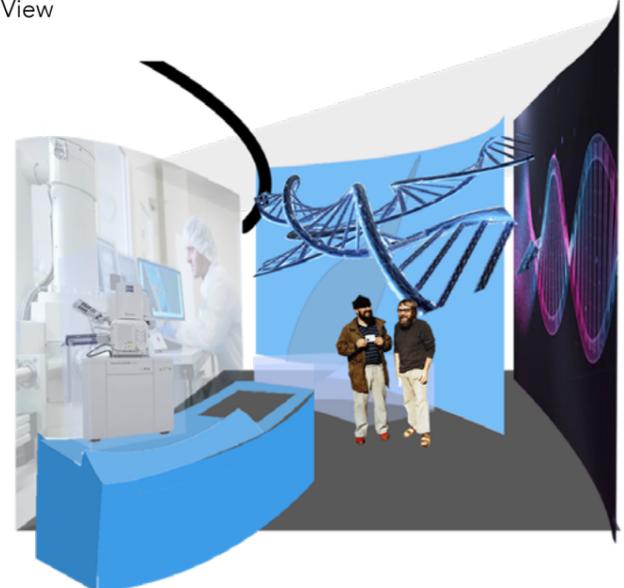
4 2F View



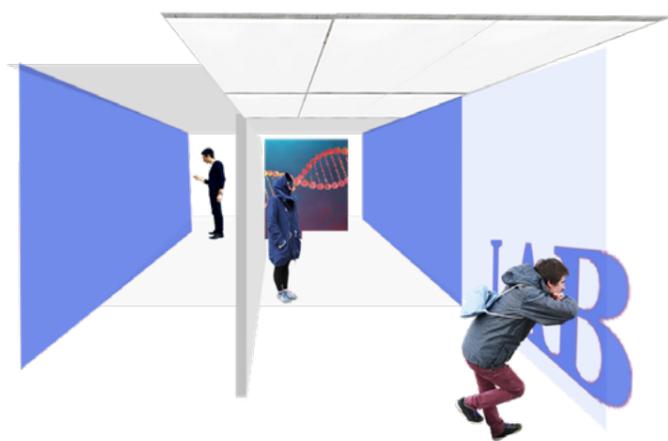
5 1F View



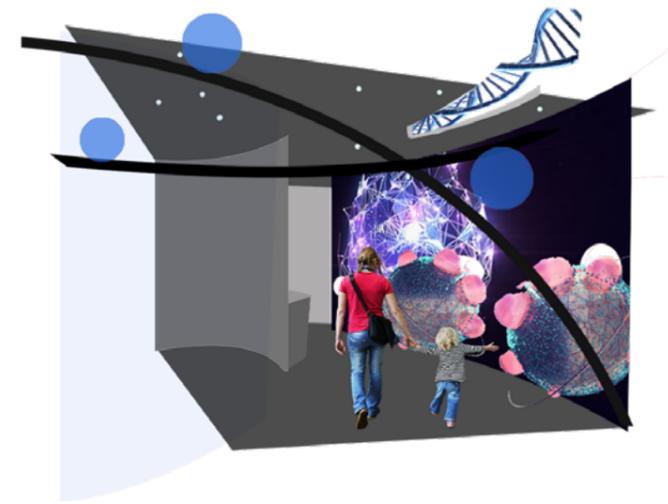
6 GF View



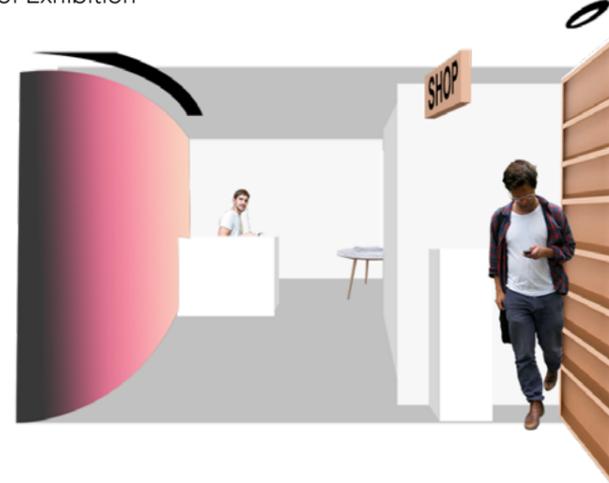
7 Lab View



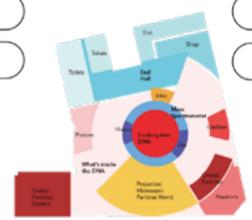
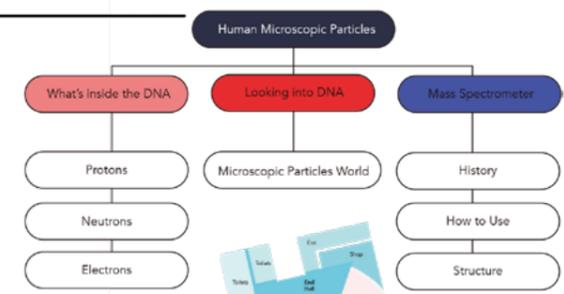
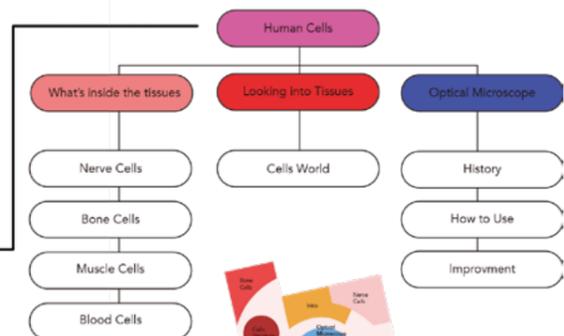
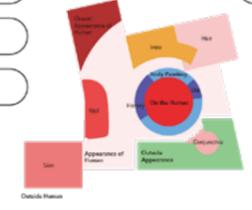
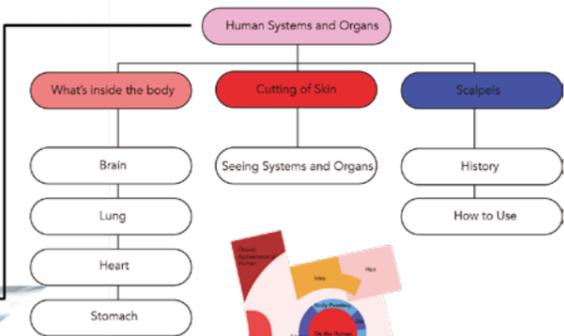
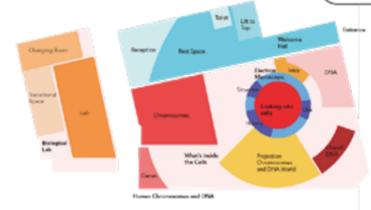
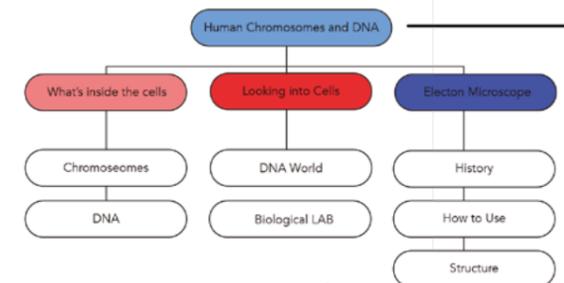
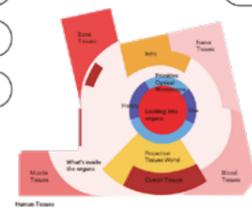
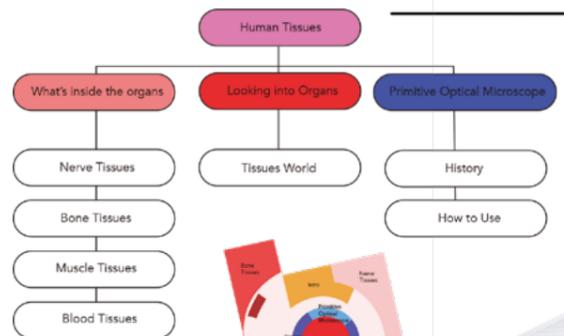
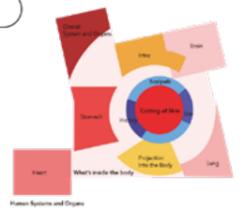
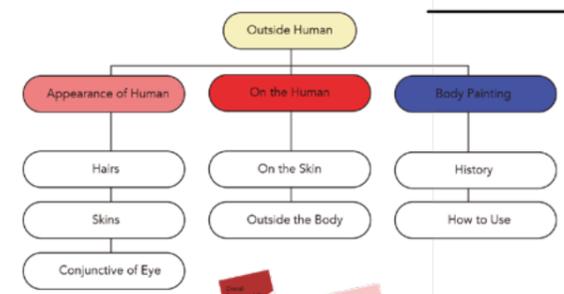
8 GF View



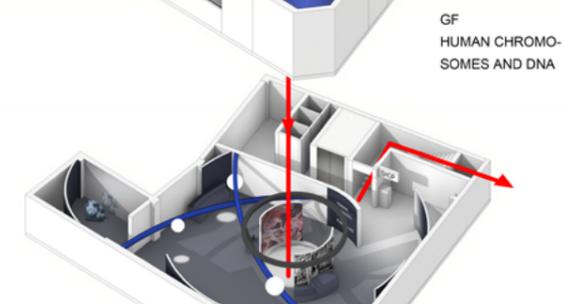
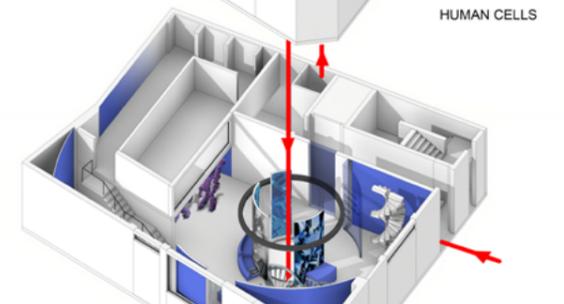
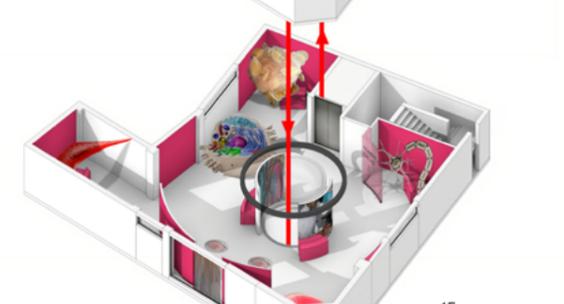
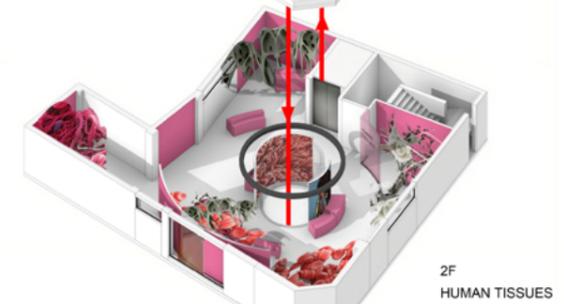
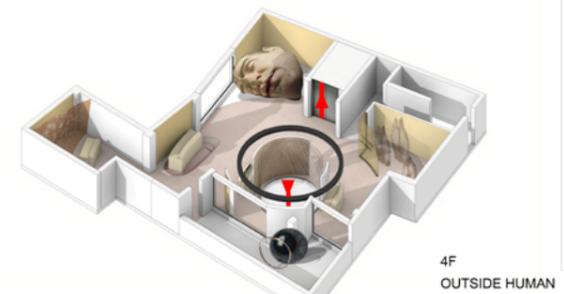
9 End of Exhibition



# CONCEPT STRUCTURE and THEMATIC PLAN

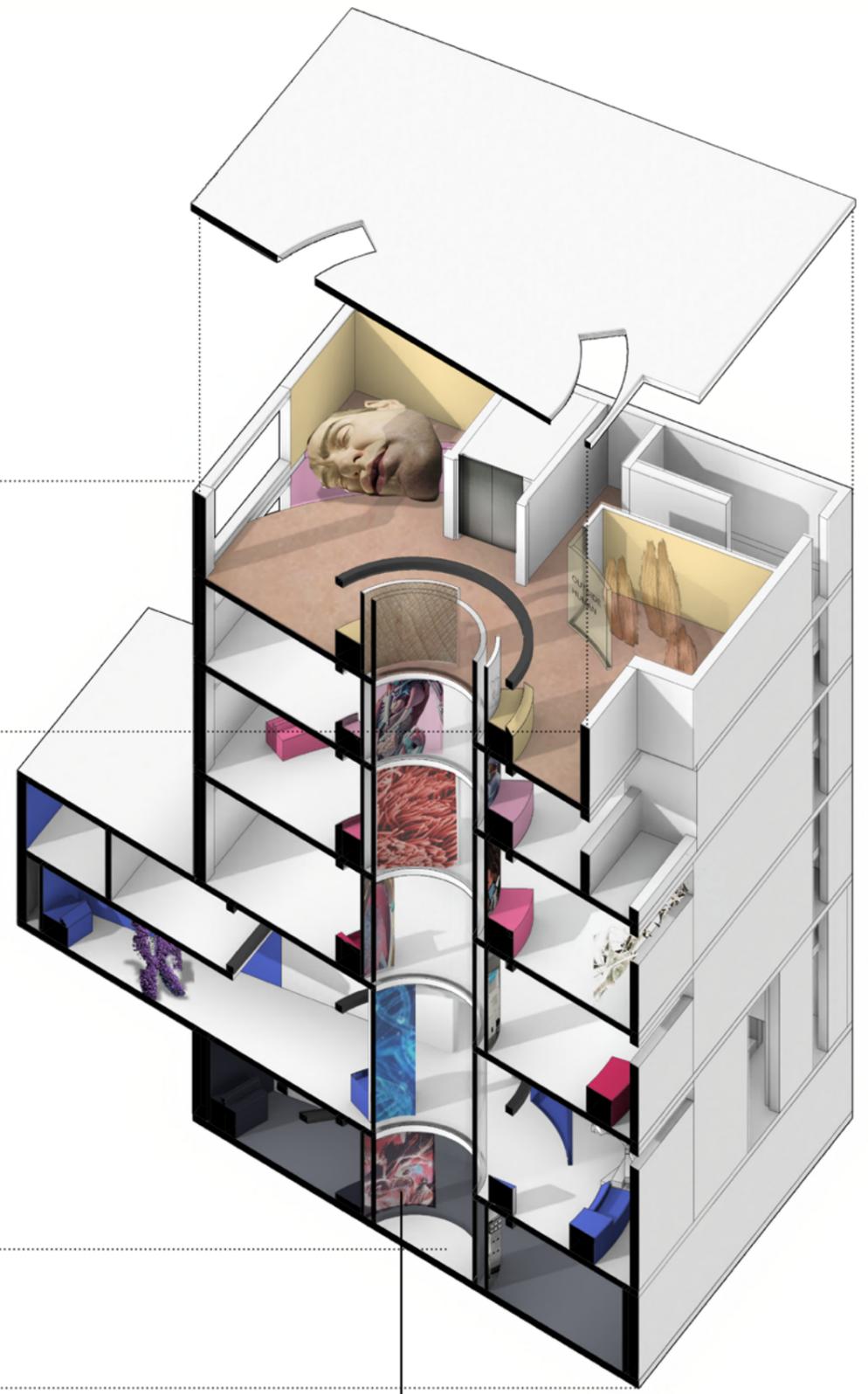
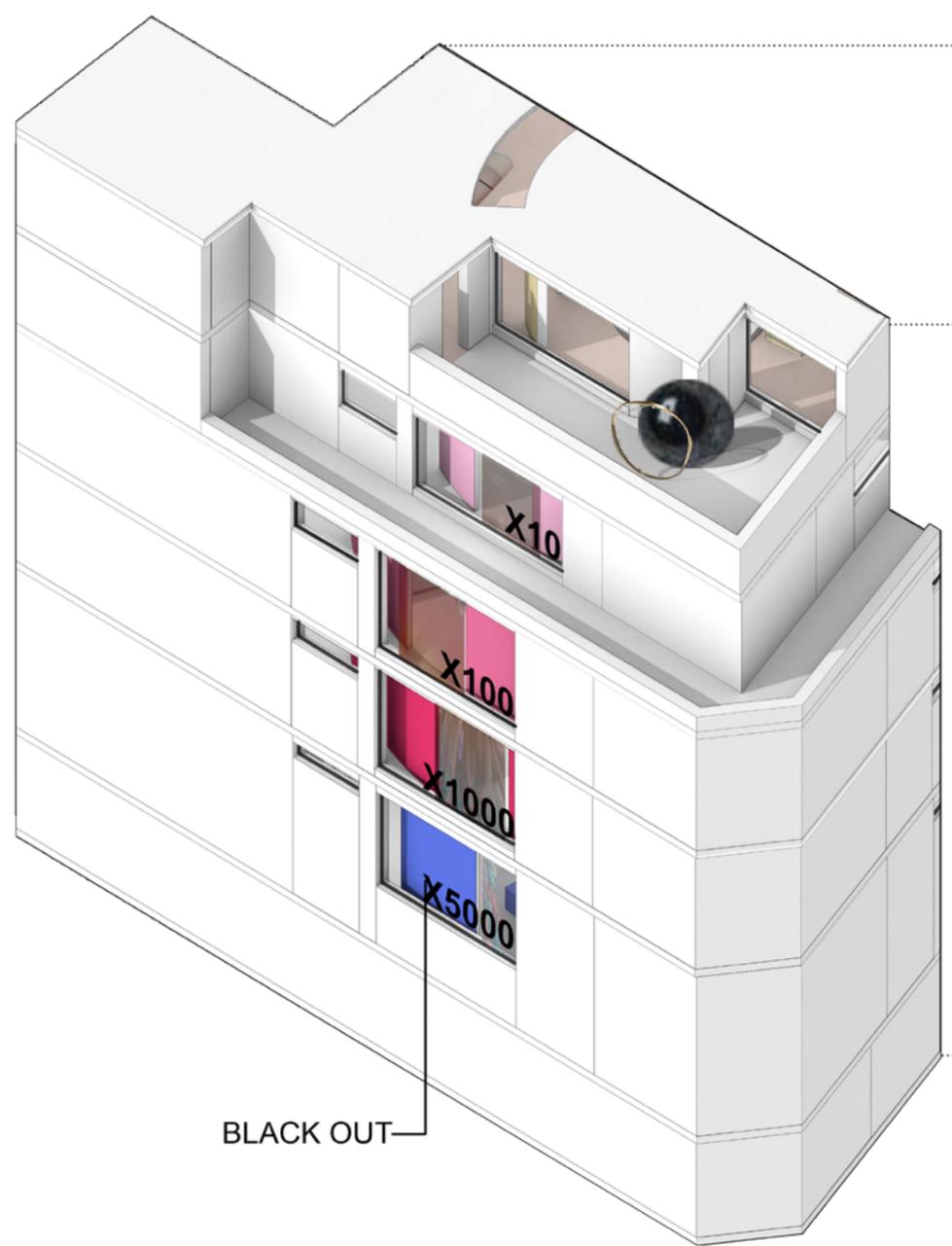


# CONCEPT AXO



# LIFT AV - LINK TO FRONT WINDOW

PROJECTION OUTSIDE VIEW



## **Chapter 3**

### **Final Outcome**

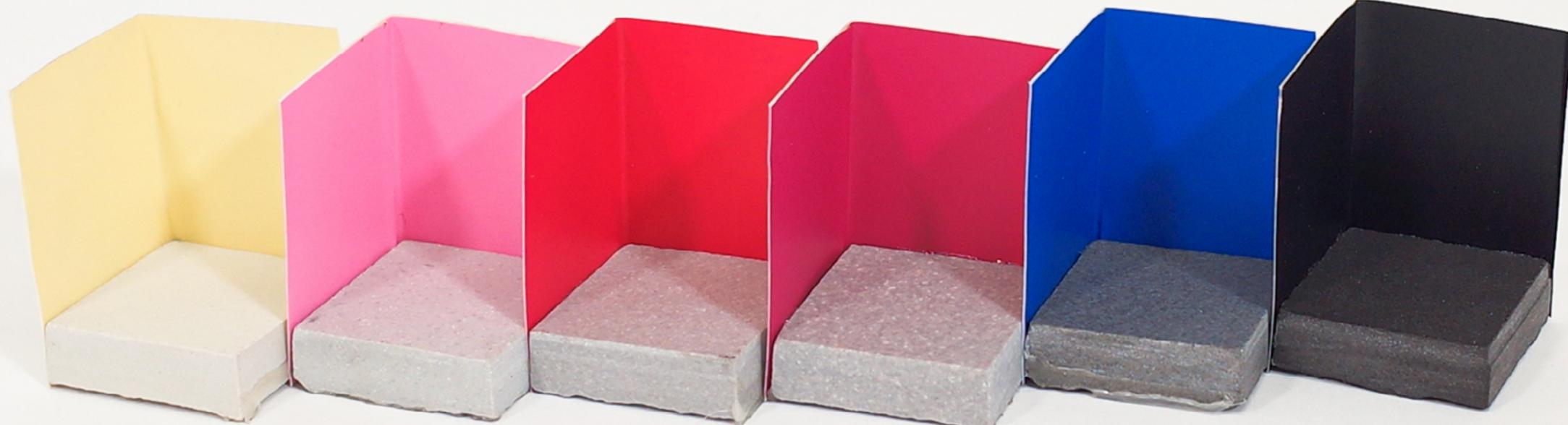
At this stage the final detailed part of the design is determined, the flow and transformation of the specific space, the display of exhibits on the exhibition walls, the use of multimedia in the space, and the detailed immersive spatial experience with people. Through this exhibition the viewer is expected to understand the change in scale from macro to micro within people's bodies and to contemplate whether there is a more micro world in the future that brings more thought.

# DAY TIME AND NIGHT TIME ANALYSIS





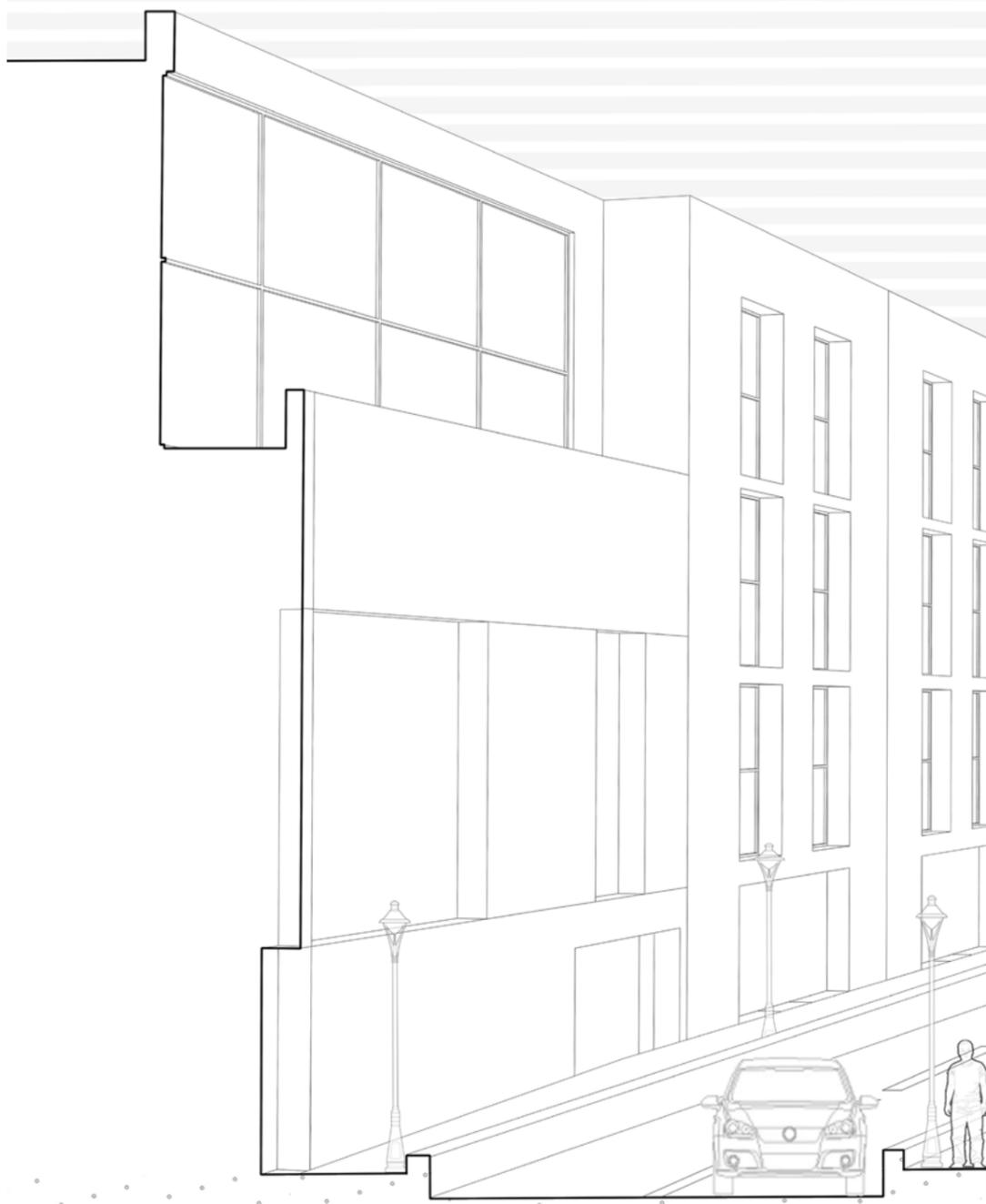
MATERIALS



CONCEPT MODEL 3



SECTION A-A



0 1M 3M 7M

SECTION B-B



4F APPEARANCE OF HUMAN

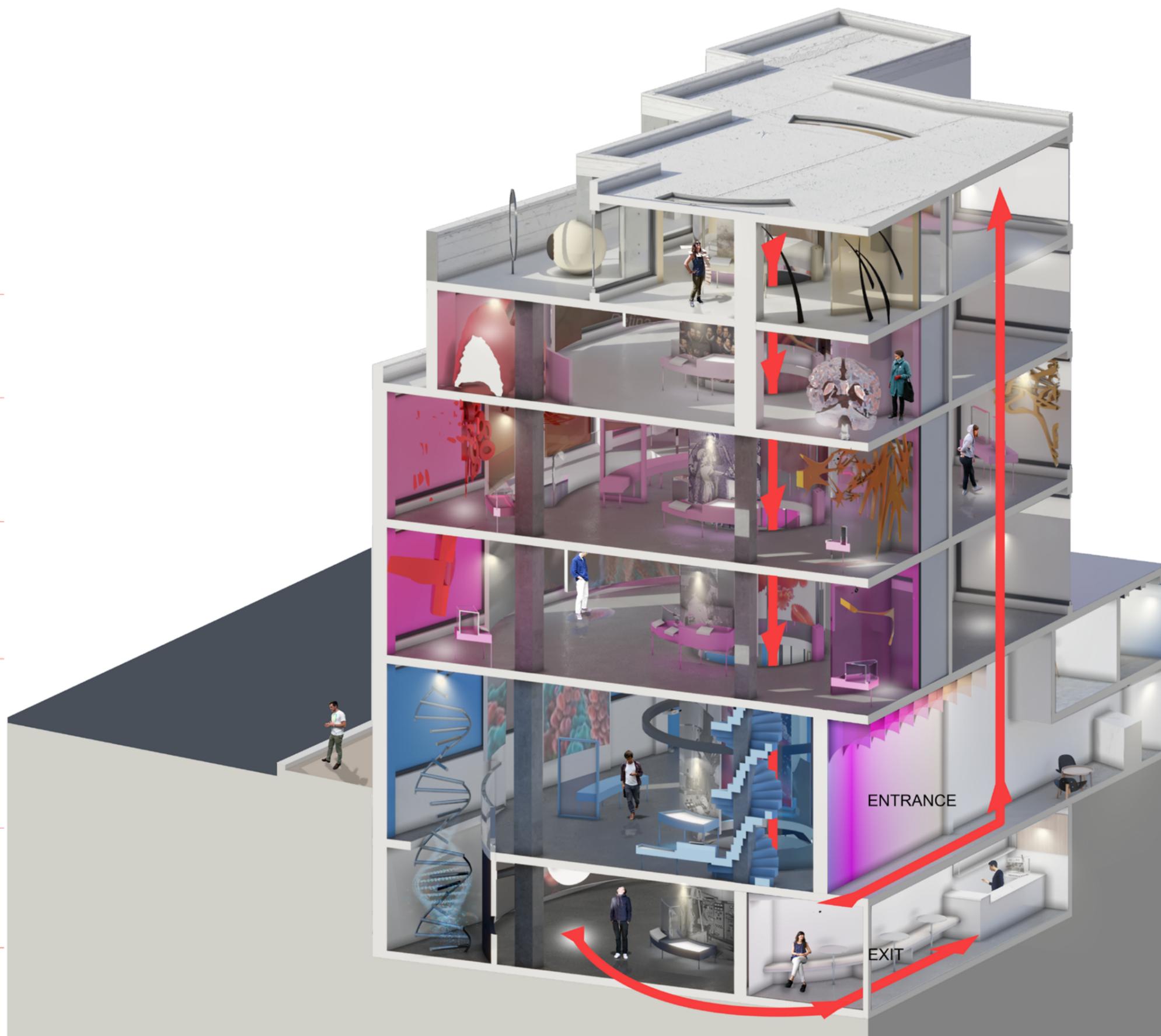
3F HUMAN ORGANS

2F HUMAN TISSUES

1F HUMAN CELLS

GF HUMAN DNA and CHROMOSOMES

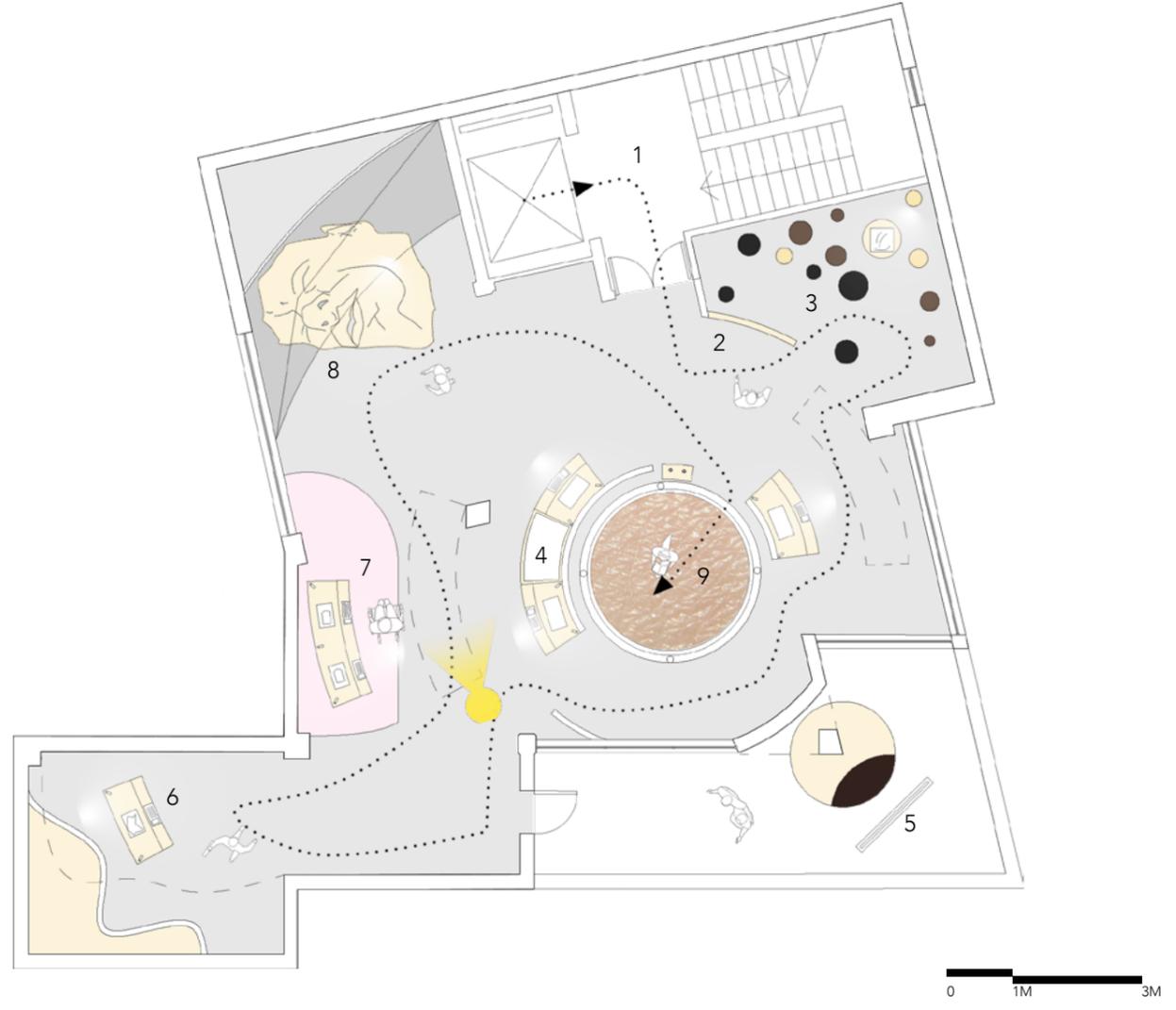
BF HUMAN MICROSOPIC PARTICLES



# 4F PLAN



Part of nail (?), bronze, date and provenance unknown  
 Human skin tattooed, French, 1850-1920, purchased from La Valette in 1929  
 Votive hair, carved from marble, probably Roman, 200BC-400AD.  
 Body paintings



- 1 Start of Exhibition
- 2 Intro
- 3 Hair
- 4 Appearance of Human Paintings
- 5 Outside Human Appearance
- 6 Skin
- 7 Nail
- 8 Human Appearance State
- 9 Lift \_ Into Your Body

# GRAPHIC DESIGN

## OUTSIDE THE SKIN

The exploration of the human body starts from the outside of the body, from the basic appearance of the human body such as skin, hair and nails to the basic exploration of the human surface. Initial exploration of the human body's appearance through initial perceptions of the human body in the form of body painting.

BLOCK INTRO PANEL

## APPEARANCE OF HUMAN

HANGING TITLE

### SKIN

Skin is the layer of usually soft, flexible outer tissue covering the body of a vertebrate animal, with three main functions: protection, regulation, and sensation.

STORY LABEL



BACKGROUND PICTURE

Presentation of information on skin exhibits, presentation of information on skin exhibits, presentation of information on skin exhibits.

OBJECT LABEL

# EXPERIENCE VIEW



# 3F PLAN



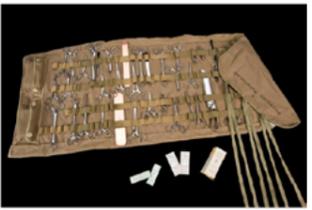
Wax male anatomical figure, écorché, in case, Italian, 1776-1780



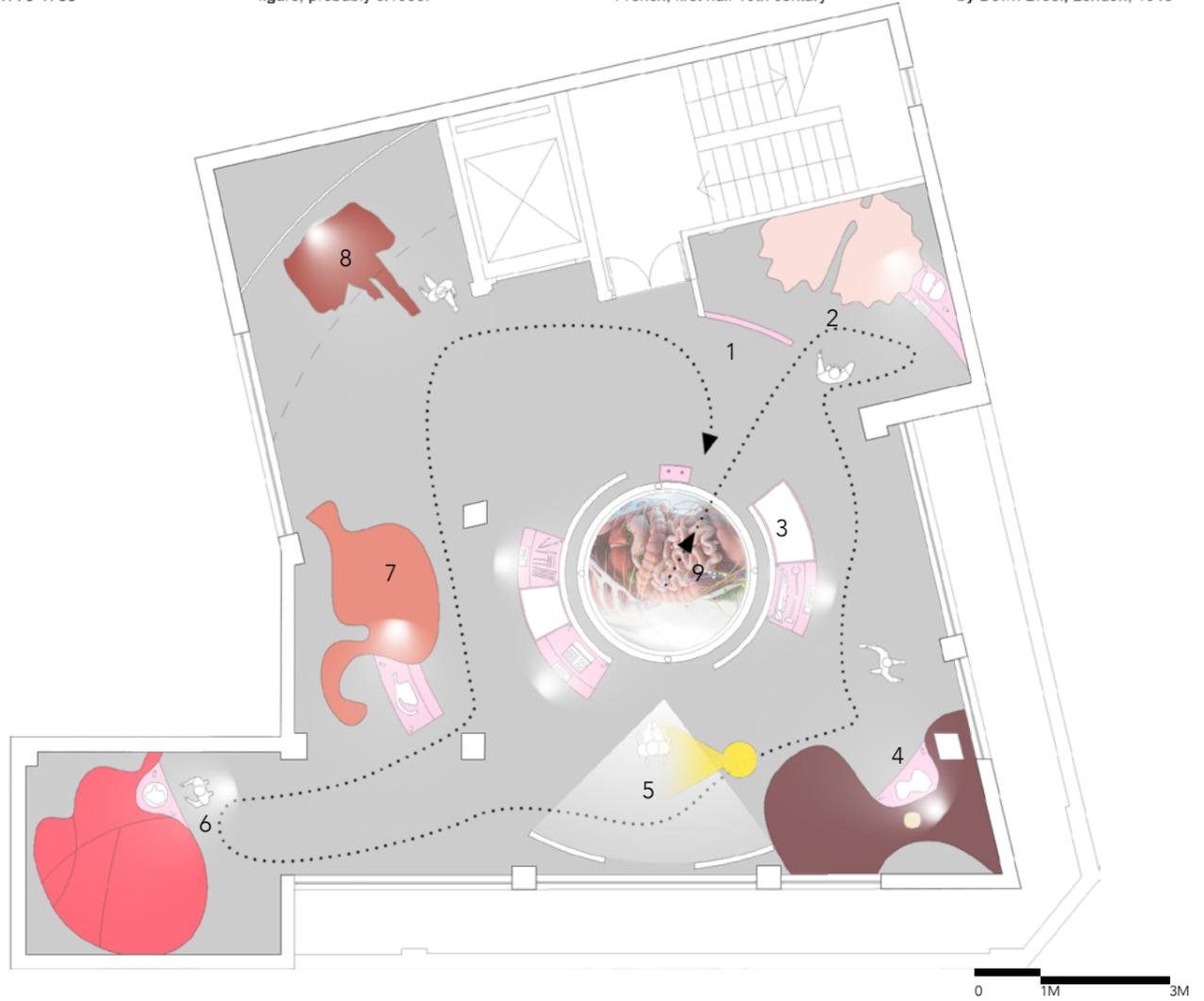
Life size standing female anatomical figure, probably c.1900.



Model of a human brain, French, first half 19th century



Field operation instrument set, by Down Bros., London, 1940



- 1 Intro
- 2 Brain
- 3 Scalpels
- 4 Lung
- 5 Projection Systems and Organs
- 6 Heart
- 7 Stomach
- 8 Human Anatomy Sculpture
- 9 Lift \_ Into Your Body

# GRAPHIC DESIGN

## HUMAN SYSTEMS AND ORGANS

Our bodies are made up of 11 basic organ systems that manage all the essential body functions. These systems, while interdependent, can become out of tune. When one is not functioning properly, the others will attempt to correct the problem. All the systems will work together to try to create what is known as homeostasis or a state of balance within the body.

BACK INTRO PANEL

## CUTTING OF SKIN

HANGING TITLE

## BRAIN

The brain is a complex organ that controls thought, memory, emotion, touch, motor skills, vision, breathing, temperature, hunger and every process that regulates our body. Together, the brain and spinal cord that extends from it make up the central nervous system, or CNS.

STORY LABEL



BACKGROUND PICTURE

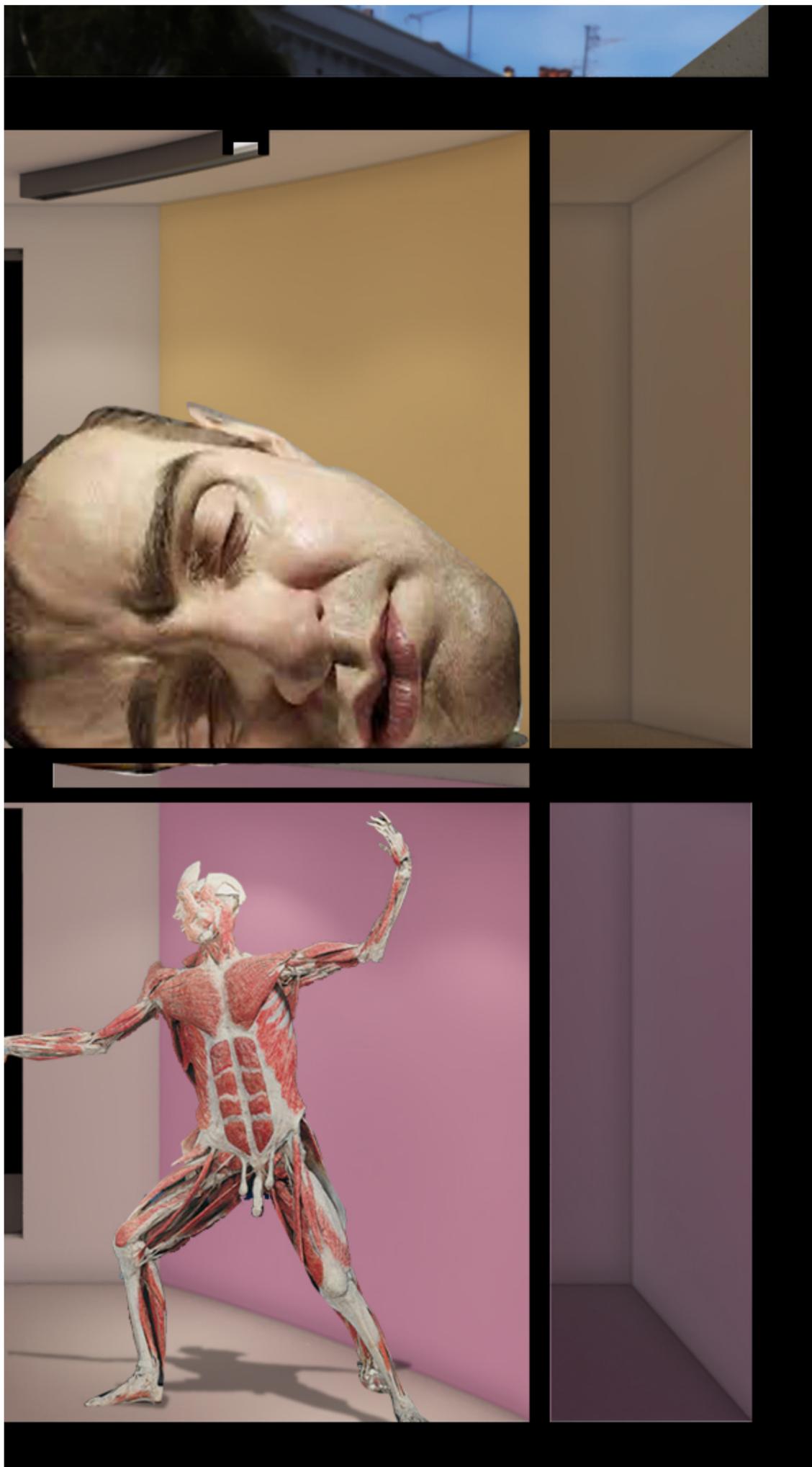
Presentation of information on brain exhibits. Presentation of information on brain exhibits. Presentation of information on brain exhibits.

OBJECT LABEL

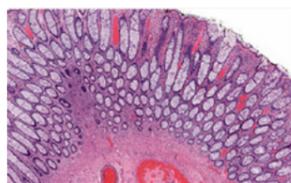
# EXPERIENCE VIEW



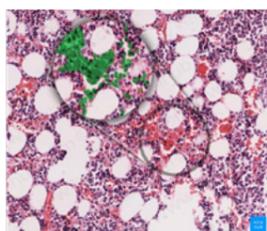
VOID SPACE 4F AND 3F



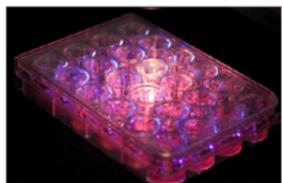
2F PLAN



Pictures of human tissue



Pictures of Erythrocyte



Model of human tissue



Compound monocular microscope used by Louis Pasteur

GRAPHIC DESIGN

**HUMAN TISSUES**

Human body tissue is another way of describing how our cells are grouped together in a highly organized manner according to specific structure and function. These groupings of cells form tissue structure, which then make up organs and various parts of the body. For example, muscle is easy to see and feel in the body, as it is one of the types of tissue. In this lesson, learn more about the examples of tissue in the human body and how each functions for a different purpose.

BLOCK INTRO PANEL

TISSUES WORLD

HANGING TITLE

**MUSCLE TISSUES**

As mentioned earlier, human tissue is made up of particular kinds of cells that work together. First let's look at muscle tissue. Muscle tissue is made up of excitable cells that are long and fibrous. These cells are ready for contraction, or the activation of tension in our muscles, making it possible for us to move our body parts. They are arranged in parallel lines and are bundled, making muscle tissue very strong, if you take a pile of rubber bands, line them up next to each other and attempt to stretch them, you may get the idea of the nature of the muscle tissue.

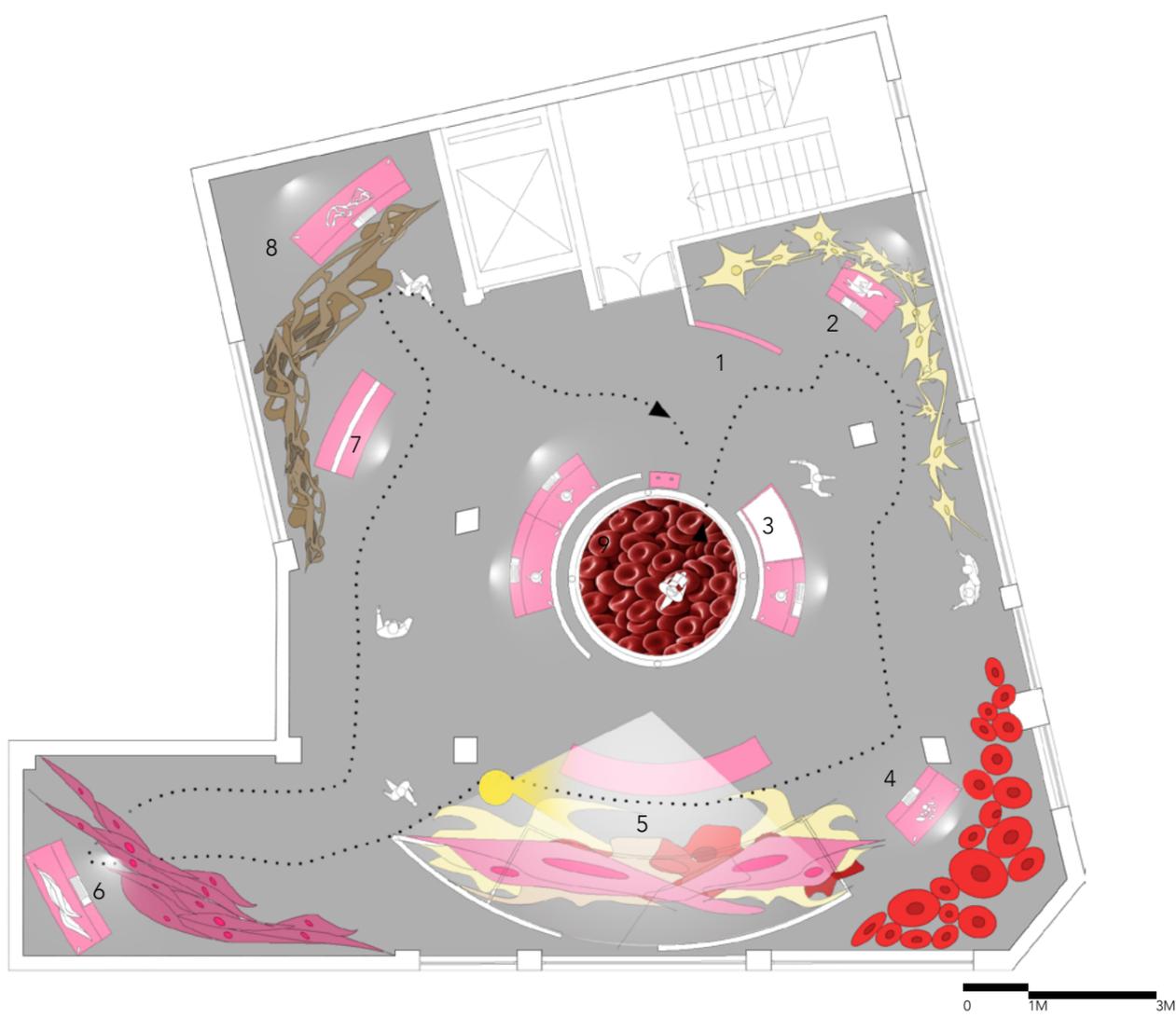
STORY LABEL



BACKGROUND PICTURE

Presentation of information on muscle tissues exhibits. Presentation of information on muscle tissues exhibits.

OBJECT LABEL



- 1 Intro
- 2 Nerve Tissues
- 3 Primitive Optical Microscope
- 4 Blood Tissues
- 5 Projection Tissues & Tissues Sculpture
- 6 Muscle Tissues
- 7 Overall Tissues
- 8 Bone Tissues
- 9 Lift \_ Into Your Body

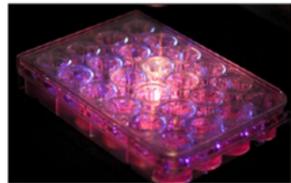
EXPERIENCE VIEW



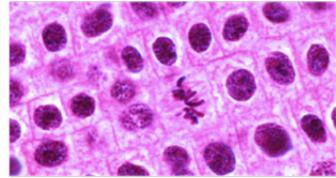
# 1F PLAN



Painting of an idealised animal cell, by John Barber and Cynthia Clark, October 1986



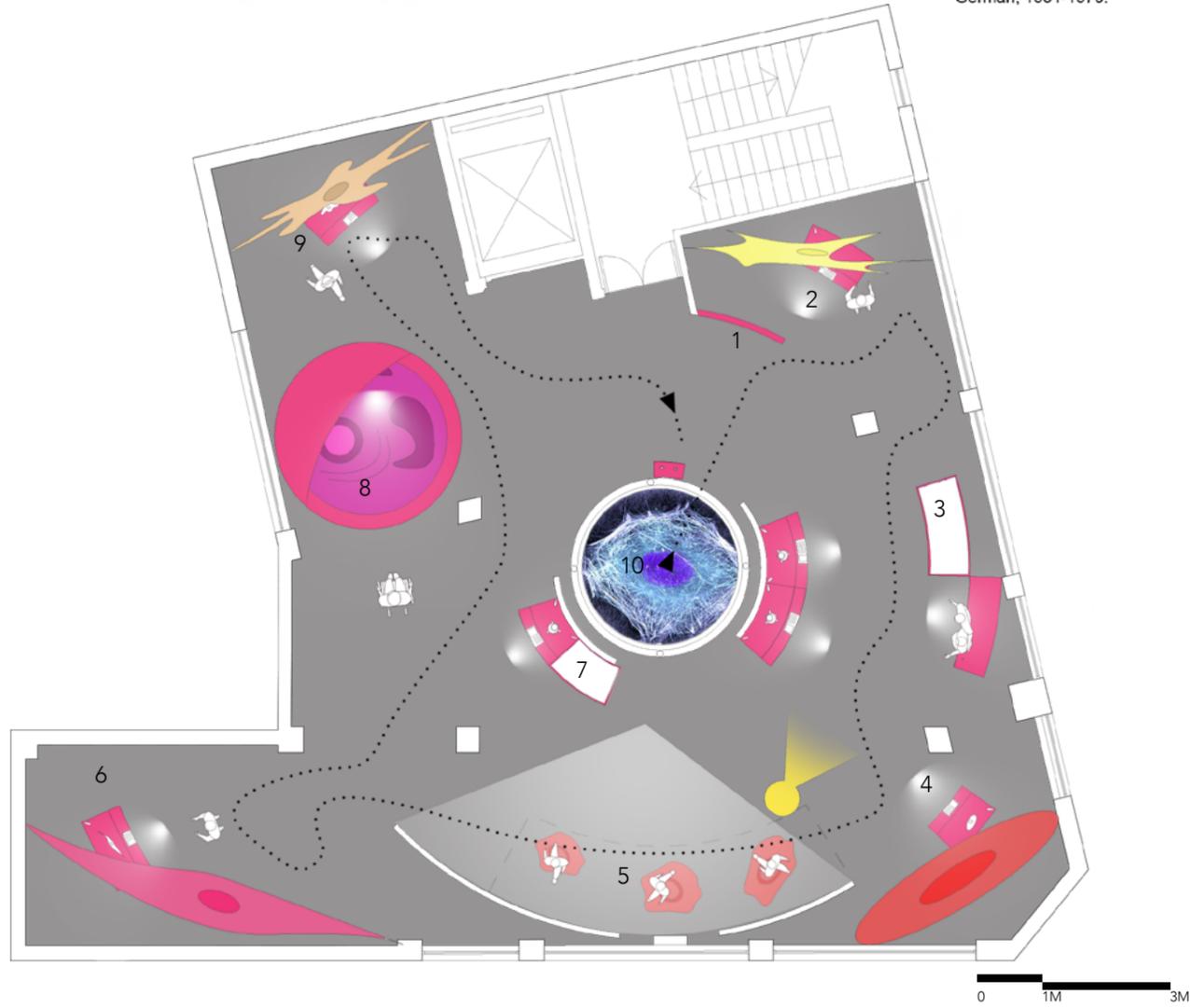
Two sets of six well cell culture plates, Institute of Cancer Research, London, United Kingdom, 2019



First interactive model of human cell division, European Molecular Biology Laboratory, 2018

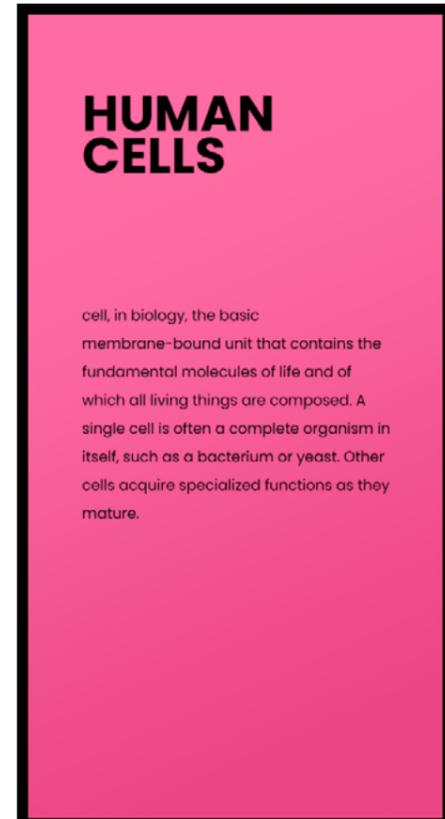


Orthoplan interference microscope, designed by Smith, made by Leitz, Wetzlar, German, 1961-1970.

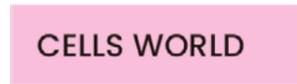


- 1 Intro
- 2 Nerve Cells
- 3 Overall Cells
- 4 Blood Cells
- 5 Projection Cells & Interactive Cells Space
- 6 Muscle Cells
- 7 Optical Microscope
- 8 Cell Structure Sculpture
- 9 Bone Cells
- 10 Lift \_ Into Your Body

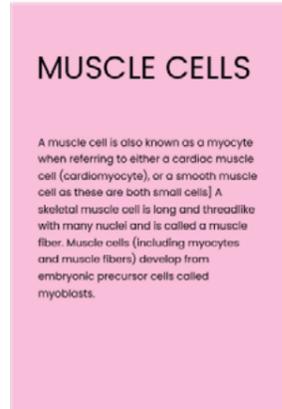
## GRAPHIC DESIGN



BLOCK INTRO PANEL



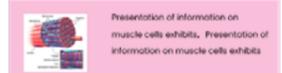
HANGING TITLE



STORY LABEL



BACKGROUND PICTURE



OBJECT LABEL

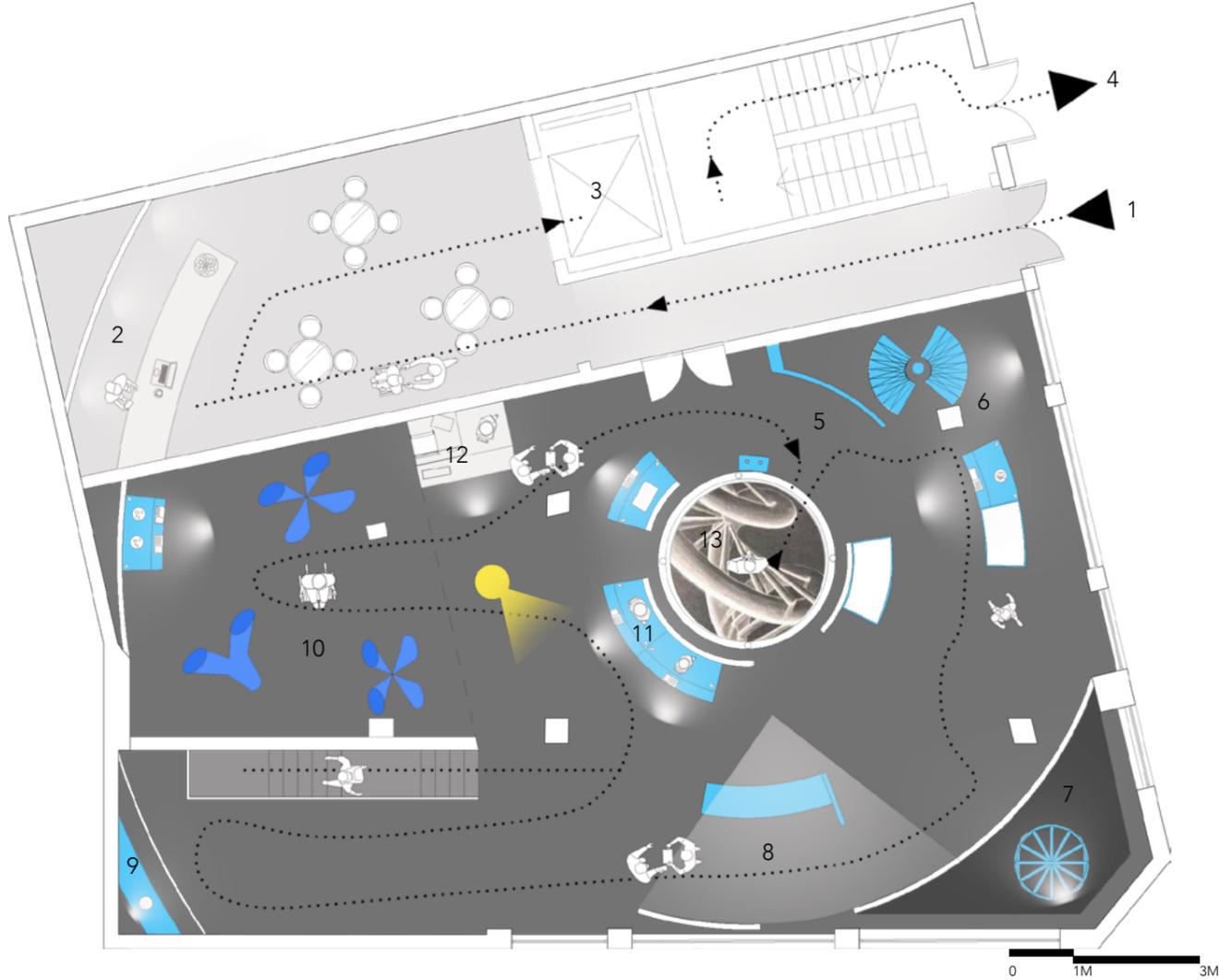
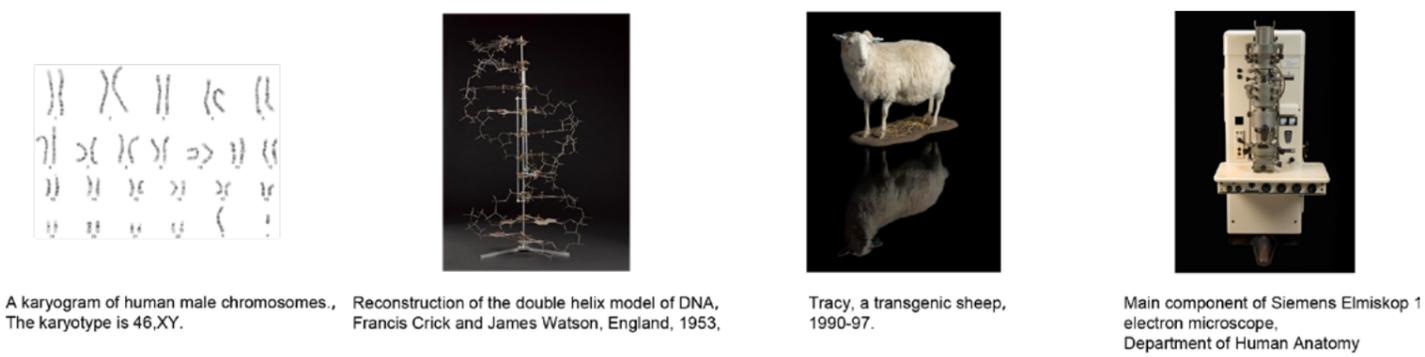
## EXPERIENCE VIEW



VOID SPACE 2F AND 1F



# GF PLAN



- 1 Entrance
- 2 Reception
- 3 Lift to top
- 4 Exit
- 5 Intro
- 6 DNA
- 7 DNA Sculpture
- 8 Projection Chromosomes and DNA
- 9 Genes
- 10 CHromosomes
- 11 Electron Microscope
- 12 Electron Microscope Interactive Device
- 13 Lift \_ Into Your Body

# GRAPHIC DESIGN

**HUMAN CHROMOSOMES AND DNA**

Chromosomes are thread-like structures located inside the nucleus of animal and plant cells. Each chromosome is made of protein and a single molecule of deoxyribonucleic acid (DNA). Passed from parents to offspring, DNA contains the specific instructions that make each type of living creature unique.

**DNA WORLD**

HANGING TITLE

**DNA**

Deoxyribonucleic acid (DNA) is a polymer composed of two polynucleotide chains that coil around each other to form a double helix carrying genetic instructions for the development, functioning, growth and reproduction of all known organisms and many viruses. DNA and ribonucleic acid (RNA) are nucleic acids. Alongside proteins, lipids and complex carbohydrates (polysaccharides), nucleic acids are one of the four major types of macromolecules that are essential for all known forms of life.

STORY LABEL



BACKGROUND PICTURE

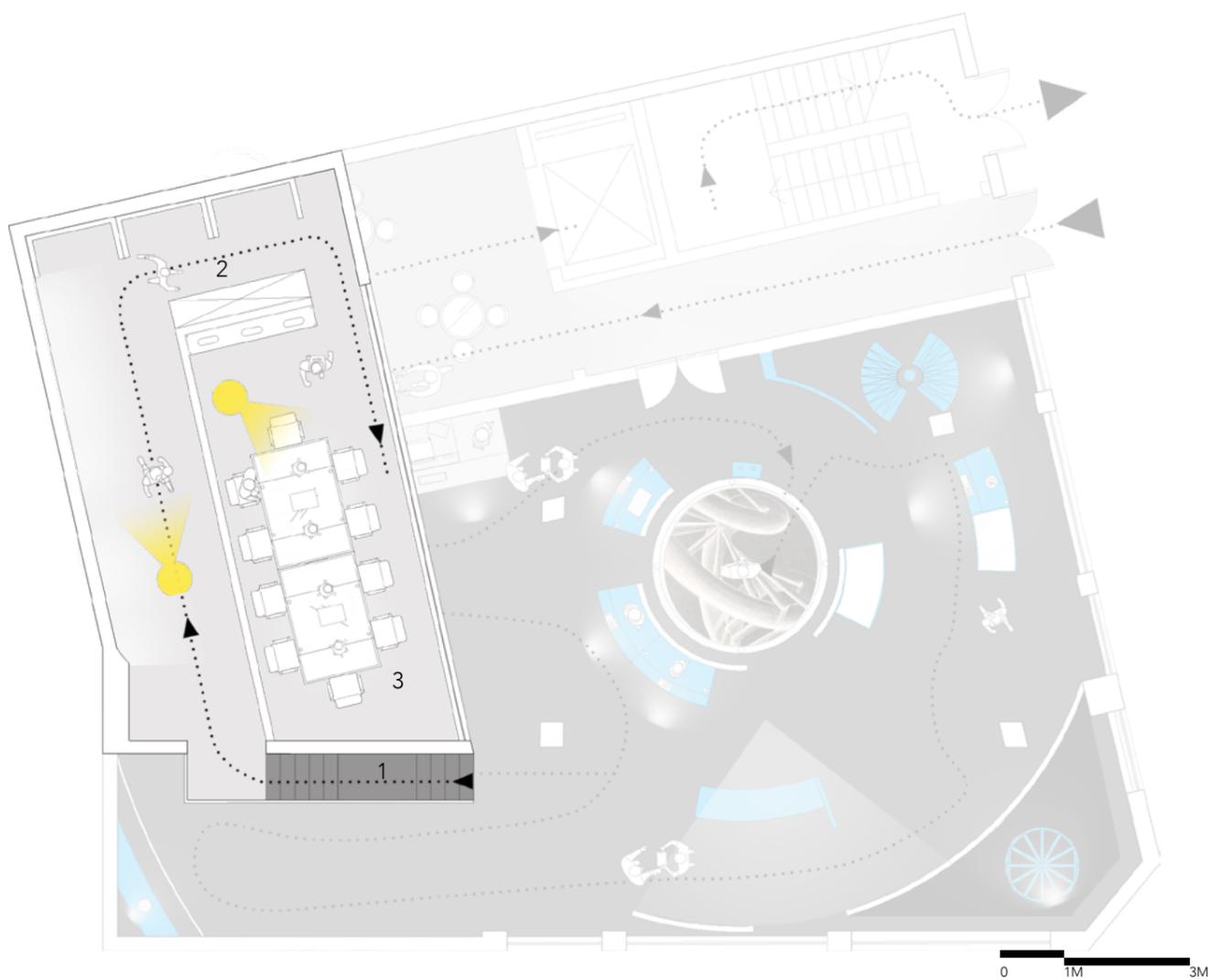


OBJECT LABEL

# EXPERIENCE VIEW

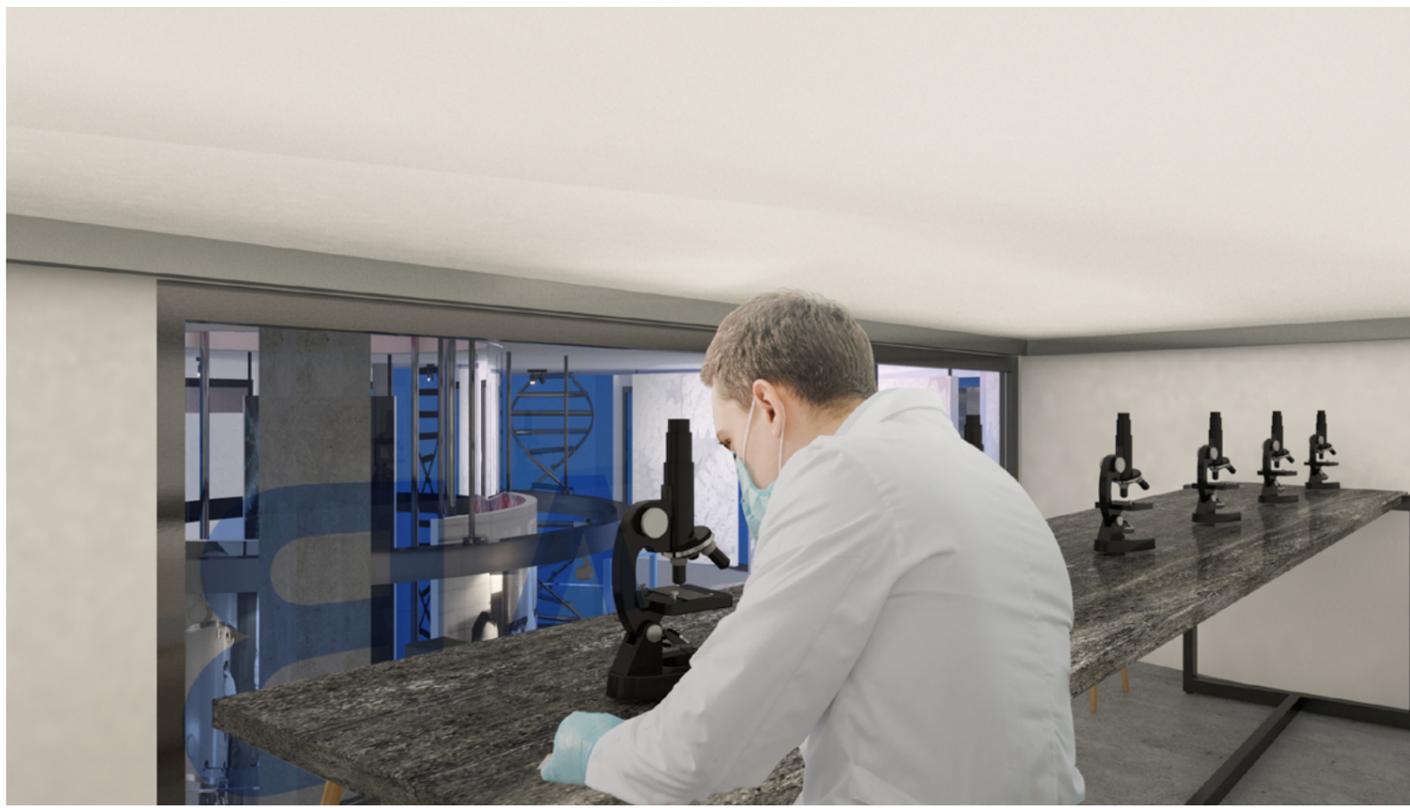


# GF UPPER PLAN

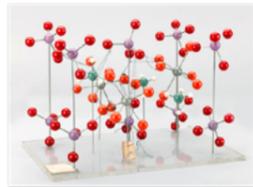


- 1 Entrance to Biological Lab
- 2 Changing Room
- 3 Biological Lab

# EXPERIENCE VIEW



# BF PLAN

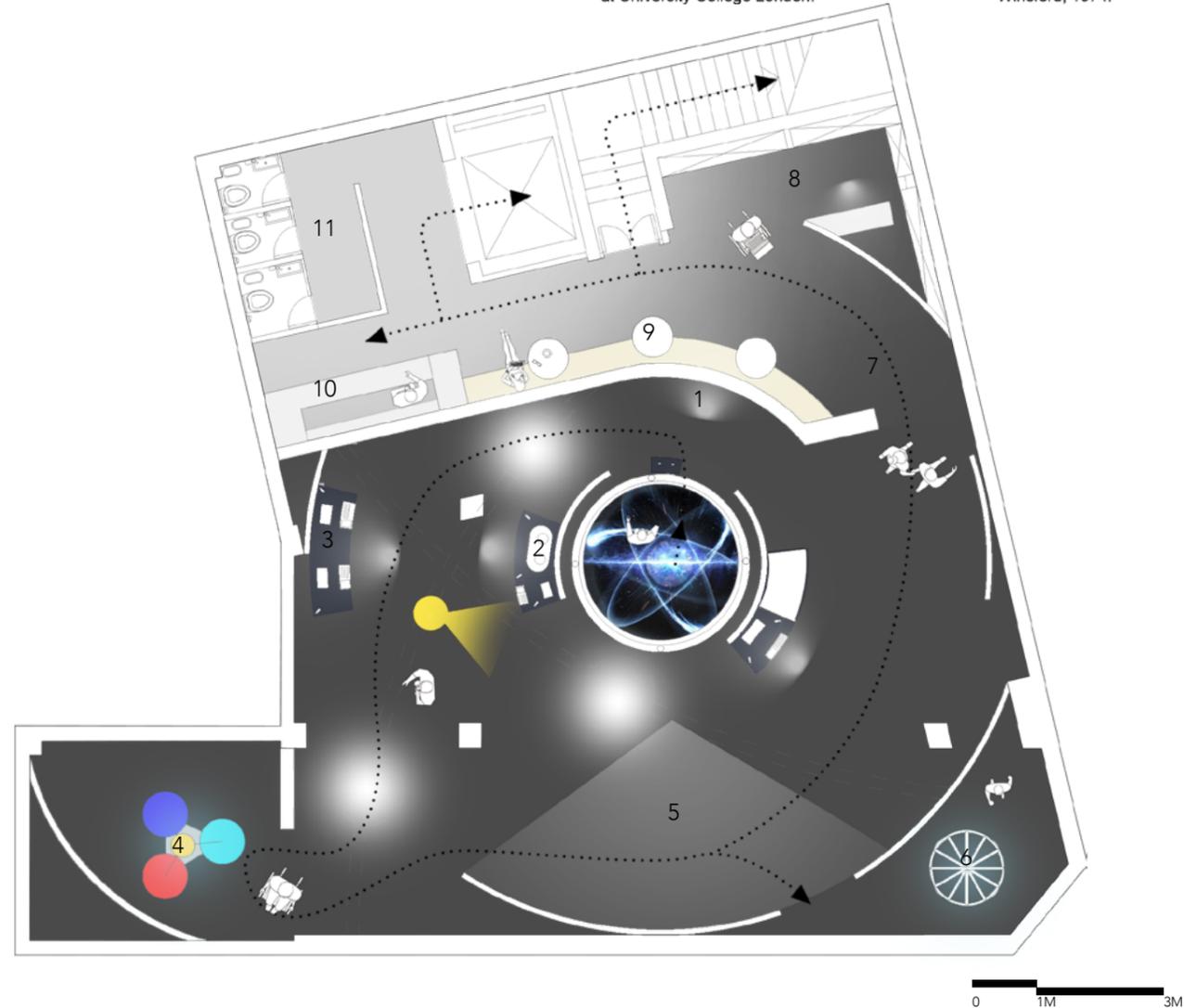


Mounted black and white photographic print, British, 1950

Atomic model of graphite crystal.

One crystal model of Mg NH4 PO4 6H2O, by Dame Kathleen Lonsdale at University College London.

Data systems unit for 70-70F mass spectrometer, Winsford, 1974.



- 1 Intro
- 2 Mass spectrometer
- 3 Microscopic Particles
- 4 Particles Models
- 5 Projection Microscopic Particles
- 6 Interactive Particles Space
- 7 End of Exhibition
- 8 Shop
- 9 Rest Area
- 10 Cafe

11 Toilets

# GRAPHIC DESIGN

## HUMAN MICROSCOPIC PARTICLES

Thousands of consumer products containing engineered nanoparticles – microscopic particles found in everyday items from cosmetics and clothing to building materials – enter the market every year. Concerns about possible environmental health and safety issues with these nano-enabled products continue to grow, with scientists struggling to come up with fast, cheap, and easy-to-use cellular screening systems to identify possible hazards of vast libraries of engineered nanomaterials. I

BLACK INTRO PANEL

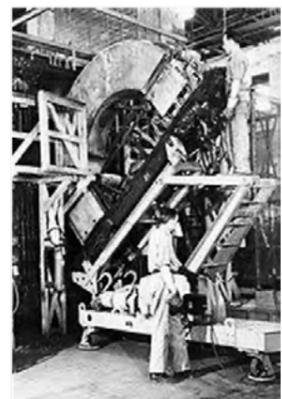
## MICROSCOPIC PARTICLES WORLD

HANGING TITLE

### PROTON

A proton is a stable subatomic particle, symbol p or p+, with a positive electric charge of +1e elementary charge, its mass is slightly less than that of a neutron and 1836 times the mass of an electron. Protons and neutrons, each with masses of approximately one atomic mass unit, are jointly referred to as "nucleons" (particles present in atomic nuclei).

STORY LABEL



BACKGROUND PICTURE

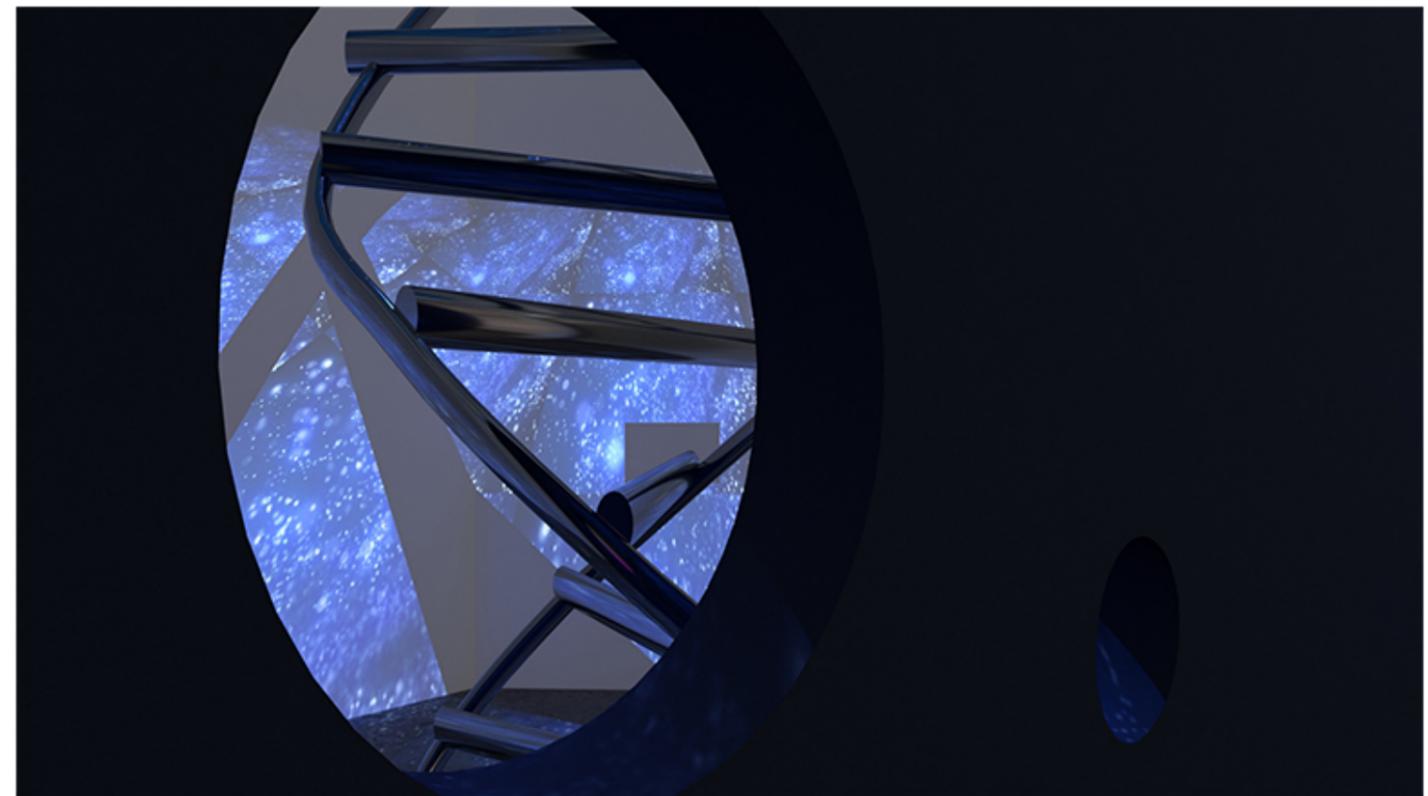
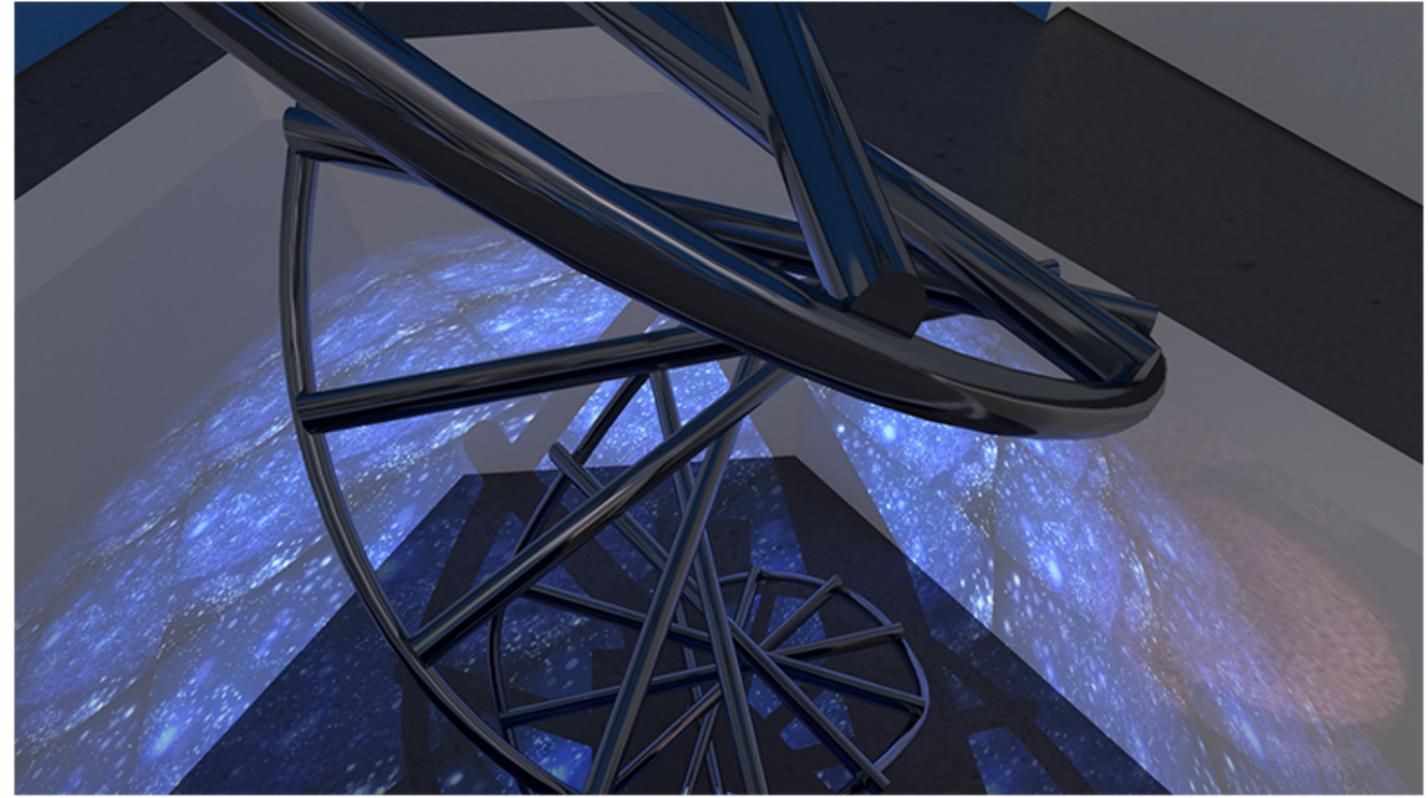


OBJECT LABEL

# EXPERIENCE VIEW



VOID SPACE GF AND BF





**UNDER THE SKIN**