

The background of the book cover is a light brown, textured surface filled with various architectural sketches and doodles in a darker brown ink. These include modern buildings, a windmill, a duck, and various structural elements. The word 'CONSTRUCTIVITY' is written in small, slanted capital letters in several locations across the background.

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.*



Published in 2013
by Laurence King Publishing Ltd
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London EC1V 1LR
Tel +44 20 7841 6900
Fax +44 20 7841 6910
E enquiries@laurenceking.com
www.laurenceking.com

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A catalogue record for this book is available from the British Library

ISBN 978 178067 321 9

Designed by Matt Cox for Newman and Eastwood
Cover design by Pentagram
Project editor: Gaynor Sermon
Printed in China

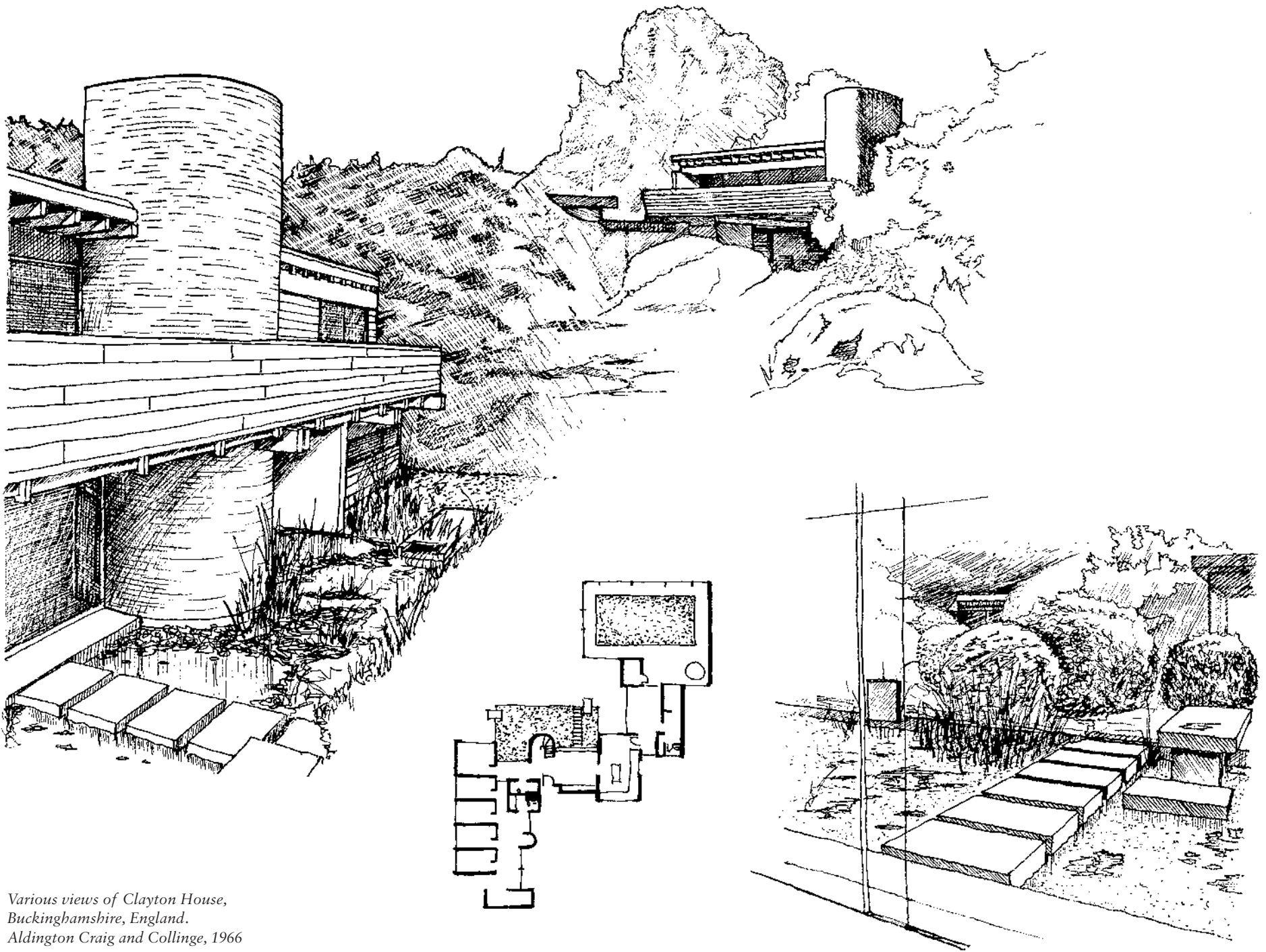
ARCHI-

DOODLE

THE 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

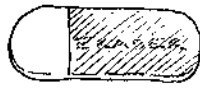
Steve Bowkett is passionate about good design. He has taught and practised architecture for over 25 years in numerous universities and colleges and is currently a senior lecturer at London South Bank University in the UK. He studied architecture at the Royal College of Art in London and the Polytechnic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

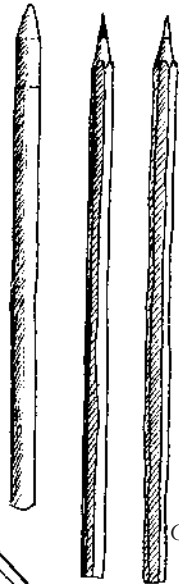
Eraser



Pencil sharpener



Graphite pencil



Coloured pencils

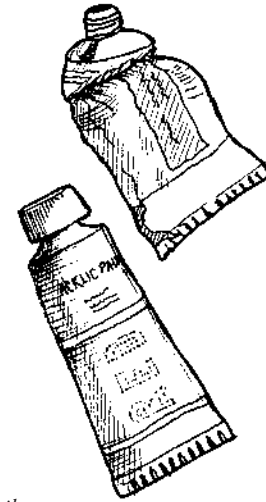
Fine-line pens



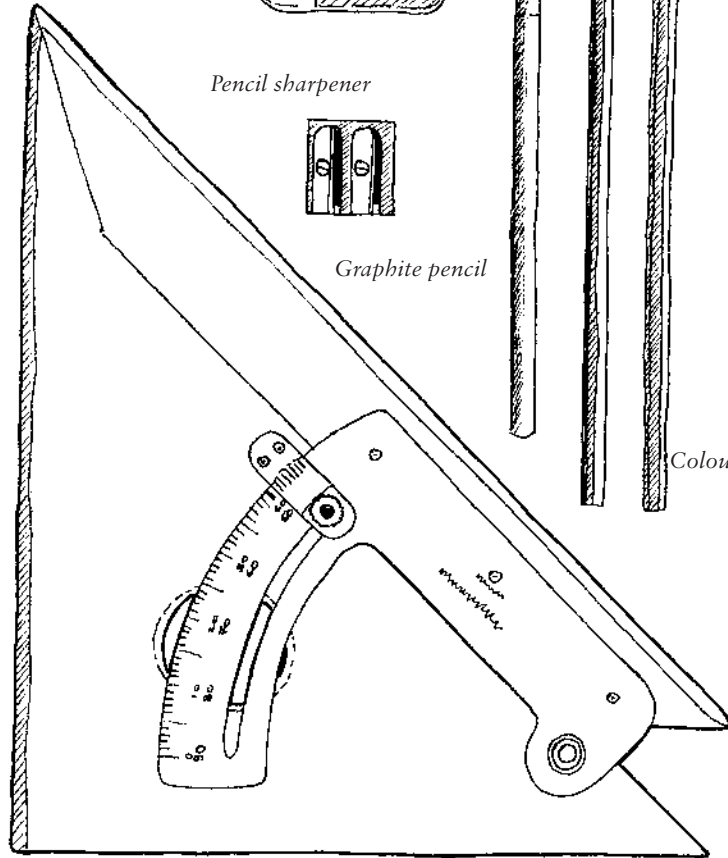
Mechanical pencil



Paints



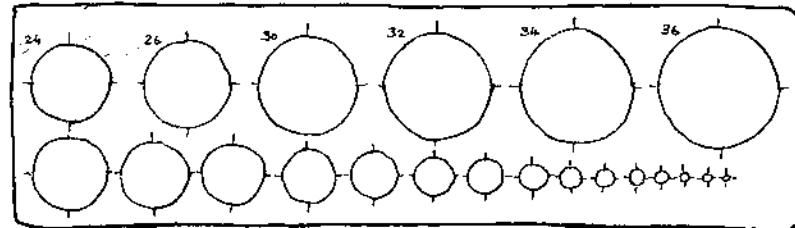
Brushes



Set square

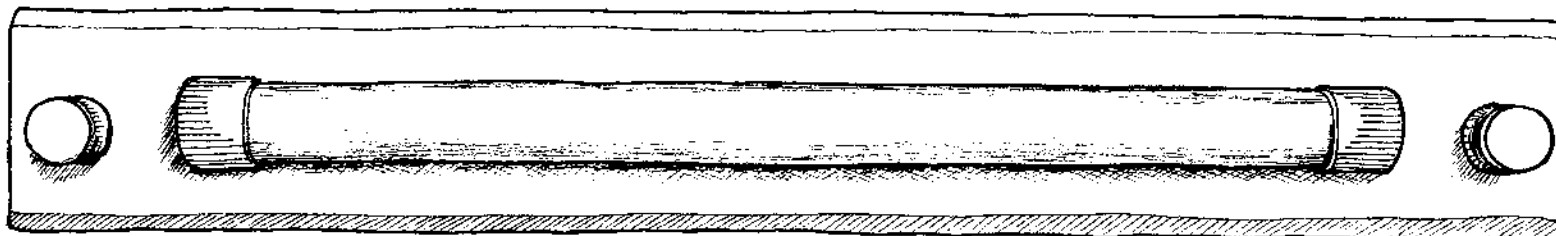


Scale rule



Circle template

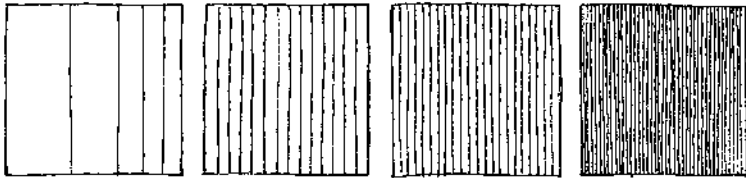
Rolling parallel rule



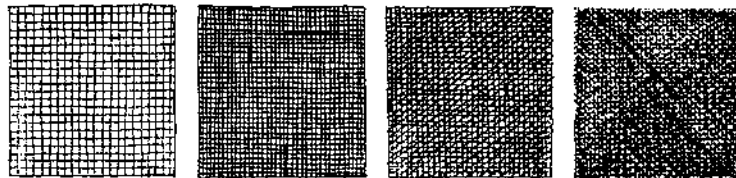
Techniques

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.

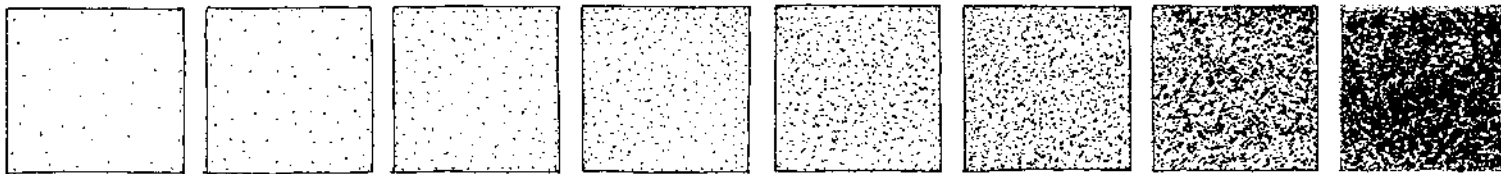
Hatching



Cross hatching



Stippling techniques



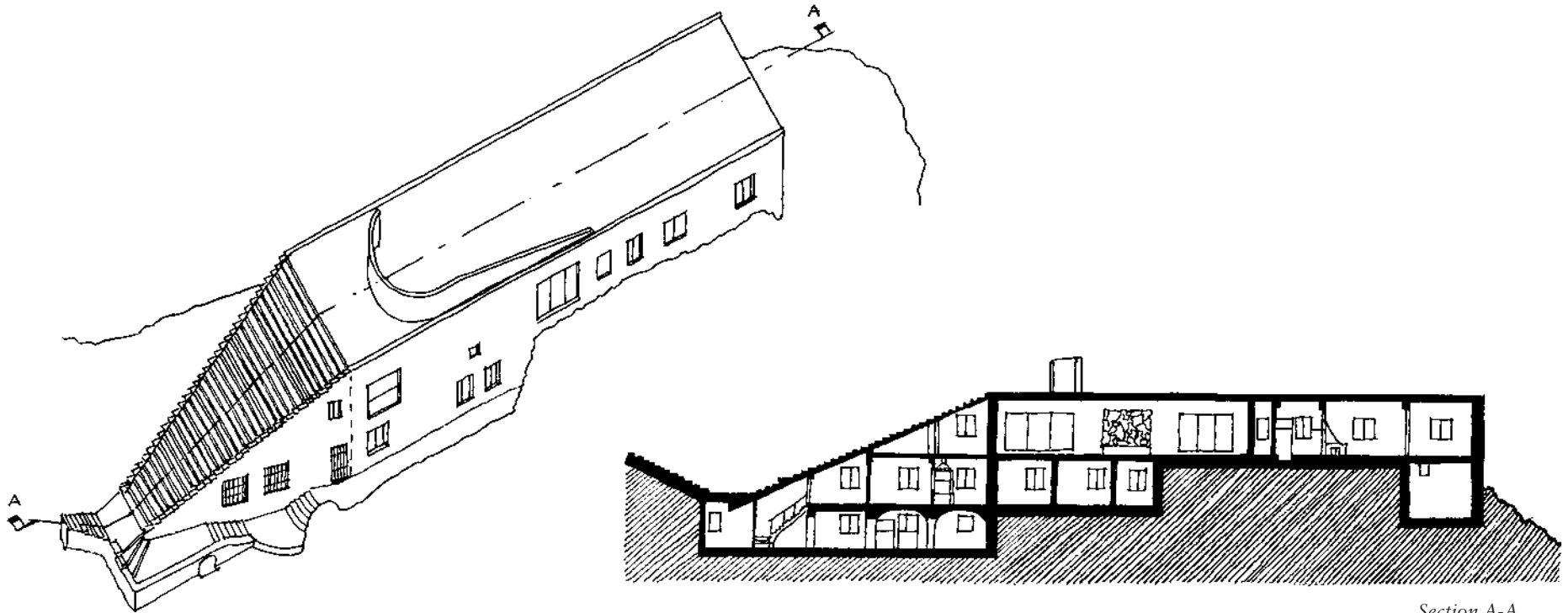
Selection of material effects: coral; sediment; grasses; gravel; foliage; vegetation; rippled water; surface texture



Plans, Sections, Elevations, Axonometric

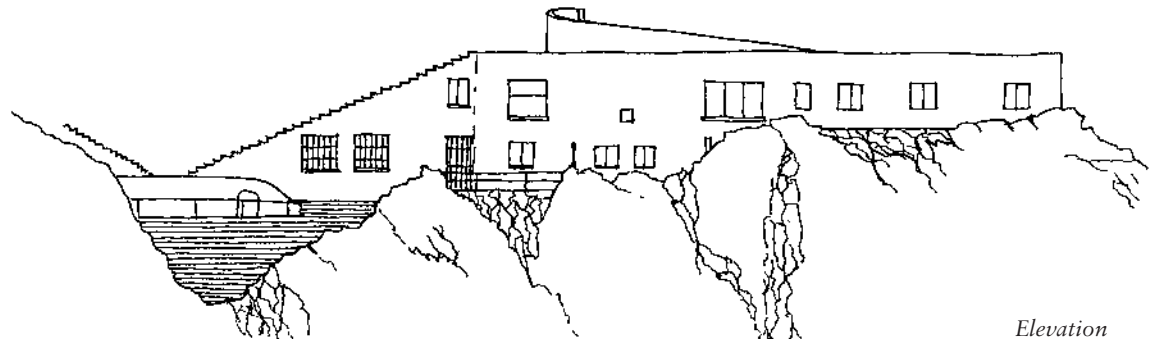
These two pages show the convention of how an architectural orthographic drawing is made of a building. The drawing on the far left is an axonometric drawing with a line showing where the cut is to be made to reveal the sectional drawing below it. The drawing under the section is the side view or elevation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

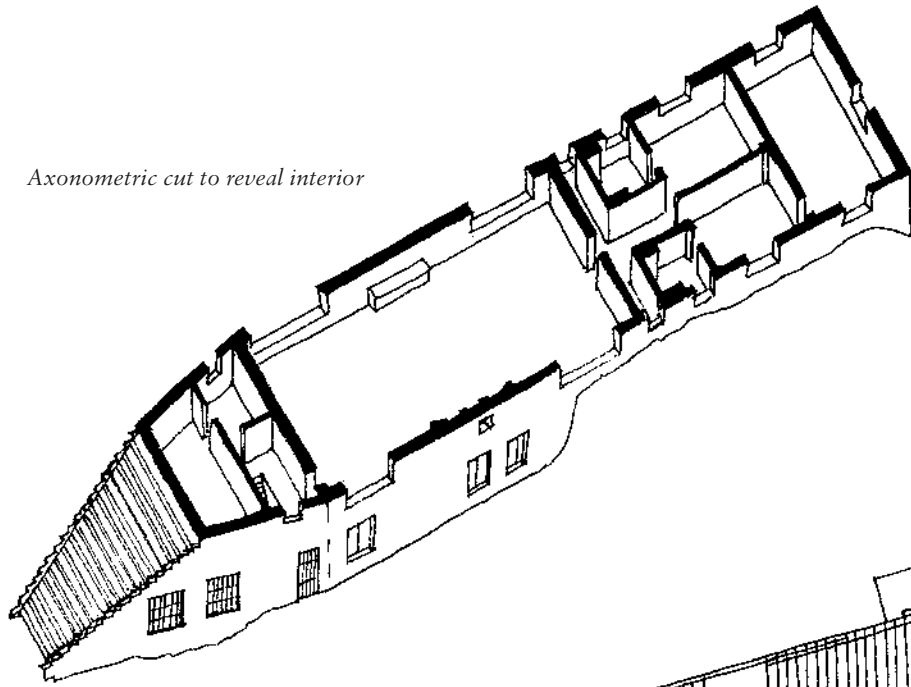
Section A-A



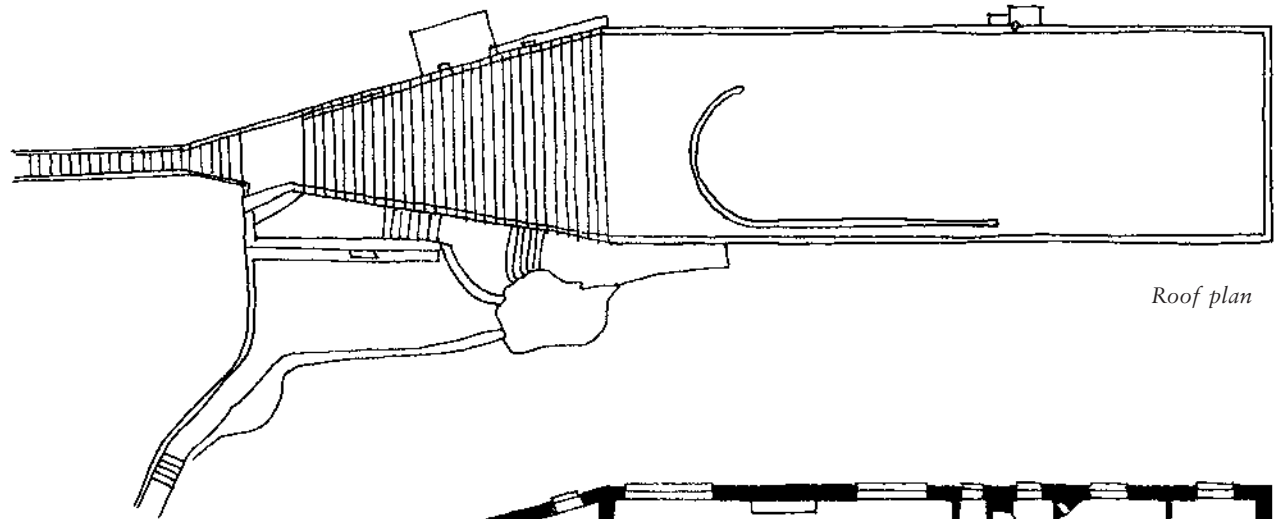
Elevation

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

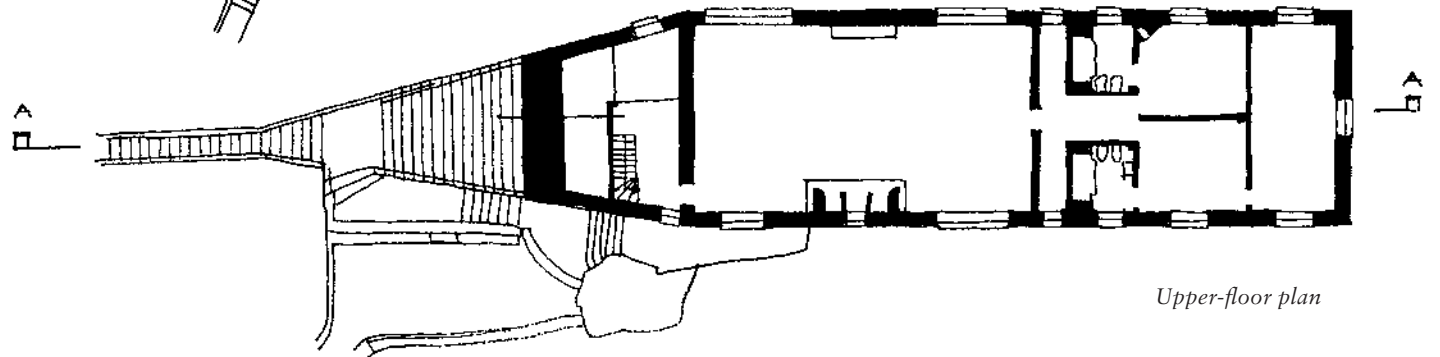
Axonometric cut to reveal interior



Roof plan

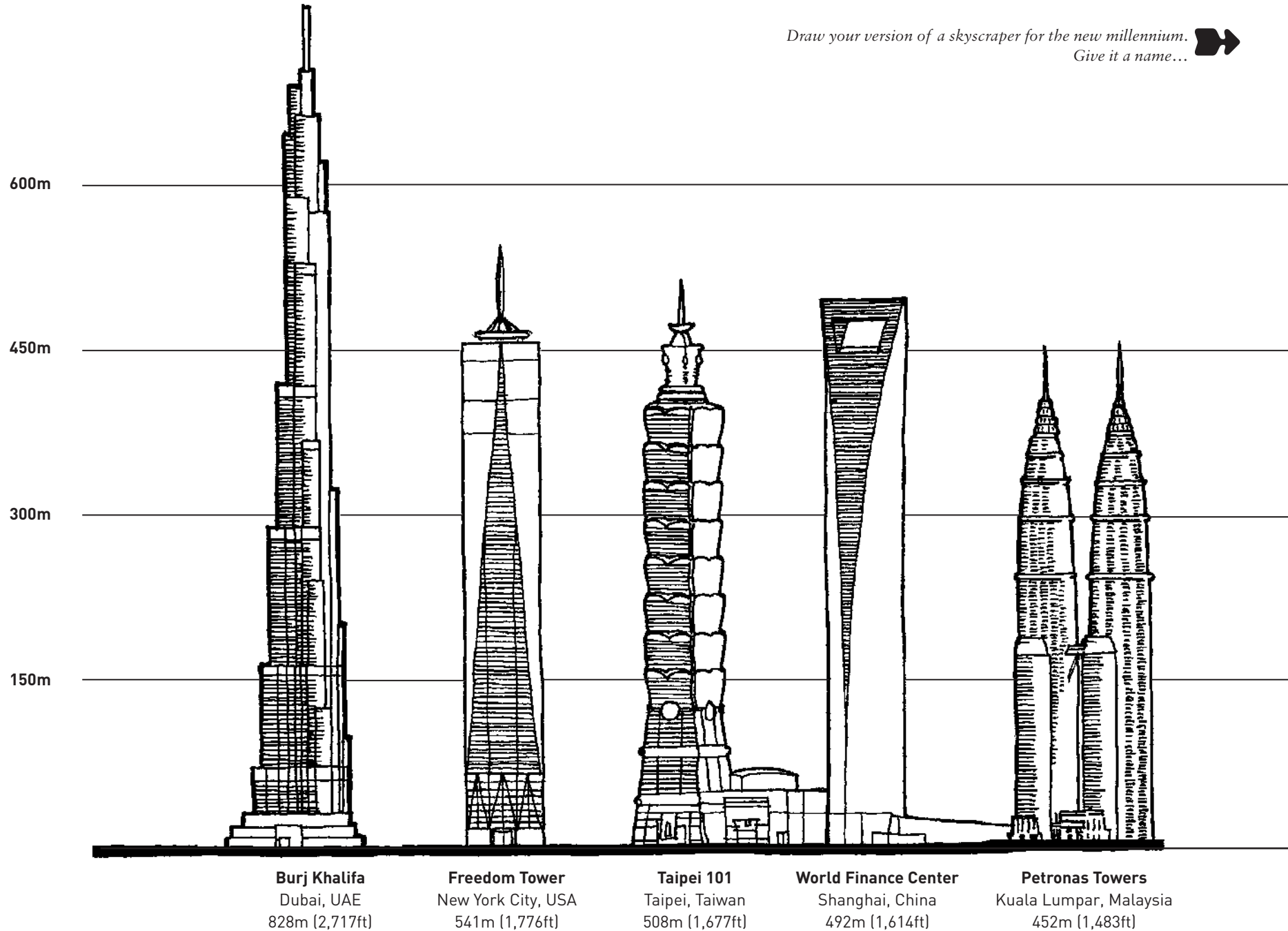


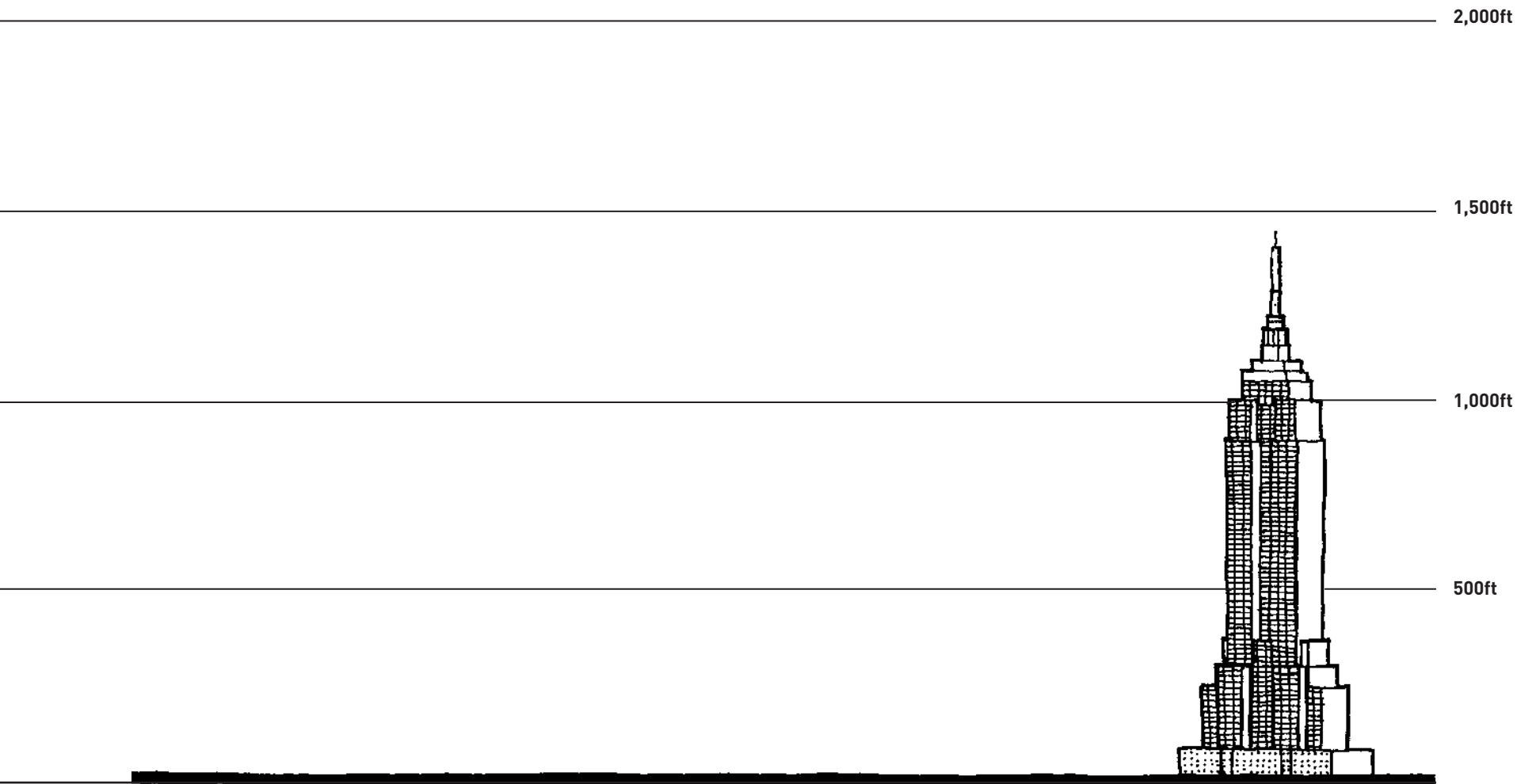
Upper-floor plan



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

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





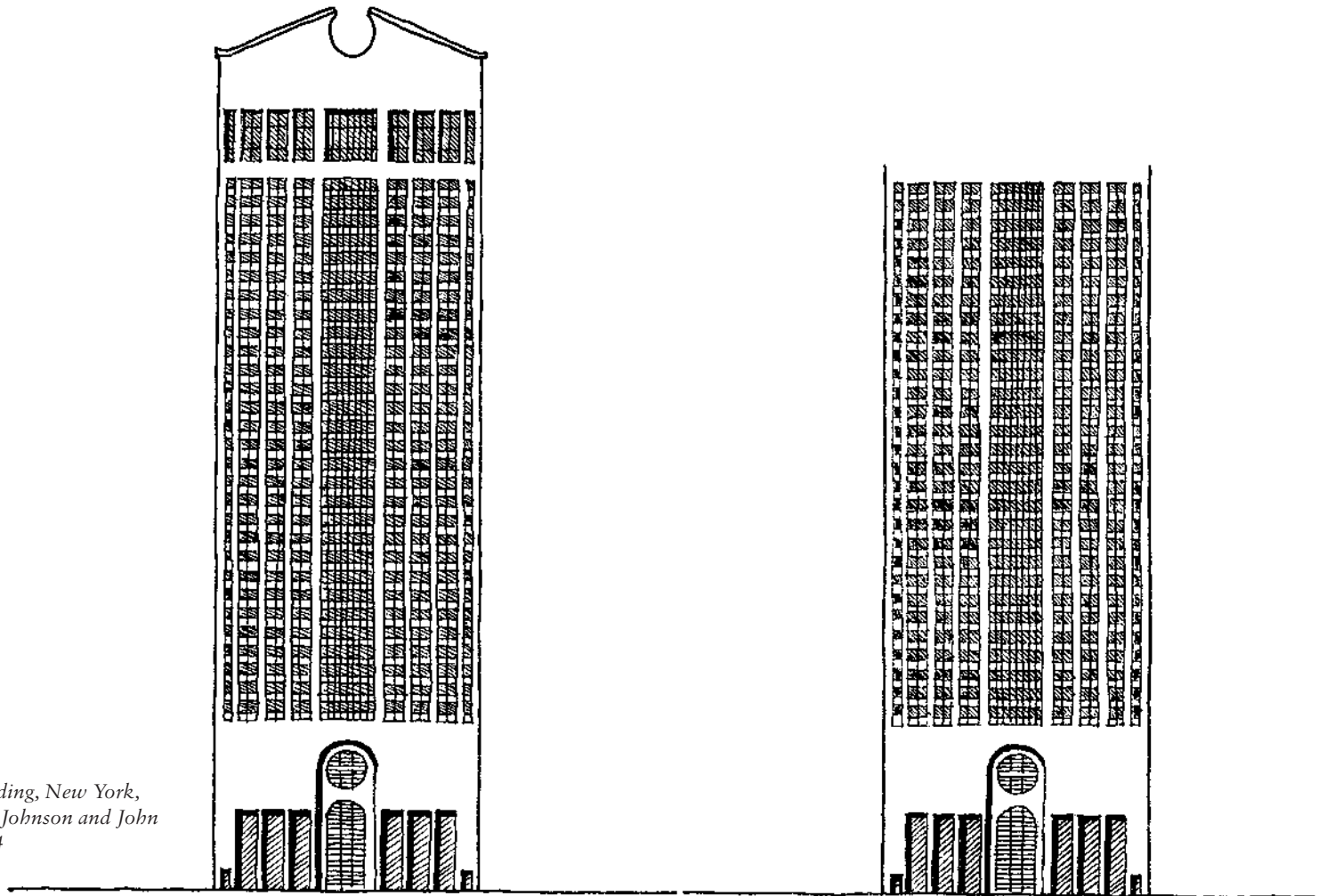
Empire State Building
New York City, USA
443m (1,453ft)

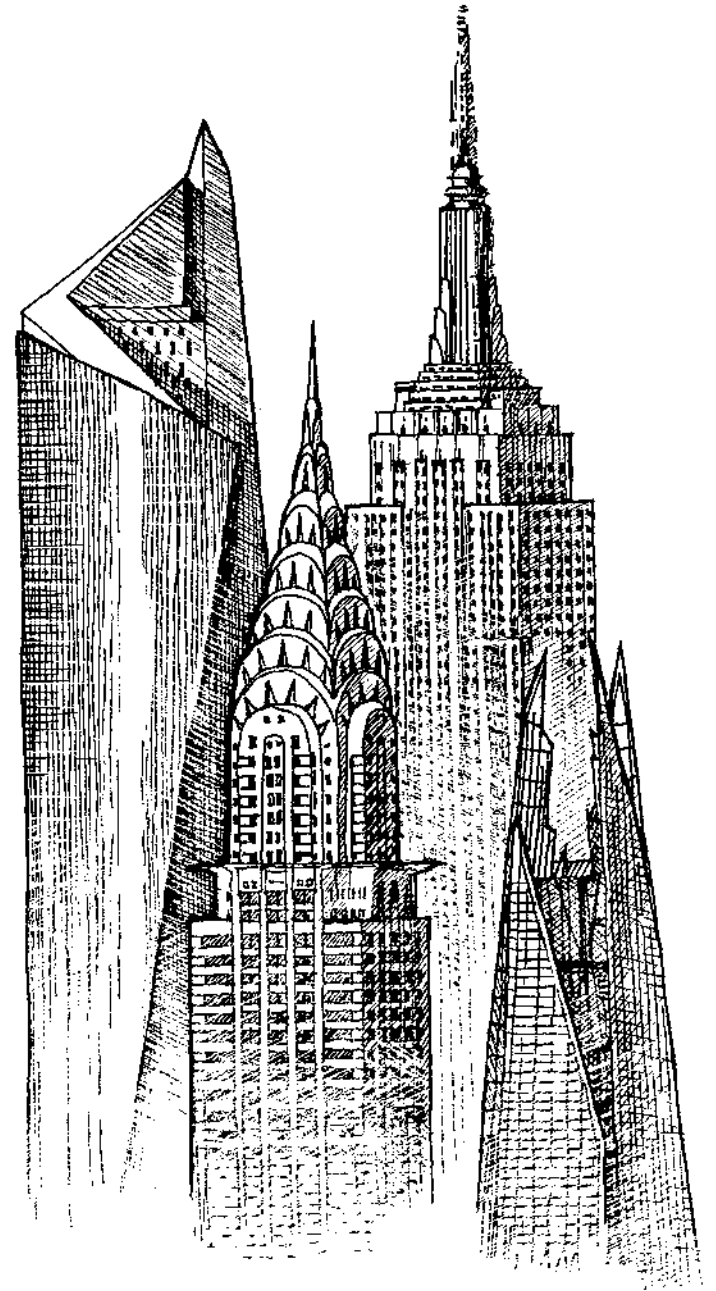
The Sony Tower has a **famous roof**, a 'Chippendale Tallboy' classical pediment top. This iconic skyscraper needs a new image and a new top. Look at other design objects such as furniture to influence the form.

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



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

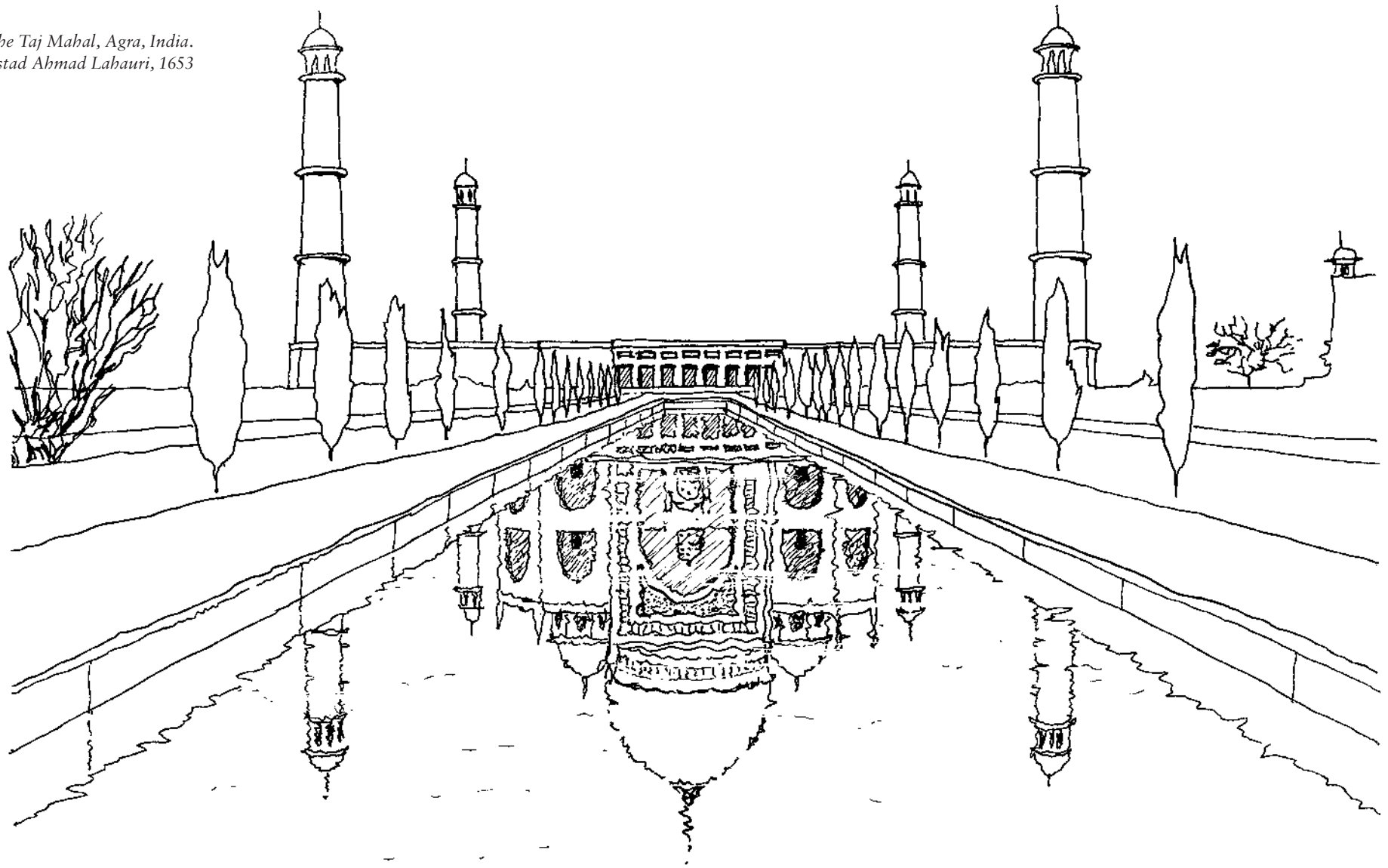


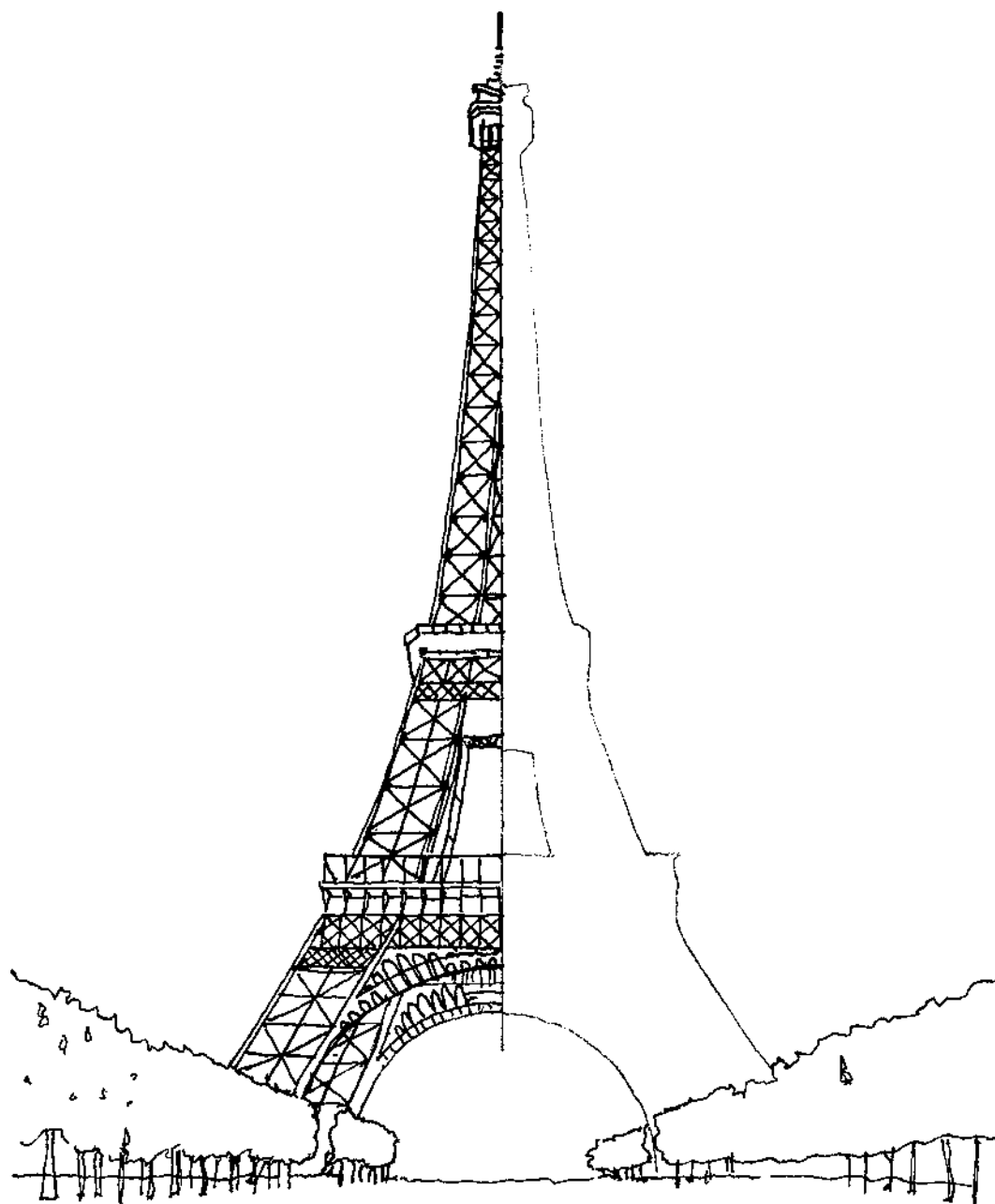


Al Hamra Tower, Kuwait City. S.O.M. 2011; Chrysler Building, NYC. William Van Alen, 1930; Empire State Building, NYC. Shreve, Lamb and Harmon, 1931; The Shard, London. Renzo Piano, 2012.

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

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



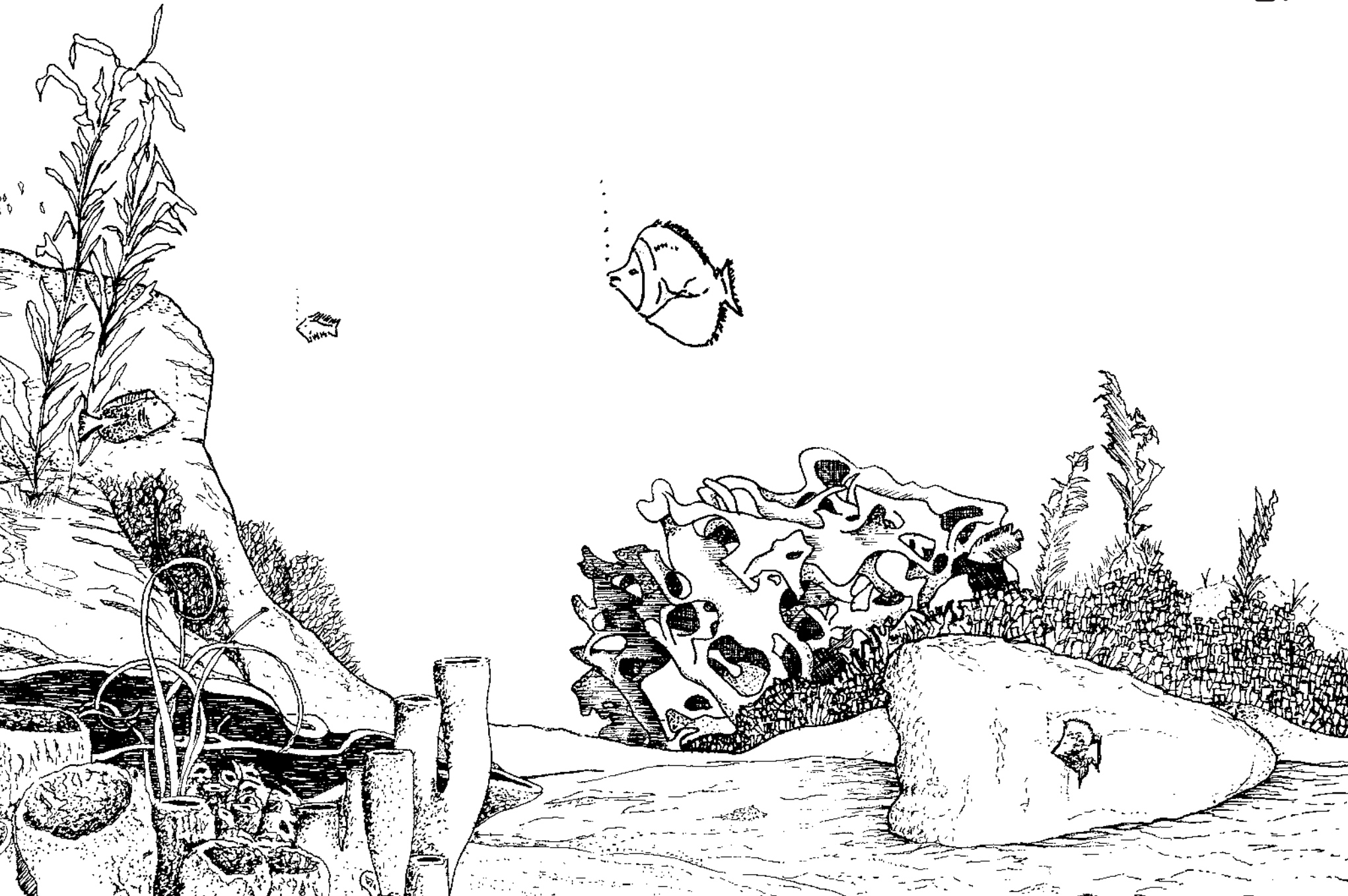


*The Eiffel Tower, Paris, France.
Gustave Eiffel, 1889*

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.

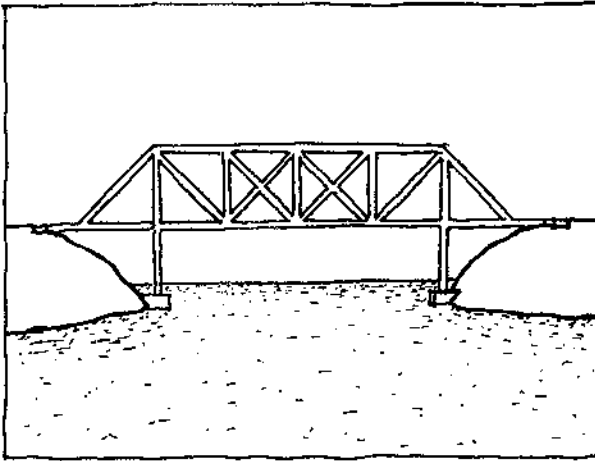
Design your own underwater community in the space provided...



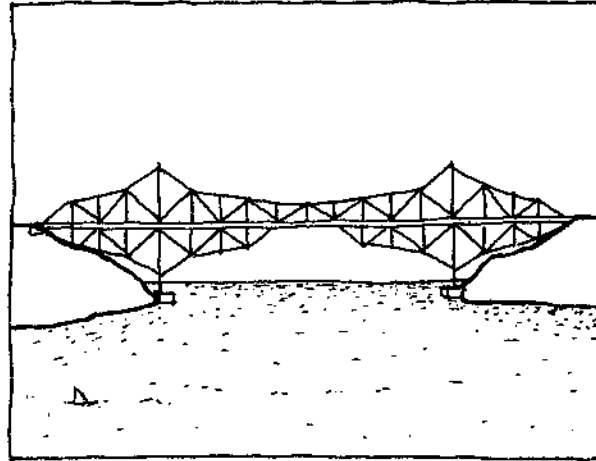


Here are a variety of different **bridge designs.**

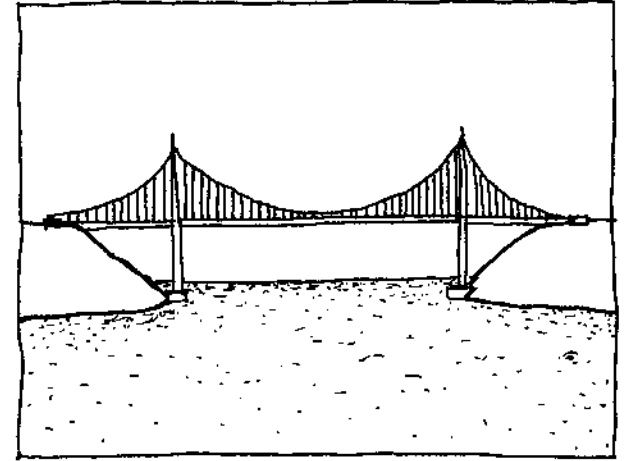
Use their structural principles to help you design a new bridge to expand this town across the sea...



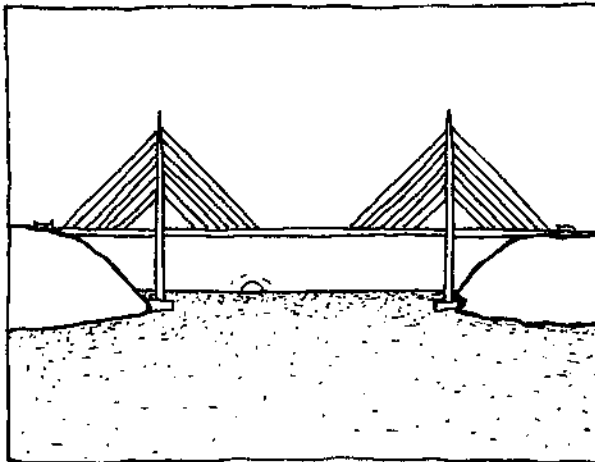
Truss bridge



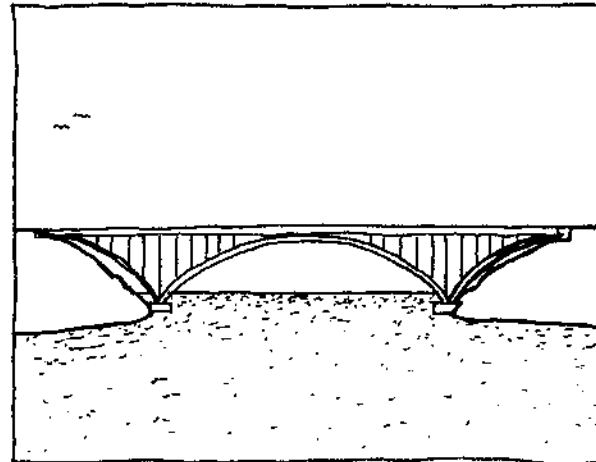
Cantilever bridge



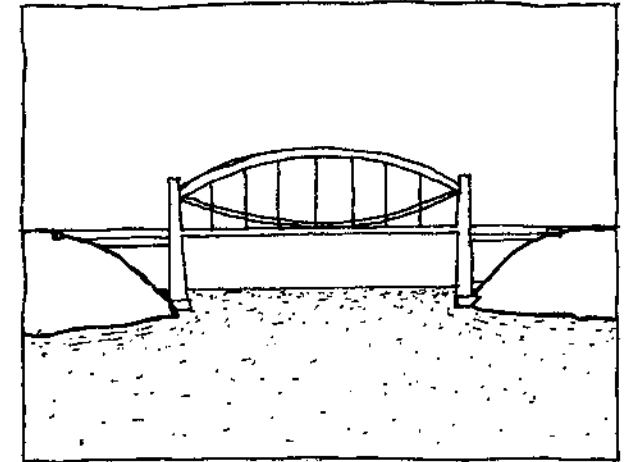
Suspension bridge



Cable-stayed bridge



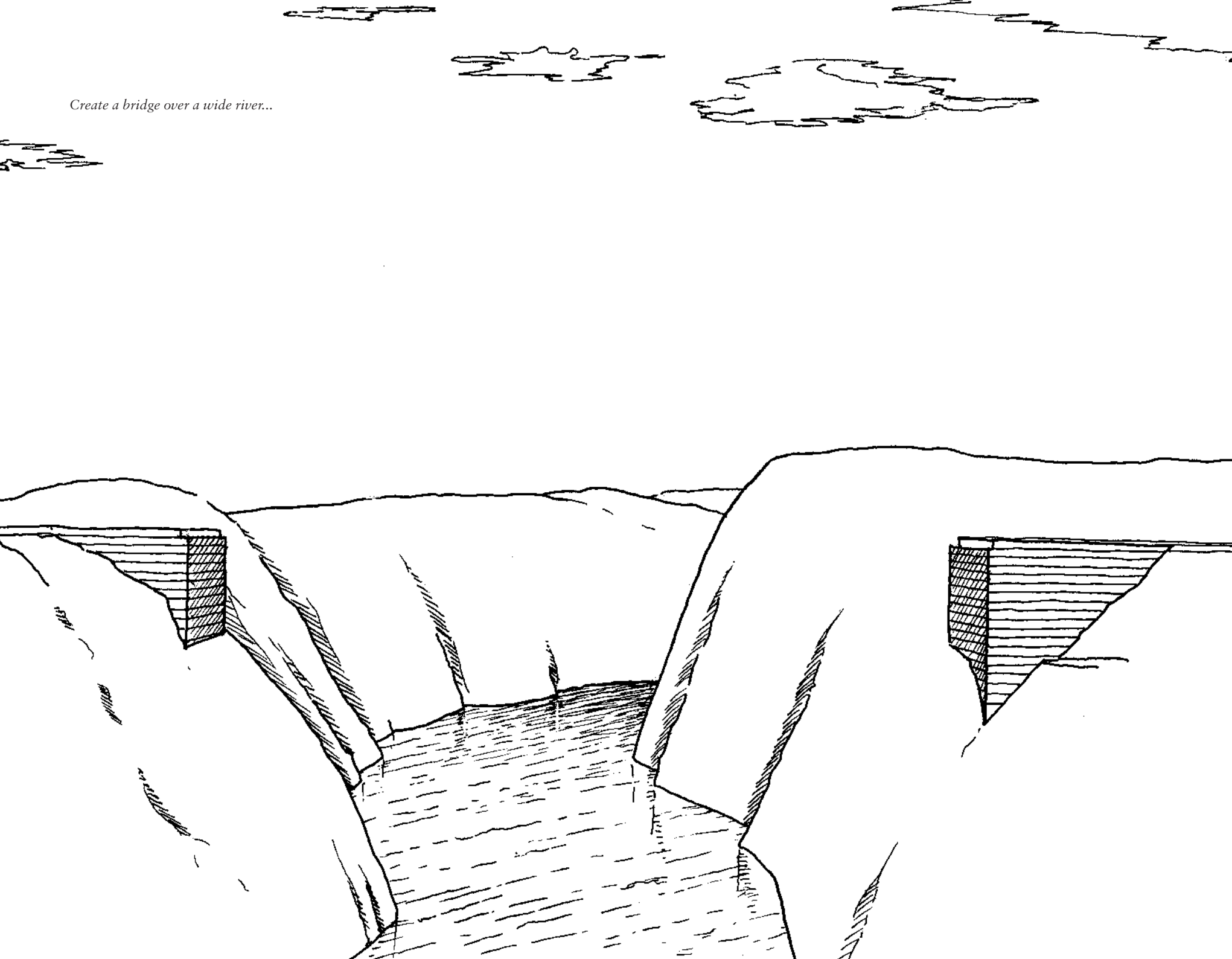
Arch bridge



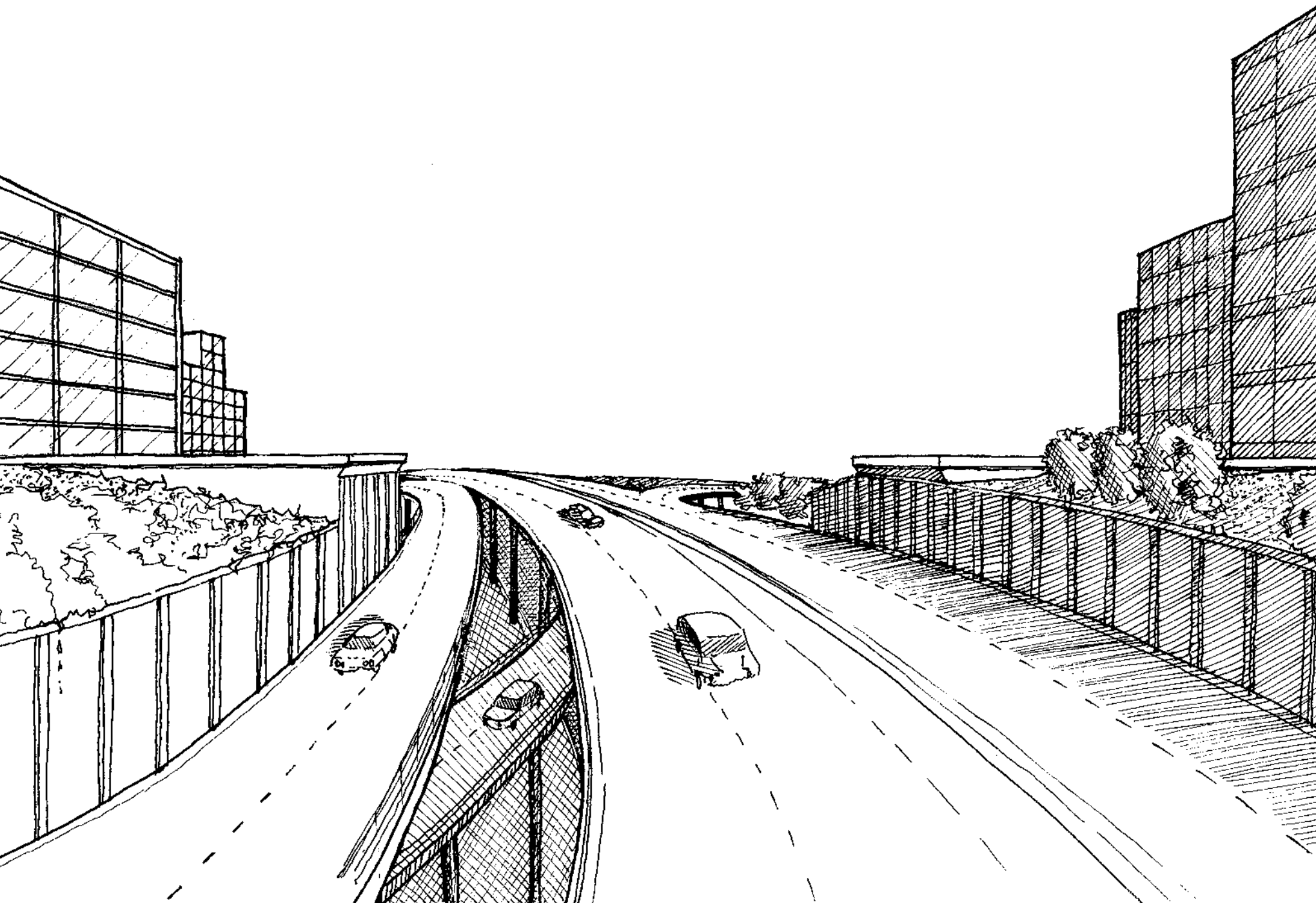
Lenticular-truss bridge



Create a bridge over a wide river...



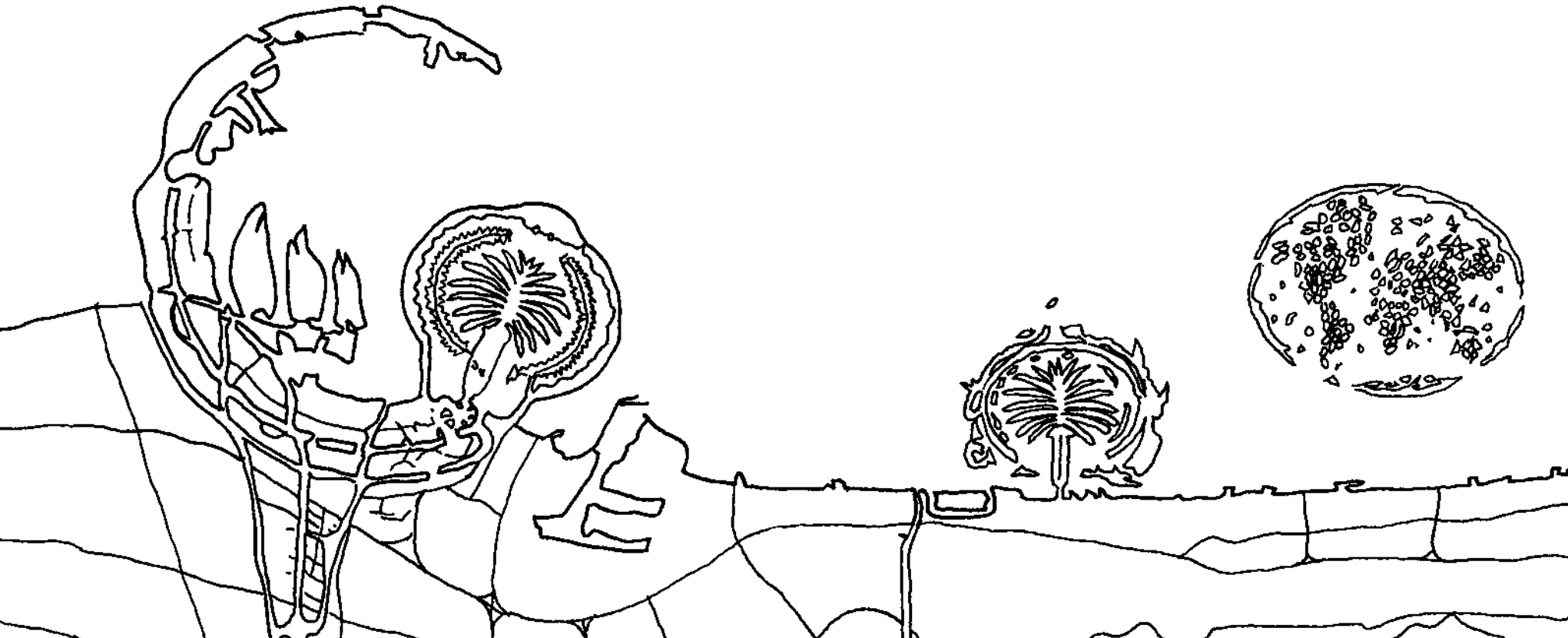
And over a highway...

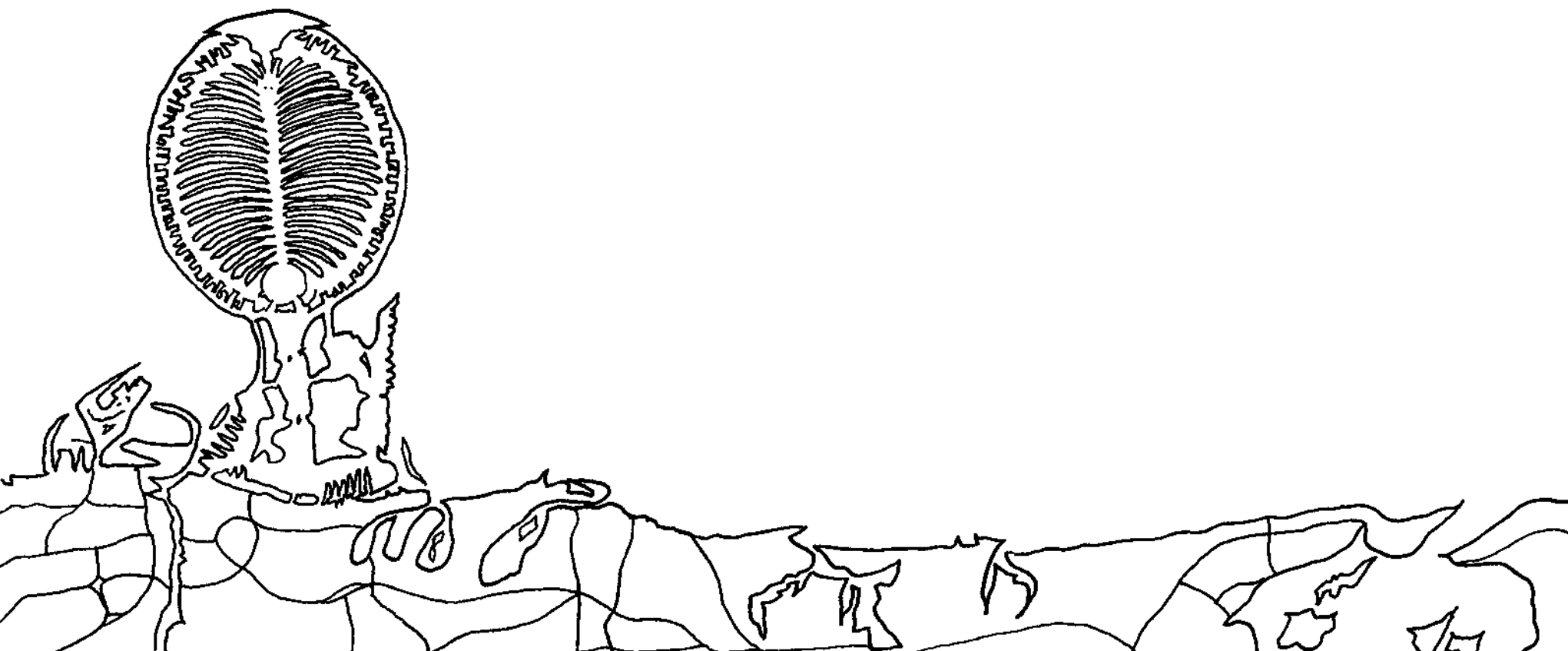


In Dubai they have created a series of **new islands** along the coastline.

Design your own new island community... 

*Palm 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 **build imitating Nature**'
— Antonio Gaudí

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



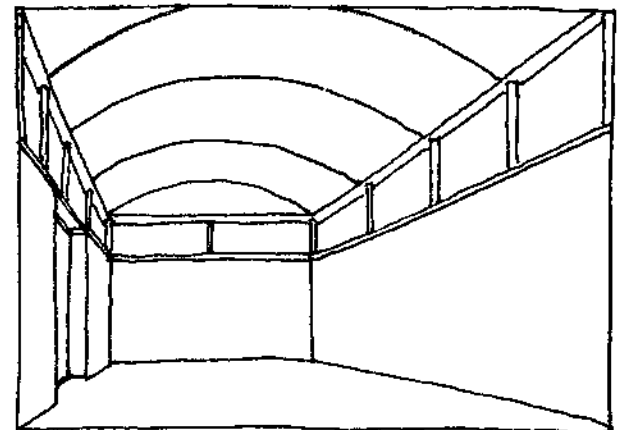
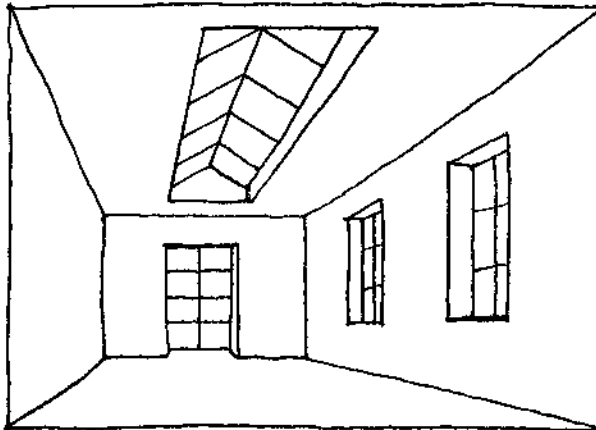
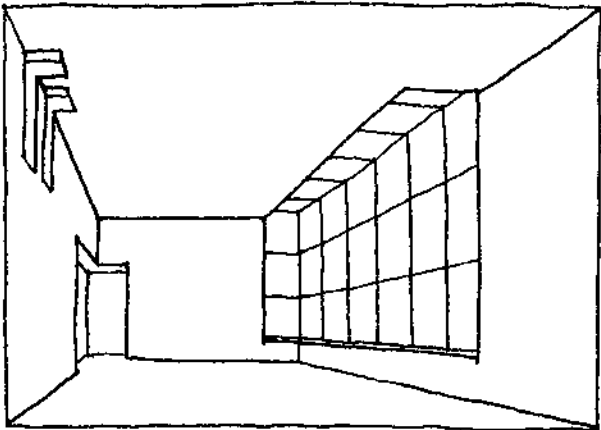
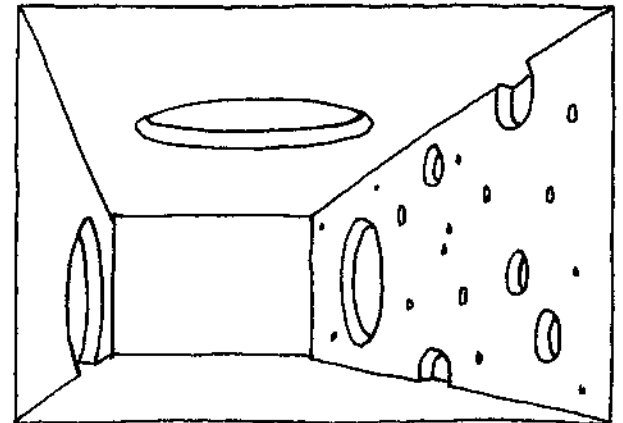
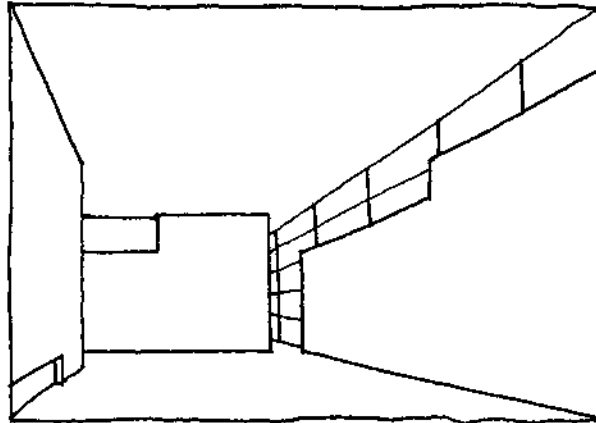
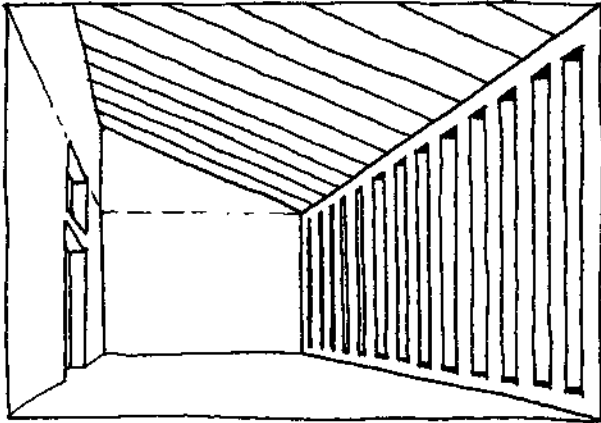
*Casa Batlló, Barcelona, Spain.
Antonio Gaudí/Josep Maria Jujol, 1906*

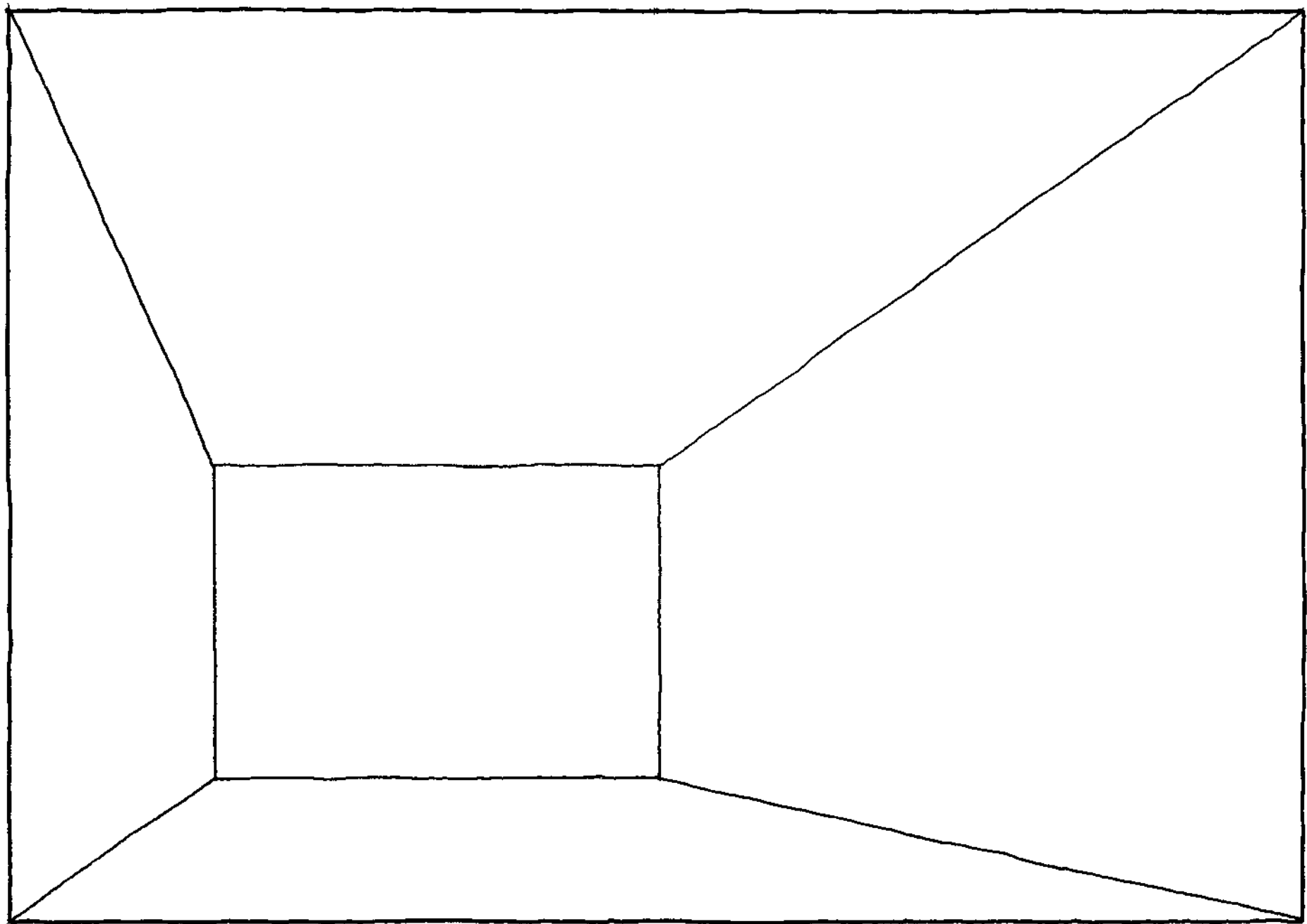


Plan drawing

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... ➡





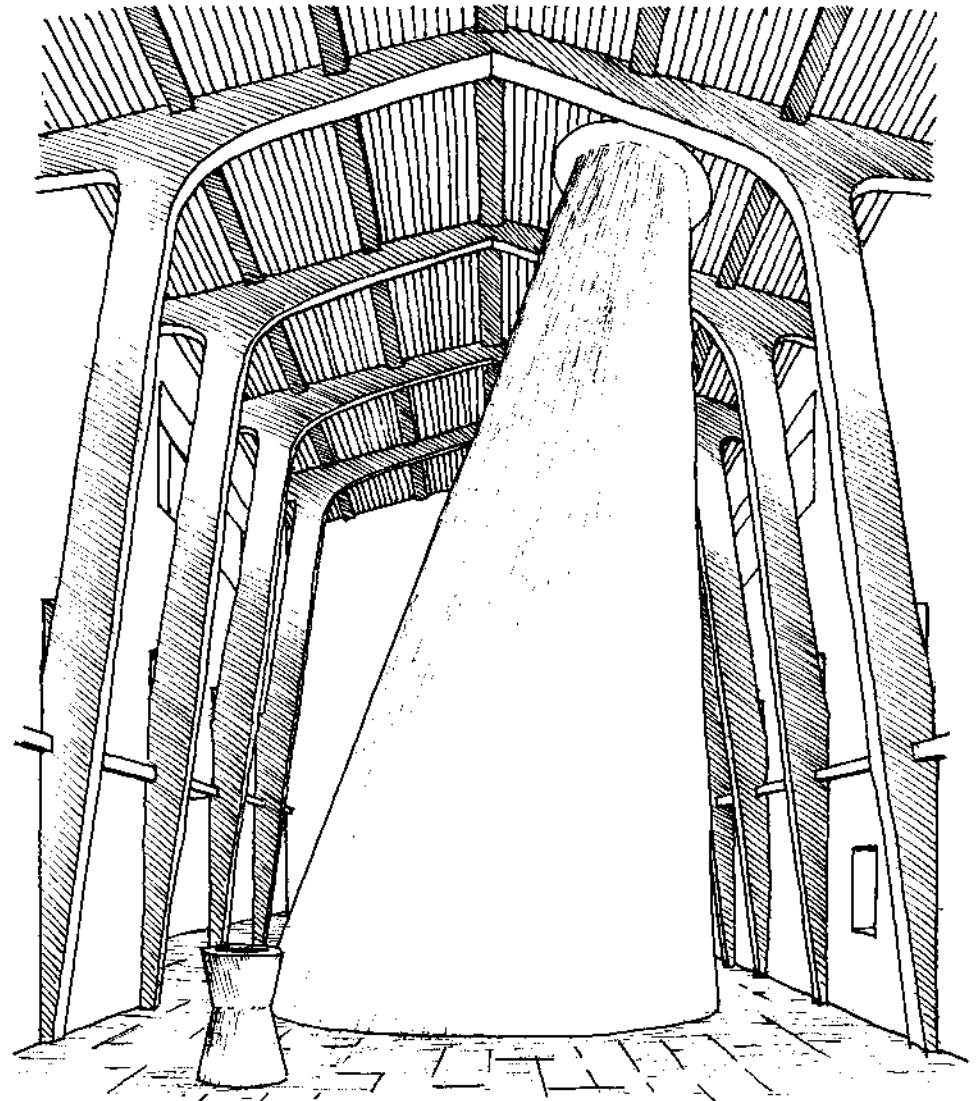
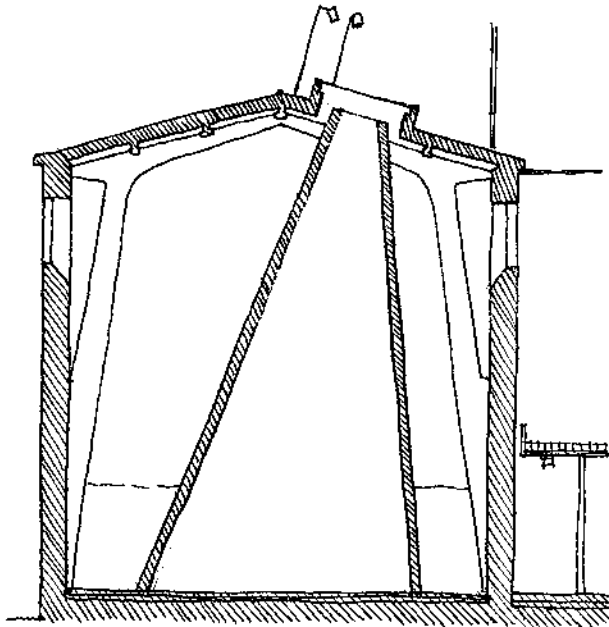
Theis and Khan designed a new **sacred space** while converting a London church, using the concept of a beam of light pouring through the roof.

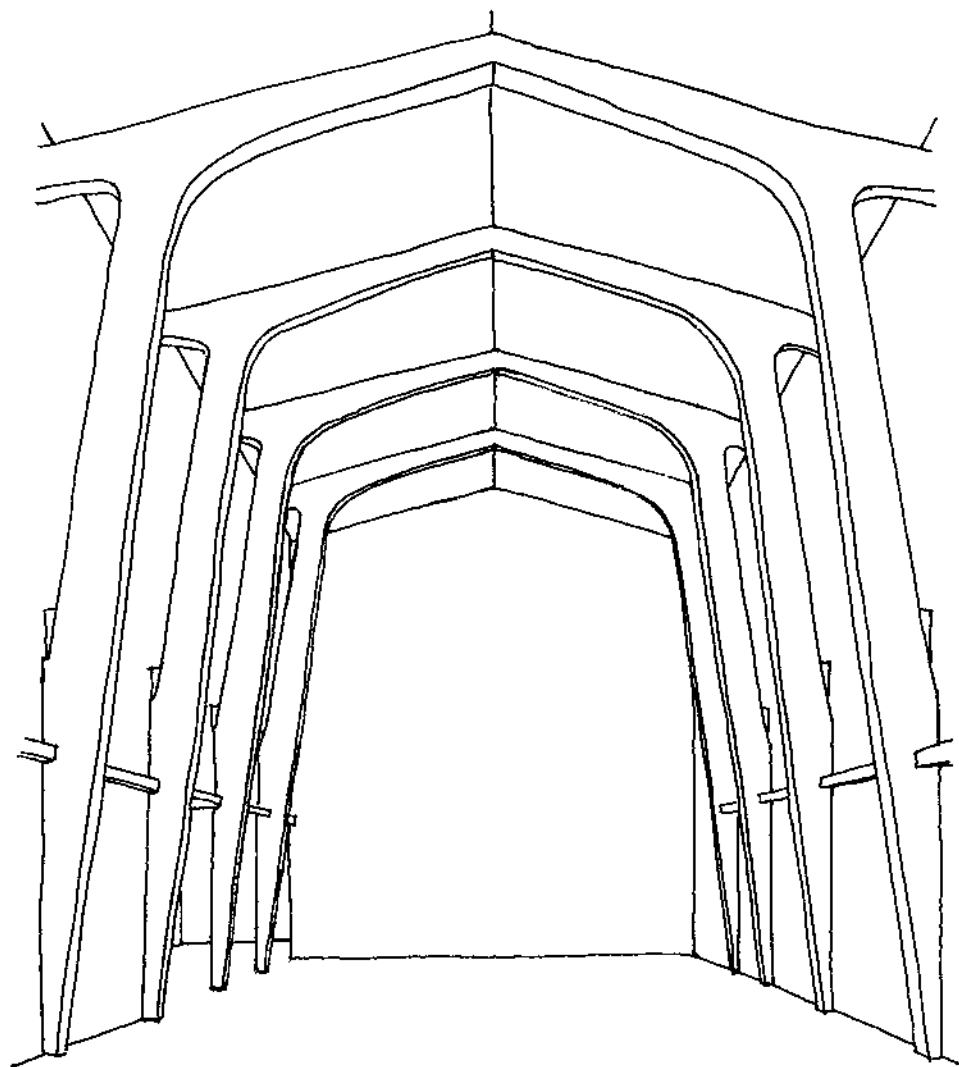
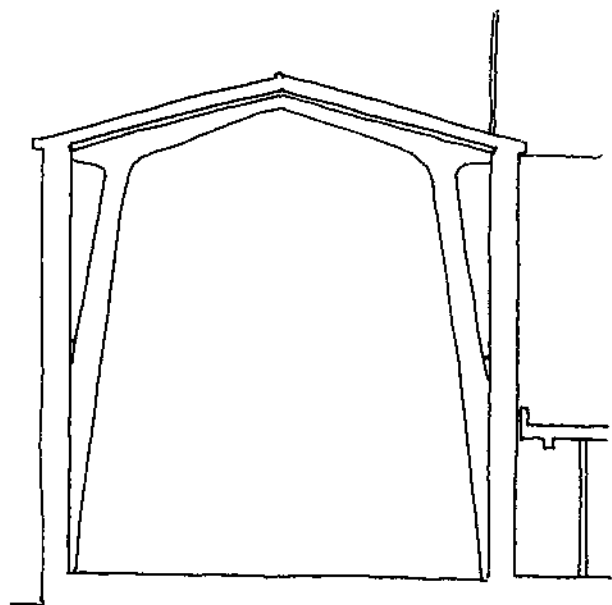
Using the shell of the existing building, design and draw an idea for a new space using light to generate the form...



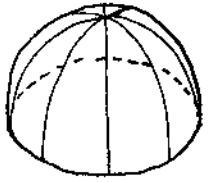
*Lumin United Reform Church, London, England.
Theis and Khan Architects, 2008*

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

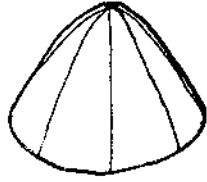




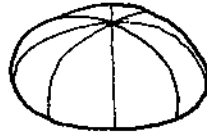
When designing the **roof of a building** here are a variety of forms to consider.



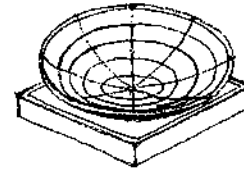
Dome



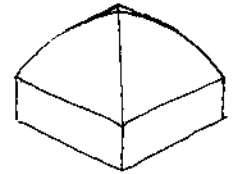
Conical Dome



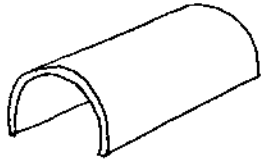
Flat Dome



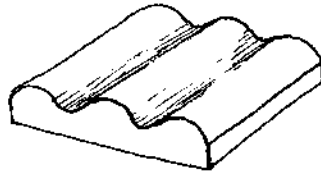
Inverted Dome



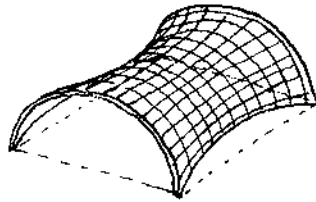
Vaulted



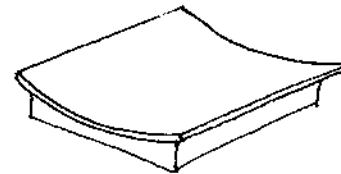
Barrel Vault



Multiple Barrel



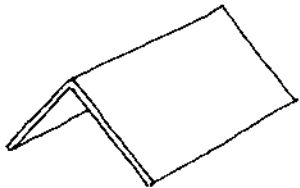
Hyperbolic



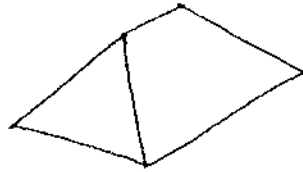
Saddle



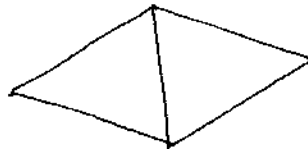
Hyperbolic Paraboloid



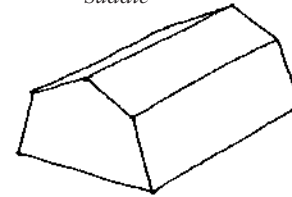
Gable End



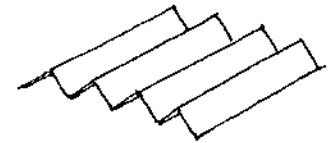
Hipped



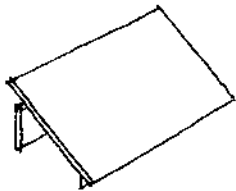
Pyramidal



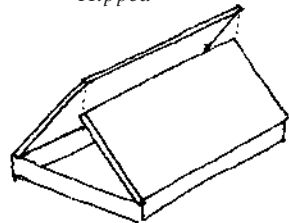
Mansard



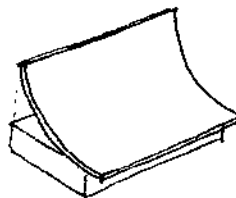
Folded Plate



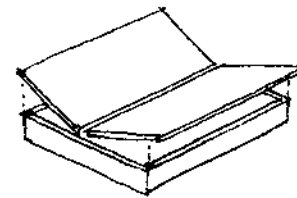
Monopitched



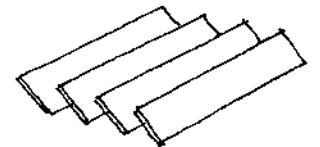
Scissor



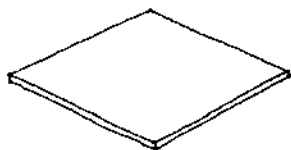
Monopitched Bow



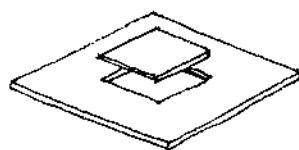
Butterfly



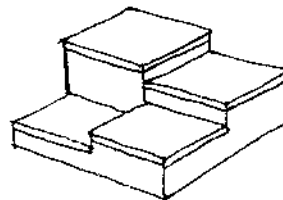
Saw Toothed



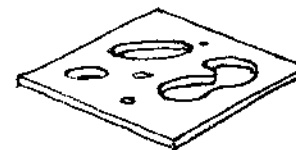
Flat



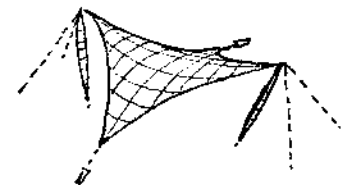
Lantern



Stepped



Perforated



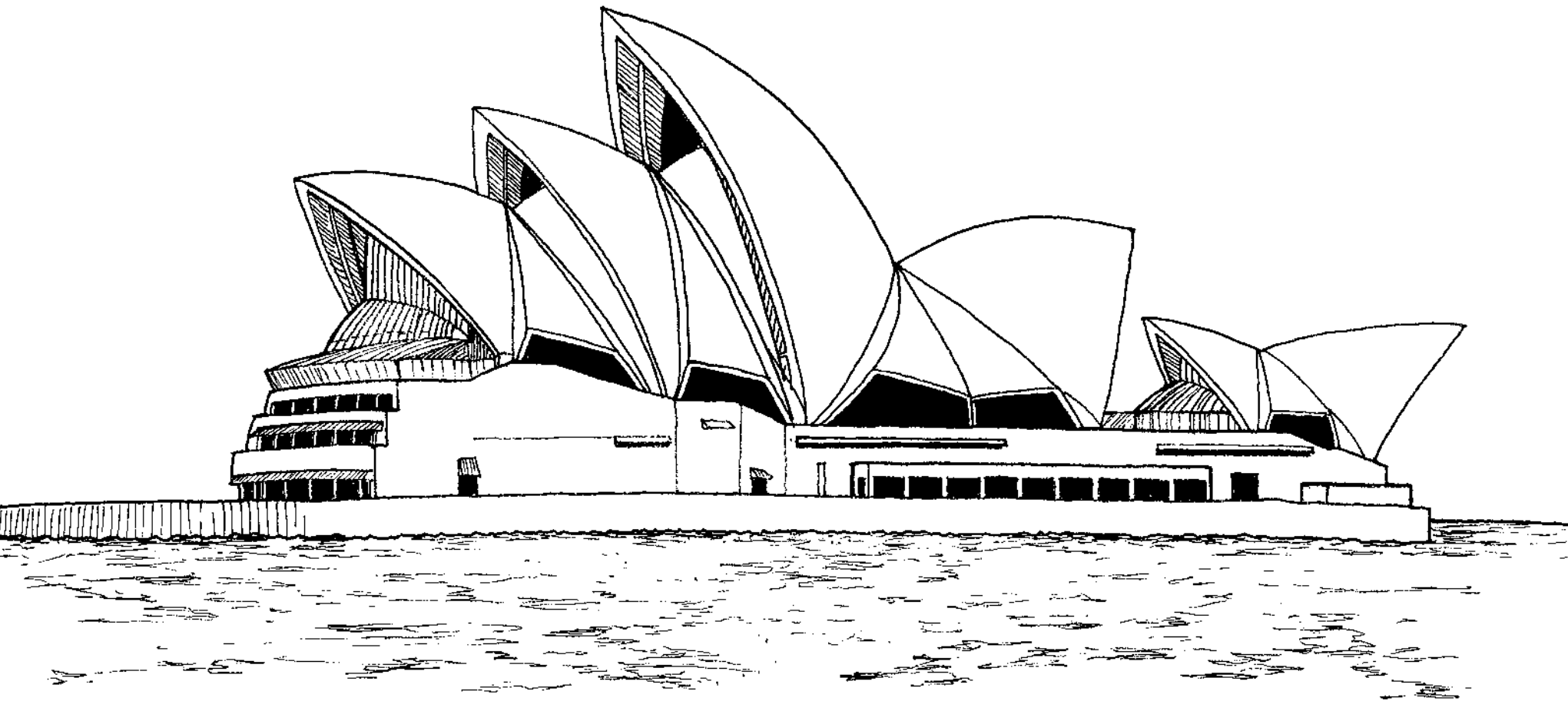
Tensile

Can you come up with some other roof types?

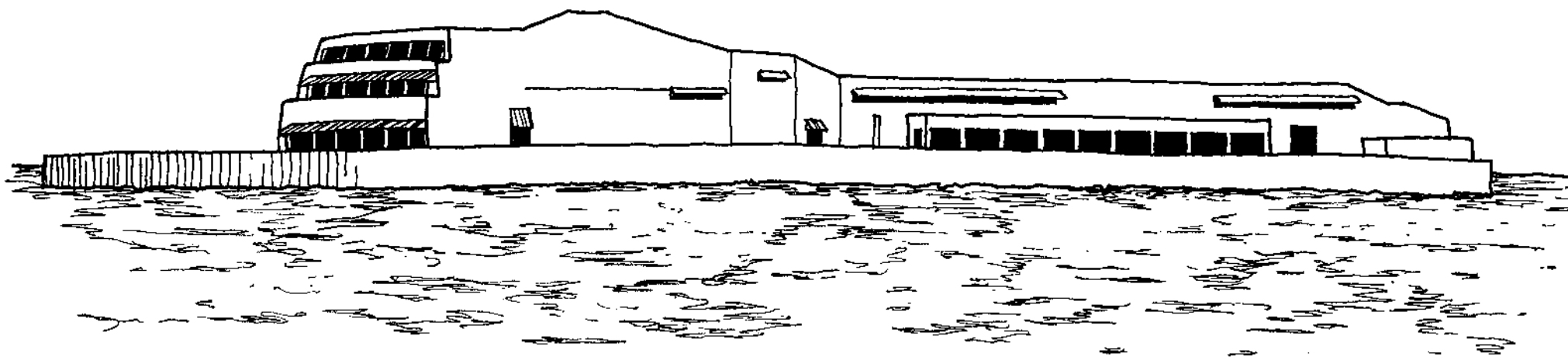


The **Sydney Opera House** is dominated by its shell-like roof structure sitting on a large raised podium. Design your own roof, considering how the interior acoustics of the building might influence the external roof shape.

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

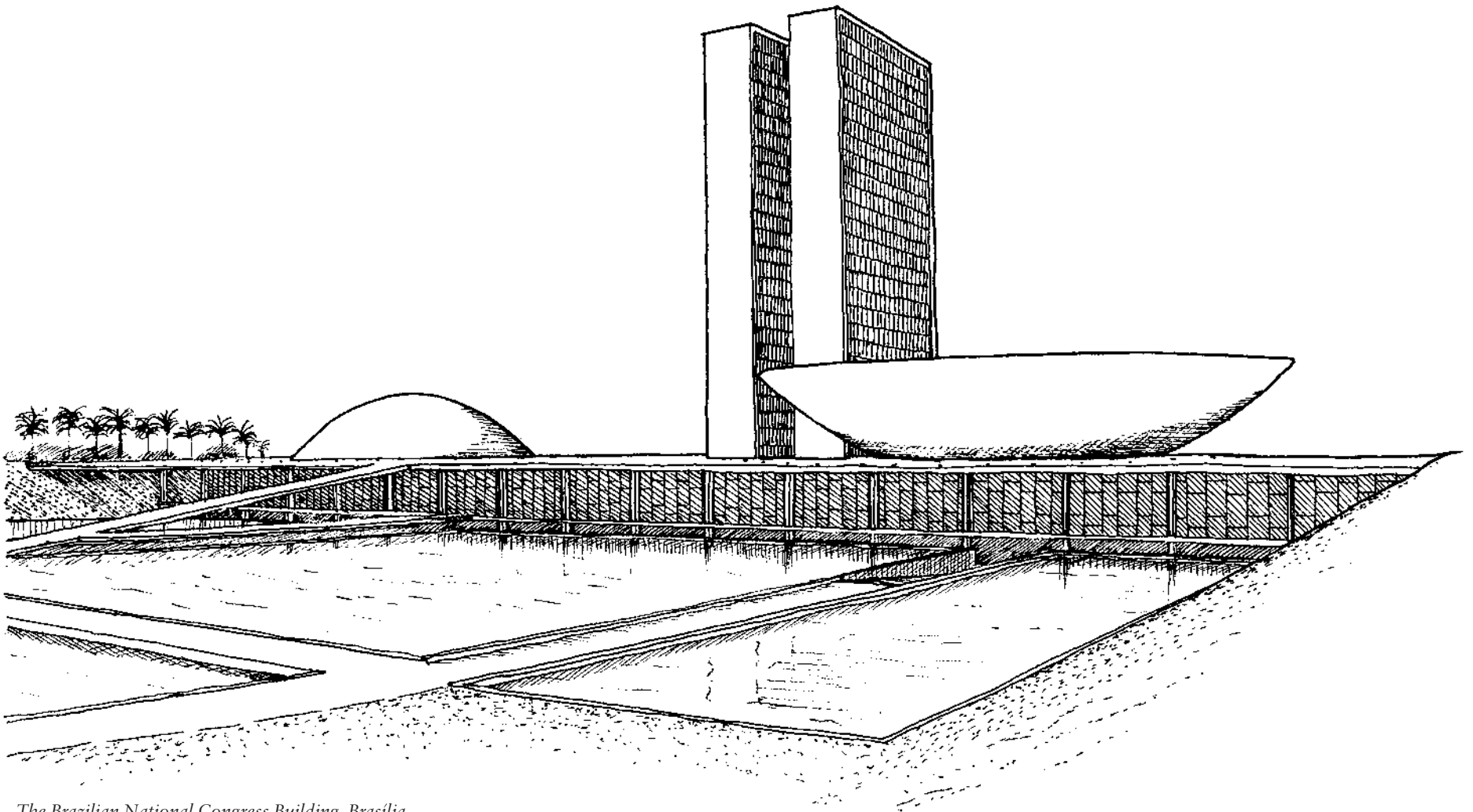


The Sydney Opera House, Sydney, Australia. Jørn Utzon, 1973

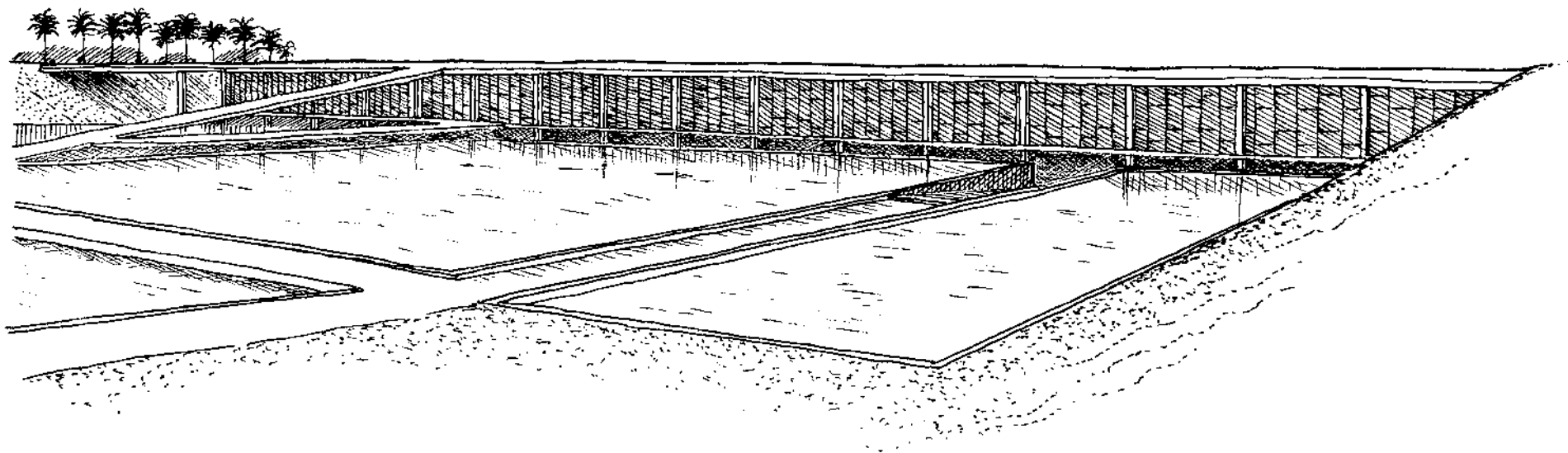


Characterized by their **symbolic roof forms**,
representing equilibrium and balance, the civic buildings for Brazil's new capital
Brasília were designed by Oscar Niemeyer.

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

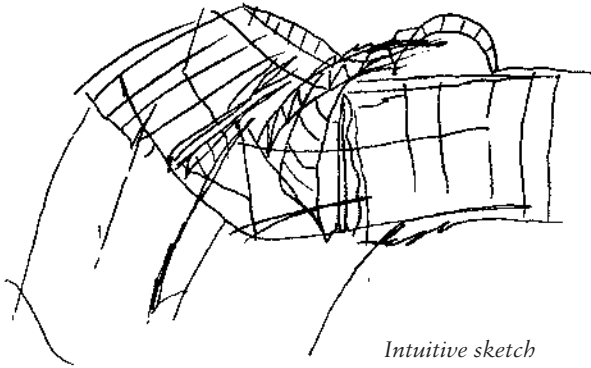


*The Brazilian National Congress Building, Brasília.
Oscar Neimeyer, 1964*

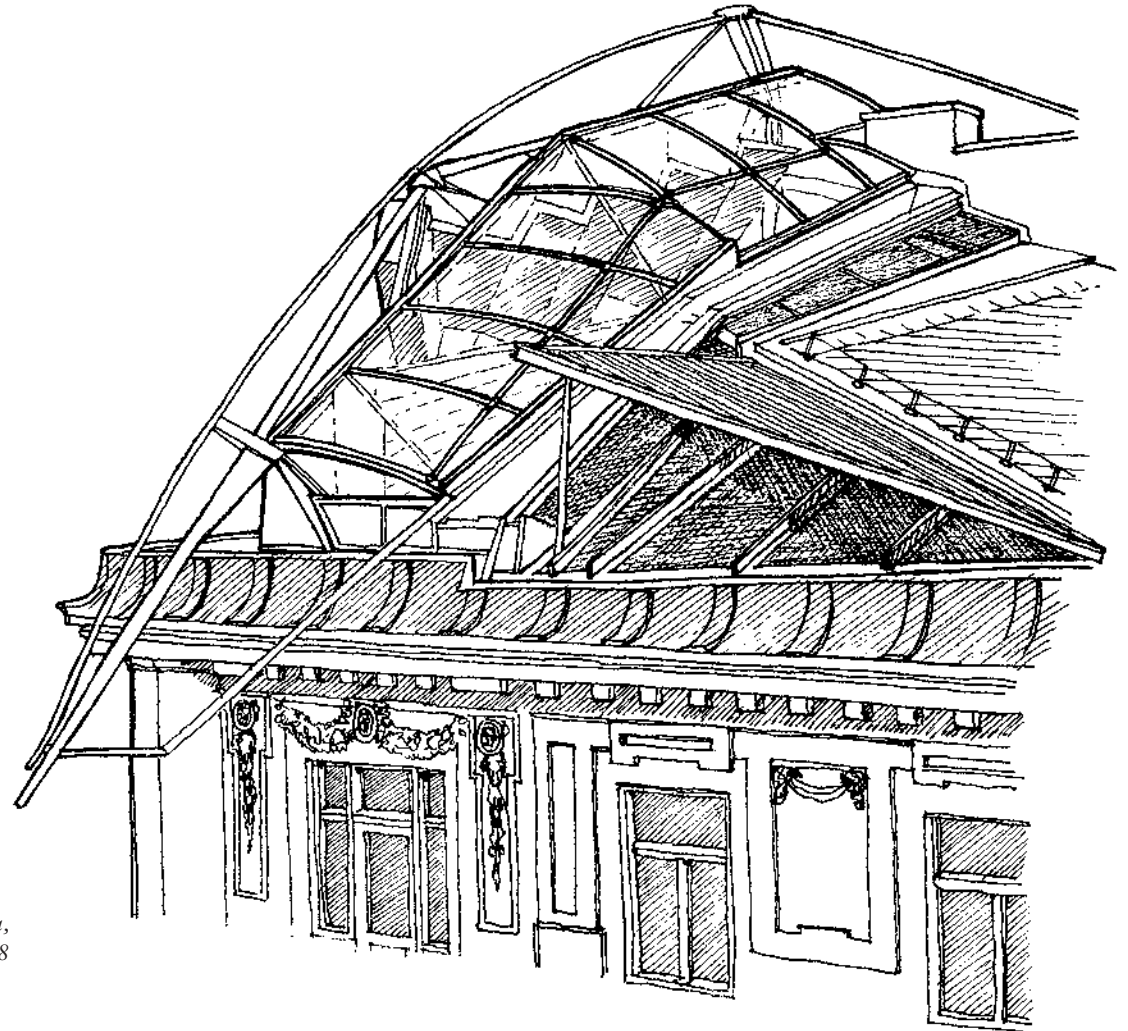


Austrian architectural group **Coop Himmelb(l)au** often begin projects with an intuitive sketch that they describe as 'draw[ing] with one's eyes closed', akin to the 'automatic drawing' practised by Dadaists and Surrealists. This rooftop extension is an example of this method.

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...

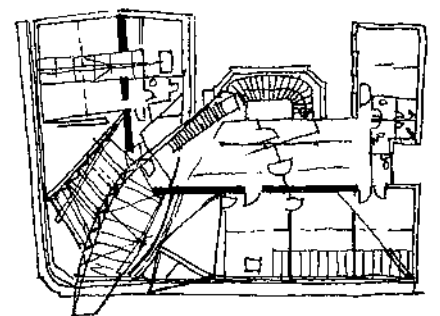


Intuitive sketch



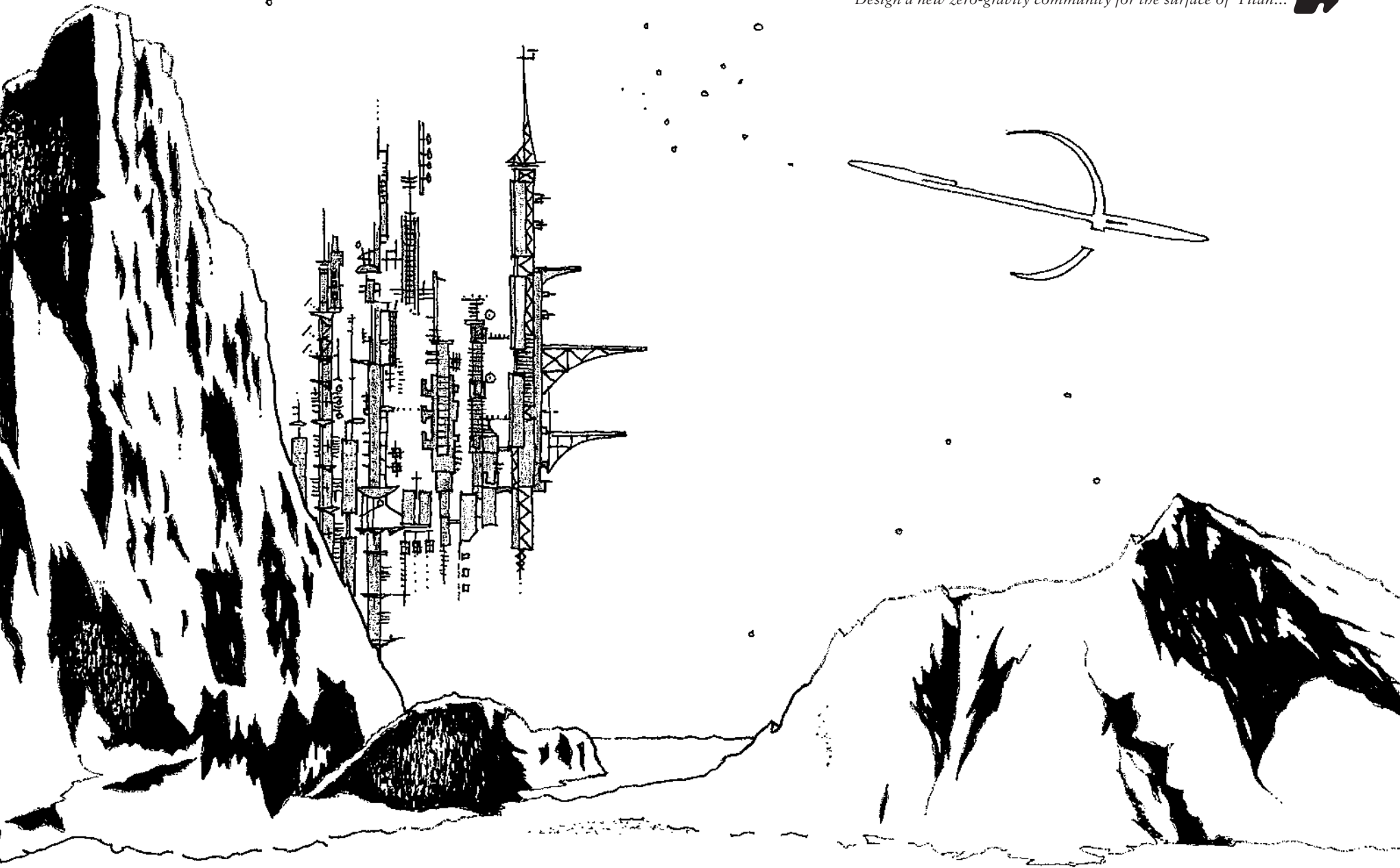
Falkestrasse rooftop renovation, Vienna, Austria. Coop Himmelb(l)au, 1988

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...



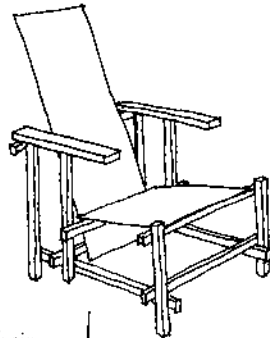
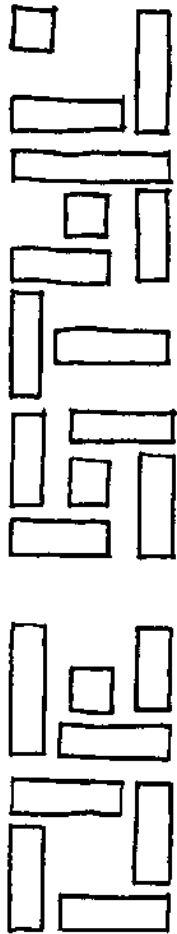


The **De Stijl** (the Style) movement in the Netherlands began in 1917, its work characterized by abstract composition and strong primary colours. The most famous exponents of De Stijl were Piet Mondrian, Gerrit Rietveld and Theo van Doesburg.

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

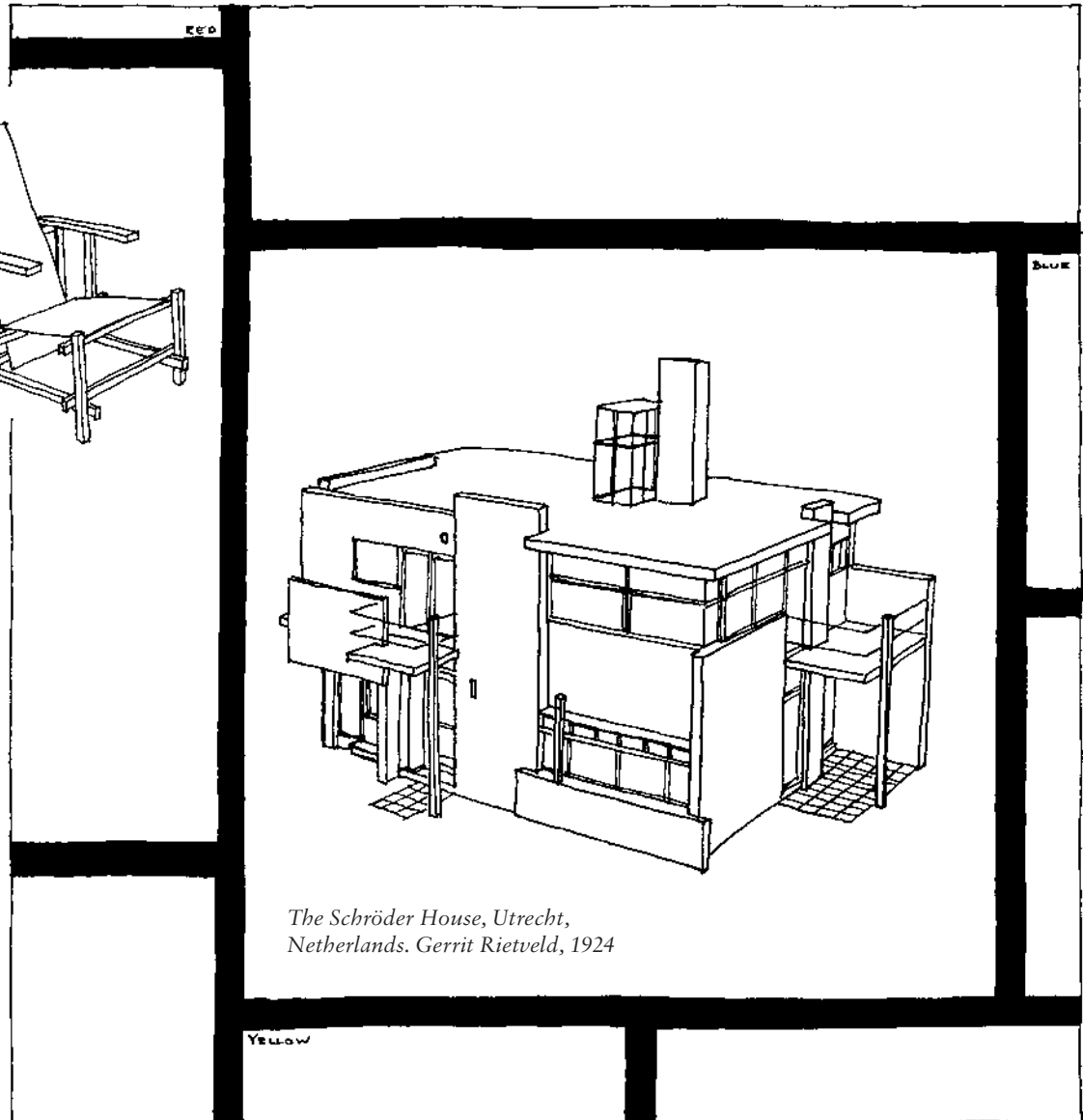


Drawing of the typeface created by van Doesburg for the De Stijl magazine

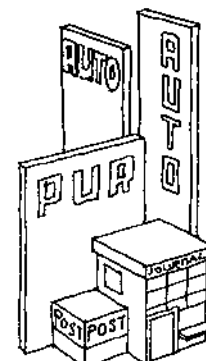


The Red Blue Chair, Gerrit Rietveld, 1917

Composition in the style of Piet Mondrian

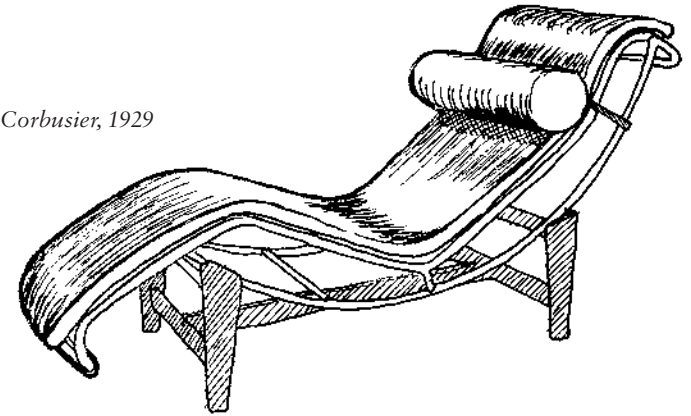


*Design for a Kiosk,
Lajos Kassák, 1923*



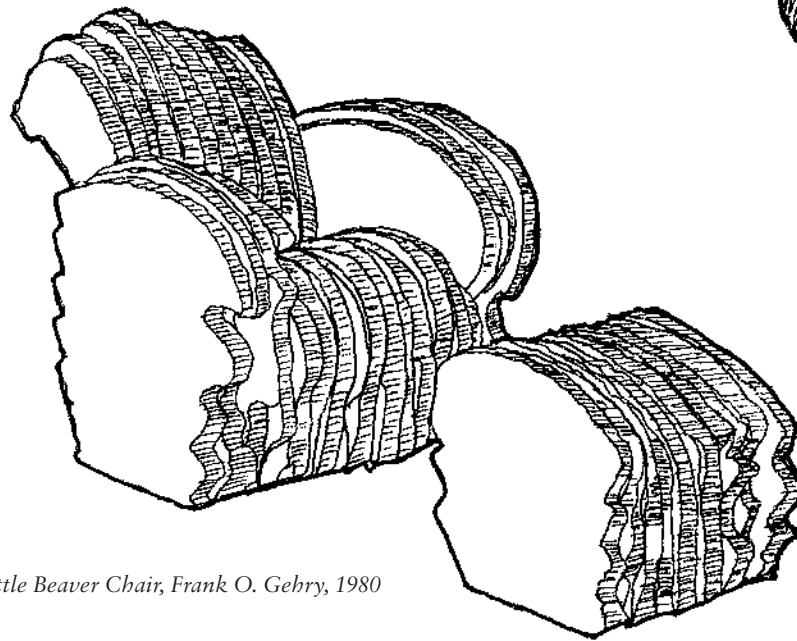
Many architects have designed very distinctive and important **chairs** using lots of different shapes and sizes.

LC4 Chaise Lounge, Le Corbusier, 1929

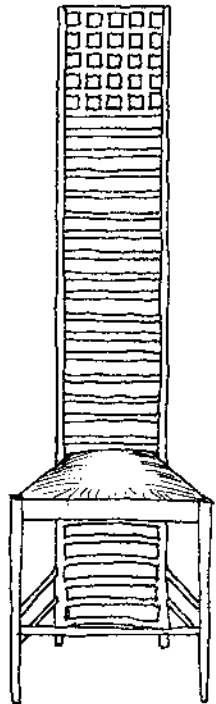


Why don't you have a go at designing a chair... ➡

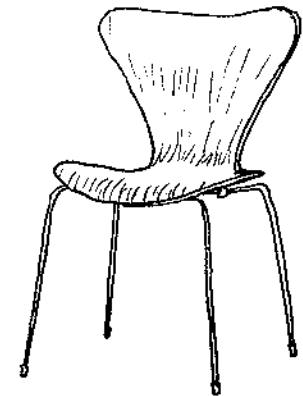
Little Beaver Chair, Frank O. Gehry, 1980

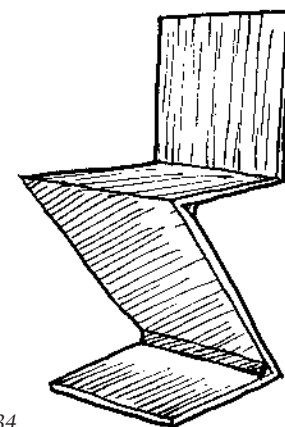


Hill House Chair, Charles Rennie Mackintosh, 1903



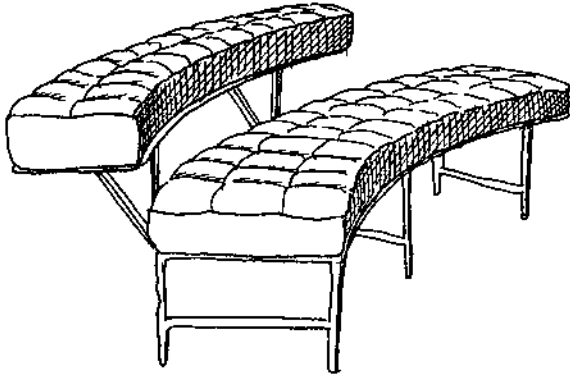
Series 7 Chair, Arne Jacobsen, 1955



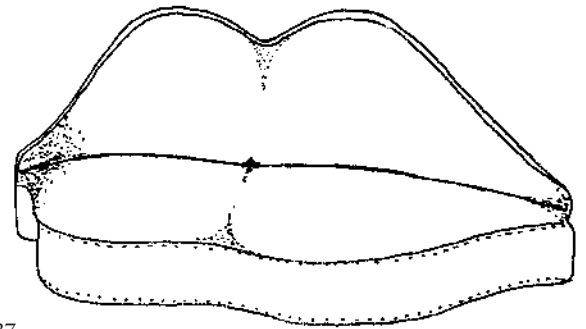


Zig Zag Chair, Gerrit Rietveld, 1934

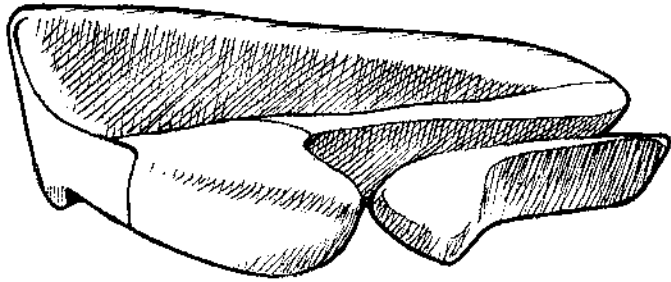
...you may also consider a **design for seating**
for more than one person.



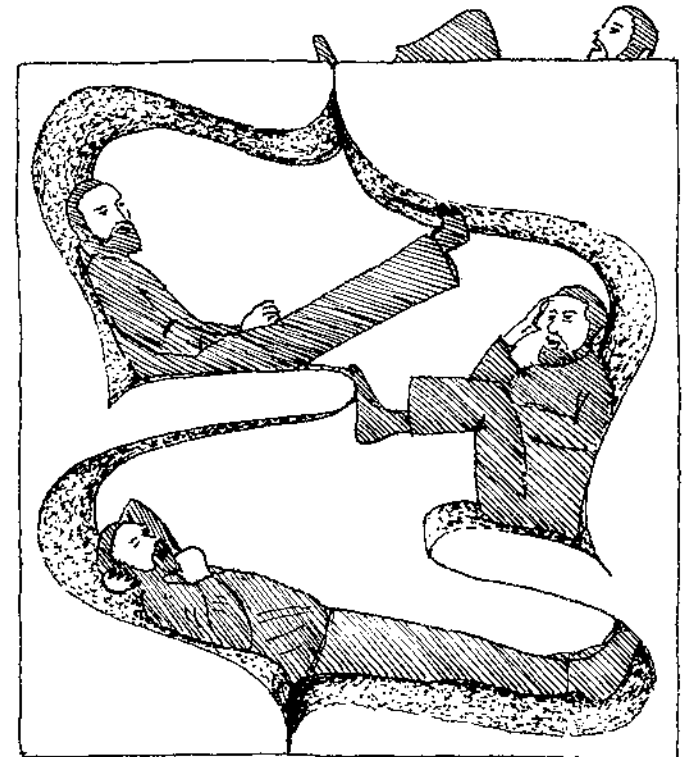
Monte Carlo Sofa, Eileen Gray, 1929



Mae West Lips Sofa, Salvador Dalí, 1937

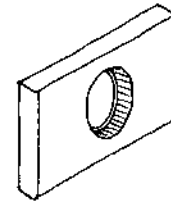
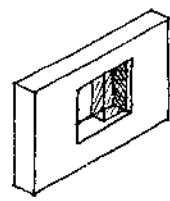
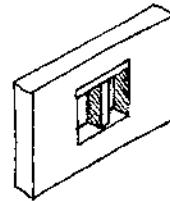
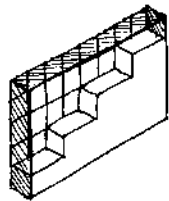
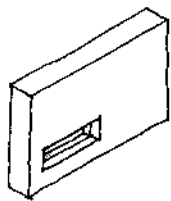
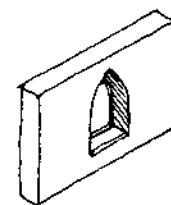
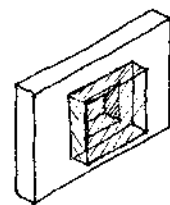
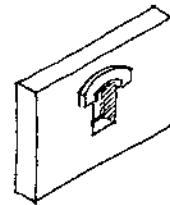
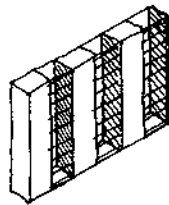
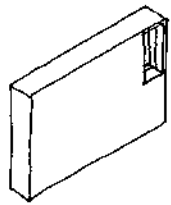
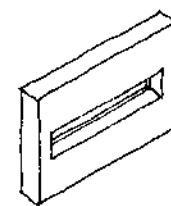
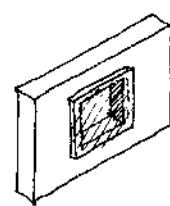
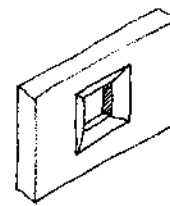
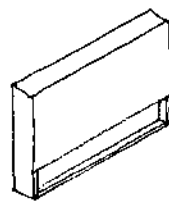
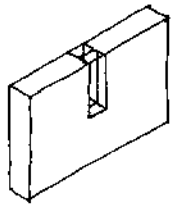
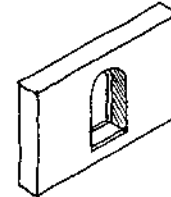
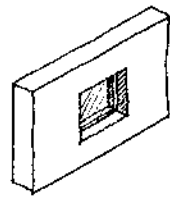
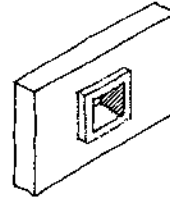
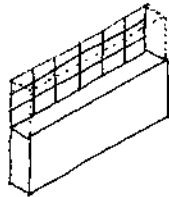
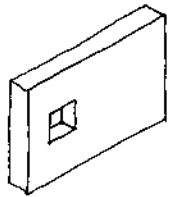
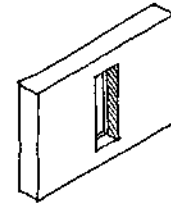
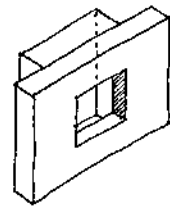
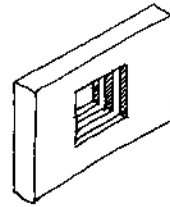
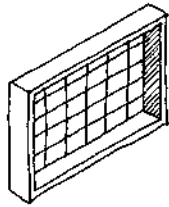
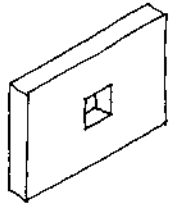


Moon System sofa, Zaha Hadid, 2007



Pantower, Verner Panton, 1969

Here are a variety of things to consider when **designing a window** and its opening.



Window position within the wall

Window to wall proportion

Window profile

Location of frame

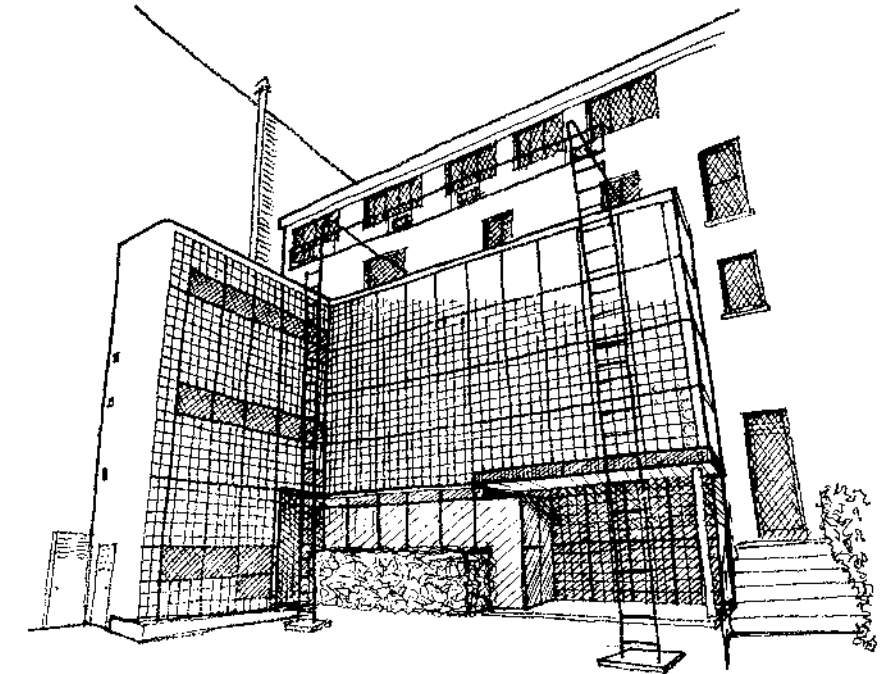
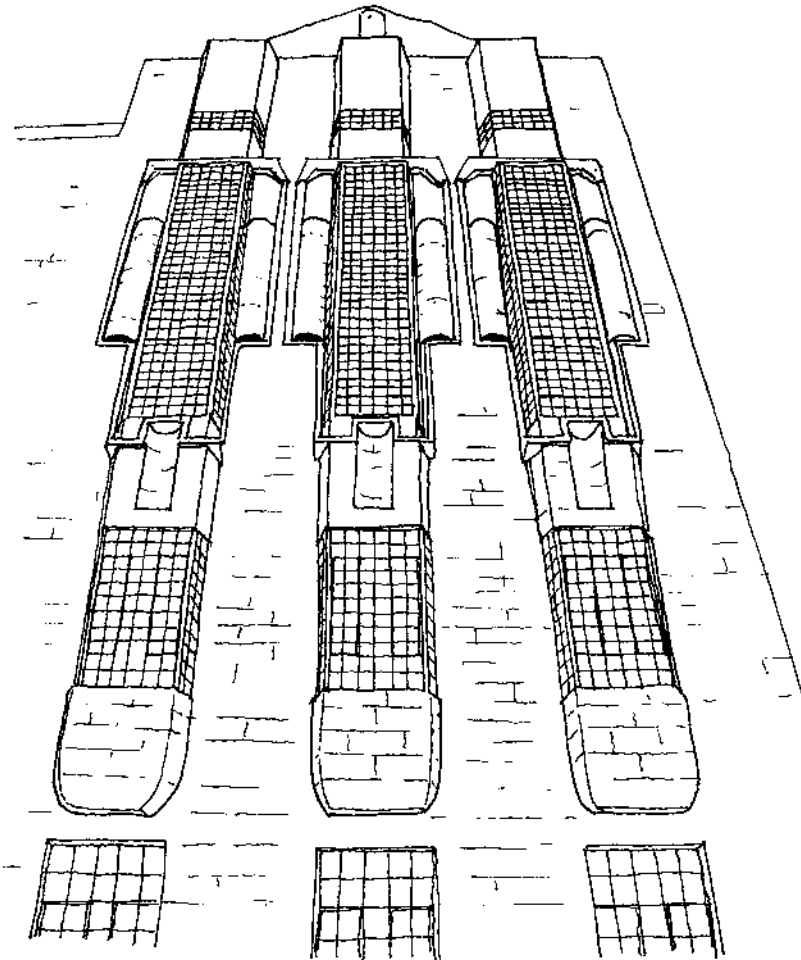
Shape of opening

Can you suggest any more variations?



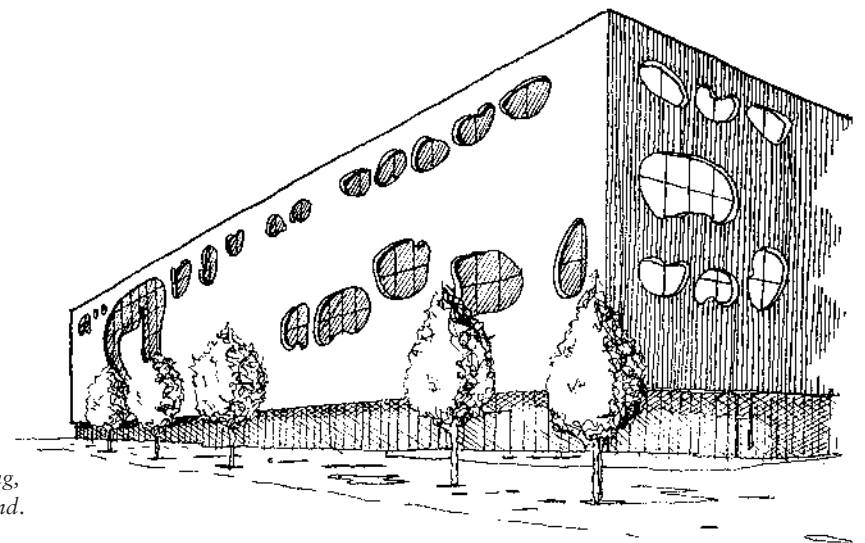
Each of these buildings has a different attitude to **window design:**
projecting bay, window wall, free-form hole.

Suggest some other types of window openings... ➡



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

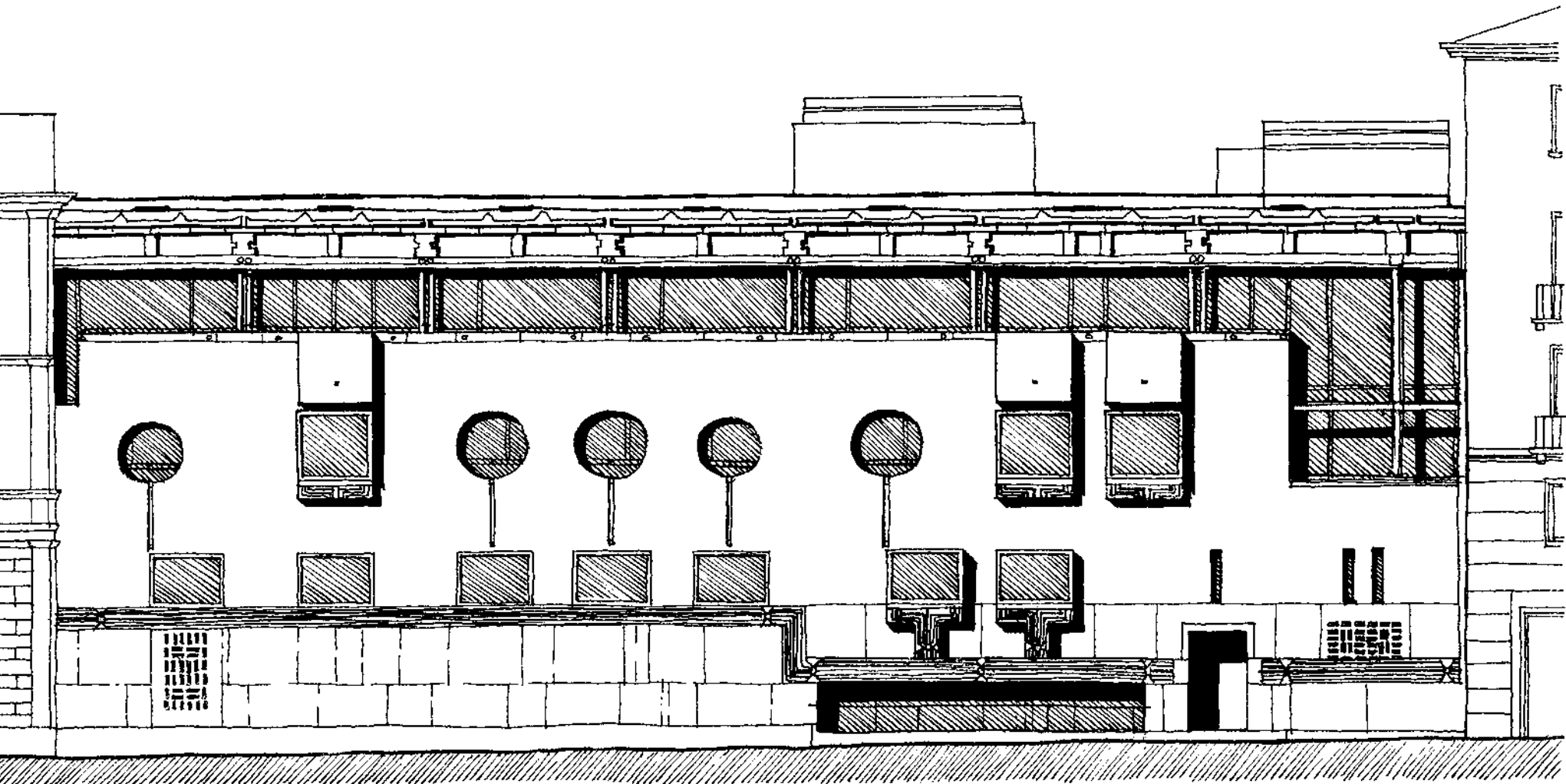
*Glasgow School of Art,
Scotland. Charles Rennie
Mackintosh, 1909*



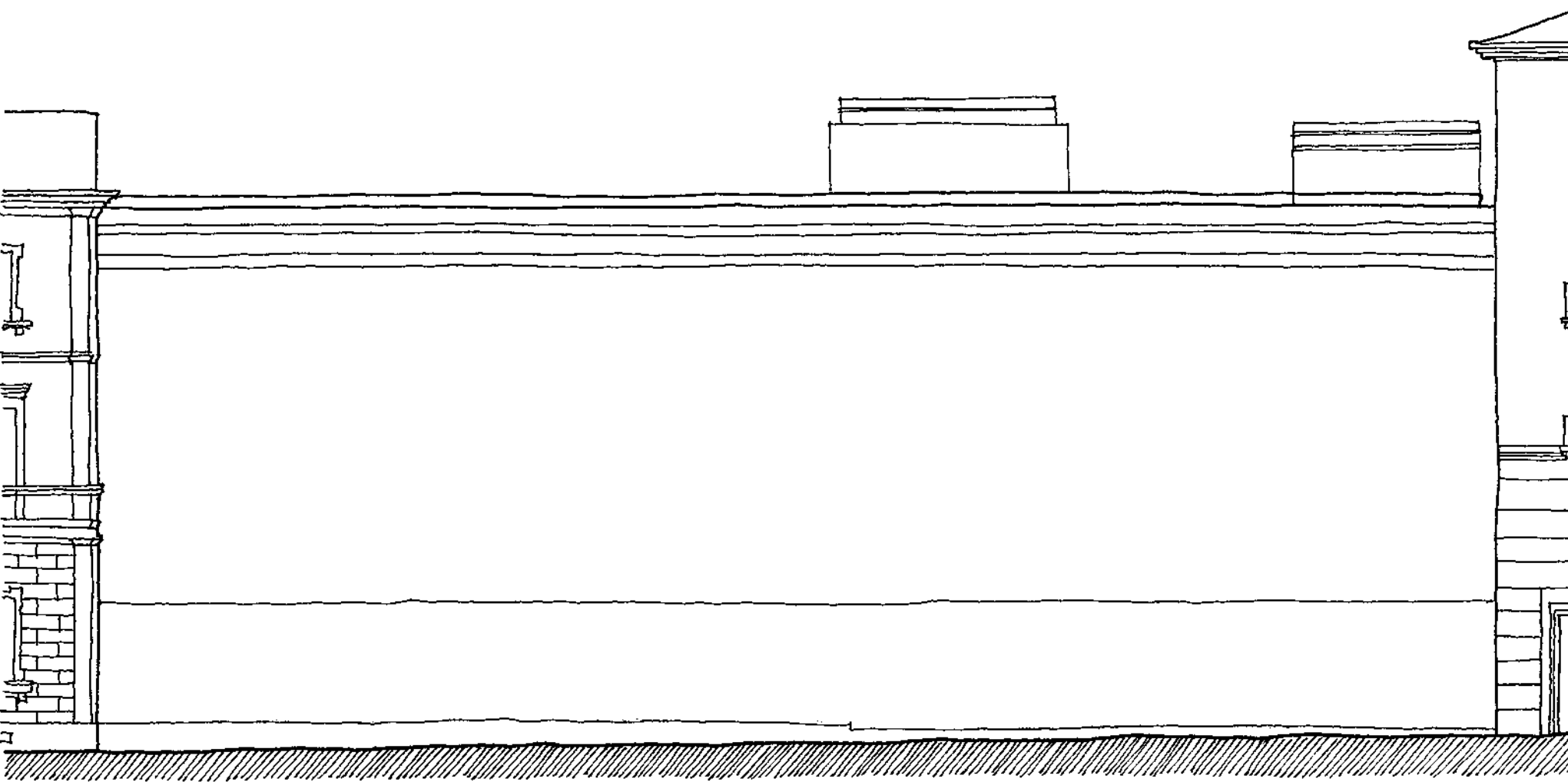
*The Public arts building,
West Midlands, England.
Will Alsop, 2008*

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... ➡

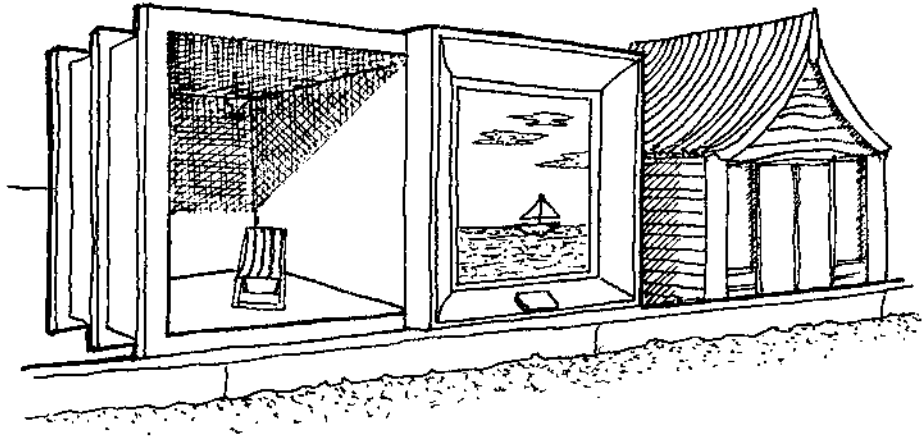


Banca Popolare di Verona, Italy. Carlo Scarpa, 1973

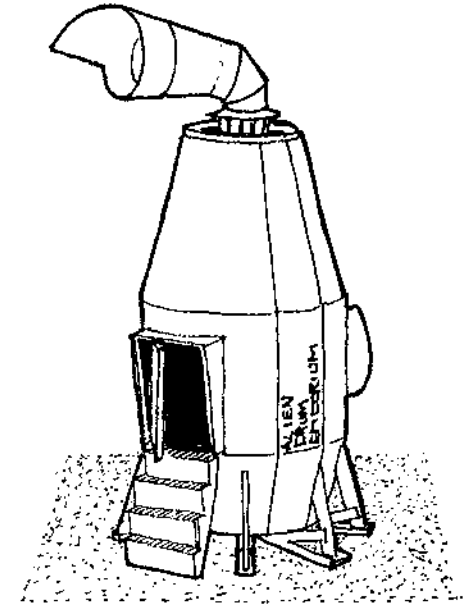


These innovative **beach huts** were created for a competition to 'Re-imagine the Beach Hut for the 21st Century'.

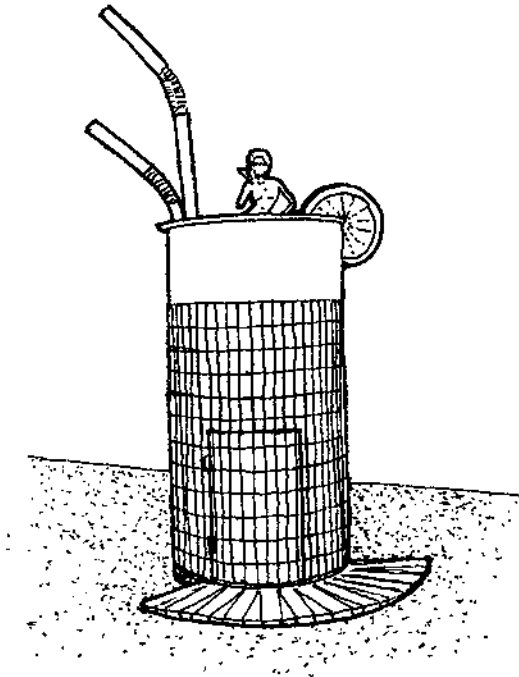
Considering seaside themes, what would your competition entry look like...



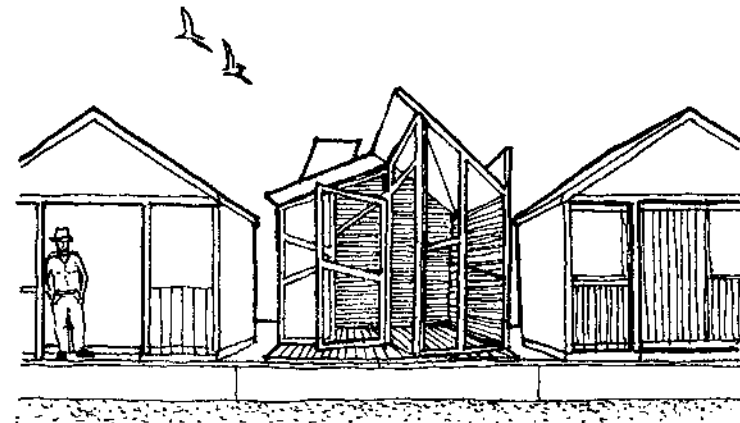
'Eyes Wide sHut', Feix&Merlin



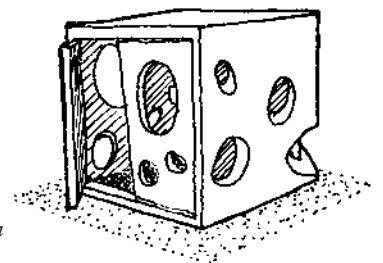
*'Alien Drum Sensorium', Alasdair Toozer,
Gareth Hoskins Architects*



'Come Up and See Me', Michael Trainor



'Lattice Hut', Andrew Siddall, Civic Architects

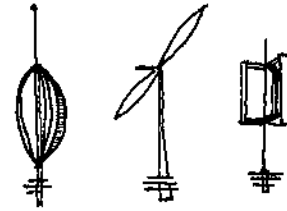


*'Cheese 42', Christian
Uhl Architekt*

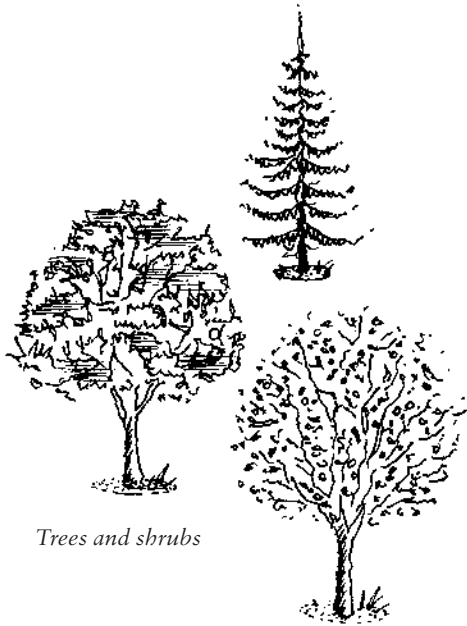
Here is a street that is in desperate need of **'greening'**. Use some of the elements below to improve it.



Solar panels



Wind turbines and wind scoops



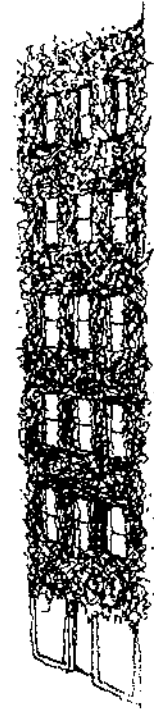
Trees and shrubs



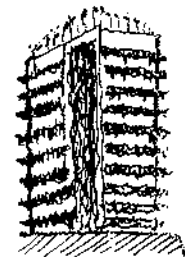
Reed beds and watercourses



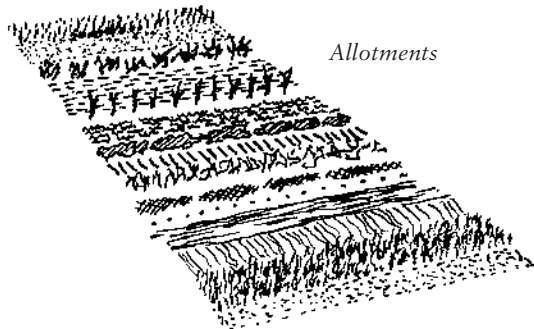
Bicycles and footpaths



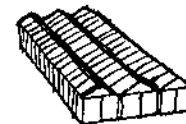
Green walls



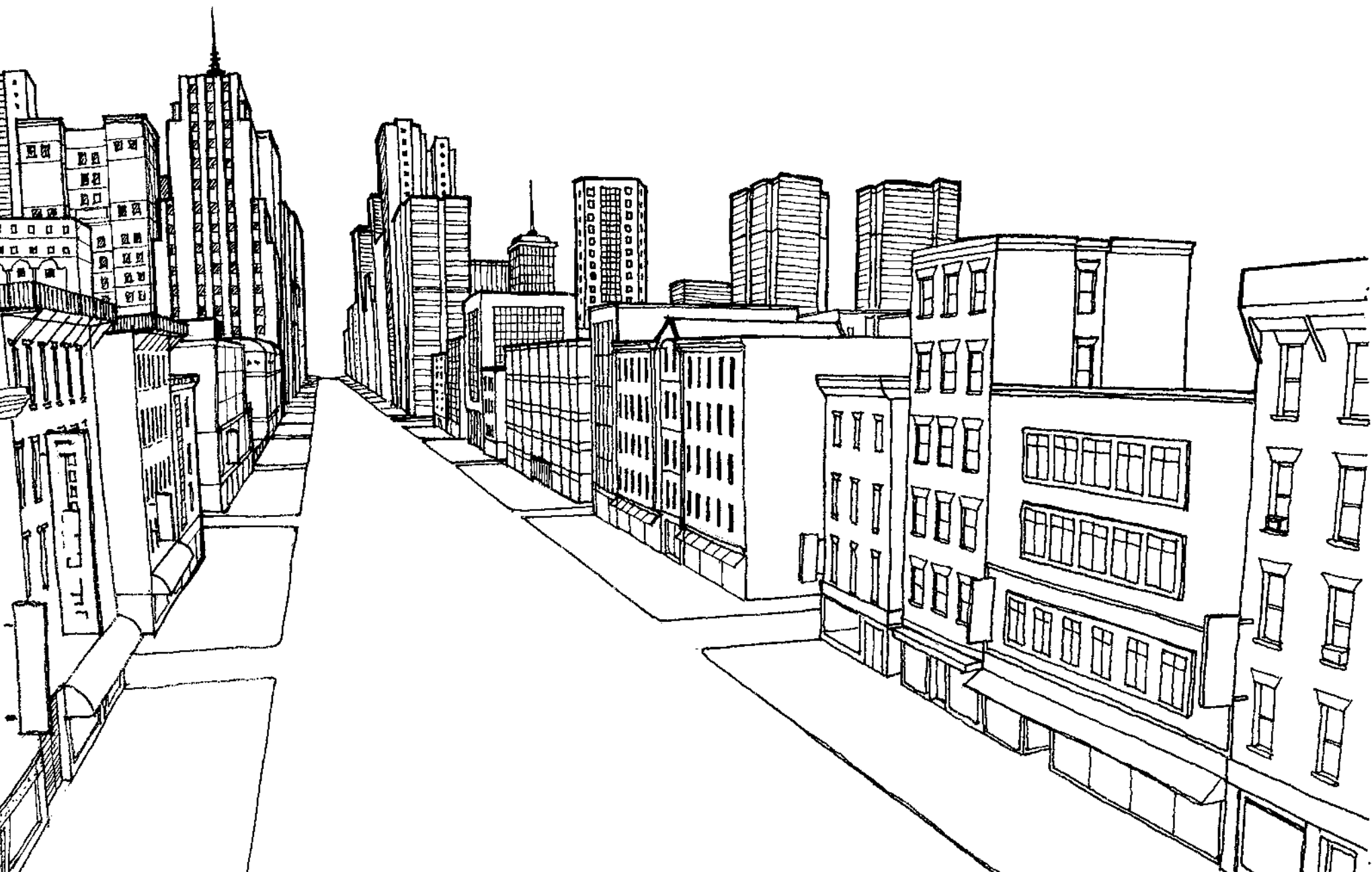
Vertical farms



Allotments

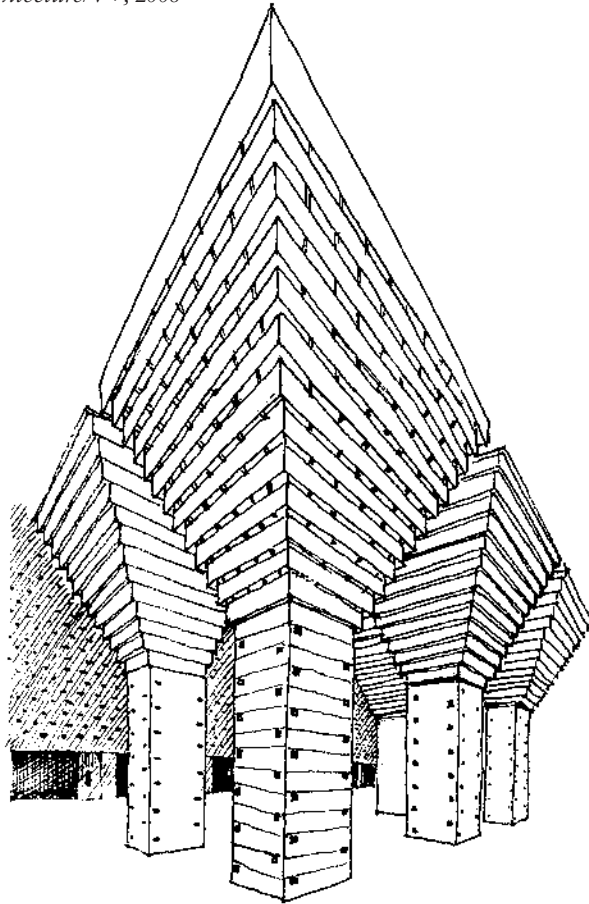


Greenhouses

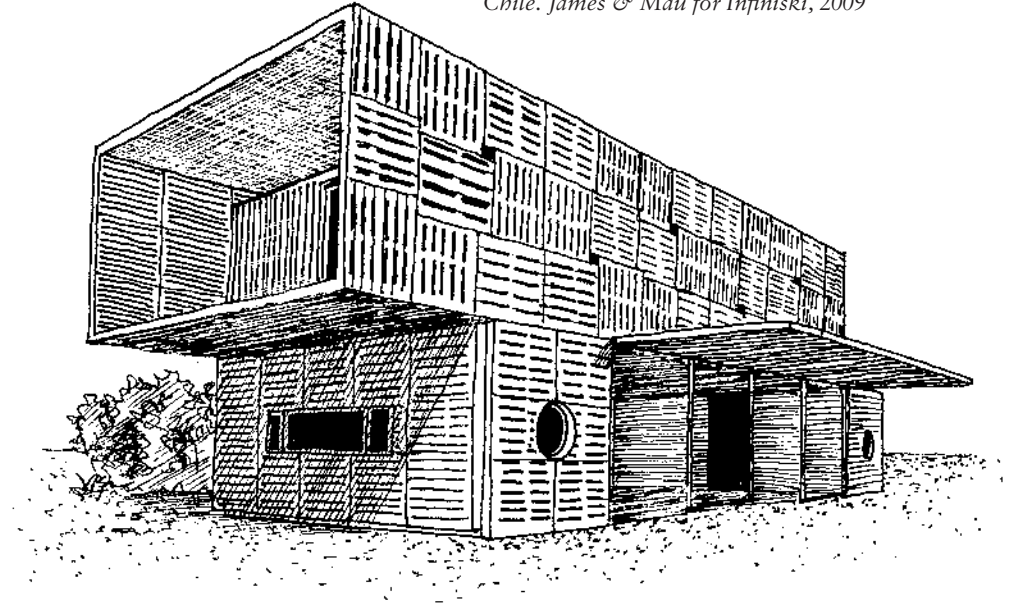


These buildings have all used **recycled materials**
to construct the fabric of the building.

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



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

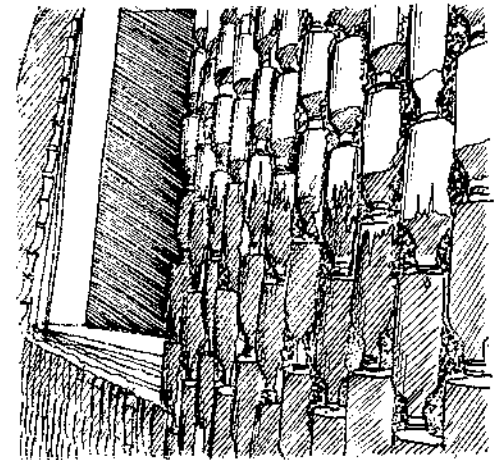


Sketch out the design of a simple house or pavilion using waste products... ➡



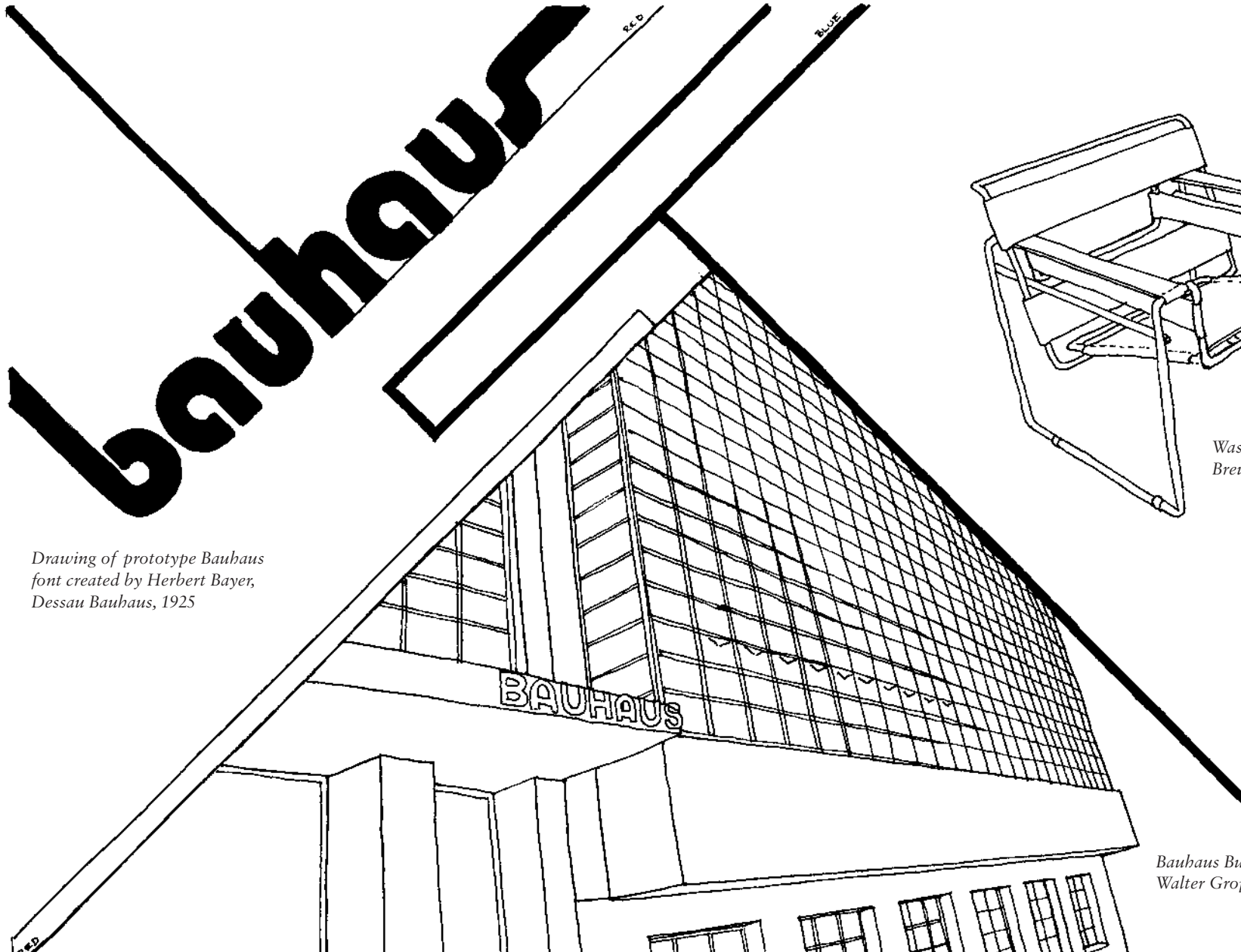
*Lucy's House (27,000 stacked carpet tiles), Alabama,
USA. Samuel Mockbee, Rural Studio, 1997*

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

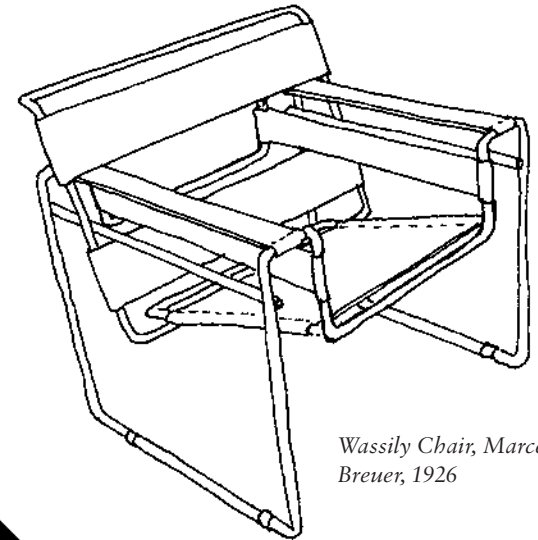


The **Bauhaus** school of design, founded in Germany in 1919, took a radical approach to the combined teaching of craft and design with the ambition of creating a new unity between art and technology. They explored the new techniques of industrialization through simple geometric forms.

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



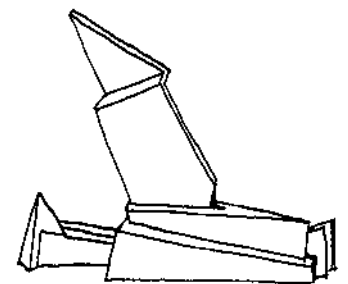
Drawing of prototype Bauhaus font created by Herbert Bayer, Dessau Bauhaus, 1925



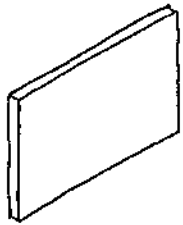
Wassily Chair, Marcel Breuer, 1926

Bauhaus Building, Dessau, Germany. Walter Gropius, 1926

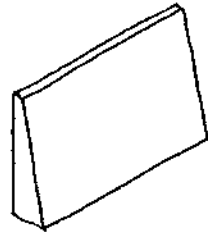
*Monument to the March Dead, Weimar,
Germany. Walter Gropius, 1922*



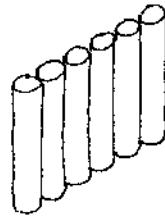
Here are a various **wall structures.**



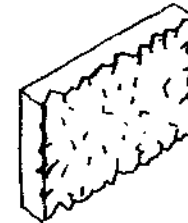
Thin Plane



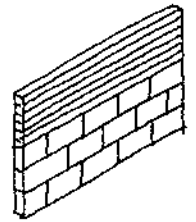
Battered



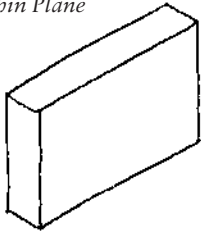
Close Column



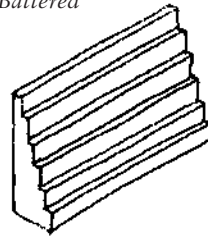
Mass



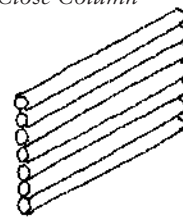
Masonry



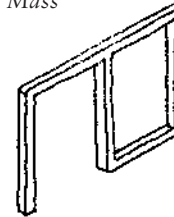
Thick Plane



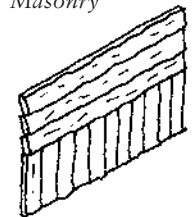
Stepped



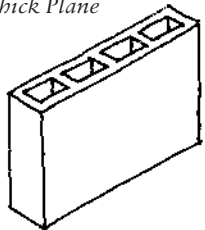
Log Wall



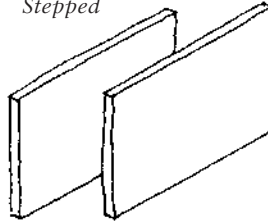
Frame



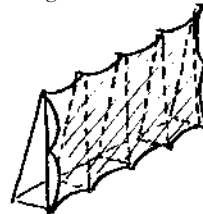
Timber



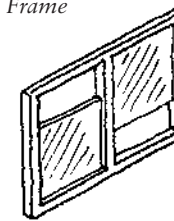
Honeycomb



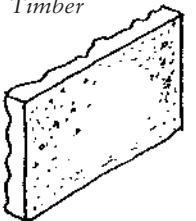
Parallel Plane



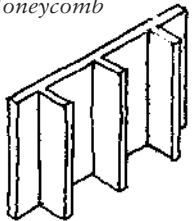
Fabric Skin



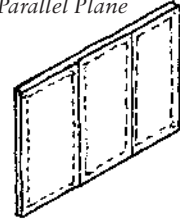
In Fill



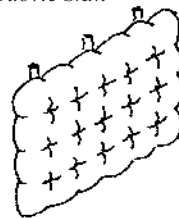
Concrete



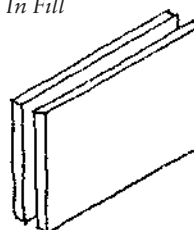
Buttress



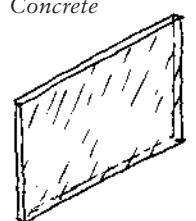
Panel



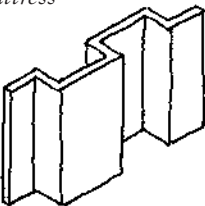
Pneumatic Air



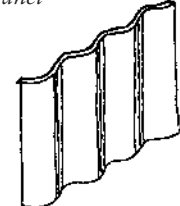
Layered



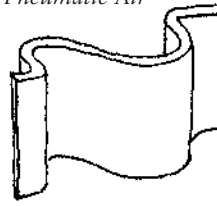
Glass



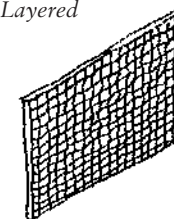
Crenulated



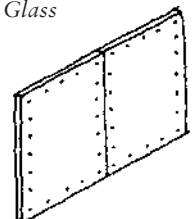
Corrugated



Plastic



Woven



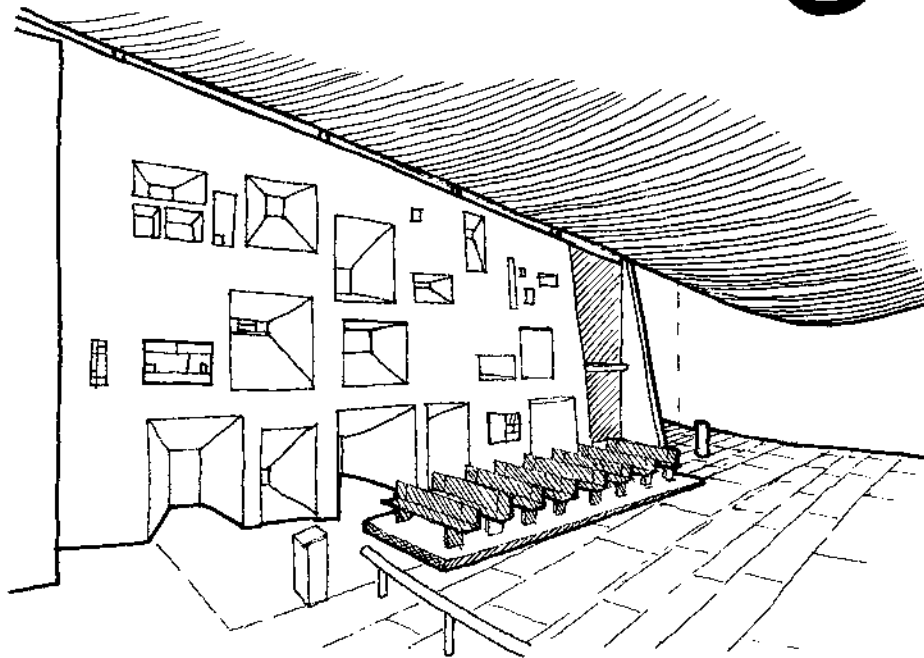
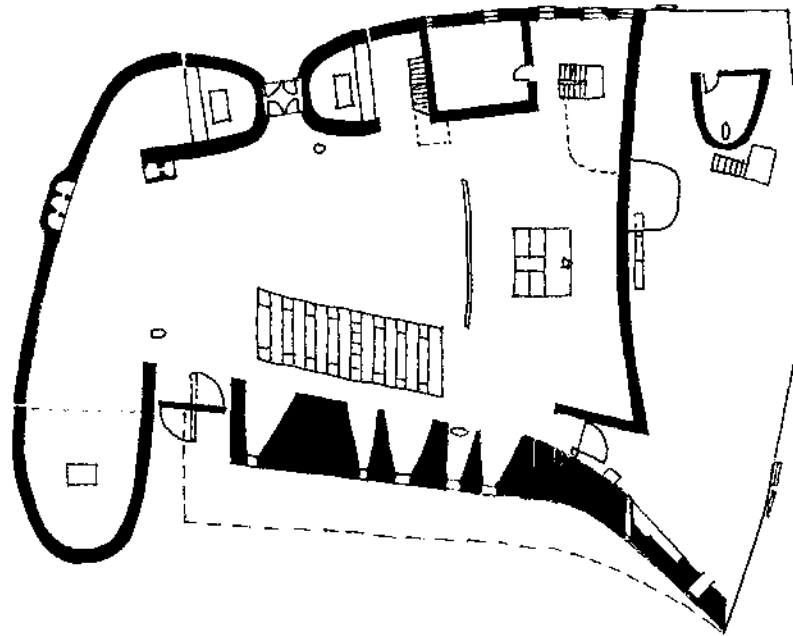
Metal

*Design some walls of your own, taking into
consideration their construction and material...*



Sculptural curvilinear walls

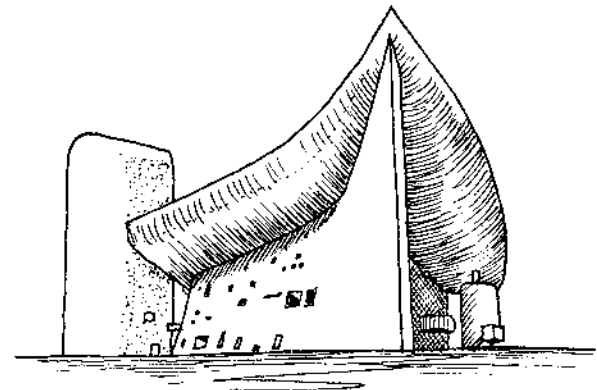
of different thickness, topped off with a heavy overhanging roof, characterize the design of the Chapel of Notre Dame du Haut.

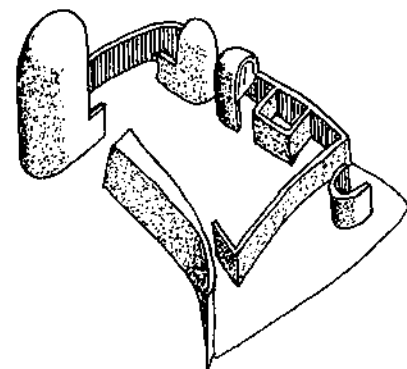


Make some sketches of a small chapel which is designed using a variety of wall thicknesses...



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

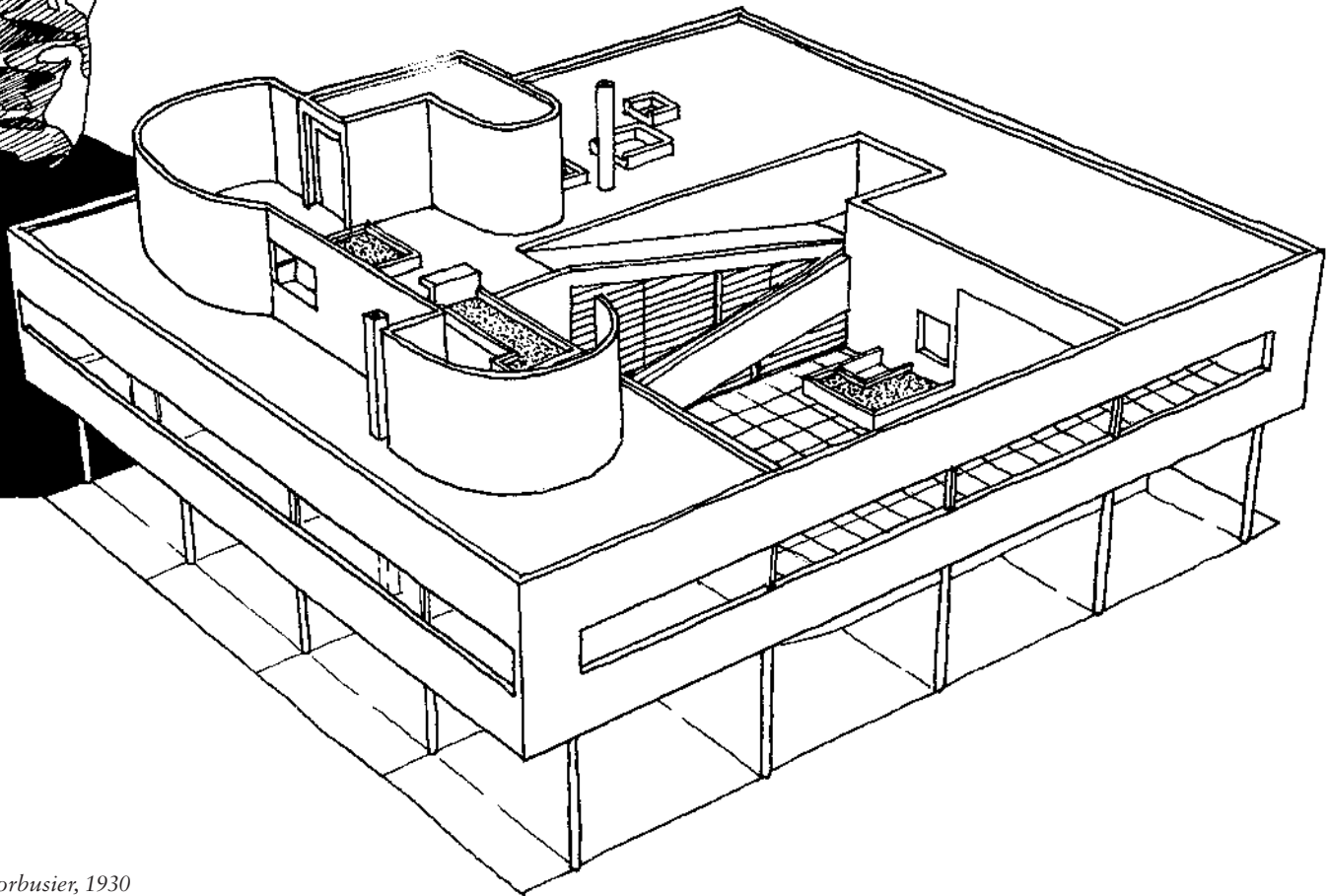




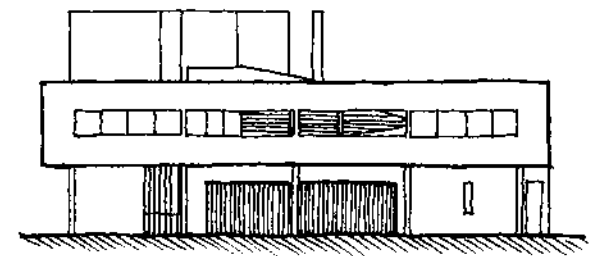
'A House is a Machine for Living in'

— Le Corbusier

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

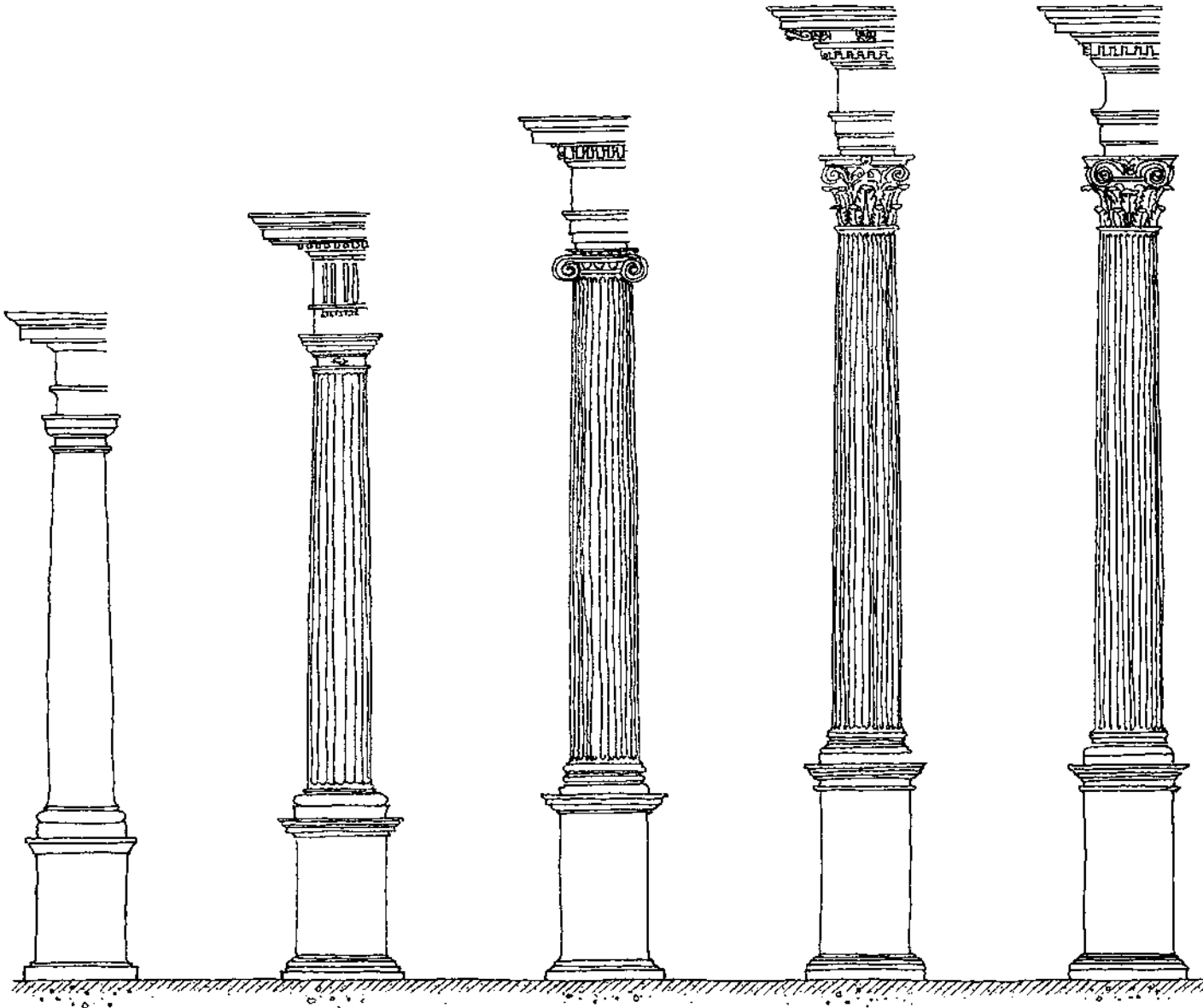


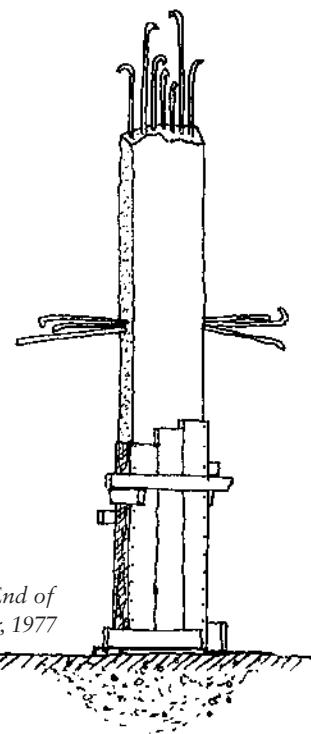
The Villa Savoye, Poissy, France. Le Corbusier, 1930



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

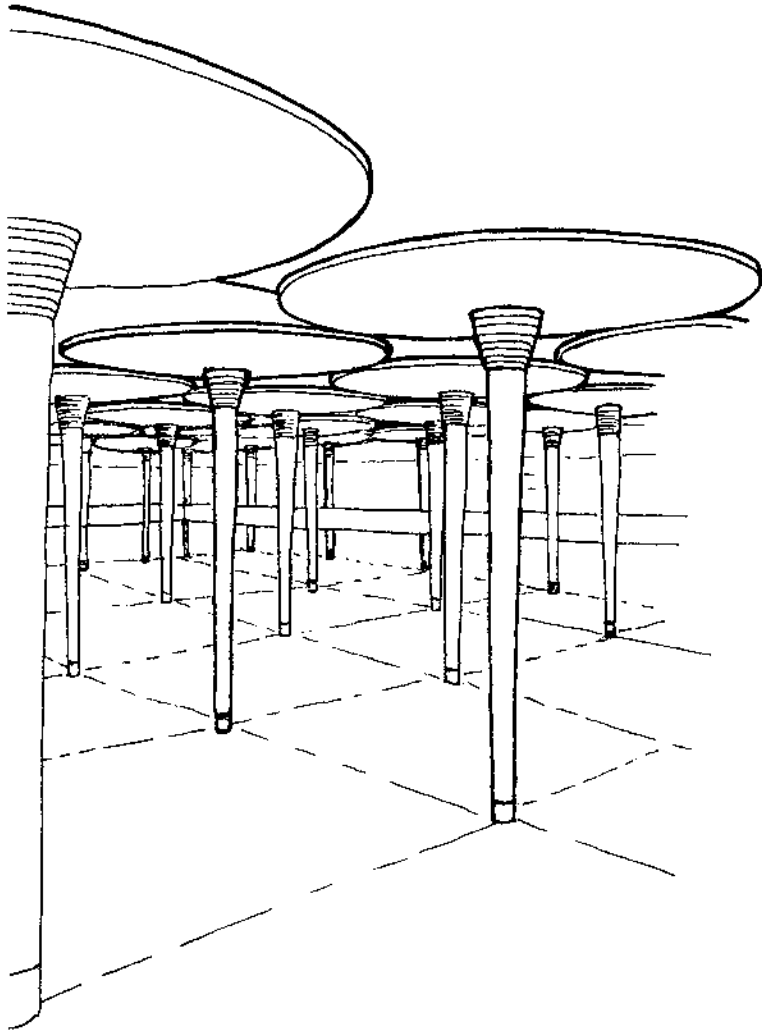
Design your own column...





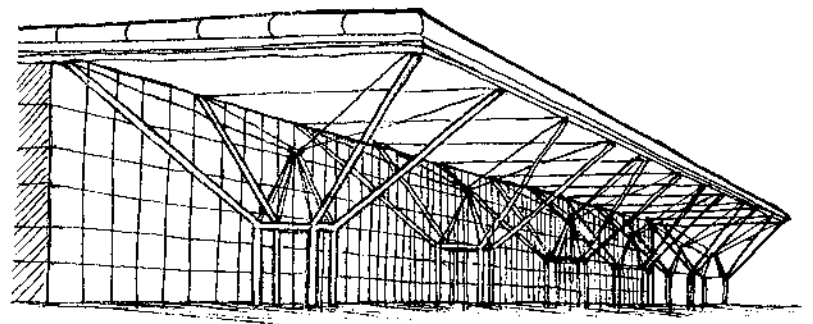
*'The Sixth Order or The End of
Architecture', Leon Krier, 1977*

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

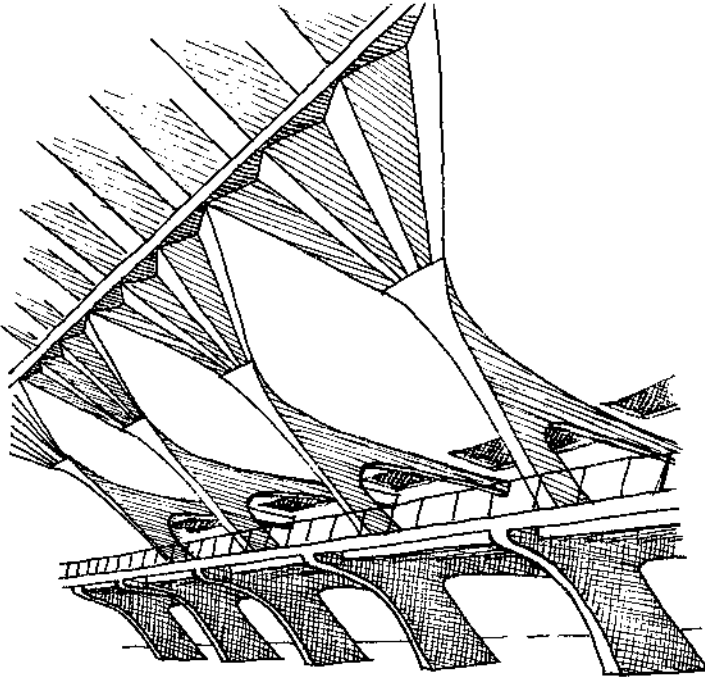


*Johnson Wax Administration Building, Wisconsin, USA.
Frank Lloyd Wright, 1939*

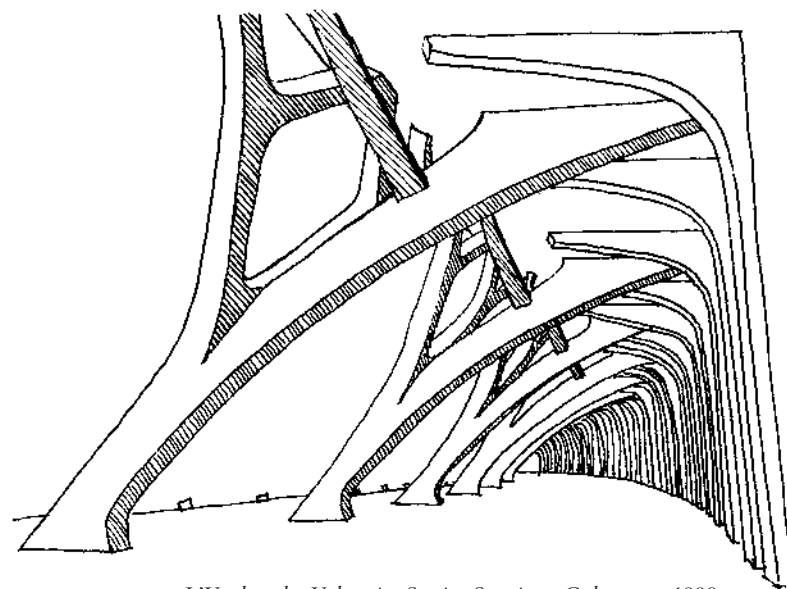
Stansted Airport, London, England. Foster+Partners, 1991



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



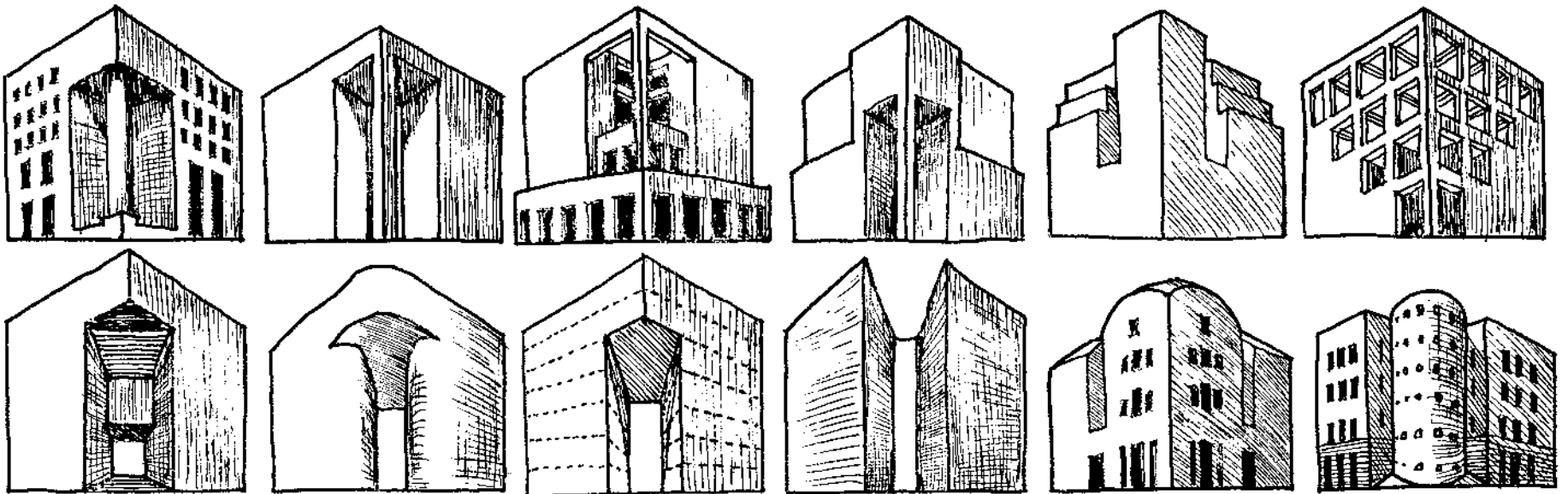
Exhibition Hall, Turin, Italy. Pier Luigi Nervi, 1949

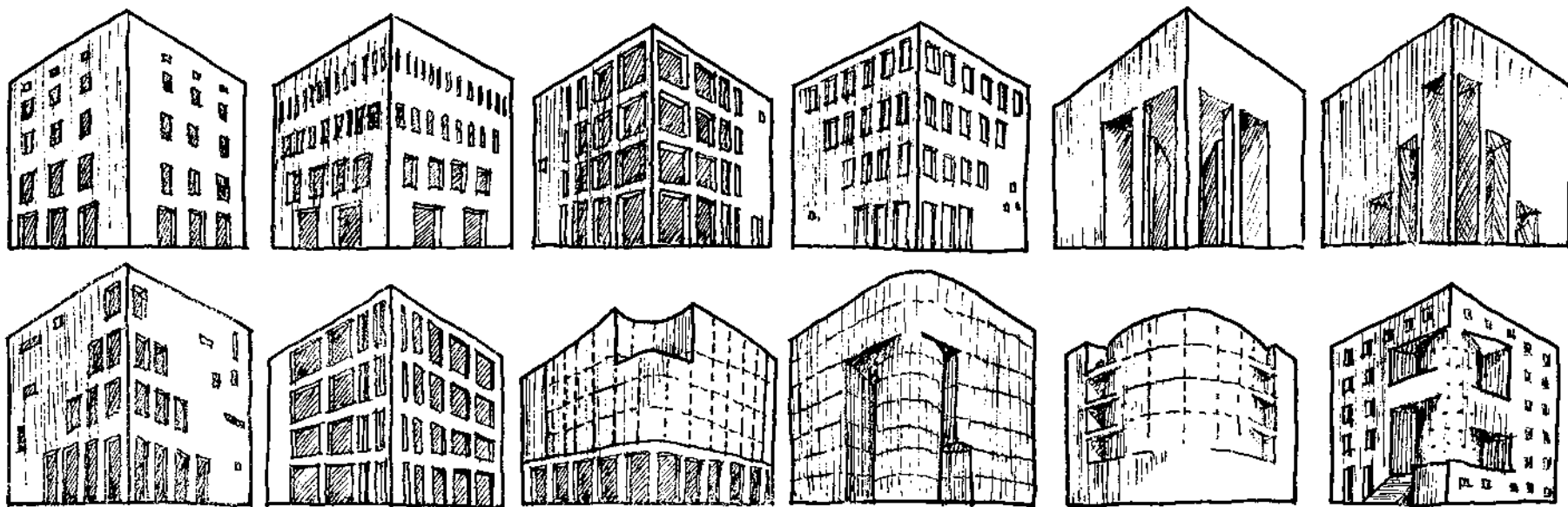


L'Umbracle, Valencia, Spain. Santiago Calatrava, 1998

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...

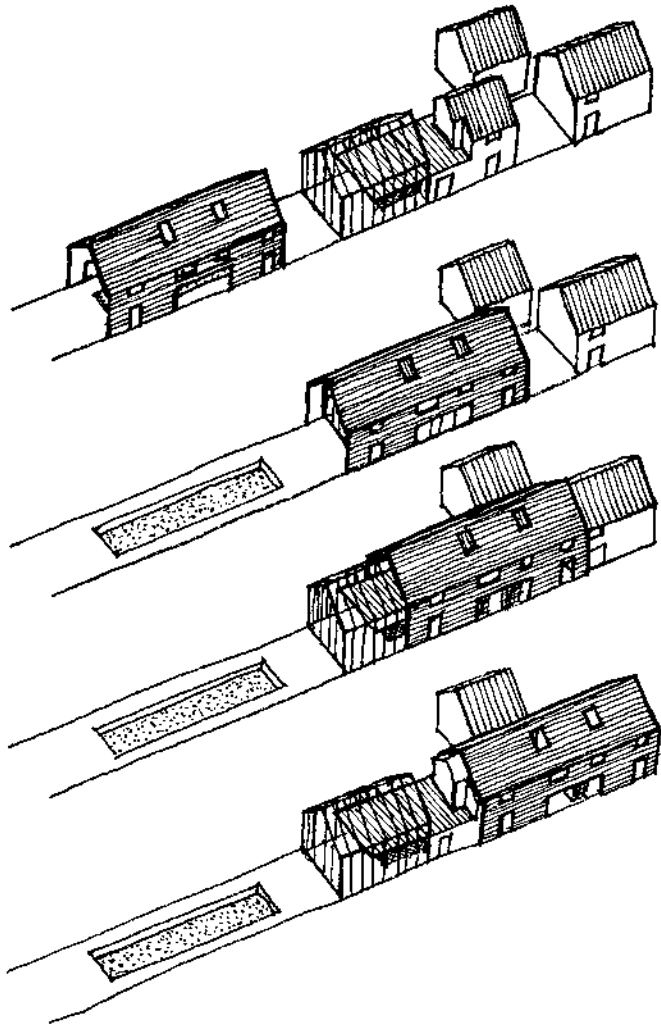


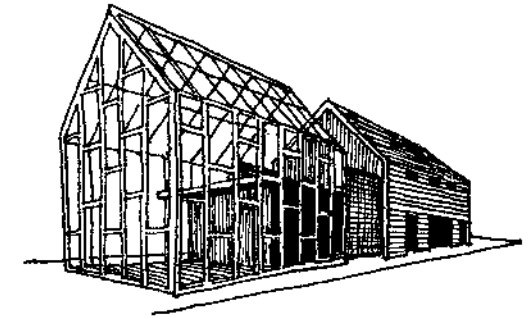
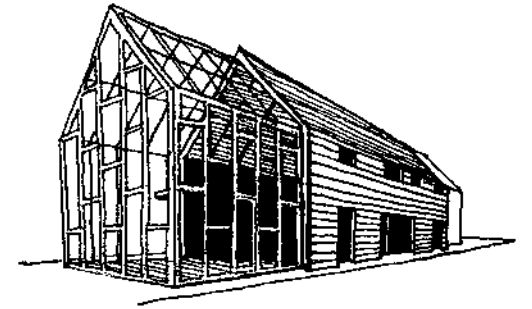
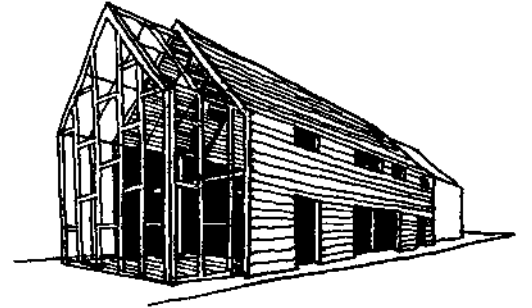
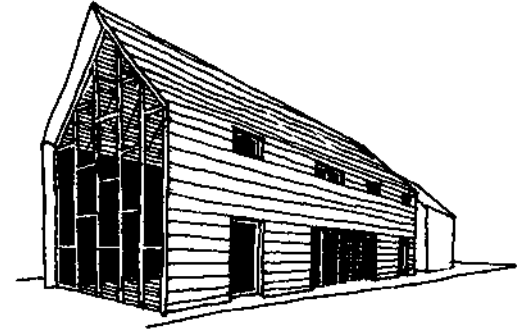


Kinetic buildings 1: The Sliding House by dRMM

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.

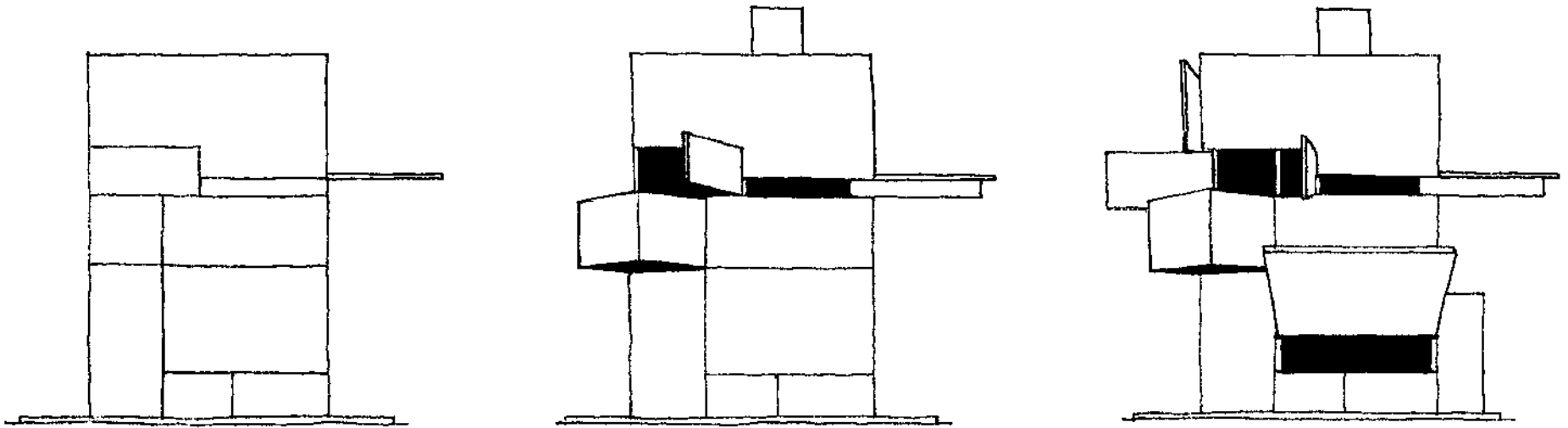
Design a simple structure that interacts with the sun...



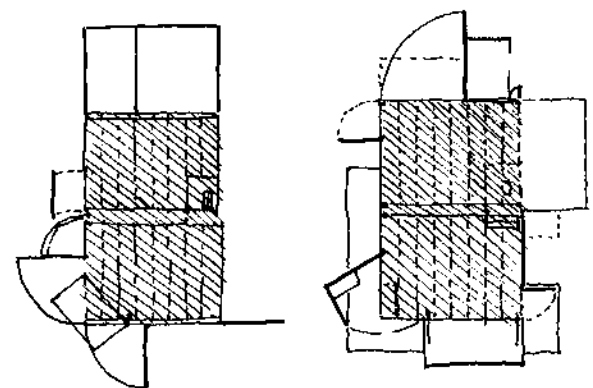


Kinetic buildings 2: Here is an example of a building that is 'in a state of permanent transformation'. Its concept is that of a simple timber box that folds open and reveals its interior. The 'GucklHupf' is used as a contemplative space as well as a place for musical performances and poetry readings.

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



GucklHupf, Mondsee, Austria. Hans Peter Wörndl, 1993



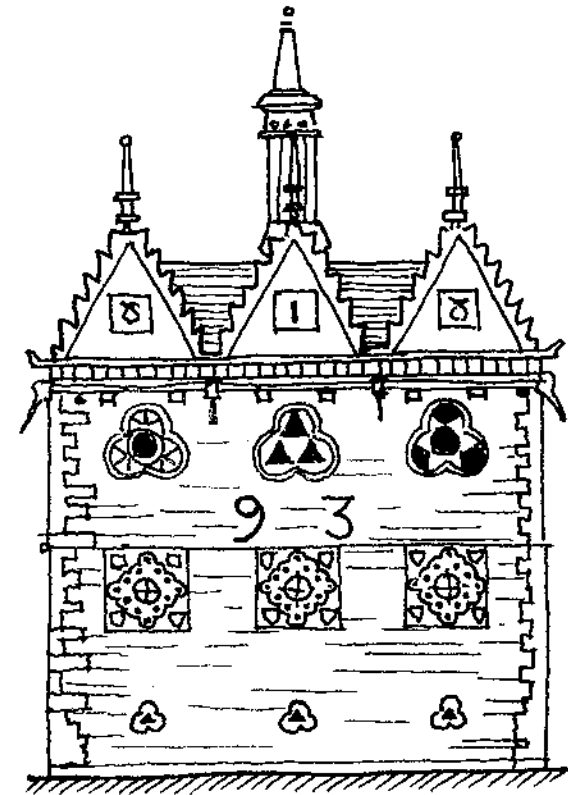
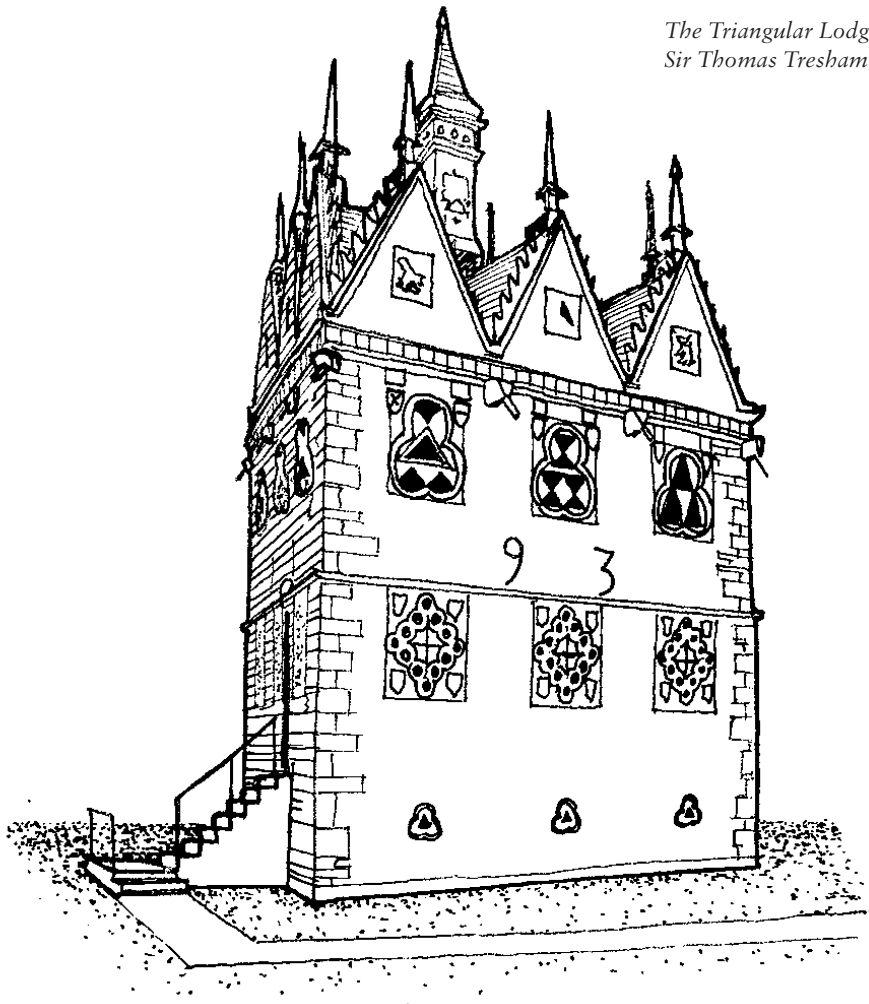
Plan drawings

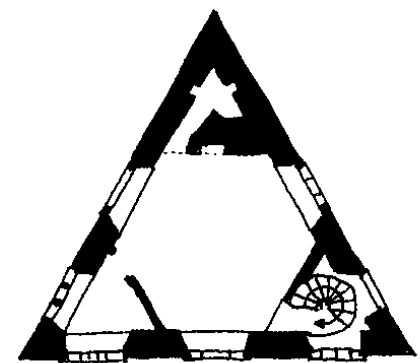
The Triangular Lodge is a folly, and its design was a reflection of the architect's Roman Catholic faith, the number three symbolizing the Holy Trinity. This number is expressed throughout; there are three floors, three trefoil windows, three triangular gables on each side, a triangular plan, and so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

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



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

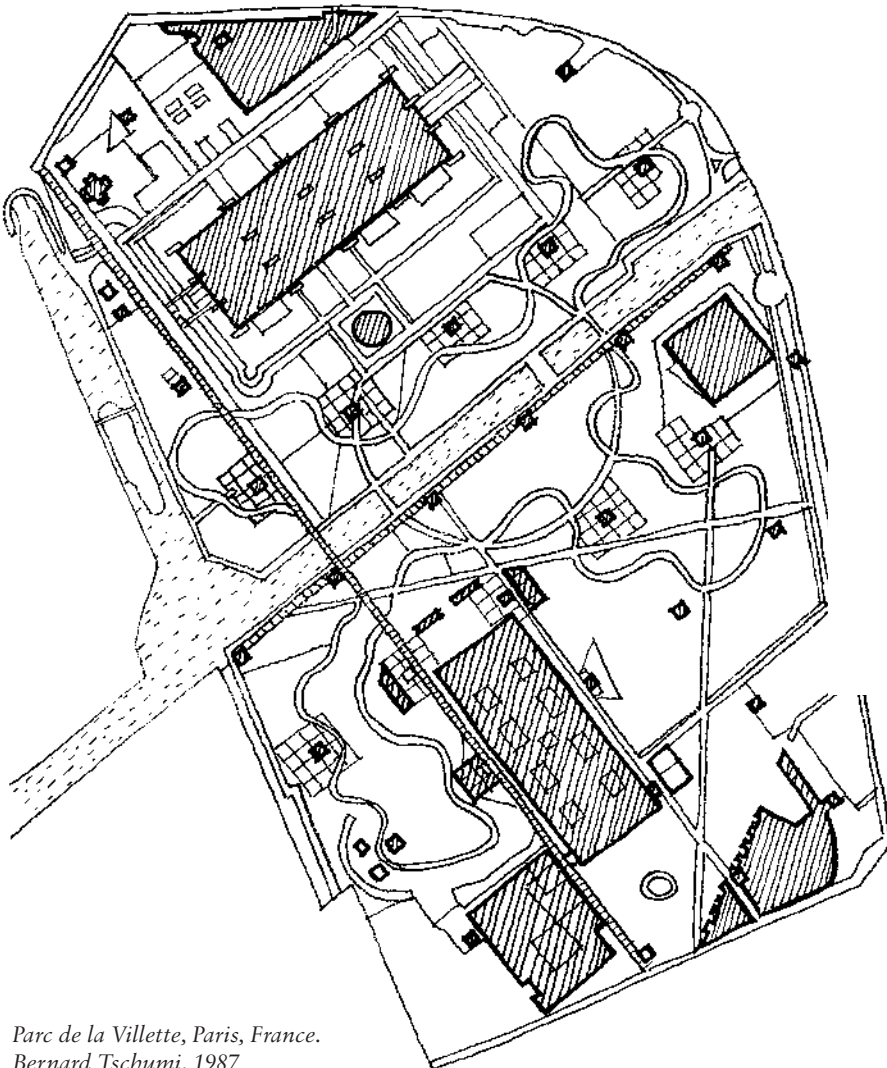




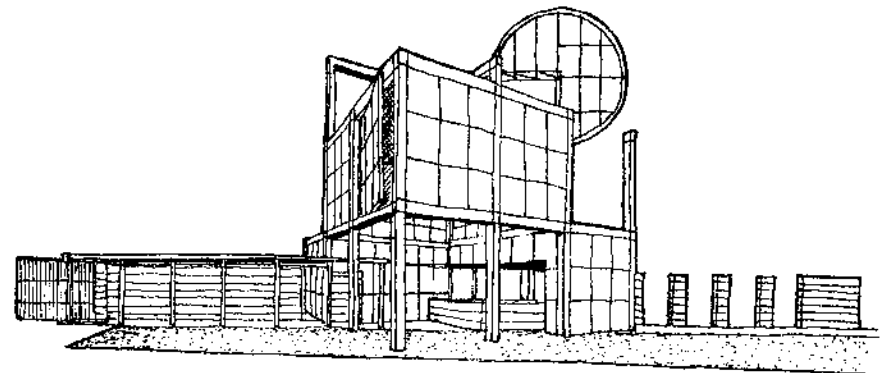
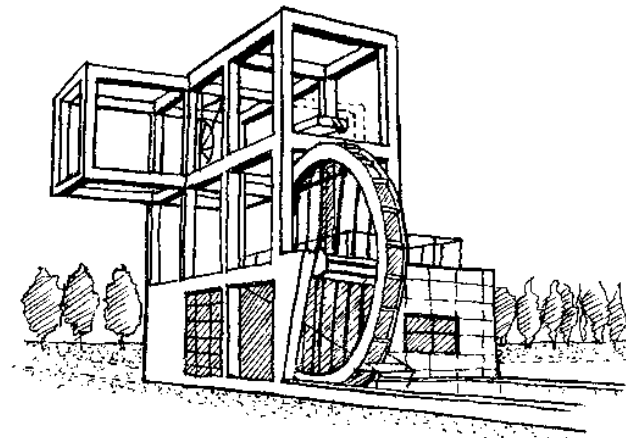
Plan drawing

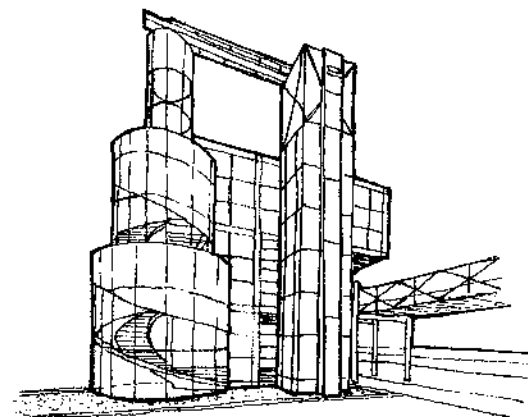
The design of one of the largest parks in Paris has many **follies** laid out in a grid. The 35 follies were the architect's device for organizing and orientating visitors within the landscape. The follies were designed in the form of partly open red frameworks, waiting for both functions and events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

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



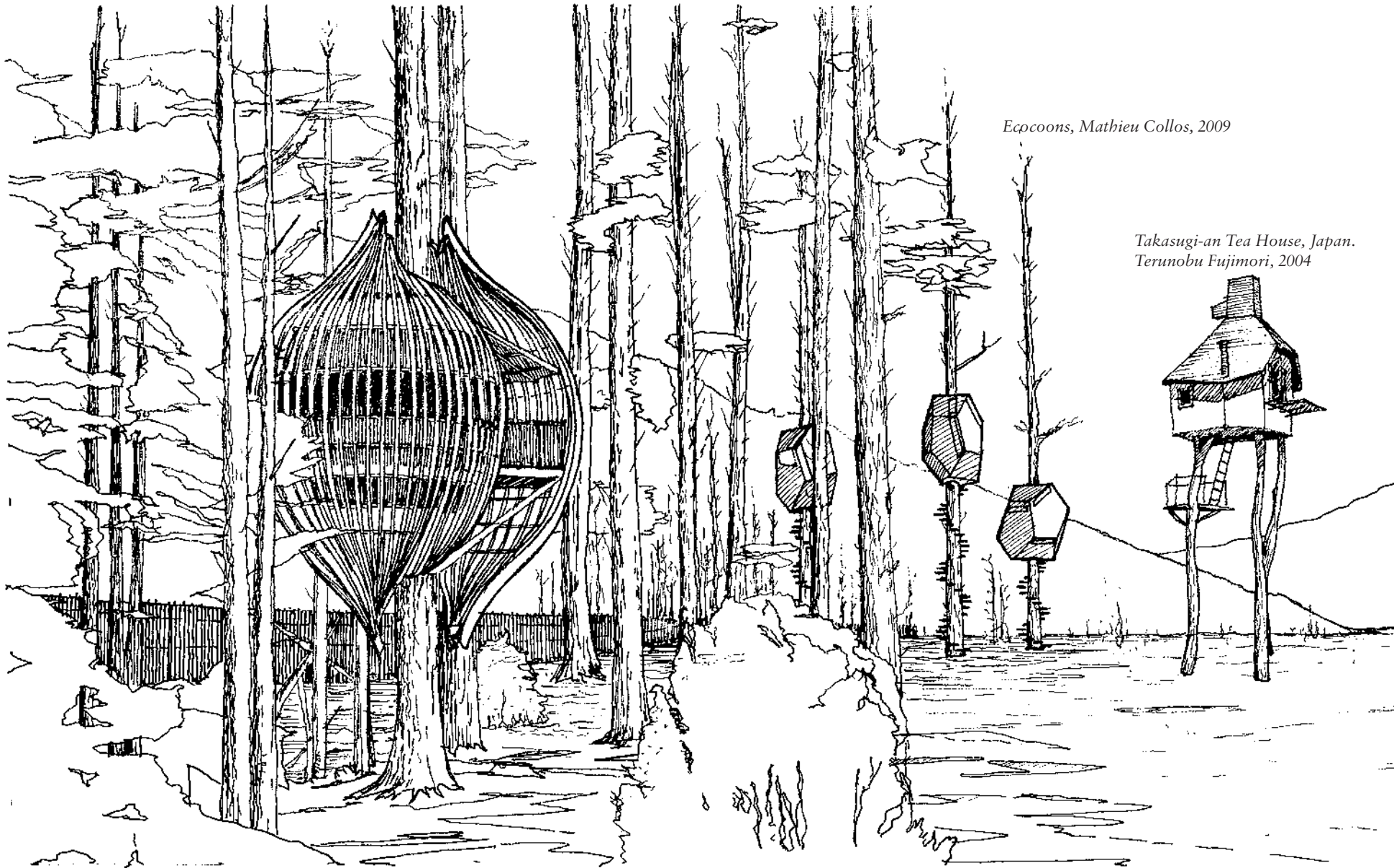
*Parc de la Villette, Paris, France.
Bernard Tschumi, 1987*





Here are some examples of unusual **tree houses.**

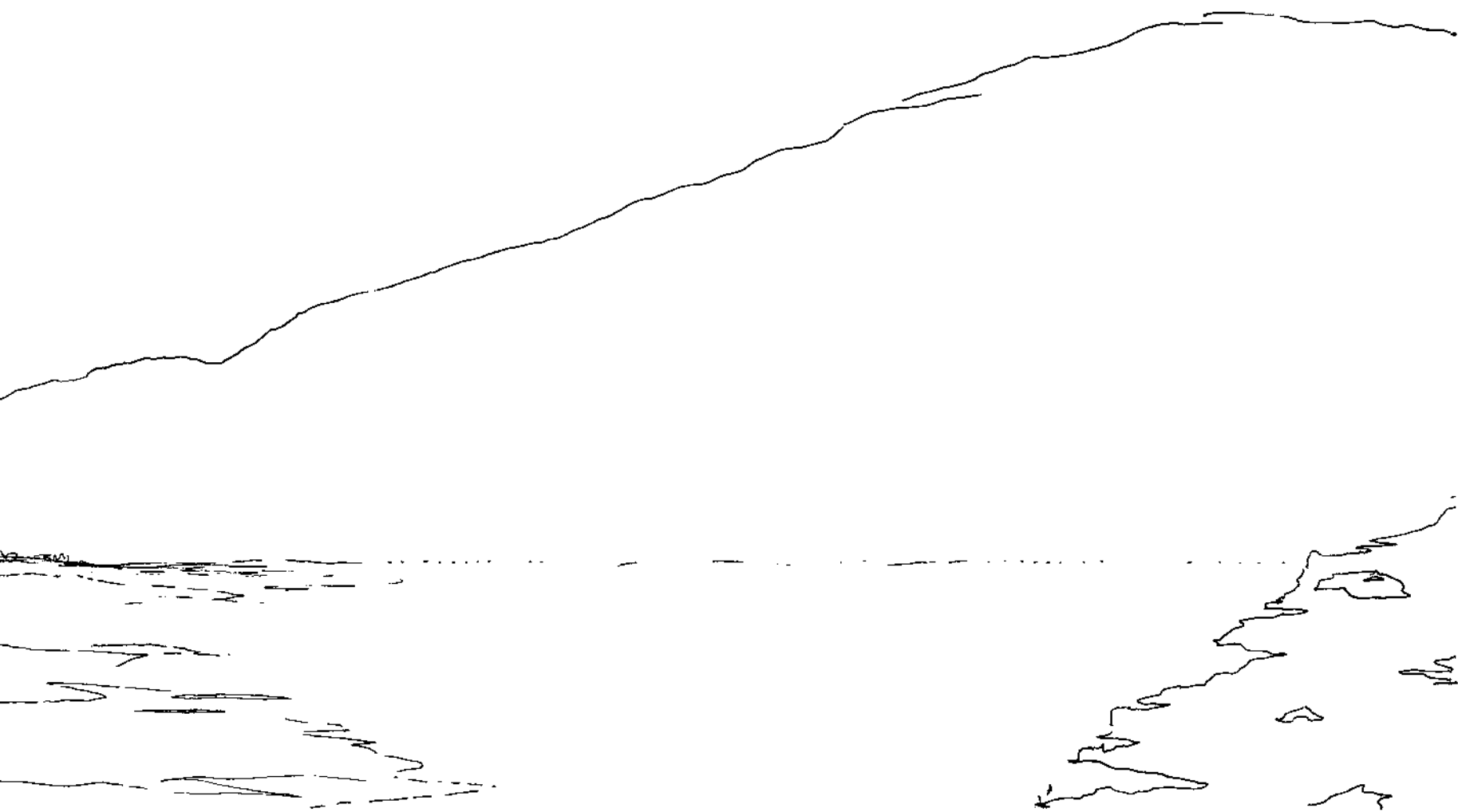
Draw the rest of the forest and locate the design of your tree house within it...



Ecocoons, Mathieu Collos, 2009

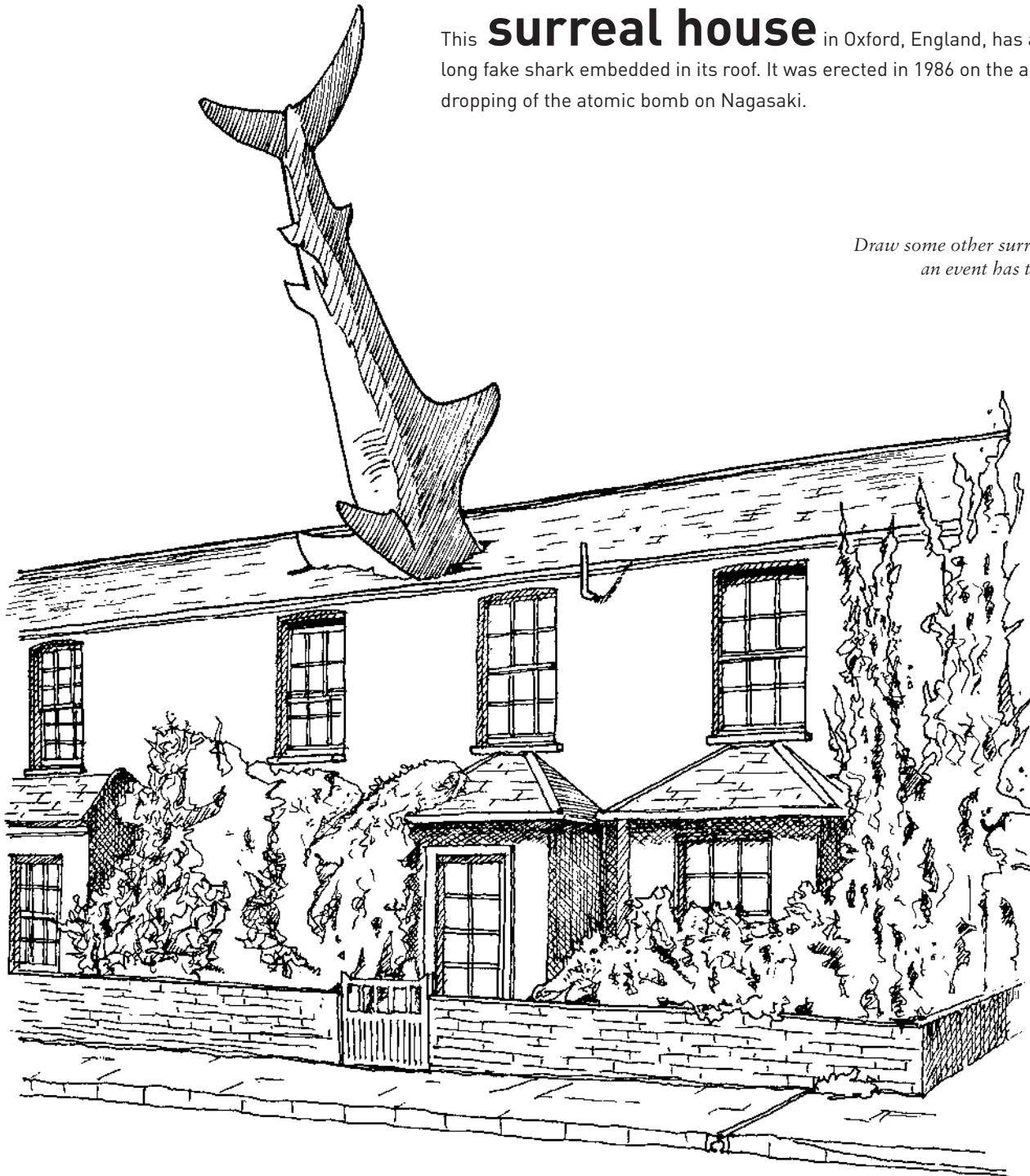
*Takasugi-an Tea House, Japan.
Terunobu Fujimori, 2004*

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



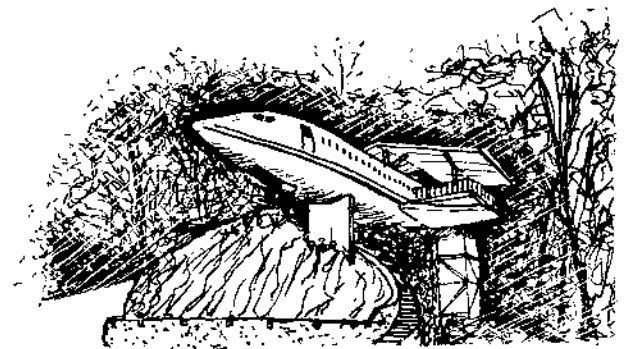
This **surreal house** in Oxford, England, has a 7.5m (25ft)-long fake shark embedded in its roof. It was erected in 1986 on the anniversary of the dropping of the atomic bomb on Nagasaki.

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

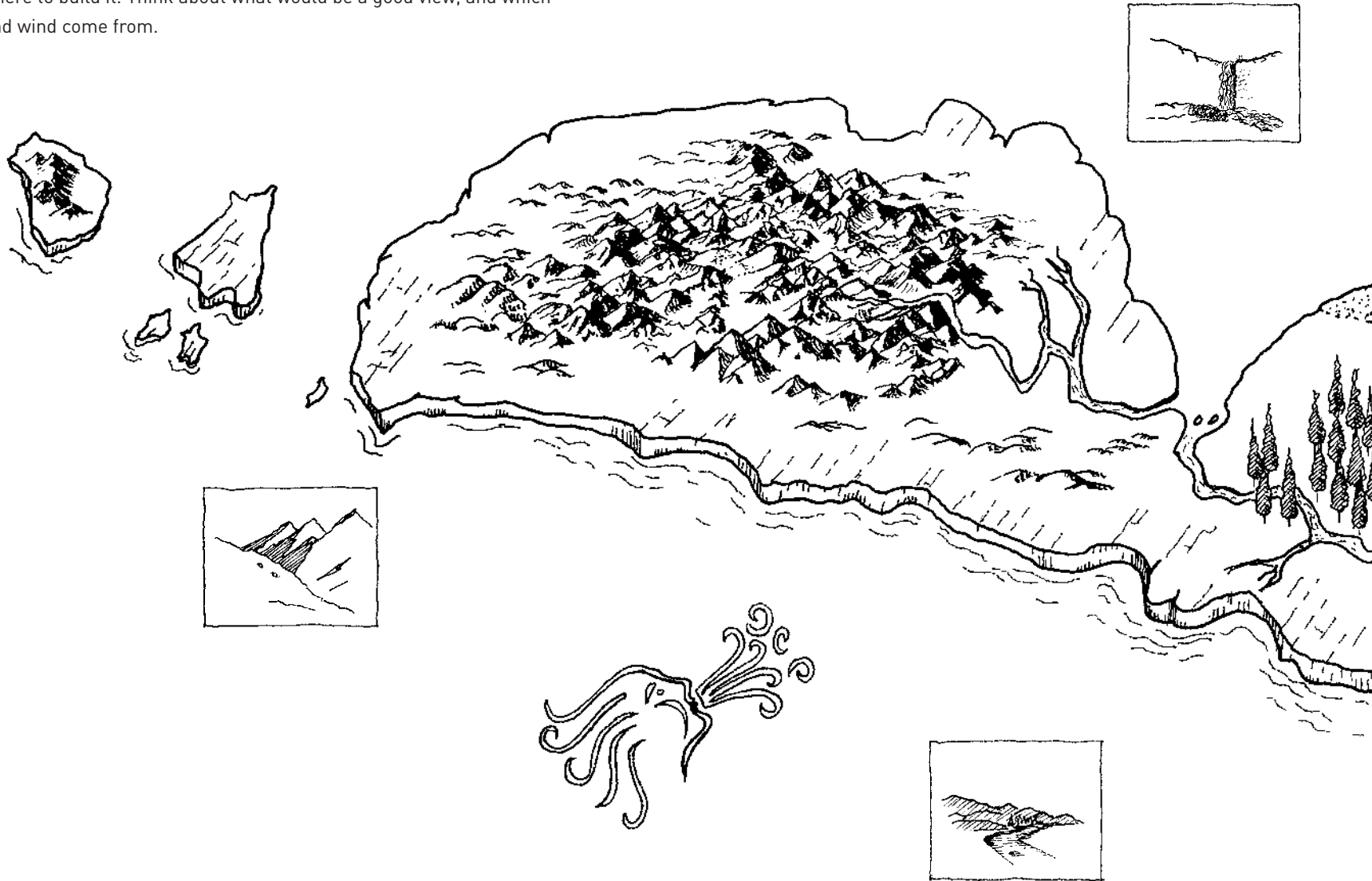


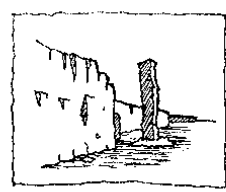
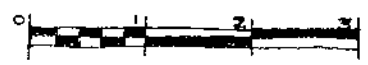
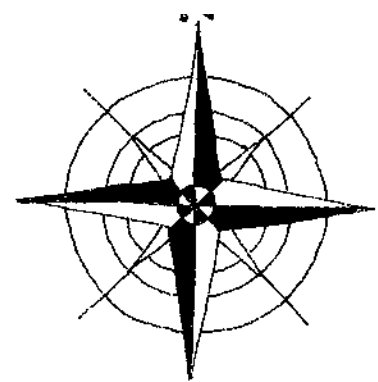
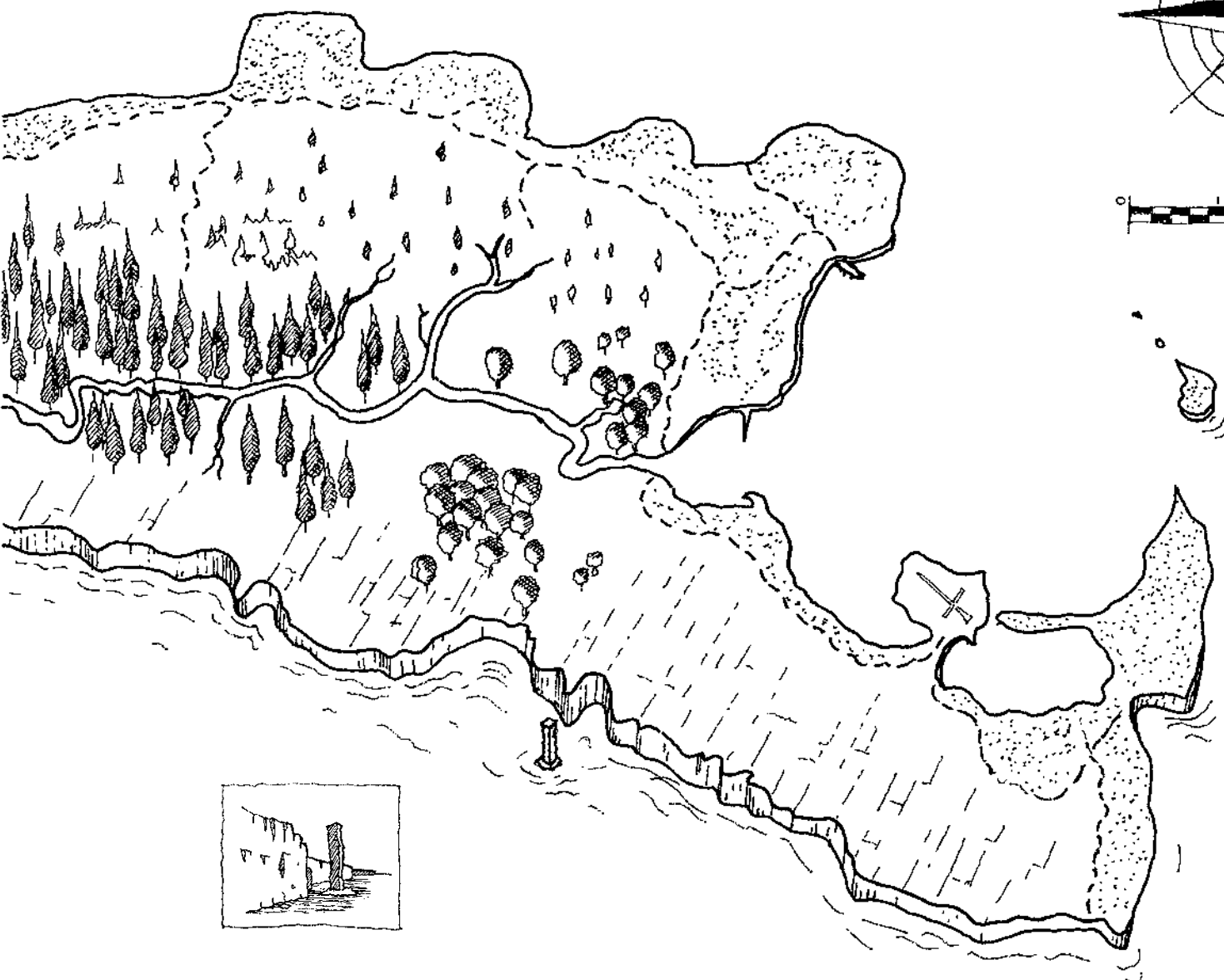
*'The Headington Shark' sculpture,
John Buckley, 1986*

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

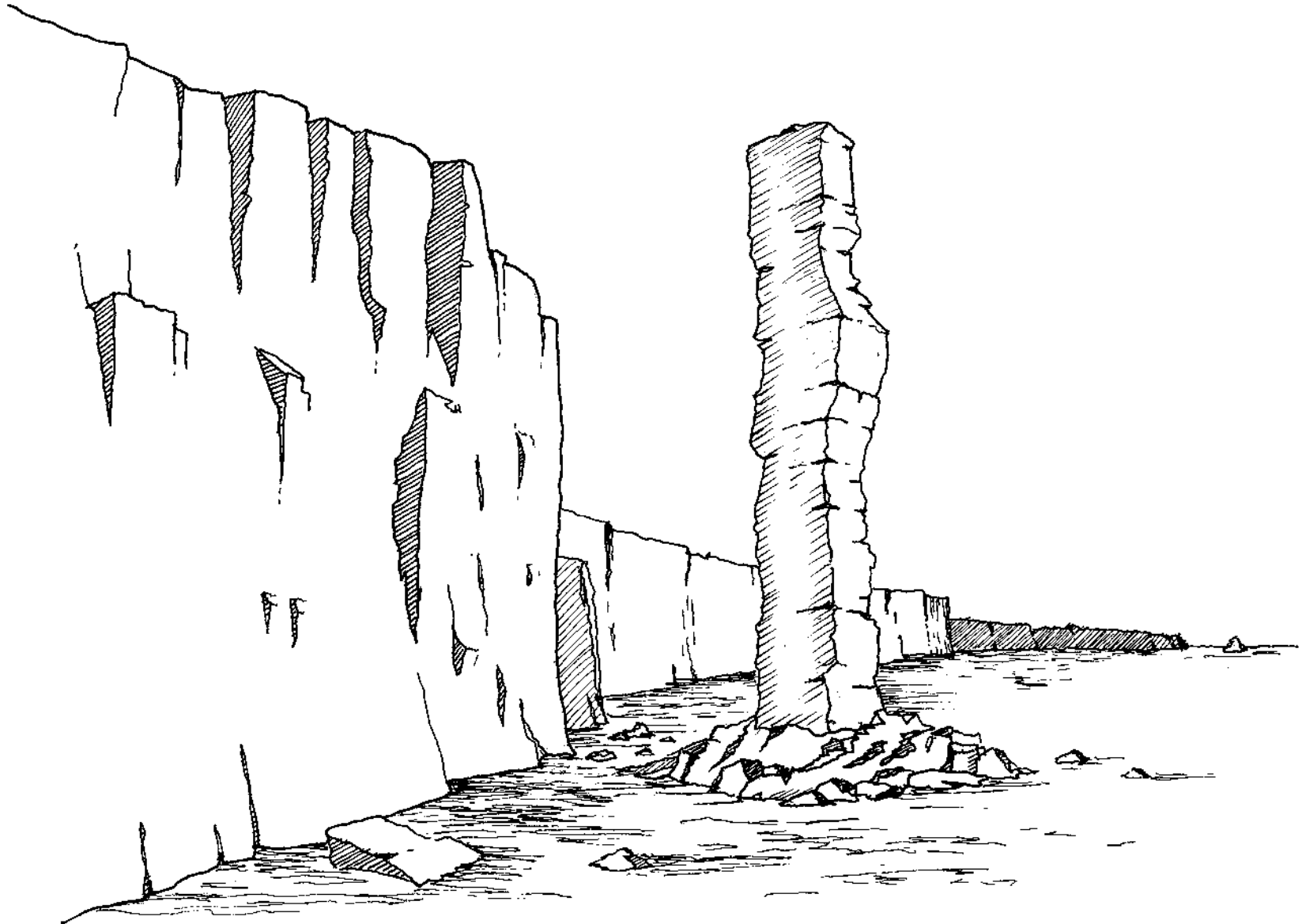


Your wealthy client wants to build a house on his **private island** but he's not sure where to build it. Think about what would be a good view, and which direction the sun and wind come from.

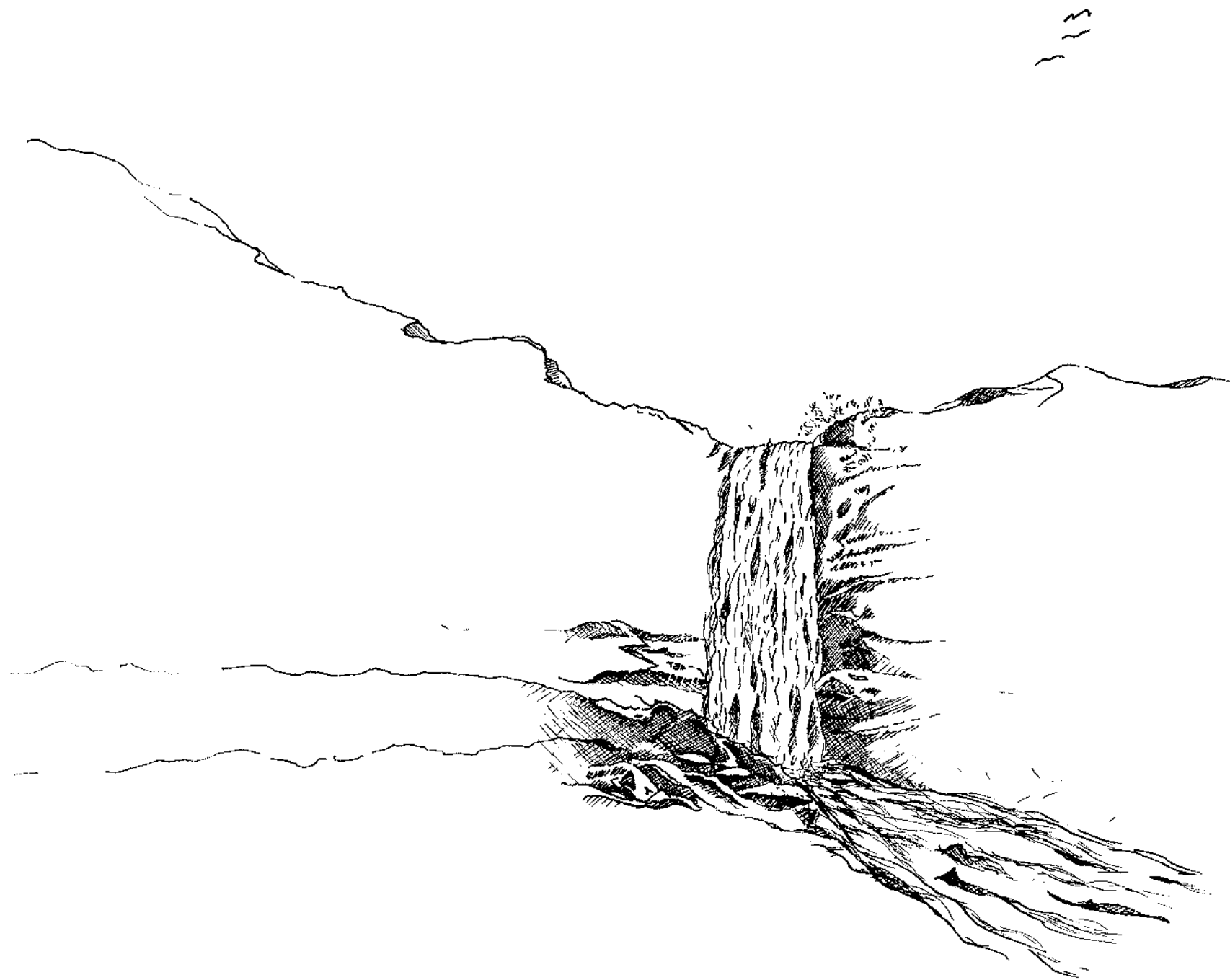




Design a house on a cliff...



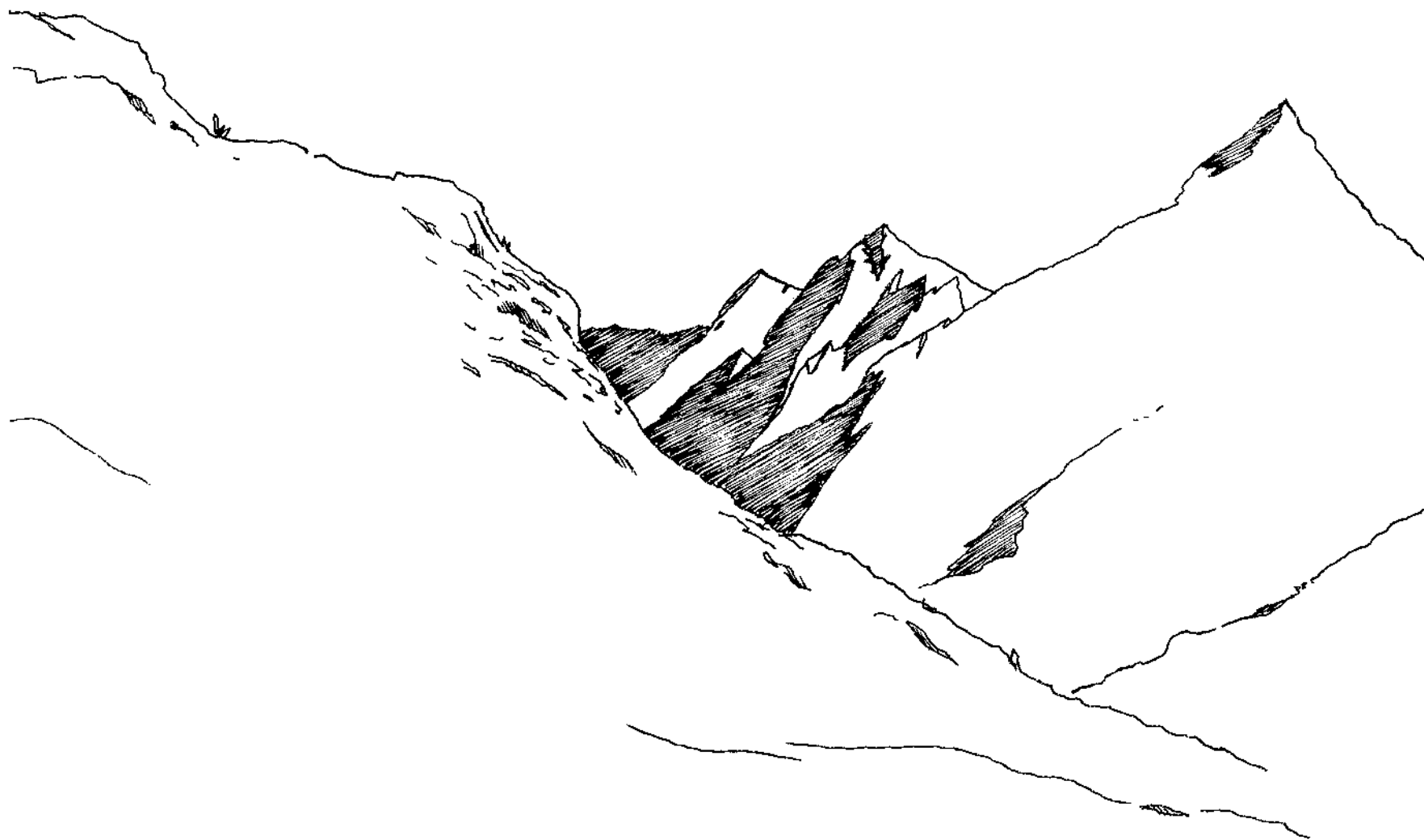
and by a waterfall...



Draw a house by a river...



or in the mountains...



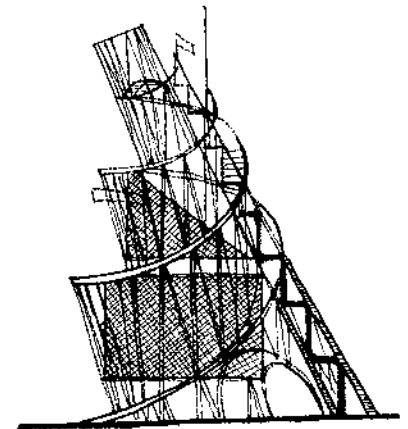
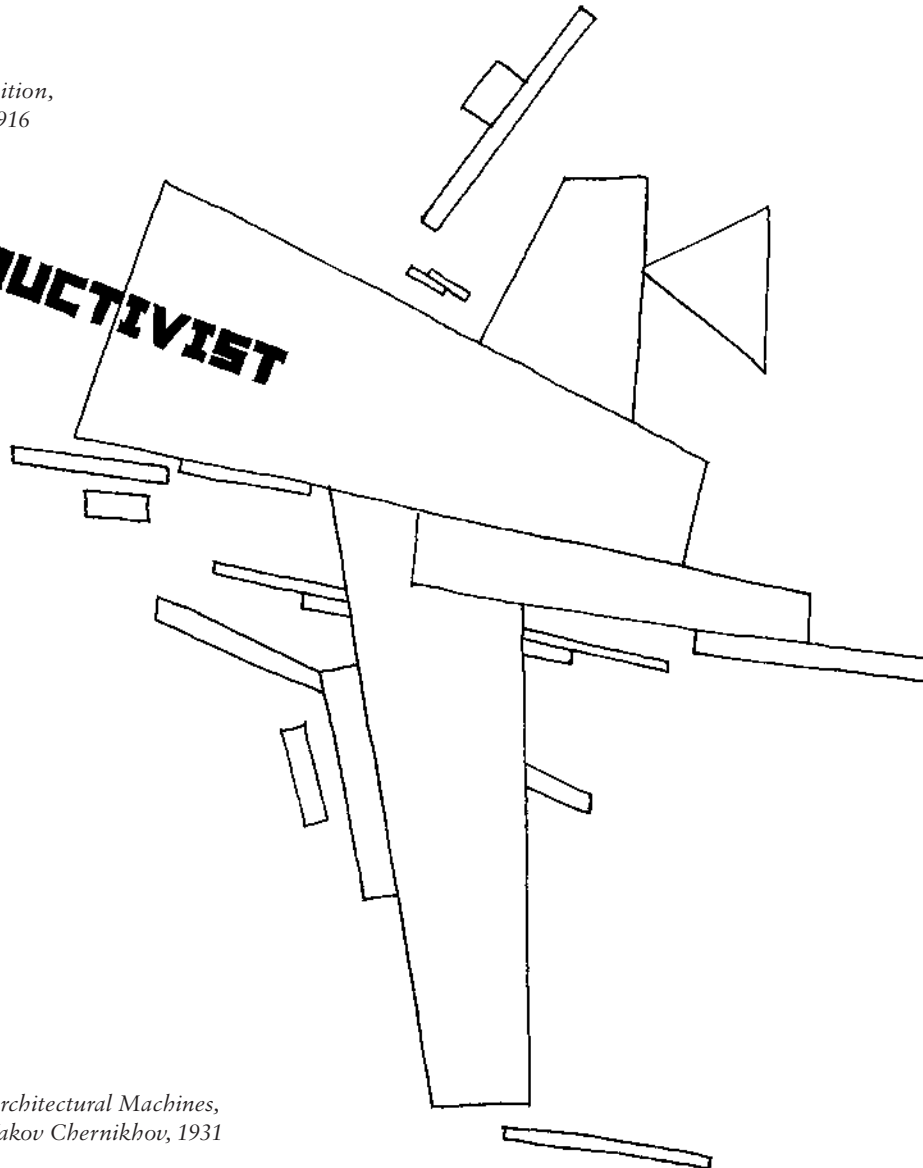
The **Constructivist** movement emerged in Russia after the 1917 Revolution. Its aim was to create an aesthetic that reflected the new industrial power of the country. Monuments like the 'Tatlin Tower' were designed using steel to celebrate 20th-century industrialization.

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

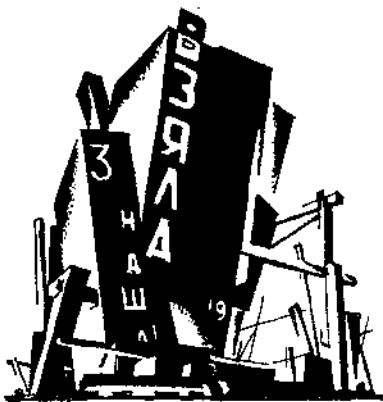


*Suprematist Composition,
Kazimir Malevich, 1916*

CONSTRUCTIVIST

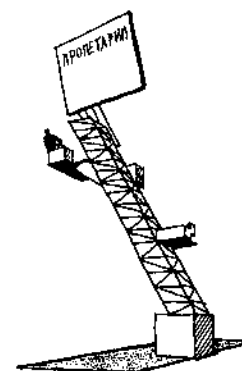


*The Monument to the Third International,
Vladimir Tatlin, 1919*

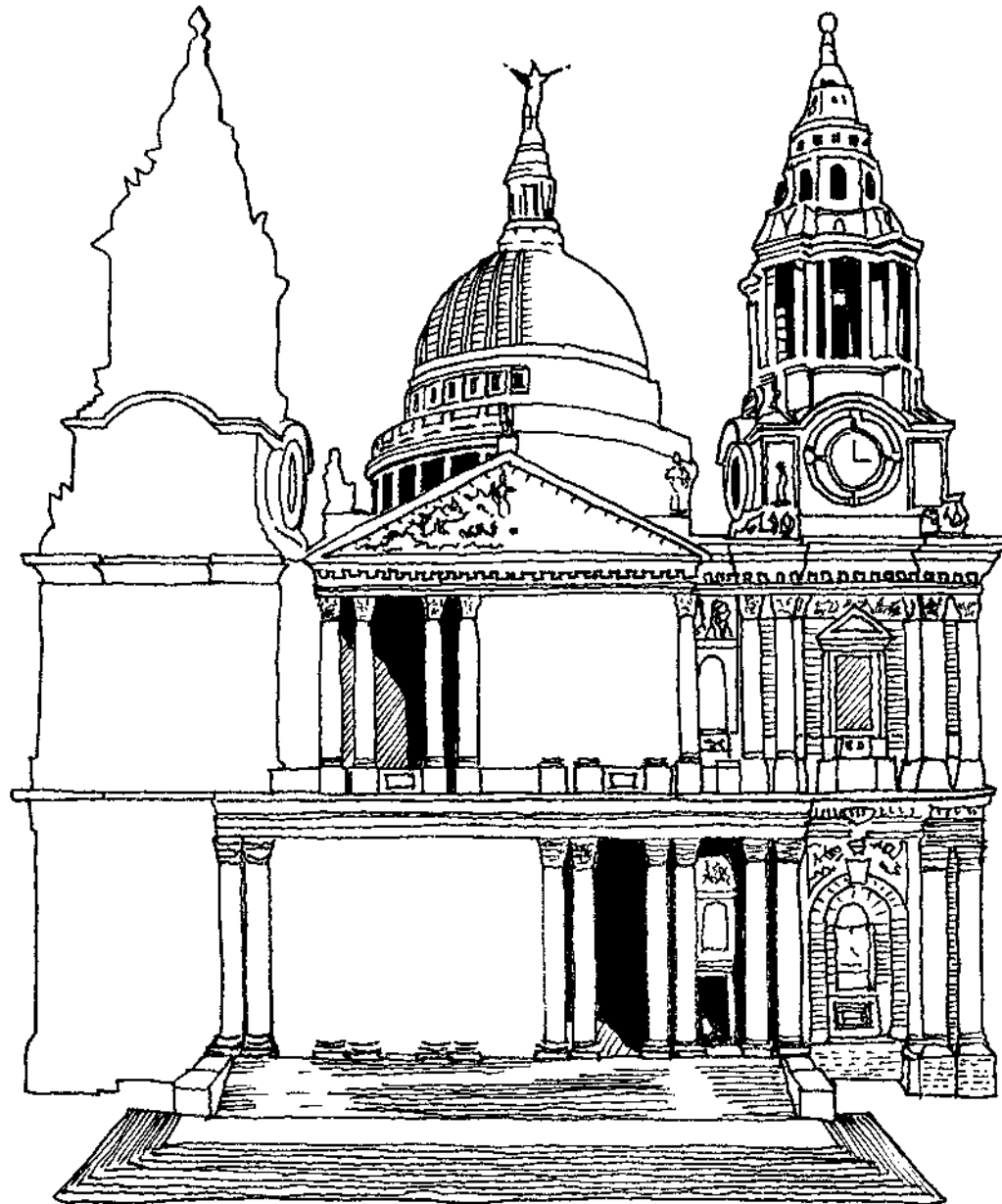


*Architectural Machines,
Yakov Chernikhov, 1931*

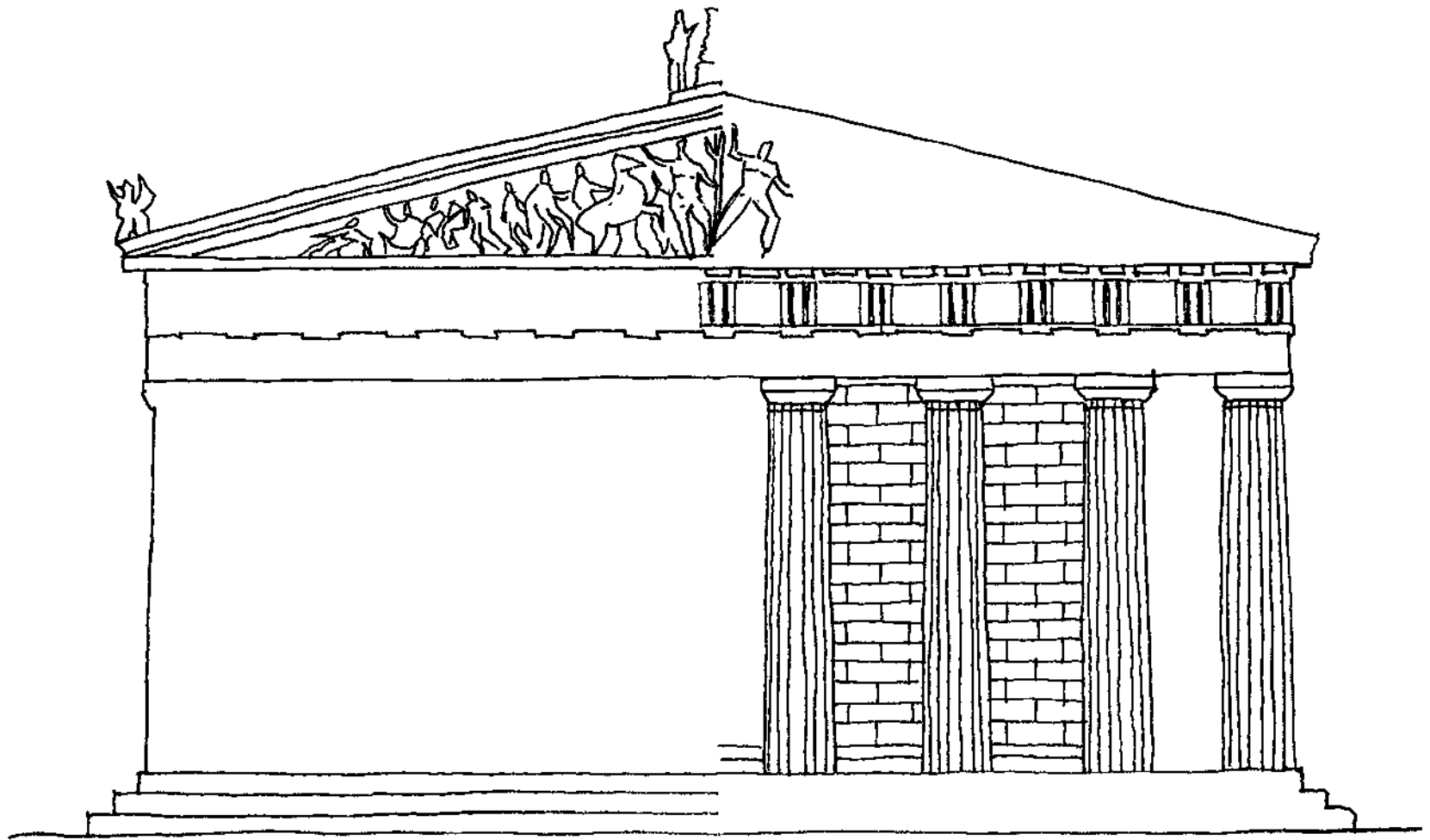
Lenin Tribune, El Lissitzky, 1920



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



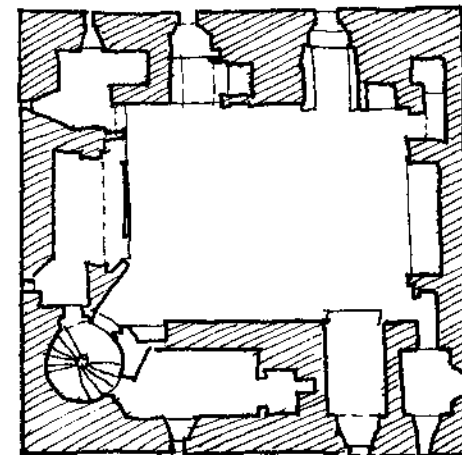
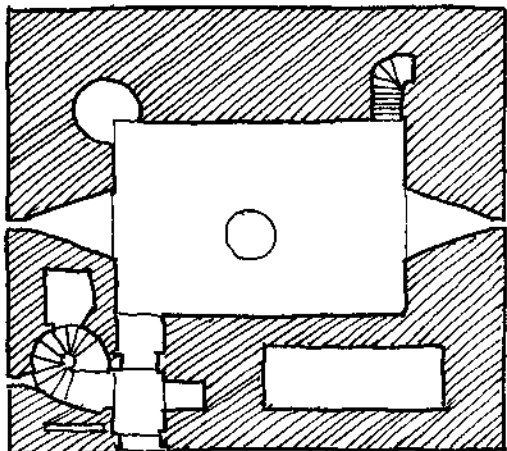
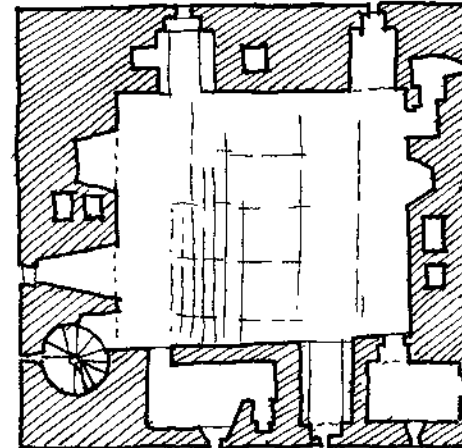
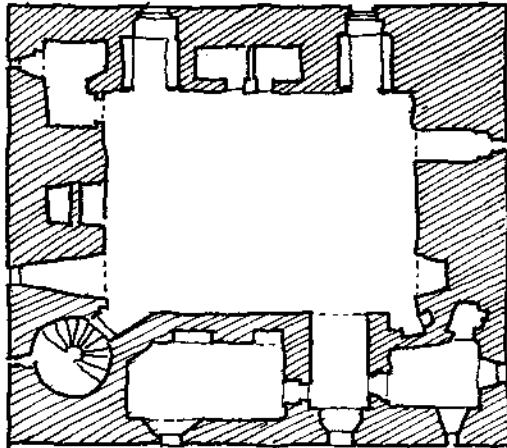
*St Paul's Cathedral, London,
England. Sir Christopher Wren, 1710*



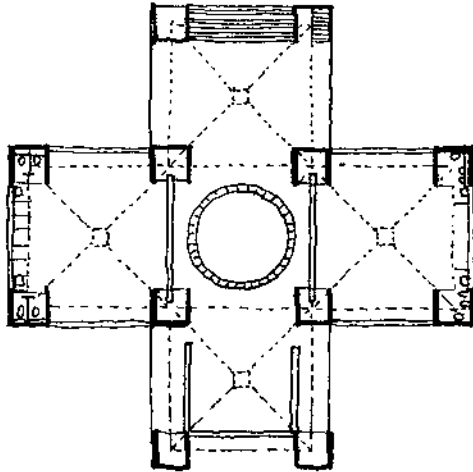
*Parthenon, Athens, Greece.
Iktinos and Kallikrates, 432BC*

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.

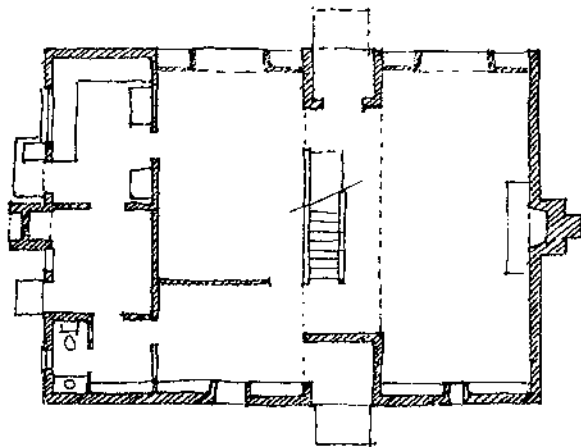
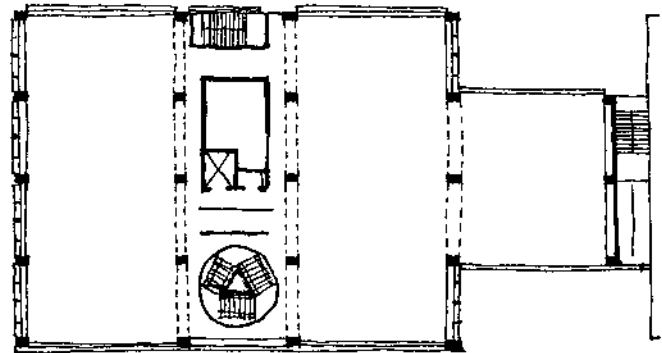
Colour in the servant spaces on these plans of four buildings by Louis Kahn. Try to identify 'servant' and 'served' spaces in other buildings...



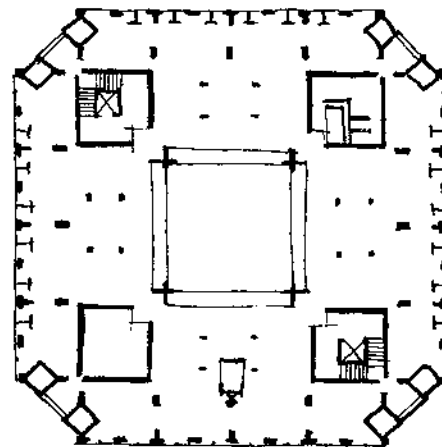
Trenton Bath House, 1955



Yale Center for British Art, 1974



Esherick House, 1961



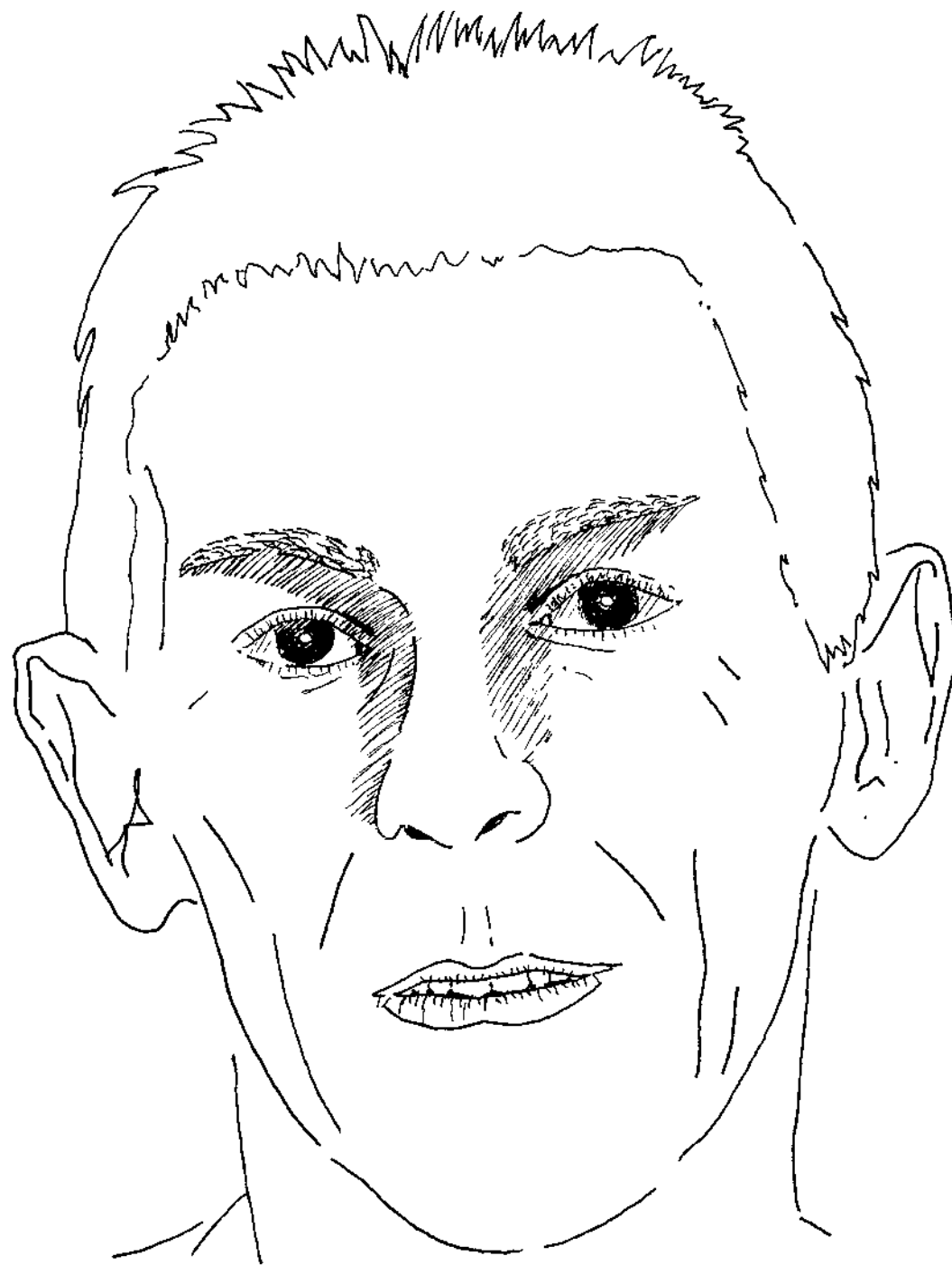
Phillips Exeter Academy Library, 1971

Many famous architects wear **glasses.**



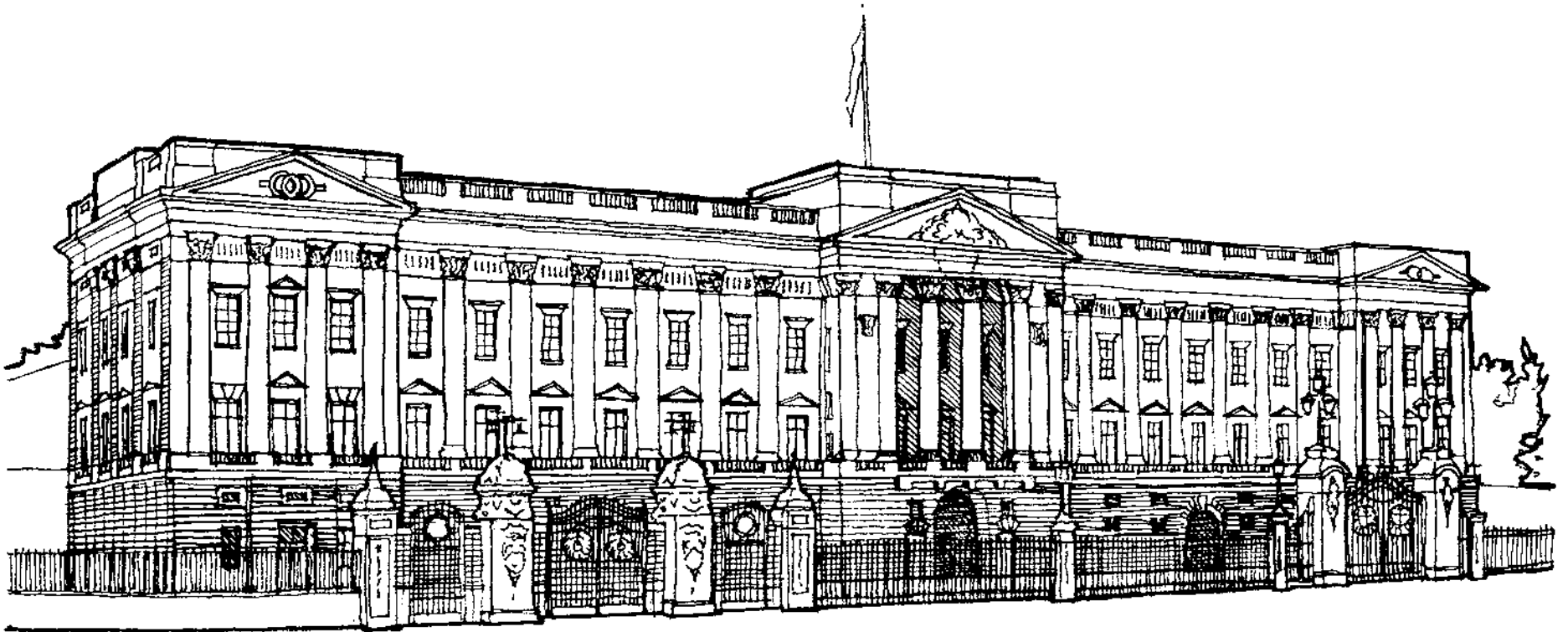
*Design a new piece of face furniture for yourself.
Cut them out, mount them on card and wear them before
taking on the next task...*



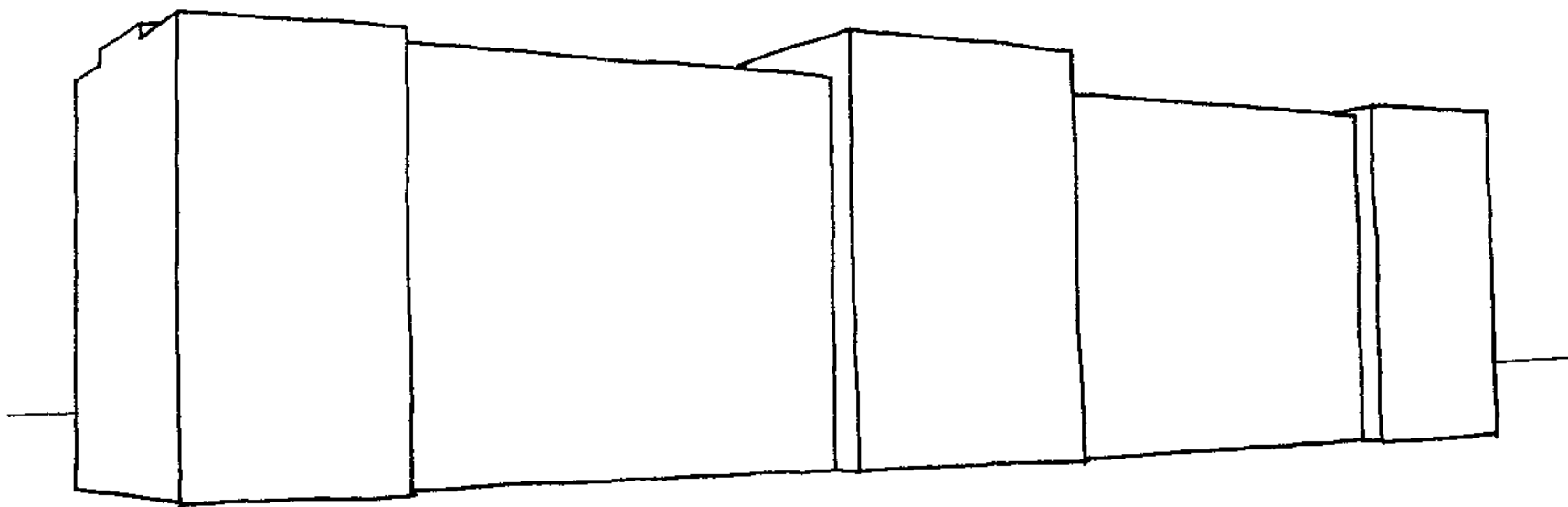


You have been appointed to **design a 'new look'**
for Buckingham Palace, the London residence of the Queen of England.

Using this outline drawing as a background, create your new design... 



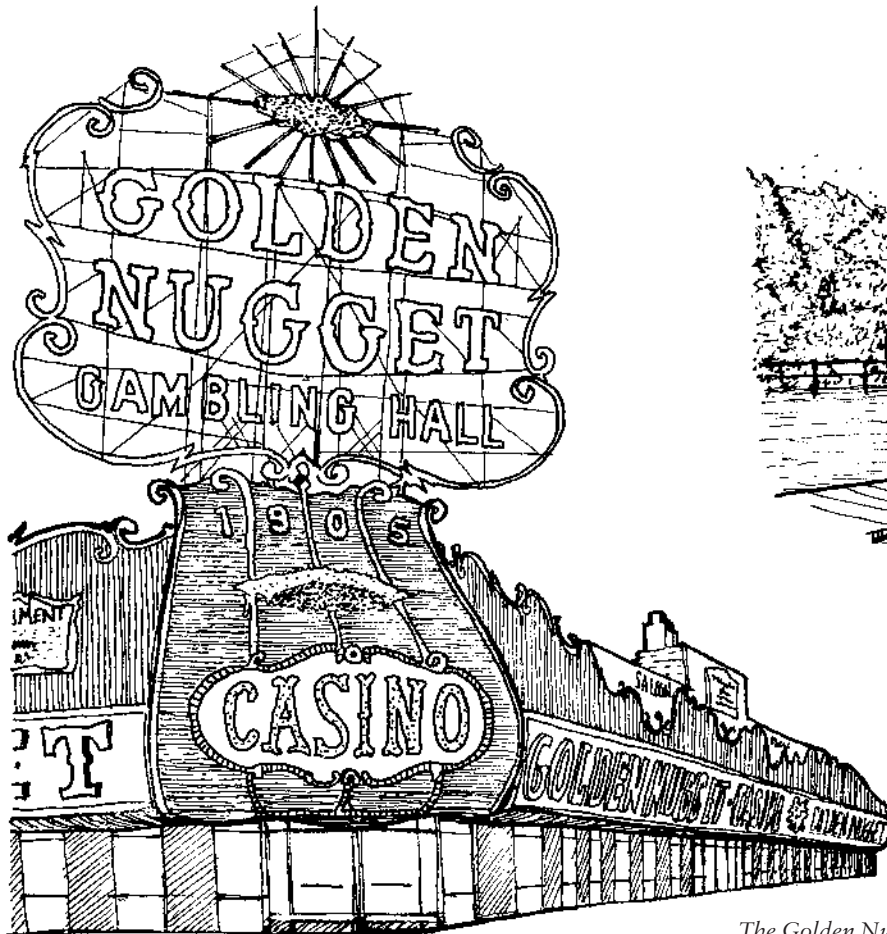
*Buckingham Palace, The City of Westminster,
England. John Nash, 1820s*



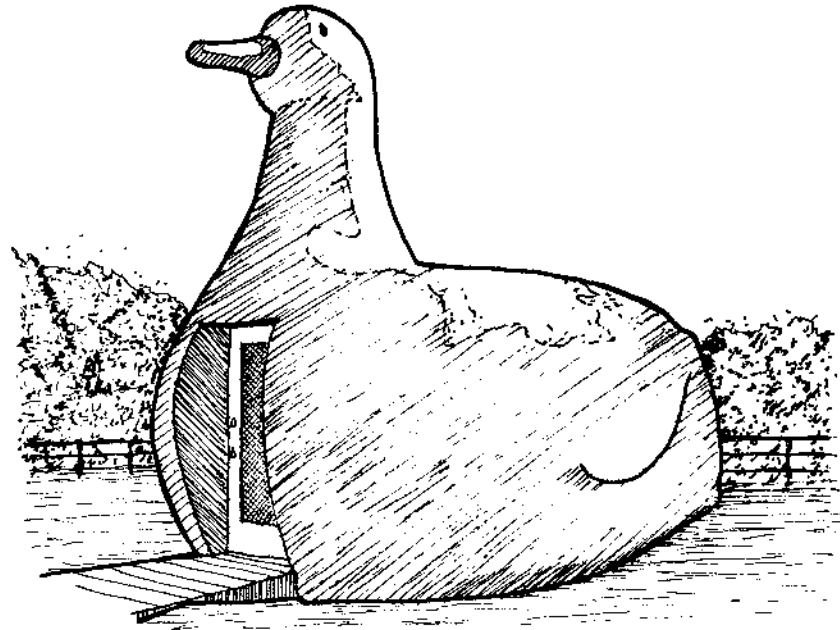
Buildings are either a **duck or decorated shed**

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...

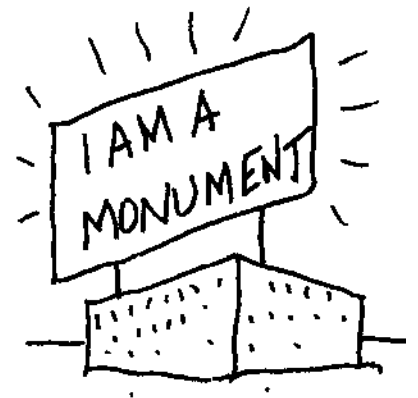


The Golden Nugget Casino, Las Vegas, USA, 1946



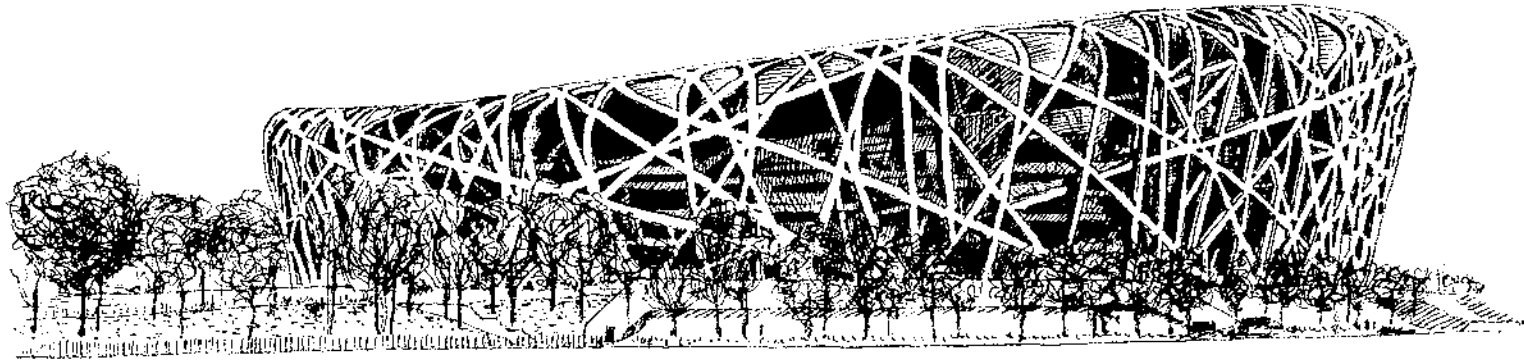
The Big Duck, Flanders, New York, USA, 1931

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



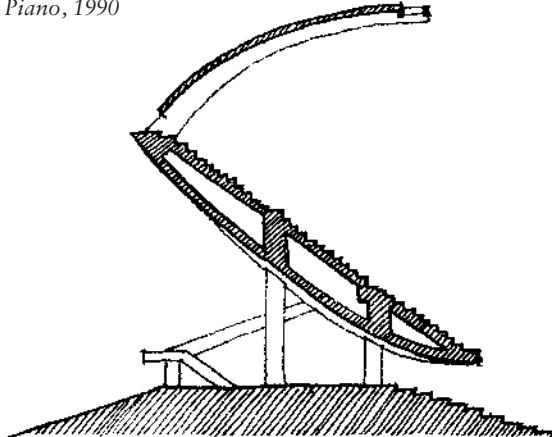
Modern **sports stadia** provide good examples of a 'Duck' or 'Decorated Shed'. However, sometimes they can be read as both. So are the stadia shown here 'ducks' or 'decorated sheds' or both?

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

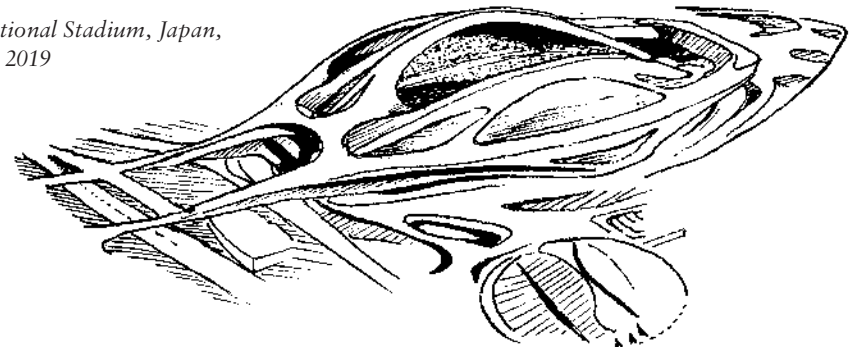


*National Stadium (known as the 'Bird's Nest'), Beijing, China.
Herzog and de Meuron, 2008*

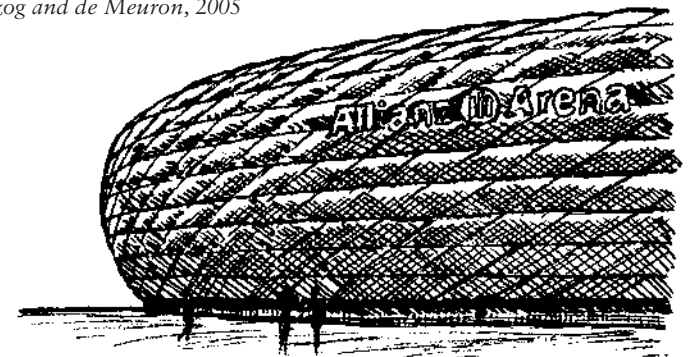
*Stadio San Nicola, Bari, Italy.
Renzo Piano, 1990*



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



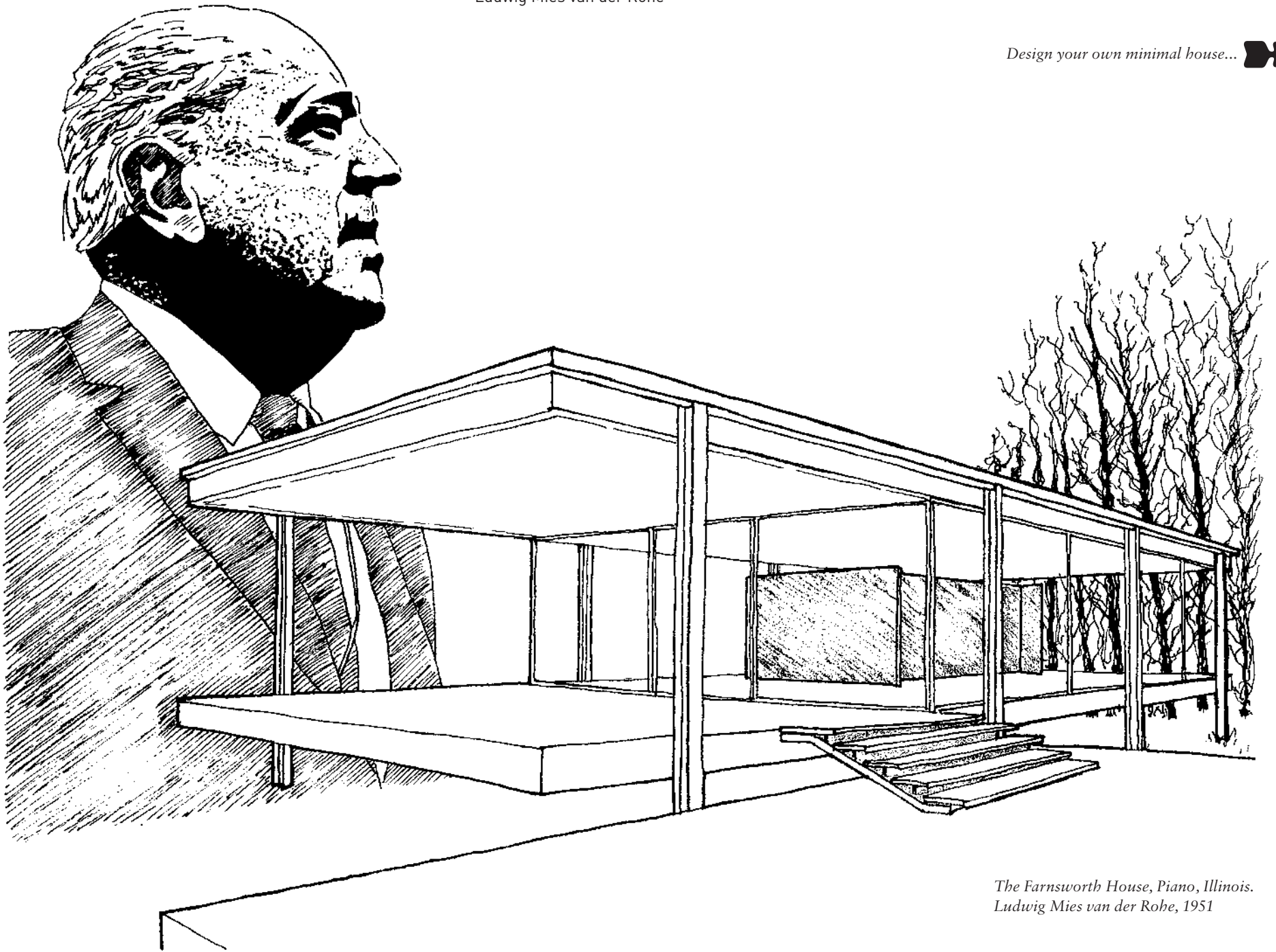
*Allianz Arena, Munich, Germany.
Herzog and de Meuron, 2005*



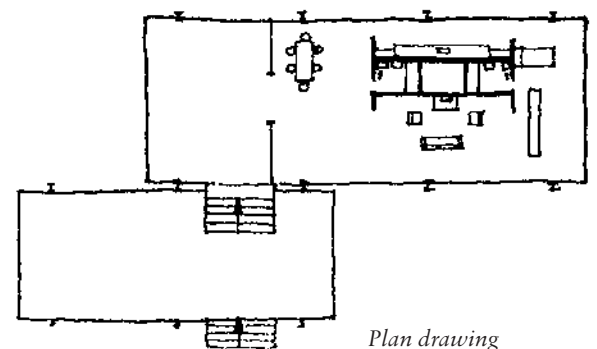
'Less is More'

— Ludwig Mies van der Rohe

Design your own minimal house... 



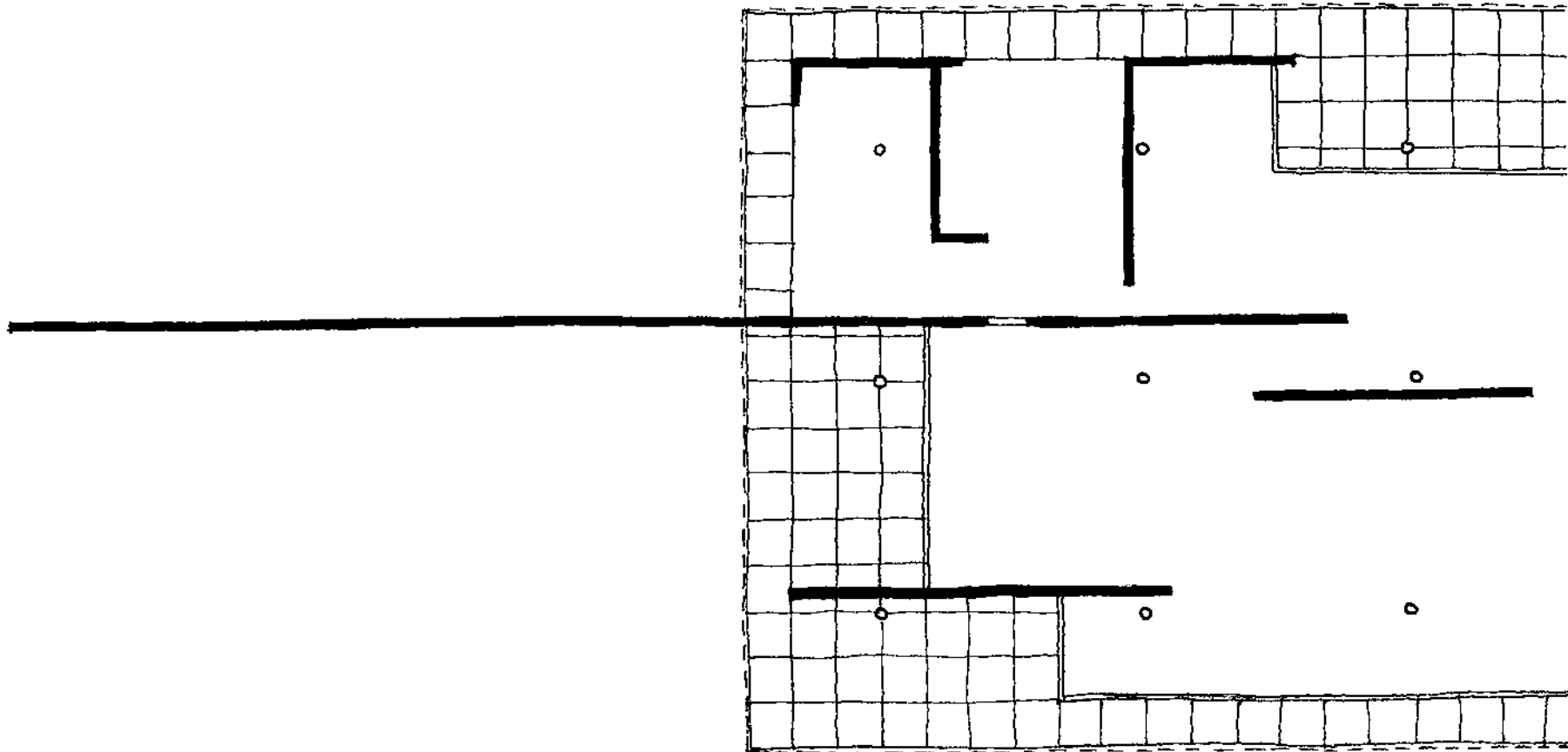
*The Farnsworth House, Plano, Illinois.
Ludwig Mies van der Rohe, 1951*

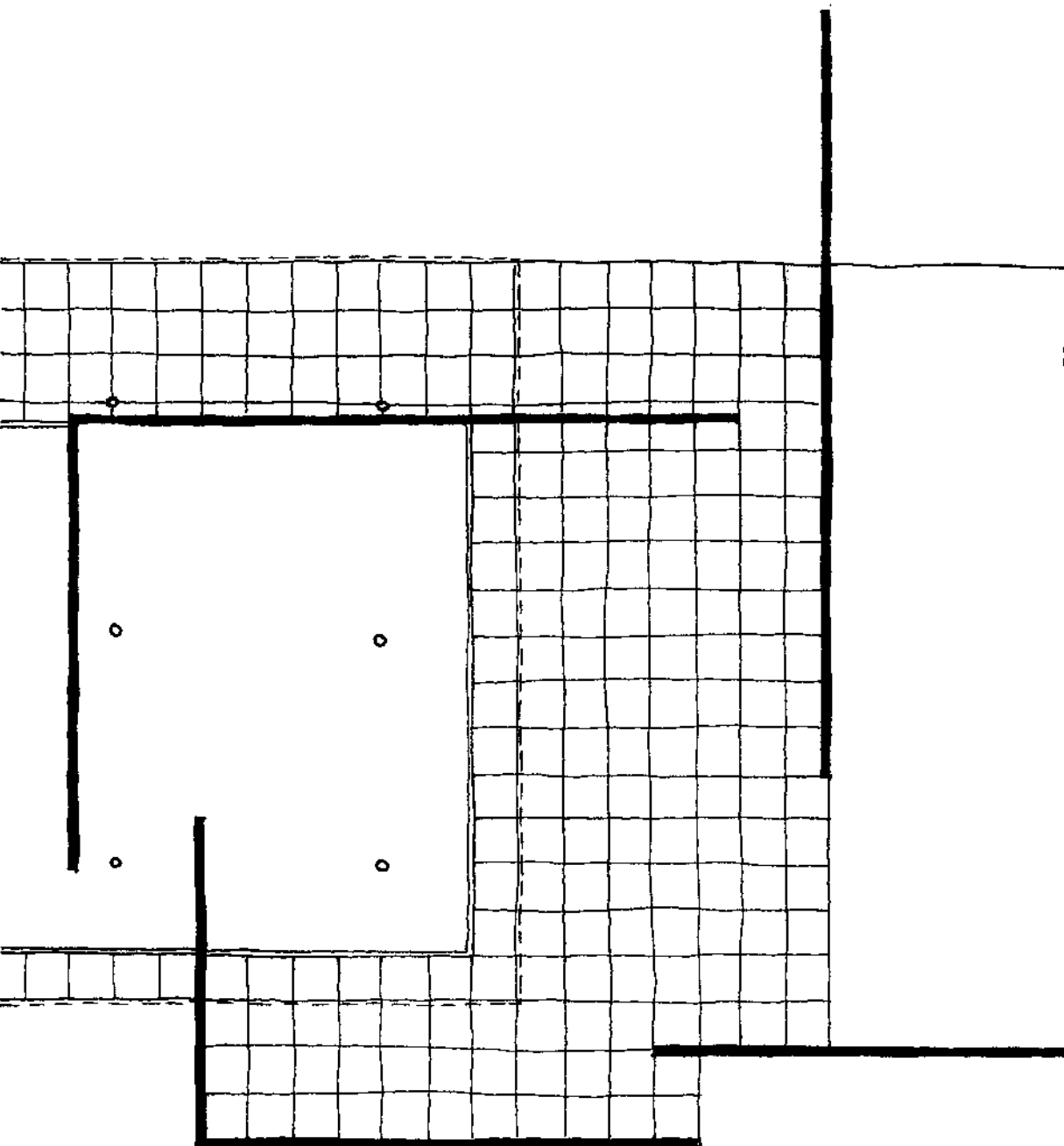


Plan drawing

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



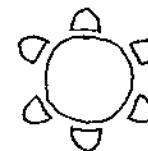
armchairs



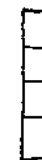
table



piano



dining table



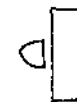
sideboard



double bed



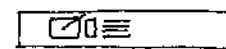
single bed



dresser



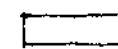
closets



sink unit



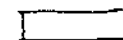
hob



cupboard



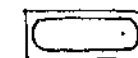
refrigerator



kitchen unit



WC & bidet



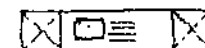
bathtub



shower



sinks



utilities sink



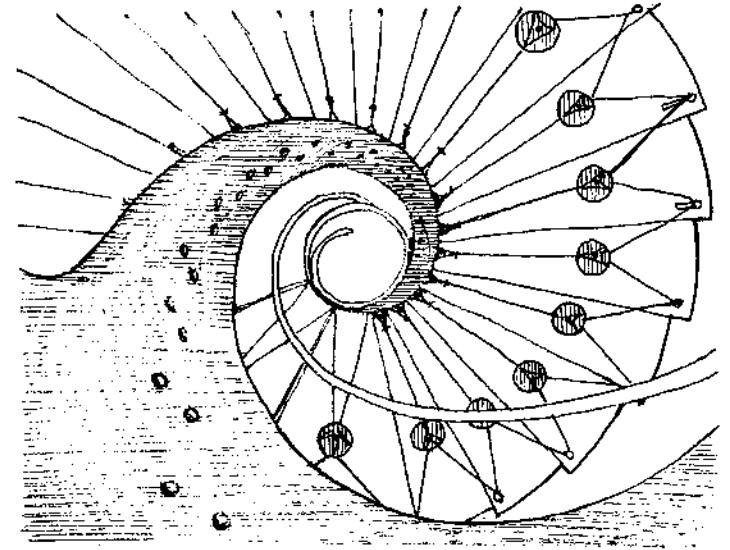
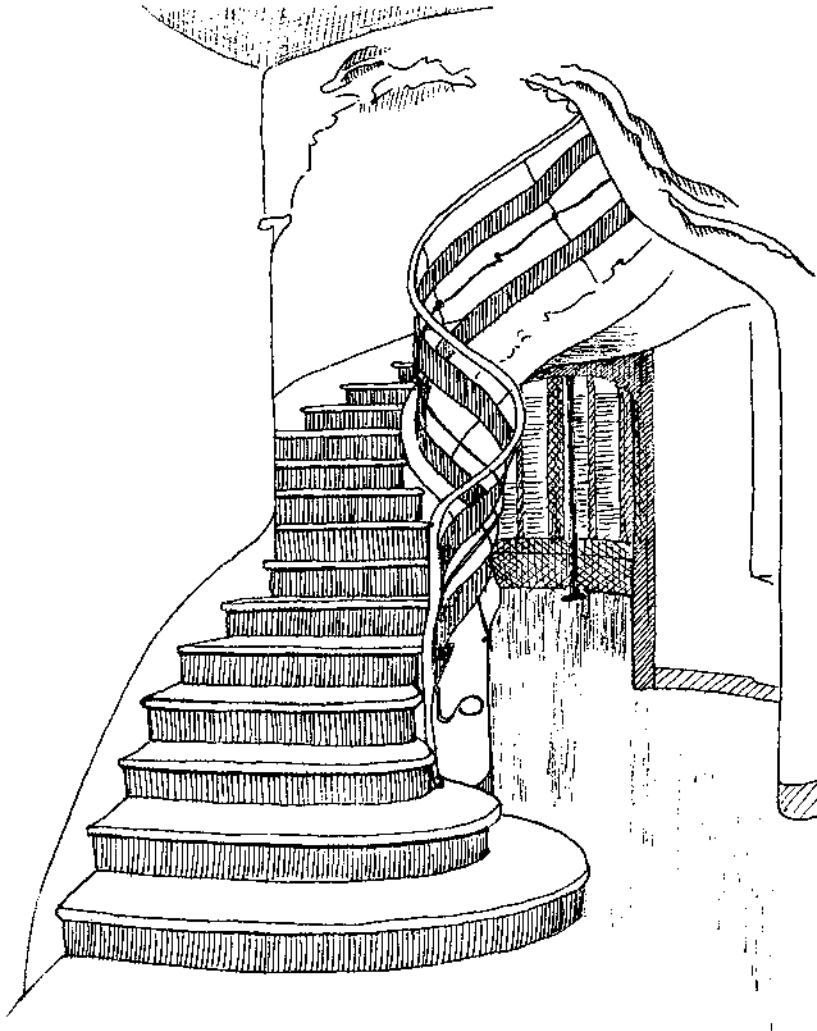
washer/dryer



boiler

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

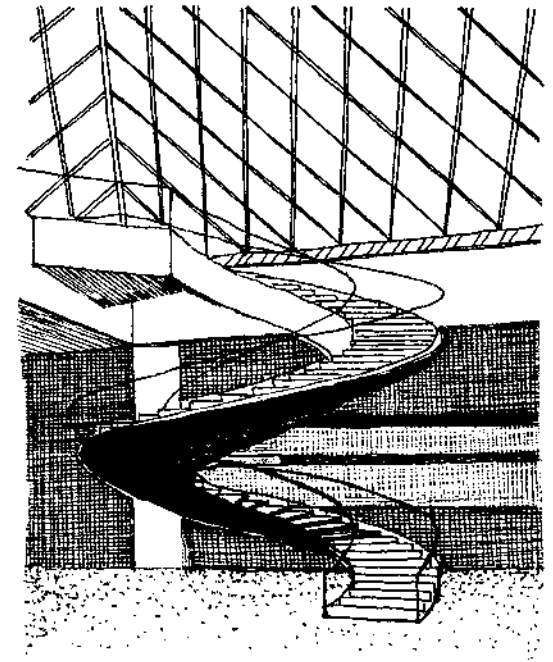
*Casa dels Ous, Torre de la Creu, Spain.
Josep Maria Jujol, 1916*



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

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

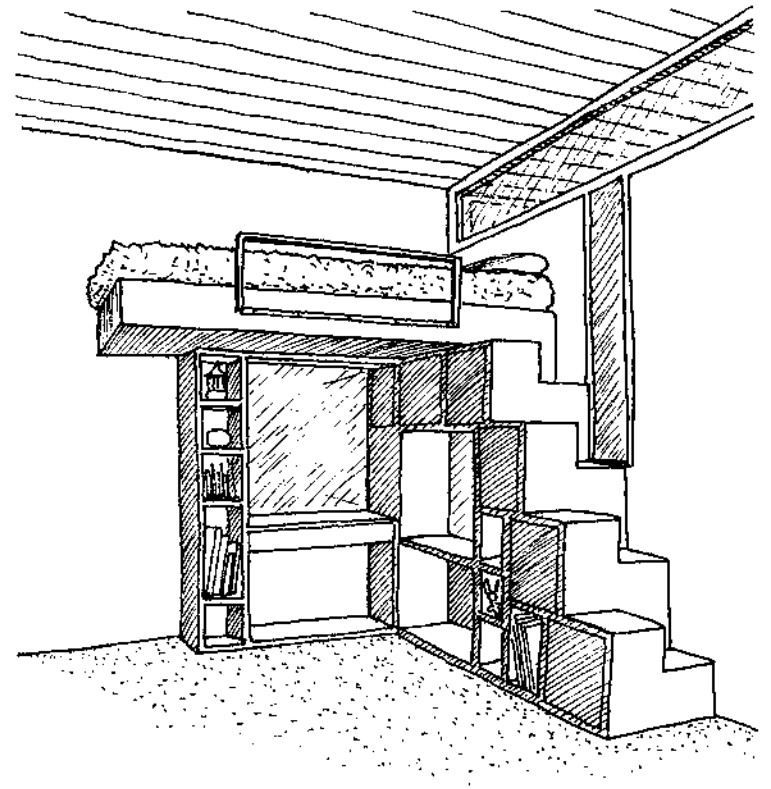
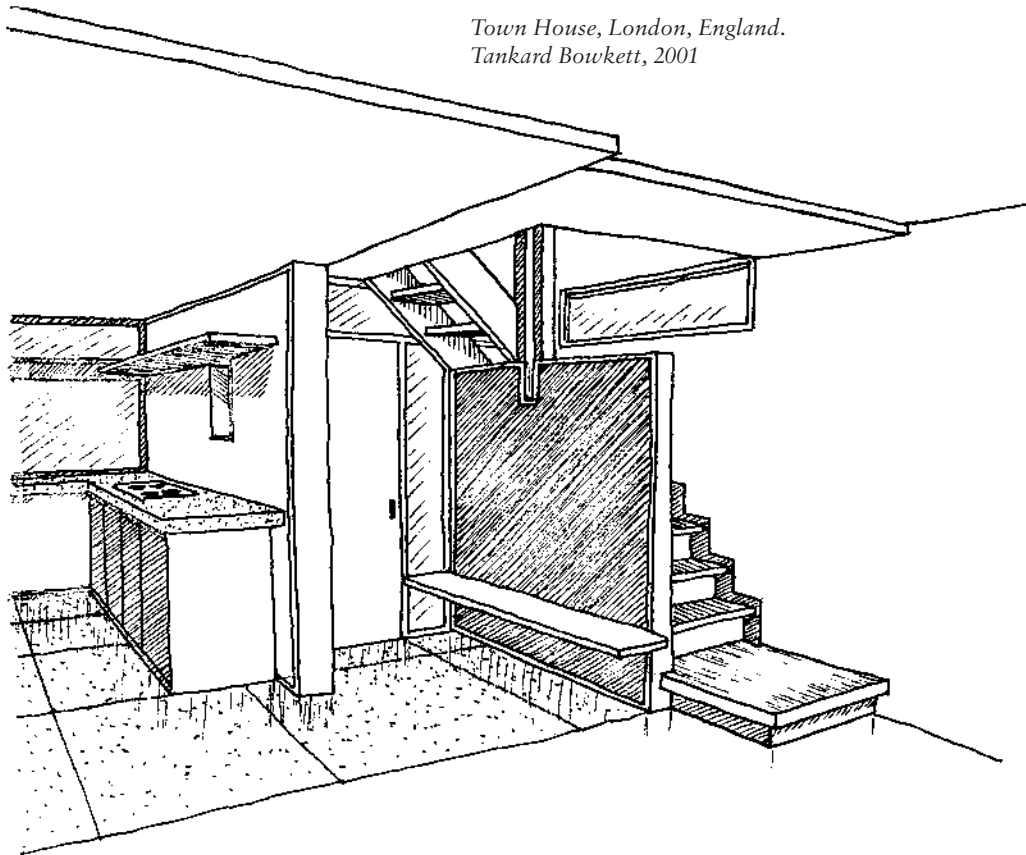




*Louvre Pyramid, Paris, France.
I.M. Pei, 1989*

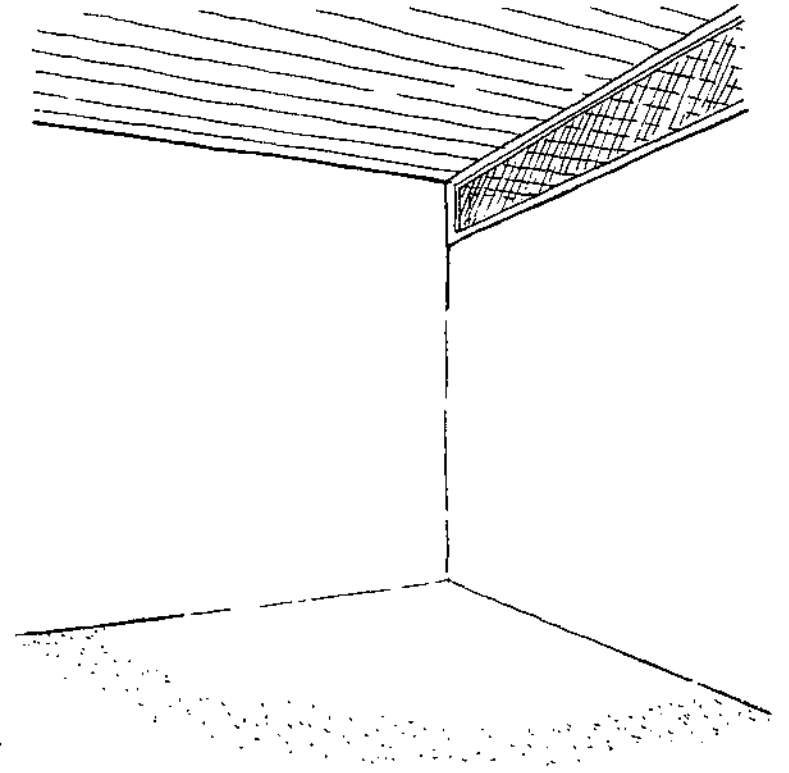
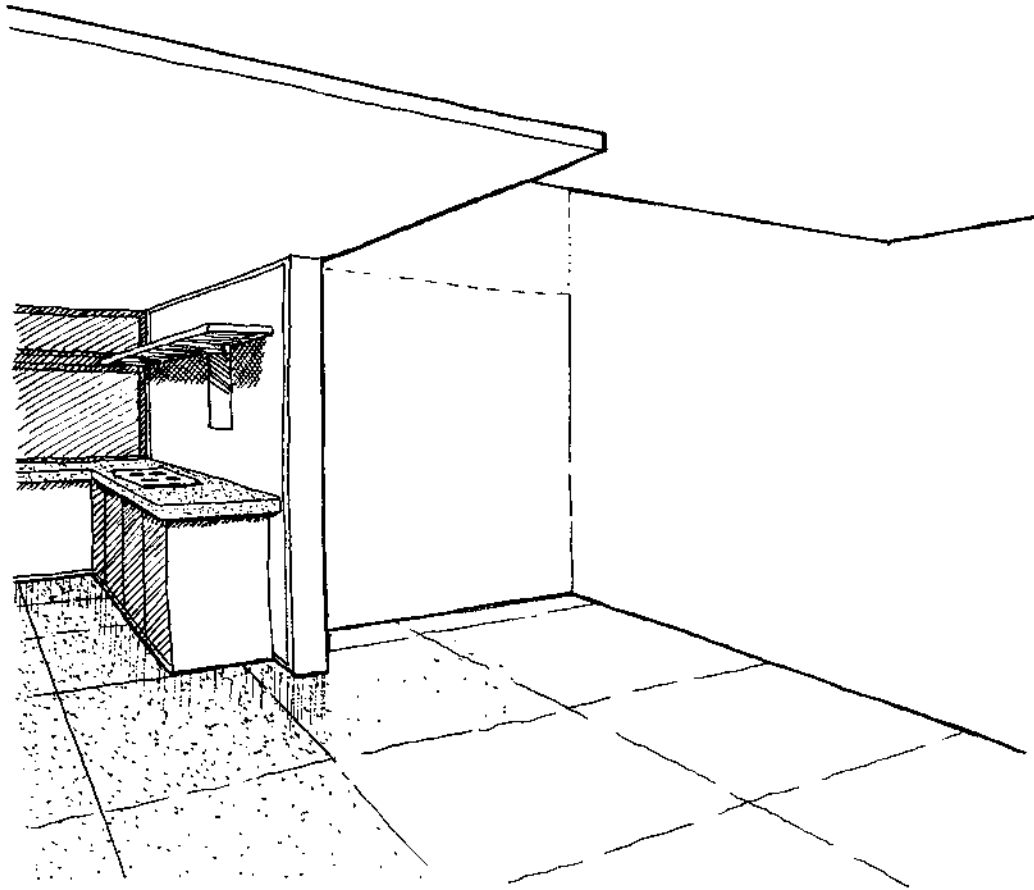
These **innovative stairs** were designed for a London house and incorporate a bench next to the entrance and storage leading to a bed platform.

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



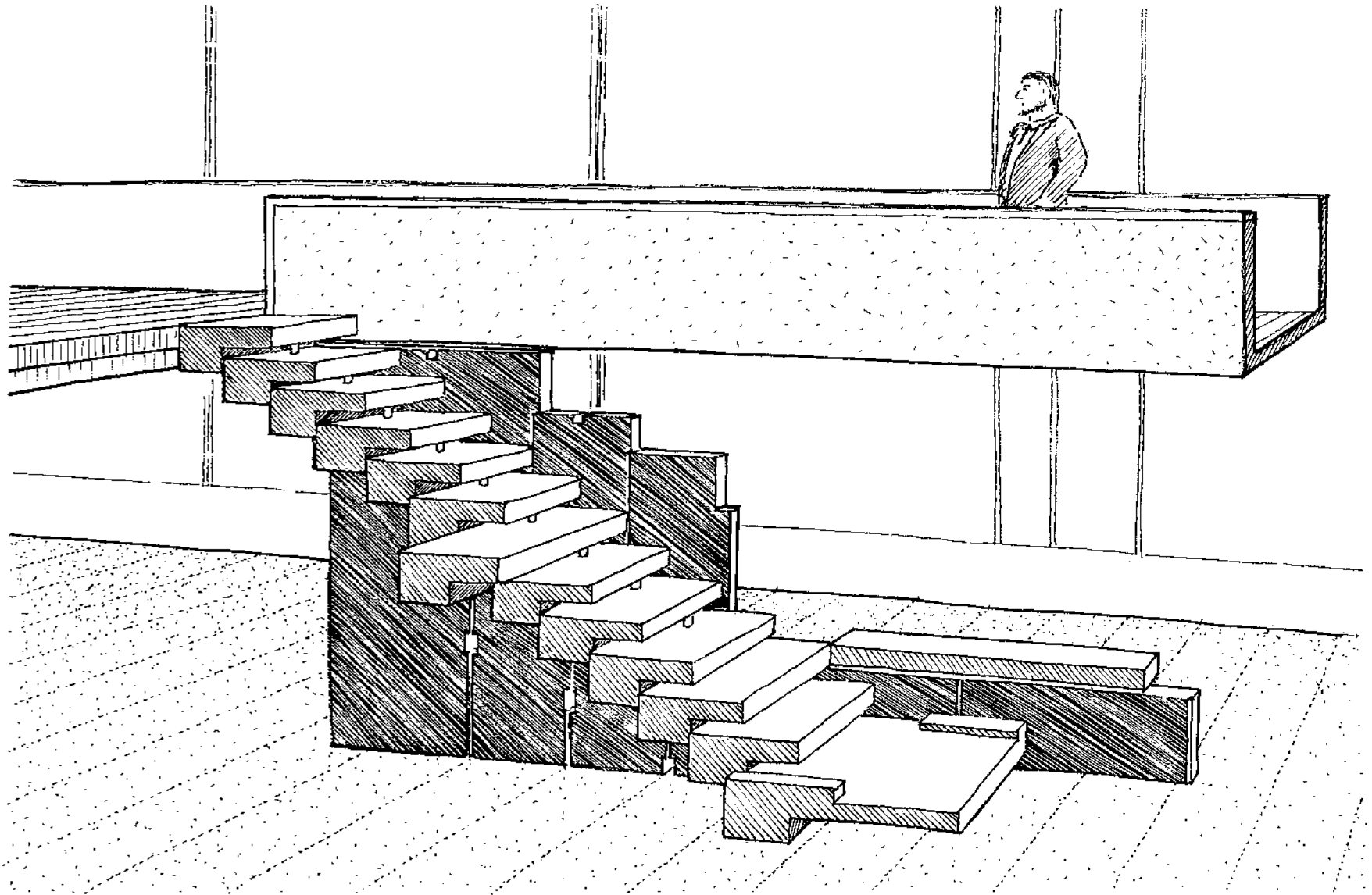
Sketch your own ideas for these two spaces...



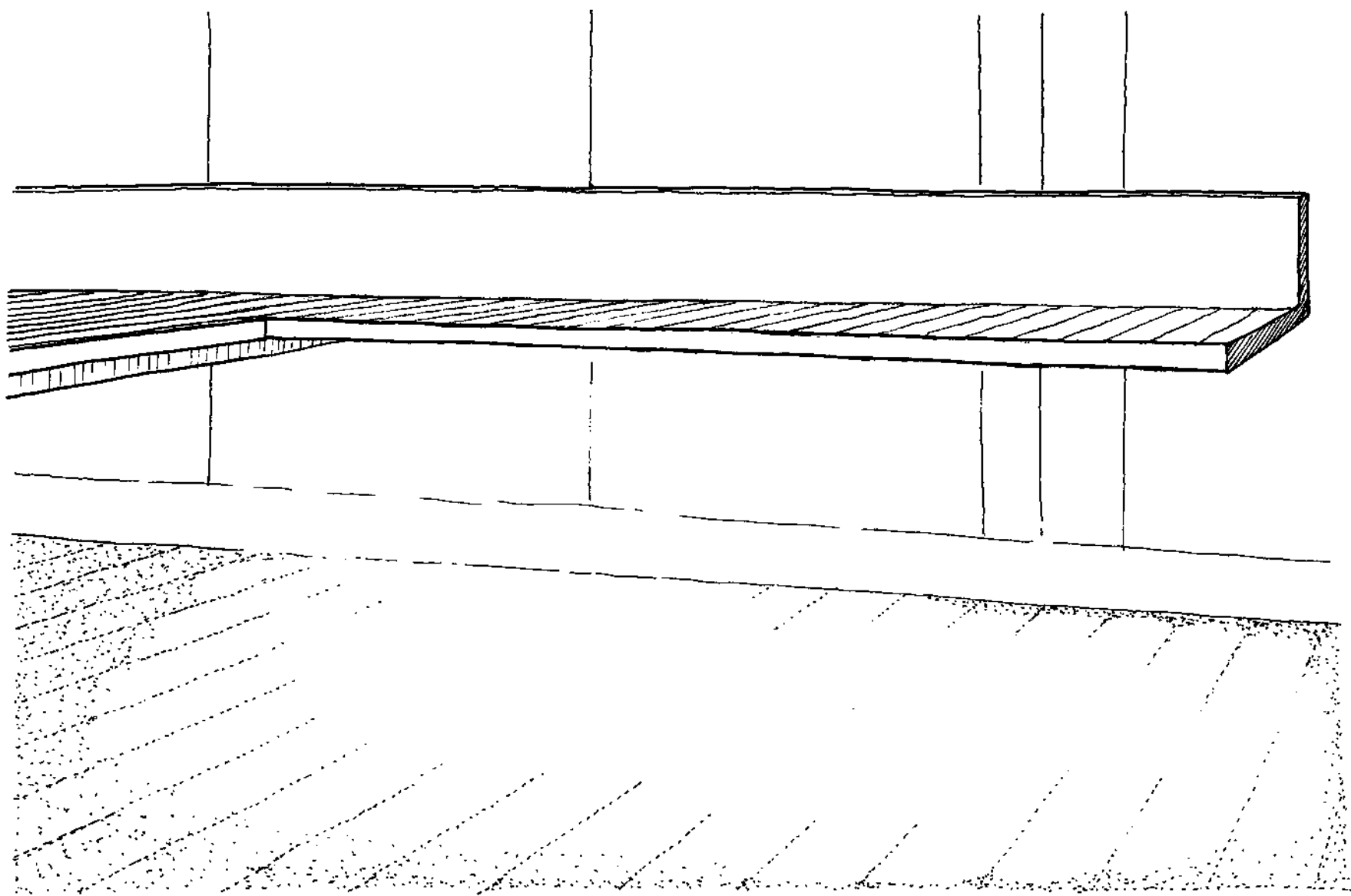


This **display staircase** appears to float within the space and provides a centre point for exhibiting artefacts in the Olivetti Showroom in Venice.

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

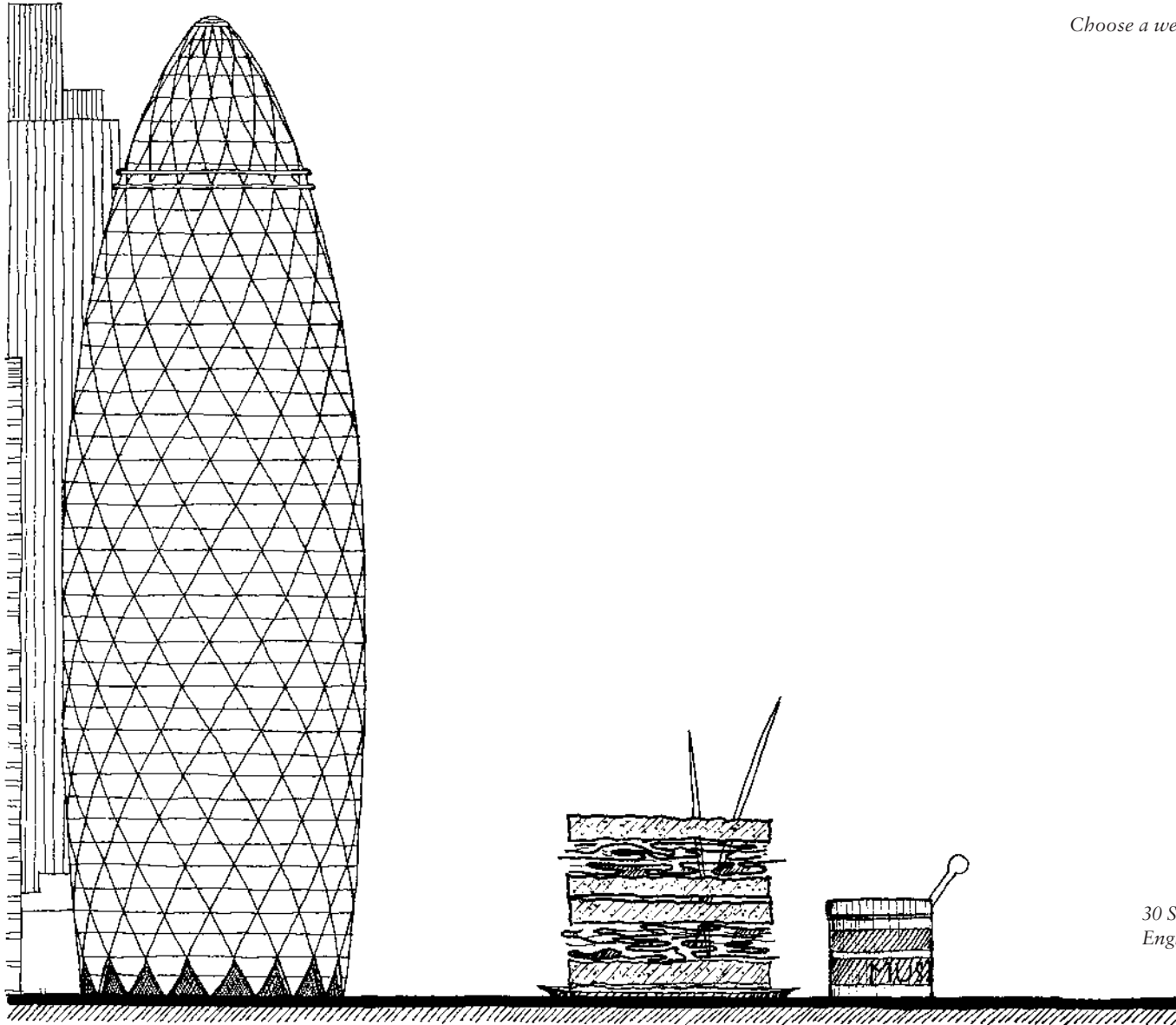


Olivetti Showroom Staircase, Venice, Italy. Carlo Scarpa, 1958.



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... 

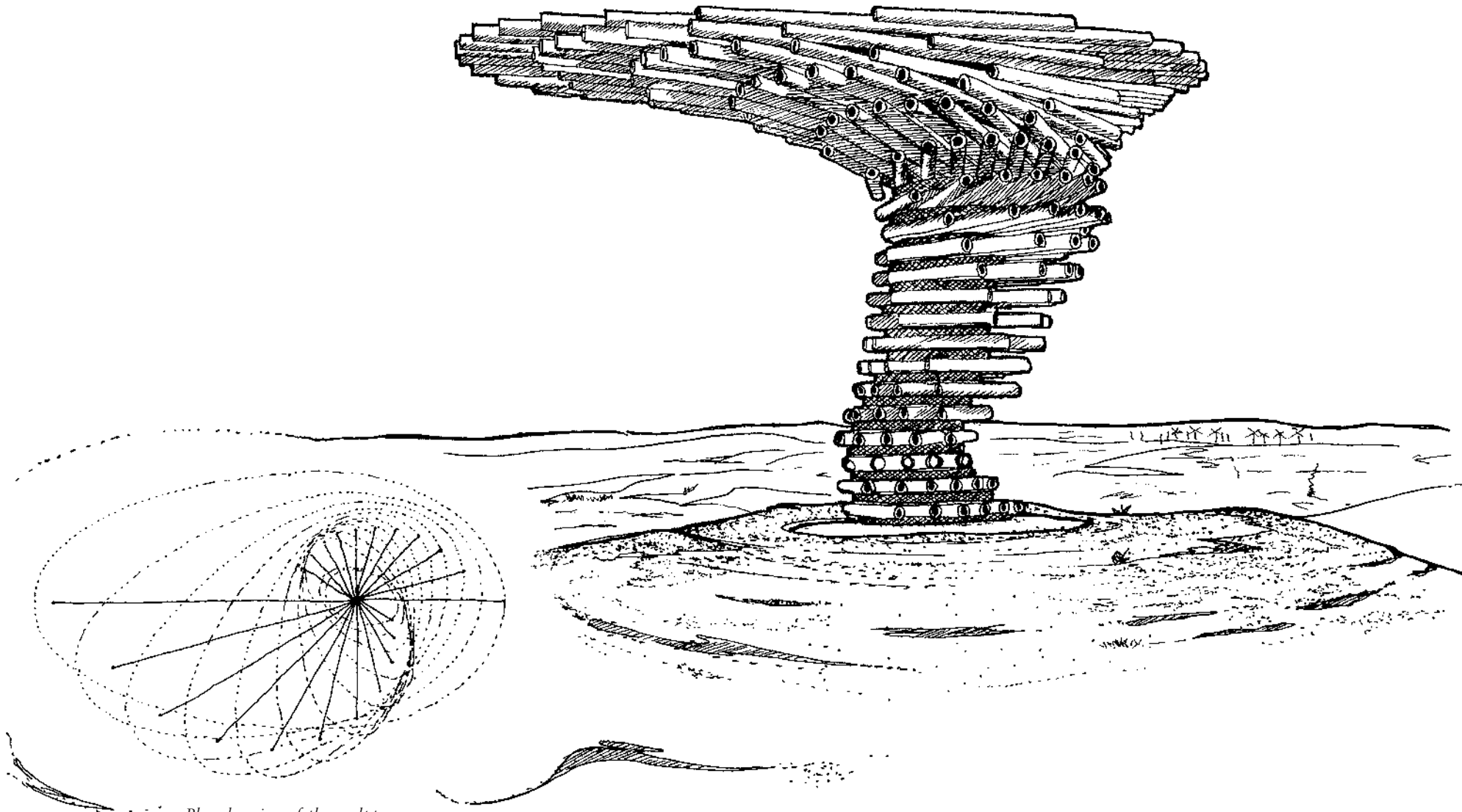


30 St Mary Axe (the 'Gherkin'), London,
England. Norman Foster, 2003

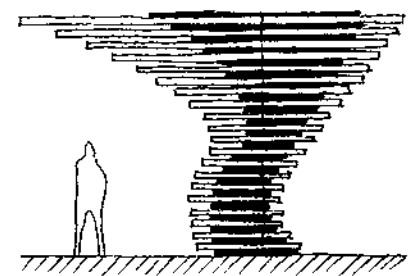


In 2004, architects **Tonkin Liu** designed and built a hill-top sound sculpture overlooking the town of Burnley in Lancashire, England. Their interactive design, the 'Singing Ringing Tree', was named after the Brothers Grimm folk story.

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

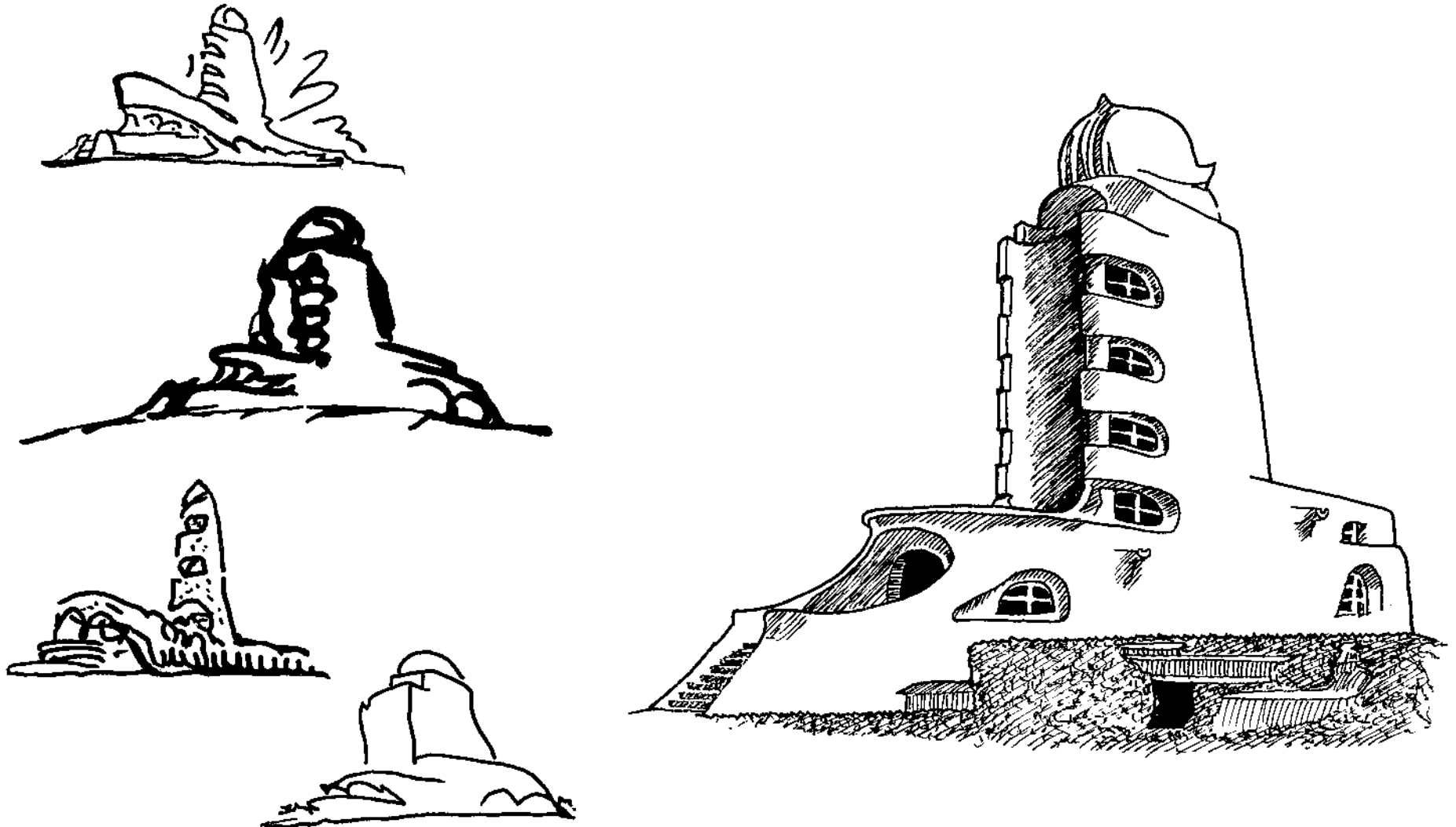


Plan drawing of the sculpture



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.

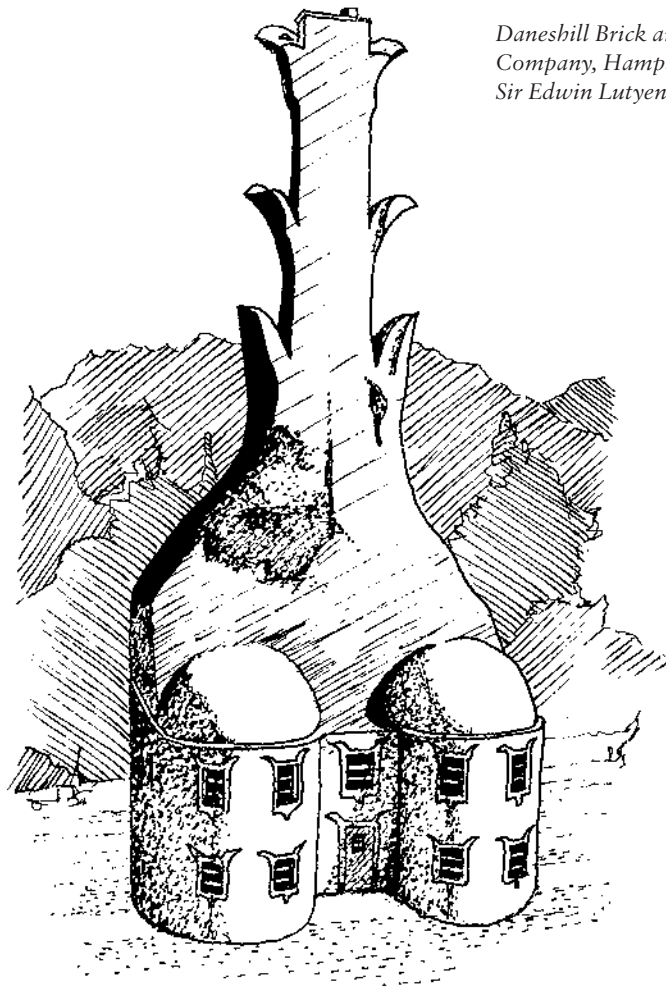
Make some development sketches of a small tower of your own using a brush, ink and drawing pens...



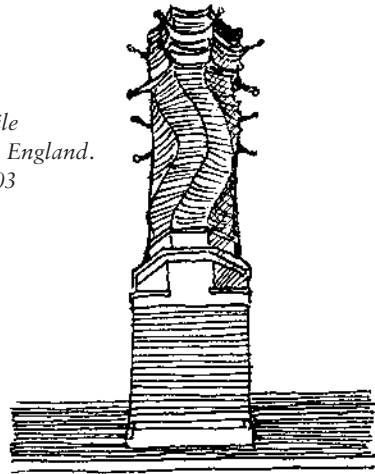
The Einstein Tower, Potsdam, Germany. Erich Mendelsohn, 1921



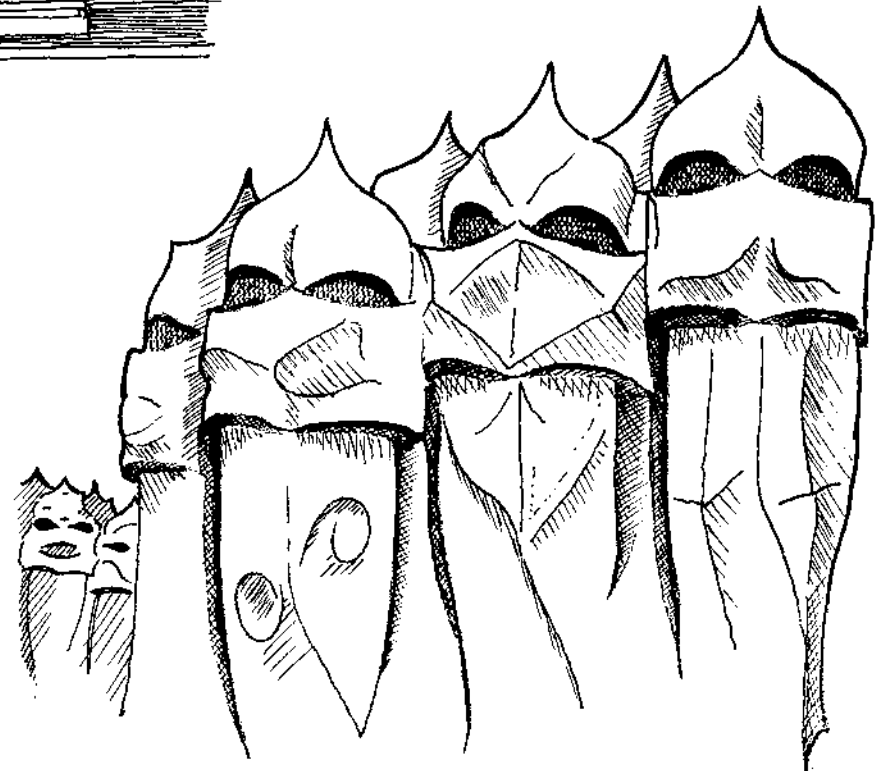
These are all examples of buildings with **unusual chimneys.**



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

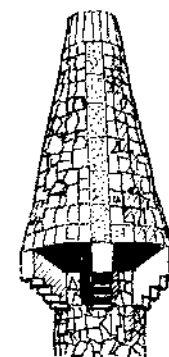


Design a funky-looking chimney...



Das Heizhaus, Switzerland. Rudolf Steiner, 1914

Casa Milà, Barcelona, Spain. Antonio Gaudí, 1912

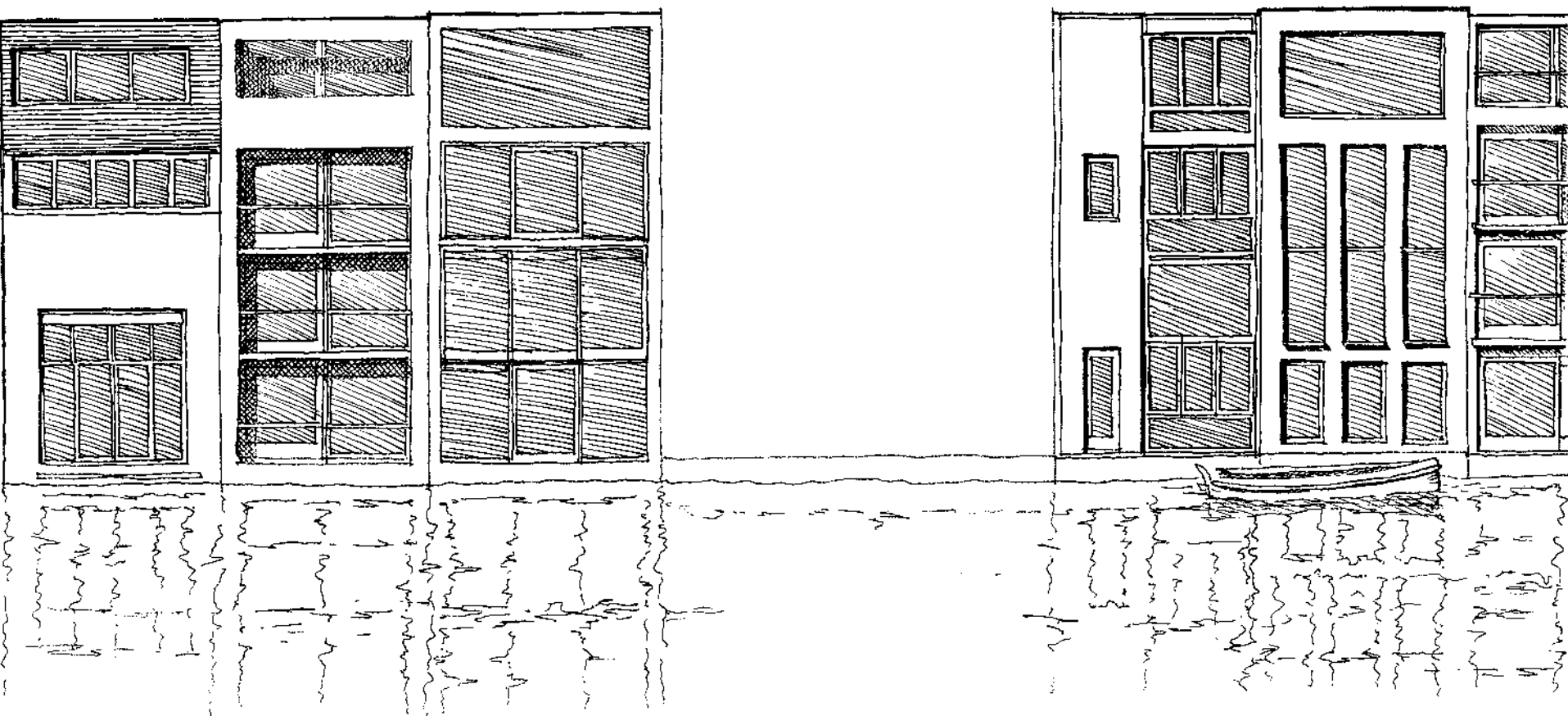


*Palau Güell, Barcelona, Spain.
Antonio Gaudí, 1890*

The **Borneo-Sporenburg** housing development in
Amsterdam, conceived of by West 8 Architects, invited a number of architects to
design terraced houses within a 5m (16ft)-wide and 12m (39ft)-long plot.

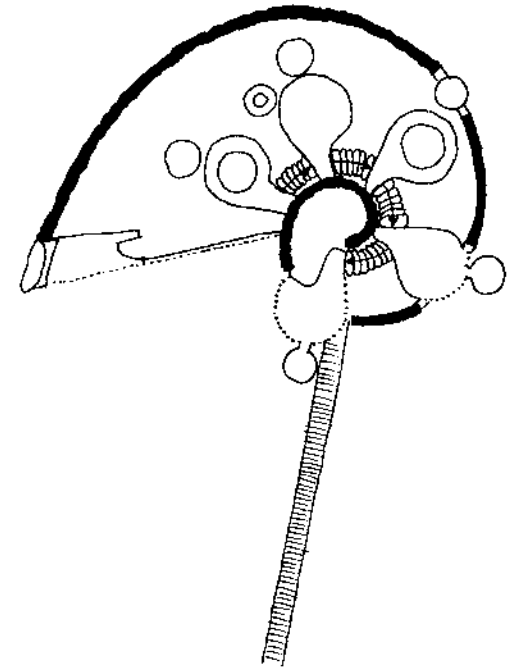
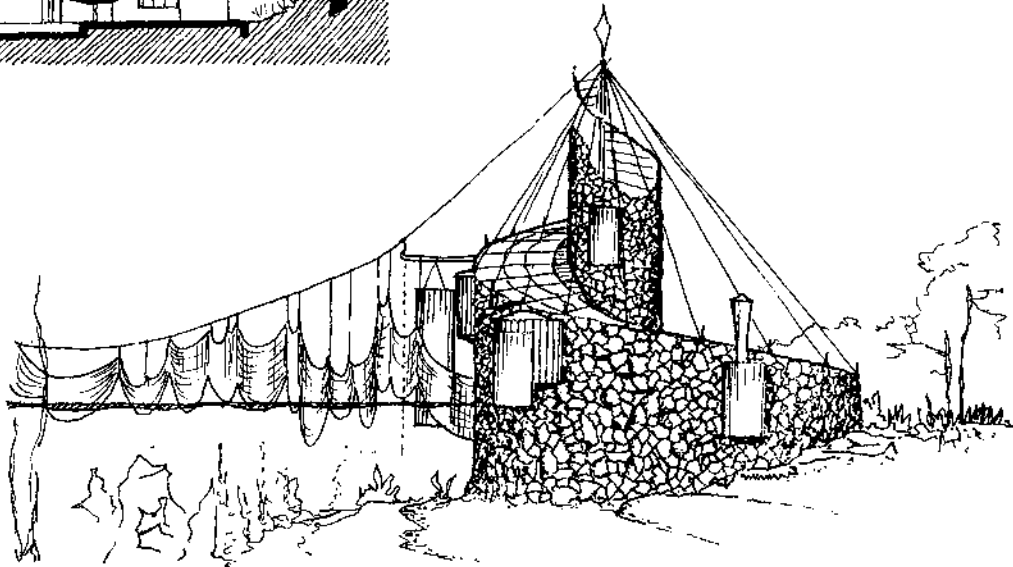
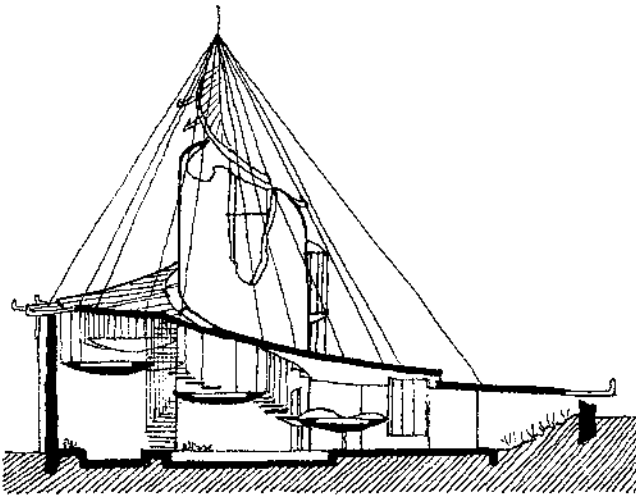
*Using the gaps provided, design and draw your ideas for
the façades of new houses facing the canal...*



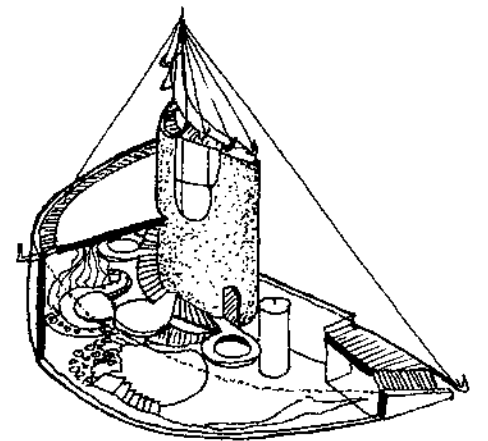


This **spiral-shaped house**, designed by the American architect Bruce Goff, is a dwelling that brings plants, pools and the surrounding countryside into the interior.

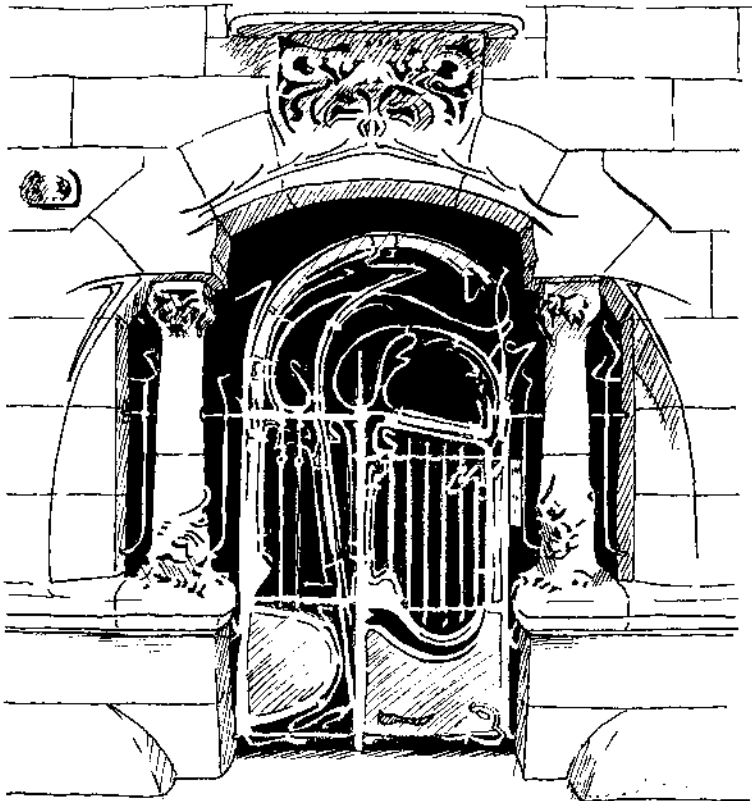
Design a house based upon a spiral form... ➡



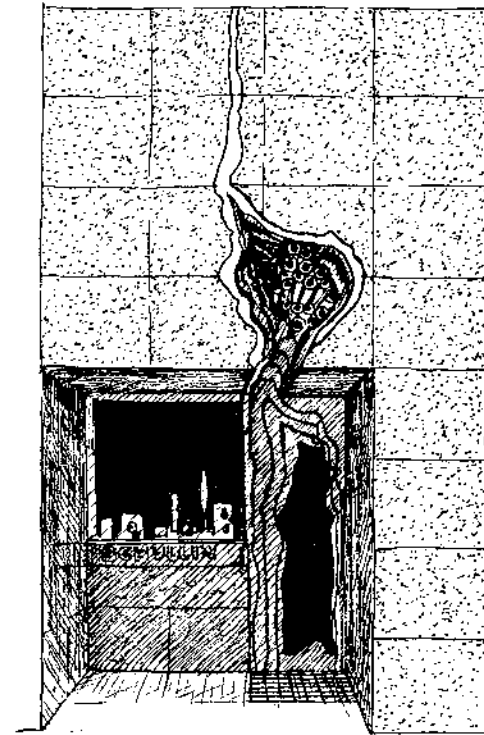
Bavinger House, Oklahoma, USA. Bruce Goff, 1955



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.

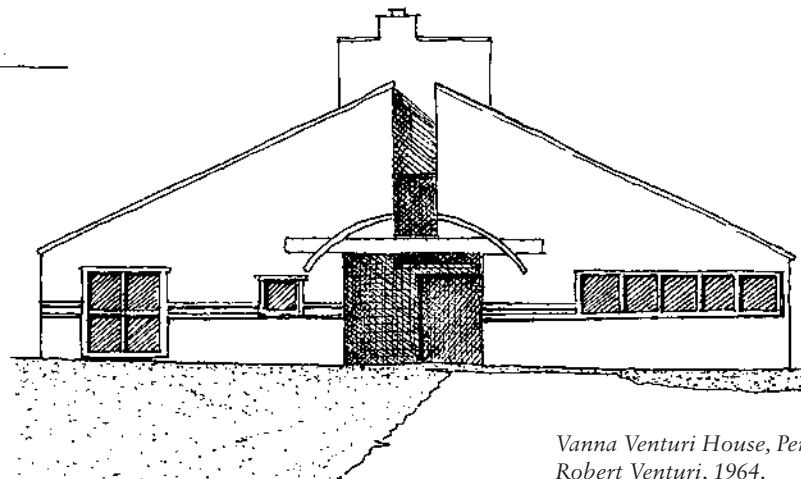


*Castel Béranger, Paris, France.
Hector Guimard, 1898*



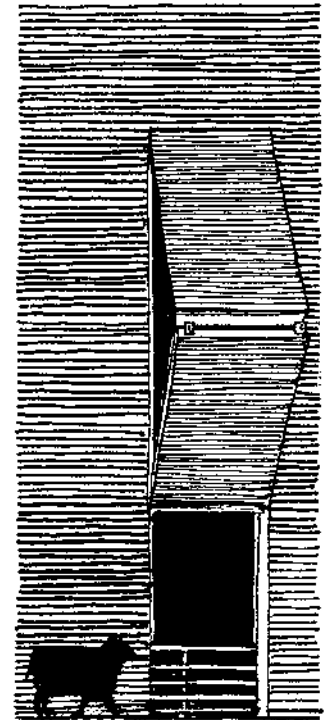
*Schullin Jewellery Shop, Vienna,
Austria. Hans Hollein, 1974*

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

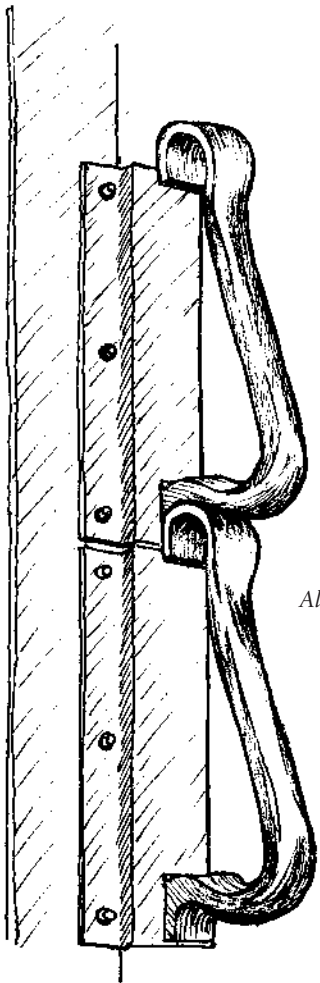


*Vanna Venturi House, Penn, USA.
Robert Venturi, 1964.*

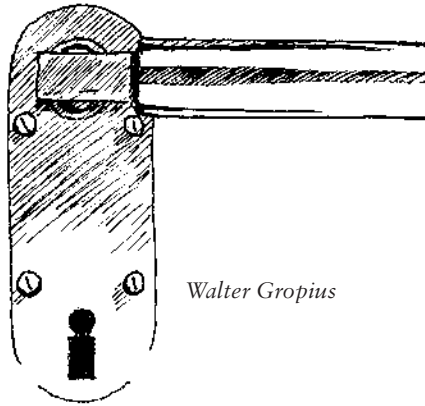
*Petting Farm, Almere, the Netherlands.
70F Architecture, 2008*



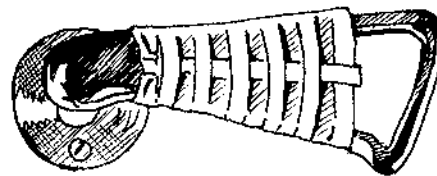
When designing a **door handle**, careful consideration should be given to comfort, material, strength and style.



Alvar Aalto

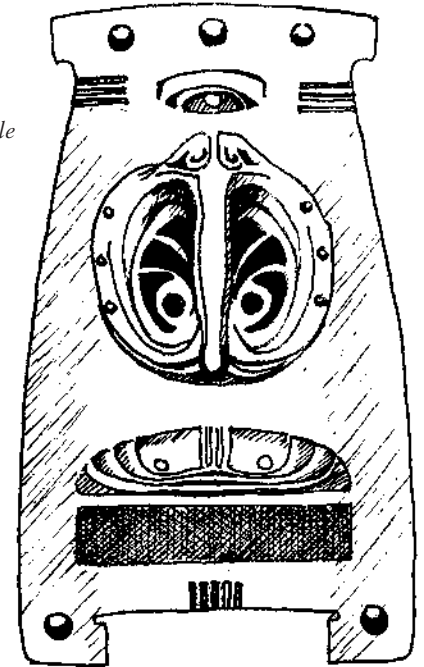


Walter Gropius

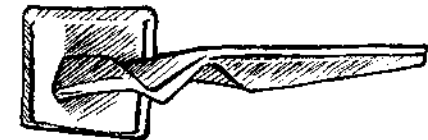


Alvar Aalto

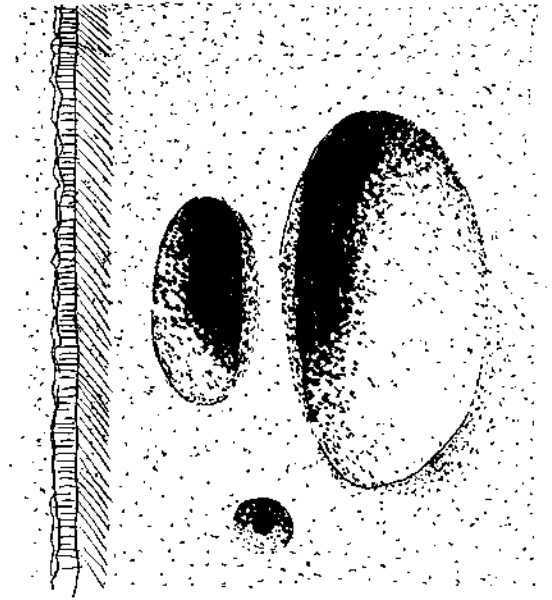
*Art Nouveau door handle
and letterbox, Brussels*



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



Zaha Hadid

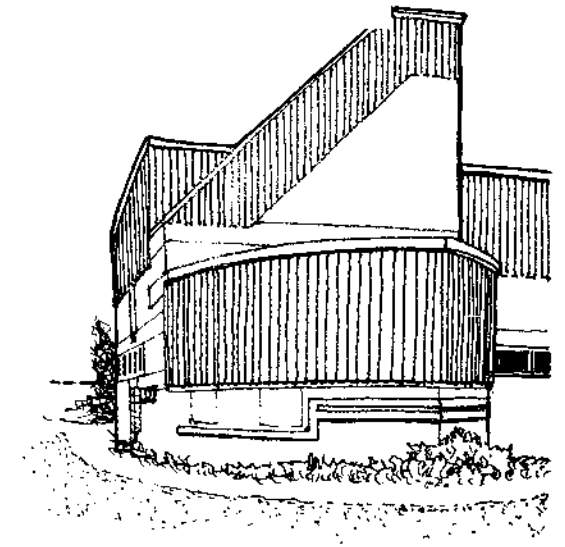
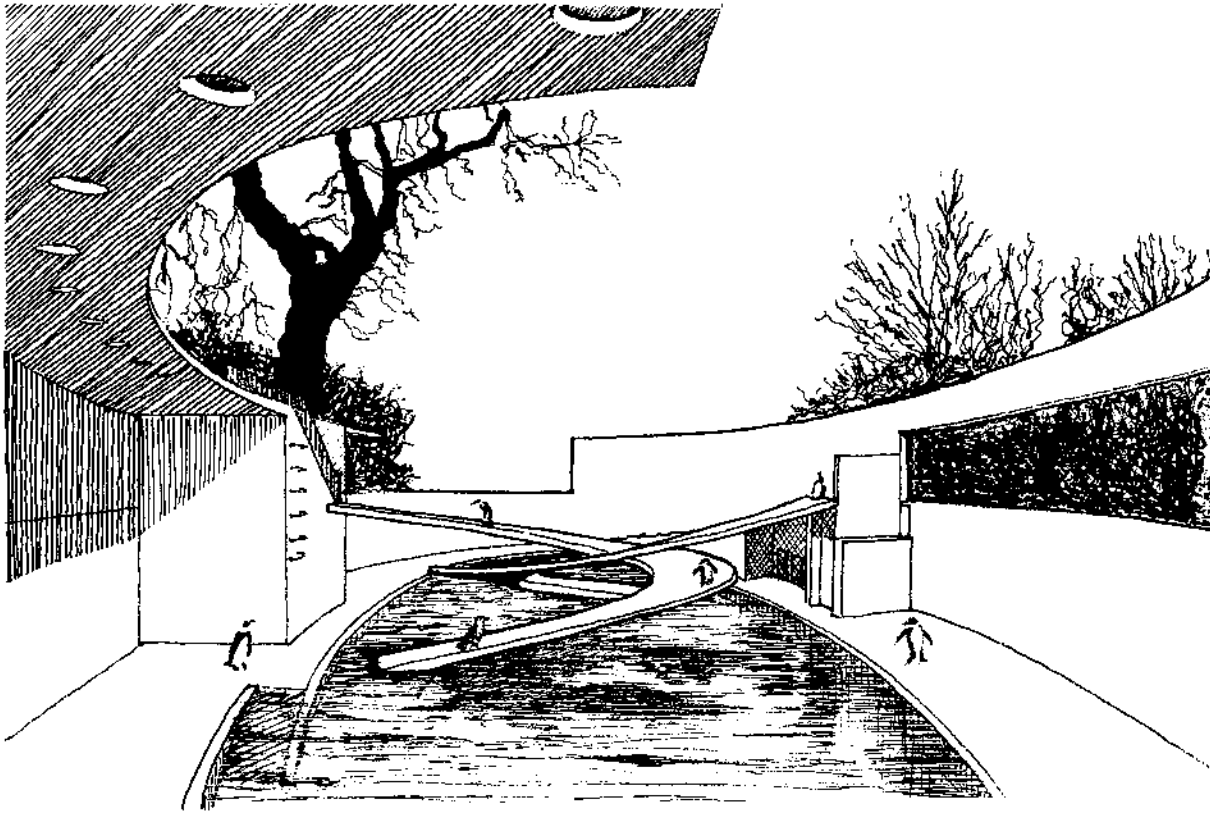


Peter Zumthor

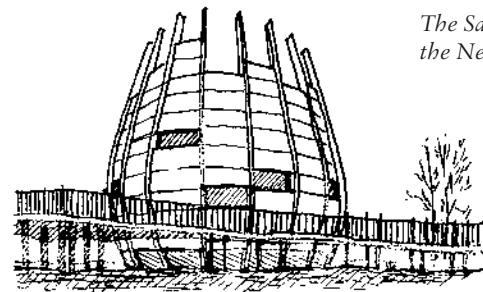
Many architects have dedicated their time to designing **buildings for animals.**

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

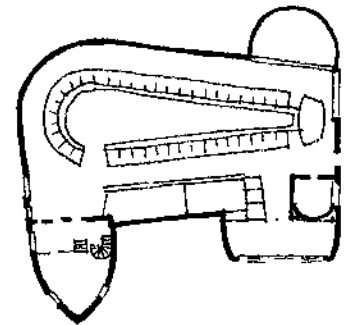
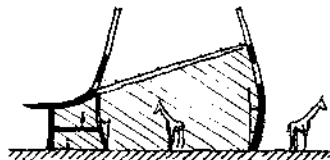
*The Penguin Pool, London Zoo, London. Berthold Lubetkin's
Tecton Architectural Group, 1934*

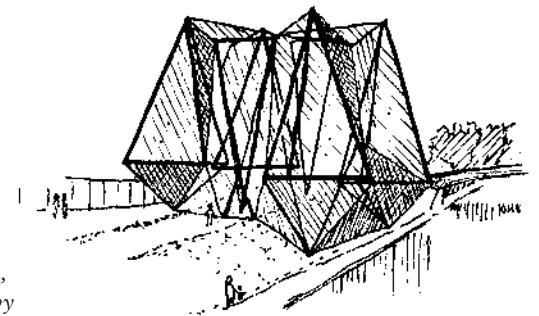


Gut Garkau Farm, Germany. Hugo Häring, 1926



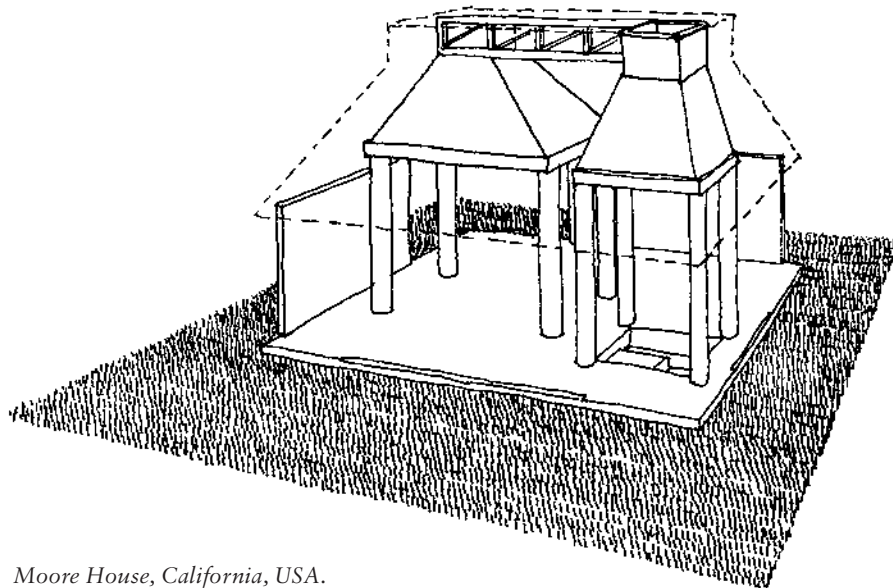
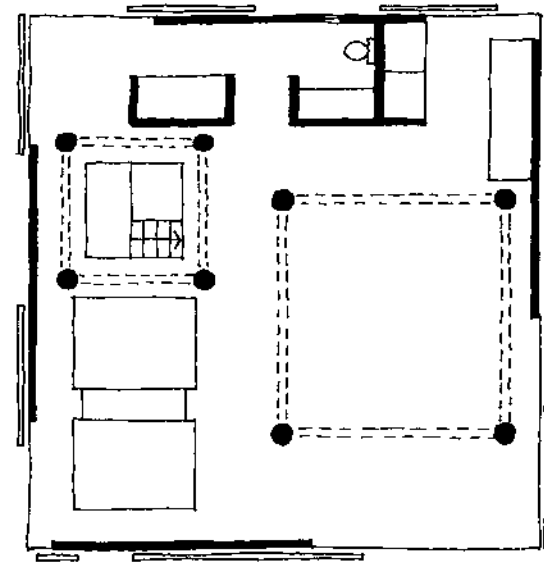
*The Savannah House, Rotterdam Zoo,
the Netherlands. LAM Architects, 2009*





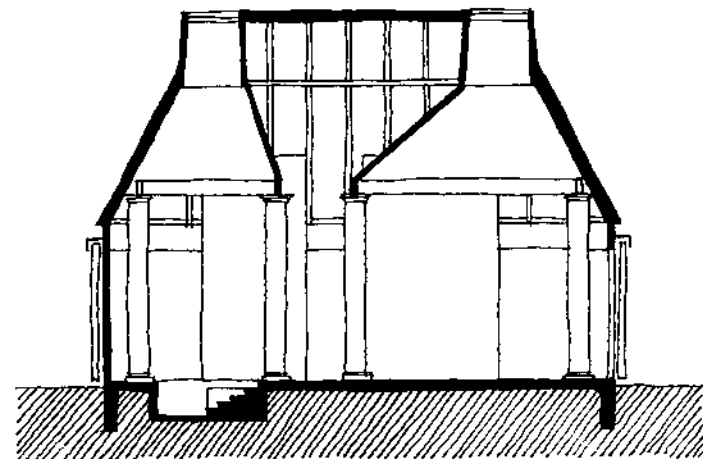
*The Snowdon Aviary, London Zoo,
England. Cedric Price, Frank Newby
and Anthony Armstrong Jones, 1964*

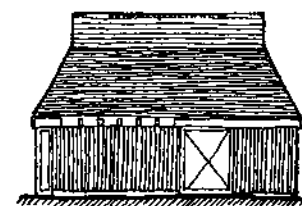
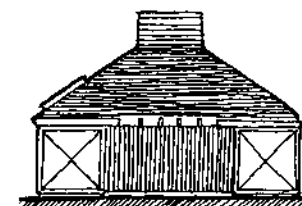
This **square house** was designed by American architect Charles Moore for himself. Made from timber, its design is based upon a series of squares within squares.



Moore House, California, USA.
Charles Moore, 1962

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



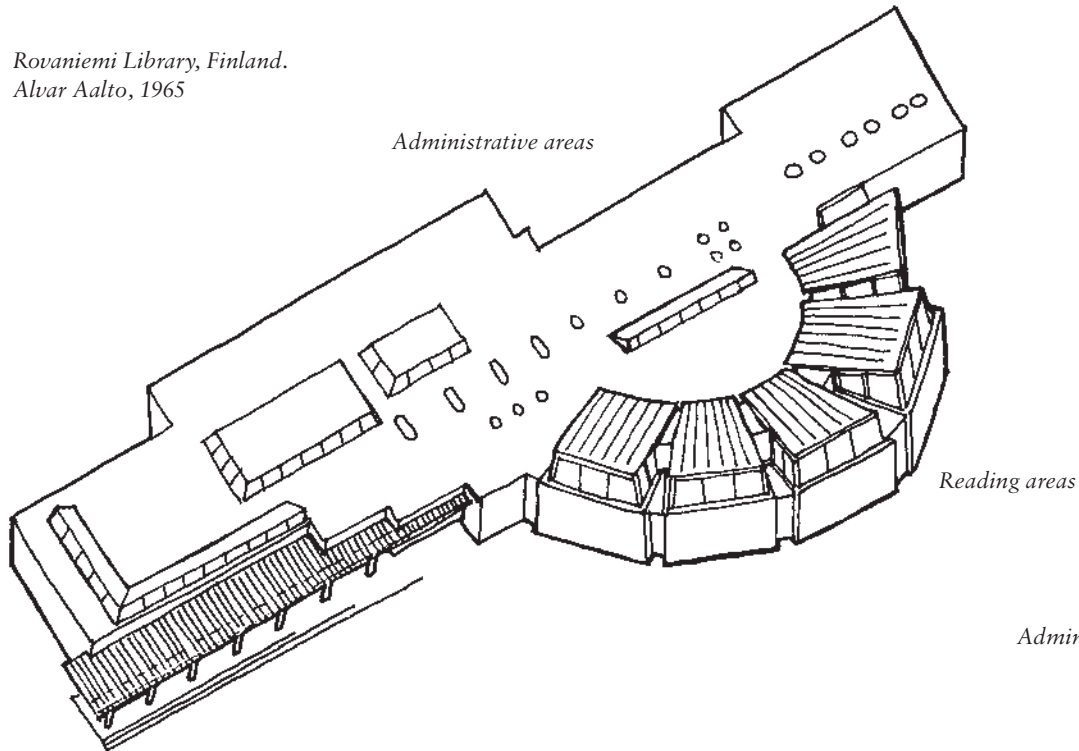


Architects have always been fascinated by exploring **rhythm and repetition** within the design of their buildings. These two examples of libraries by Finnish architect Alvar Aalto show how he changed the geometry between the fan-shaped reading areas and the rectilinear administration areas.

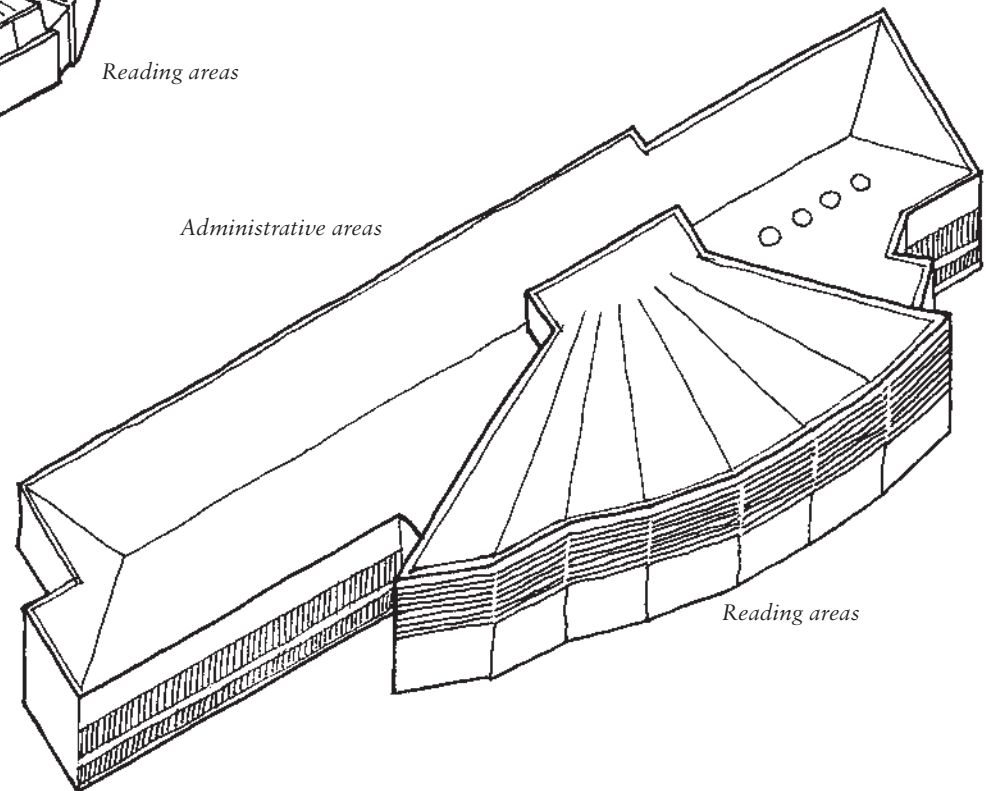
Sketch out some ideas for a small public library and show how you would exploit this principle....

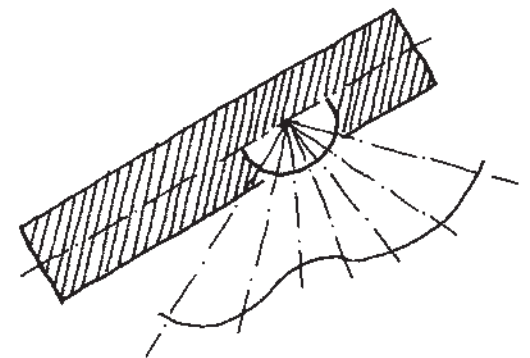


*Rovaniemi Library, Finland.
Alvar Aalto, 1965*



*Seinäjoki Library, Finland.
Alvar Aalto, 1963*

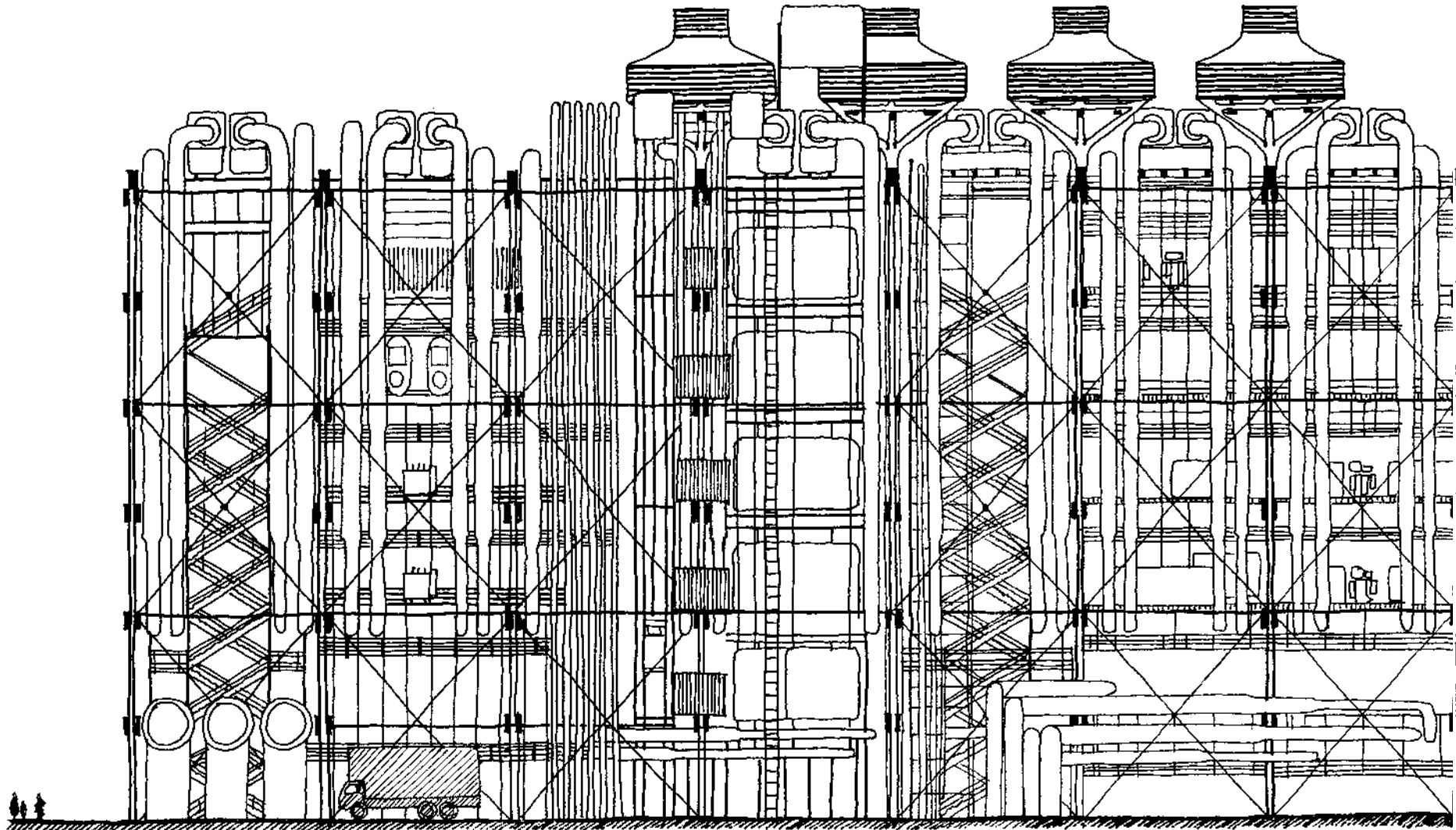




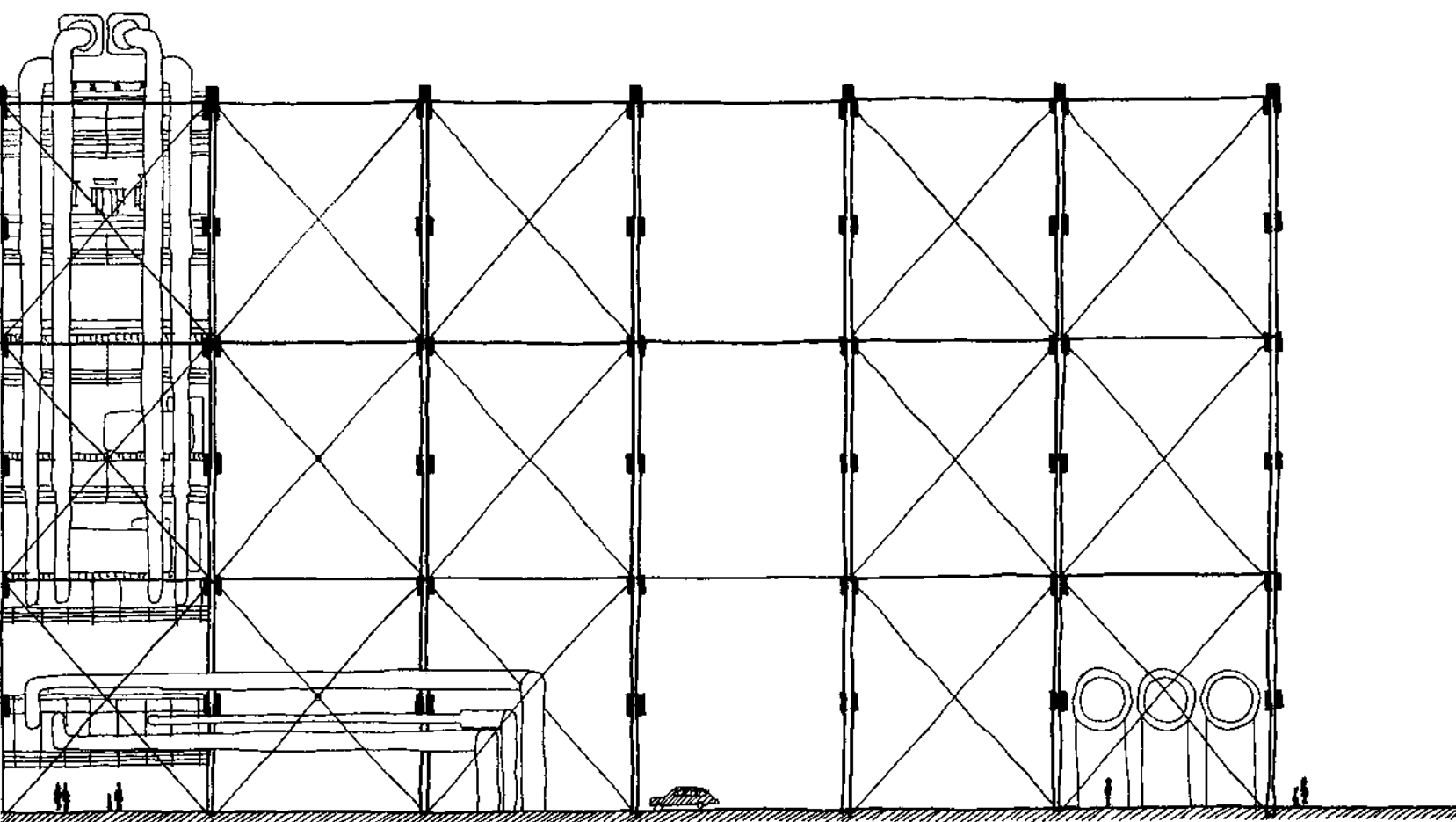
*Diagram showing principles
of rhythm and repetition*

Imagine if the owners of the **Pompidou Centre** in Paris decided that many of the building's famous exposed services were not required anymore. What should they put in their place?

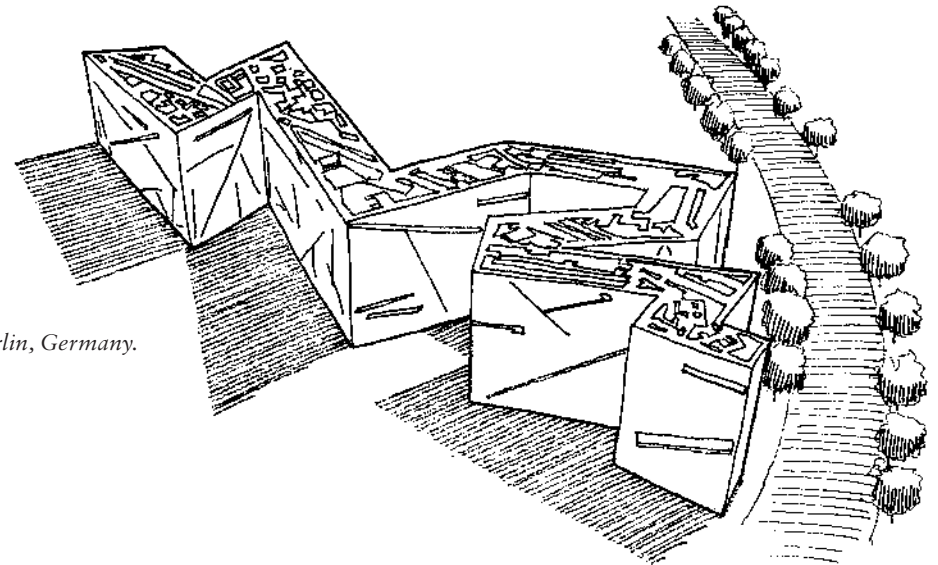
Overdraw your ideas in the space provided... ➡



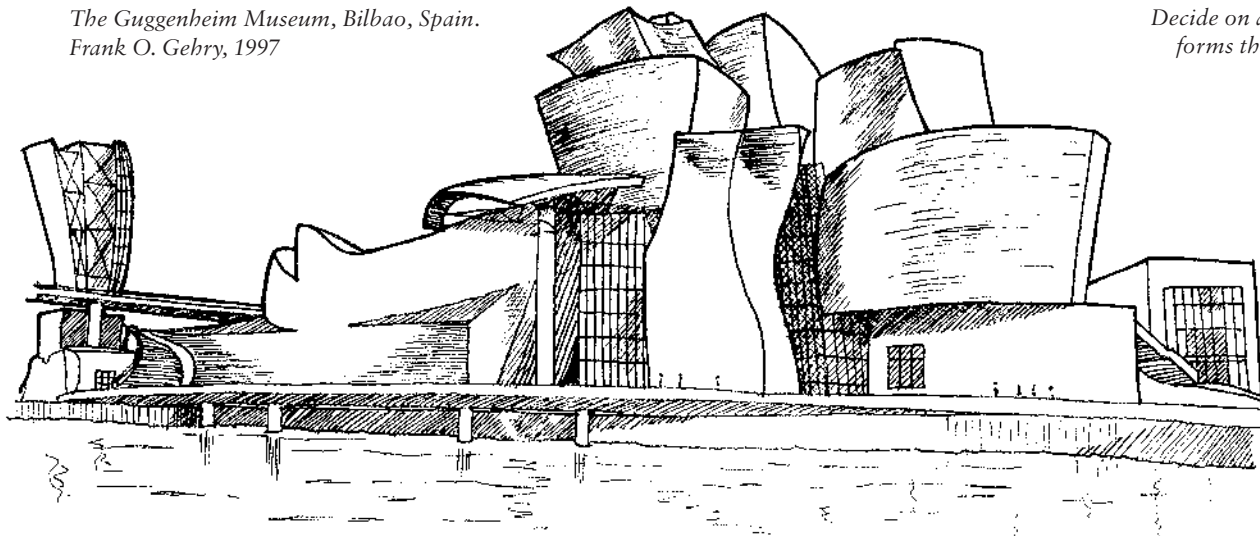
Pompidou Centre, Paris, France. Richard Rogers and Renzo Piano, 1977



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.



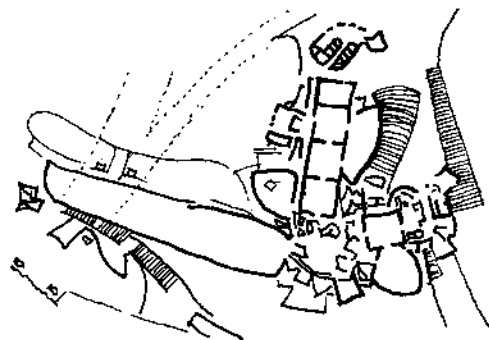
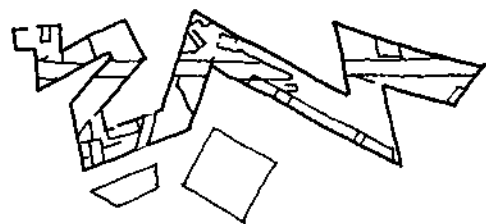
*The Jewish Museum, Berlin, Germany.
Daniel Libeskind, 2001*



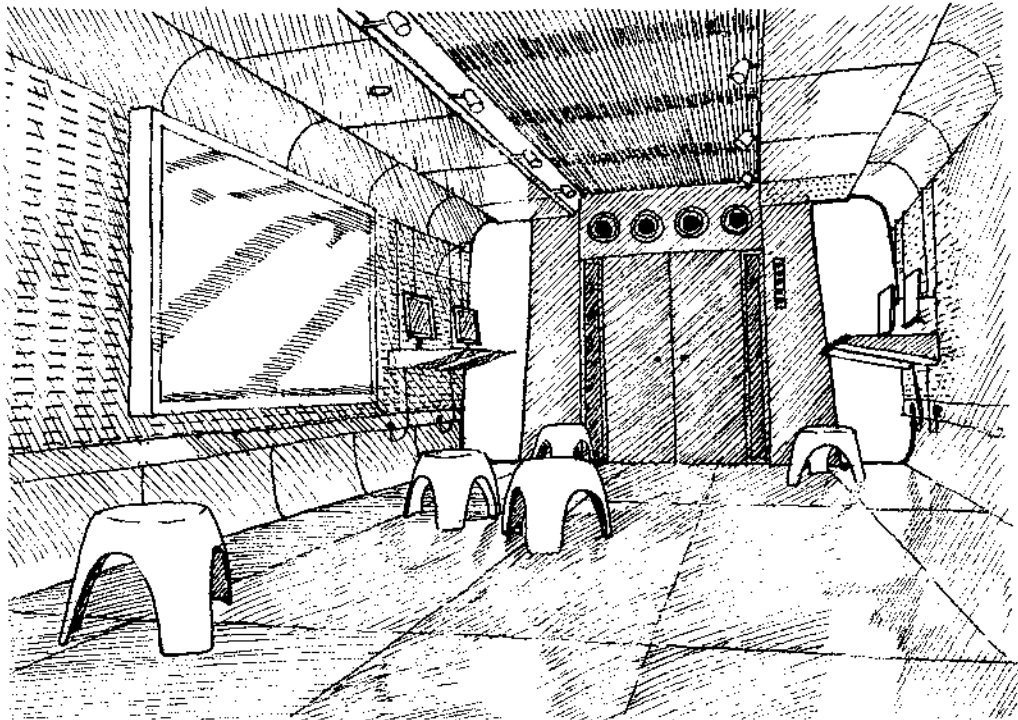
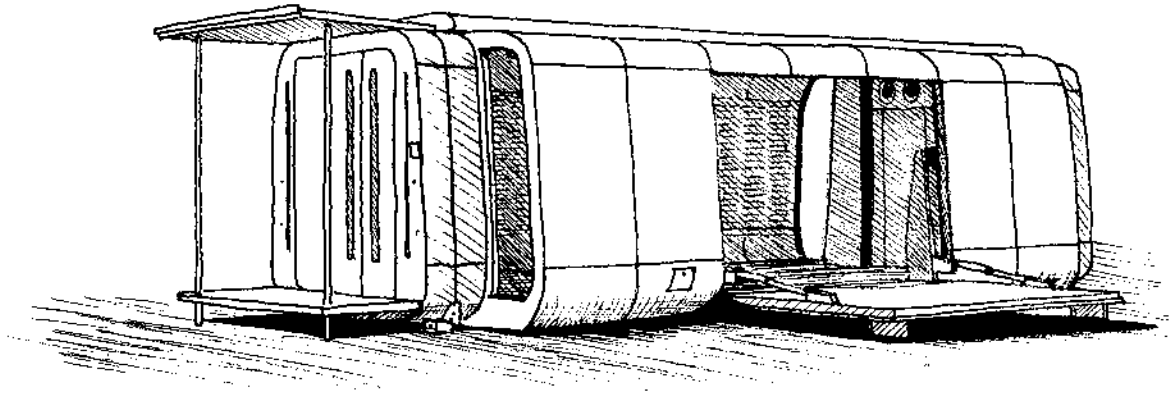
*The Guggenheim Museum, Bilbao, Spain.
Frank O. Gehry, 1997*

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

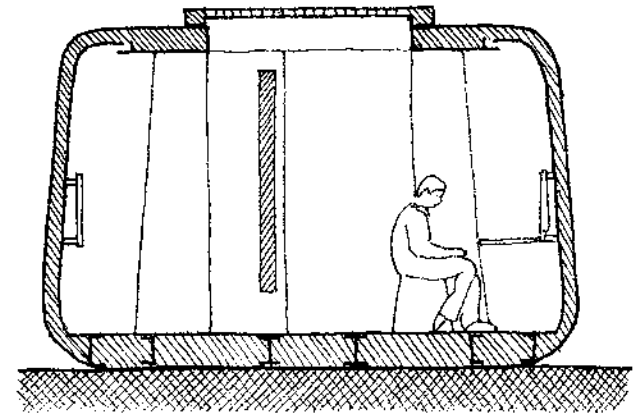




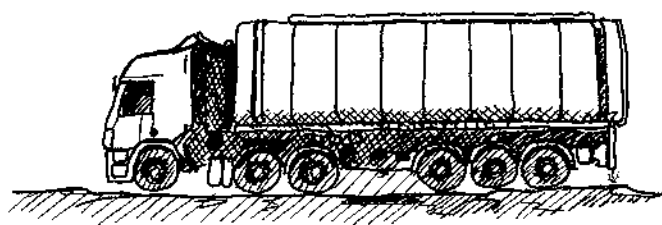
This mobile **Classroom of the Future** was designed by Gollifer Langston Architects in 2007. It can be transported by lorry from one location to another and provides workstations and audio/visual equipment.



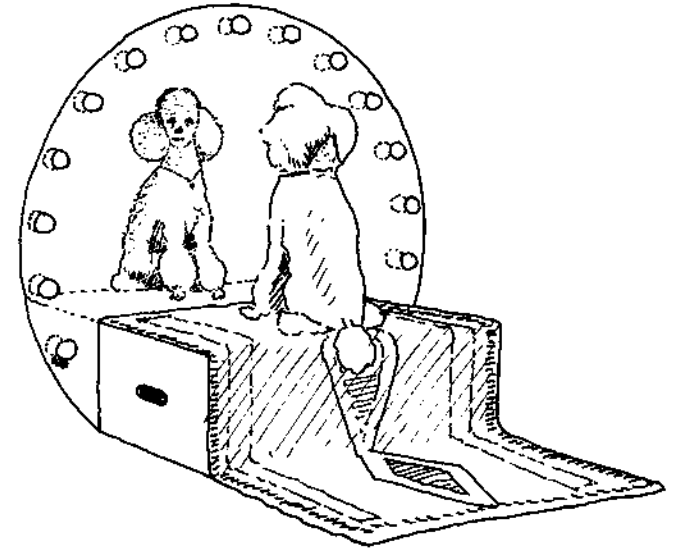
Design a mobile educational unit that would fit on a standard truck... ➡



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

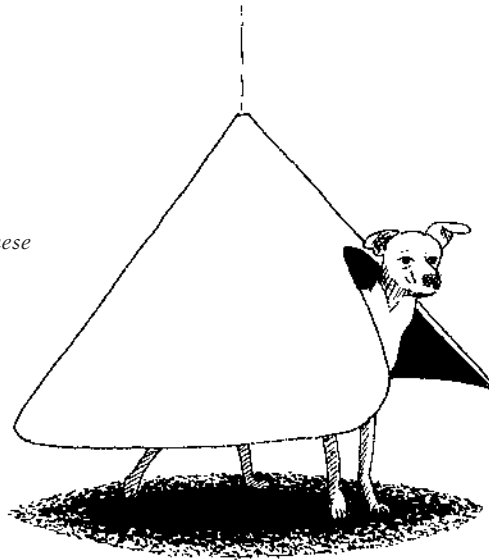


Here is a selection of **designs for dogs** by different architects that will alter the way that the owners interact with their pets.

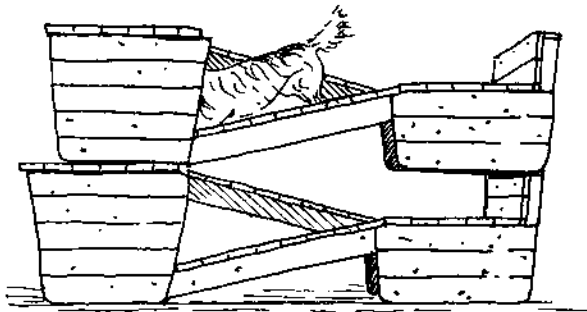


'Paramount' mirror for a poodle by Konstantin Grcic

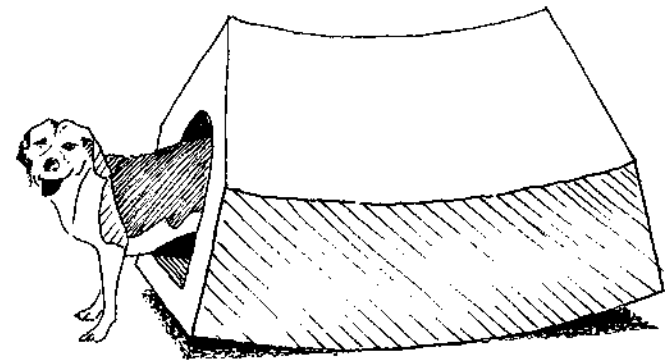
'Pointed T' suspended cone to house a Japanese terrier by the Hara Design Institute



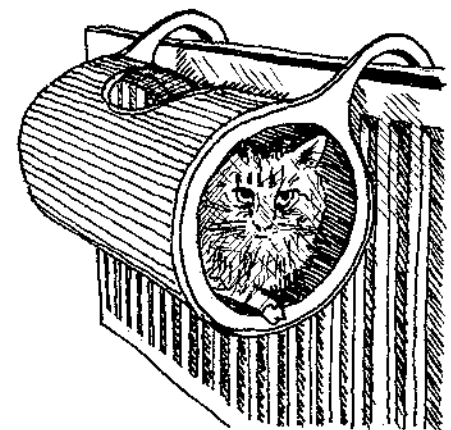
Draw some ideas for other domestic animals, such as this cat basket that hangs on a radiator...



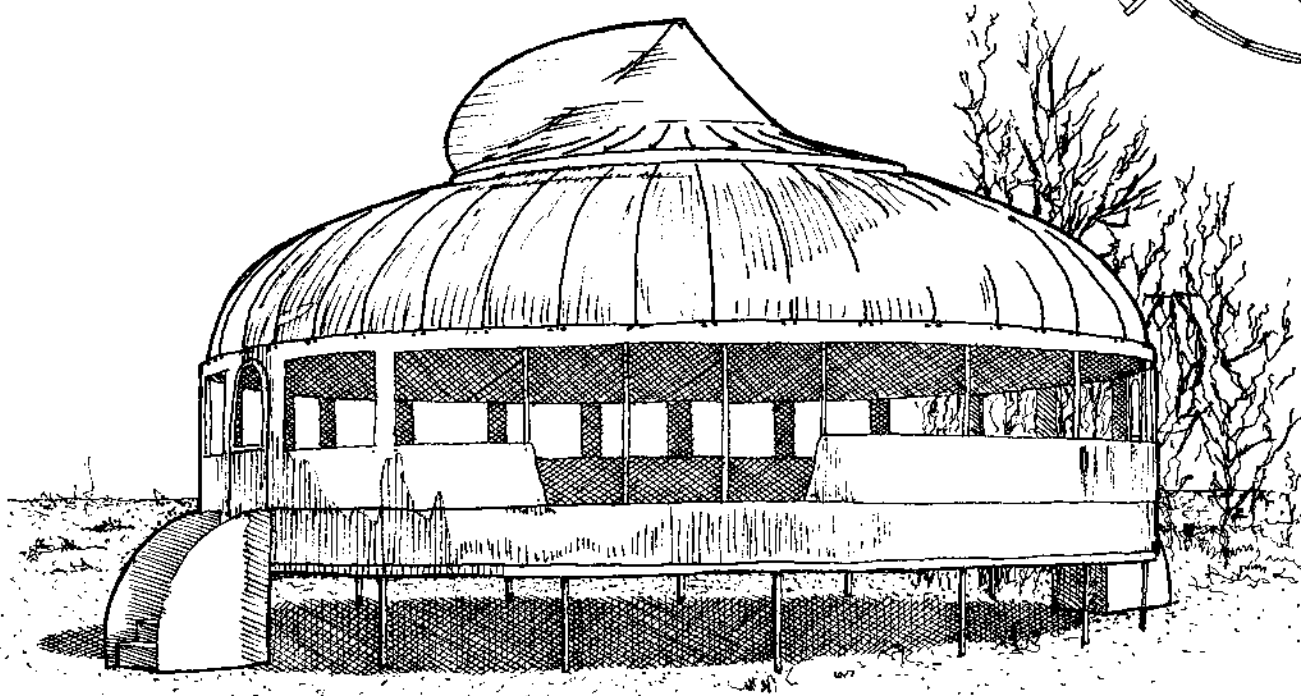
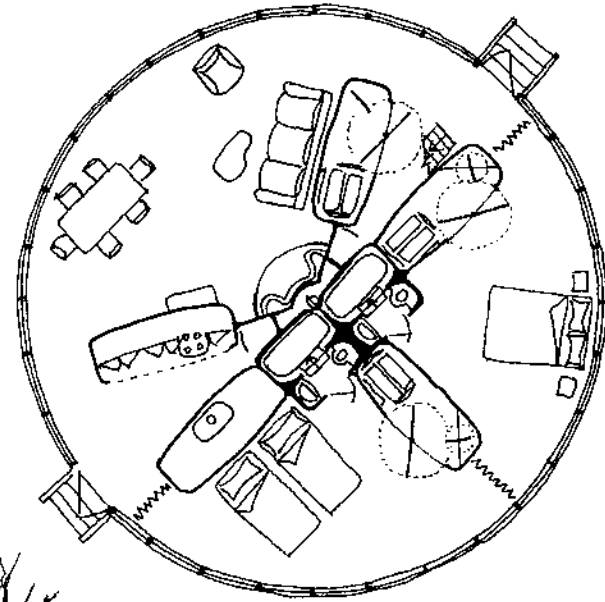
Ramp for dachshund by Atelier Bow-Wow



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

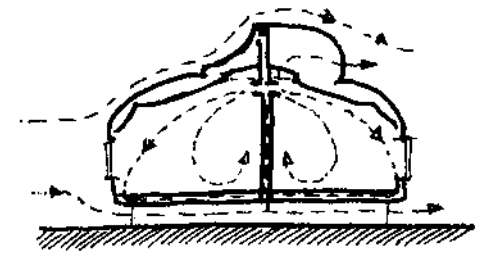
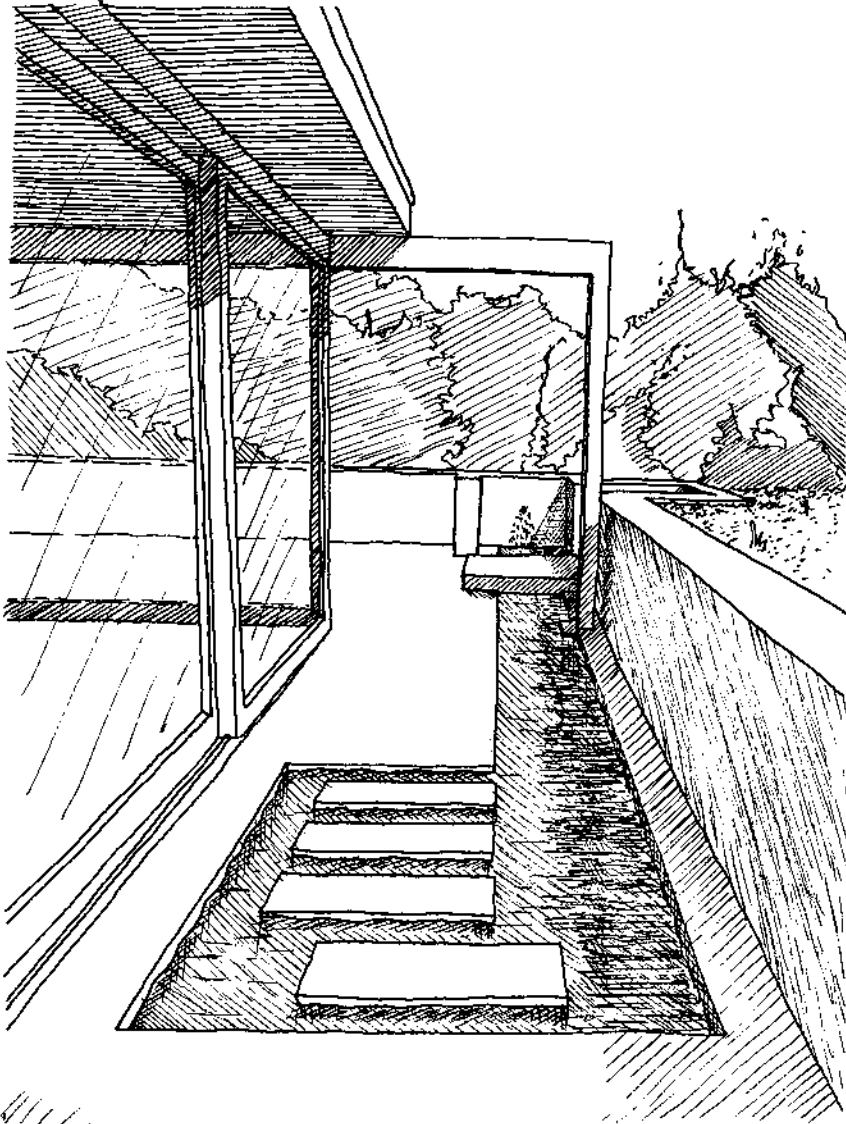


Diagram showing airflow due to roof ventilation system

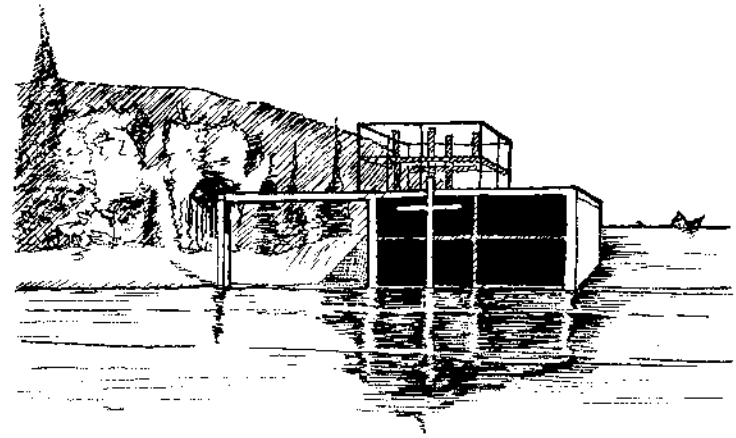
Incorporating water

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

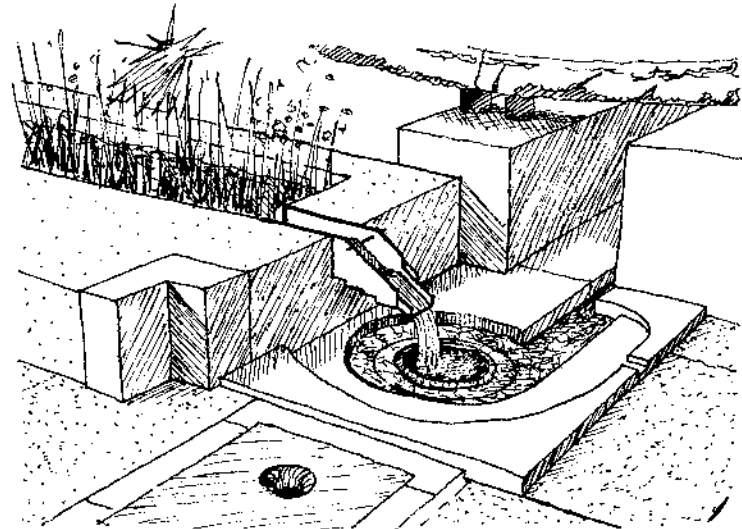
Sketch a place that you know, a garden or interior or even a public place, and design a new water feature within it...



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

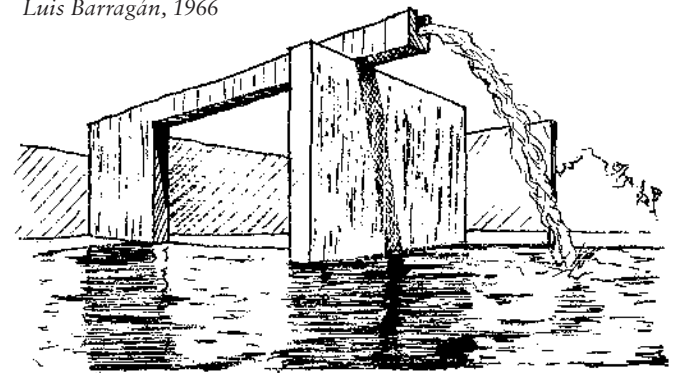


Church on the Water, Tomamu, Japan. Tadao Ando, 1988



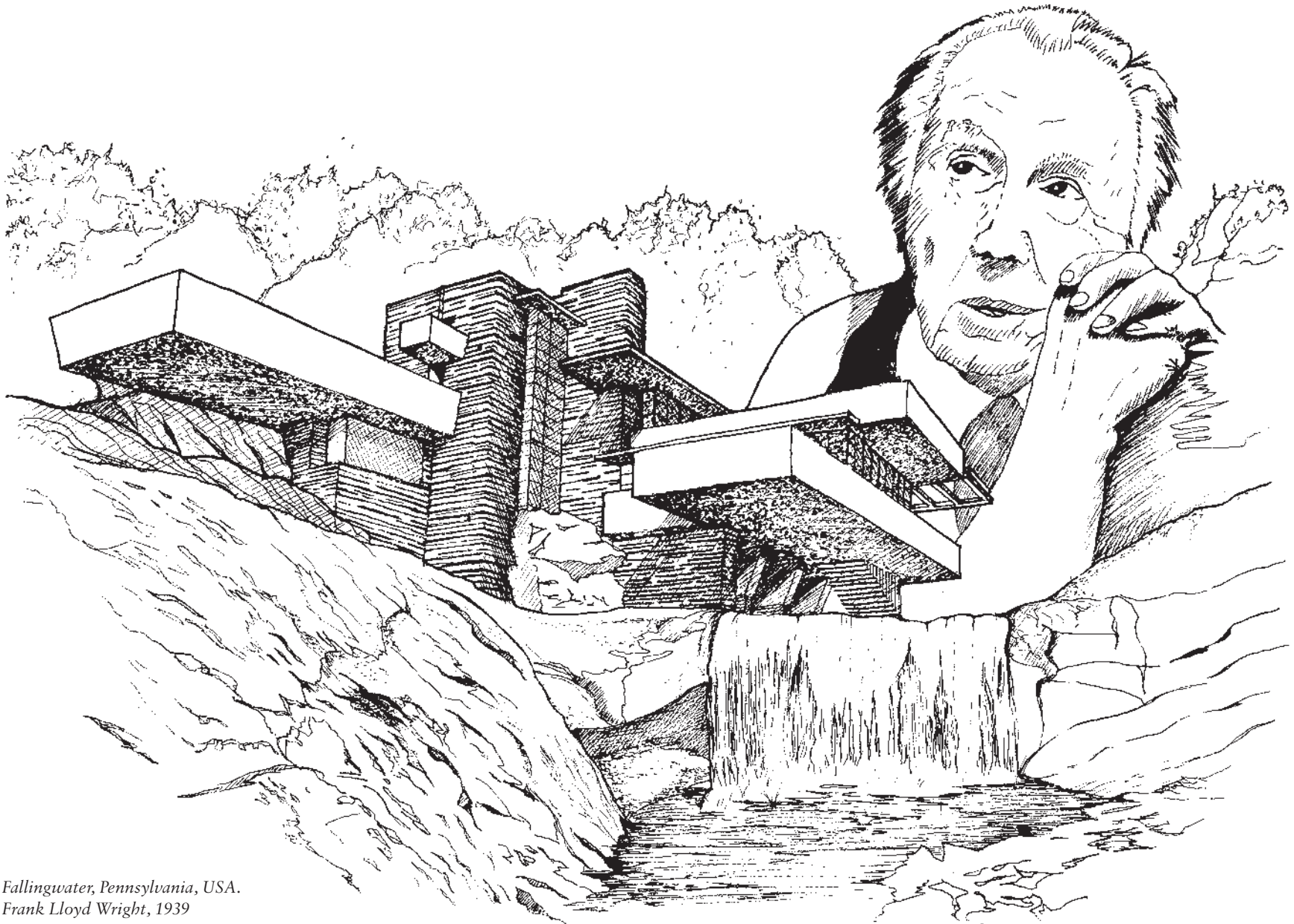
*Garden of the Fondazione Querini Stampalia, Venice, Italy.
Carlo Scarpa, 1963*

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

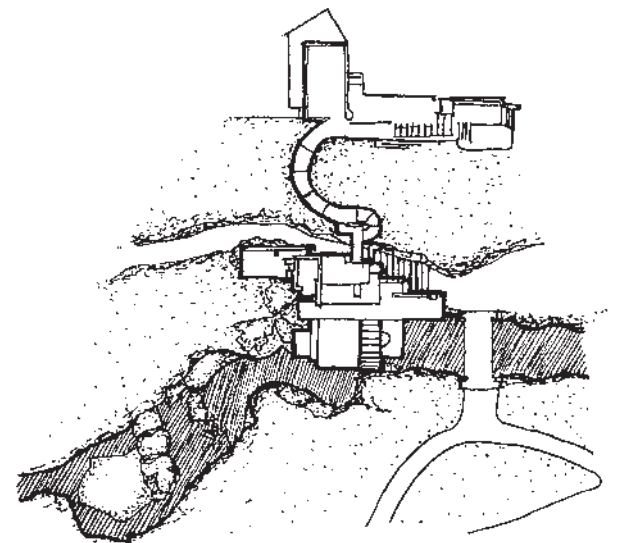


Frank Lloyd Wright described his work as **'organic' architecture**,
'where the whole is (to) the part, what the part is to the whole.' His Fallingwater house completely
integrated the surrounding landscape as part of the environment of the house.

*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*



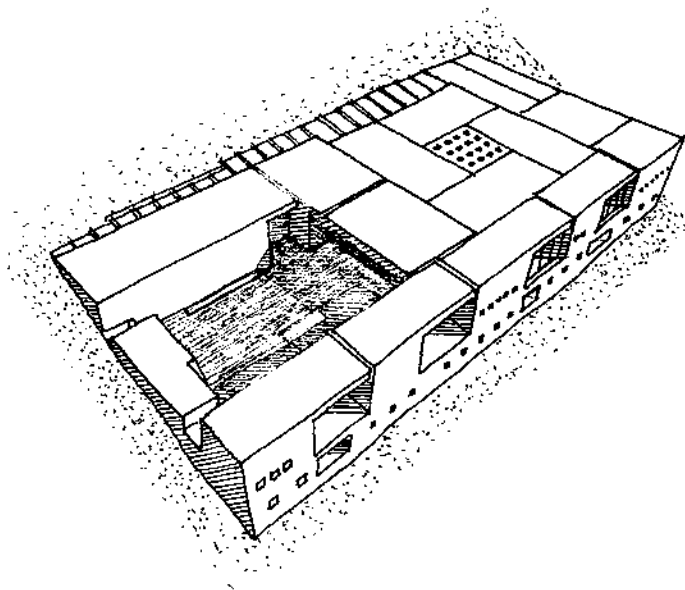
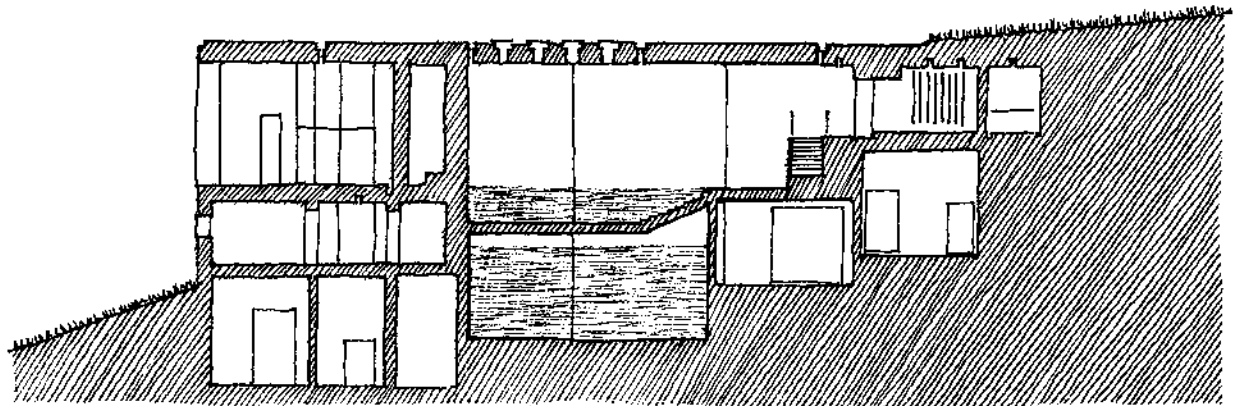
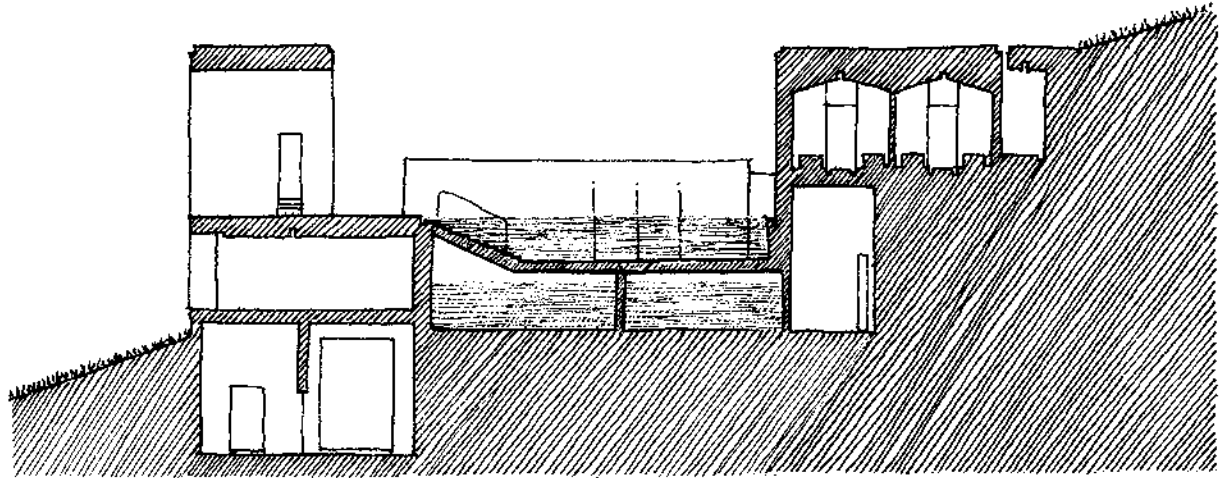
Aerial view

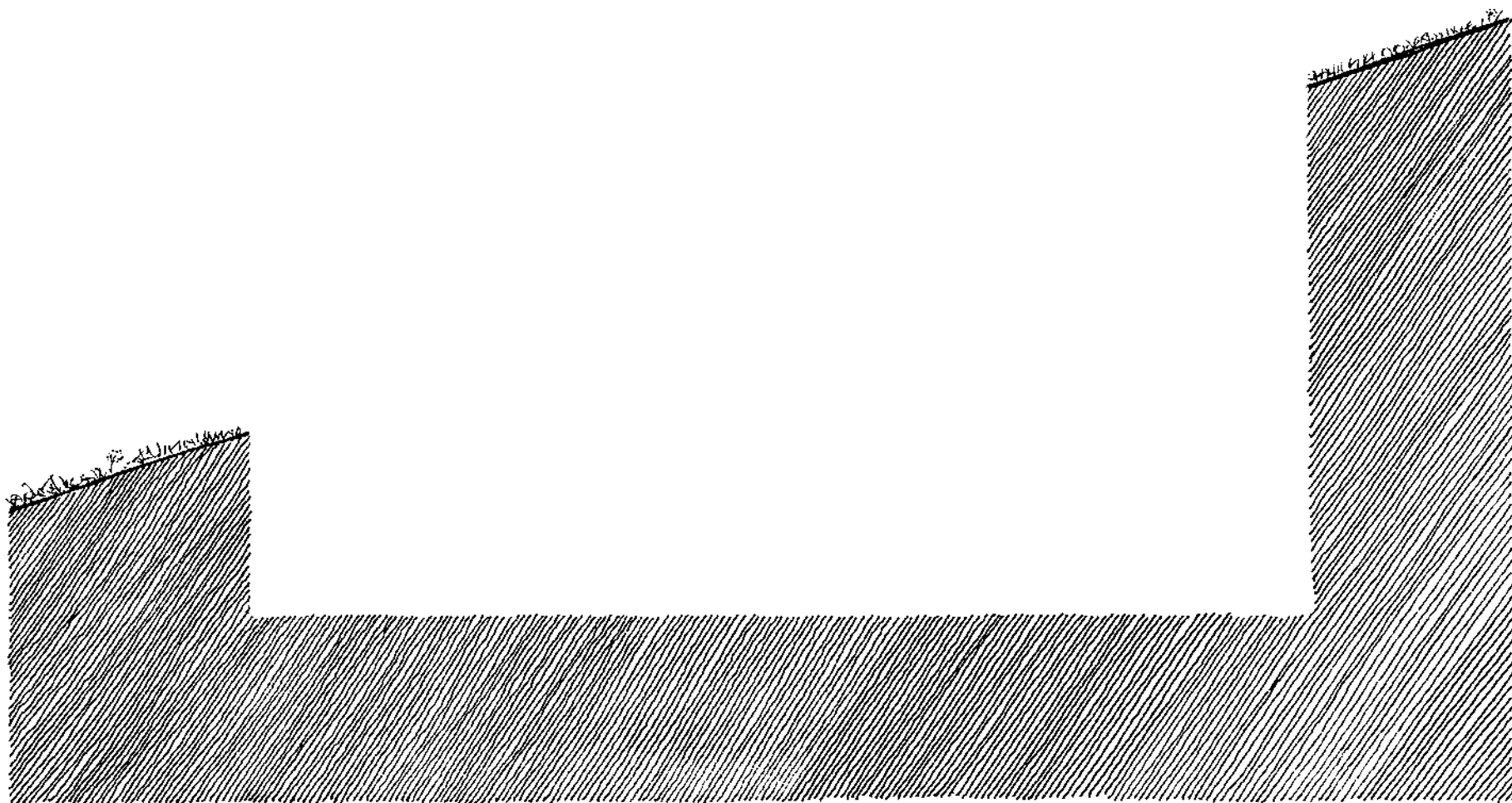
This is a **sectional drawing** of a hotel/spa that has been cut into the mountain over a thermal spring. The quartzite stone of the mountain is used to form the structure.

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



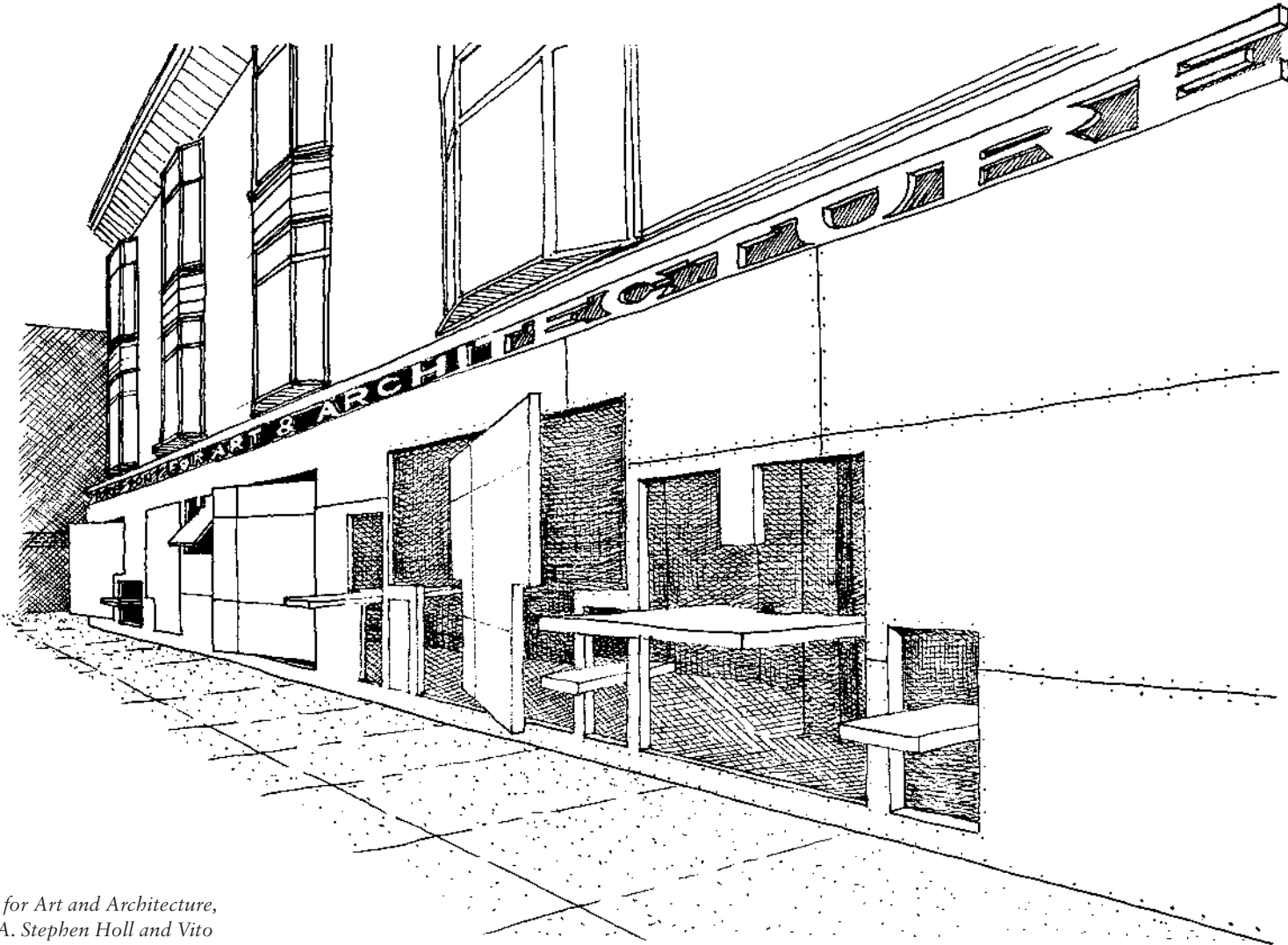
*The Therme Vals, Switzerland.
Peter Zumthor, 1996*



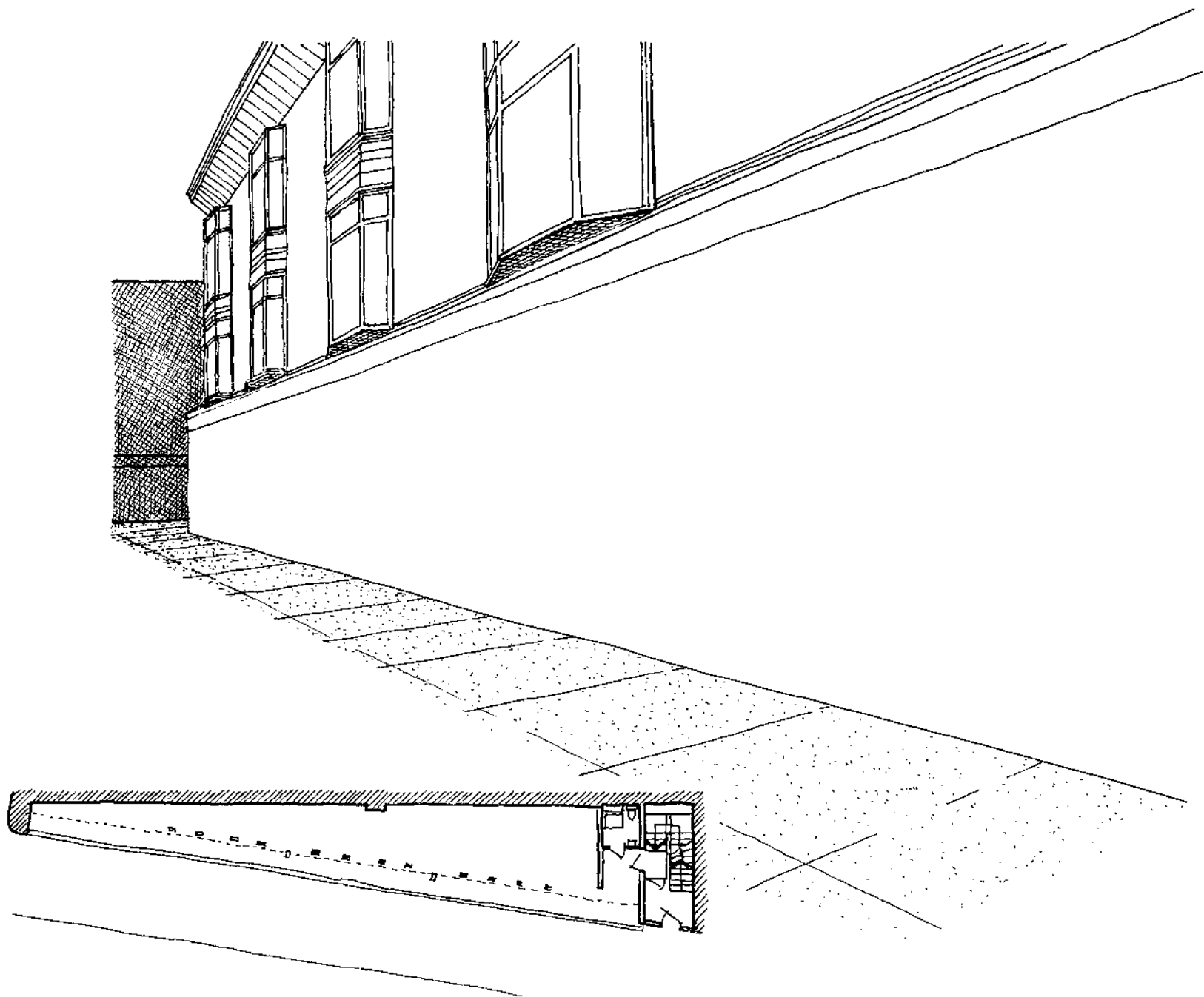


Breaking down **the threshold** between the street and gallery is the aim of this Storefront for Art and Architecture façade.

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

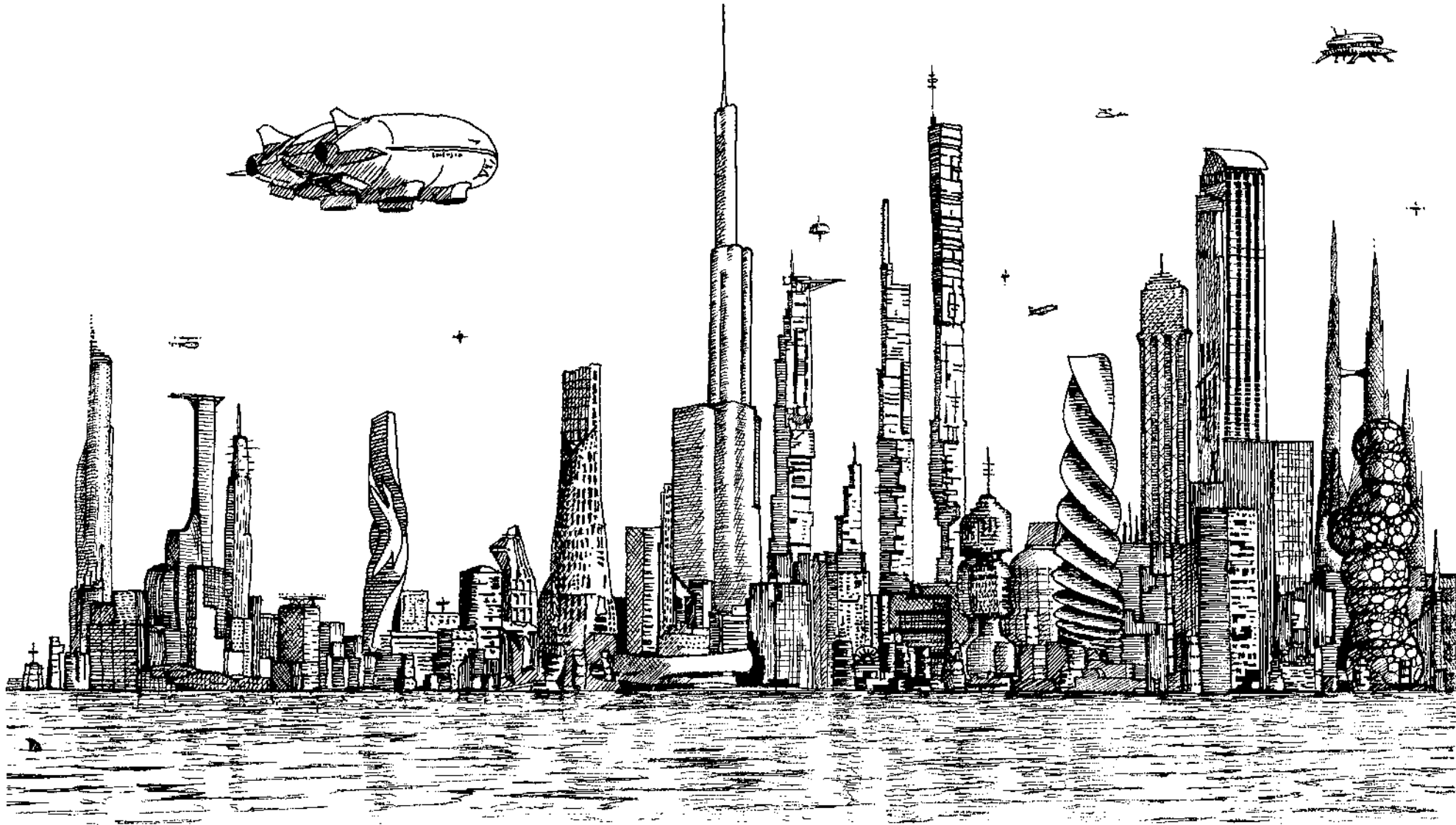


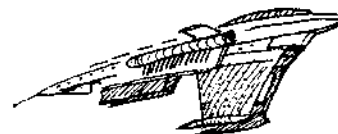
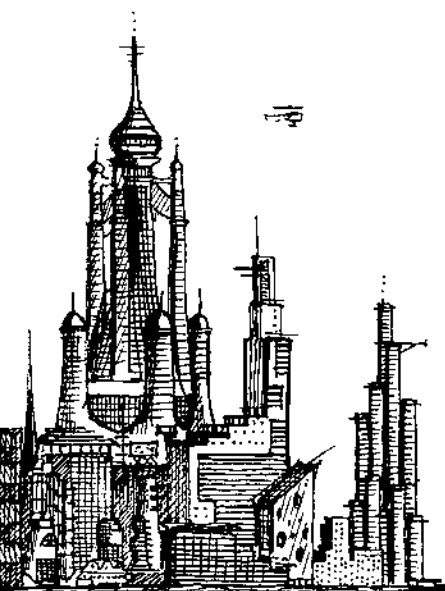
*The Storefront for Art and Architecture,
New York, USA. Stephen Holl and Vito
Acconci, 1993*



Our major **cities of the future** are becoming taller,
denser and a mixture of different styles and forms. This drawing of an imagined city
is constructed using a variety of sampled projects and made-up forms and designs.

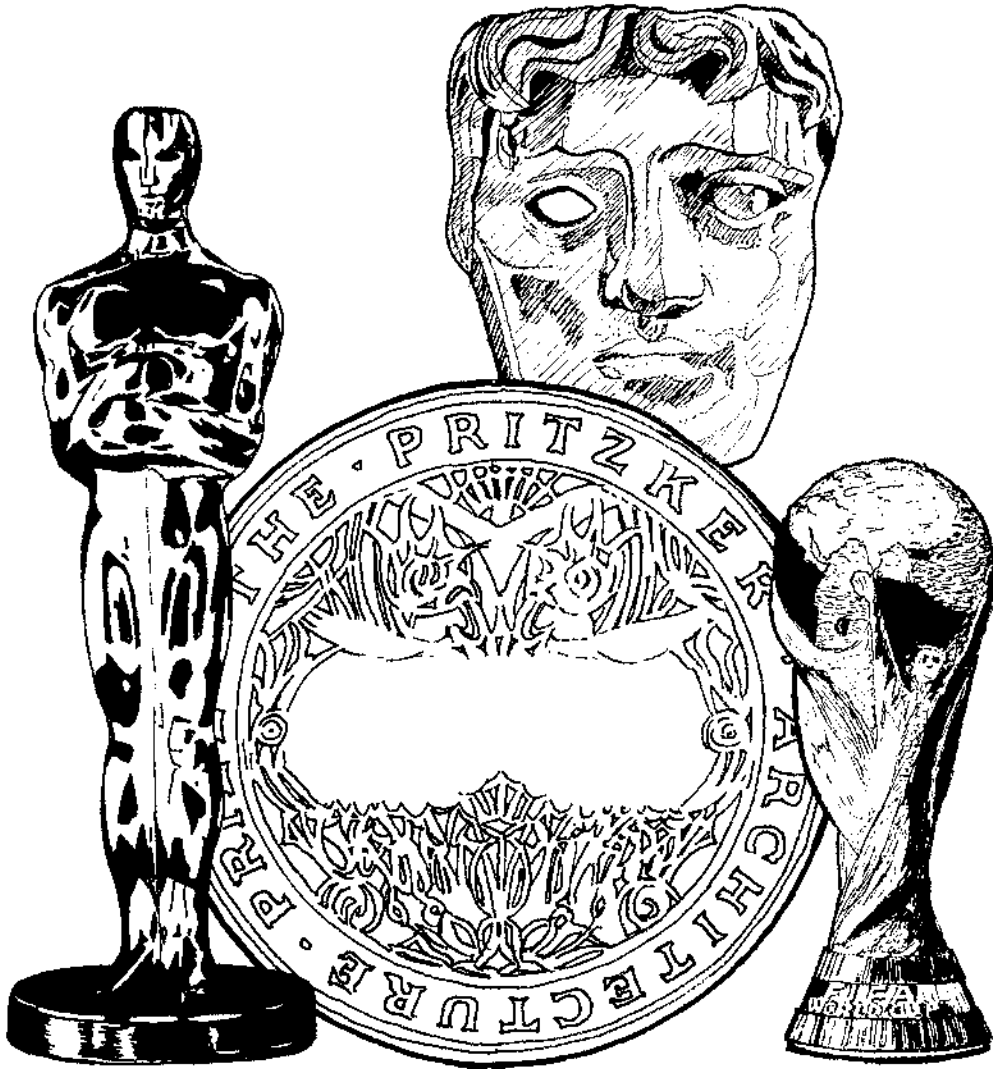
*Complete the city panorama with your vision of the future.
Once completed give this city a name...*



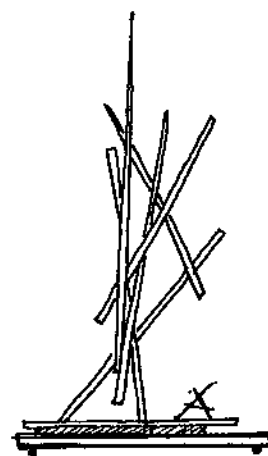


You've completed the book and won the award for **Architect of the Year!**

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.

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

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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.