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FOR
ARCHITECTS
OF ALL
AGES

ARCHI- DOODLE

STEVE
BOWKETT

AN ARCHITECT'S ACTIVITY BOOK

ARCHI-

DOODLE

*Dedicated to Henry, who was a wonderful man,
a brilliant dad and a great carpenter.*



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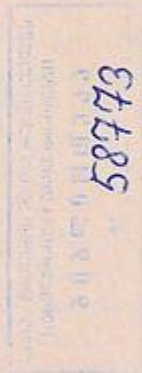
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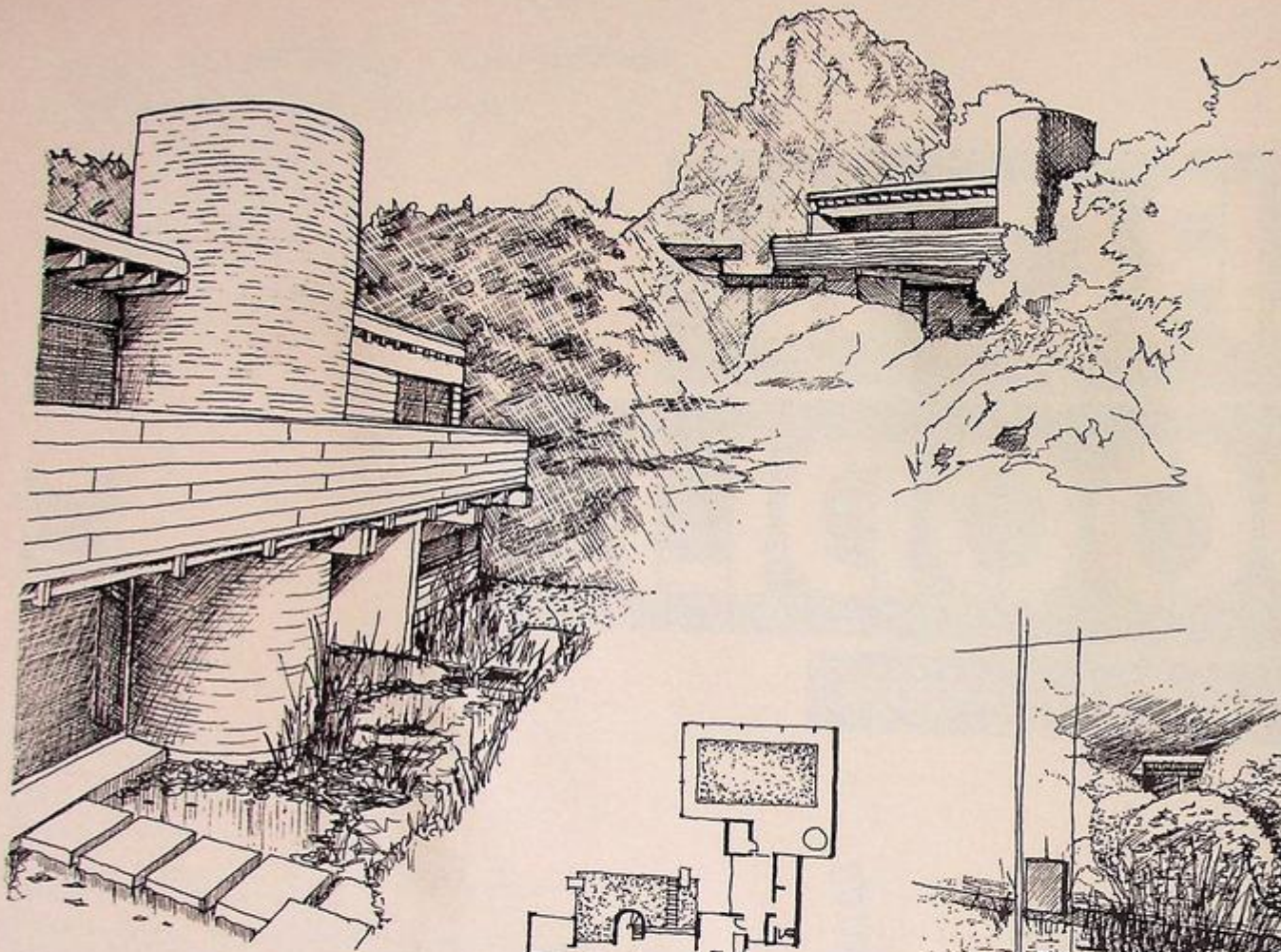
DOODLE

AN ARCHITECT'S ACTIVITY BOOK

STEVE BOWKETT



LAURENCE KING PUBLISHING



*Various views of Clayton House,
Buckinghamshire, England.
Aldington Craig and Collinge, 1966*

Introduction

This book is for anyone who is interested in architecture, particularly those of you who like to draw, doodle and dream about our built environment. It is organized around a series of design drawing exercises that range from the amusing to the academic, from the informative to the inspirational. The buildings and landscapes that I have selected to draw should act as a stimulant for creative new architectural designs while also illustrating some of the concepts that underpin 'modern' architecture.

While my drawings in this book are all monochrome, somewhat clean and executed using a fine-line pen (for the sake of clarity), you are encouraged to experiment with a variety of representational media in your renderings; pens, pencils, paint, charcoal, collage, and so on. It is also my intention that you use the illustrations in the book to experiment with colour, doodle around the edges and on top of the drawings, and of course draw in the bigger spaces provided.

This is not a book about *how* to draw buildings – there are plenty of those to choose from – but a book about *what* to draw, and it should be treated as a journal, sketchbook or even as a primer for putting your portfolio together. Having said that, I have given the first few pages over to some tips on basic tools and techniques to get you started.

I hope that this book will be useful and inspirational for architects, students, teachers, parents and their children, but – most importantly – that it will be fun to work with.

About the author

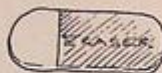
Steve Bowkett is passionate about good design. He has taught and practised architecture for over 25 years in numerous universities and colleges and is currently a senior lecturer at London South Bank University in the UK. He studied architecture at the Royal College of Art in London and the Polytechnic of Central London.

Steve and his partner Jane have three daughters, Zoe, Sadie and Phoebe, and live in Buckinghamshire, where Steve pursues a serendipitous life.

Equipment

These are the basic tools that you might consider using in this book.

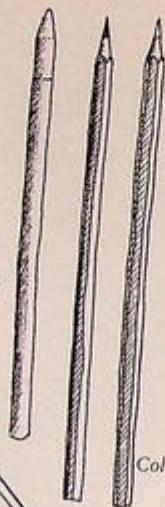
Eraser



Pencil sharpener



Graphite pencil



Fine-line pens



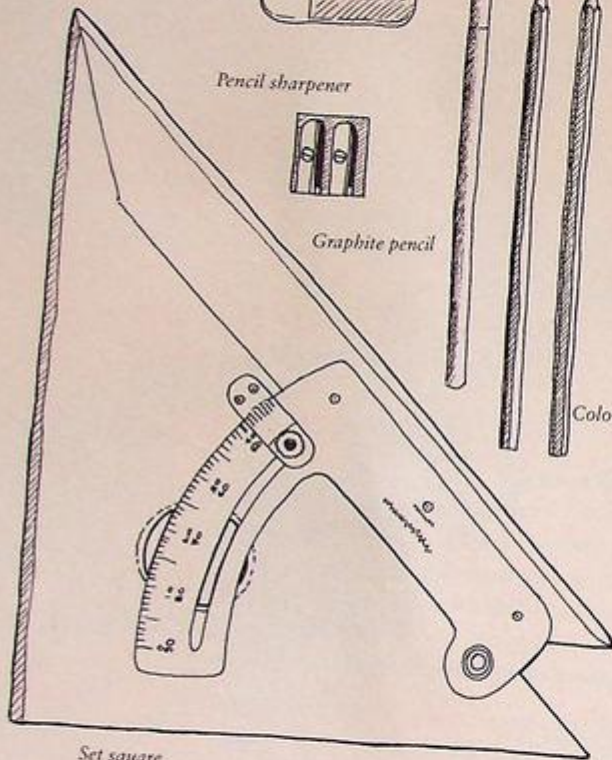
Coloured pencils

Mechanical pencil

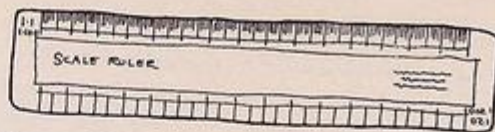
Paints



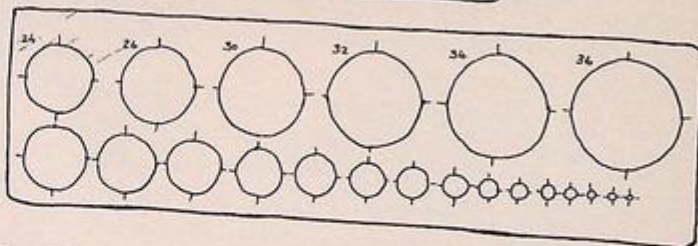
Brushes



Set square

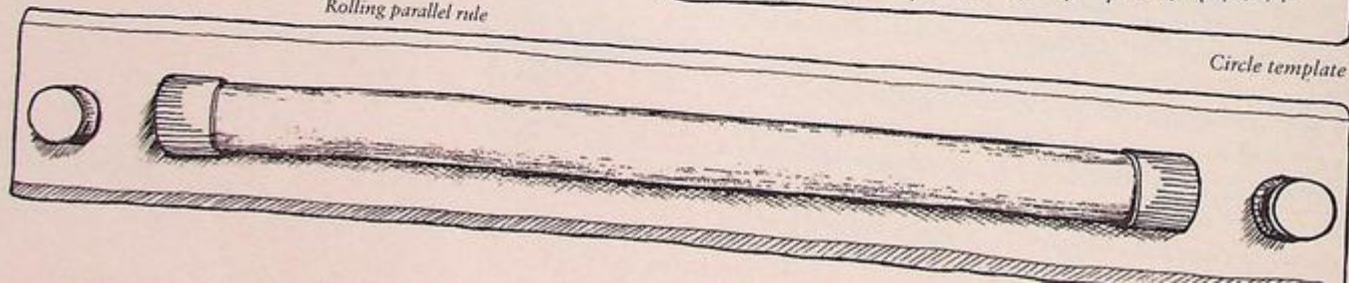


Scale ruler



Circle template

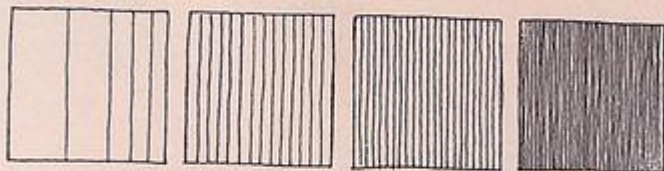
Rolling parallel rule



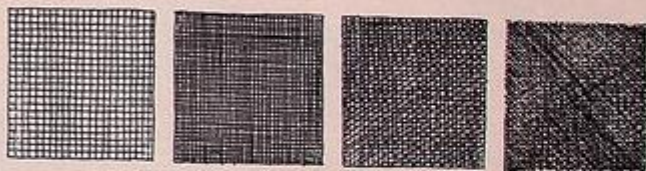
Techniques

This page shows a selection of the techniques that I have used to create the drawings in this book. These simple skills will provide you with the means to build texture and form, add shadow and increase density, and create a range of different material effects.

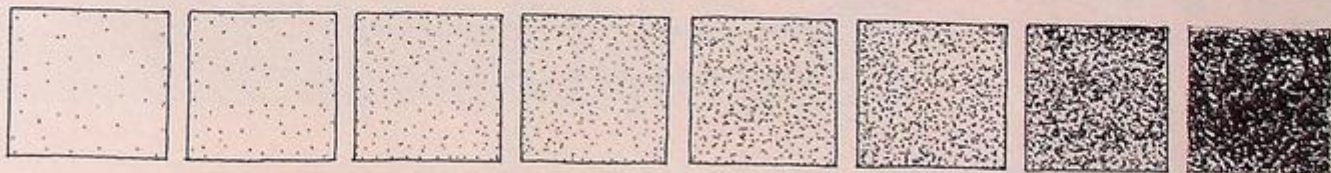
Hatching



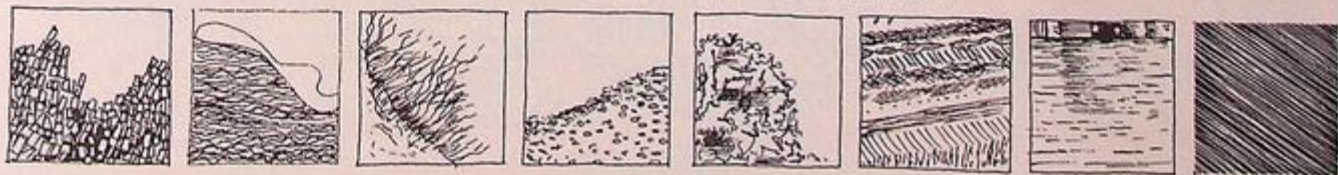
Cross hatching



Stippling techniques



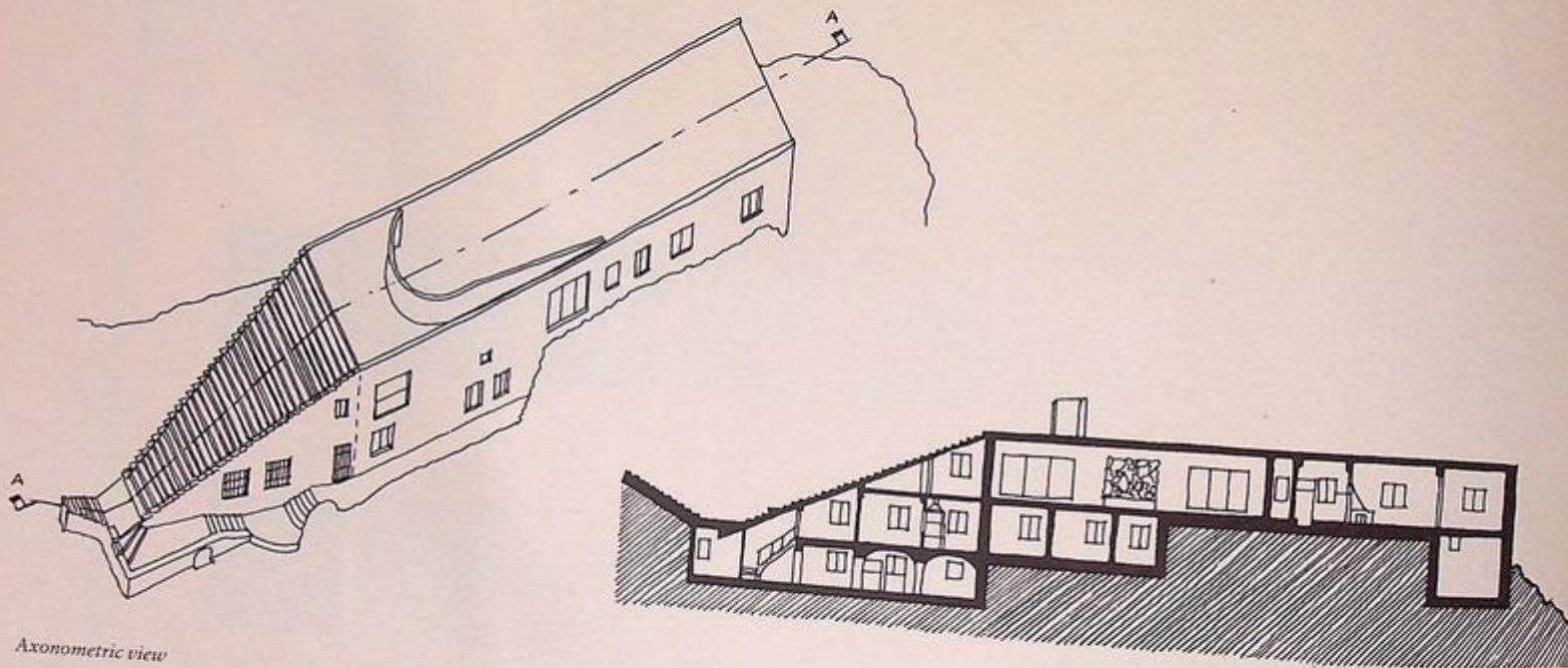
Selection of material effects: coral; sediment; grasses; gravel; foliage; vegetation; rippled water; surface texture



Plans, Sections, Elevations, Axonometric

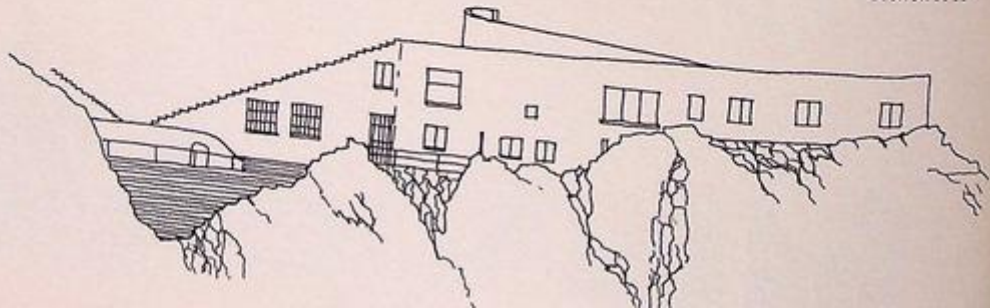
These two pages show the convention of how an architectural orthographic drawing is made of a building. The drawing on the far left is an axonometric drawing with a line showing where the cut is to be made to reveal the sectional drawing below it. The drawing under the section is the side view or elevation of this building.

On the opposite page the axonometric has been cut to reveal the interior rooms of the upper floor of the building. The two drawings below this are the corresponding roof plan and upper-floor plan.



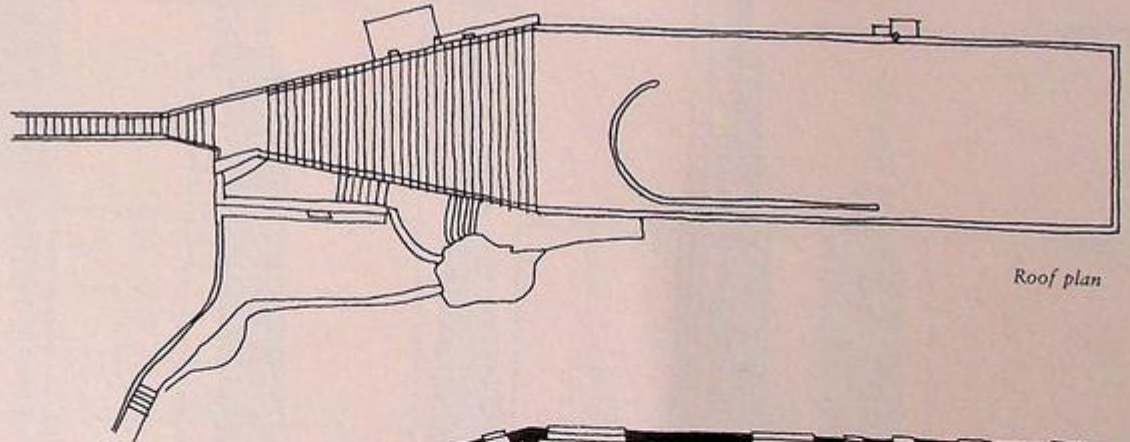
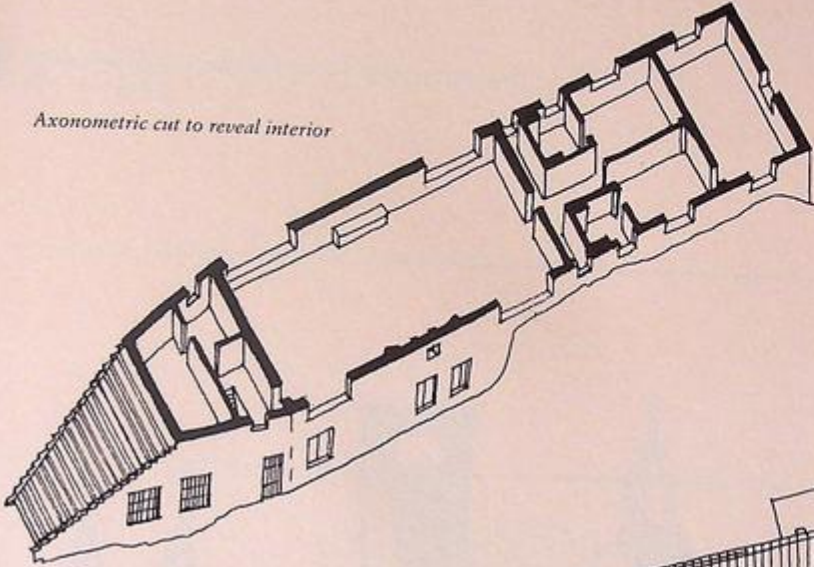
Axonometric view

Section A-A

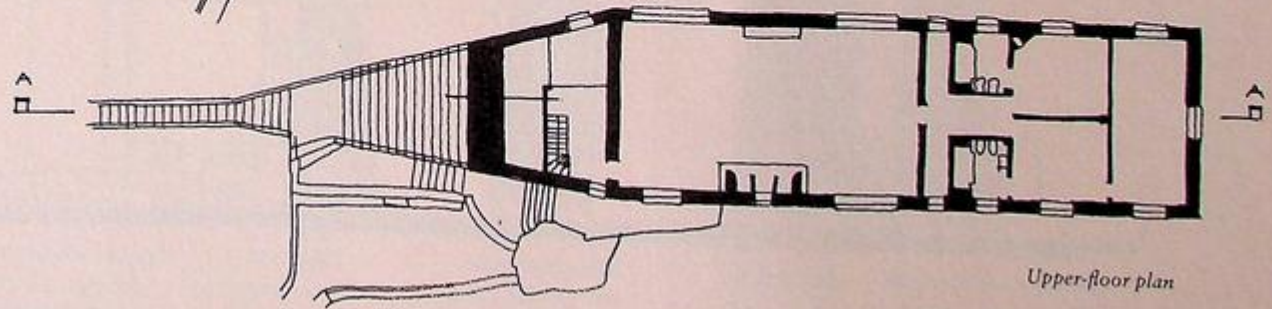


Casa Malaparte, Capri, Italy. Adalberto Libera and Curzio Malaparte, 1940

Axonometric cut to reveal interior



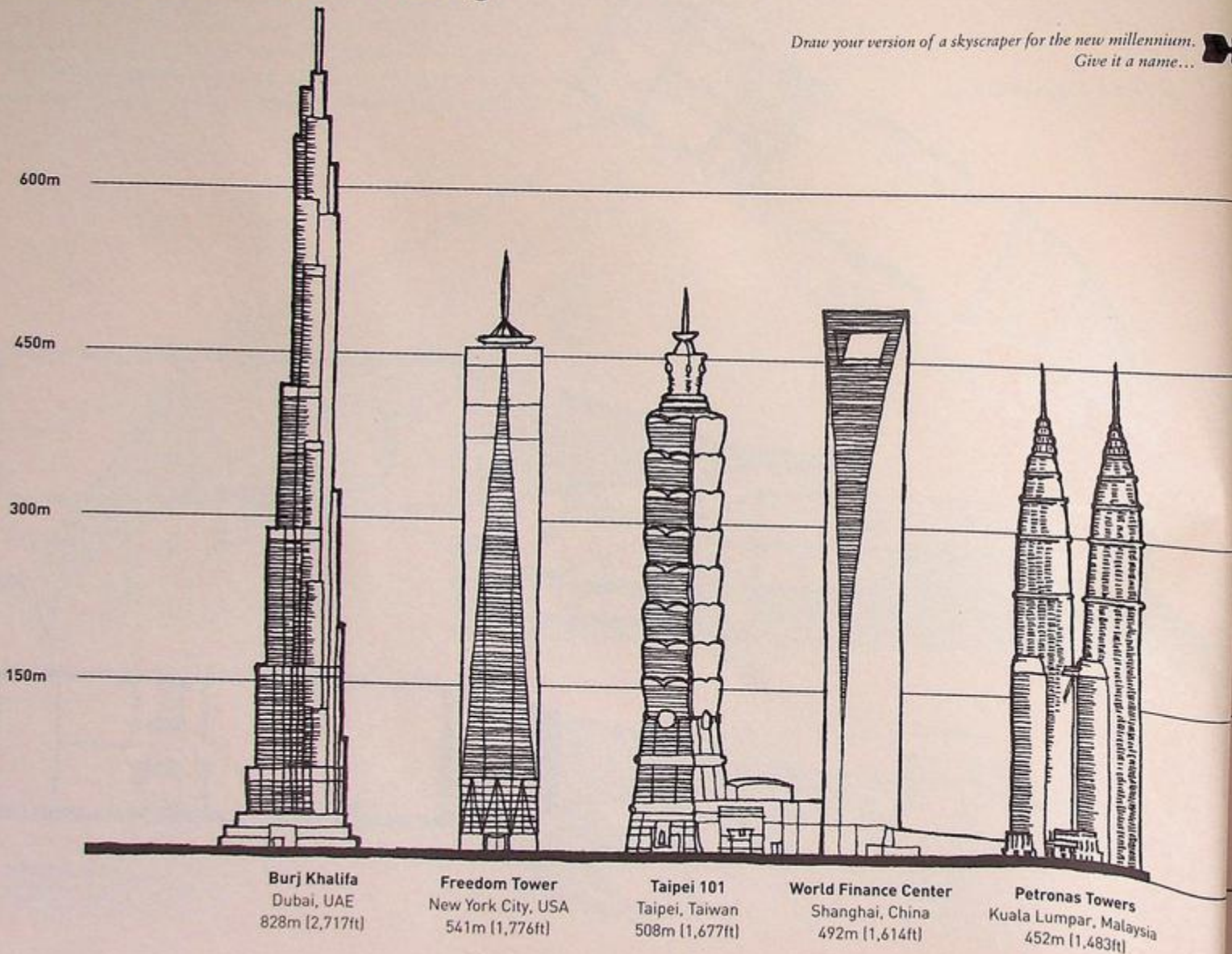
Roof plan

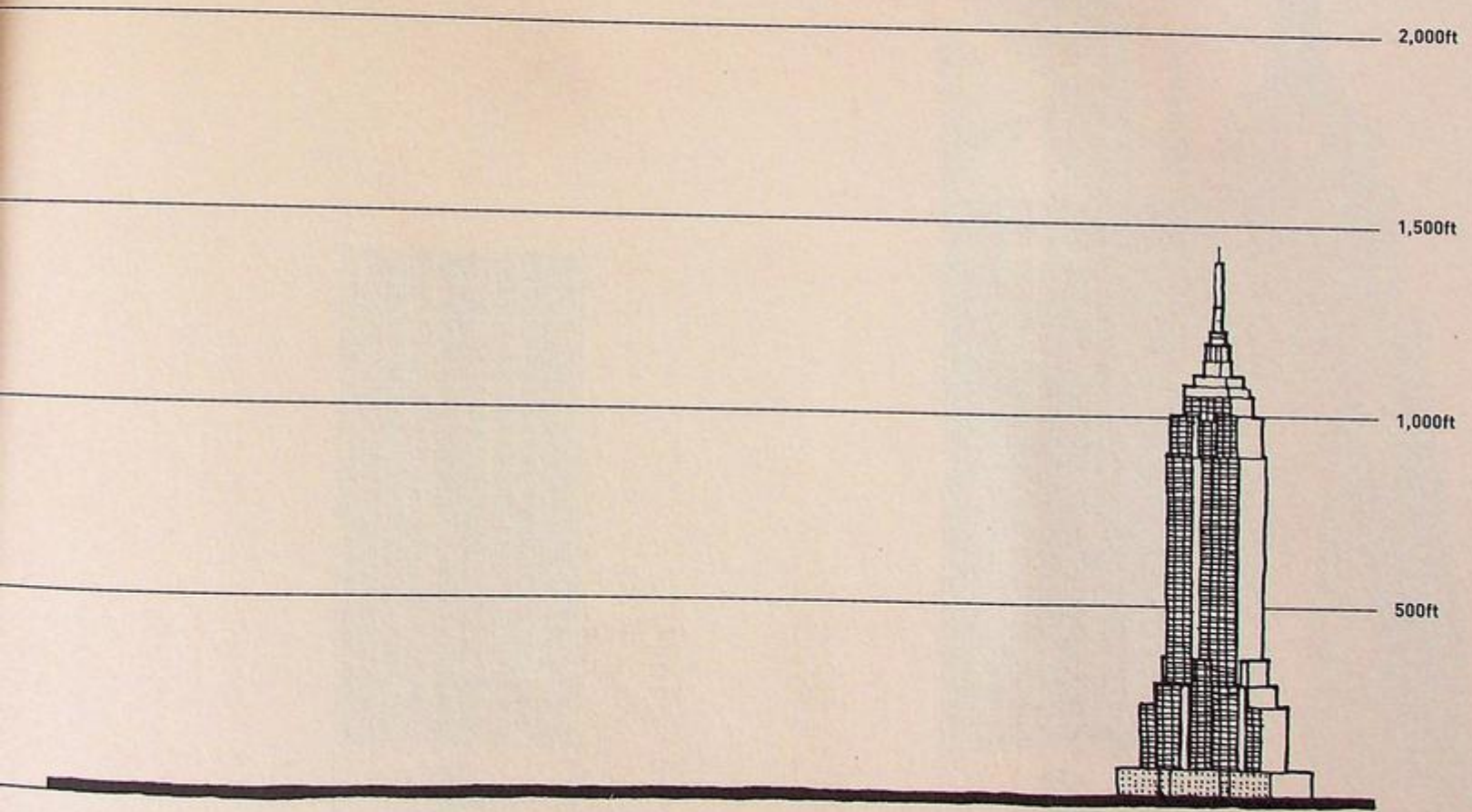


Upper-floor plan

These are currently the world's **tallest buildings.**

*Draw your version of a skyscraper for the new millennium.
Give it a name...*

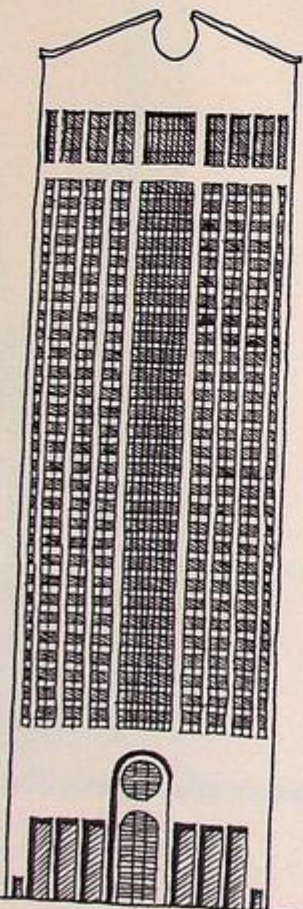




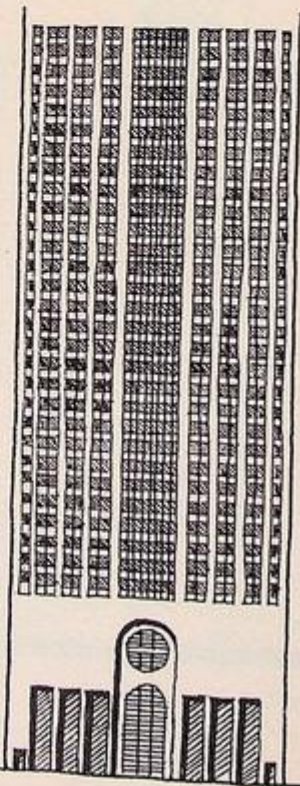
Empire State Building
New York City, USA
443m [1,453ft]

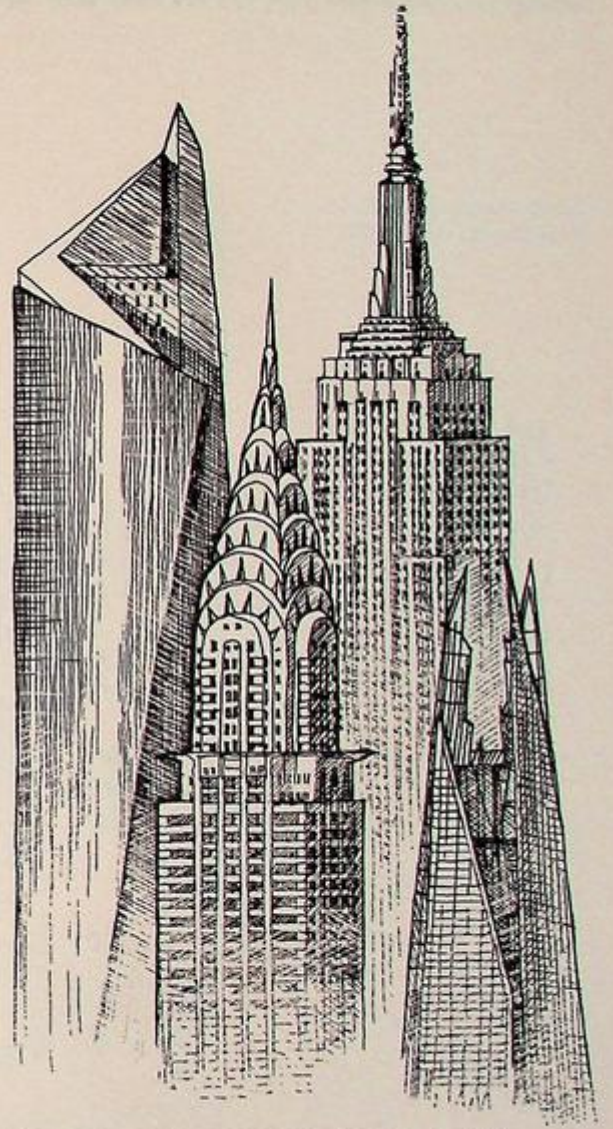
The Sony Tower has a famous roof, a 'Chippendale Tallboy' classical pediment top. This iconic skyscraper needs a new image and a new top. Look at other design objects such as furniture to influence the form.

Add to some of these other iconic skyscrapers with memorable rooftops...



*AT&T Building, New York,
USA. Philip Johnson and John
Burgee, 1984*

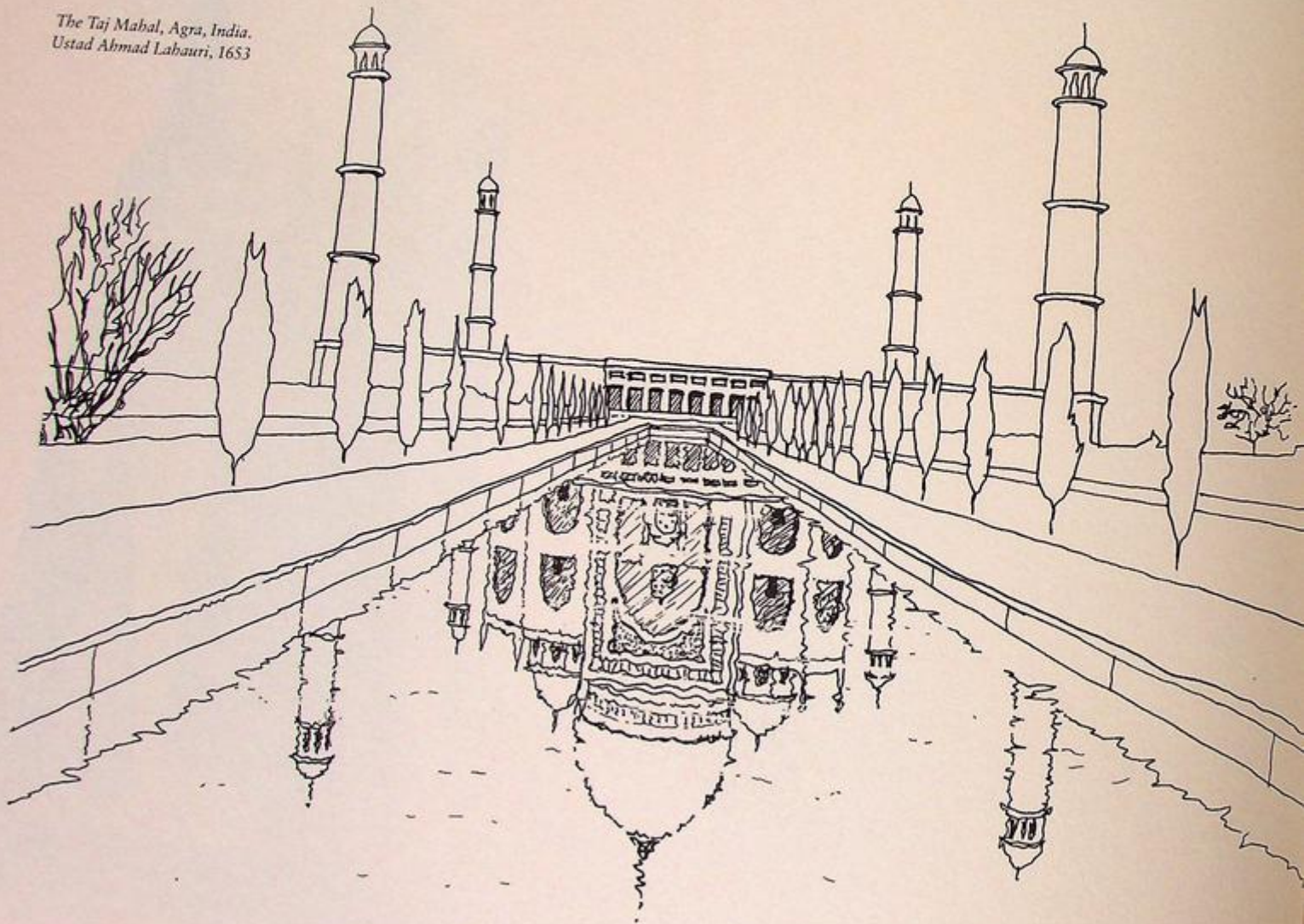




Al Hamra Tower, Kuwait City. S.O.M. 2011; Chrysler Building, NYC. William Van Alen, 1930; Empire State Building, NYC. Shreve, Lamb and Harmon, 1931; The Shard, London. Renzo Piano, 2012.

Complete the drawings of the following **famous buildings.**

*The Taj Mahal, Agra, India.
Ustad Ahmad Labauri, 1653*

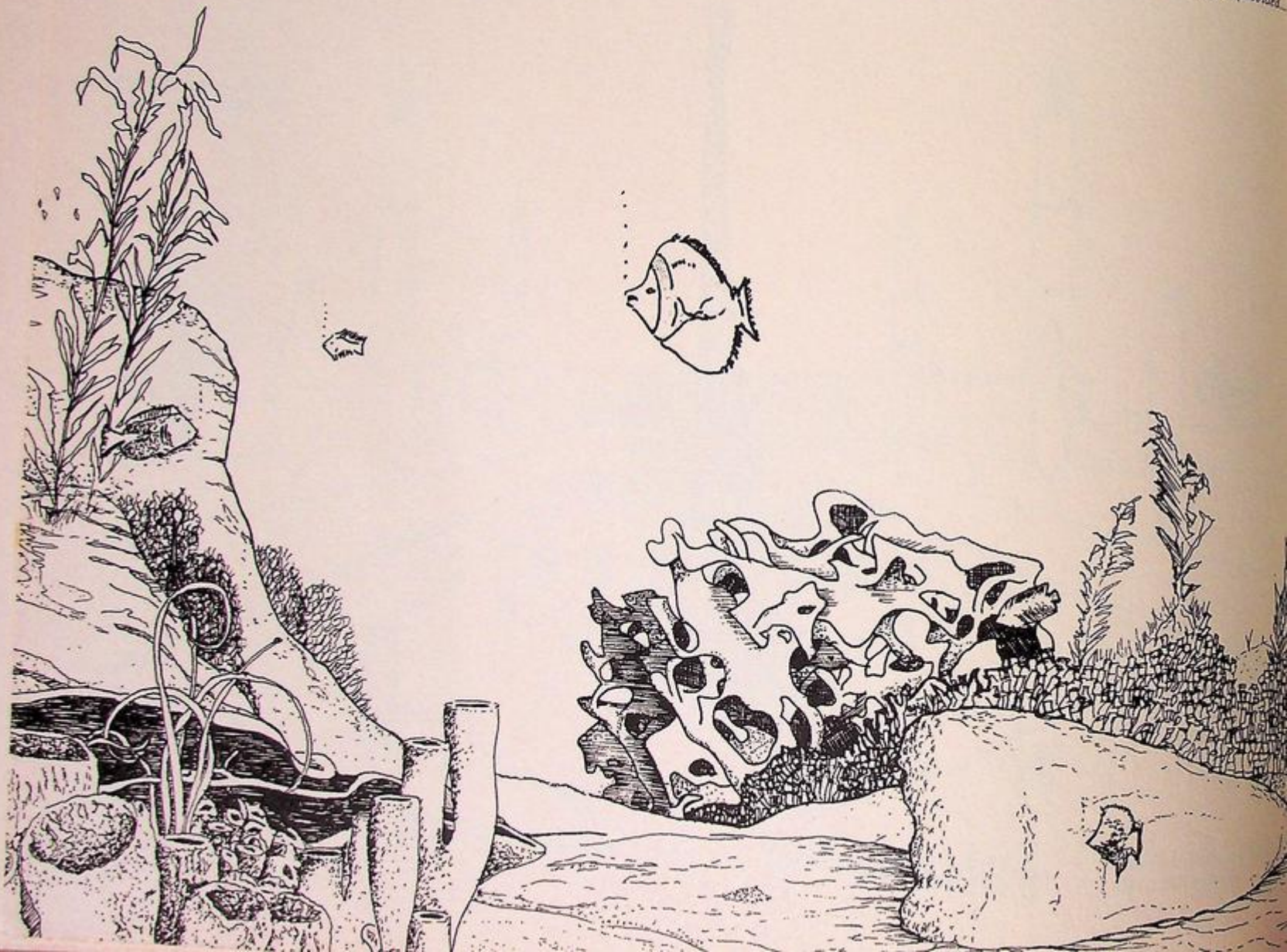




*The Eiffel Tower, Paris, France.
Gustave Eiffel, 1889*

Cities beneath our great oceans may well provide a new way of living in the future. The structure below was influenced by the shape of coral.

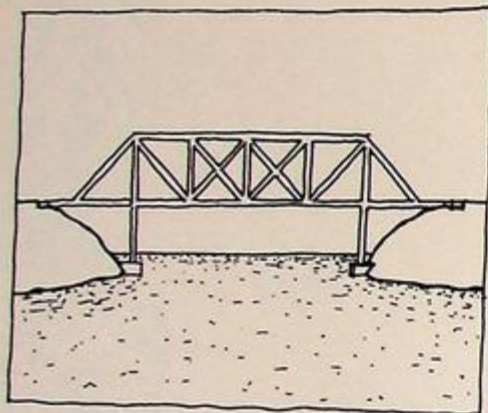
Design your own underwater community in the space provided.



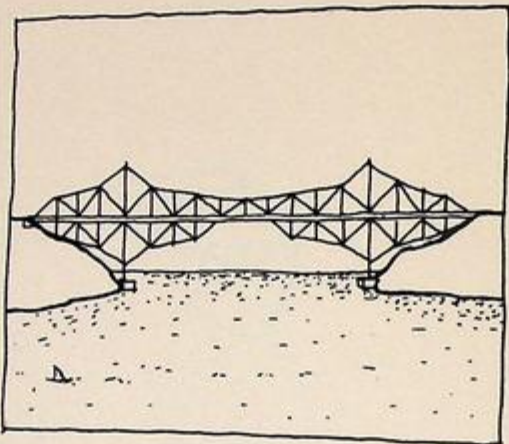


Here are a variety of different **bridge designs.**

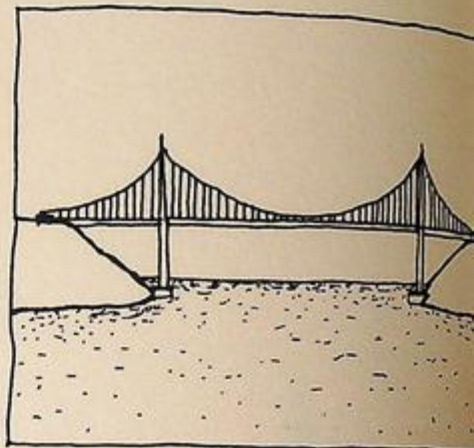
Use their structural principles to help you design a new bridge to expand this town across the sea...



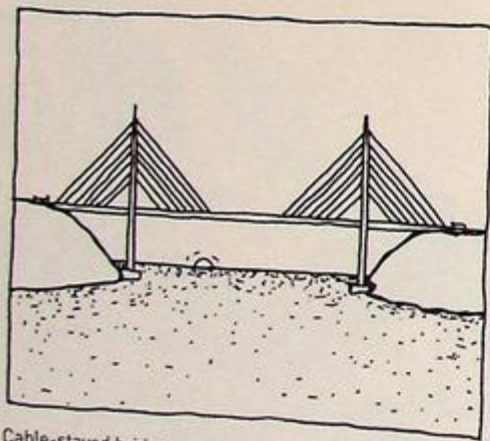
Truss bridge



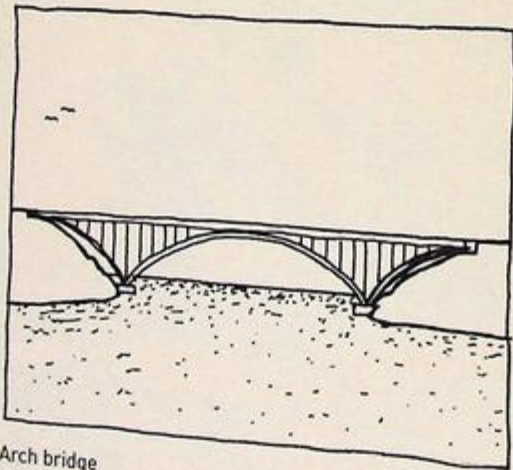
Cantilever bridge



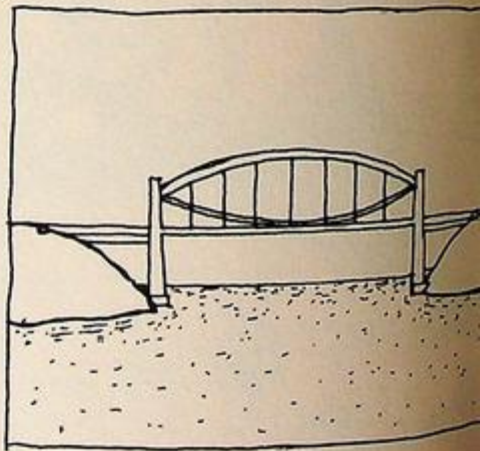
Suspension bridge



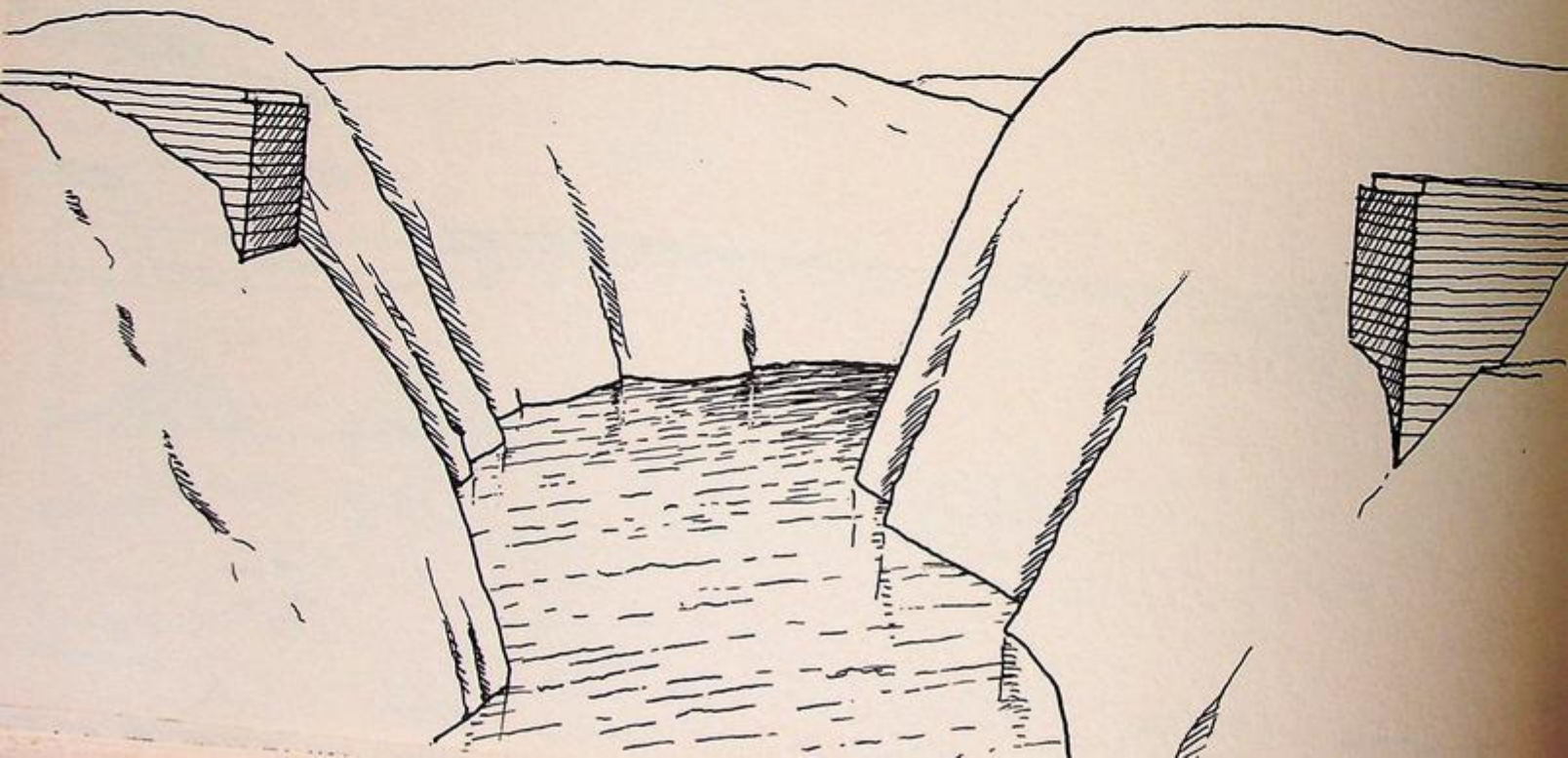
Cable-stayed bridge



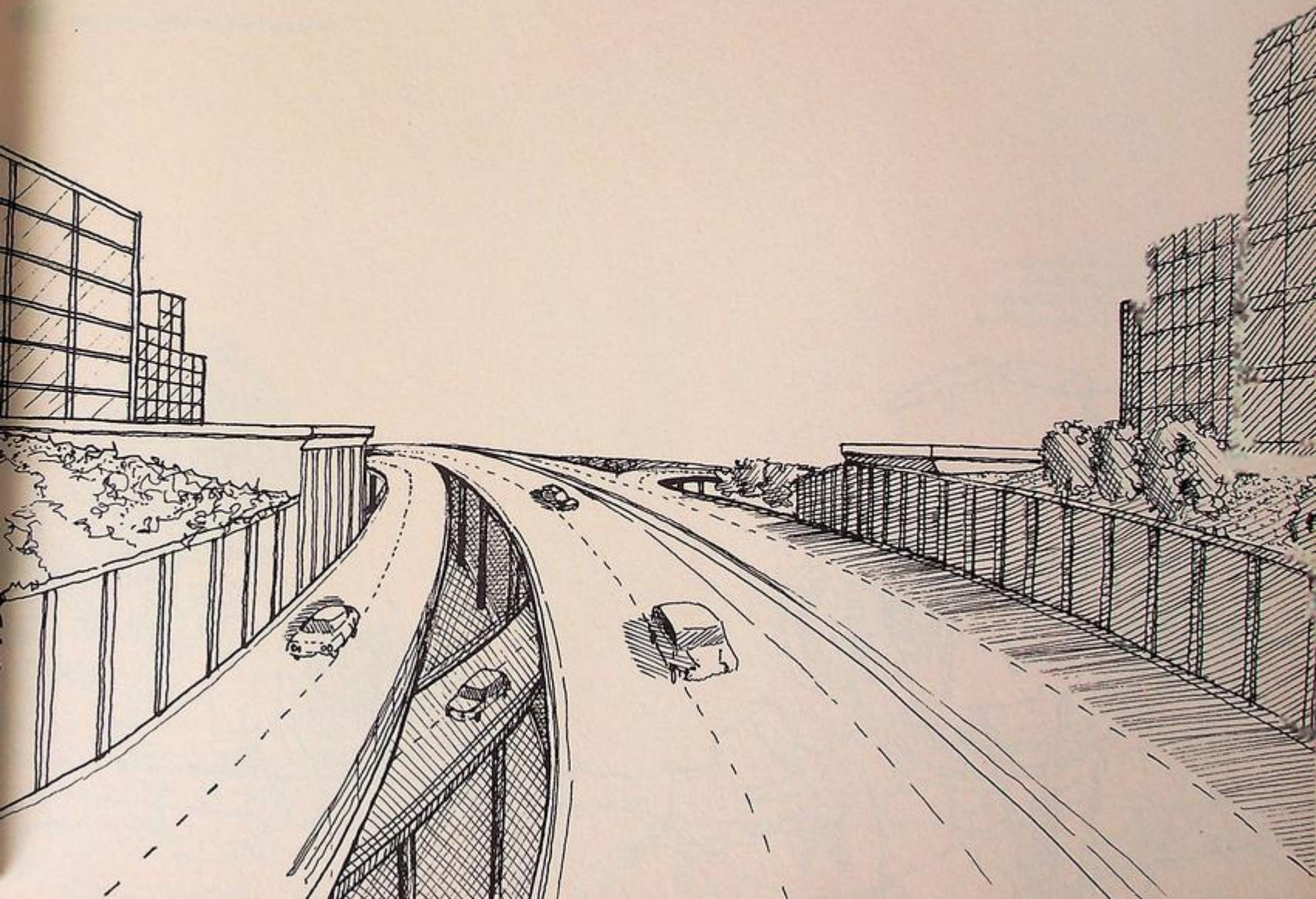
Arch bridge



Create a bridge over a wide river...



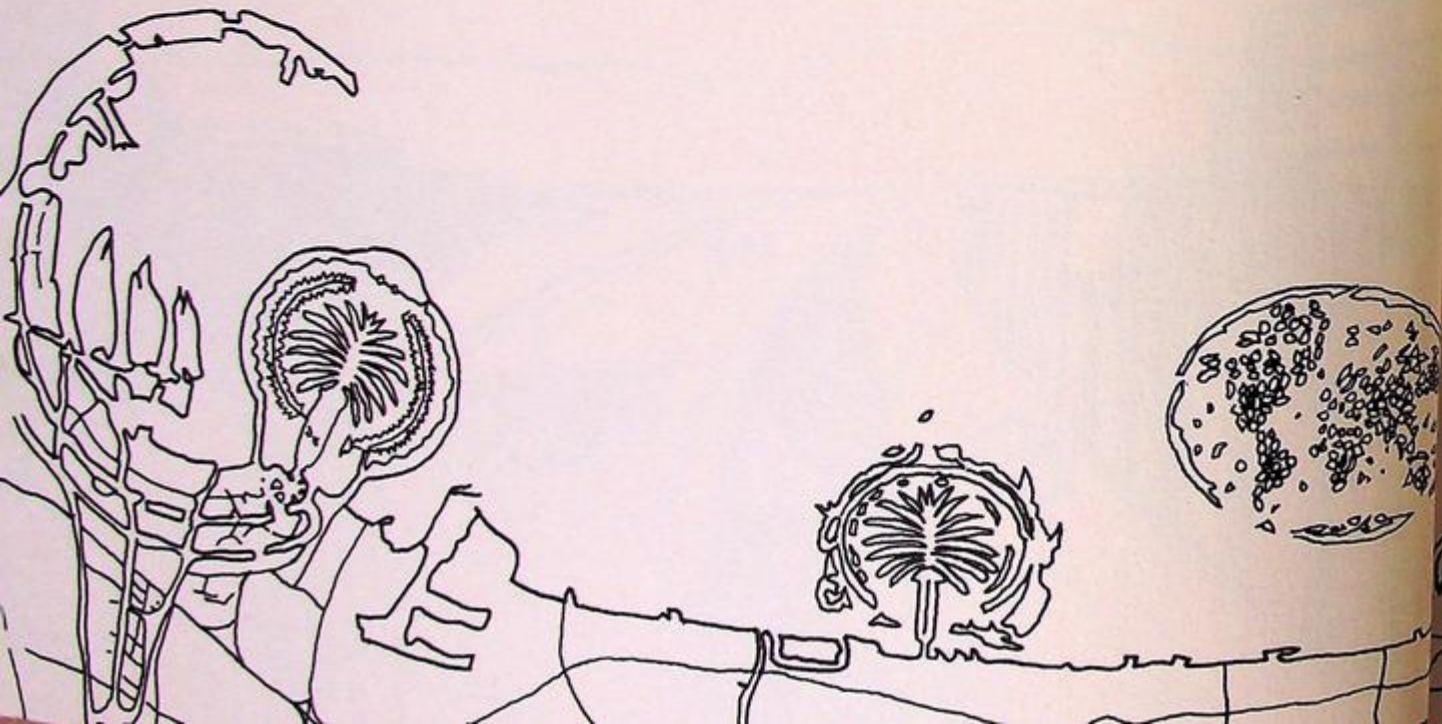
And over a highway...



In Dubai they have created a series of **new islands** along the coastline.

Design your own new island community...

*Islands, man-made archipelago,
Dubai, UAE. Conceived by Sheikh
Mohammed bin Rashid Al Maktoum,
developed by Nakheel Properties, 2003-08*

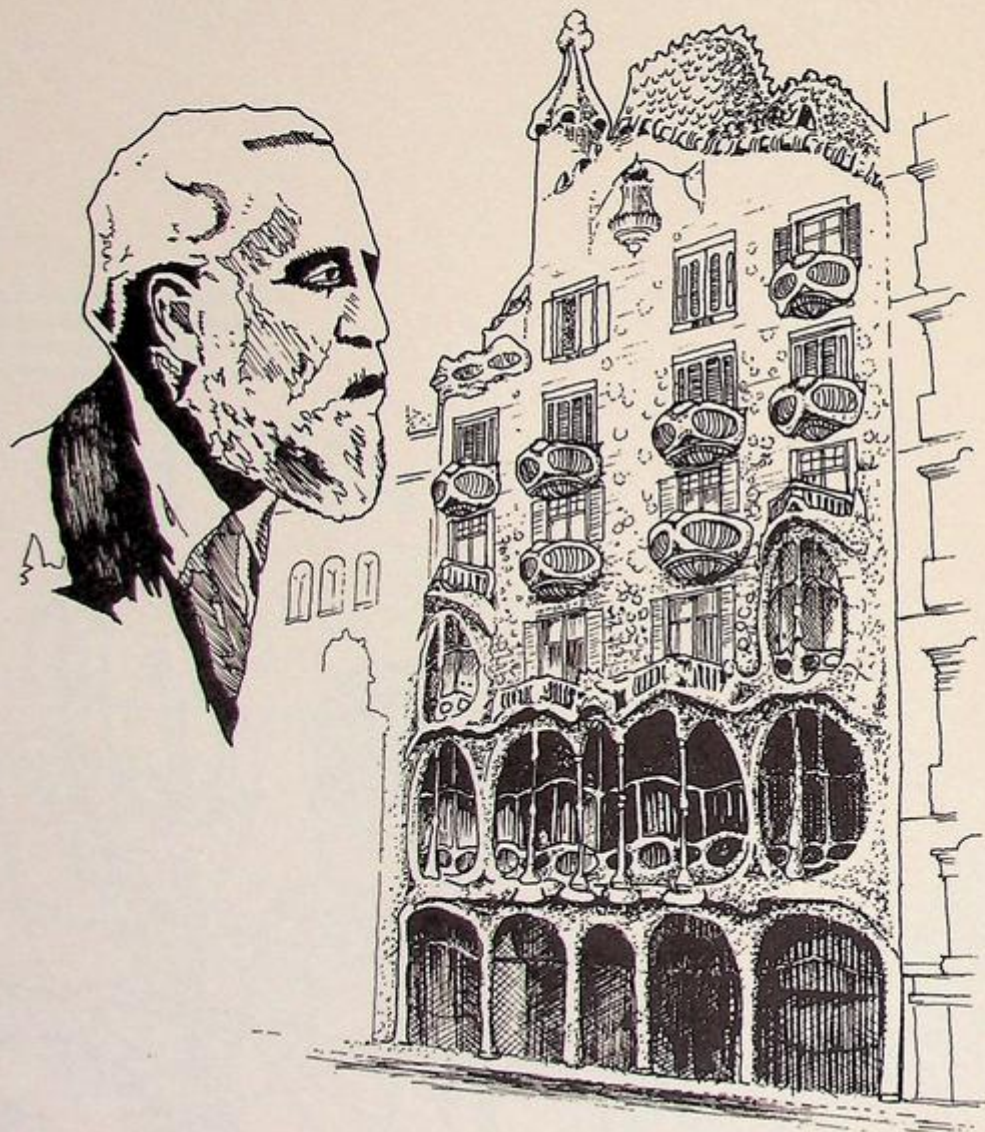


The architect of the future will

— Antonio Gaudí

build imitating Nature'

Design the external envelope of a building that resembles something found in nature...



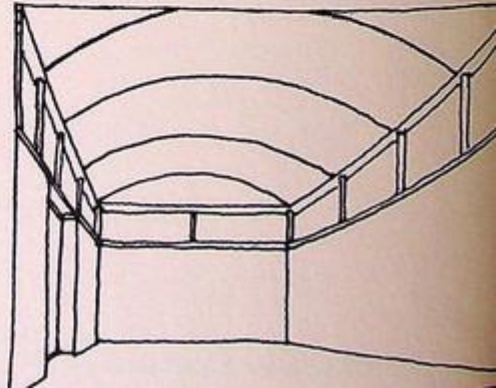
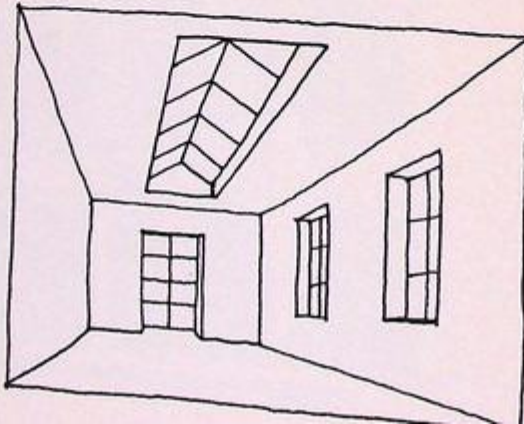
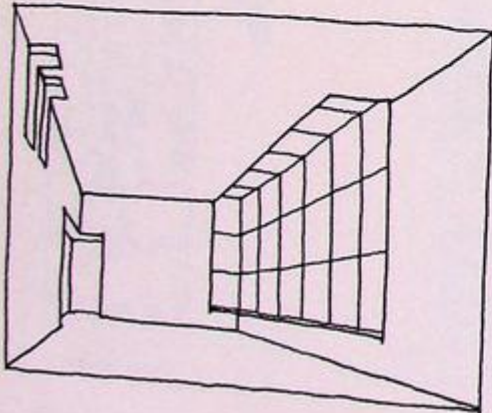
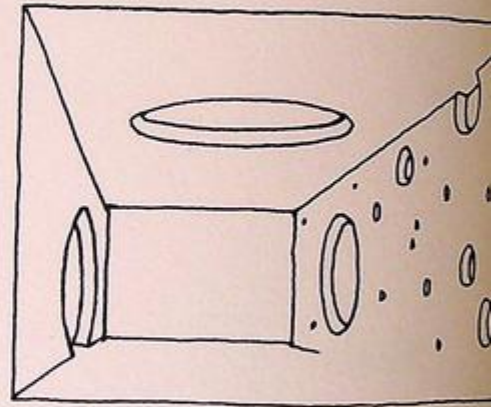
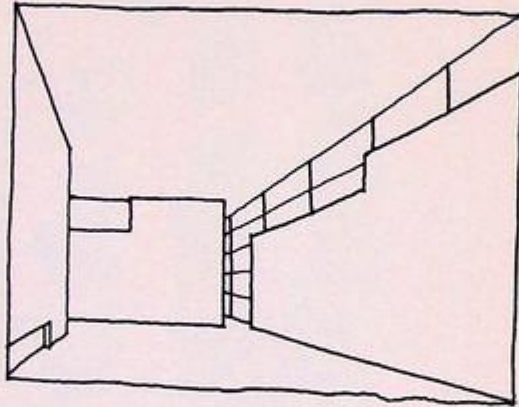
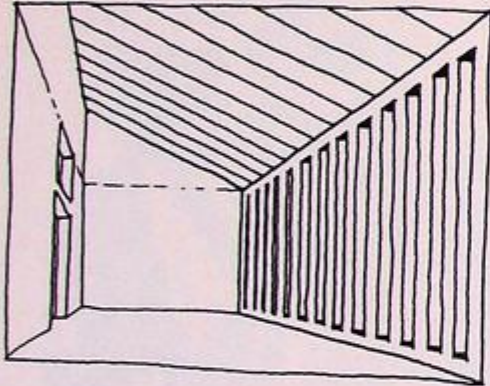
*Casa Batlló, Barcelona, Spain.
Antonio Gaudí/Josep Maria Jujol, 1906*



Plan drawing

Here are six examples of how the same room can be altered to **manipulate light** and space using different forms of window opening.

Use the same interior room proportion to draw your own ideas...

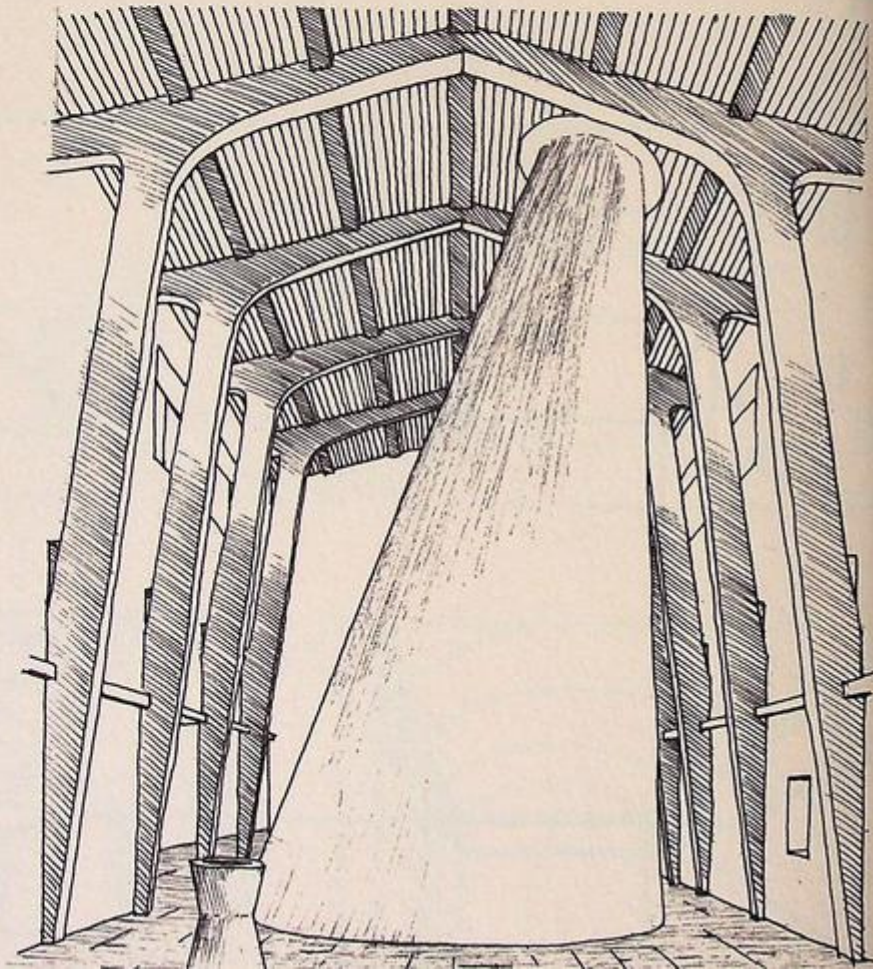
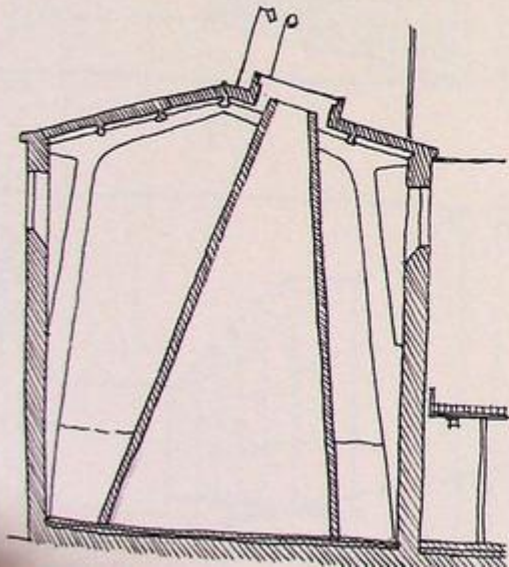


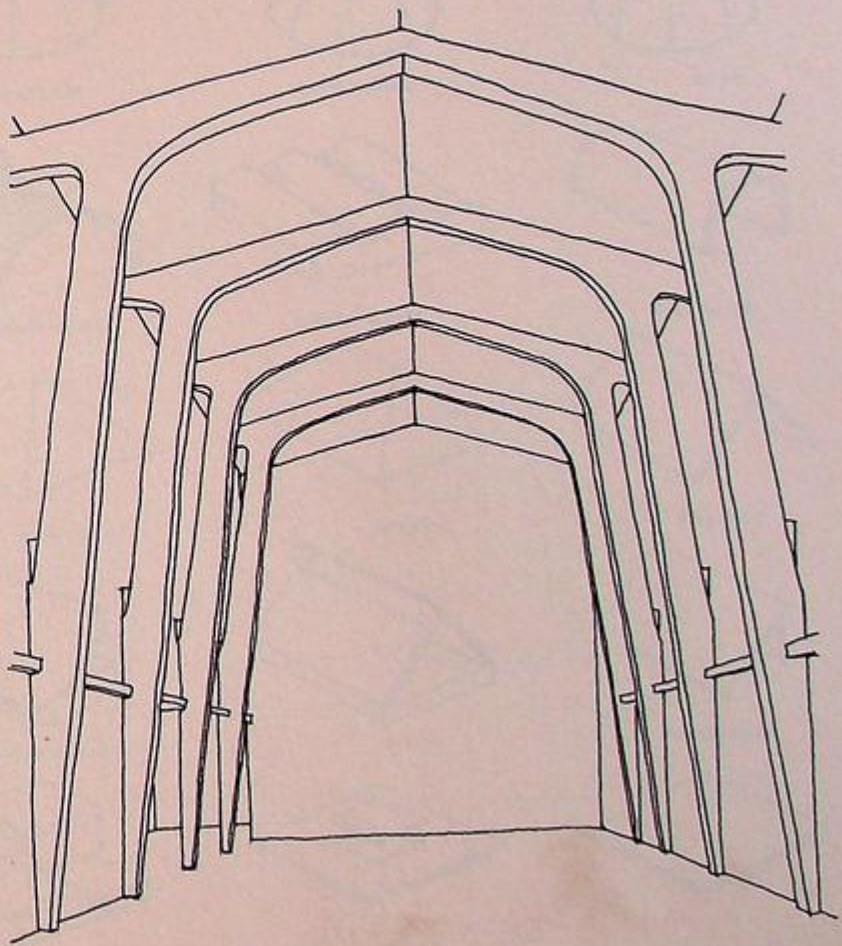
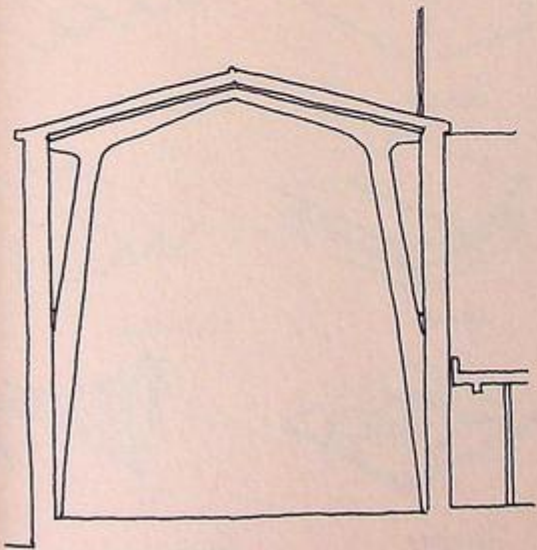
Theis and Khan designed a new **sacred space** while converting a London church, using the concept of a beam of light pouring through the roof.

Using the shell of the existing building, design and draw an idea for a new space using light to generate the form...

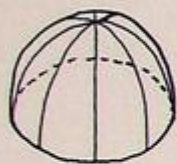
*Lumin United Reform Church, London, England.
Theis and Khan Architects, 2008*

Section showing the walls of the 'light beam' and the space within





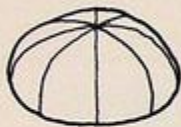
When designing the **roof of a building** here are a variety of forms to consider.



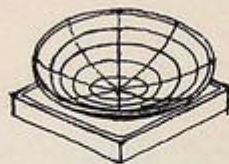
Dome



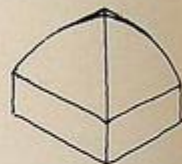
Conical Dome



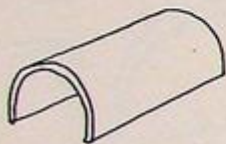
Flat Dome



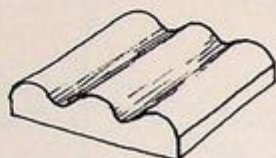
Inverted Dome



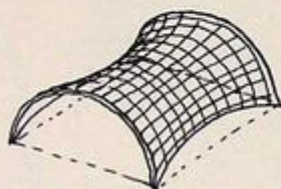
Vaulted



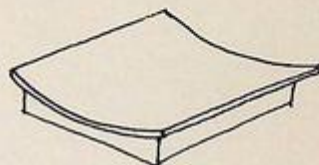
Barrel Vault



Multiple Barrel



Hyperbolic



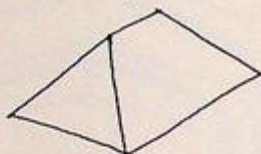
Saddle



Hyperbolic Paraboloid



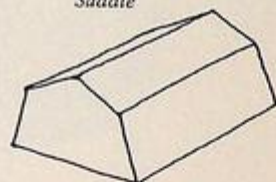
Gable End



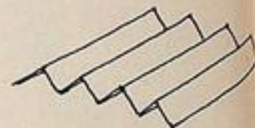
Hipped



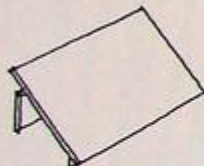
Pyramidal



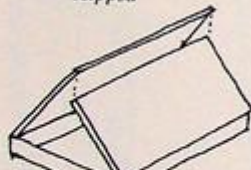
Mansard



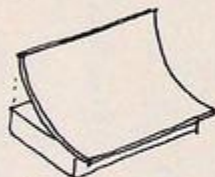
Folded Plate



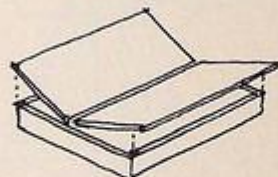
Monopitched



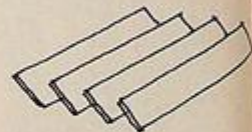
Scissor



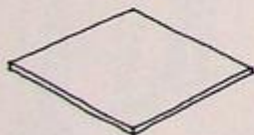
Monopitched Bow



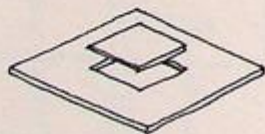
Butterfly



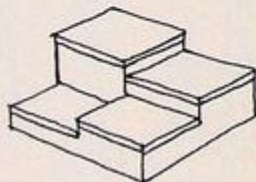
Saw Toothed



Flat



Lantern



Stepped



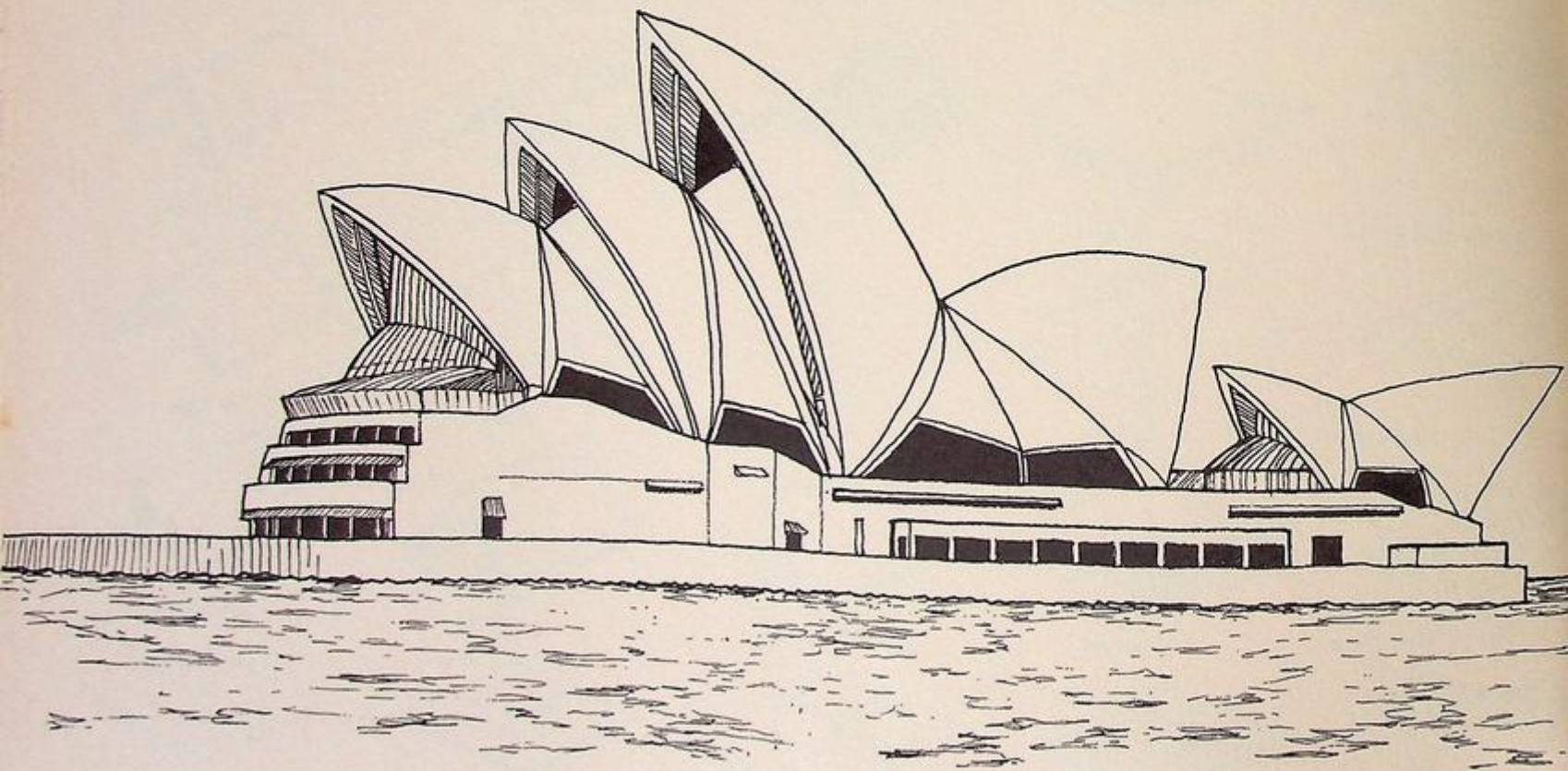
Perforated



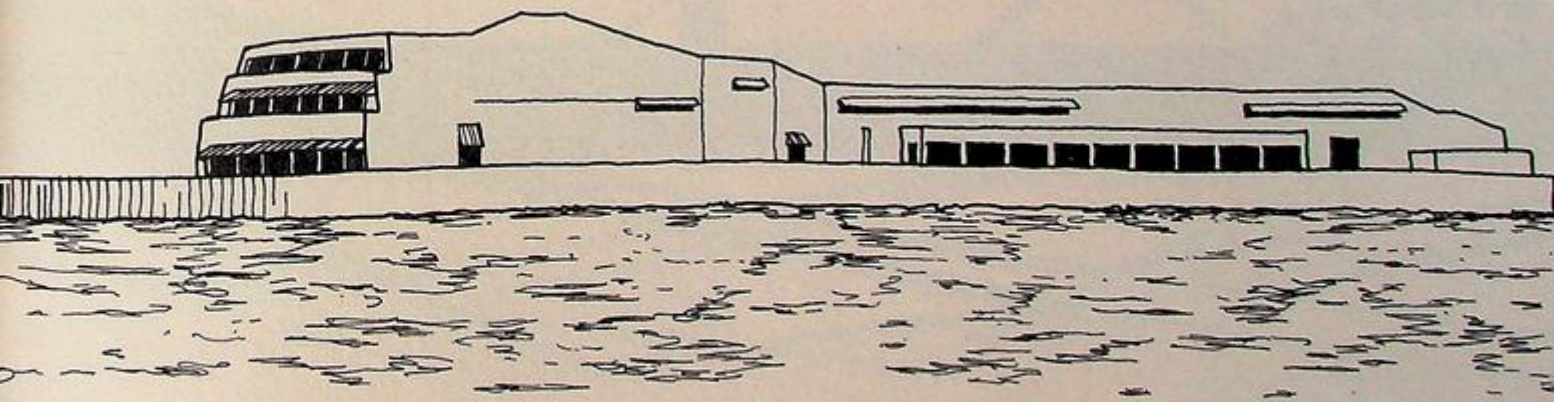
Tensile

The **Sydney Opera House** is dominated by its shell-like roof structure sitting on a large raised podium. Design your own roof, considering how the interior acoustics of the building might influence the external roof shape.

Design a roof form that could be supported by this podium...

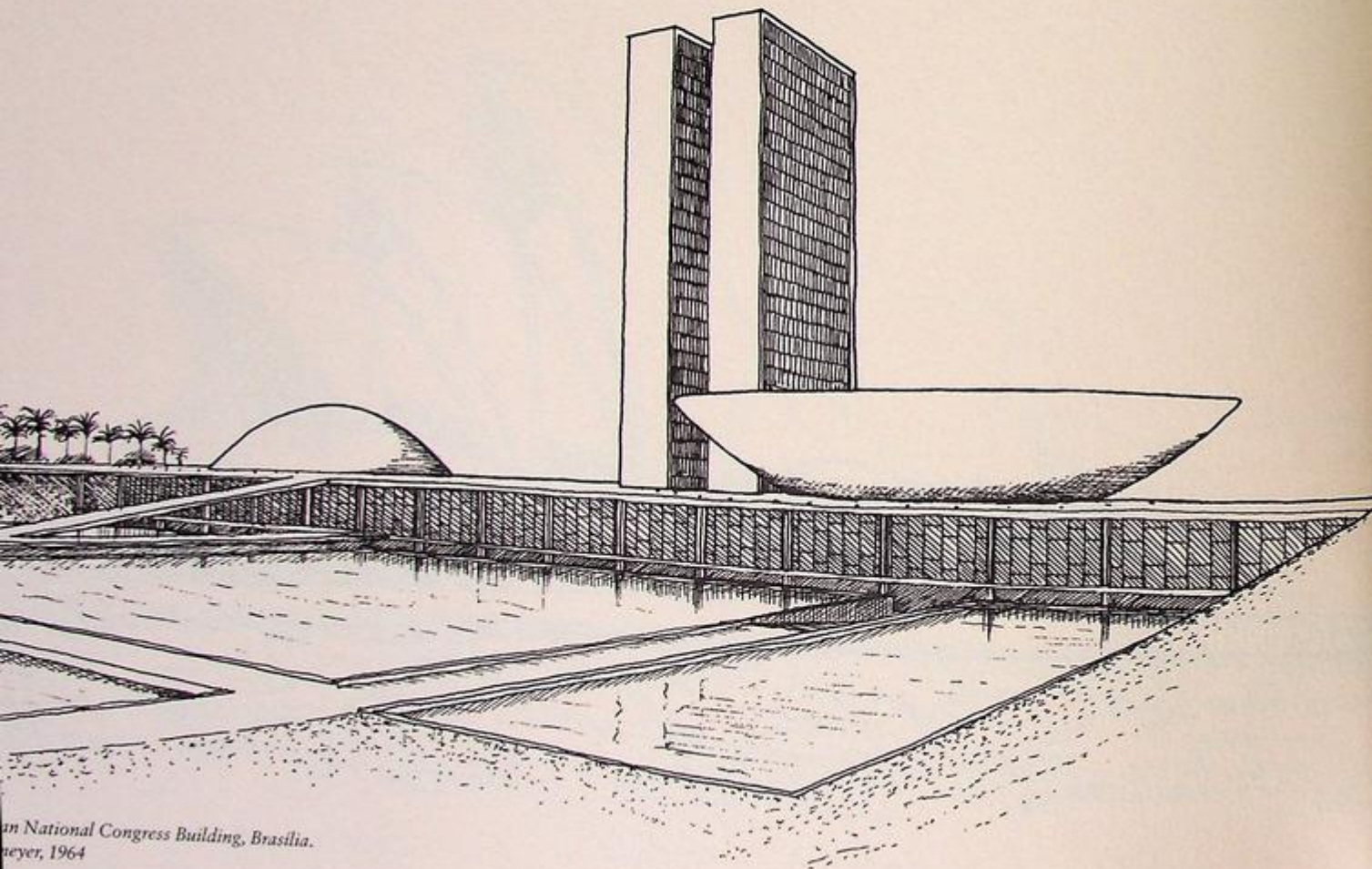


The Sydney Opera House, Sydney, Australia. Jorn Utzon, 1973



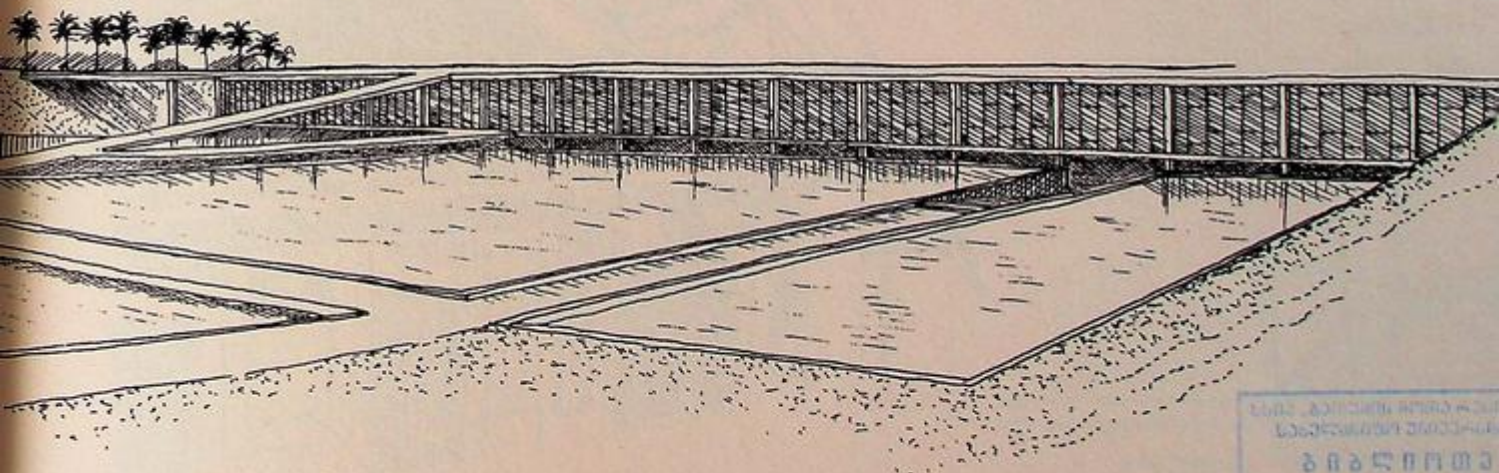
characterized by their **symbolic roof forms,**
representing equilibrium and balance, the civic buildings for Brazil's new capital
Brasília were designed by Oscar Niemeyer.

*Make other suggestions of roof forms that would symbolize
Brazilian progress in the 21st century. ...*



*... National Congress Building, Brasília.
Niemeyer, 1964*

37785



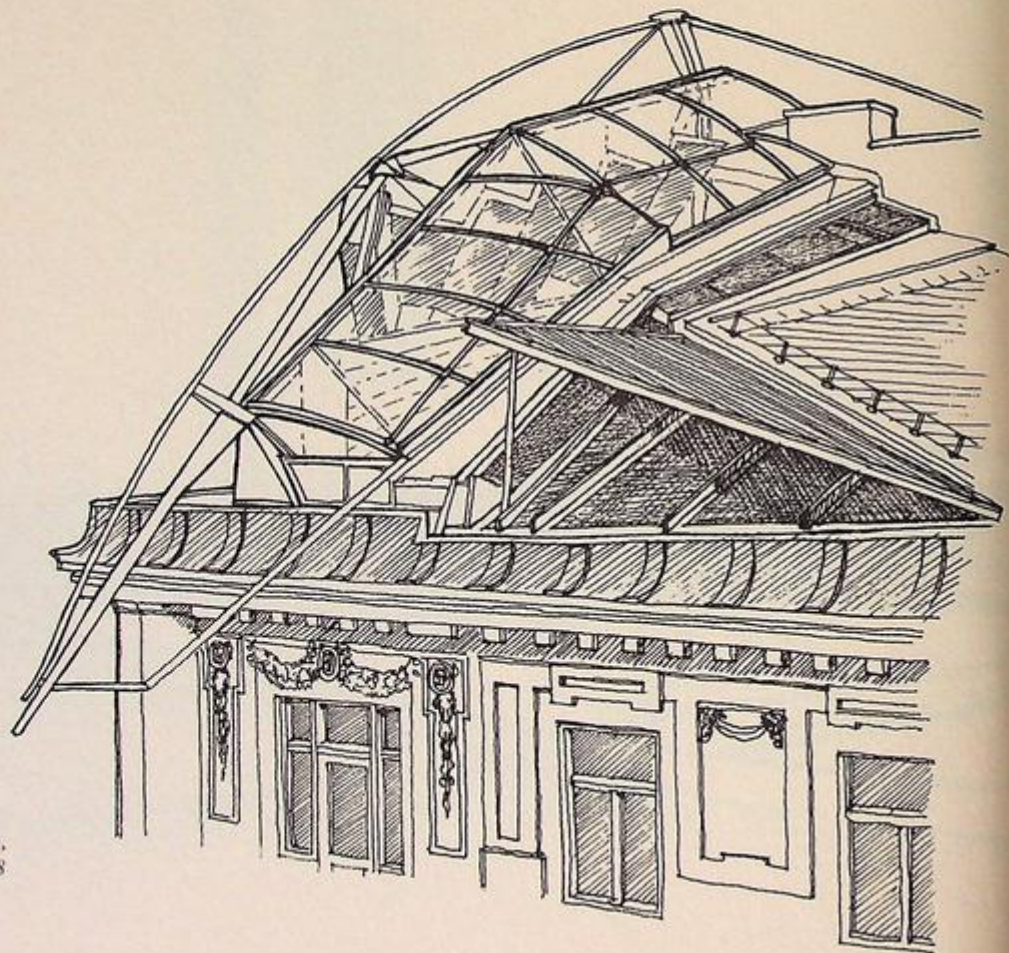
THE UNIVERSITY OF CHICAGO
LIBRARY
37785

Austrian architectural group **Coop Himmelb(l)au** often begin projects with an intuitive sketch that they describe as 'draw[ing] with one's eyes closed', akin to the 'automatic drawing' practised by Dadaists and Surrealists. This rooftop extension is an example of this method.

Make your own 'automatic drawing' and use it to generate the plan or section of a building. You may need to make a sketch model first...



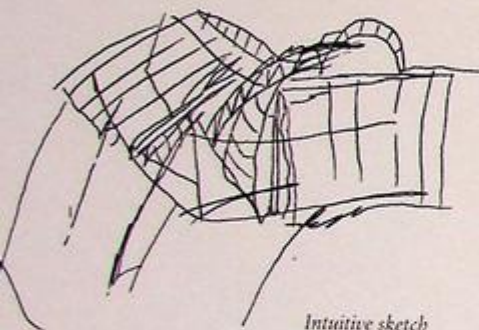
Intuitive sketch



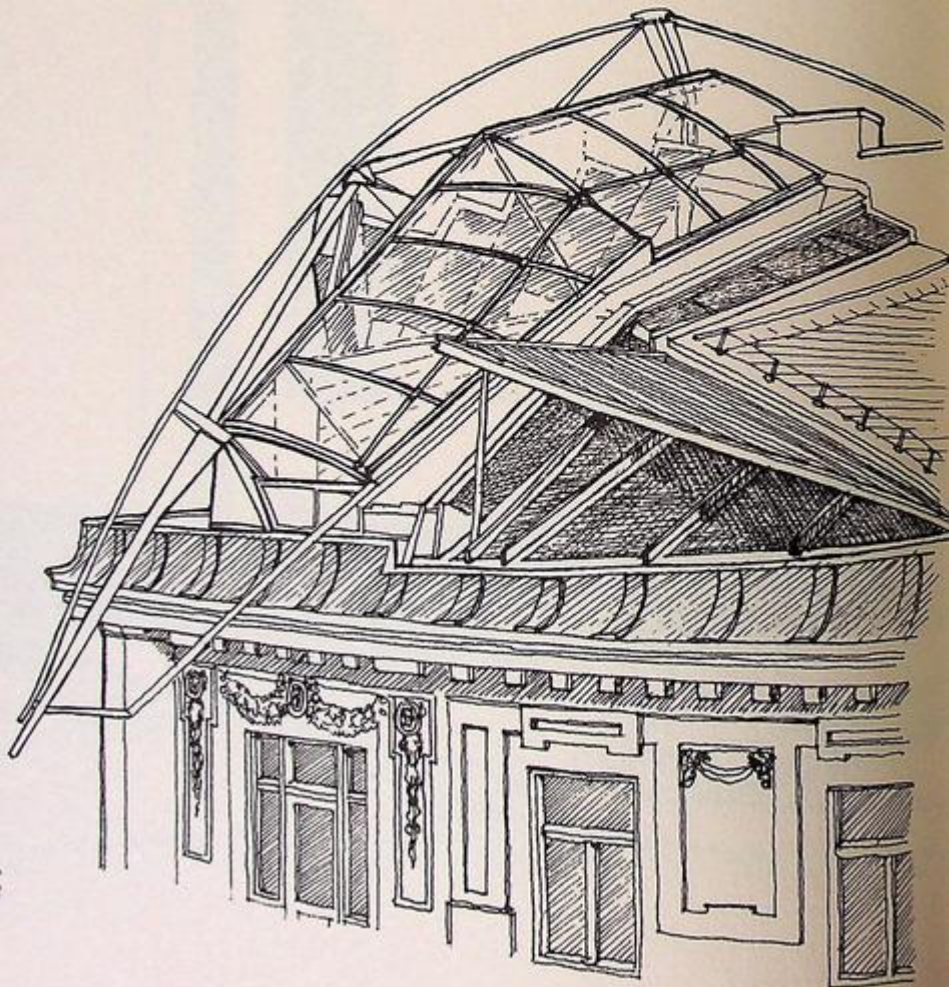
Falkestrasse rooftop renovation, Vienna, Austria. Coop Himmelb(l)au, 1988

Austrian architectural group **Coop Himmelb(l)au** often begin projects with an intuitive sketch that they describe as 'draw[ing] with one's eyes closed', akin to the 'automatic drawing' practised by Dadaists and Surrealists. This rooftop extension is an example of this method.

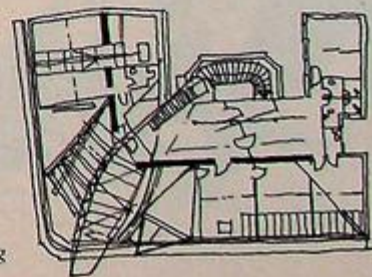
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Intuitive sketch



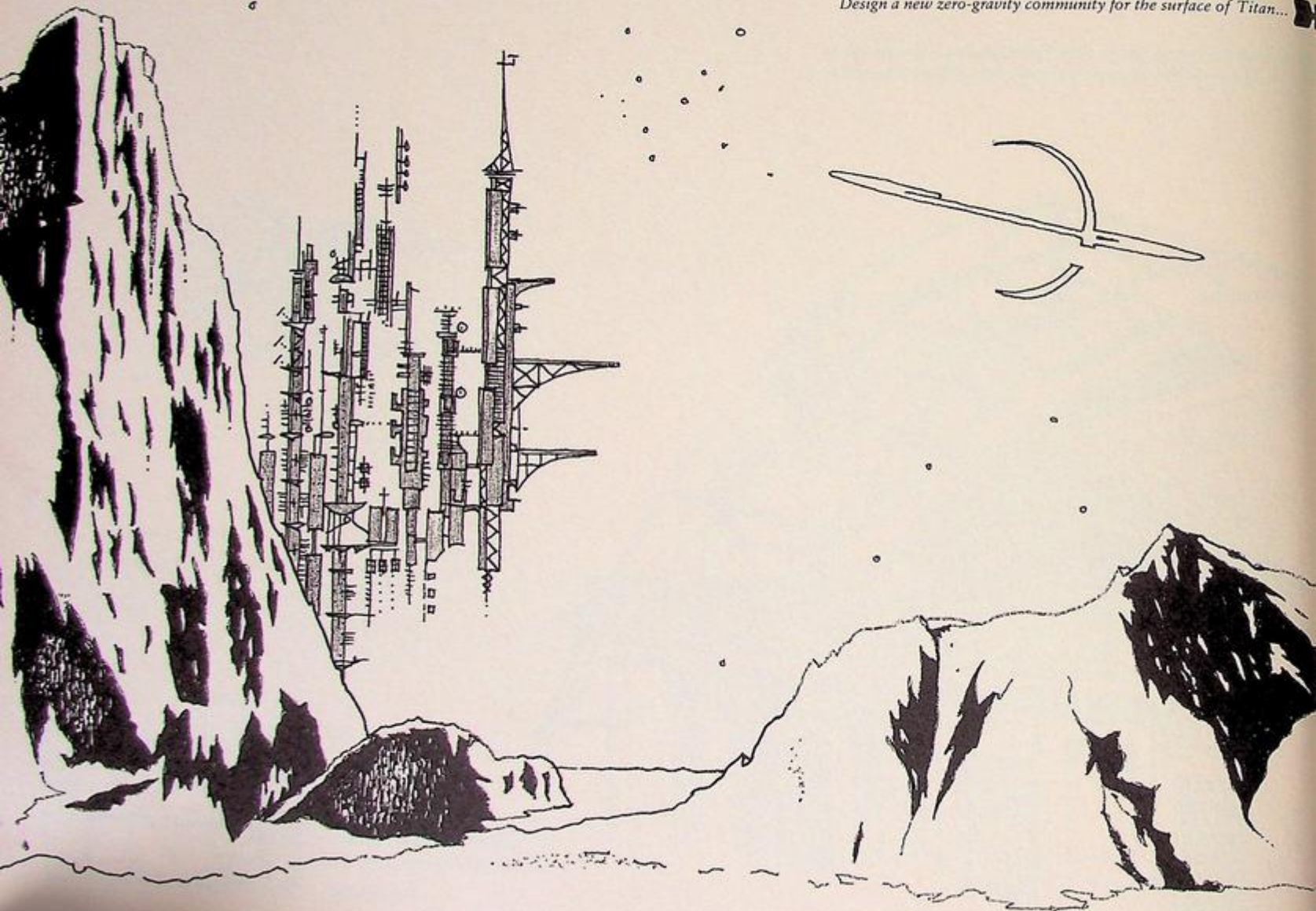
Falkestrasse rooftop renovation, Vienna, Austria. Coop Himmelb(l)au, 1988



Plan drawing

Populating planets has long been a dream of man as he has explored the outer reaches of space.

Design a new zero-gravity community for the surface of Titan...

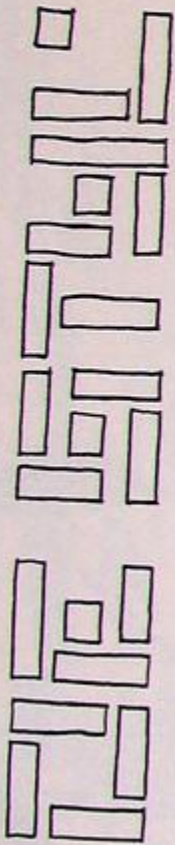




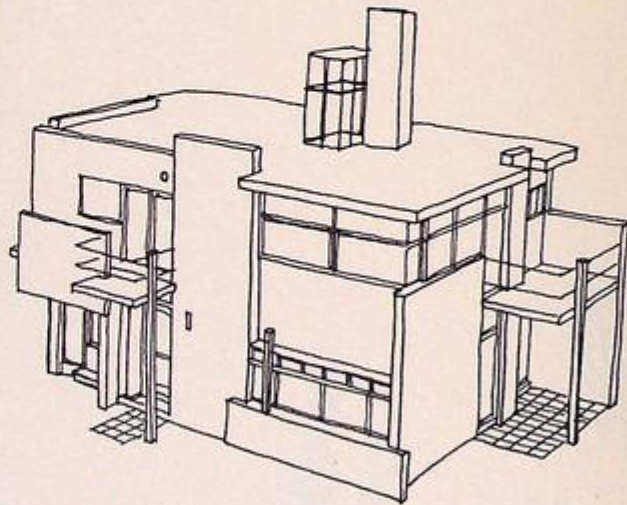
De Stijl [the Style] movement in the Netherlands began in 1917, its work
characterized by abstract composition and strong primary colours. The most famous
members of De Stijl were Piet Mondrian, Gerrit Rietveld and Theo van Doesburg.

*Design a kiosk to sell the De Stijl magazine and express
the spirit of the movement...*

*Drawing of the typeface
created by van Doesburg
for the De Stijl magazine*

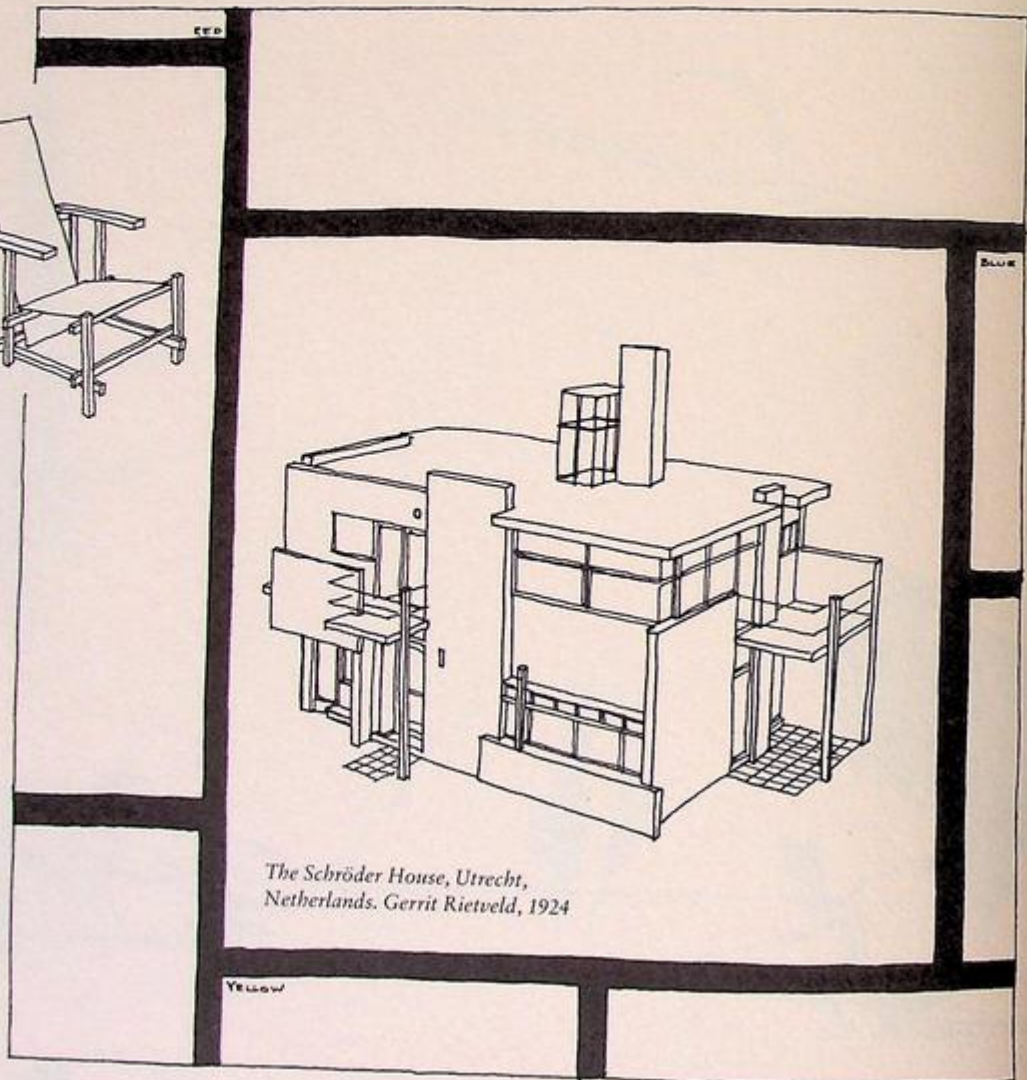


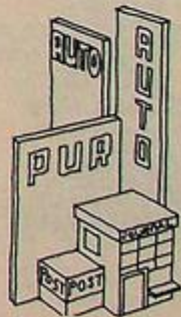
*The Red Blue Chair,
Gerrit Rietveld, 1917*



*The Schröder House, Utrecht,
Netherlands. Gerrit Rietveld, 1924*

*Composition in the
style of Piet Mondrian*



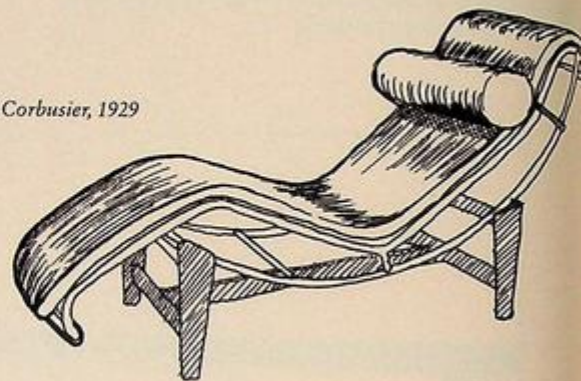


*Design for a Kiosk,
Lajos Kassák, 1923*

Many architects have designed very distinctive and important chairs using lots of different shapes and sizes.

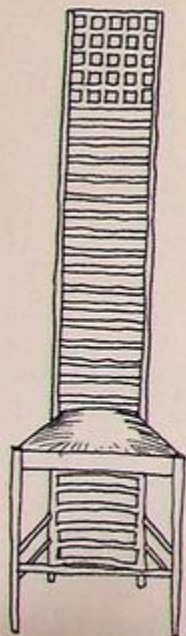
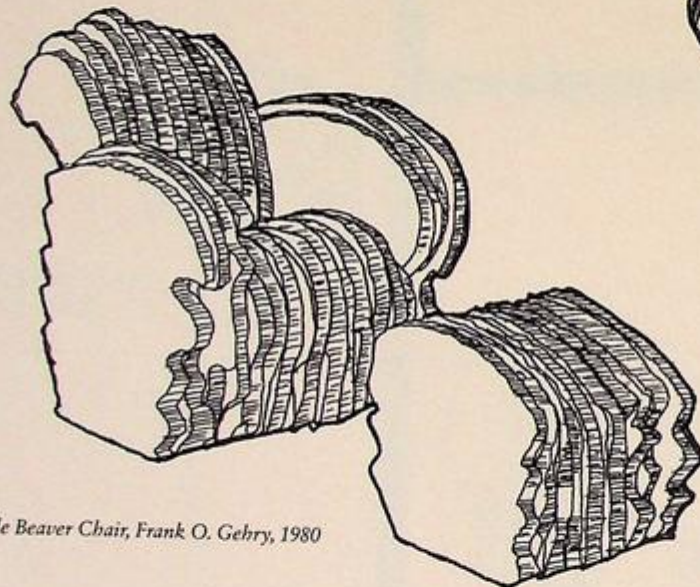
chairs

LC4 Chaise Lounge, Le Corbusier, 1929



Why don't you have a go at designing a chair...

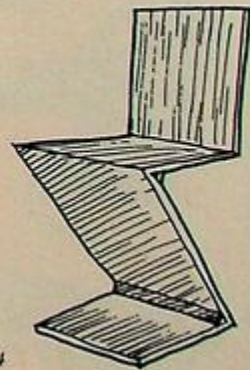
Little Beaver Chair, Frank O. Gehry, 1980



Hill House Chair, Charles Rennie Mackintosh, 1903

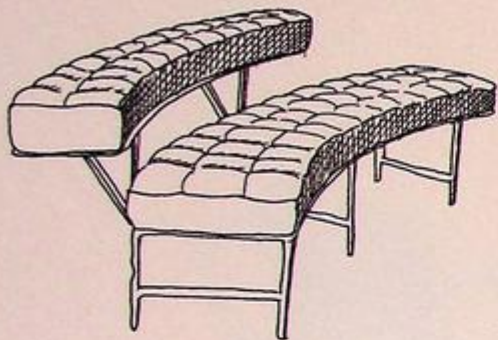


Series 7 Chair, Arne Jacobsen, 1955

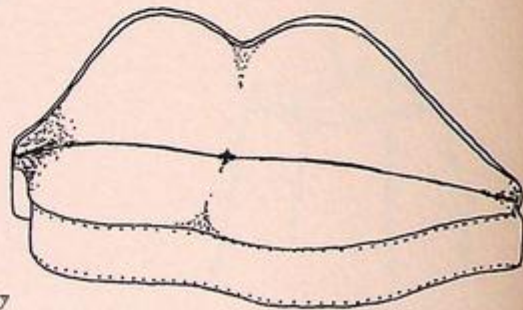


Zig Zag Chair, Gerrit Rietveld, 1934

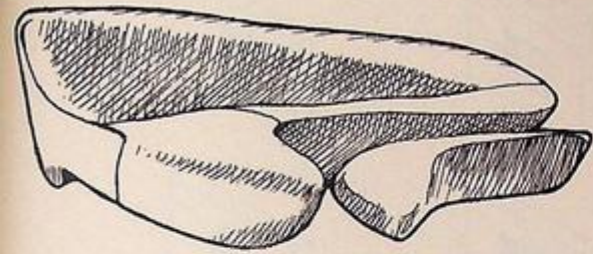
You may also consider a **design for seating**
more than one person.



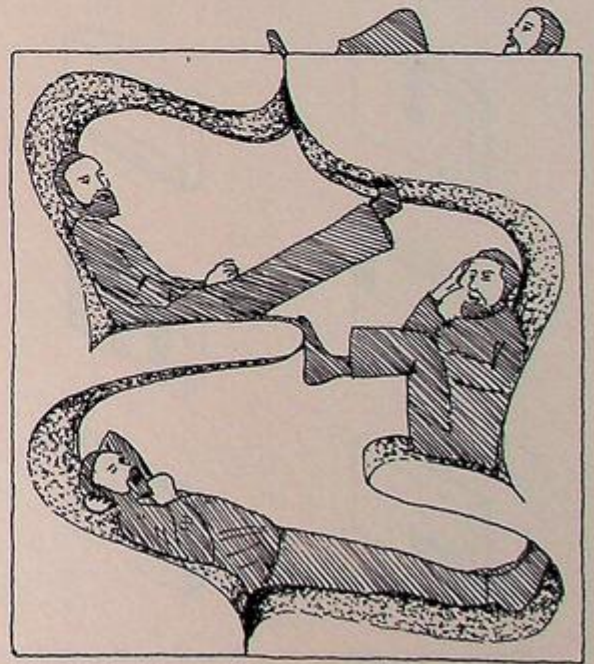
Monte Carlo Sofa, Eileen Gray, 1929



Mae West Lips Sofa, Salvador Dalí, 1937

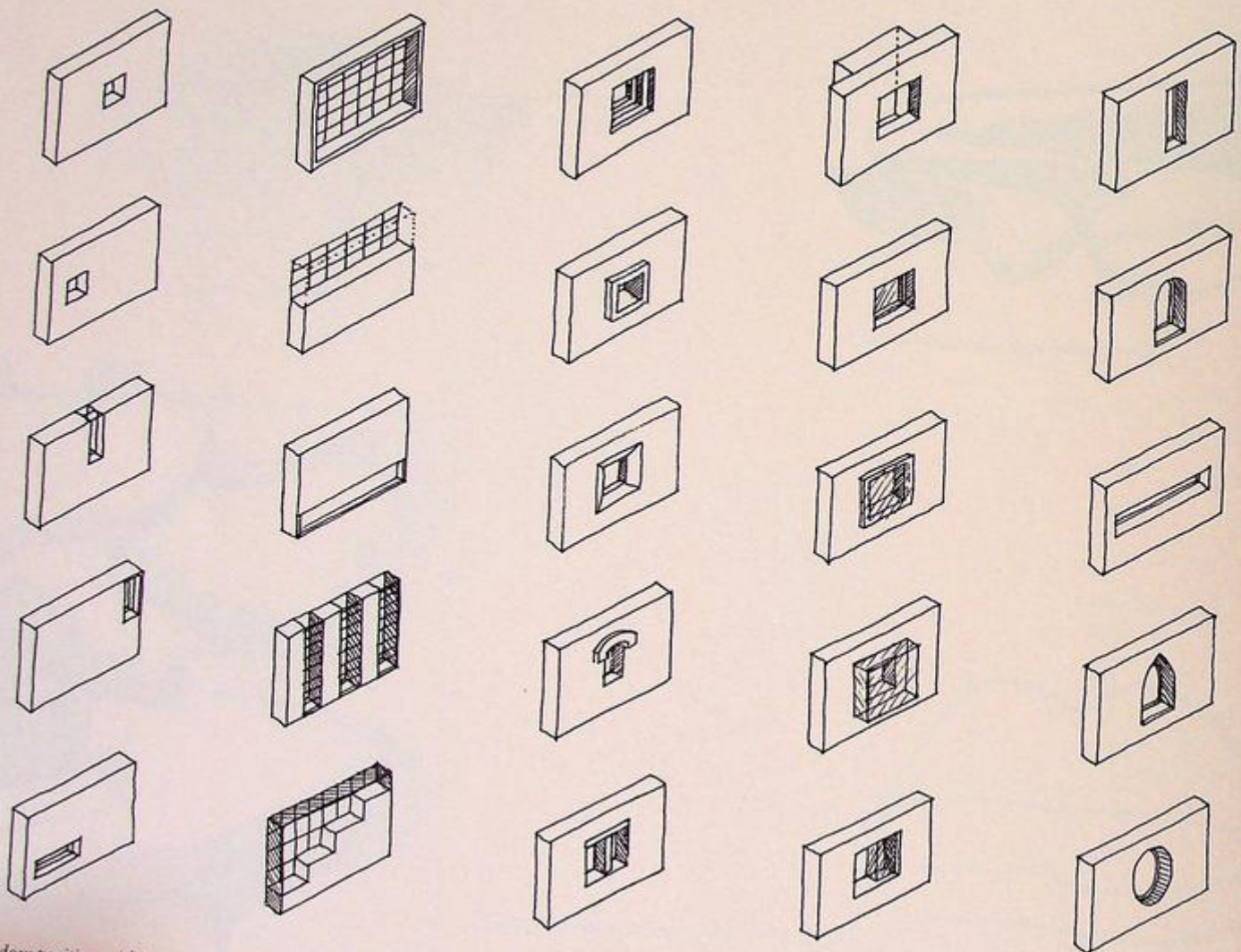


Moon System sofa, Zaha Hadid, 2007



Pantower, Verner Panton, 1969

and its opening.



Window position within the wall

Window to wall proportion

Window profile

Location of frame

Shape of opening

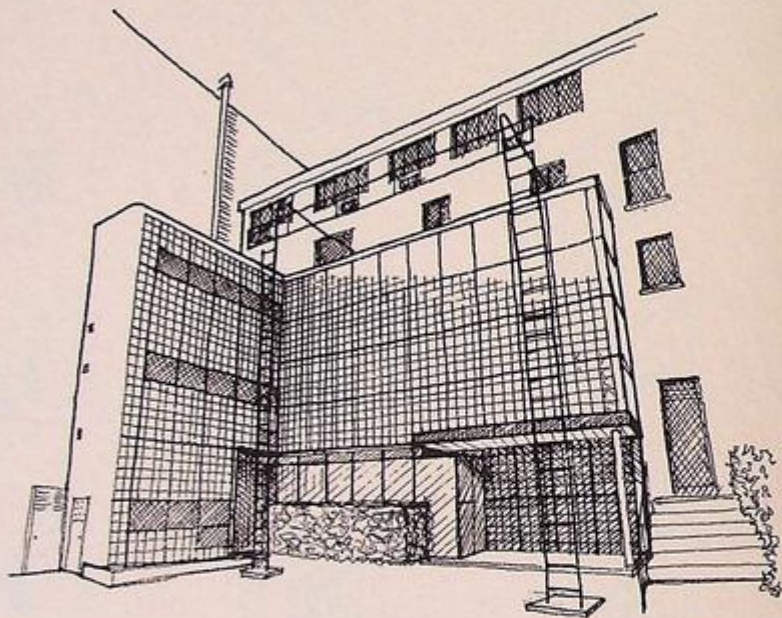
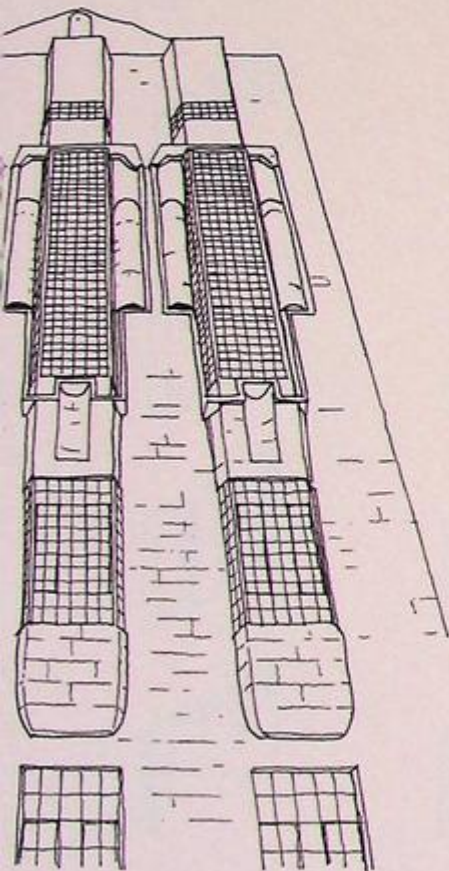
Can you suggest any more variations?



as a different attitude to
all, free-form hole.

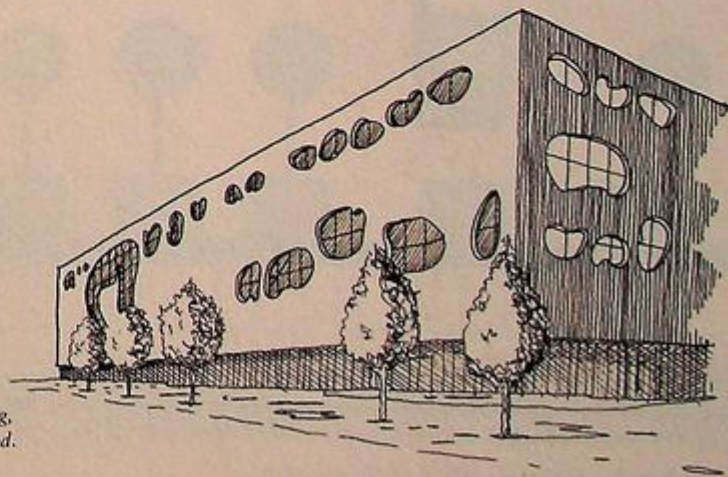
Window design:

Suggest some other types of window openings...



*Maison de Verre, Paris,
France. Pierre Chareau and
Bernard Bijvoet, 1932*

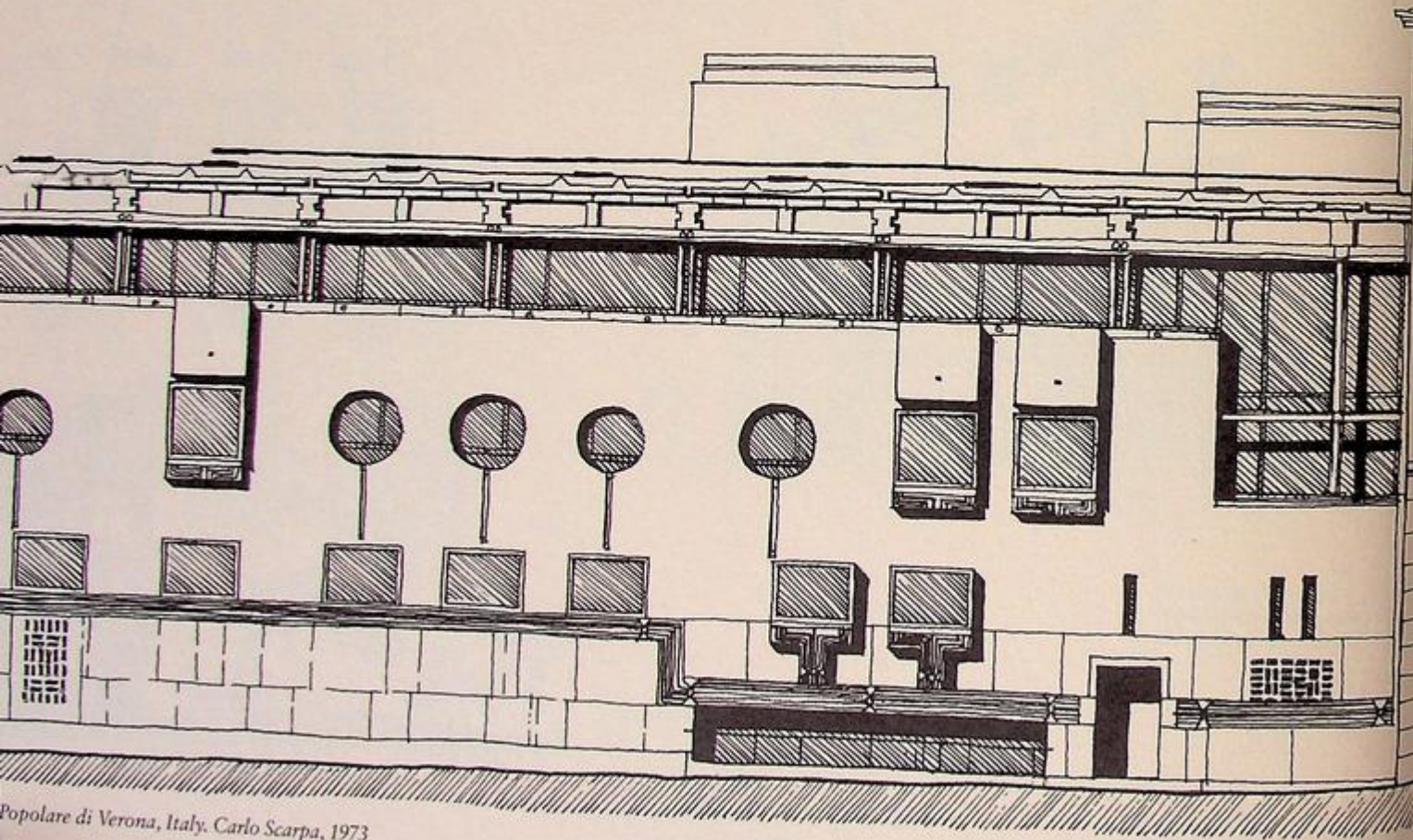
*Glasgow School of Art,
Scotland. Charles Rennie
Mackintosh, 1909*



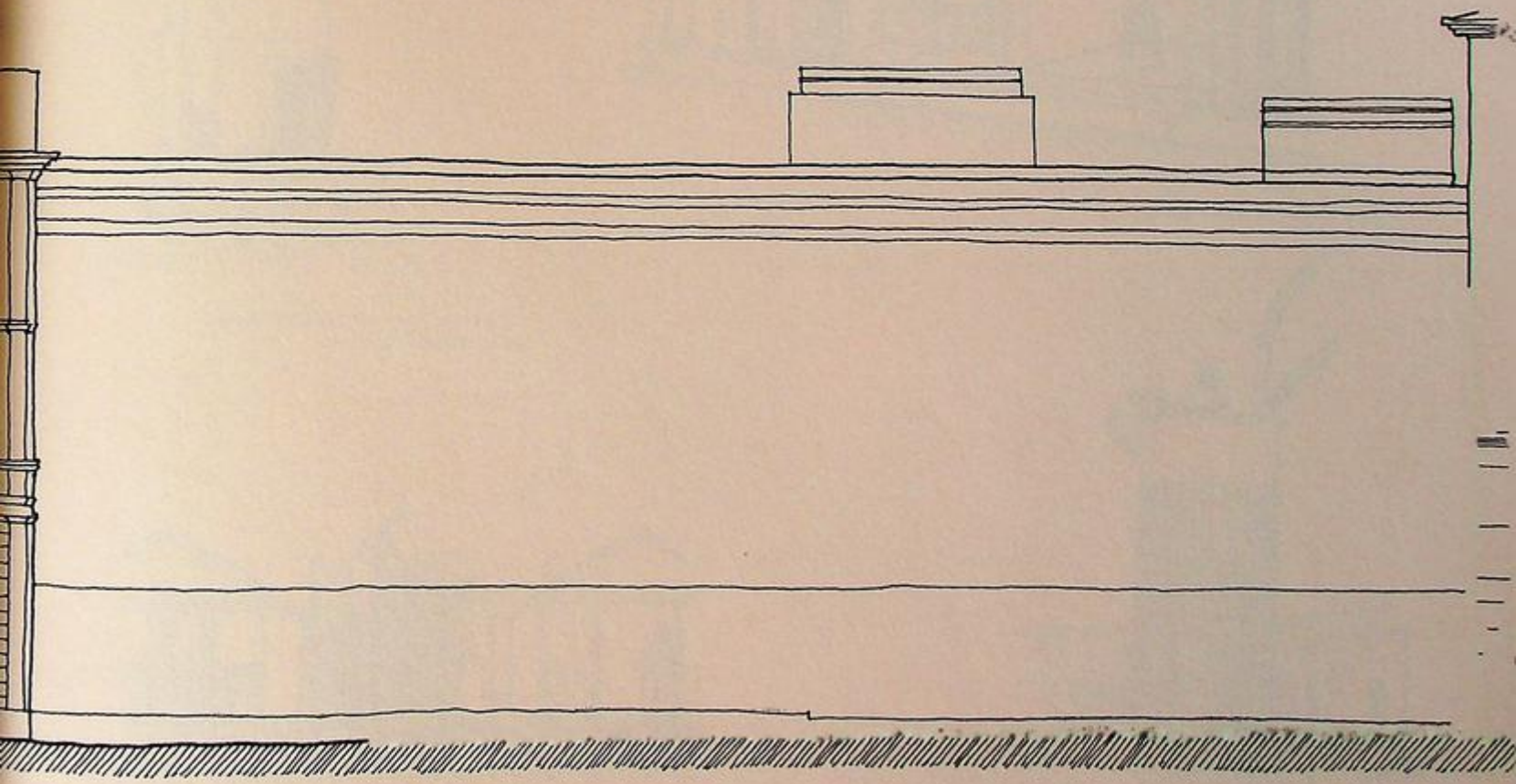
*The Public arts building,
West Midlands, England.
Will Alsop, 2008*

Different **types and shapes of window** make up the façade of this building: recessed (circular), flush (oblong), projecting (square) and clerestory (below the roofline; horizontal).

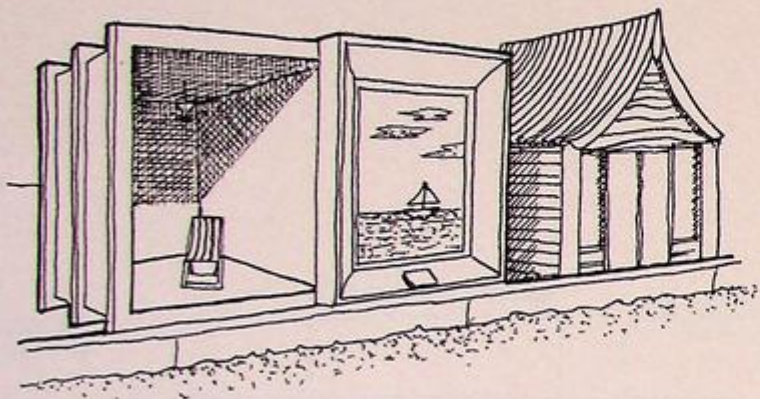
Using the same exterior wall, experiment with your own composition of windows and openings...



Popolare di Verona, Italy. Carlo Scarpa, 1973

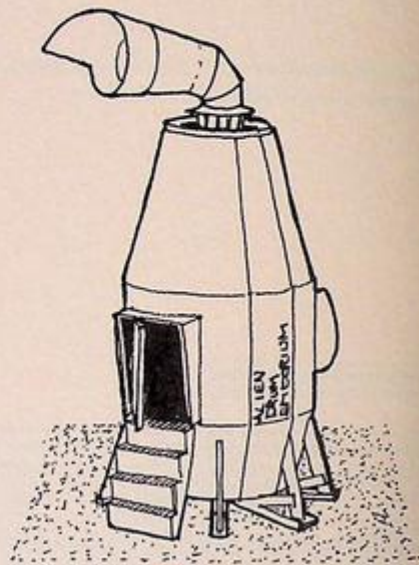


innovative **beach huts** were created for a competition to
design the Beach Hut for the 21st Century.

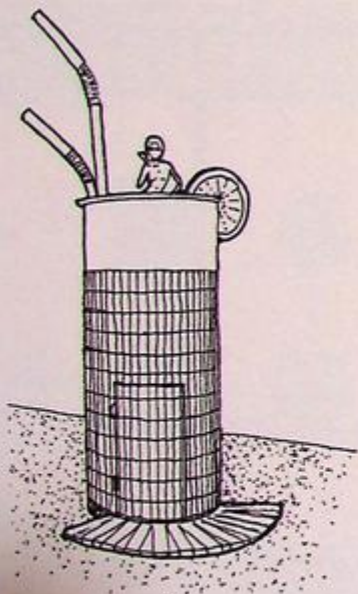


'Wide Hut', Feix & Merlin

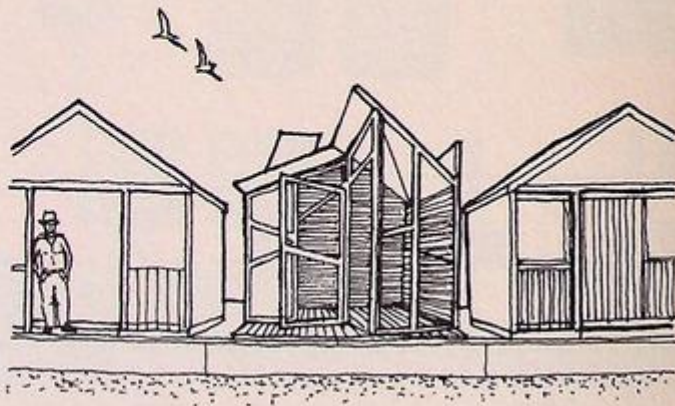
Considering seaside themes, what would your
competition entry look like...



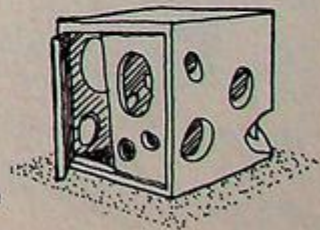
'Alien Drum Sensorium', Alasdair Toozer,
Gareth Hoskins Architects



'Up and See Me', Michael Trainor



'Lattice Hut', Andrew Siddall, Civic Architects

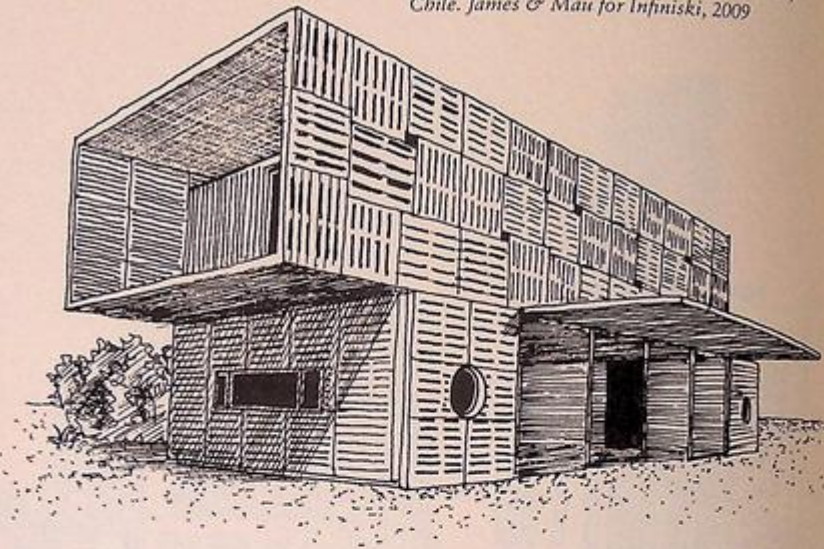
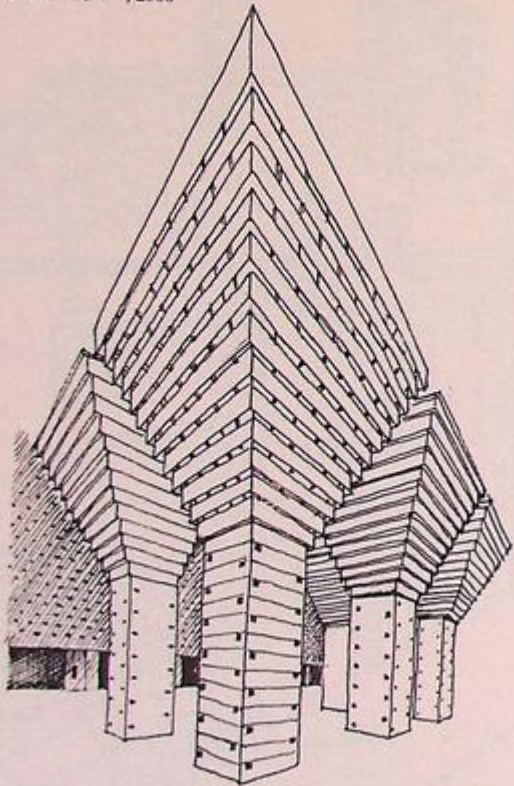



'Cheese 42', Christian
Uhl Architekt

These buildings have all used **recycled materials**
to construct the fabric of the building.

*Manifesto House, (timber pallets), Curacavi,
Chile. James & Mau for Infiniski, 2009*

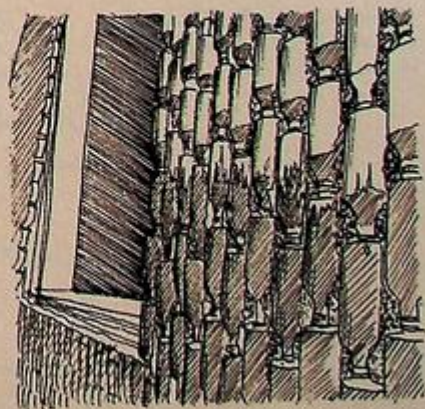
*'Pavilion of Temporary Happiness'
(33,000 beer crates), Brussels, Belgium.
SHSH Architecture/V+, 2008*



Sketch out the design of a simple house or pavilion using waste products... 




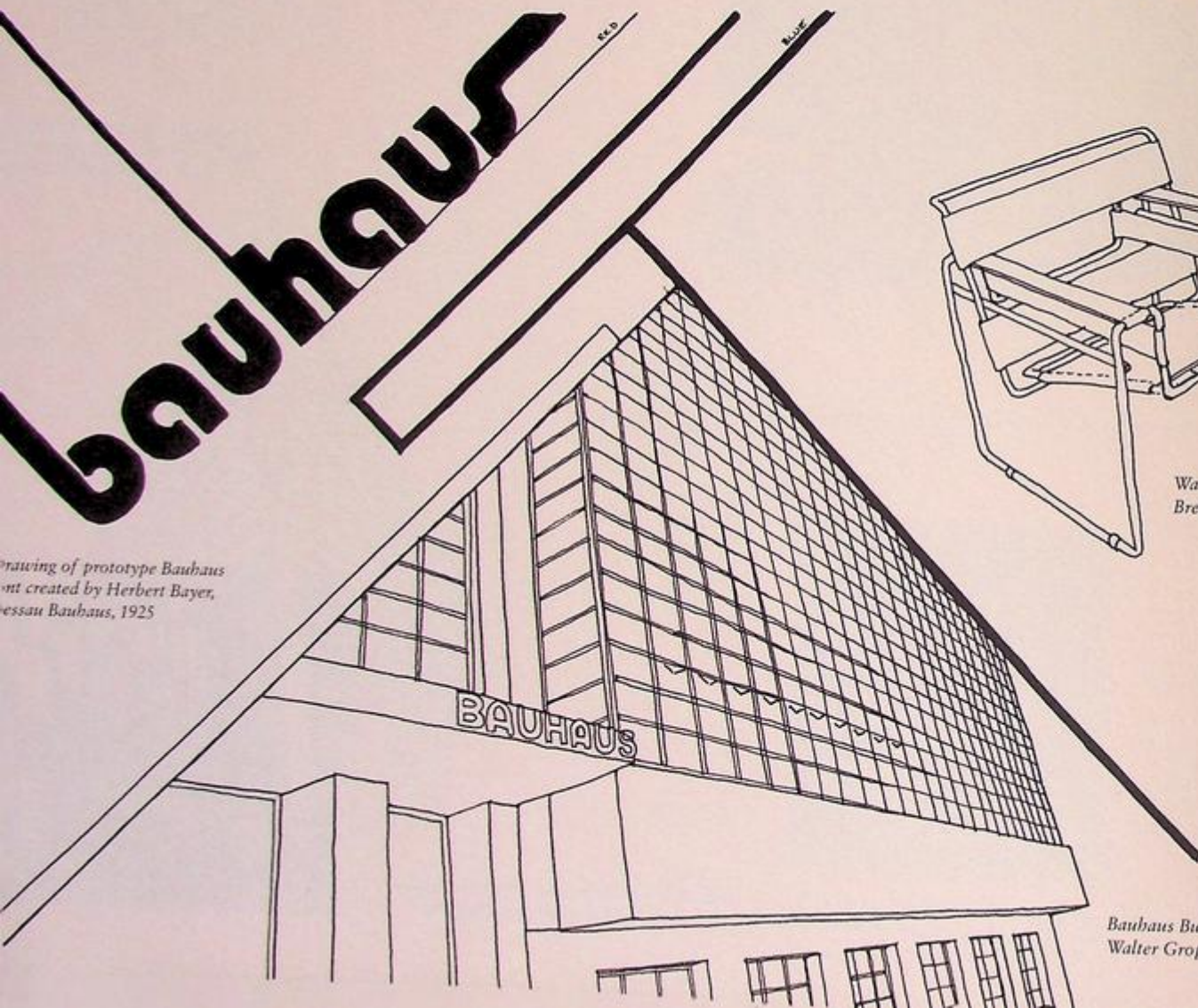
*Lucy's House (27,000 stacked carpet tiles), Alabama,
USA. Samuel Mockbee, Rural Studio, 1997*



*Wat Pa Maha Chedi Kaew temple (1.5 million
beer bottles), Sisaket province, Thailand.*

The **Bauhaus** school of design, founded in Germany in 1919, took a radical approach to the combined teaching of craft and design with the ambition of creating a new unity between art and technology. They explored the new techniques of industrialization through simple geometric forms.

Create your own sculptural form using a combination of circles, triangles and squares... 



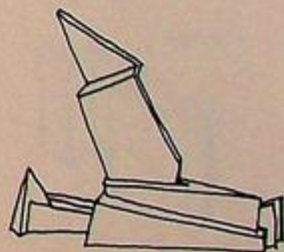
*Drawing of prototype Bauhaus
font created by Herbert Bayer,
Dessau Bauhaus, 1925*



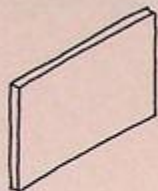
*Wassily Chair, Marcel
Breuer, 1926*

*Bauhaus Building, Dessau, Germany.
Walter Gropius, 1926*

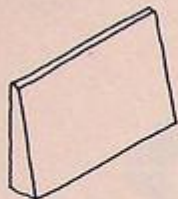
*Monument to the March Dead, Weimar,
Germany. Walter Gropius, 1922*



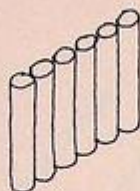
Here are a various **wall structures.**



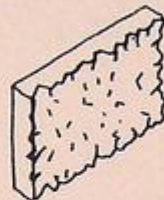
Thin Plane



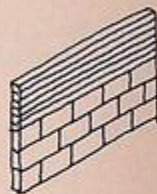
Battered



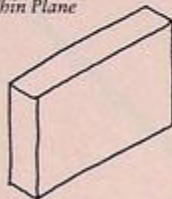
Close Column



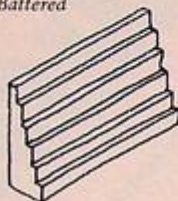
Mass



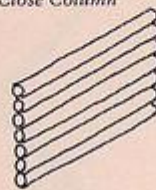
Masonry



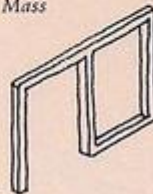
Thick Plane



Stepped



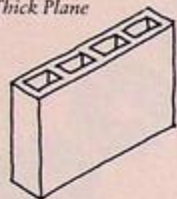
Log Wall



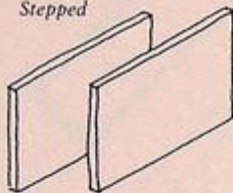
Frame



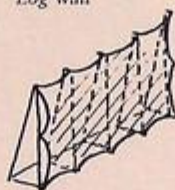
Timber



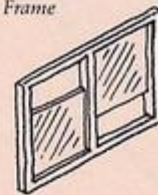
Honeycomb



Parallel Plane



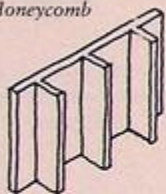
Fabric Skin



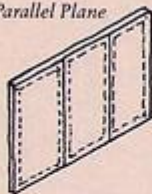
In Fill



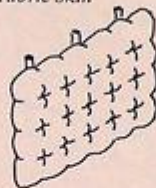
Concrete



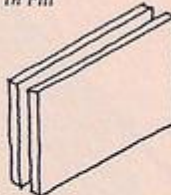
Buttress



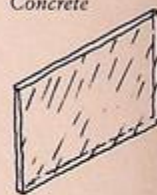
Panel



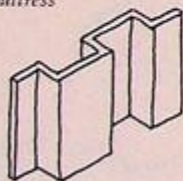
Pneumatic Air



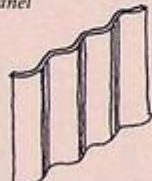
Layered



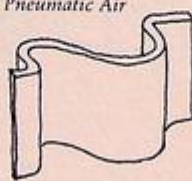
Glass



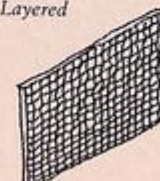
Crenulated



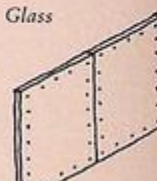
Corrugated



Plastic



Woven

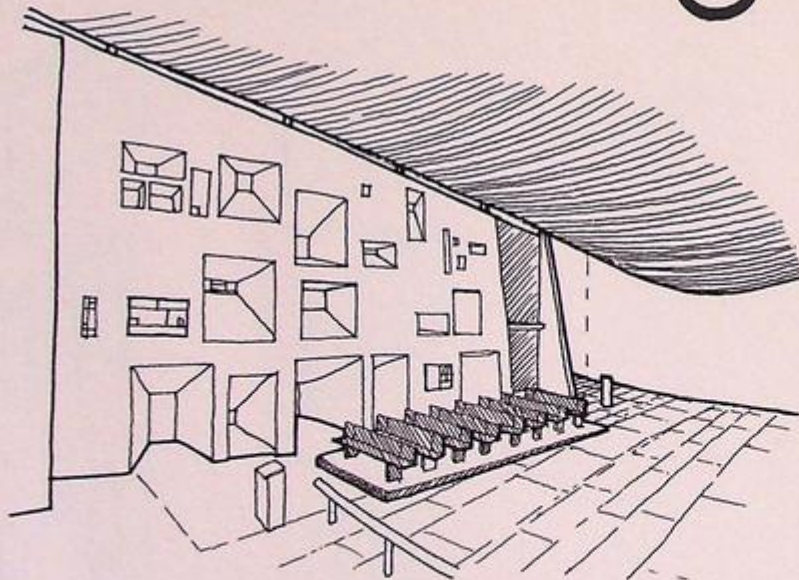
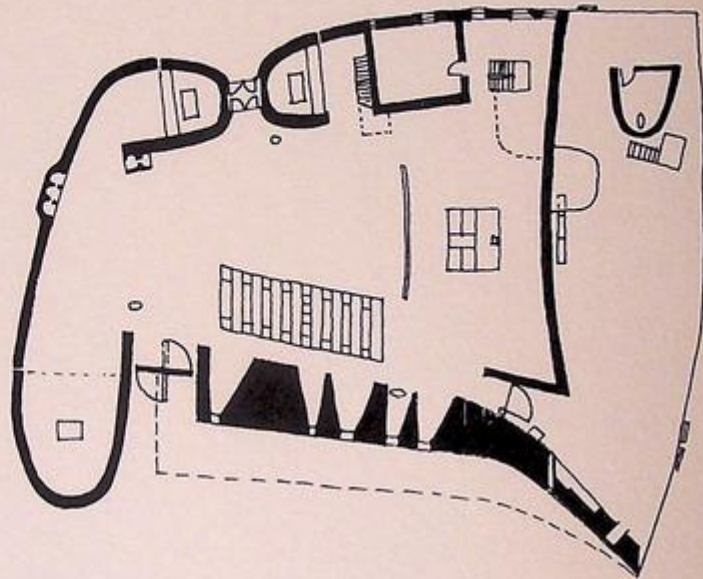


Metal

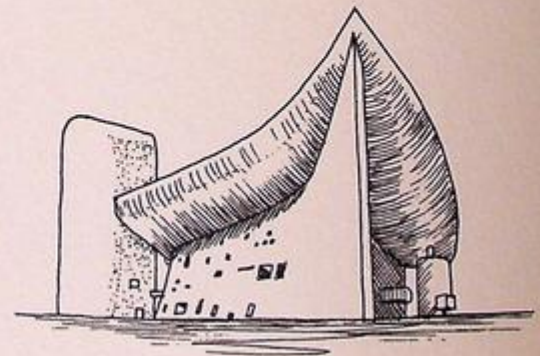
Sculptural curvilinear walls

of different thickness, topped off with a heavy overhanging roof, characterize the design of the Chapel of Notre Dame du Haut.

with a heavy overhanging roof, characterize the design of the Chapel of Notre Dame du Haut.

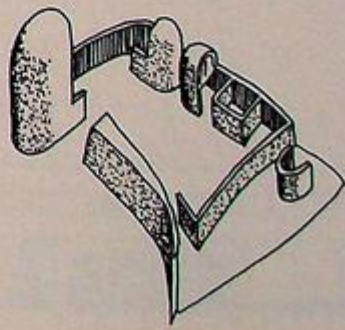


Make some sketches of a small chapel which is designed using a variety of wall thicknesses...



The Chapel of Notre Dame du Haut, Ronchamp, France. Le Corbusier, 1954

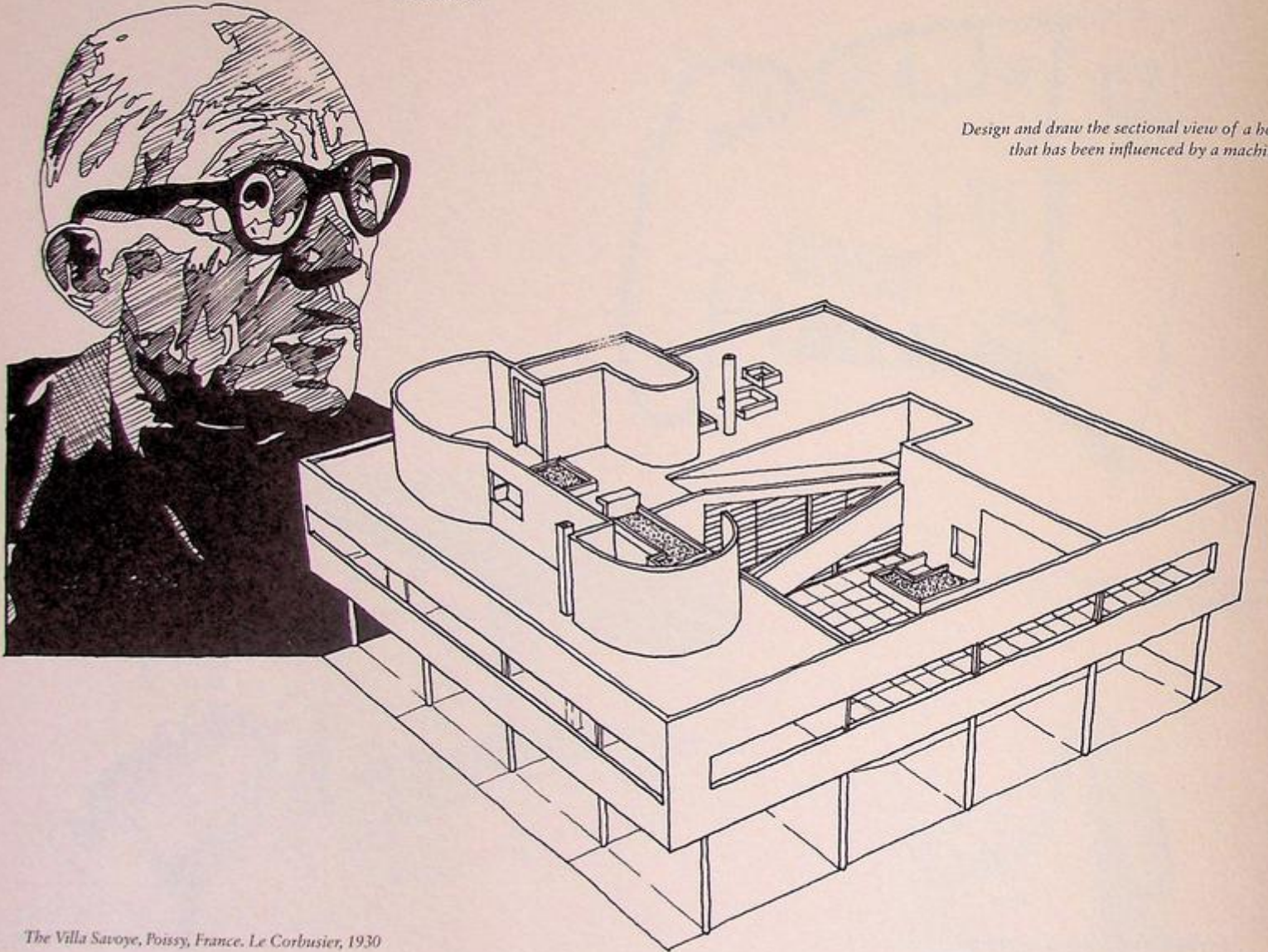
Handwritten text, possibly a title or header, is visible at the top of the page but is extremely faint and illegible.



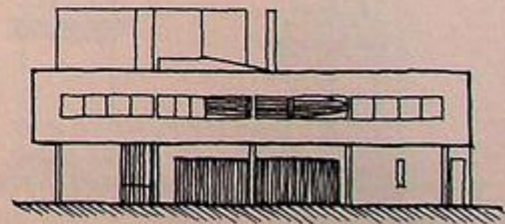
'A House is a Machine for Living in'

— Le Corbusier

*Design and draw the sectional view of a house
that has been influenced by a machine...*

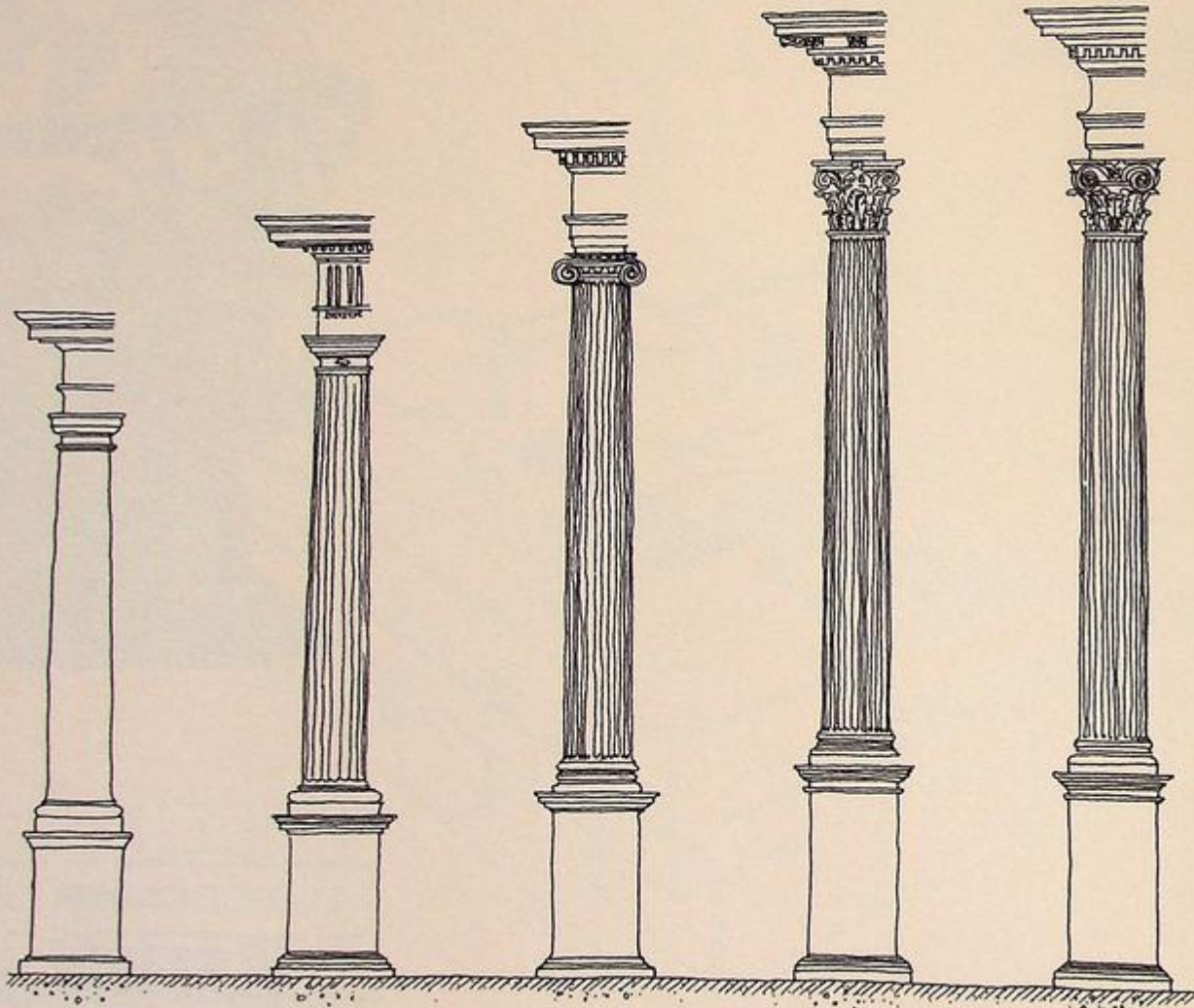


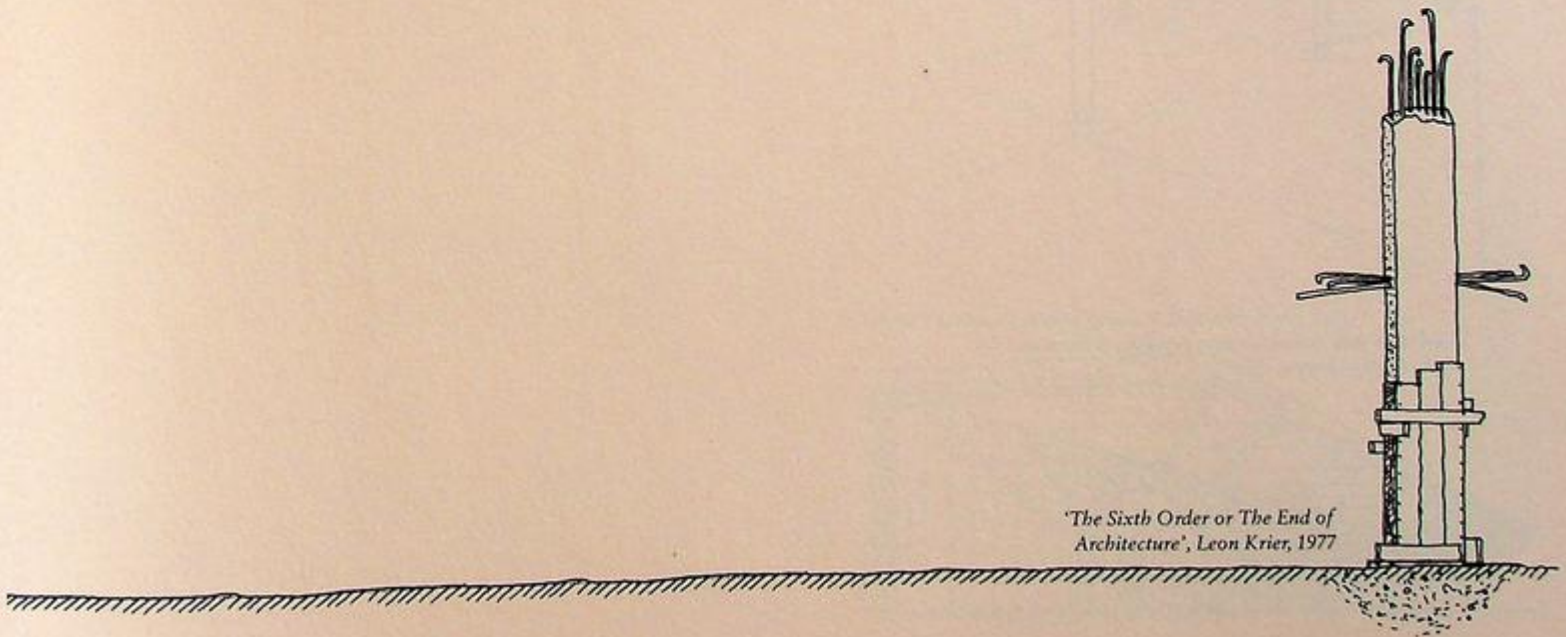
The Villa Savoye, Poissy, France. Le Corbusier, 1930



The five **columns** shown here represent the principal orders of classical architecture – Tuscan, Doric, Ionic, Corinthian and Composite.

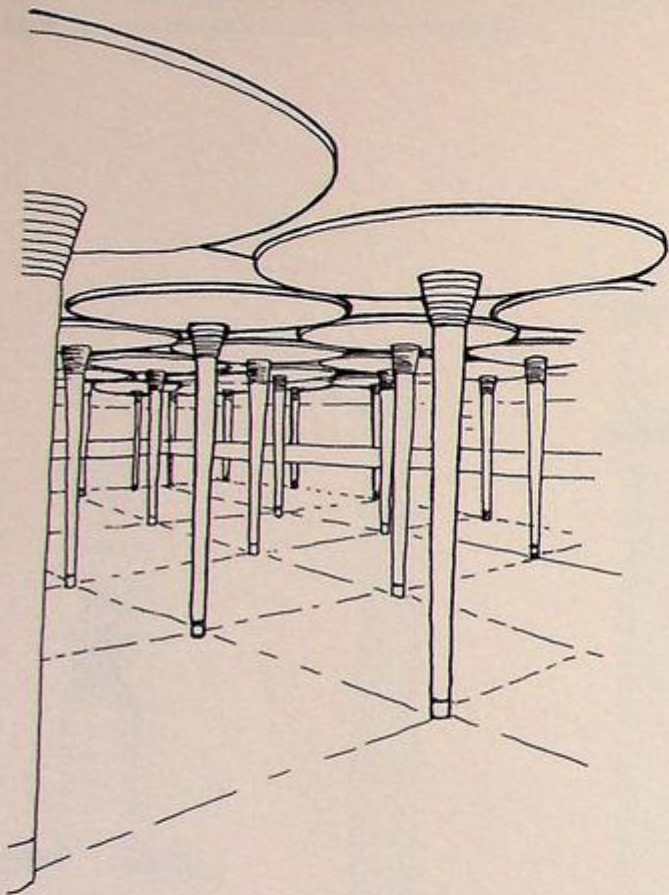
Design your own column...





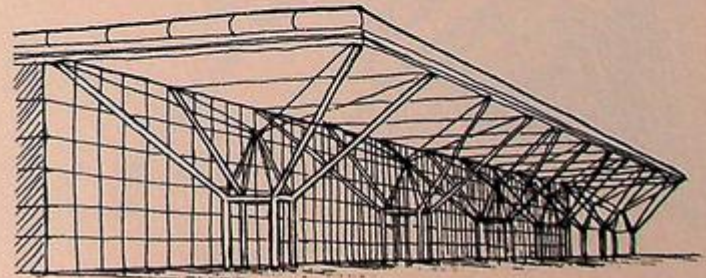
*'The Sixth Order or The End of
Architecture', Leon Krier, 1977*

Here are some **contemporary columns** that articulate how the load is transferred from the roof to the base. Try some for yourself.

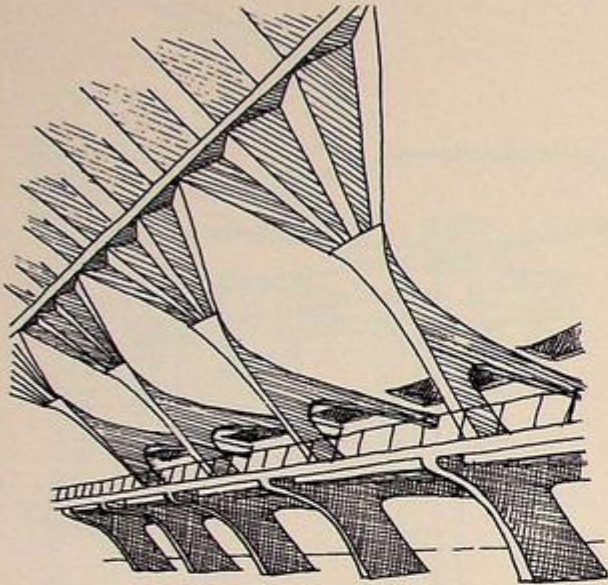


*Johnson Wax Administration Building, Wisconsin, USA.
Frank Lloyd Wright, 1939*

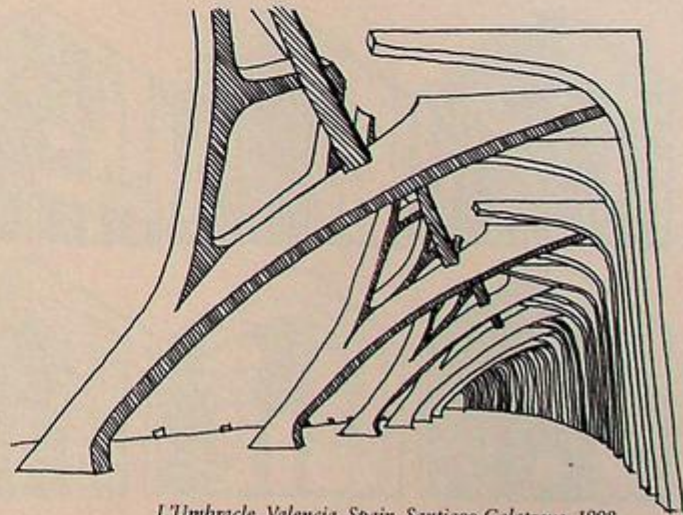
Stansted Airport, London, England. Foster+Partners, 1991



These examples show **columns and beams**
expressed as one element. What ideas can you develop?




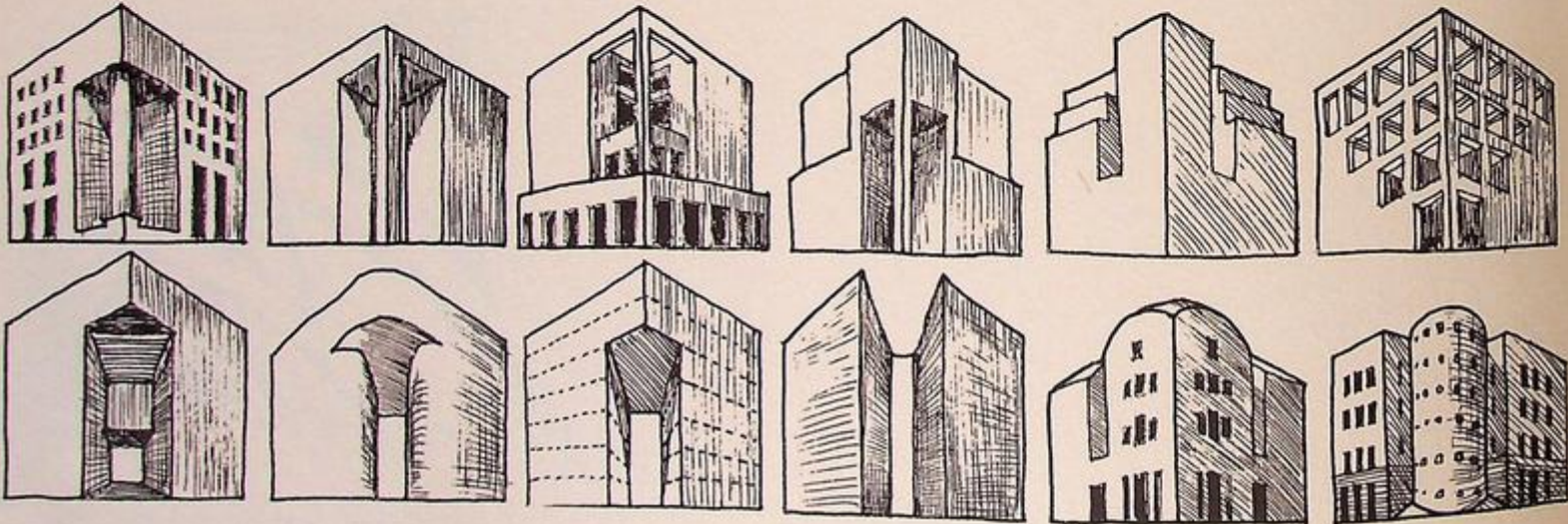
Exhibition Hall, Turin, Italy. Pier Luigi Nervi, 1949

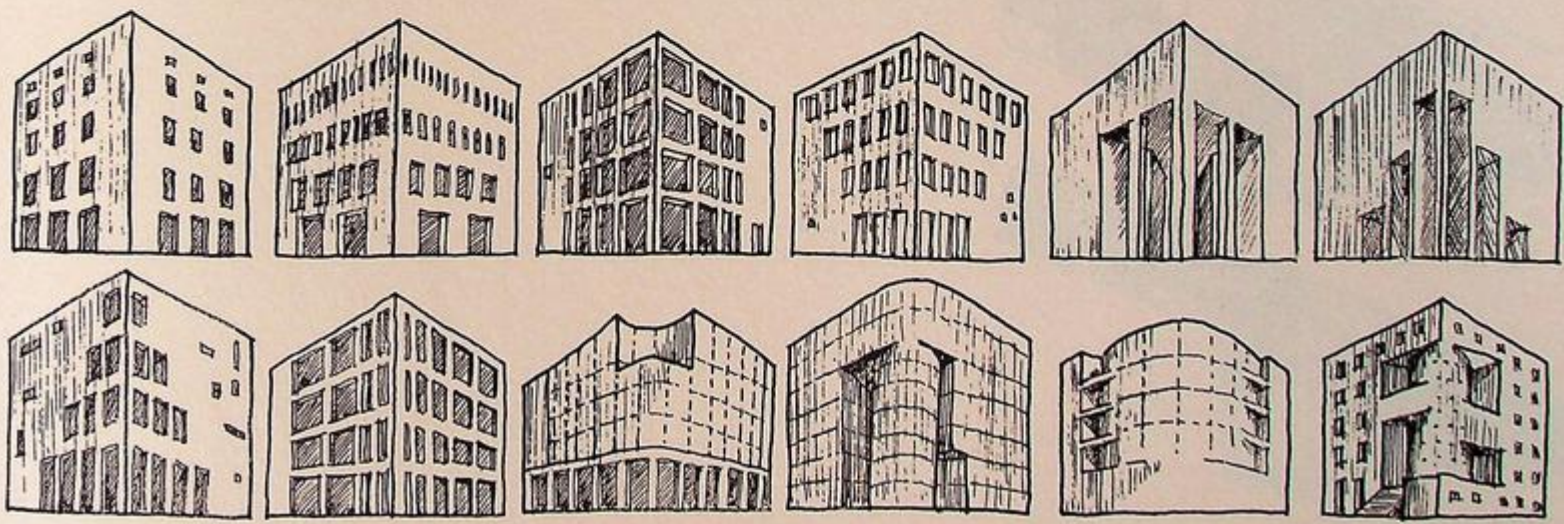


L'Umbracle, Valencia, Spain. Santiago Calatrava, 1998

This copy of a comparative study of how one might resolve a **corner house** was drawn by the Luxembourgian architect Rob Krier.

See how many more variations you can add to the 24 shown here... 

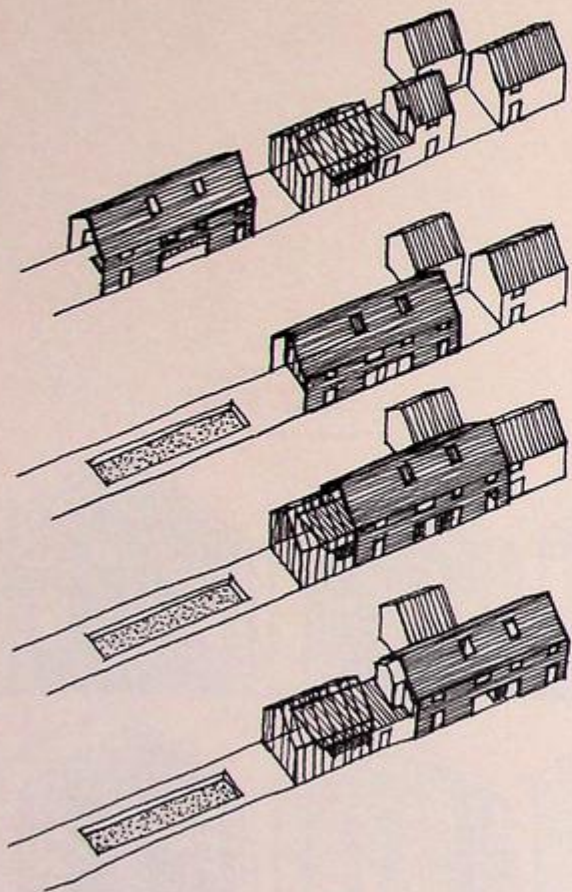


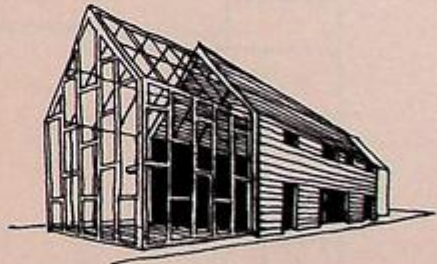
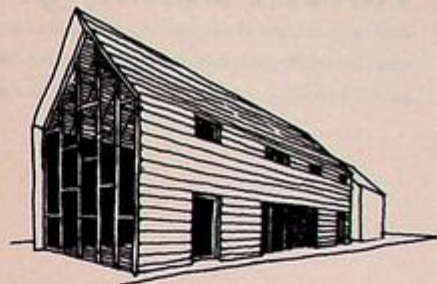


Kinetic buildings 1: The Sliding House by dRMM

Architects has a timber skin that can be slid off to reveal a transparent layer underneath. This skin is on tracks, powered by PV solar panels, and can be moved to enjoy maximum sunlight and then retracted to retain the heat.

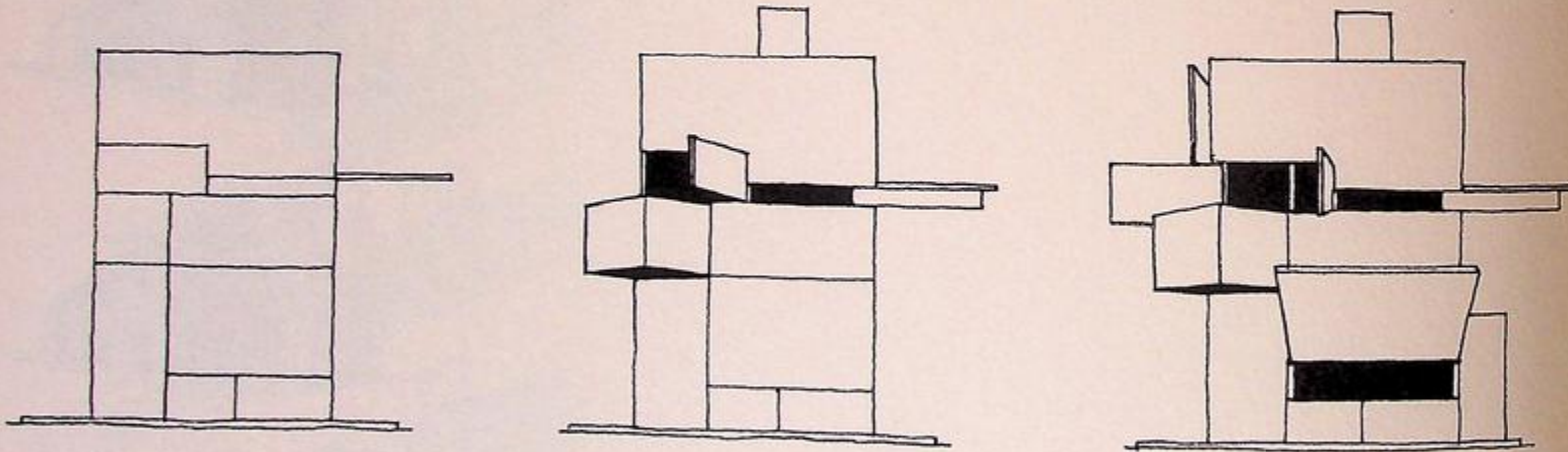
Design a simple structure that interacts with the sun... ➔



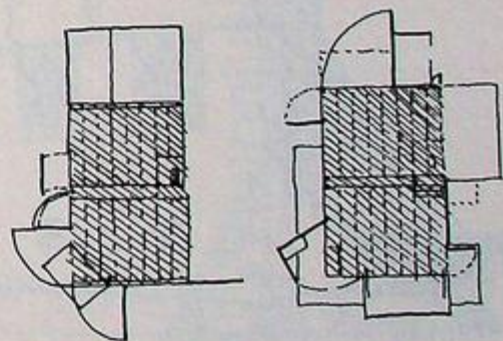


Kinetic buildings 2: Here is an example of a building that is "in a state of permanent transformation". Its concept is that of a simple timber box that folds open and reveals its interior. The 'GucklHupf' is used as a contemplative space as well as a place for musical performances and poetry readings.

Design your own performance space using the same principles of hinging and folding.. ➔



GucklHupf, Mondsee, Austria. Hans Peter Wörndl, 1993

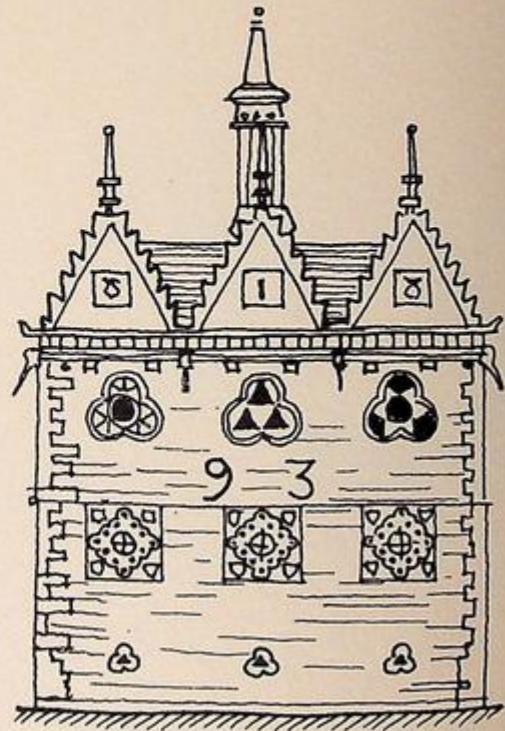
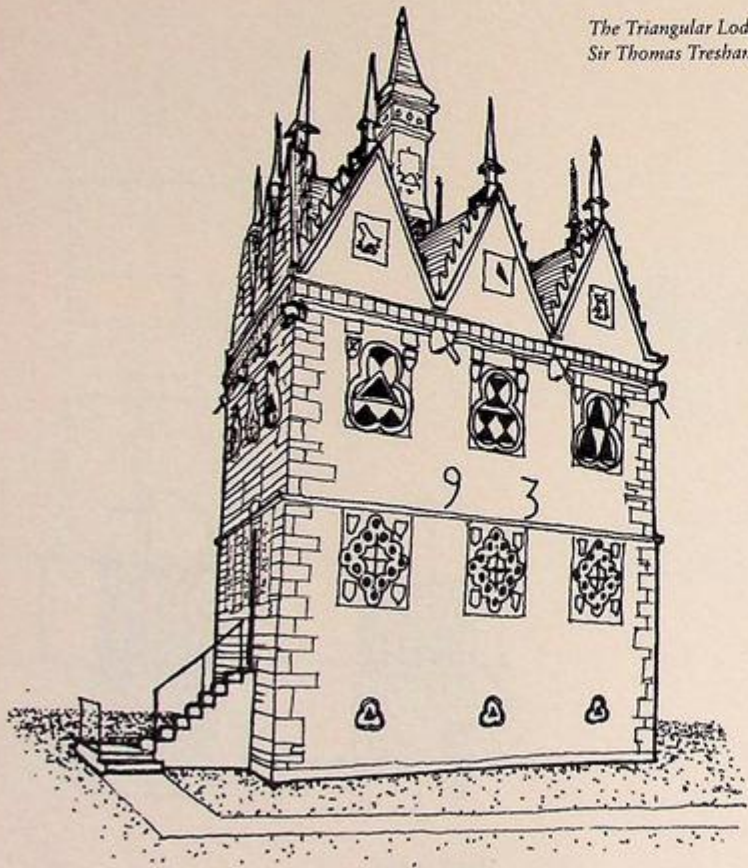


Plan drawings

The Triangular Lodge is a folly, and its design was a reflection of the architect's Roman Catholic faith, the number three symbolizing the Holy Trinity. This number is expressed throughout; there are three floors, three trefoil windows, three triangular gables on each side, a triangular plan, and so on.

Design your own folly based around a number, pattern, shape or proportional system...

*The Triangular Lodge, Northampton, England.
Sir Thomas Tresham, 1597*

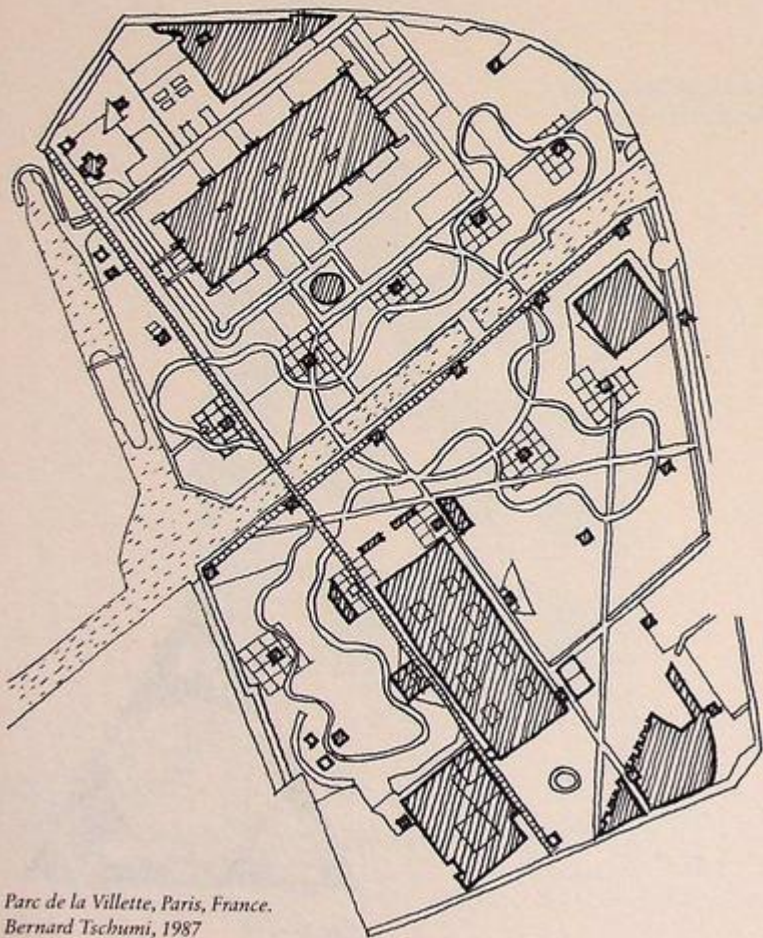




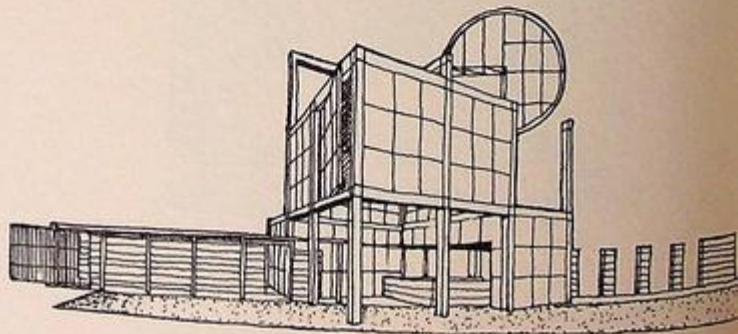
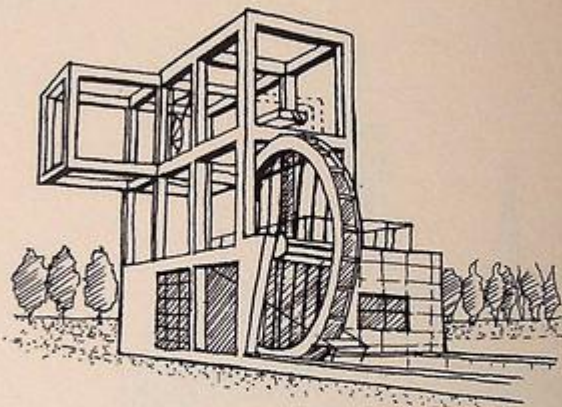
Plan drawing

The design of one of the largest parks in Paris has many **follies** laid out in a grid. The 35 follies were the architect's device for organizing and orientating visitors within the landscape. The follies were designed in the form of partly open red frameworks, waiting for both functions and events to inhabit the spaces within.

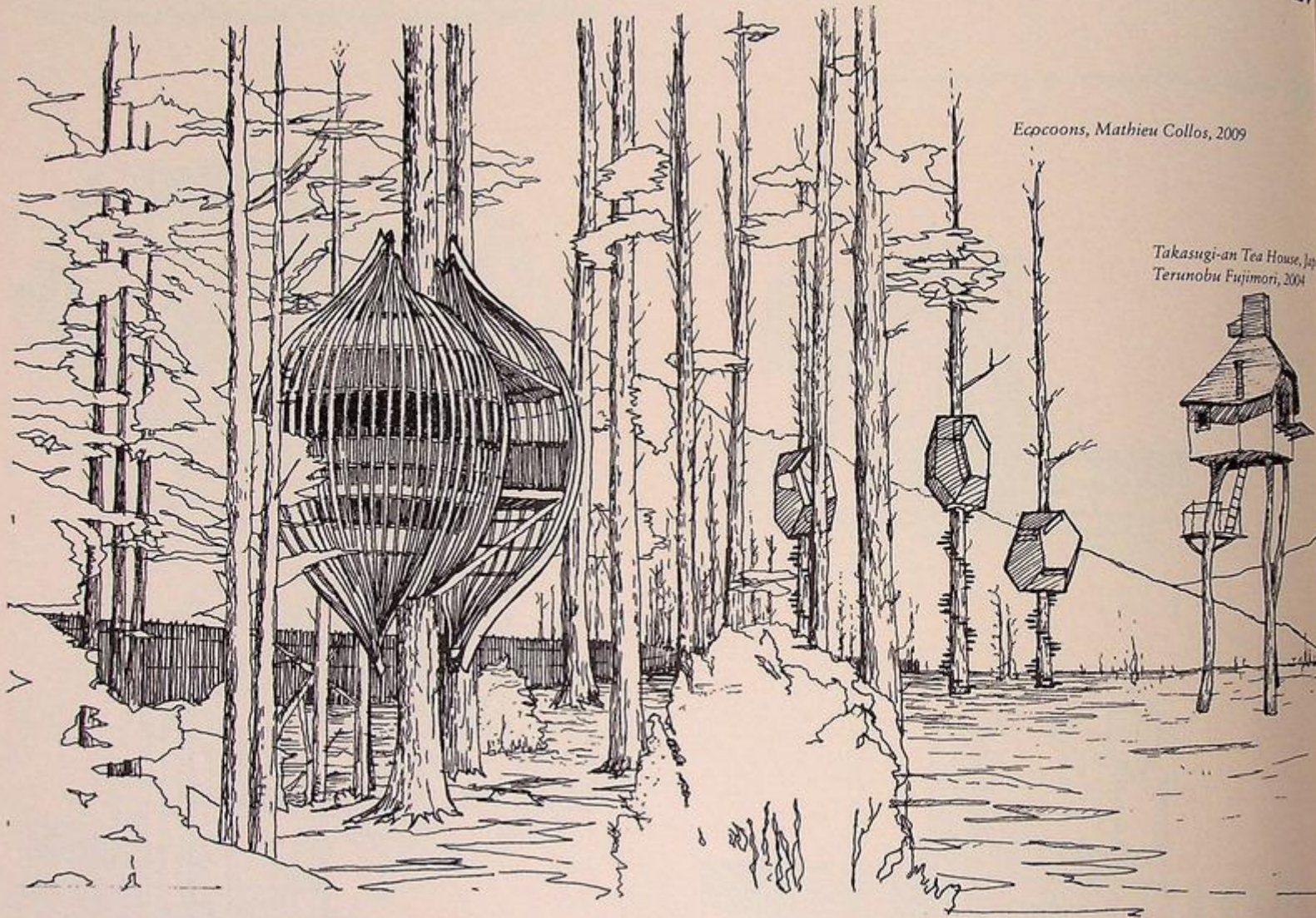
Design a modern folly using a framed grid as a starting point.



*Parc de la Villette, Paris, France.
Bernard Tschumi, 1987*



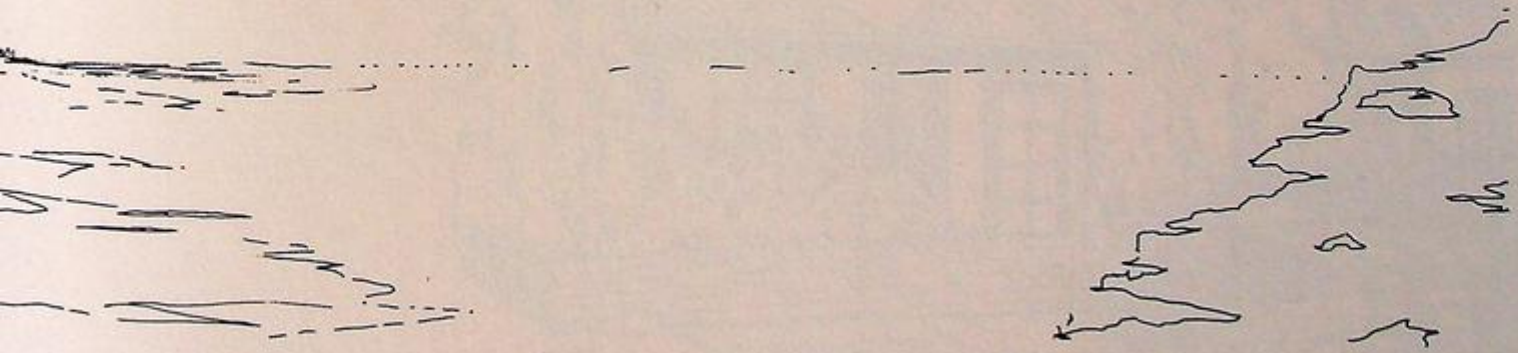
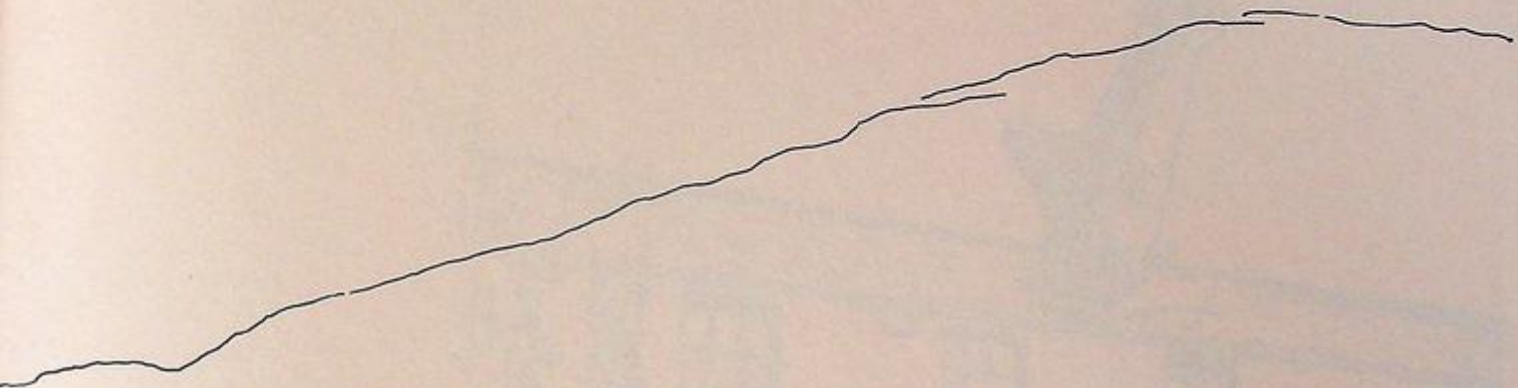




Ecpoons, Mathieu Collos, 2009

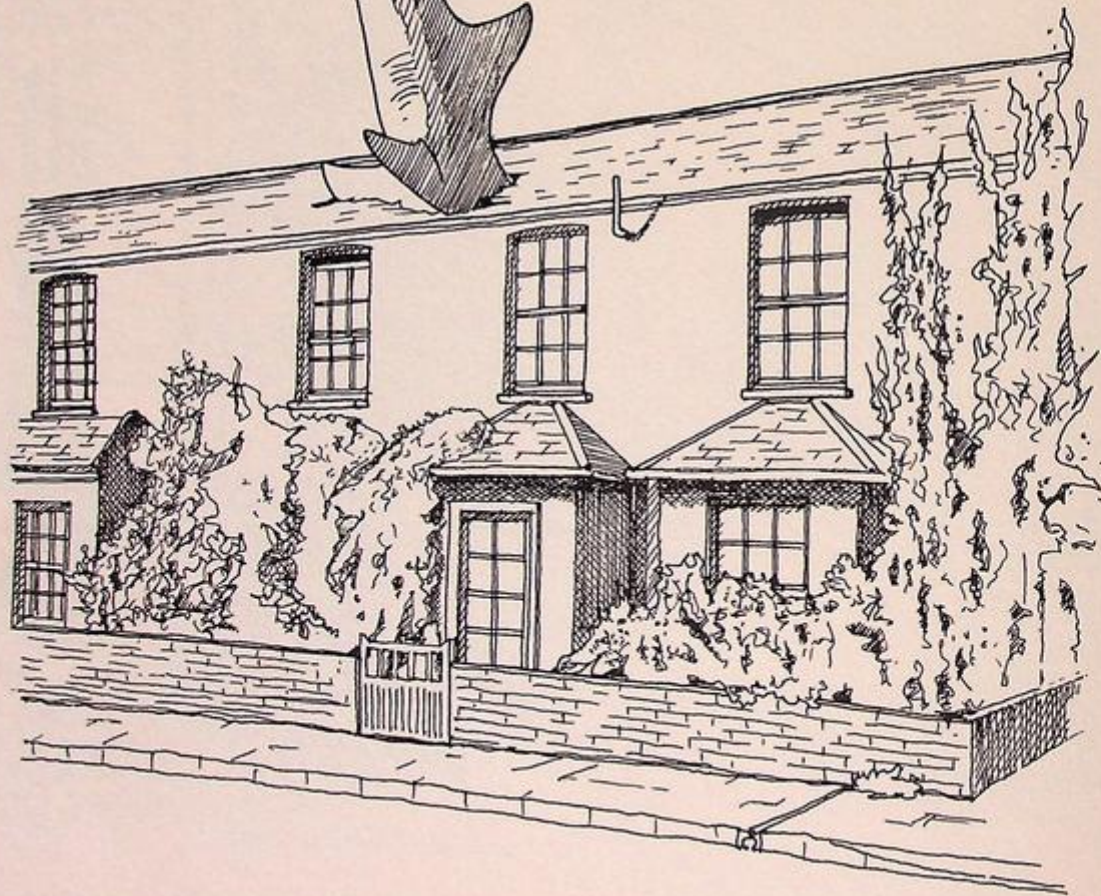
*Takasugi-an Tea House, Japan
Terunobu Fujimori, 2004*

Yellow Treehouse, Auckland, New Zealand. Pacific Environments Architects, 2009



This **surreal house** in Oxford, England, has a 7.5m (25ft)-
long fake shark embedded in its roof. It was erected in 1986 on the anniversary of the
dropping of the atomic bomb on Nagasaki.

*Draw some other surreal images of conventional buildings where
an event has taken place – maybe even your own house...*



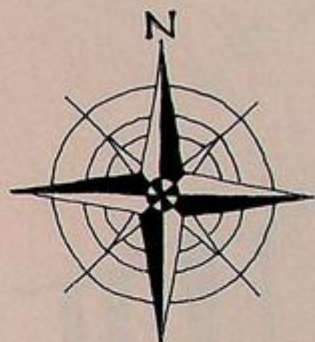
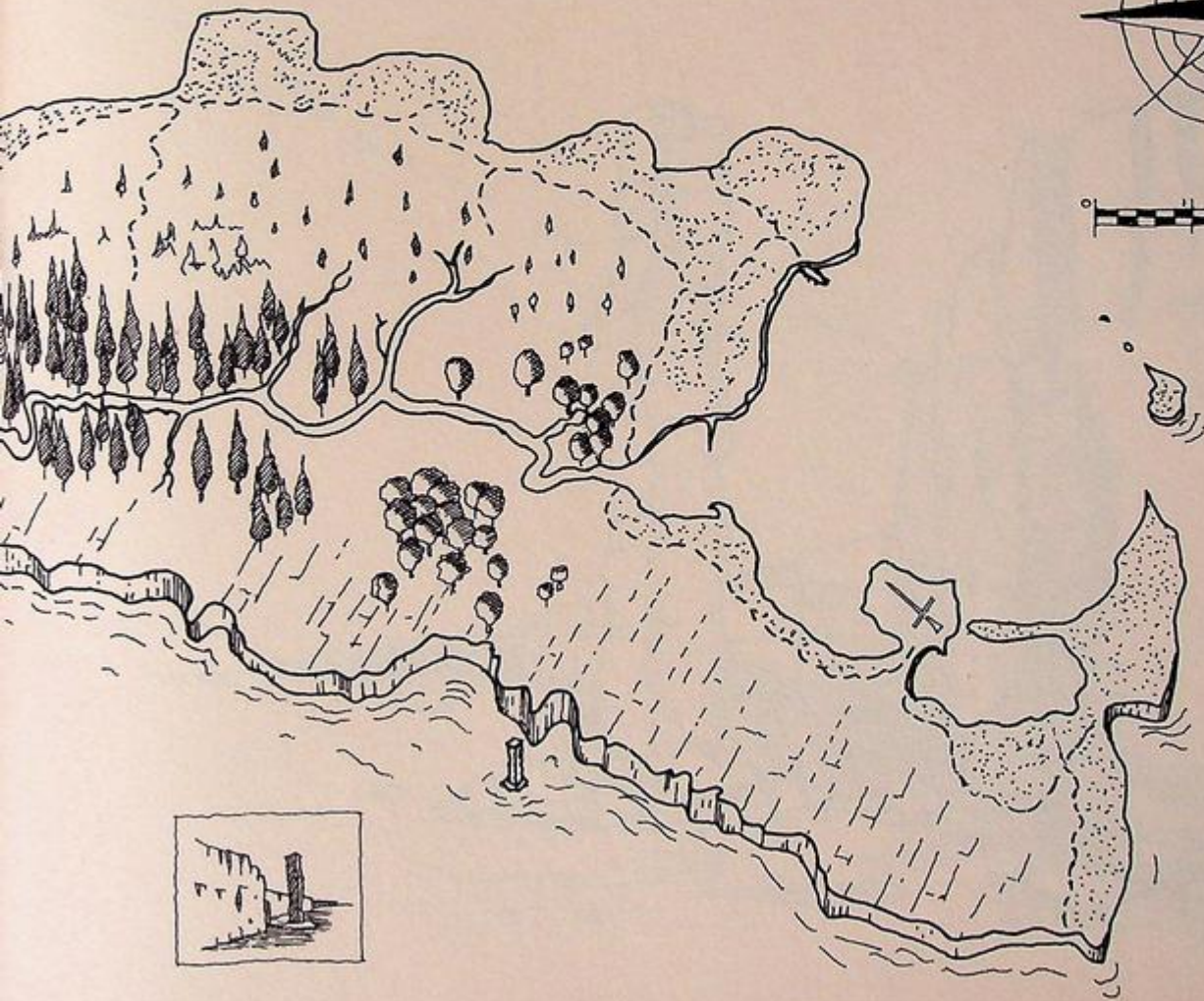
*'The Headington Shark' sculpture,
John Buckley, 1986*

*The Airplane Hotel, Costa Rica,
Costa Verde, 2010*

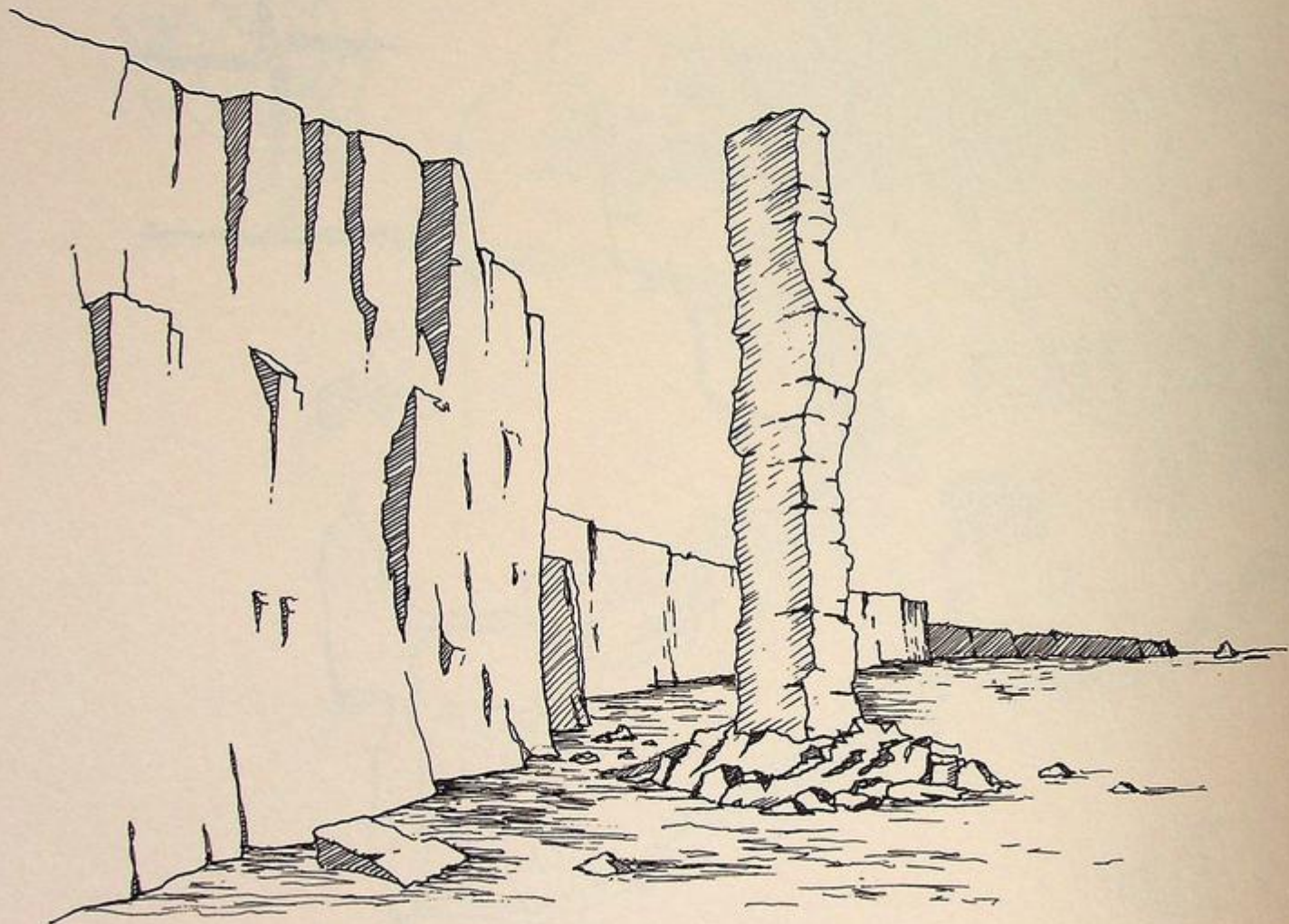


Your wealthy client wants to build a house on his **private island** but he's not sure where to build it. Think about what would be a good view, and which direction the sun and wind come from.

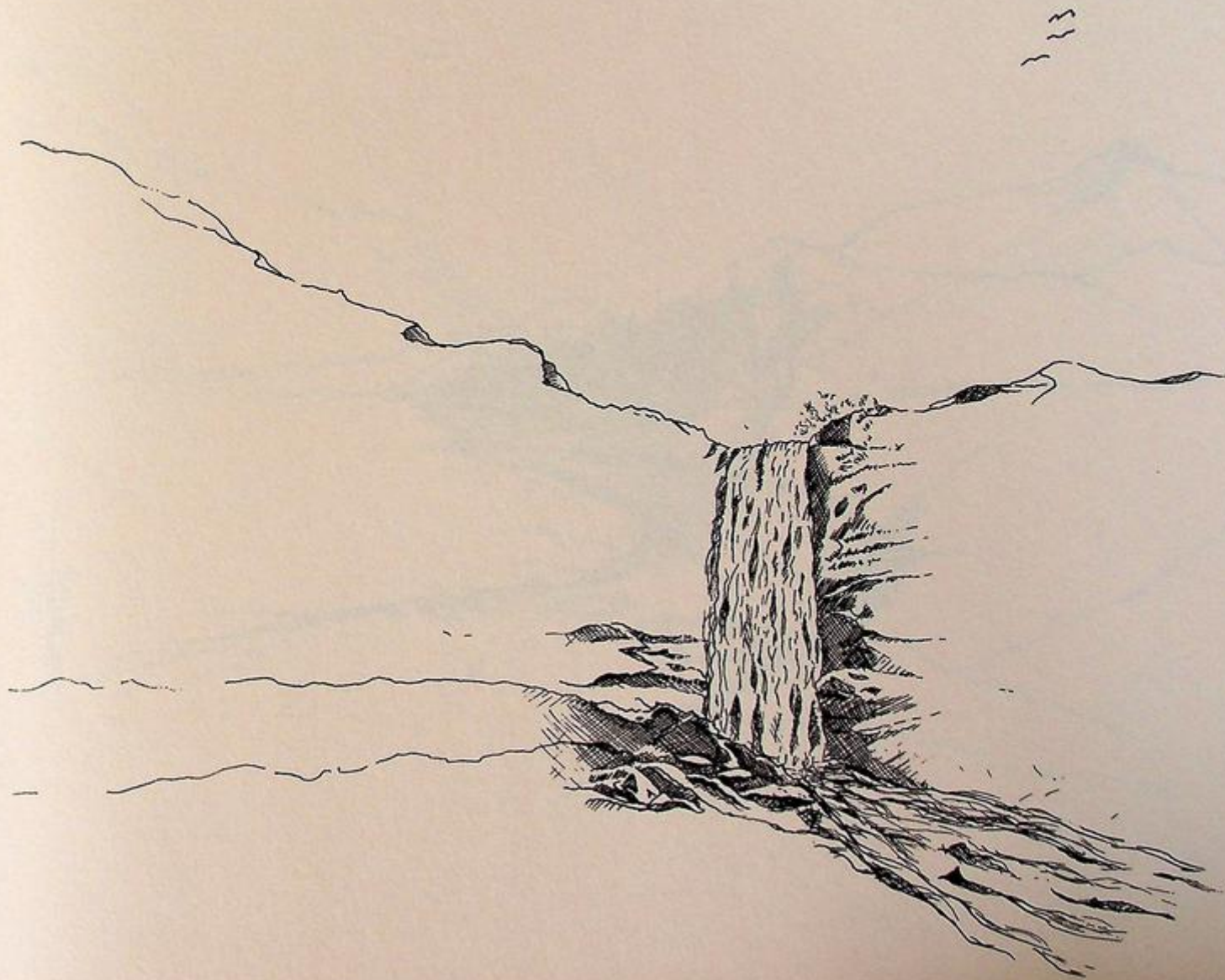




Design a house on a cliff...



and by a waterfall...




Draw a house by a river...



or in the mountains...

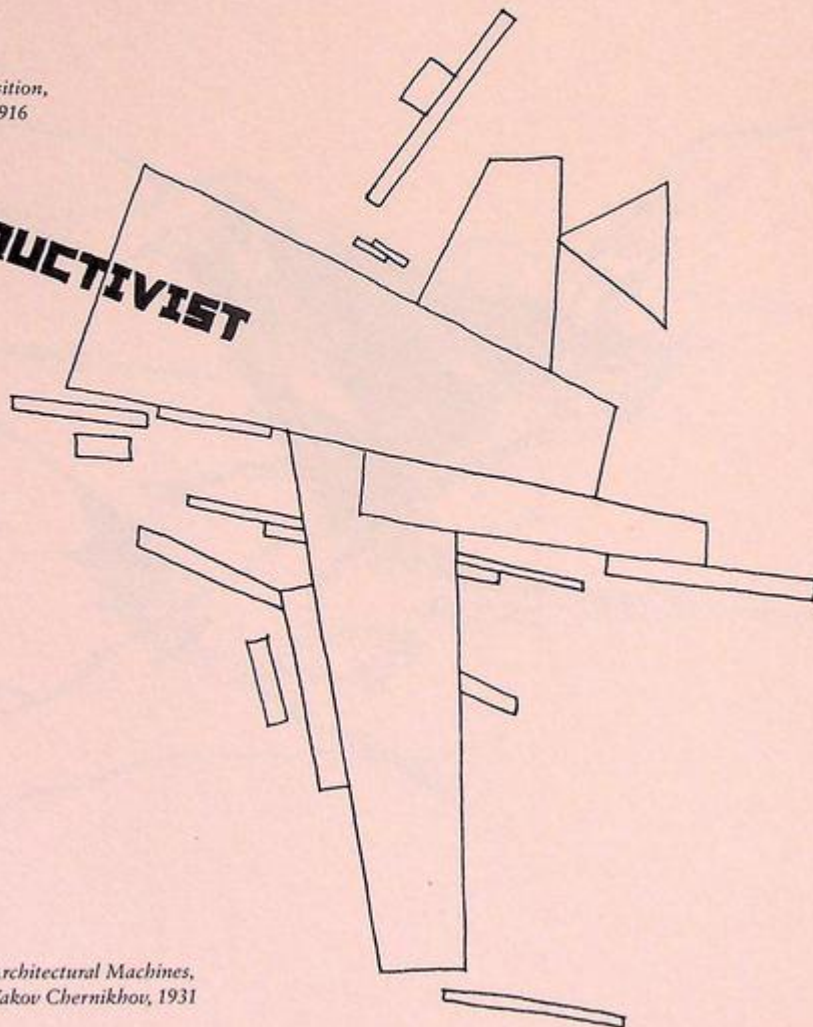


The **Constructivist** movement emerged in Russia after the 1917 Revolution. Its aim was to create an aesthetic that reflected the new industrial power of the country. Monuments like the 'Tatlin Tower' were designed using steel to celebrate 20th-century industrialization.

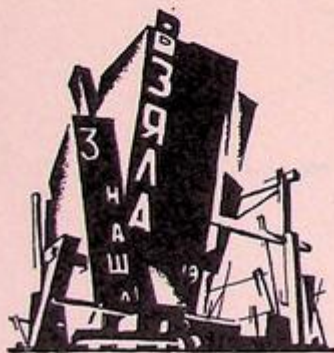
Design a new monument for the 21st century using materials and forms that reflect current ideas... 

*Suprematist Composition,
Kazimir Malevich, 1916*

CONSTRUCTIVIST



*The Monument to the Third International,
Vladimir Tatlin, 1919*



*Architectural Machines,
Yakov Chernikhov, 1931*

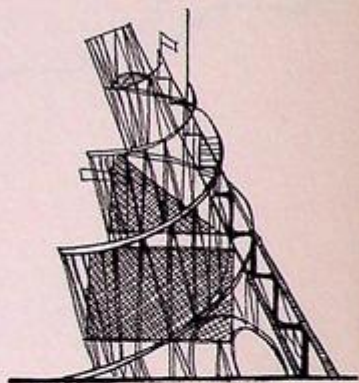
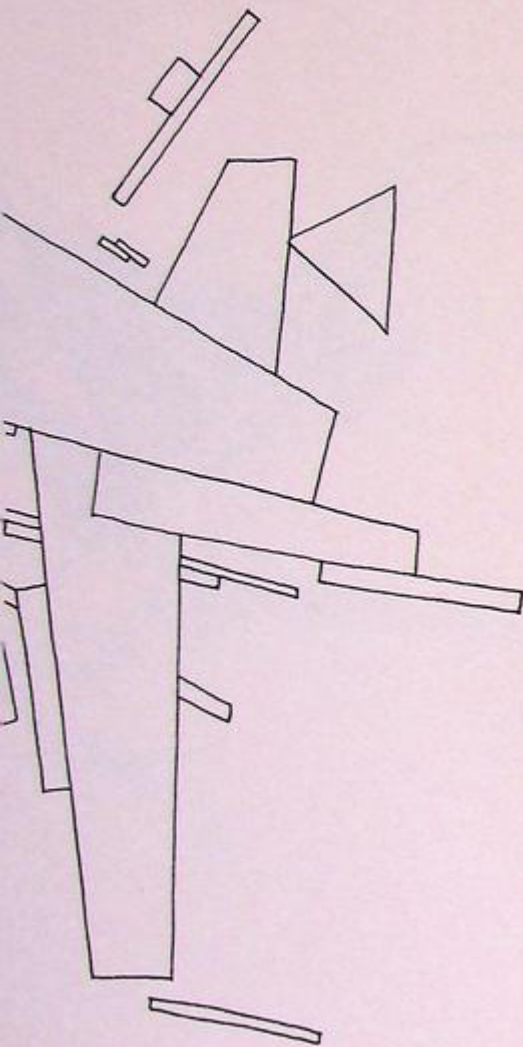
Lenin Tribune, El Lissitzky, 1920



Lenin Tribune, El Lissitzky, 1920

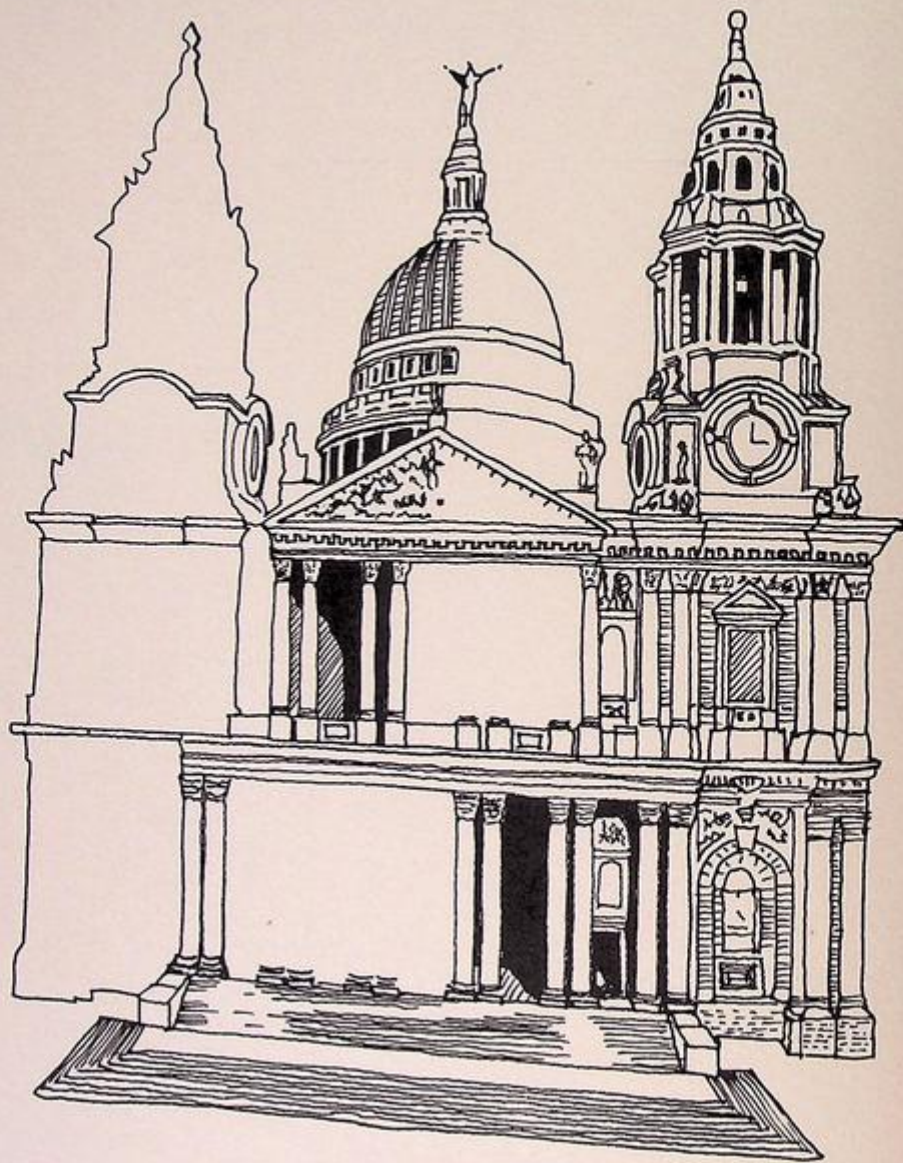
Russia after
ted the new
were designed

*Design a new monument for the 21st century using
materials and forms that reflect current ideas...*

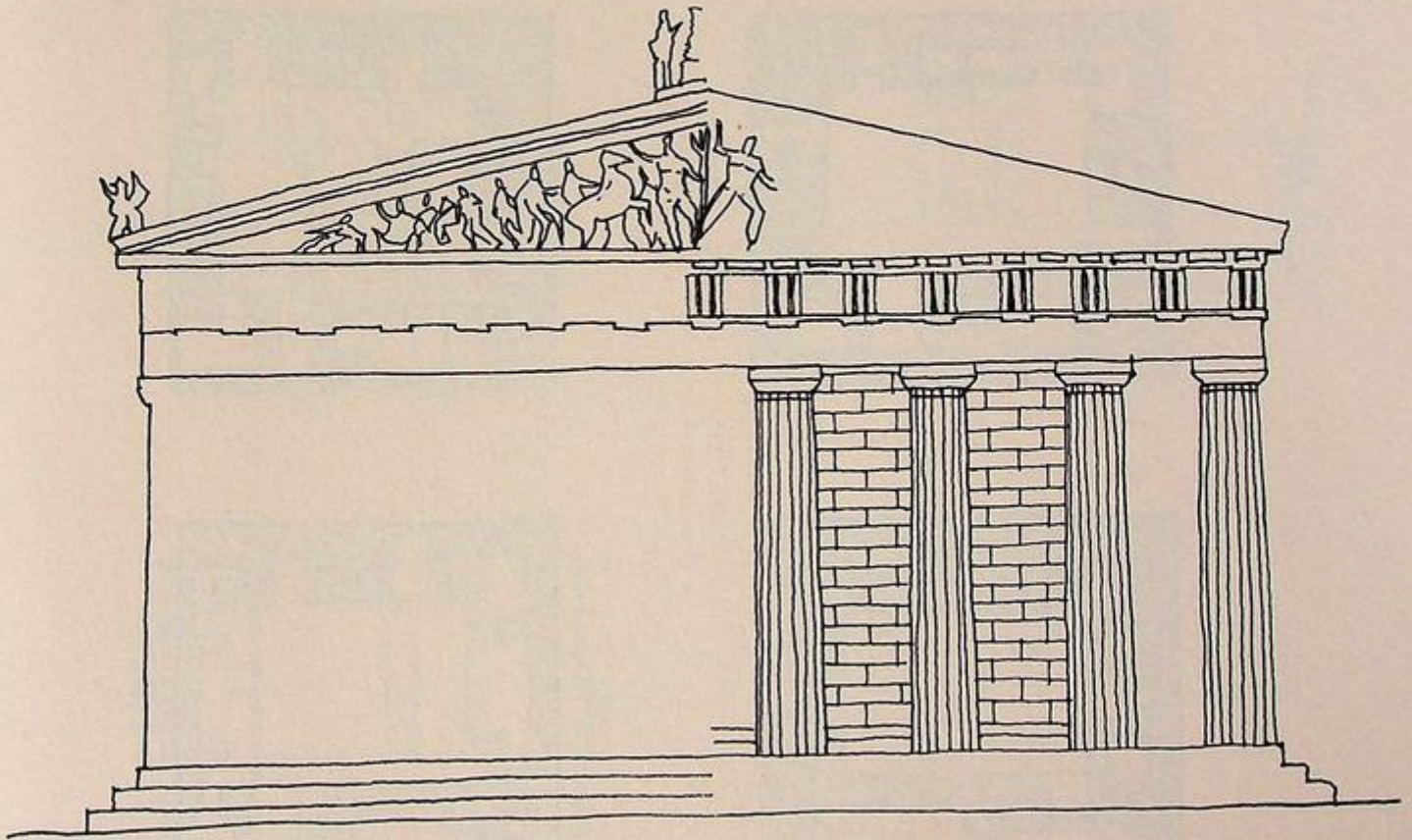


*The Monument to the Third International,
Vladimir Tatlin, 1919*

Complete the drawings of the following **iconic buildings...**



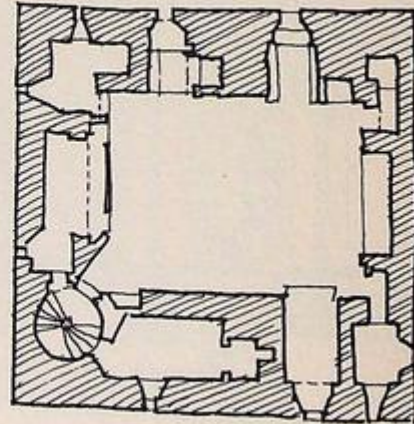
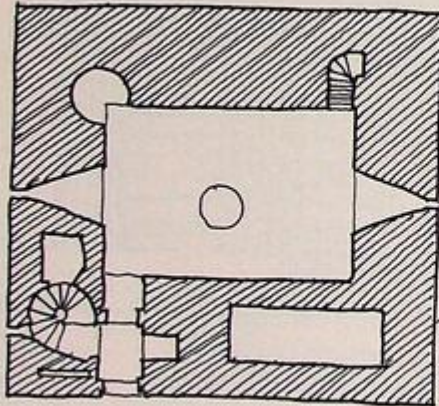
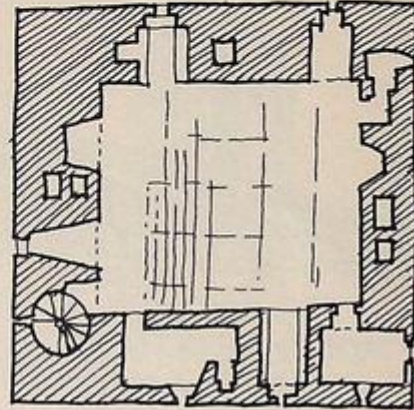
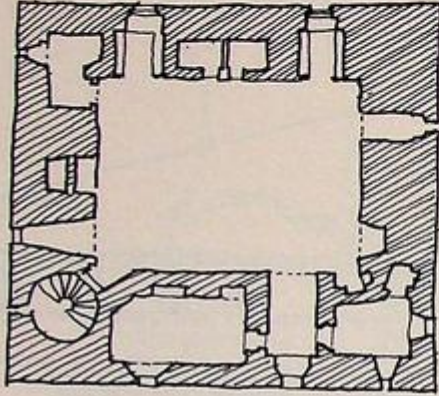
*St Paul's Cathedral, London,
England. Sir Christopher Wren, 1710*



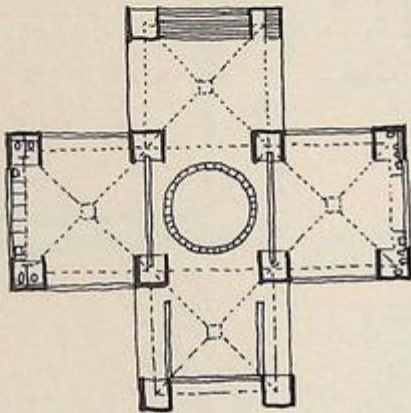
*Parthenon, Athens, Greece.
Iktinos and Kallikrates, 432BC*

The idea of **'servant' and 'served'** spaces in buildings was developed by the American architect Louis Kahn in the 1950s. Kahn studied Scottish castles, discovering that minor spaces – stairs and areas for cooking and washing, etc. – were contained within the walls and were like servants to the major communal 'served' areas.

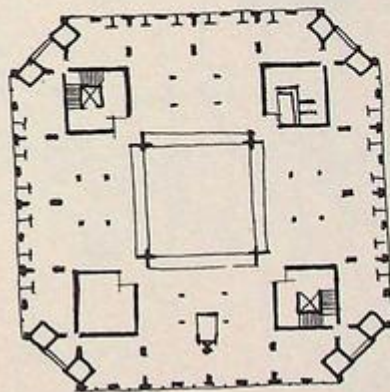
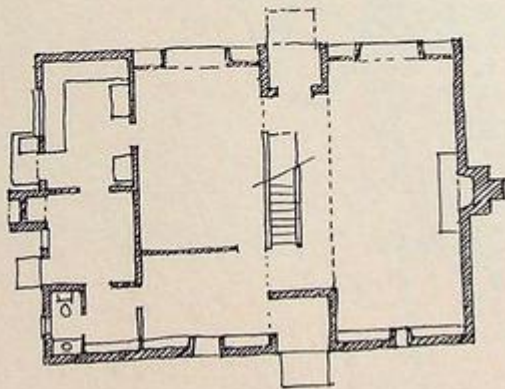
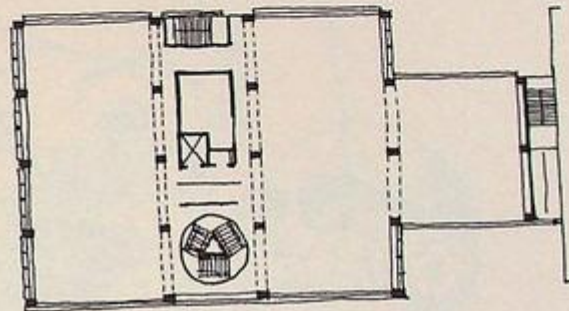
Colour in the servant spaces on these plans of four buildings by Louis Kahn. Try to identify 'servant' and 'served' spaces in other buildings...



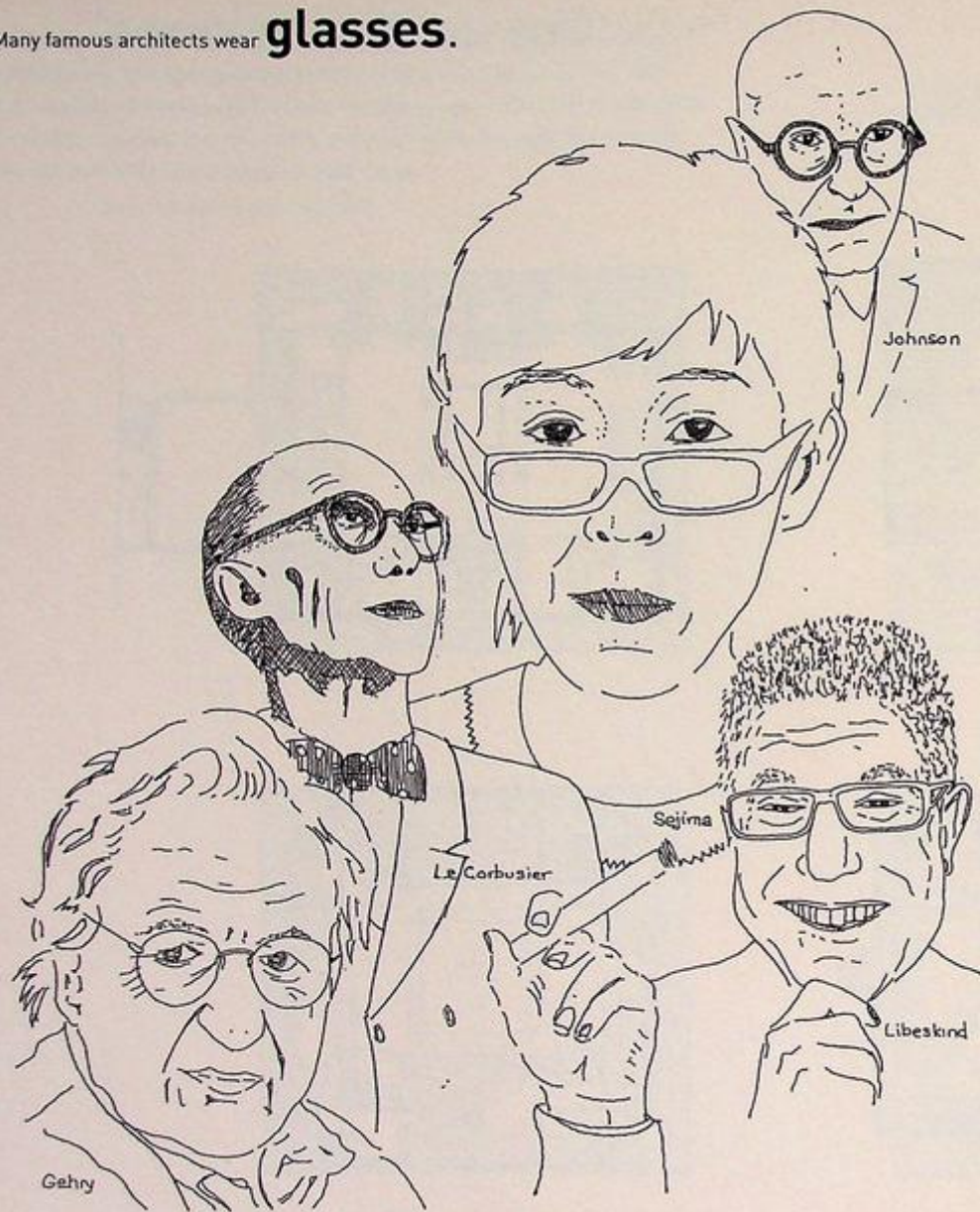
Trenton Bath House, 1955



Yale Center for British Art, 1974

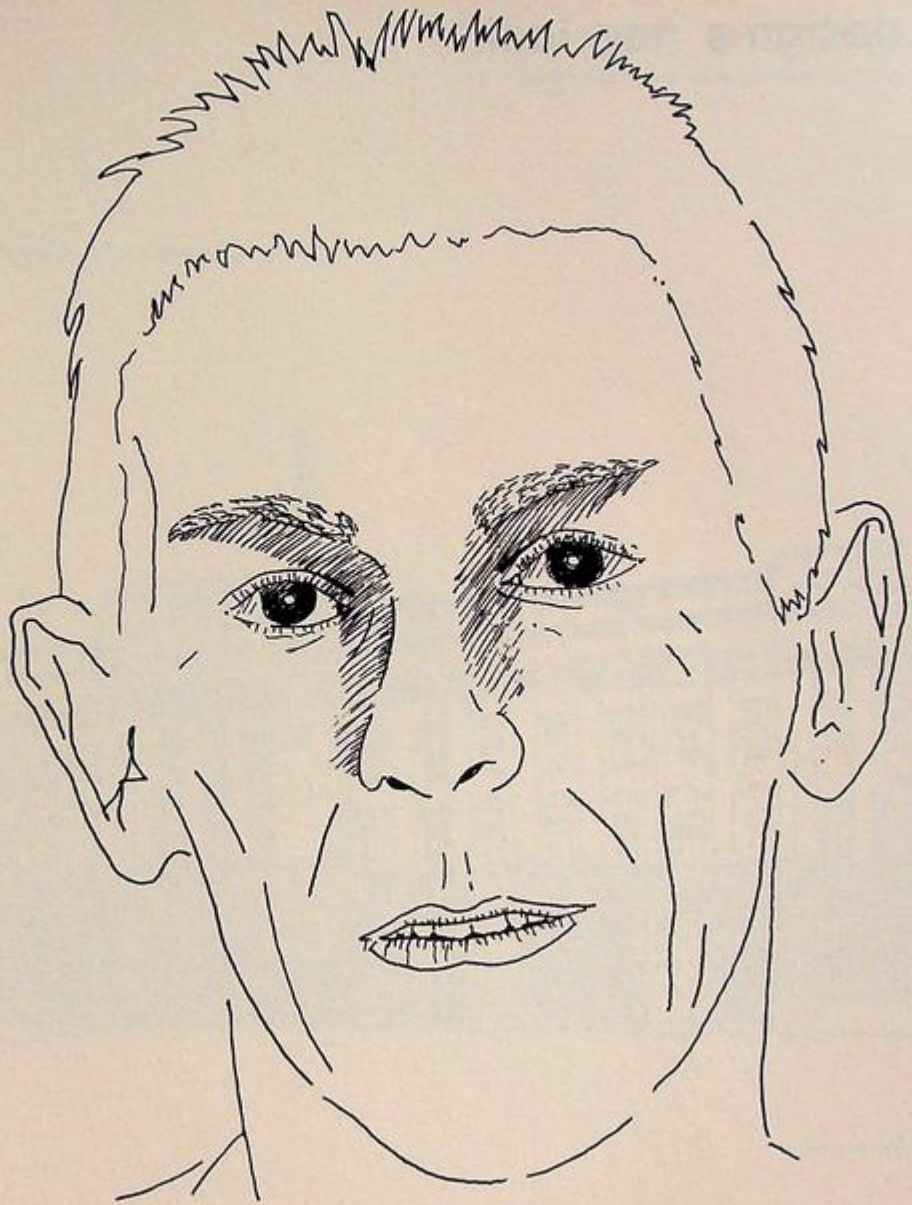


Many famous architects wear **glasses.**



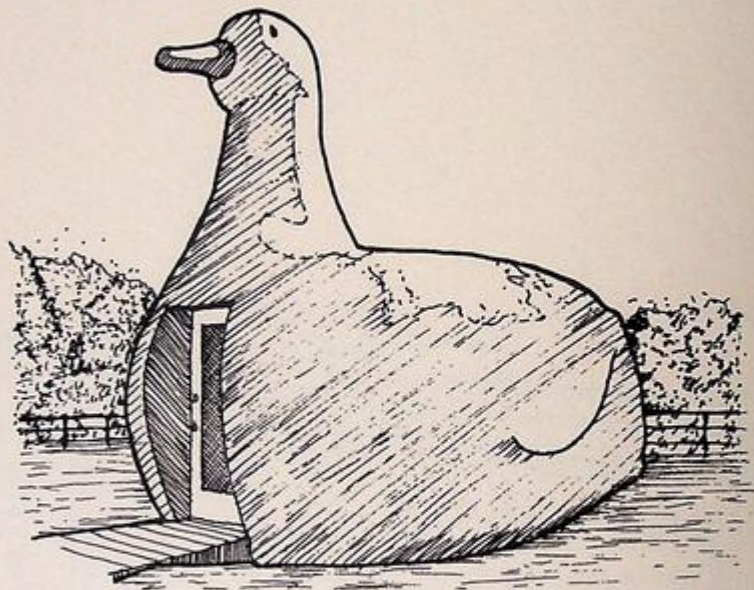
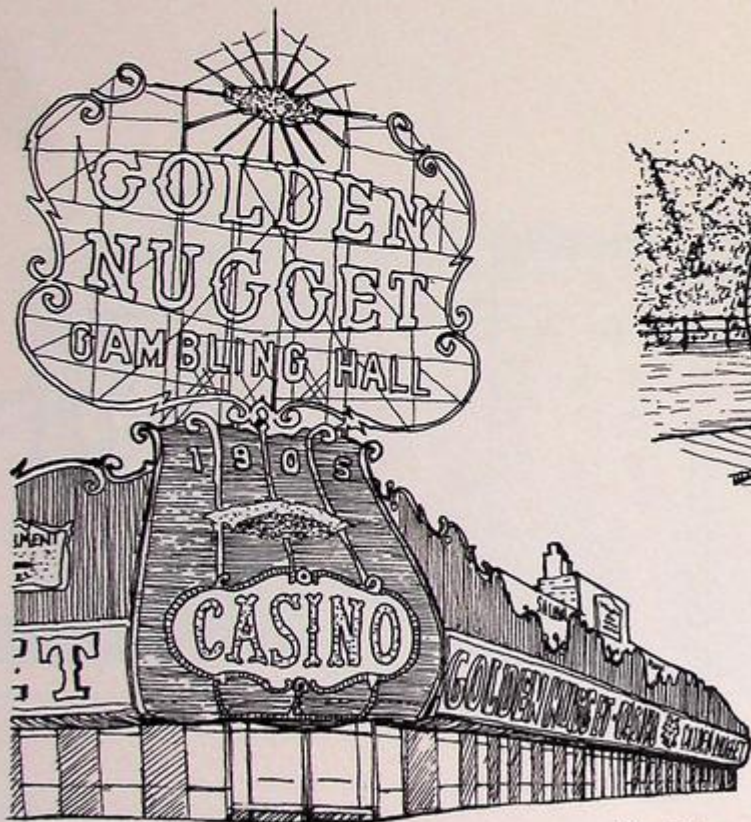
Design a new piece of face furniture for yourself. Cut them out, mount them on card and wear them before taking on the next task...





Buildings are either a **duck or decorated shed** according to architects Robert Venturi, Denise Scott Brown and Steven Izenour in their 1972 book *Learning from Las Vegas*. A 'duck' (named after a duck-shaped building that sold eggs in New York) is a building whose form tells us what its purpose is. A 'decorated shed', on the other hand, is generic in shape and can only be identified by its signage and decoration.

Draw your own 'duck' and 'decorated shed' buildings, indicating what they are by shape or by the use of signage...



The Big Duck, Flanders, New York, USA, 1931

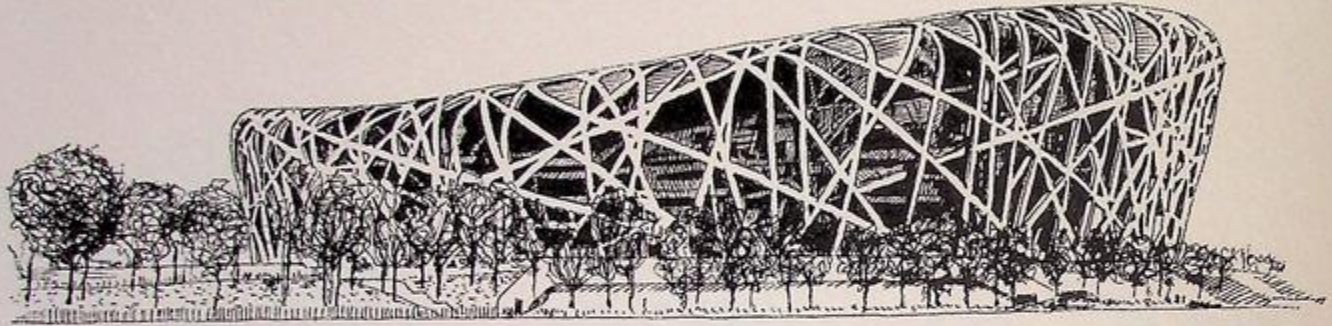
The Golden Nugget Casino, Las Vegas, USA, 1946

*Copy of a sketch 'I am a Monument',
by Venturi and Scott Brown, 1972*



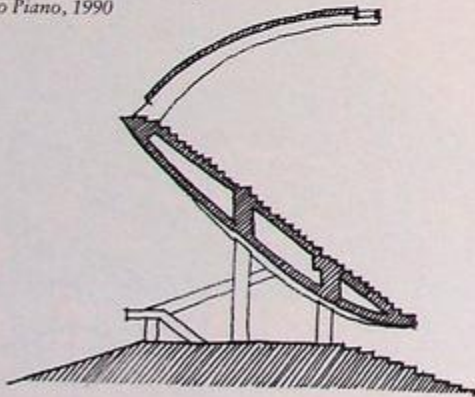
Modern **sports stadia** provide good examples of a 'Duck' or 'Decorated Shed'. However, sometimes they can be read as both. So are the stadia shown here 'ducks' or 'decorated sheds' or both?

Sketch some ideas for a sports stadium with this notion in mind...

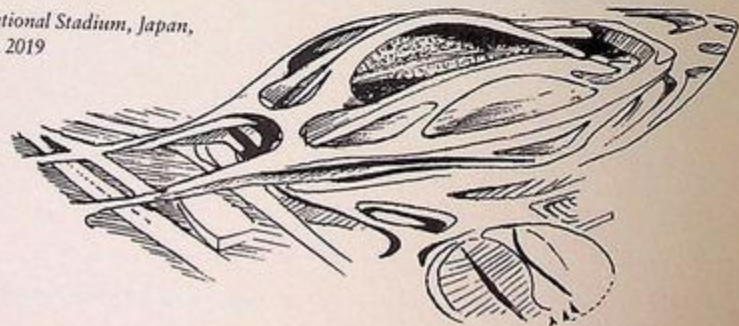


*National Stadium (known as the 'Bird's Nest'), Beijing, China.
Herzog and de Meuron, 2008*

*Stadio San Nicola, Bari, Italy.
Renzo Piano, 1990*



*Proposed National Stadium, Japan,
Zaha Hadid, 2019*

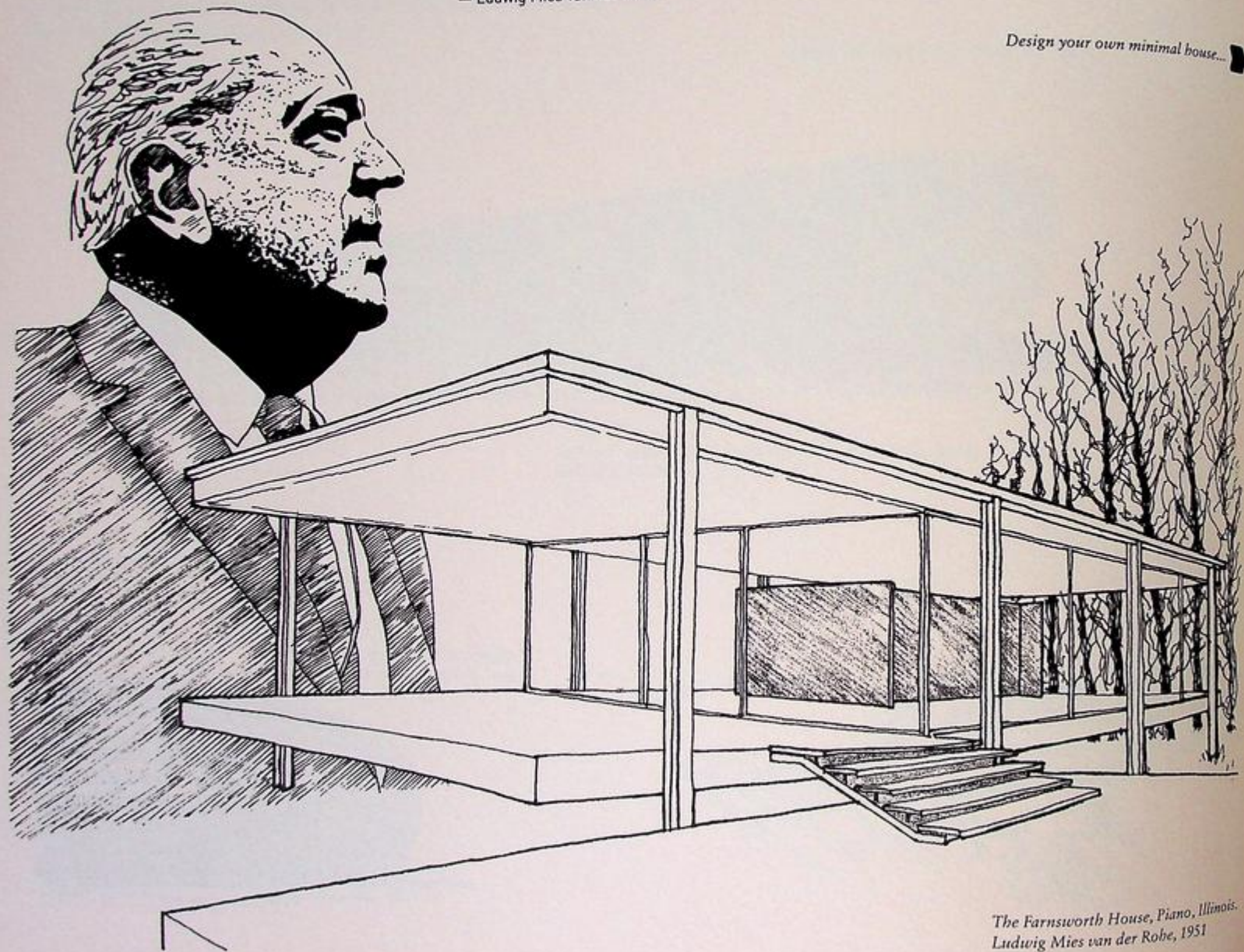


*Allianz Arena, Munich, Germany.
Herzog and de Meuron, 2005*



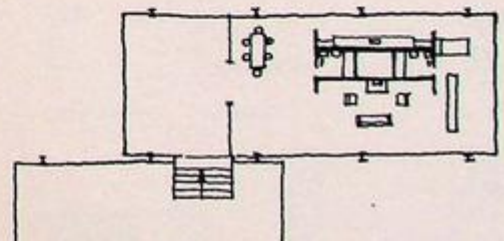
Less is More
— Ludwig Mies van der Rohe

Design your own minimal house...



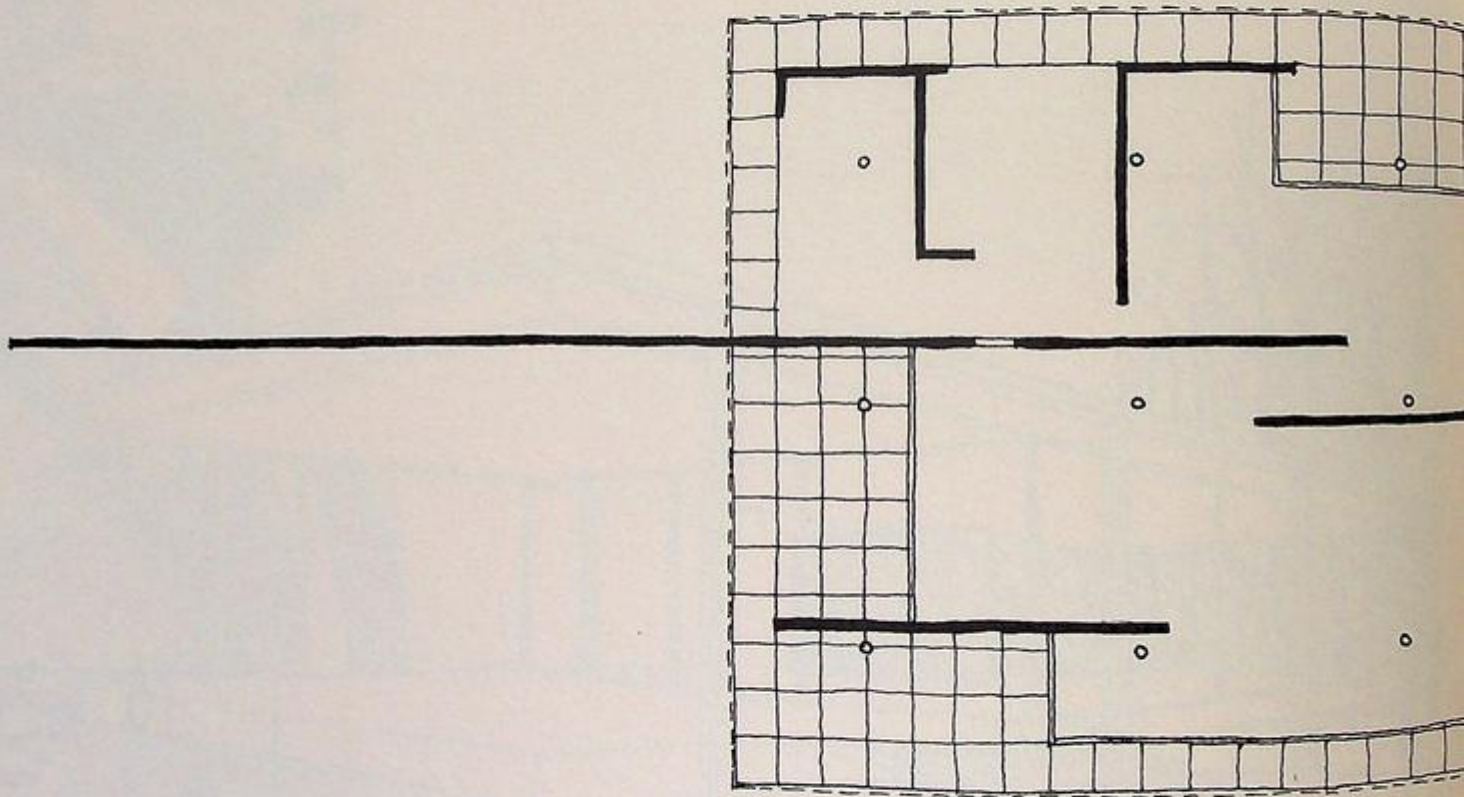
*The Farnsworth House, Plano, Illinois.
Ludwig Mies van der Rohe, 1951*

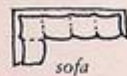
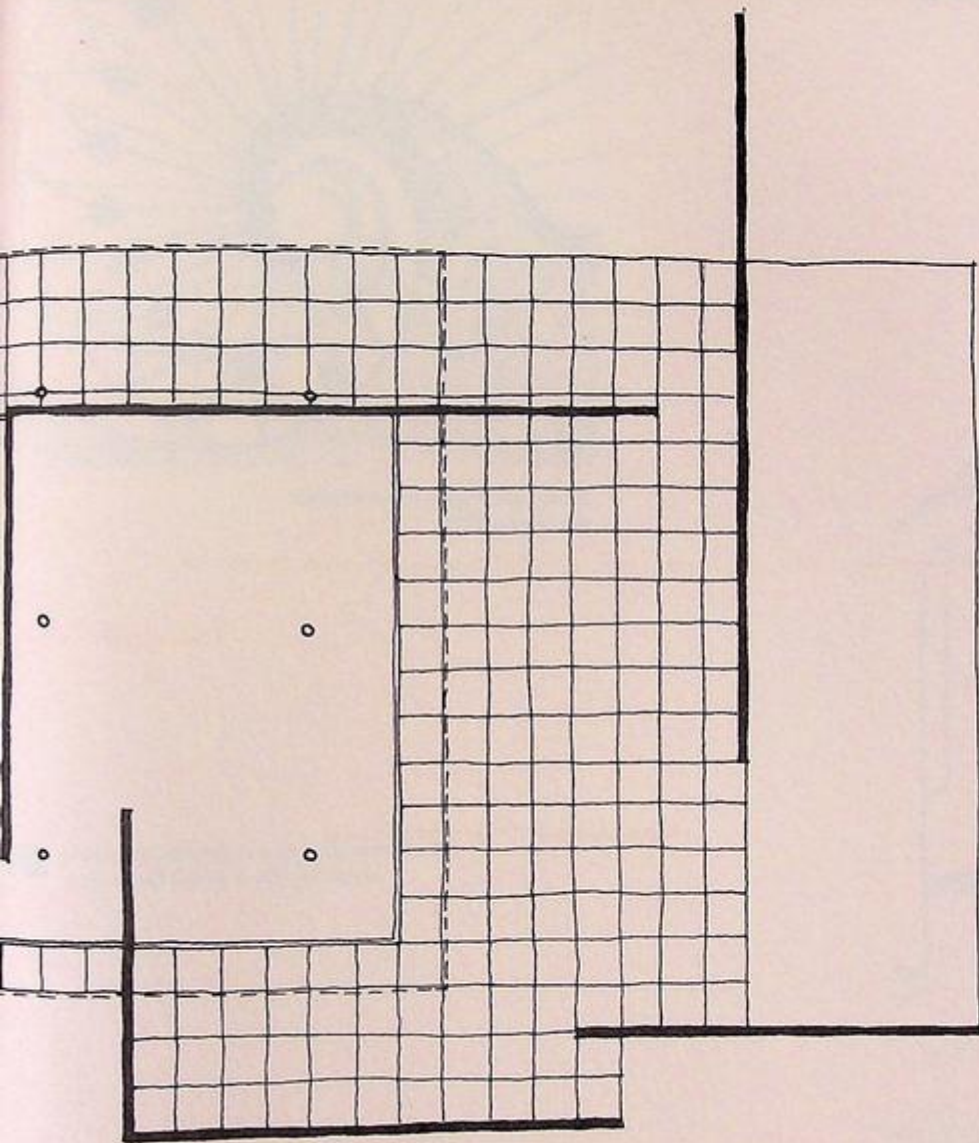
Office Building & Factory



Here is the plan of a house for the Berlin Building Exhibition designed by Ludwig Mies van der Rohe and Lilly Reich in 1931.

Using the drawing key of furniture and utilities, mark on the plan the spaces where you would like to cook, eat, wash, sleep, study and relax...





sofa



armchairs



table



piano



dining table



sideboard



double bed



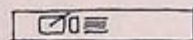
single bed



dresser



closets



sink unit



hob



cupboard



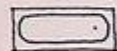
refrigerator



kitchen unit



WC & bidet



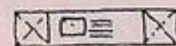
bath tub



shower



sinks



utilities sink



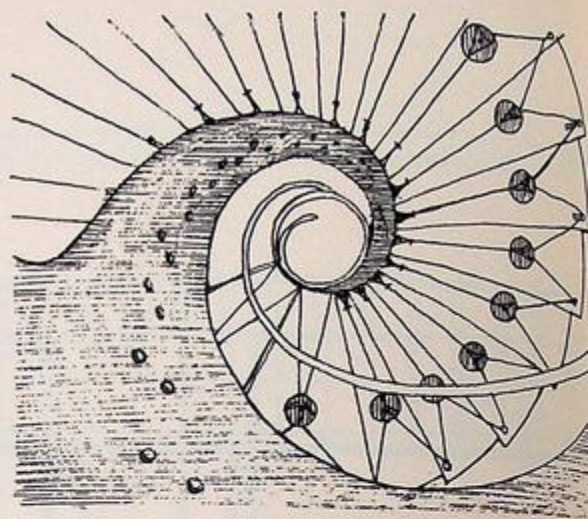
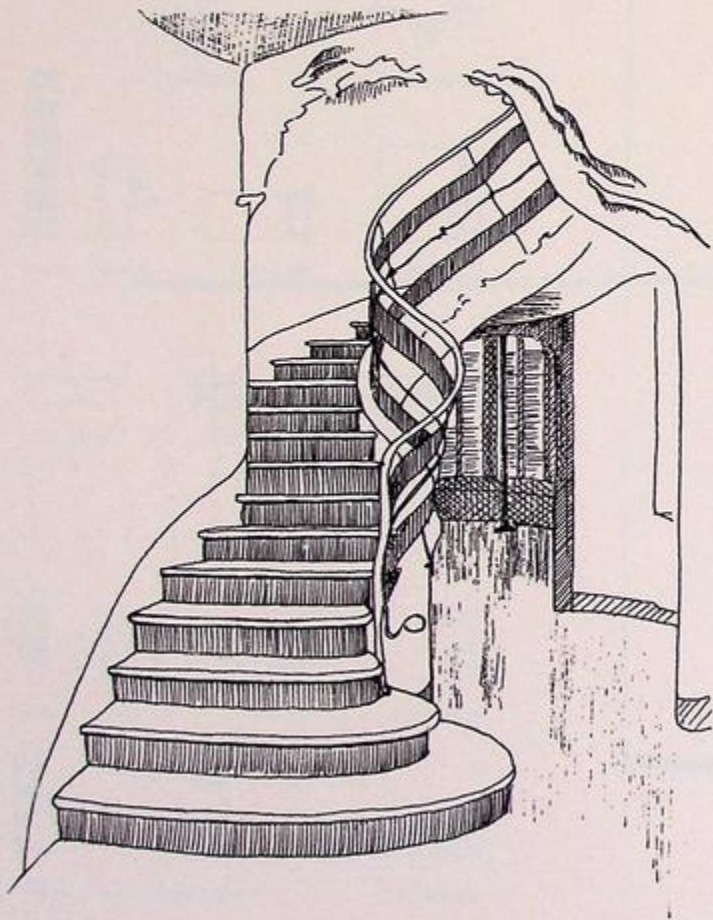
washer/dryer



boiler

Here are some examples of **curvilinear stairs.**

*Casa dels Ous, Torre de la Creu, Spain.
Josep Maria Jujol, 1916*



*Hotel Josef, Prague, Czech Republic.
Eva Jiricna, 2002*

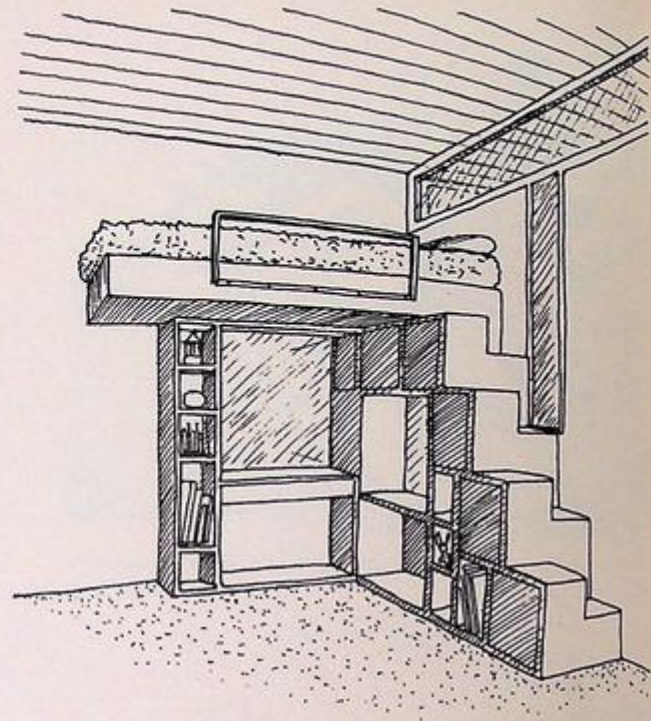
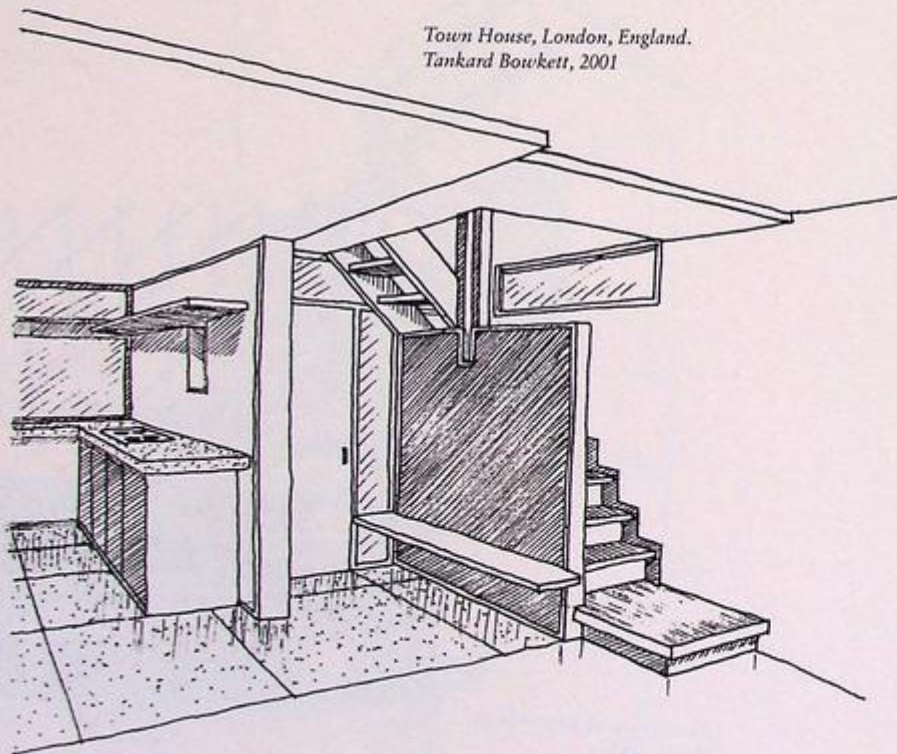
*Sketch some ideas for a stair which articulates
circles and curves within the design...*




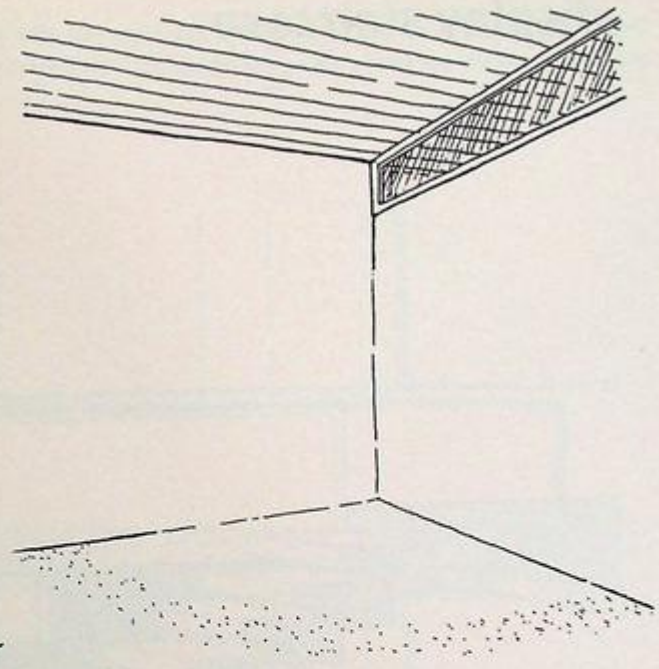
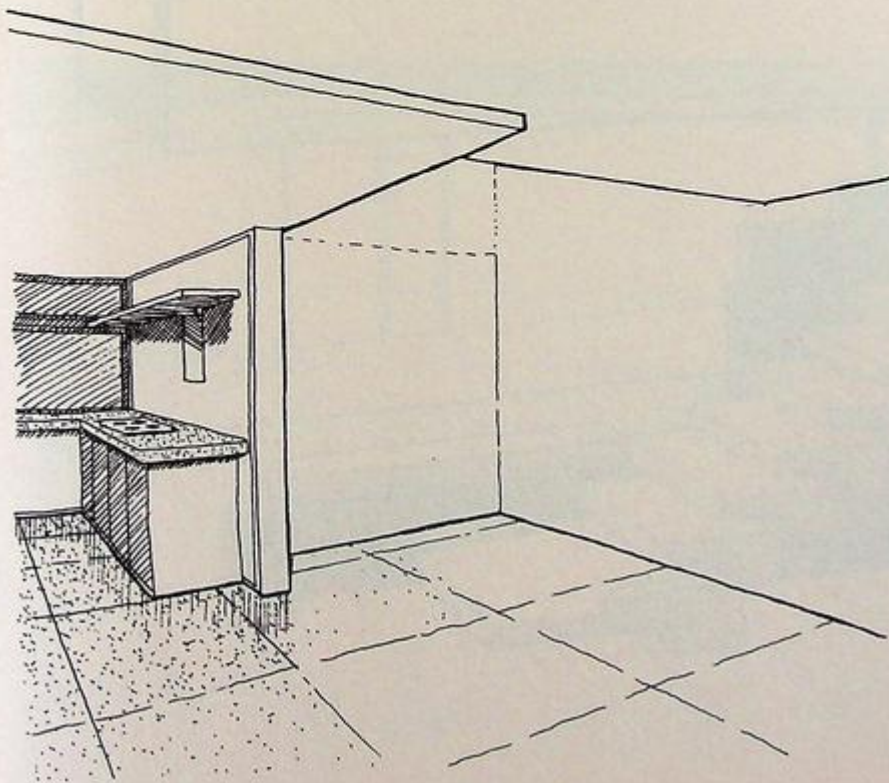
*Louvre Pyramid, Paris, France.
I.M. Pei, 1989*

These **innovative stairs** were designed for a London house and incorporate a bench next to the entrance and storage leading to a bed platform.

*Town House, London, England.
Tankard Bowkett, 2001*

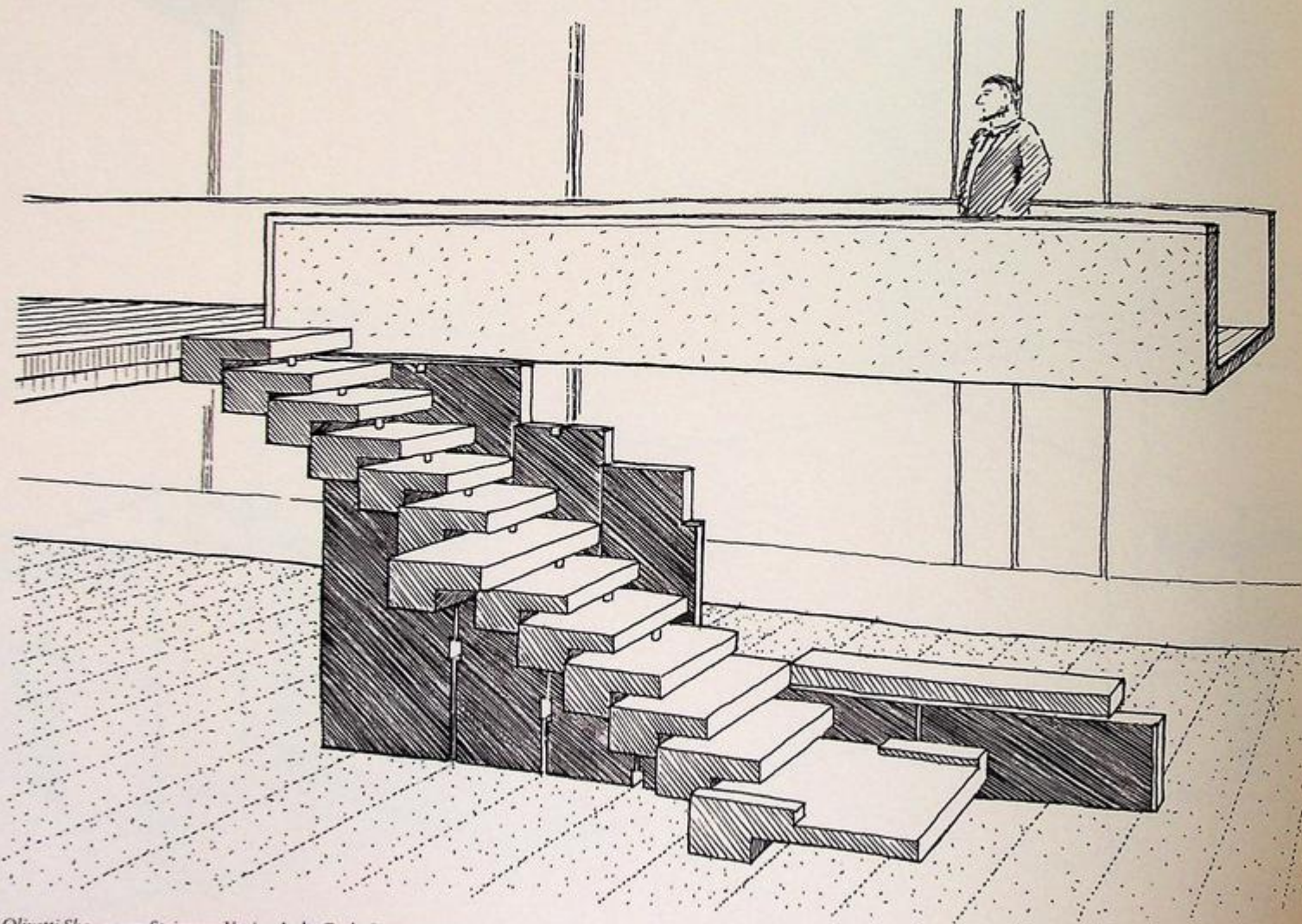


Sketch your own ideas for these two spaces... 

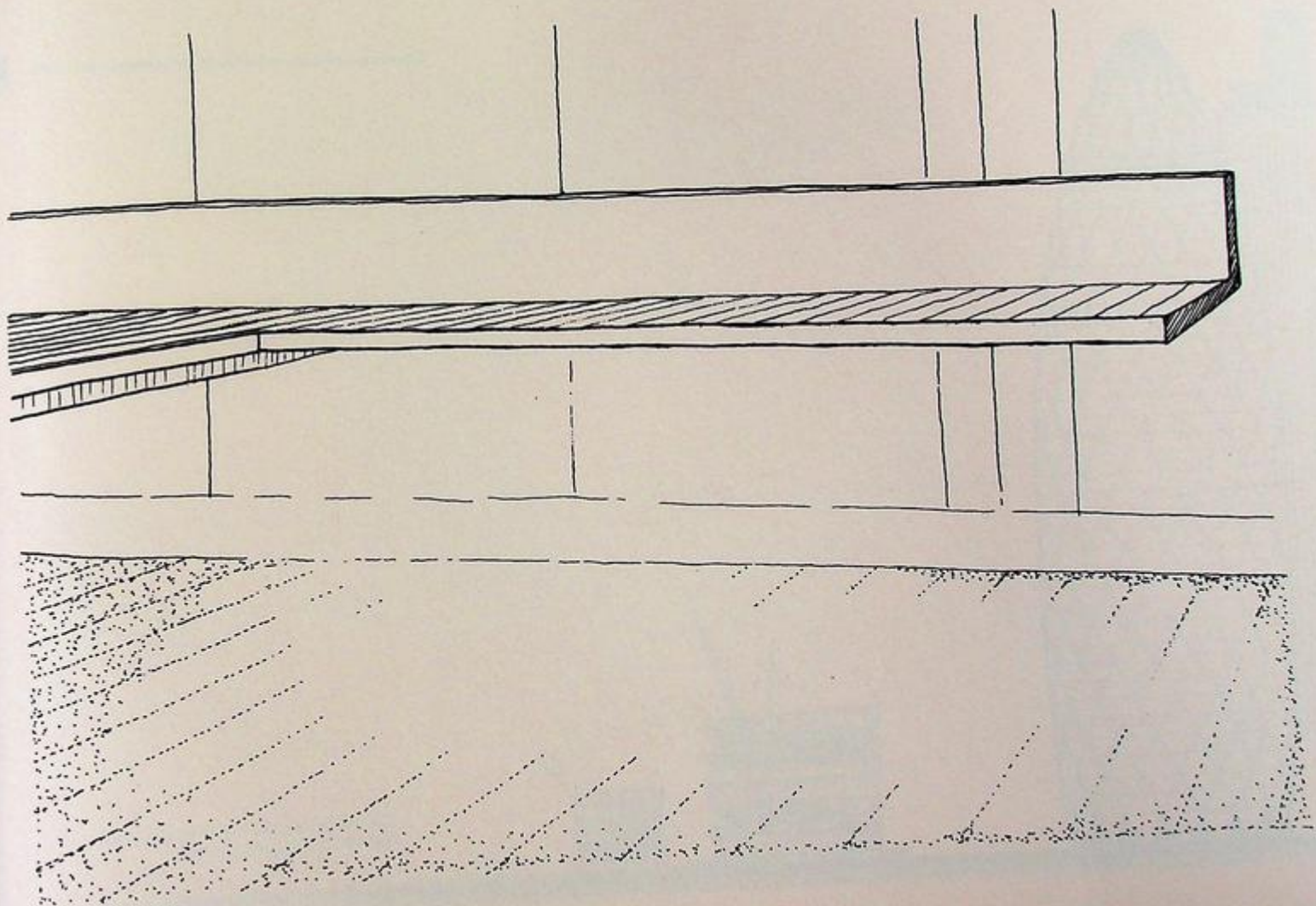


This **display staircase** appears to float within the space and provides a centre point for exhibiting artefacts in the Olivetti Showroom in Venice.

How would you design a stair for this space leading up the first-floor mezzanine?

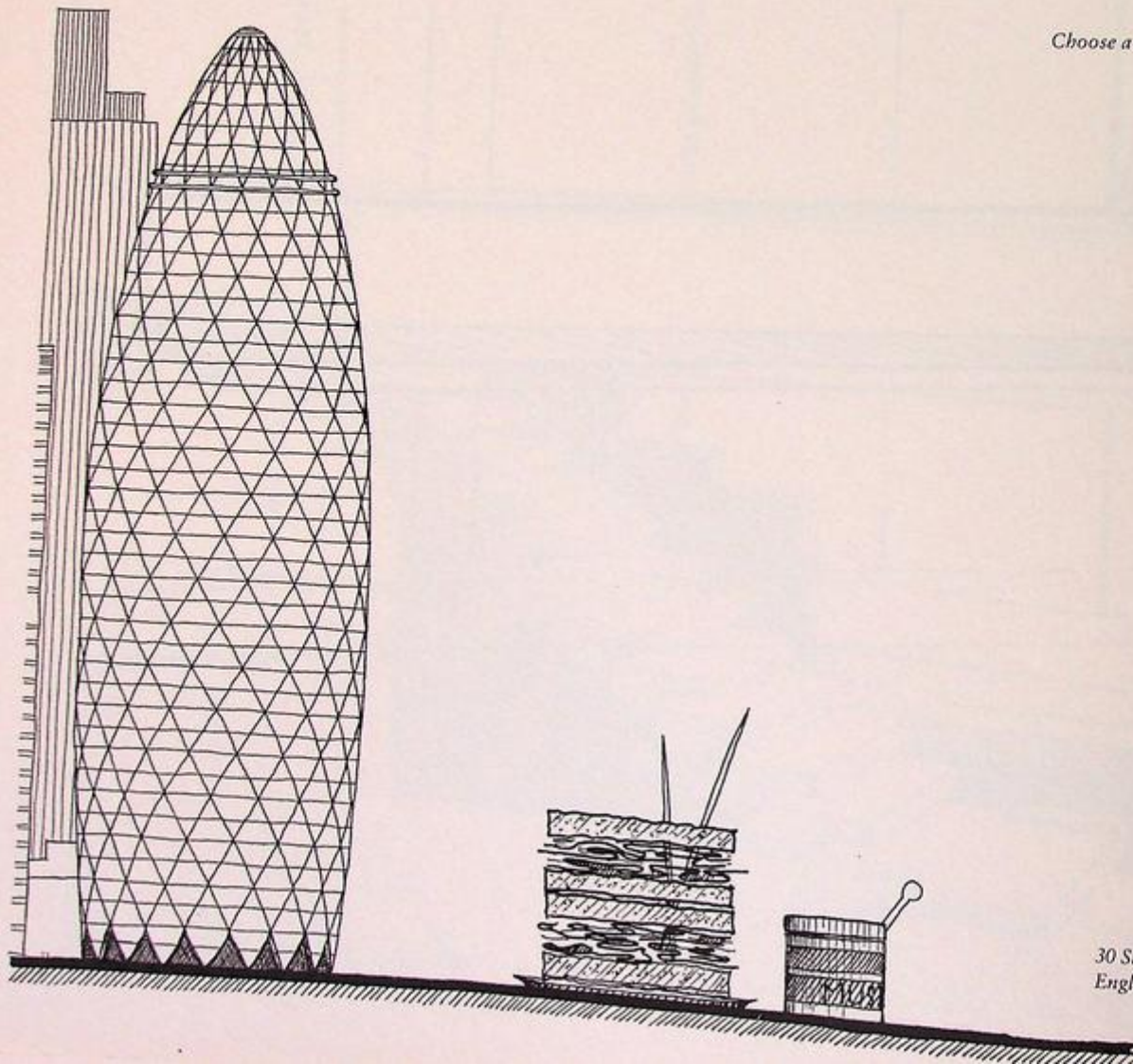


Olivetti Showroom Staircase, Venice, Italy. Carlo Scarpa, 1958.



Atelier Bow-Wow Architects coined the term **'pet architecture'** for small buildings built in the left over spaces next to big buildings. If this building, known as 'the Gherkin', had a pet, would it be shaped like a pastrami sandwich? Or a mustard pot?

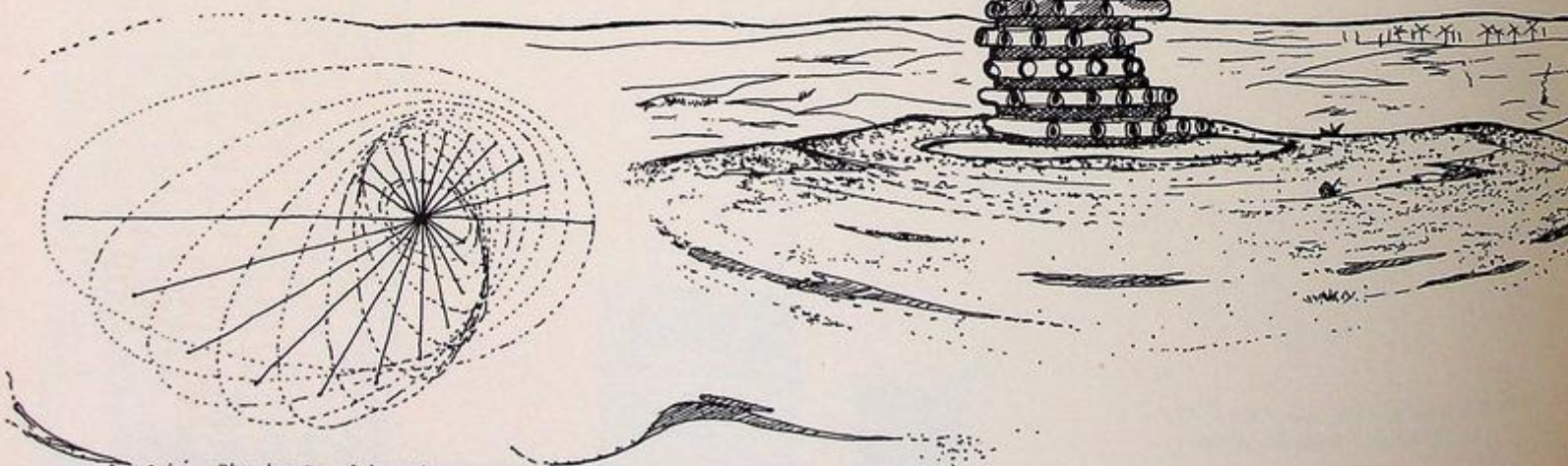
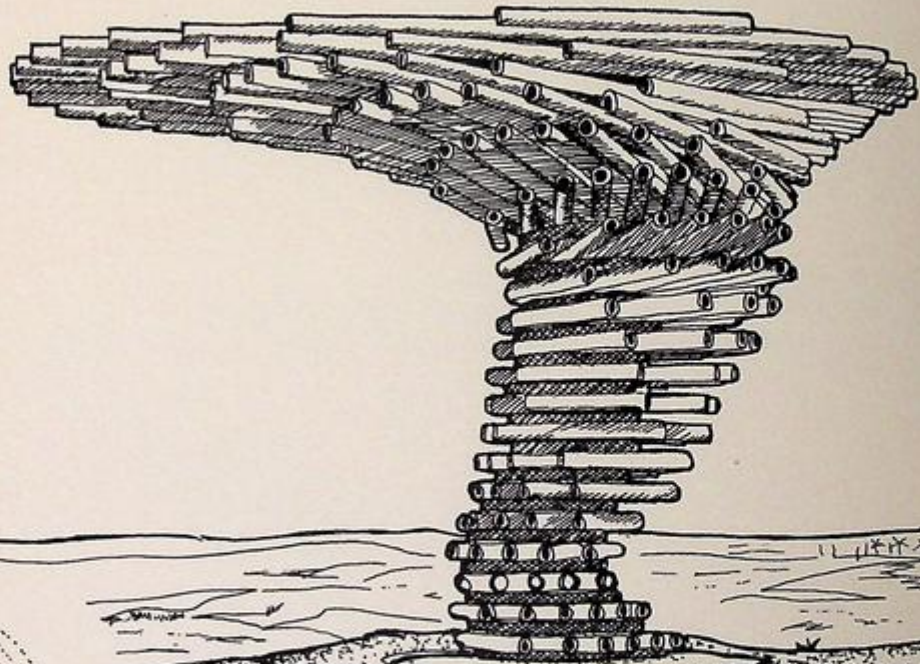
Choose a well-known building and design a 'pet' for it...



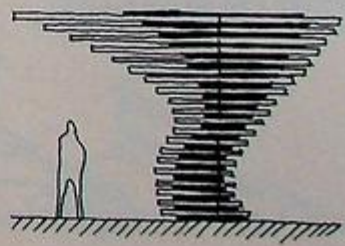
30 St Mary Axe (the 'Gherkin'), London, England. Norman Foster, 2003

In 2004, architects **Tonkin Liu** designed and built a hill-top sound sculpture overlooking the town of Burnley in Lancashire, England. Their interactive design, the 'Singing Ringing Tree', was named after the Brothers Grimm folk story.

Design a sculptural form that interacts with the elements and think of a suitable title for it...



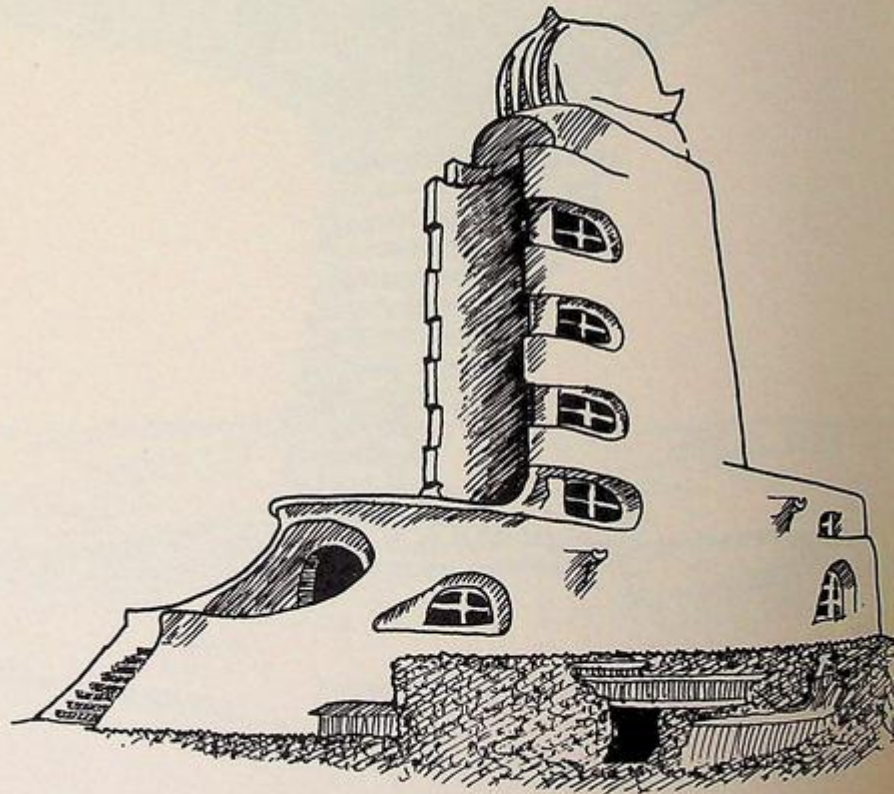
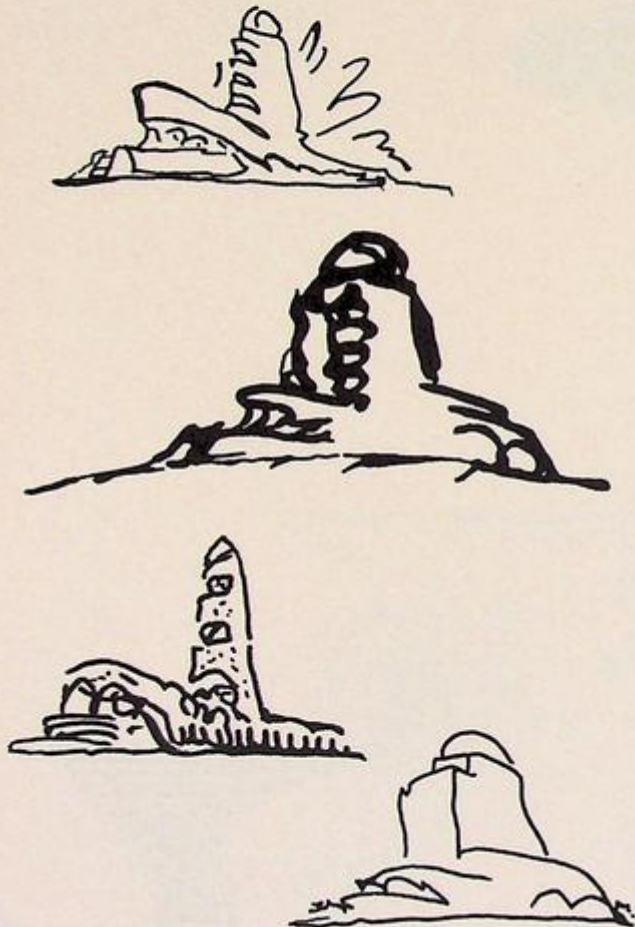
Plan drawing of the sculpture



Fluid and dynamic

sketching is a style developed by the German Expressionist architect Erich Mendelsohn. The sketch drawings of the Einstein Tower on the left show how the building form evolved.

Make some development sketches of a small tower of your own using a brush, ink and drawing pens...

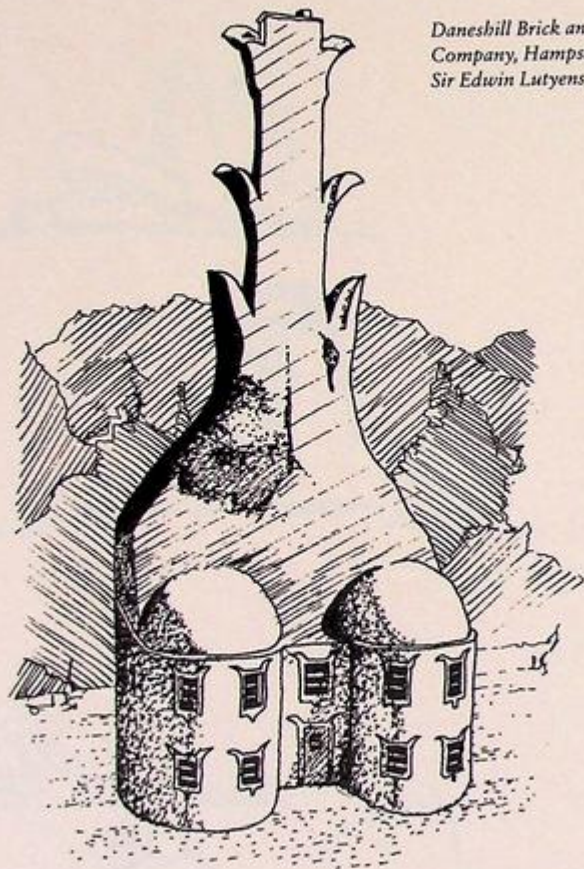


The Einstein Tower, Potsdam, Germany. Erich Mendelsohn, 1919

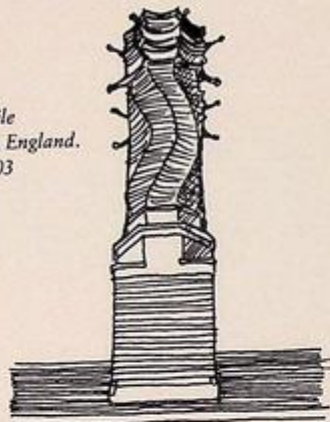
WATERBURY CONNECTICUT



These are all examples of buildings with **unusual chimneys.**



*Daneshill Brick and Tile
Company, Hampshire, England.
Sir Edwin Lutyens, 1903*



Design a funky-looking chimney... ➡

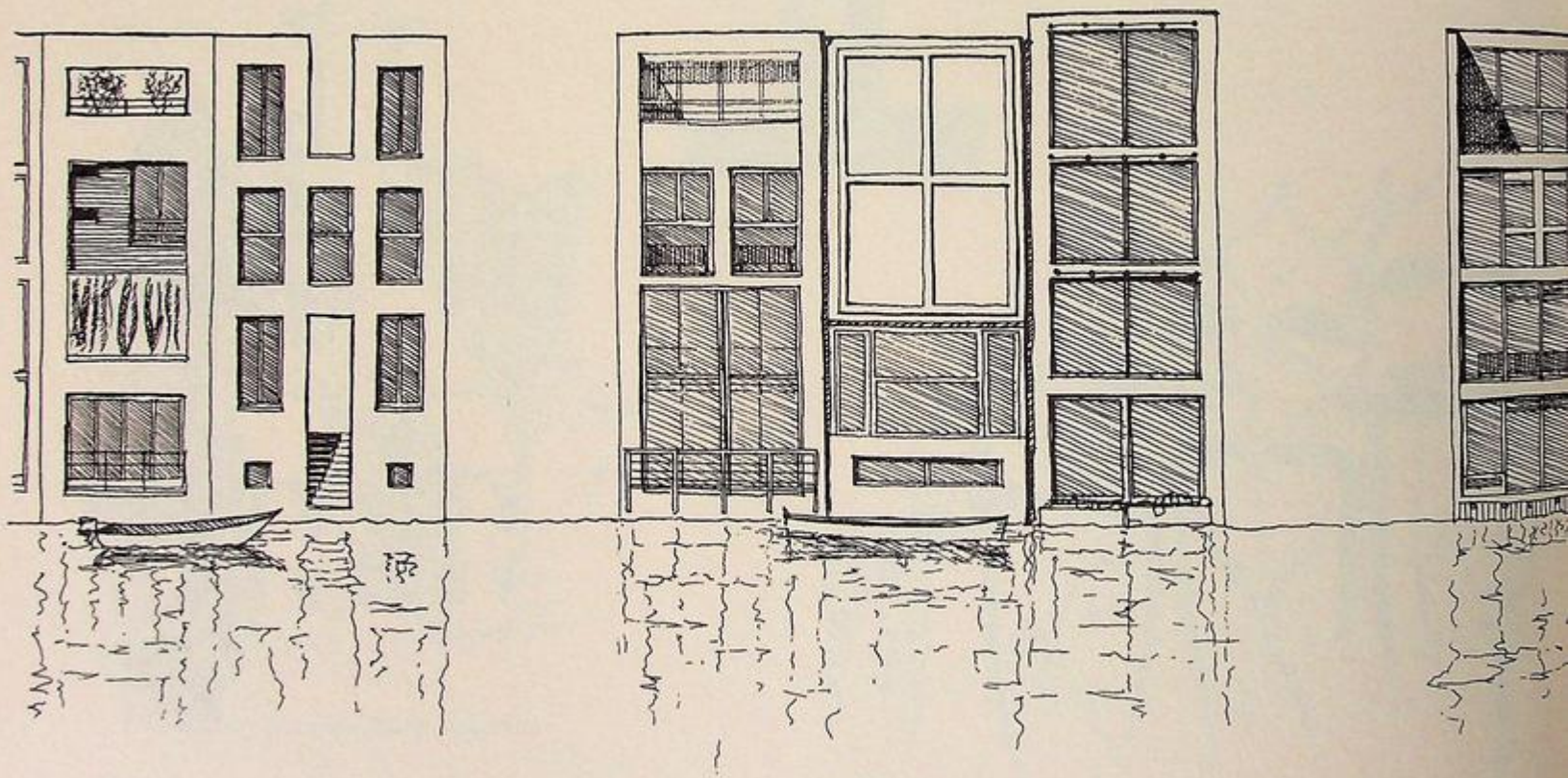


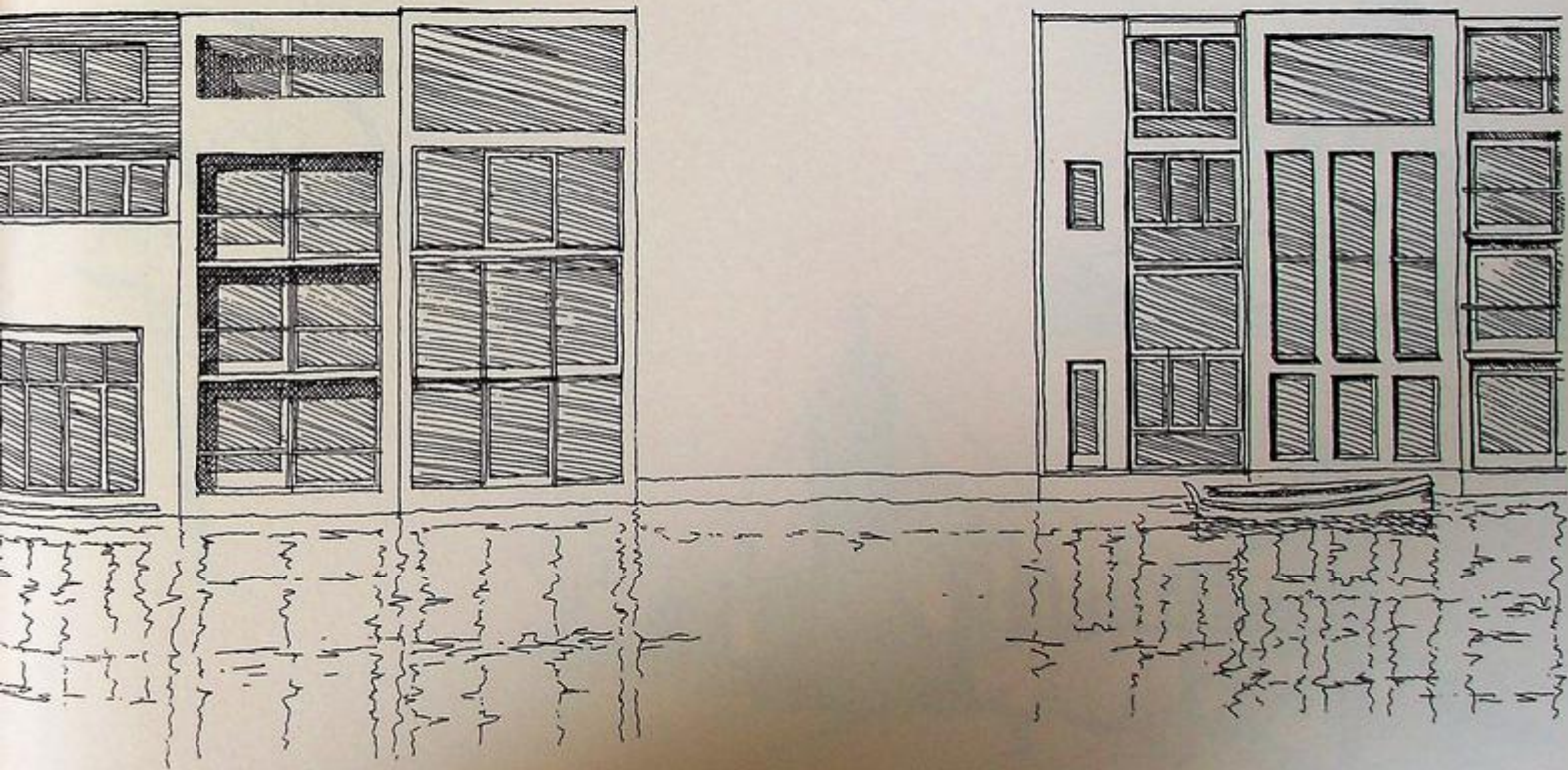
Das Heizhaus, Switzerland. Rudolf Steiner, 1914

Casa Milà, Barcelona, Spain. Antonio Gaudí, 1912



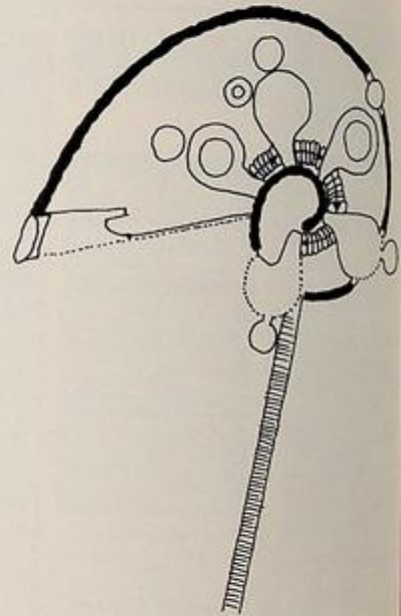
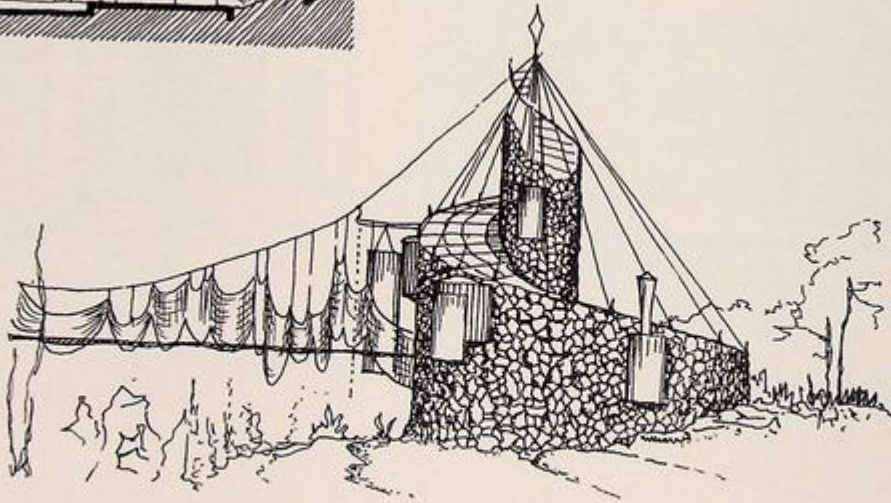
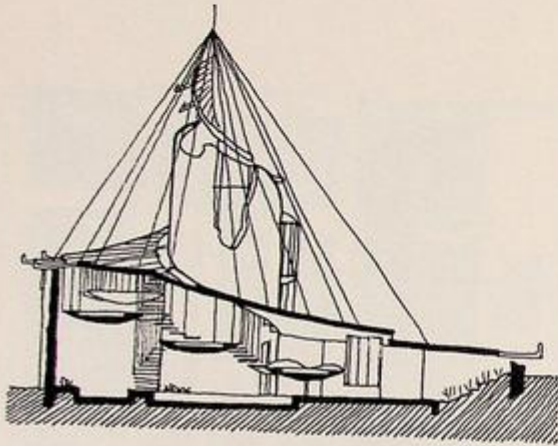
*Palau Güell, Barcelona, Spain.
Antonio Gaudi, 1890*



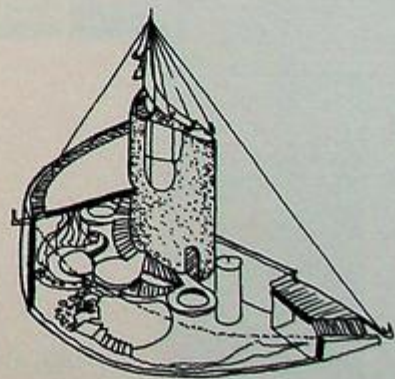


This **spiral-shaped house**, designed by the American architect Bruce Goff, is a dwelling that brings plants, pools and the surrounding countryside into the interior.

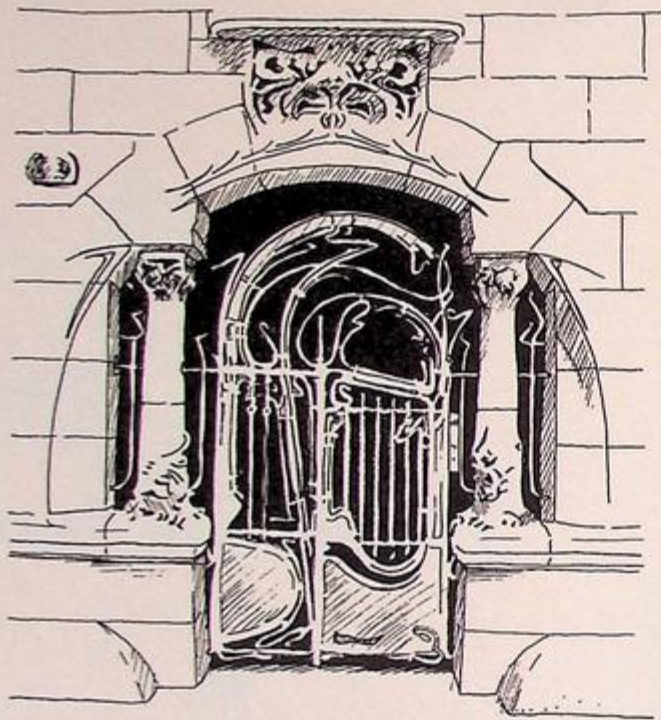
Design a house based upon a spiral form...



Bavinger House, Oklahoma, USA. Bruce Goff, 1955




The **entrance** is a major consideration when designing a building. This threshold not only provides a way into an interior space but can also signify shelter, security, function, importance and opulence.

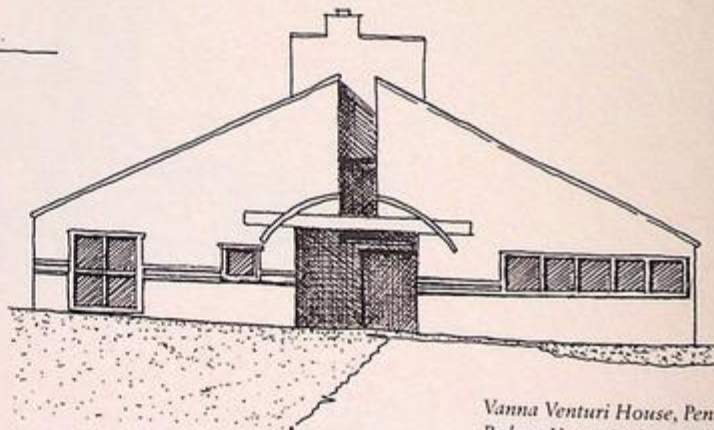


*Castel Béanger, Paris, France.
Hector Guimard, 1898*

*Schullin Jewellery Shop, Vienna,
Austria. Hans Hollein, 1974*

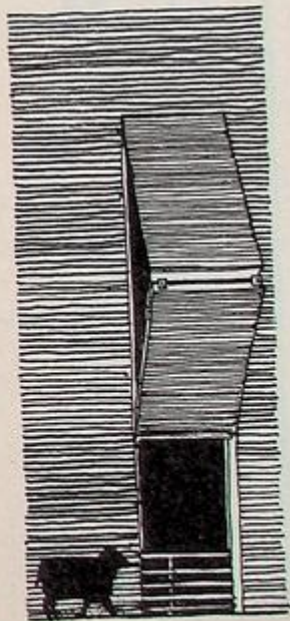


Sketch and design a new entrance for a building near you... 

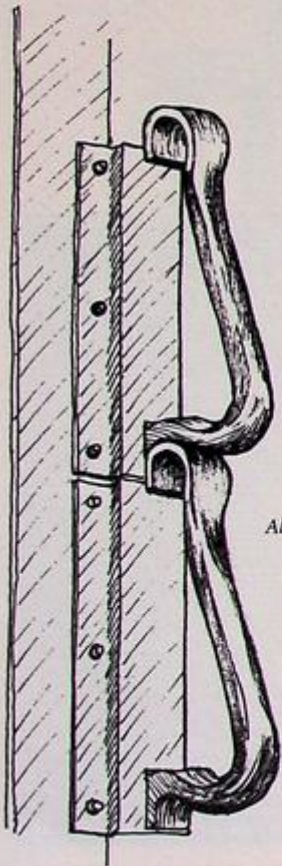


*Vanna Venturi House, Penn, USA.
Robert Venturi, 1964.*

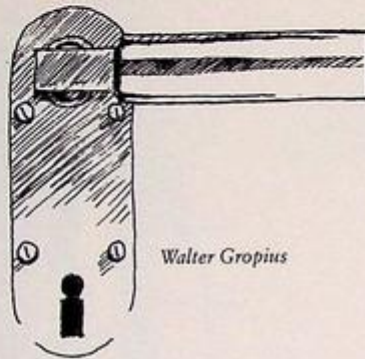
*Petting Farm, Almere, the Netherlands.
70F Architecture, 2008*



When designing a **door handle**, careful consideration should be given to comfort, material, strength and style.



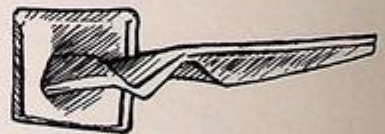
Alvar Aalto



Walter Gropius

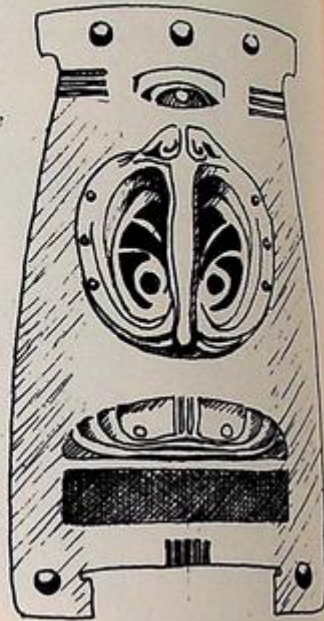


Alvar Aalto

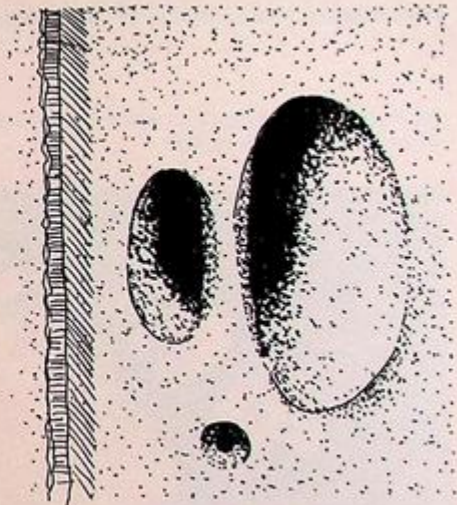


Zaha Hadid

*Art Nouveau door handle
and letterbox, Brussels*




Sketch a variety of door handle designs for different situations...

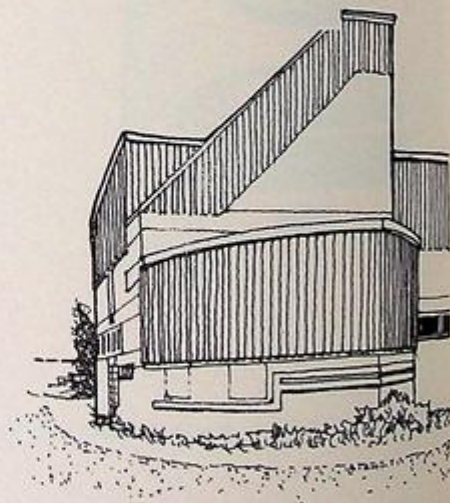
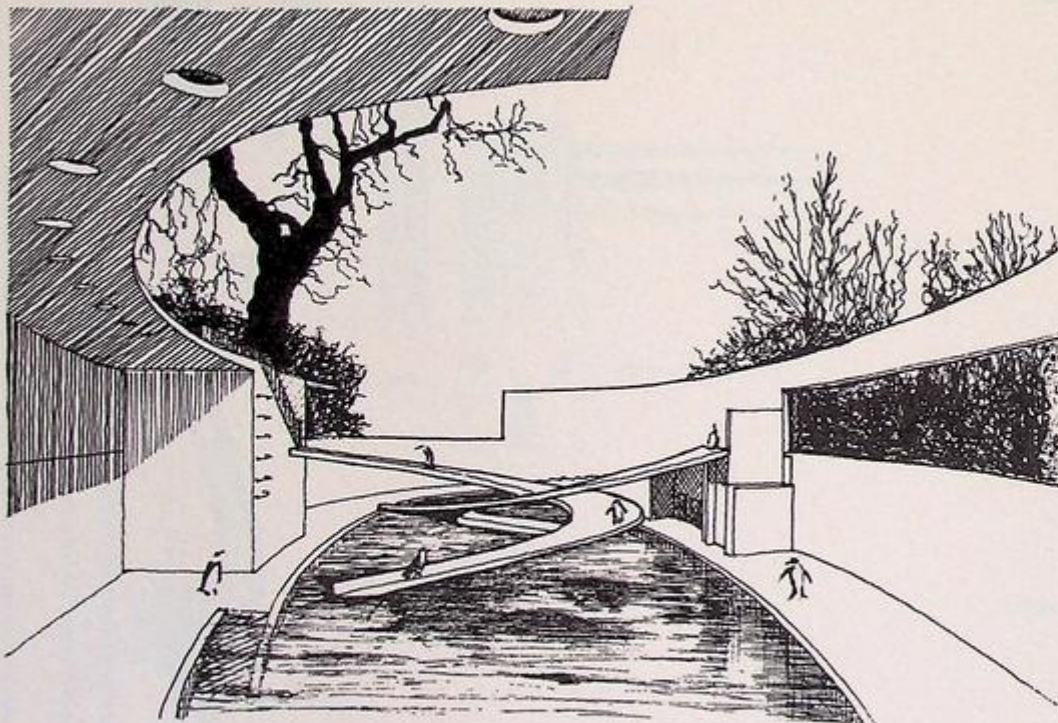


Peter Zumbor

Many architects have dedicated their time to designing **buildings for animals.**

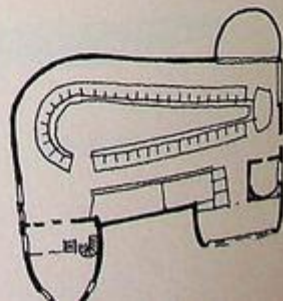
Choose a creature from the animal kingdom and design a new dwelling for them... 

The Penguin Pool, London Zoo, London. Berthold Lubetkin's Tecton Architectural Group, 1934

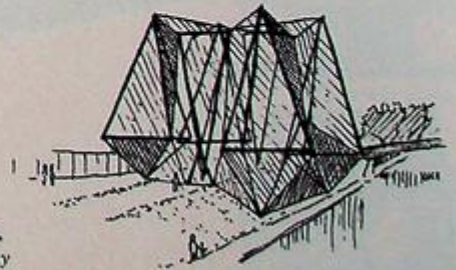


Gut Garkau Farm, Germany. Hugo Häring, 1926

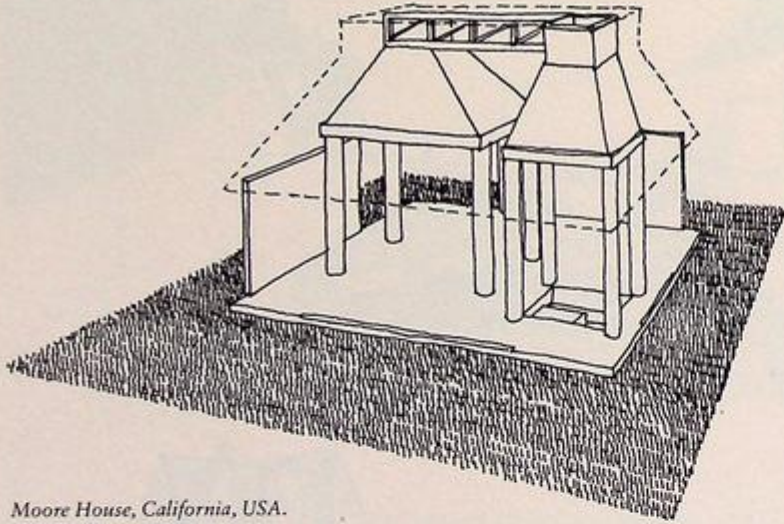
The Savannah House, Rotterdam Zoo, the Netherlands. LAM Architects, 2009



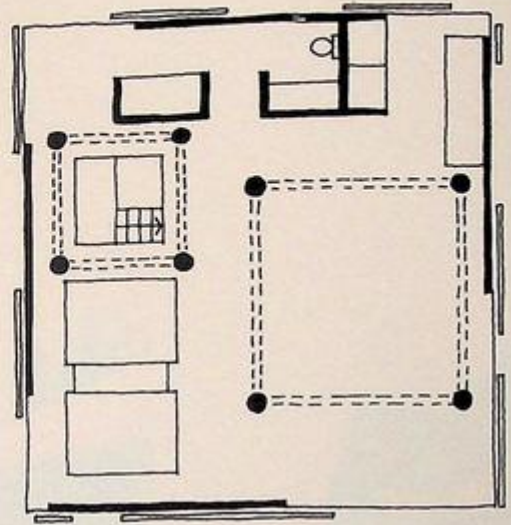
*The Snowdon Aviary, London Zoo,
England. Cedric Price, Frank Newby
and Anthony Armstrong Jones, 1964*



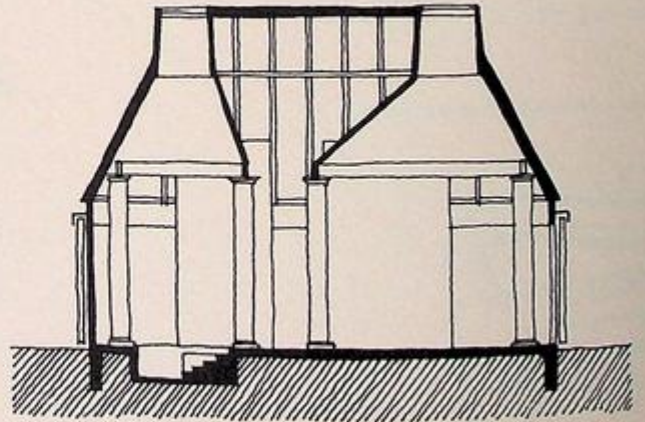
This **square house** was designed by American architect Charles Moore for himself. Made from timber, its design is based upon a series of squares within squares.



*Moore House, California, USA.
Charles Moore, 1962*



Design a small holiday home based upon square geometry...



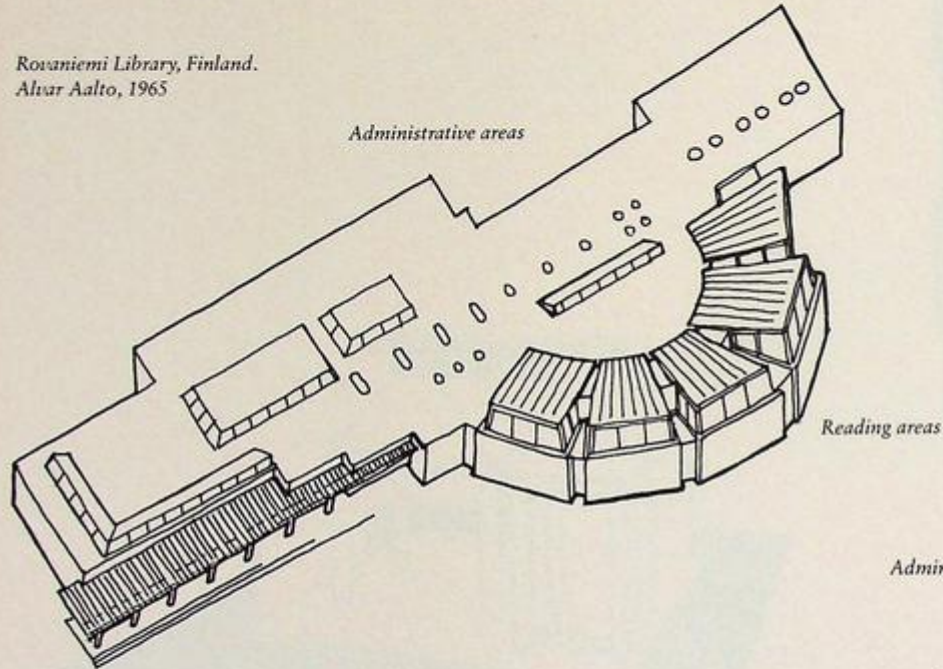


rhythm and repetition

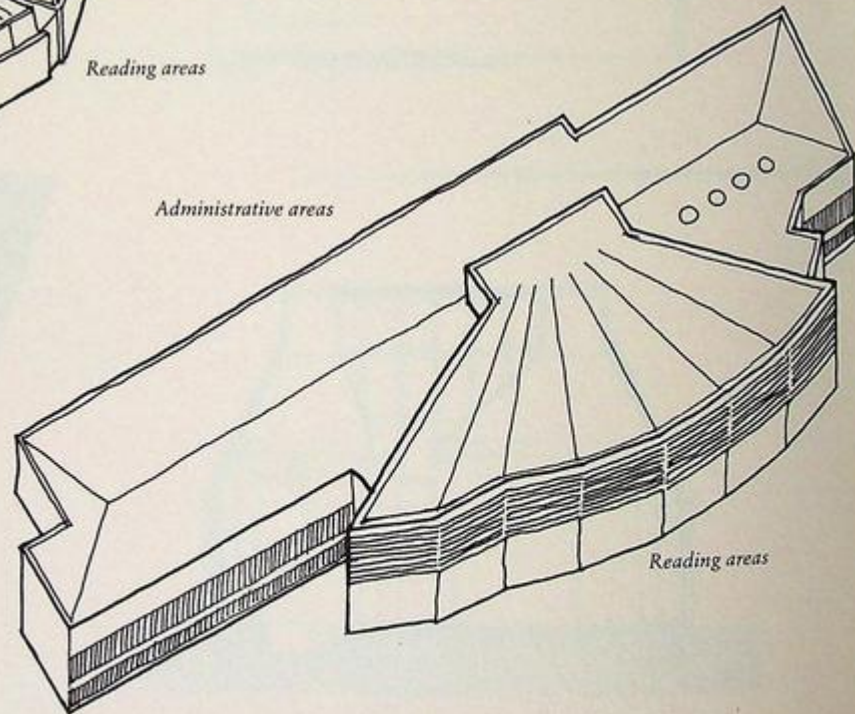
Architects have always been fascinated by exploring **rhythm and repetition** within the design of their buildings. These two examples of libraries by Finnish architect Alvar Aalto show how he changed the geometry between the fan-shaped reading areas and the rectilinear administration areas.

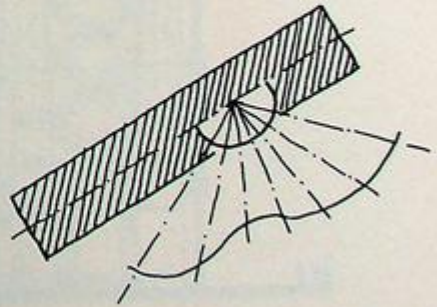
Sketch out some ideas for a small public library and show how you would exploit this principle....

Rovaniemi Library, Finland.
Alvar Aalto, 1965

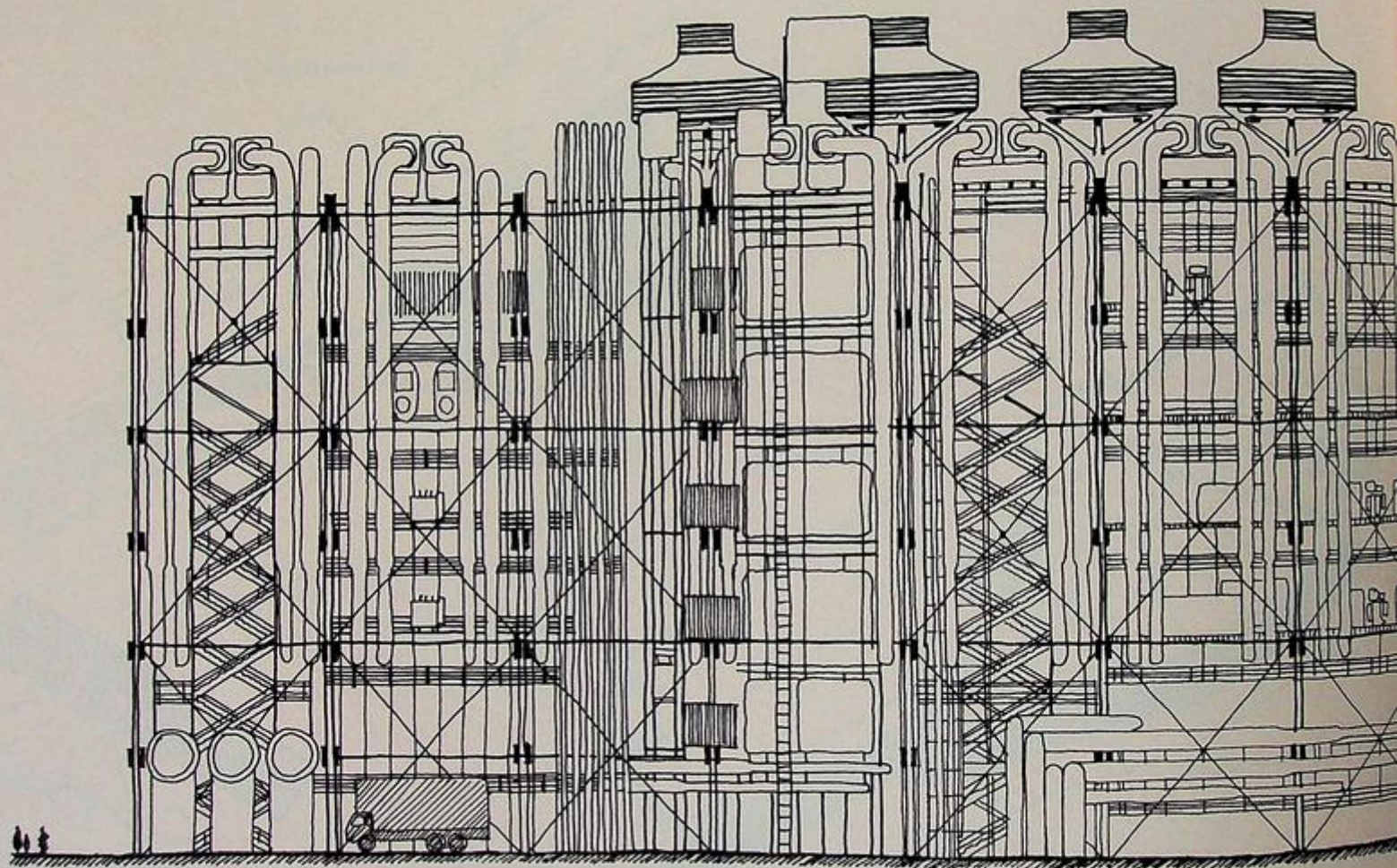


Seinäjoki Library, Finland.
Alvar Aalto, 1963






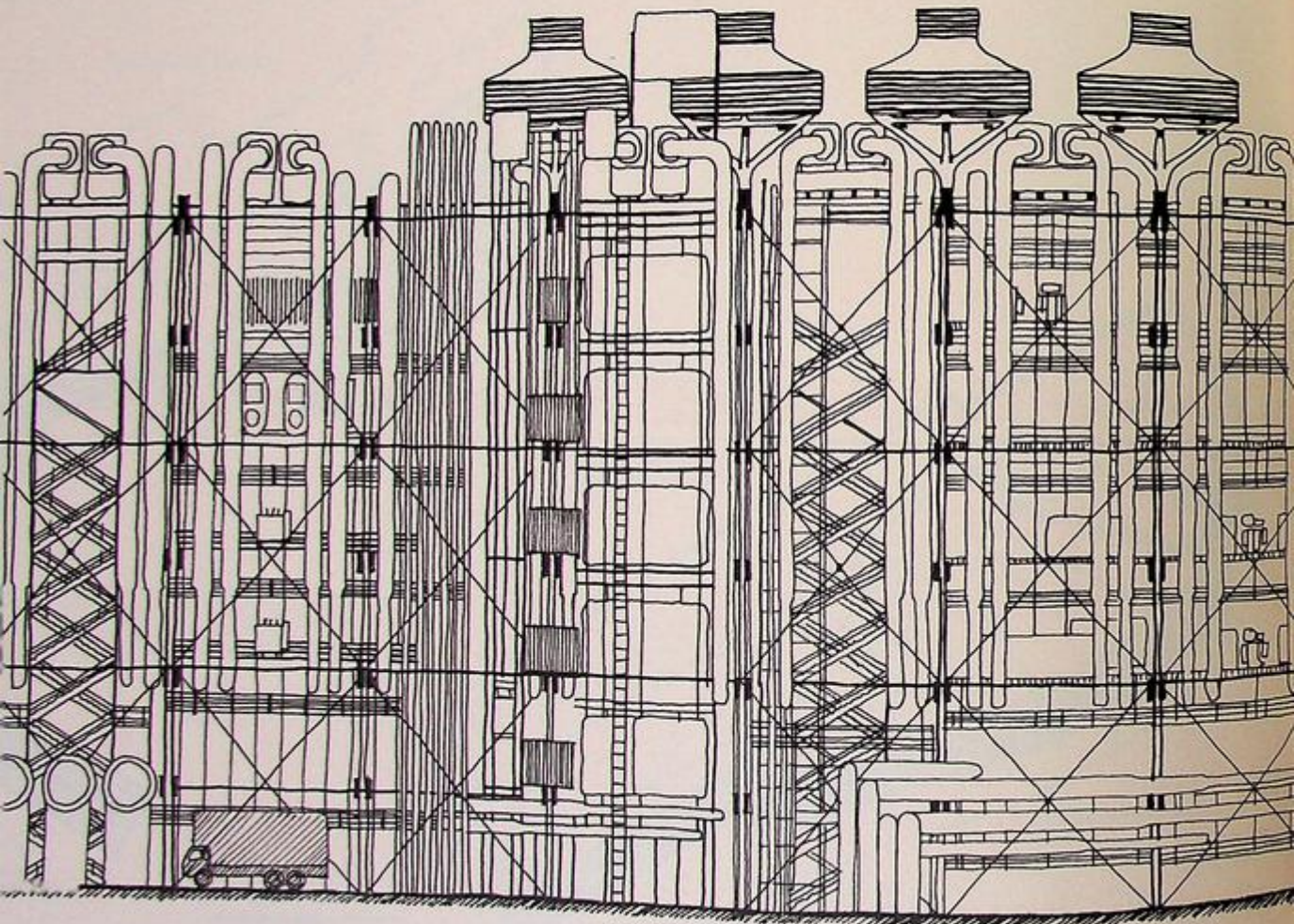
*Diagram showing principles
of rhythm and repetition*



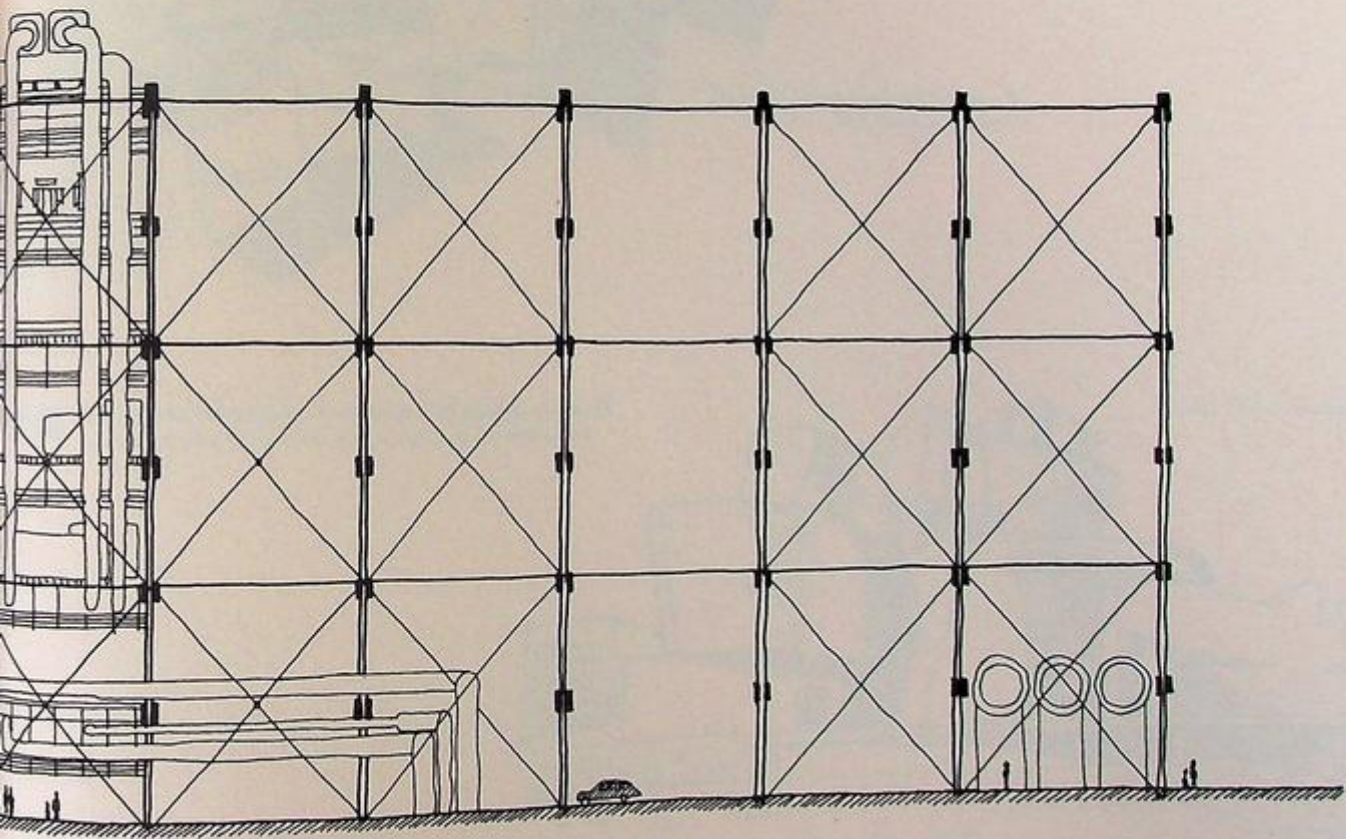
Pompidou Centre, Paris, France. Richard Rogers and Renzo Piano, 1977

of the **Pompidou Centre** in Paris
The building's famous exposed services were not required
they put in their place?

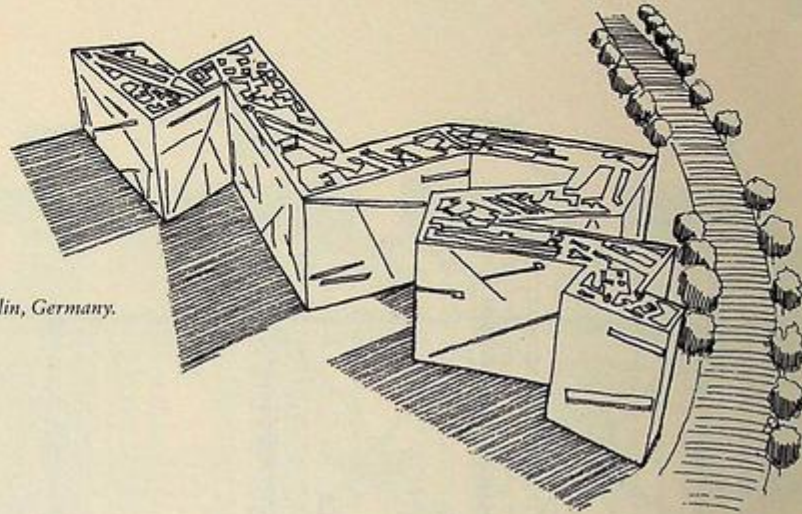
Overdraw your ideas in the space provided... 



Pompidou Centre, Paris, France. Richard Rogers and Renzo Piano, 1977

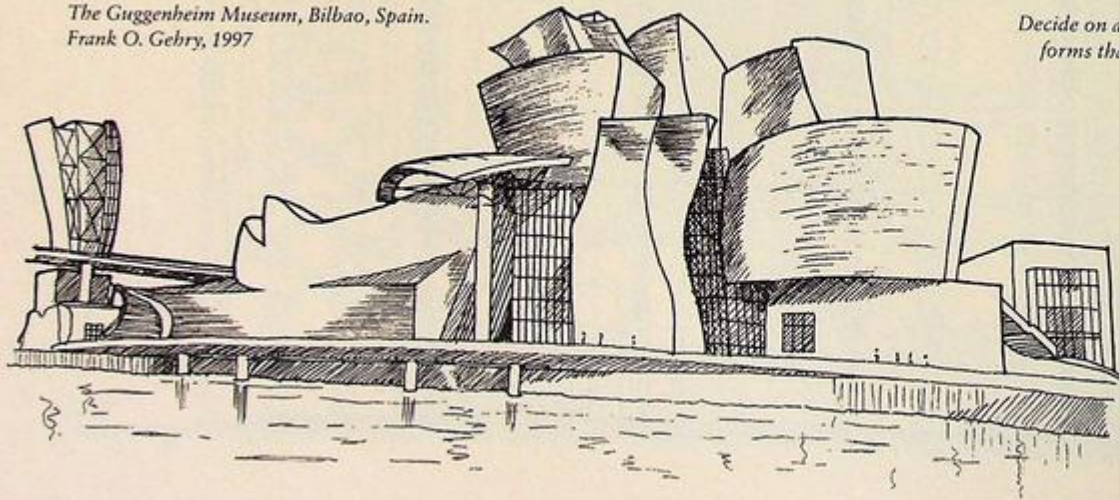


The form of many **modern museums** often express the buildings' content. The two examples here express two very different ideas: one is a work inspired by both sculpture and the surrounding former-shipyard area; the other is a powerful expression of the Jewish people's historical struggle.



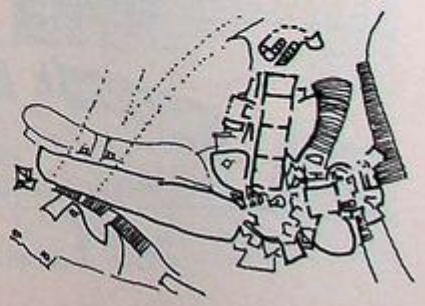
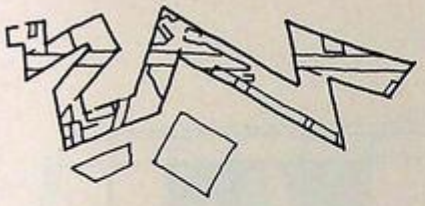
*The Jewish Museum, Berlin, Germany.
Daniel Libeskind, 2001*

*The Guggenheim Museum, Bilbao, Spain.
Frank O. Gehry, 1997*

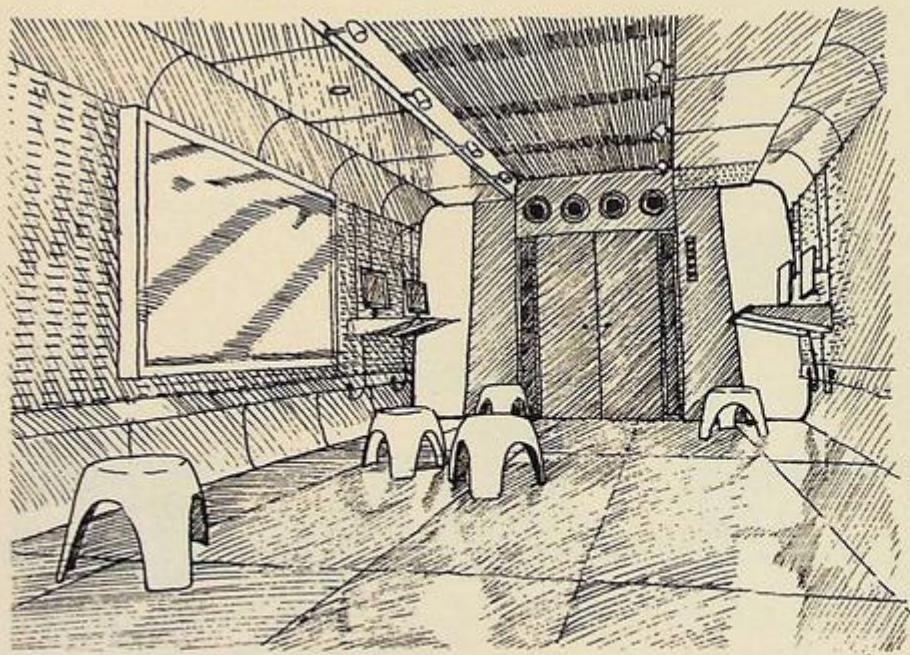
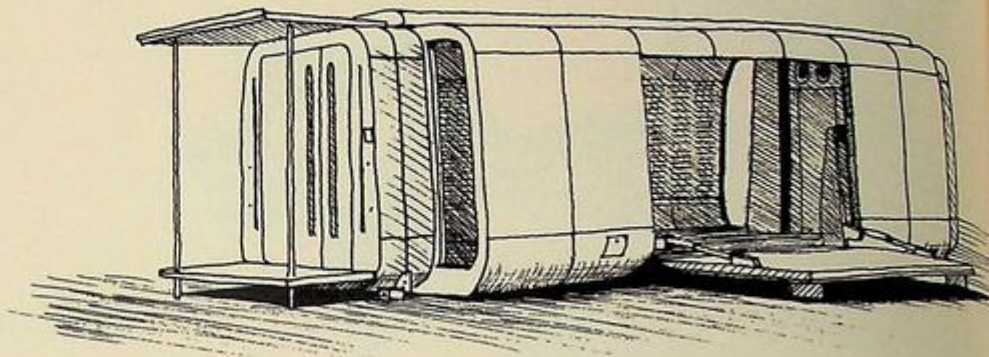


Decide on a theme for a museum and sketch some architectural forms that you feel best express the spirit of your proposal...

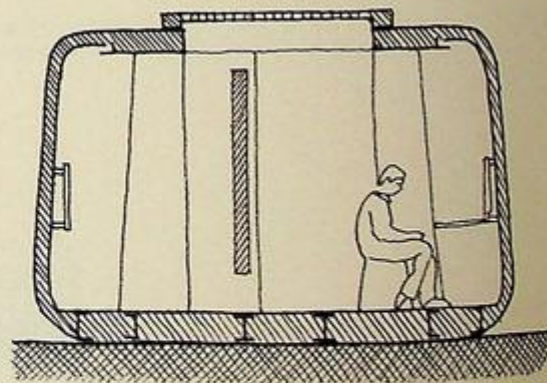
Department of the Army
Washington, D.C. 20315



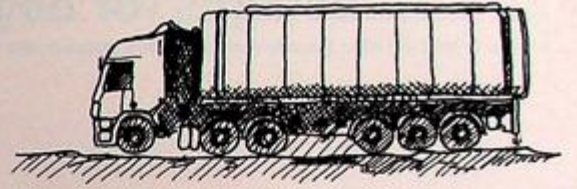
This mobile **Classroom of the Future** was designed by Gollifer Langston Architects in 2007. It can be transported by lorry from one location to another and provides workstations and audio/visual equipment.



Design a mobile educational unit that would fit on a standard truck...

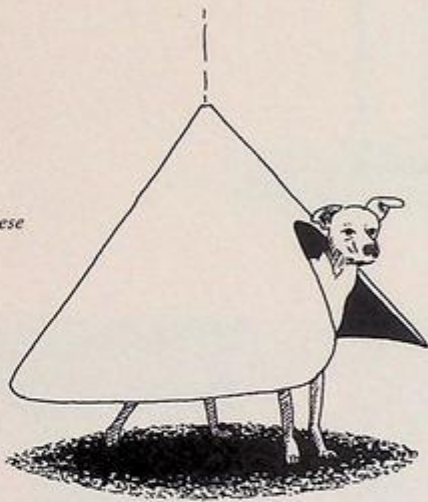


Classroom of the Future, London, England. Gollifer Langston Architects, 2007

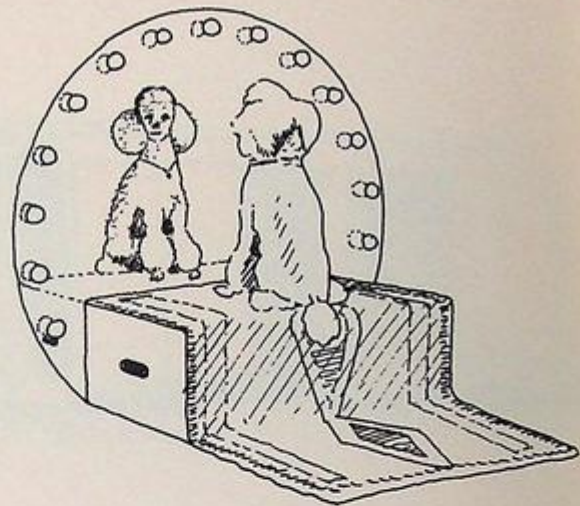


Here is a selection of **designs for dogs** by different architects that will alter the way that the owners interact with their pets.

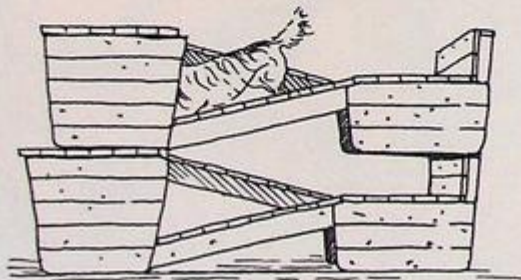
'Pointed T' suspended cone to house a Japanese terrier by the Hara Design Institute



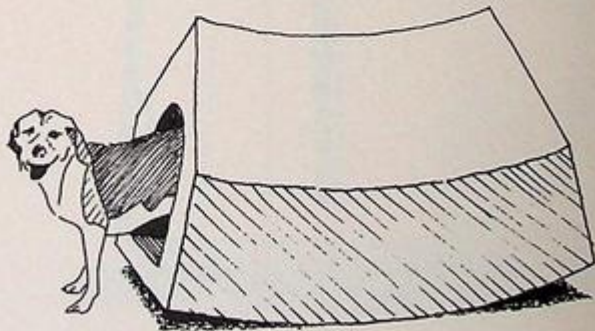
'Paramount' mirror for a poodle by Konstantin Grcic



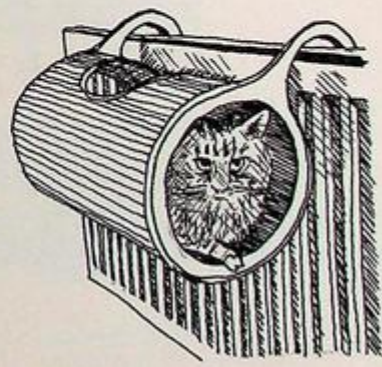
Draw some ideas for other domestic animals, such as this cat basket that hangs on a radiator...



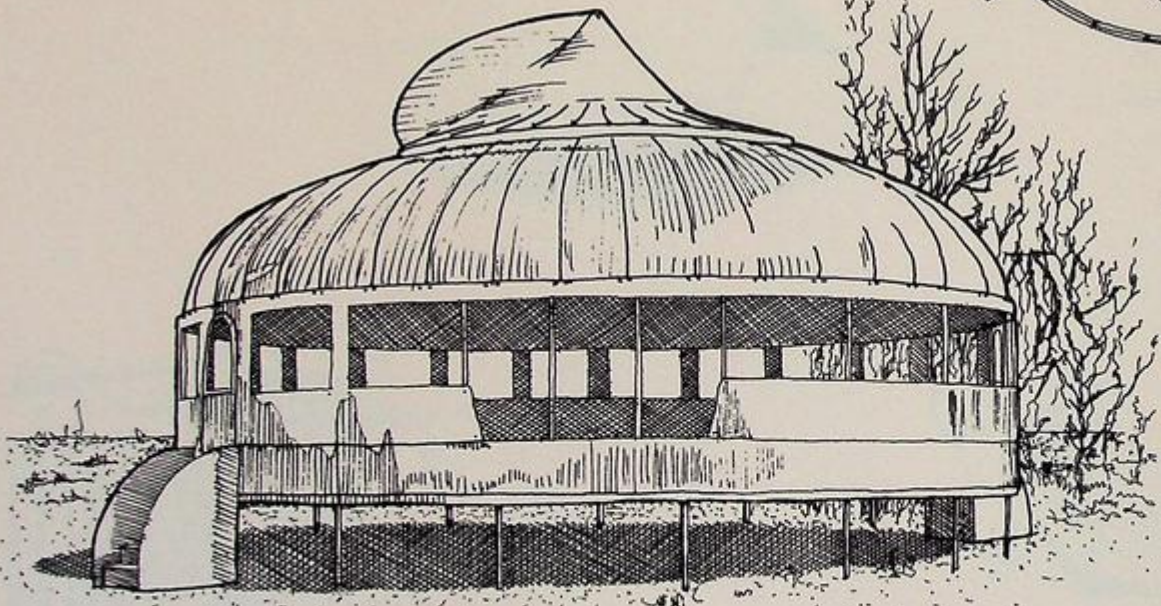
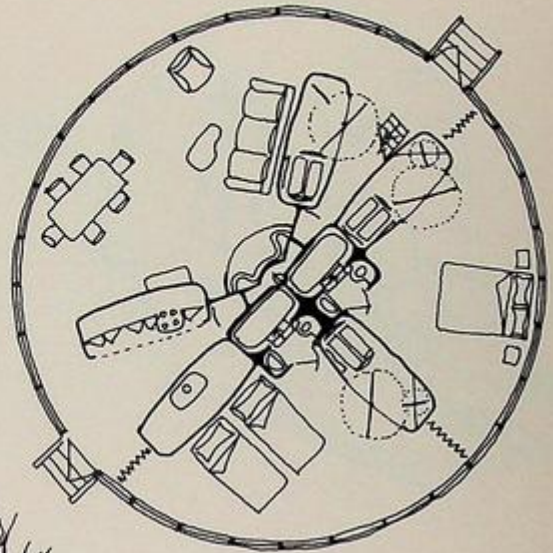
Ramp for daschund by Atelier Bow-Wow




Rocking kennel for a beagle by MVRDV



This prototype **circular house** used mass-produced aircraft technology and materials combined with an innovative rotating-roof ventilation system.



Design a house with a plan based on a circle... 

Wichita House, Kansas, USA. Buckminster Fuller, 1947

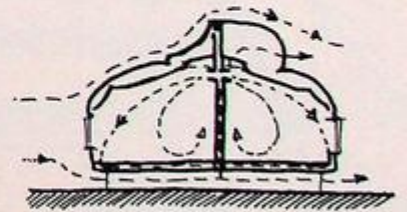

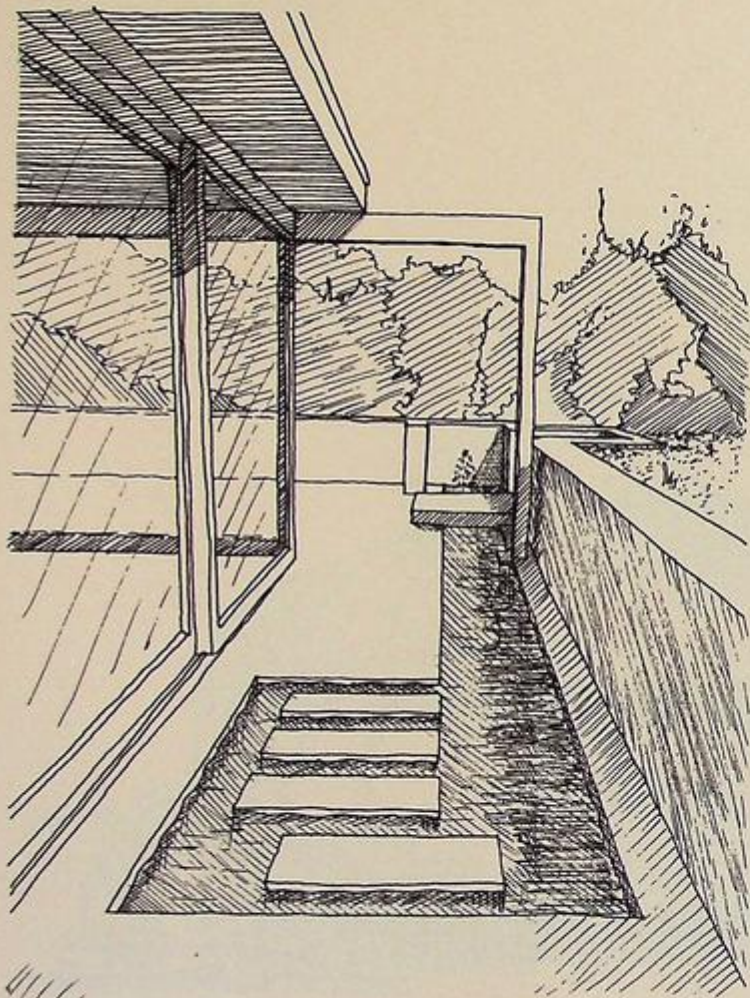


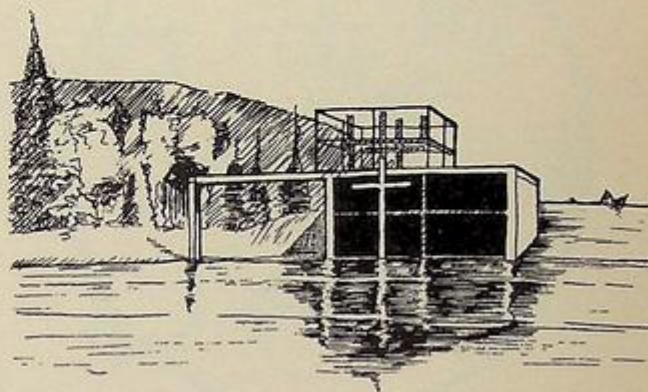
Diagram showing airflow due to roof ventilation system

Incorporating water into the design of an environment can have both a dramatic and a calming effect.

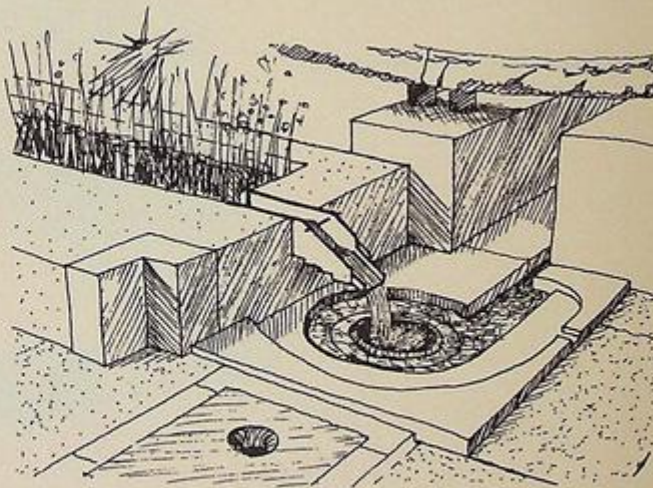
Sketch a place that you know, a garden or interior or even a public place, and design a new water feature within it... 



*Private Residence, London, England.
Tankard Bowkett, 2007*

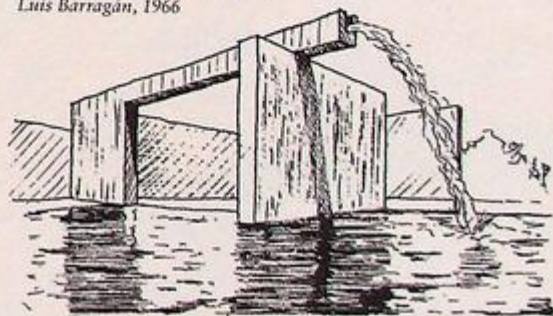


Church on the Water, Tomamu, Japan. Tadao Ando, 1988



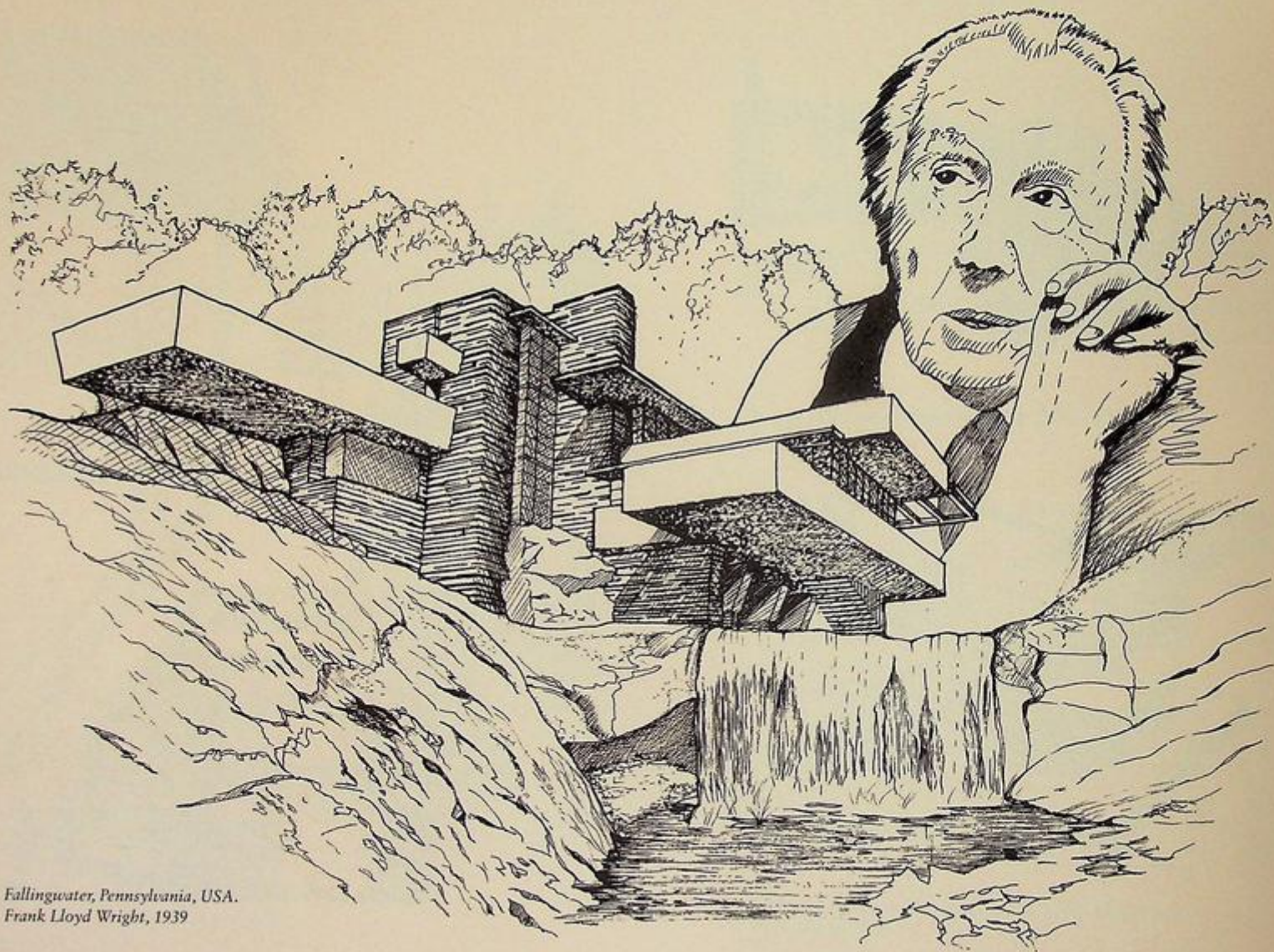
*Garden of the Fondazione Querini Stampalia, Venice, Italy.
Carlo Scarpa, 1963*

*Fuente de los Amantes, Mexico.
Luis Barragán, 1966*

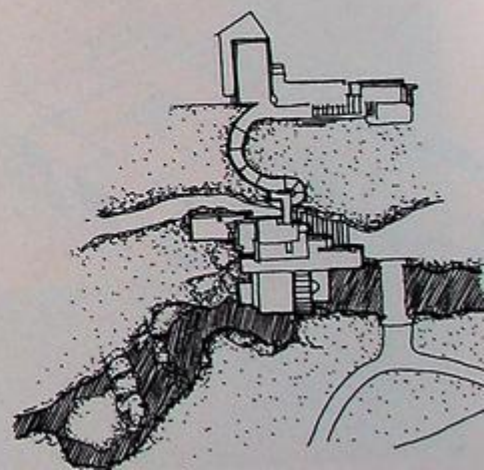


Frank Lloyd Wright described his work as **'organic' architecture**,
'where the whole is [to] the part, what the part is to the whole.' His Fallingwater house completely
integrated the surrounding landscape as part of the environment of the house.

Choose a particular location and, using 'organic'
principles, sketch the design of a house that is integrated
within its context...

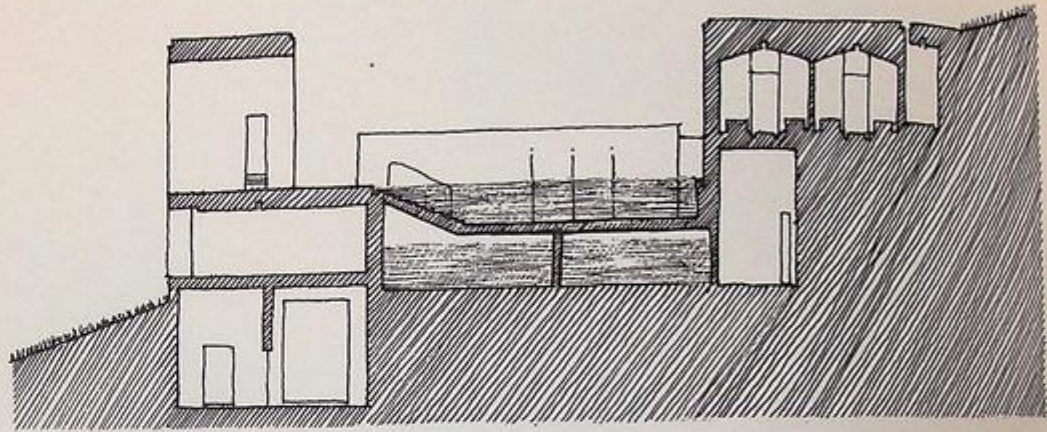


Fallingwater, Pennsylvania, USA.
Frank Lloyd Wright, 1939

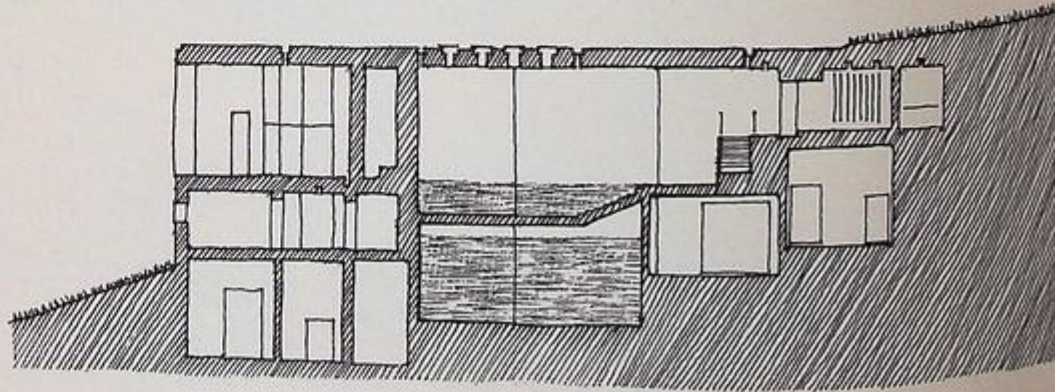
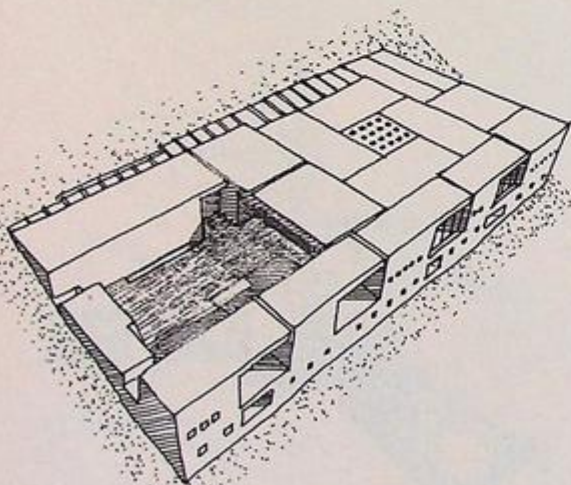


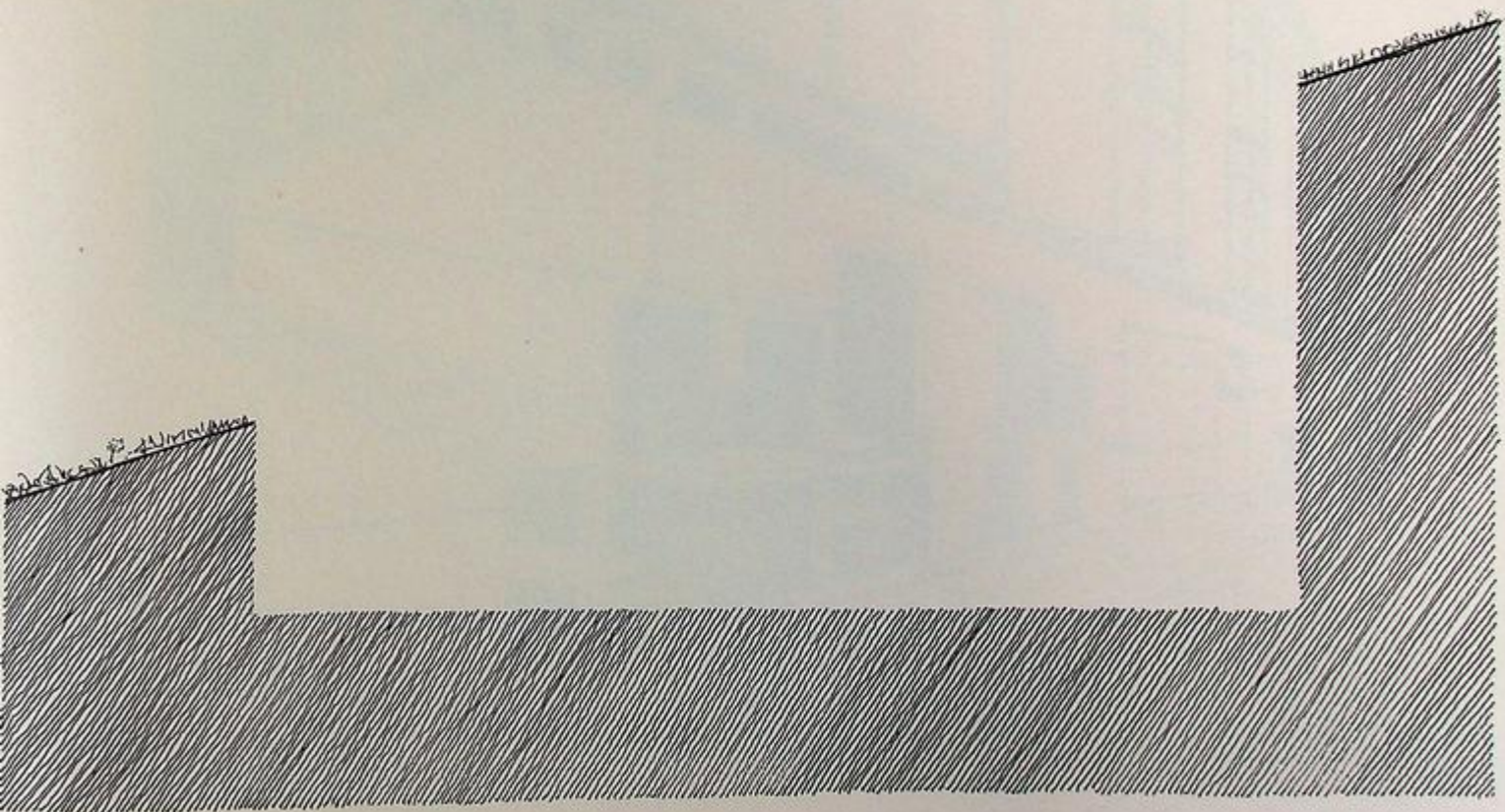
This is a **sectional drawing** of a hotel/spa that has been cut into the mountain over a thermal spring. The quartzite stone of the mountain is used to form the structure.

Using the same mountain slope, design in section the arrangement of a small thermal bath house. Consider views, light and privacy...



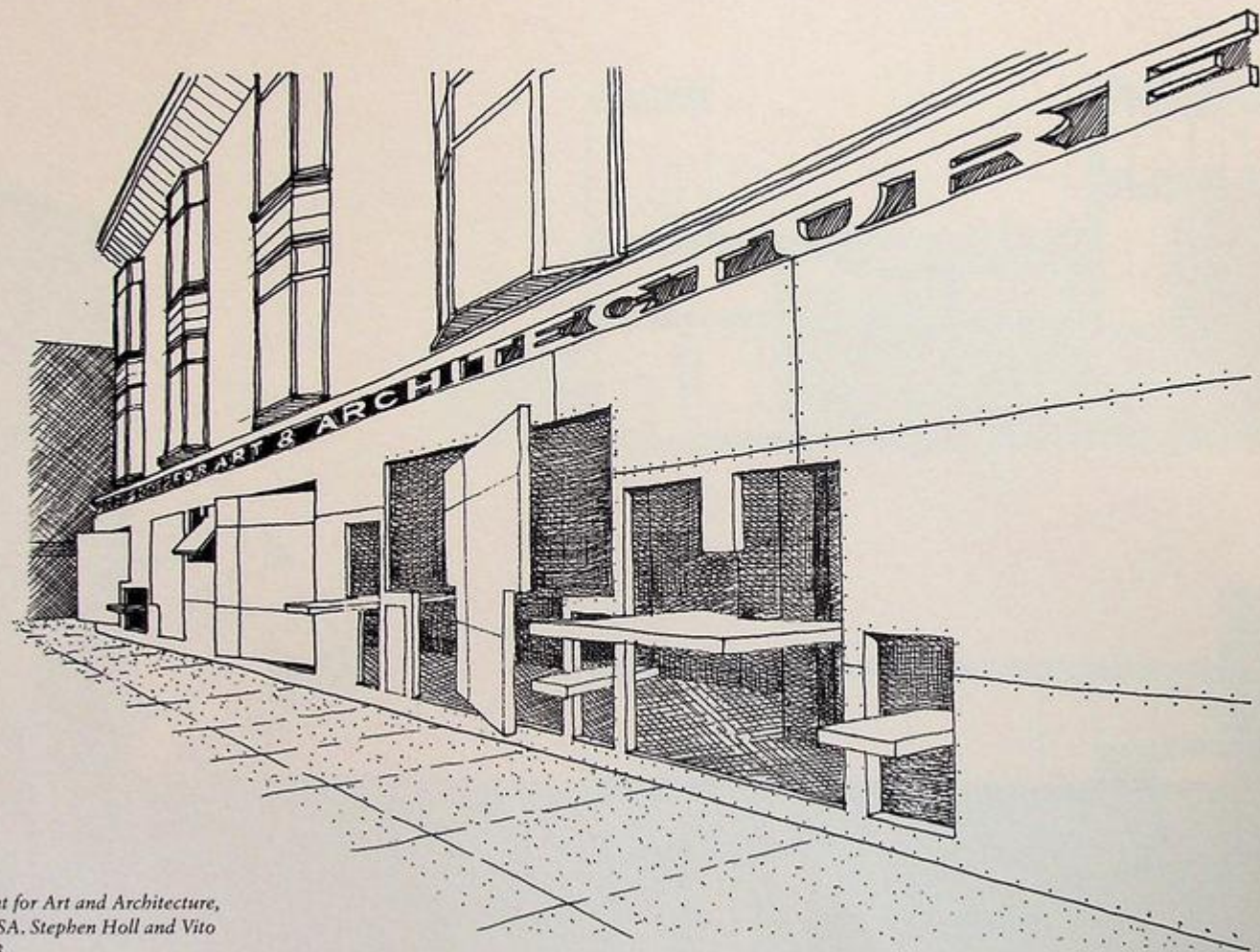
*The Therme Vals, Switzerland.
Peter Zumthor, 1996*



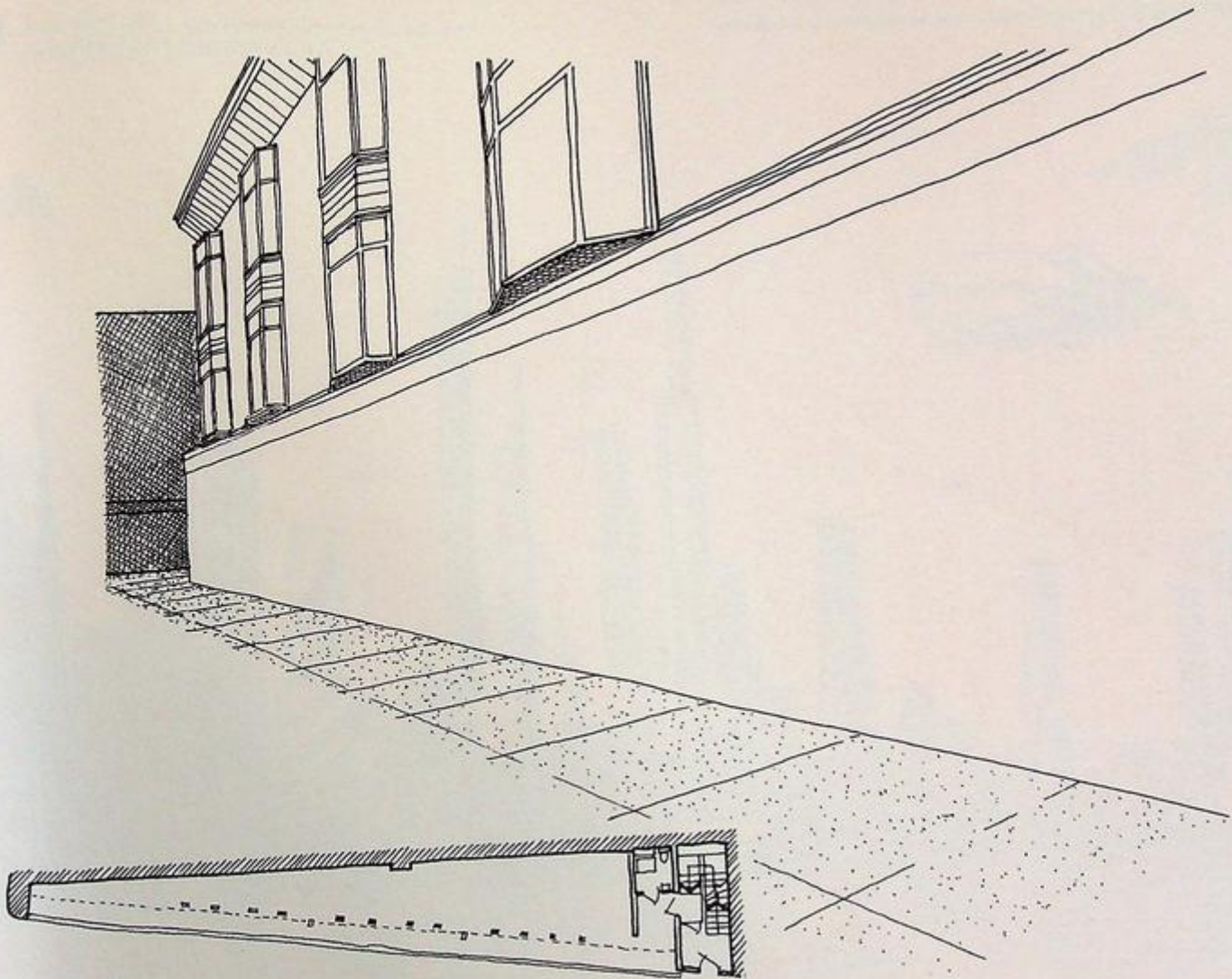


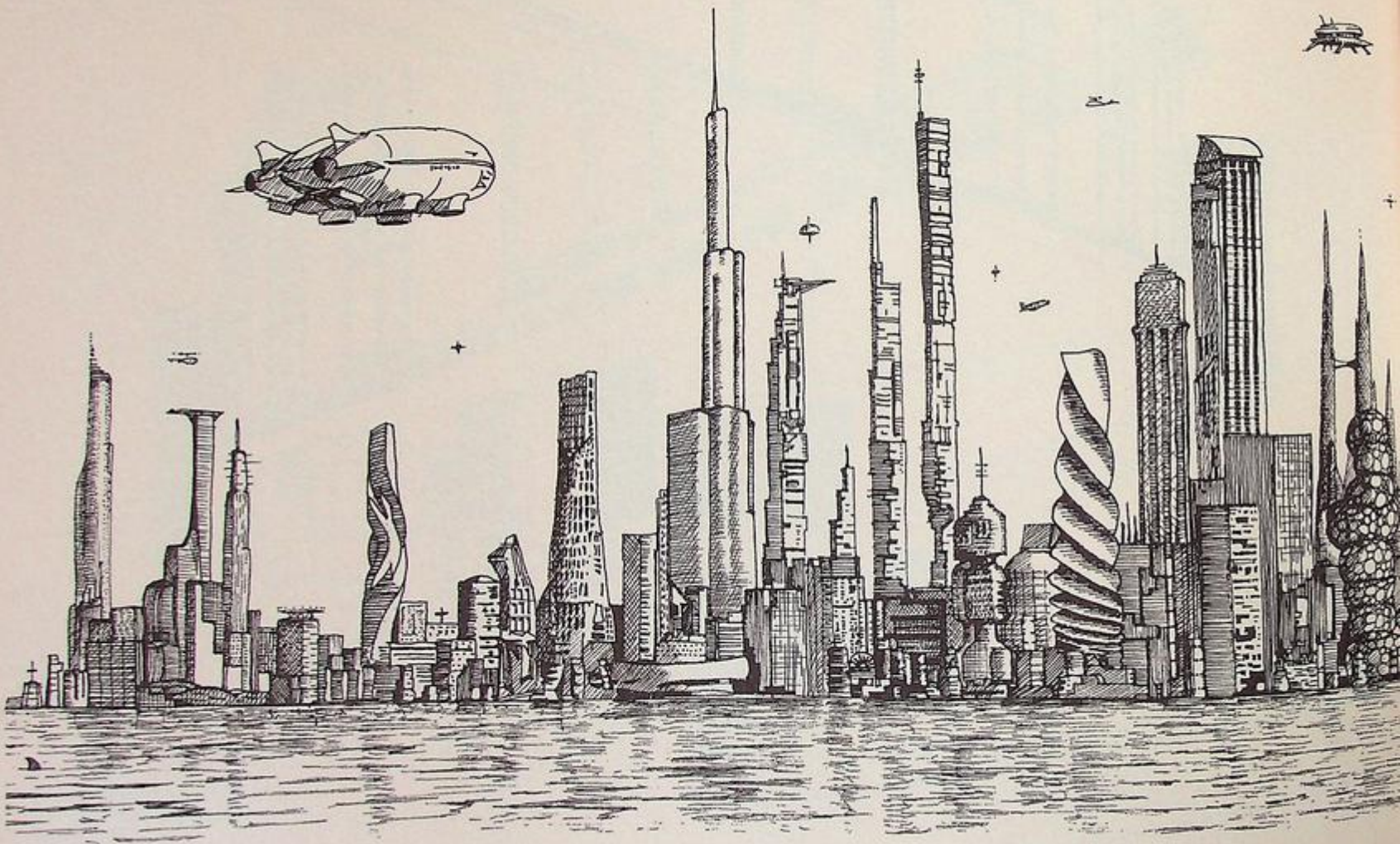
Breaking down **the threshold** between the street and gallery is the aim of this Storefront for Art and Architecture façade.

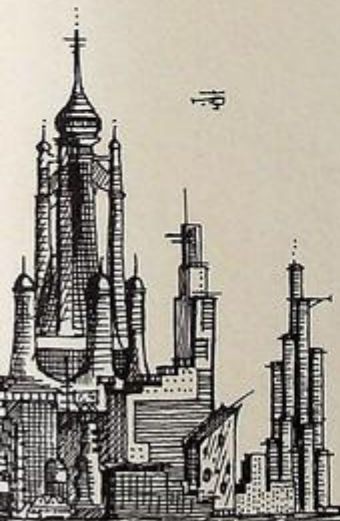
Sketch your proposal for a new design, with particular attention to the entrance...




*The Storefront for Art and Architecture,
New York, USA. Stephen Holl and Vito
Acconci, 1993*

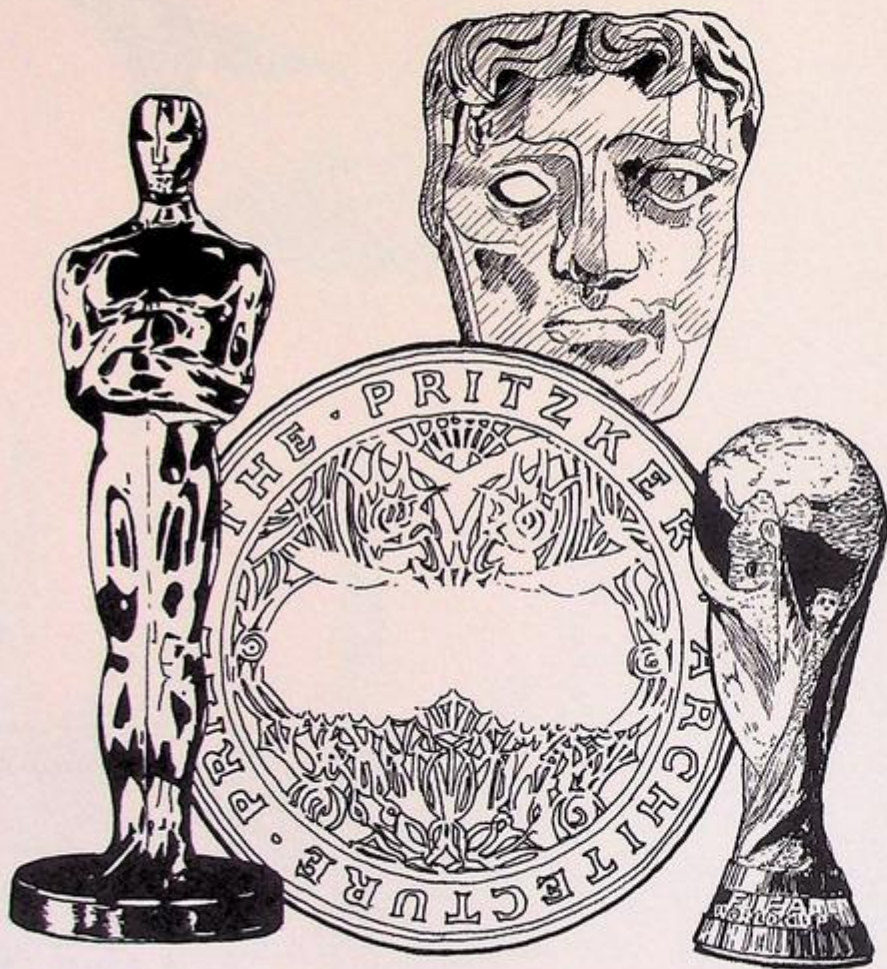




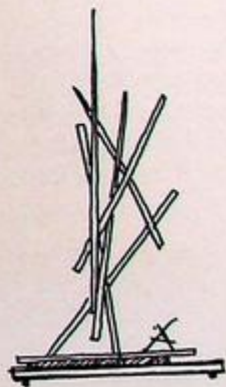


You've completed the book and won the award for **Architect of the Year!**

Design an award that you would be happy to receive... 



Academy Award statuette ('Oscar'); The Pritzker Architecture Prize;
BAFTA Award; FIFA World Cup Trophy



Credits & acknowledgements

All of the drawings in the book have been created by the author especially for this publication; some are based on the original drawings of architects and artists, and we are pleased to credit these below. In all cases, every effort has been made to credit the copyright holder, but should there be any omissions or errors the Publisher would be pleased to insert the appropriate acknowledgement in subsequent editions of this book.

The author would like to give many thanks to Jane Tankard for all of her encouragement, inspiration and time spent giving feedback. Also thanks to Philip Cooper, Gaynor Sermon and the team at Laurence King Publishing for their help, support and editorial dedication, and to Matt Cox at Newman and Eastwood for designing the book.

Sketch of Falkestrasse rooftop renovation by Coop Himmelb(l)au, 1988

Typeface by Theo van Doesburg

Mae West Lips Sofa, Salvador Dalí, 1937 © Salvador Dalí, Fundació Gala-Salvador Dalí, DACS, 2013

Prototype Bauhaus font by Herbert Bayer, Dessau Bauhaus, 1925 © DACS 2013

Plan of The Chapel of Notre Dame du Haut by Le Corbusier, 1954 © ADAGP, Paris and DACS, London 2013

'The Sixth Order or The End of Architecture' by Leon Krier

Comparative study of corner houses by Rob Krier

'Architectural Machines' by Yakov Chernikhov, 1931

Suprematist Composition by Kazimir Malevich, 1916

Lenin Tribune by El Lissitzky, 1920

'I am a Monument' by Robert Venturi and Denise Scott Brown, 1972

Sketch of proposed National Stadium, Japan by Zaha Hadid, 2019

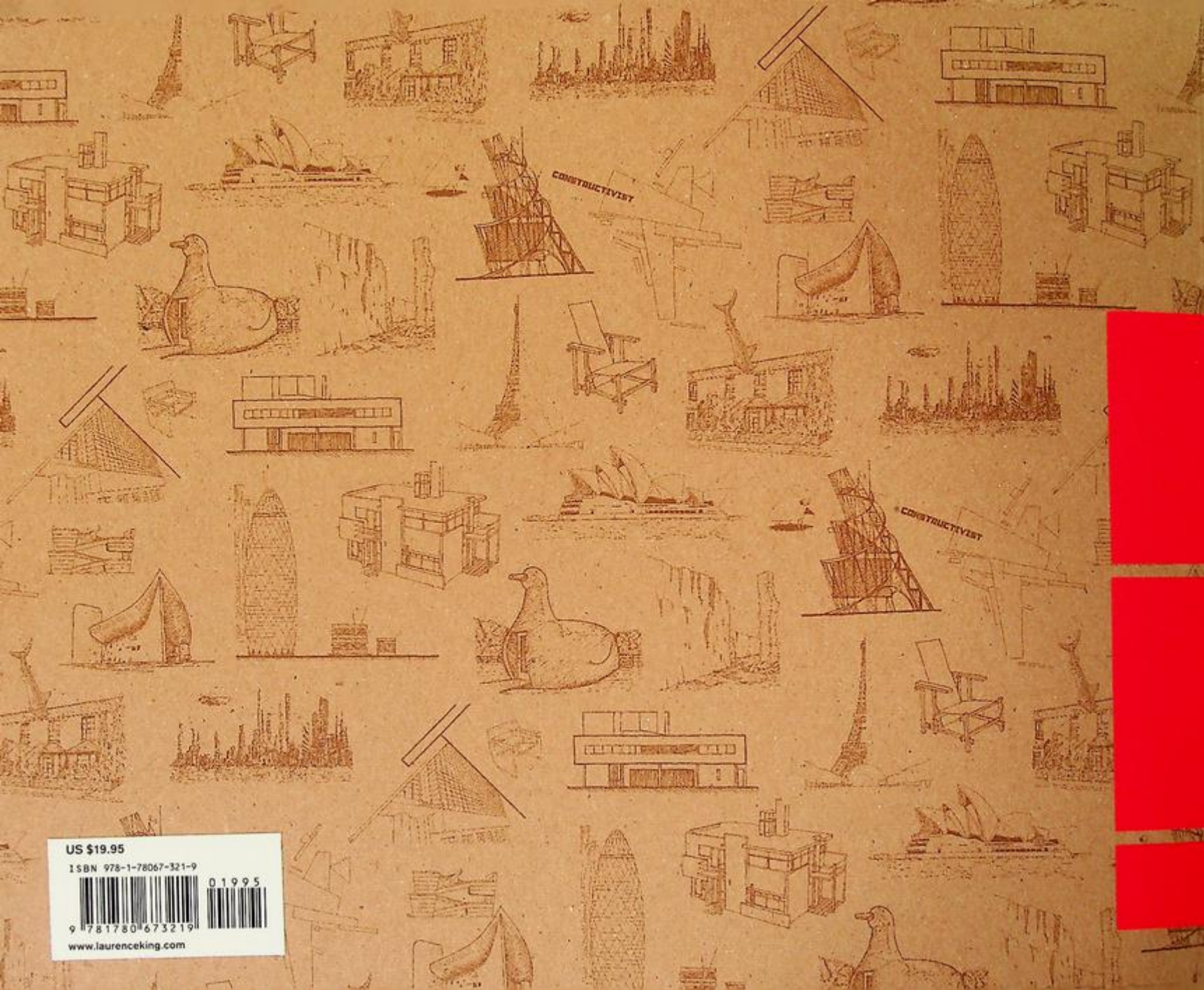
Plan of The Farnsworth House by Ludwig Mies van der Rohe, 1951 © DACS 2013

Plan of the Berlin Building Exhibition by Ludwig Mies van der Rohe and Lilly Reich, 1931 © DACS 2013.

Sketches of The Einstein Tower by Erich Mendelsohn, 1921

Plan of Gut Garkau Farm by Hugo Häring, 1926 © DACS 2013

Plan of The Storefront for Art and Architecture, New York, by Stephen Holl and Vito Acconci, 1993 © ARS, NY and DACS, London 2013 (Acconci only)



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