

The Arsenal of Venice: A Study on the Degree of Context-Conscious Architecture

by Murat S. Germen

Bachelor of Science in Urban and Regional Planning
Technical University of Istanbul, Turkey, June 1987

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF

MASTER OF ARCHITECTURE

AT THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
FEBRUARY, 1992



©Murat S. Germen, 1992. All rights reserved.

The author hereby grants to MIT permission to reproduce and to distribute publicly copies of this thesis document in whole or in part.

Signature of Author.....

Department of Architecture
January 17 1992

Certified by.....

Jan Wampler
Associate Professor of Architecture
Thesis Supervisor

Accepted by.....

MASSACHUSETTS INSTITUTE
OF TECHNOLOGY

FEB 24 1992

LIBRARIES

Rotch

Kenee Y. Chow
Chairperson
Departmental Committee for Graduate Students



Room 14-0551
77 Massachusetts Avenue
Cambridge, MA 02139
Ph: 617.253.2800
Email: docs@mit.edu
<http://libraries.mit.edu/docs>

DISCLAIMER OF QUALITY

Due to the condition of the original material, there are unavoidable flaws in this reproduction. We have made every effort possible to provide you with the best copy available. If you are dissatisfied with this product and find it unusable, please contact Document Services as soon as possible.

Thank you.

The images in this document are of the best quality available.

The Arsenal of Venice: A Study on the Degree of Context-Conscious Architecture

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE ON JANUARY 17, 1992 IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARCHITECTURE

by Murat S. Germen

ABSTRACT

The main focus of this study is to define a flexible approach for the most conventional challenge in architecture of introducing a new building into a fabric, that we sometimes call "context", composed of old buildings that have historic significance. Flexibility of the approach is an important issue since the character can change drastically from context to context.

"Respecting the context" is used in architectural language as if it were a crystal clear concept. However, both words (i.e. "respect" and "context") are very large concepts in themselves and it is possible to generate various associations, sometimes even contradicting each other, from these words. As a consequence, it was crucial to define the exact personal meaning of "context" by reinterpreting it. In addition, it was important to decide about levels on which "respect" for the "reinterpreted context" can be accomplished. In fact, that is where the flexibility of the approach comes about since the levels to be respected change from context to context.

iii

After reinterpretation of these terms, next goal is to provide collaboration of old and new through *overlap* rather than *juxtaposition*. The point of overlapping is to offer the possibility of experiencing old and new simultaneously by creating alternating interwoven layers of old and new.

Finally, there is a secondary study on existing examples of new interventions in historic contexts. The purpose of this study is to derive possible processes of "respecting/ignoring the context". Defining these different processes will help figuring out "what not to do?" rather than "what to do?".

Thesis Supervisor: Jan Wampler

Title: Associate Professor of Architecture

ACKNOWLEDGMENTS (in alphabetical order by first name)

This thesis is dedicated to people who made dedications...

Alex Van Praagh, I really appreciate his appreciation of the fact that I was a thesis student and sometimes I could not spare time for basic apartmentmateship duties. Thanks Alex for the coffee shop shift, great dinners in our house and at your parents', and your friendliness.

Andre Tchelistcheff, he is the most open and frank person that I ever met. I enjoyed and definitely learned from the continuous exchange of social, cultural, and architectural ideas . Regardless of his daily mood or psychological state he has been/is always real and supportive. Thanks Andre for considering me as your friend (I'm serious).

Anoma Pieris, she is one of the most patient and self-sufficient people I have ever seen. Thanks to Anoma and Alex I had a very enjoyable and comfortable life in the place I was living. I appreciate small but important things, architecture, feelings, and knowledge you shared Anoma.

Aydın Germen, he is the only person who enabled me to pursue an enriching education as far as financial and psychological support, providing basic and beyond-basic knowledge, and enthusiasm for learning. He has been the most concerned with what I am/was doing, thanks to him I have travelled and subsequently experienced extensively. I esteem his close friendship besides the paternal interest in me. I hope I will be able to keep dignity as much and as long as he did.

Ayşe Yalırım, she is one of the most (if not the most) understanding person in my life, considering me as a close friend as well as her son, and sharing her inner feelings with me Her big tolerance helped herself to overcome obstacles in her tough life. Her sensitivity, objective interest in what I am doing, endless productivity, not overwhelming but exciting enthusiasm help(ed) me remember enjoying life and what I am doing at the present (architecture for the time being)

Ayşen Savaş, she has been the most consistently supportive person outside school during the period I have stayed in the States, I truly acknowledge her sparing time to read the written part of the thesis and her suggestions to correct the informal language I have previously used. I hope we're gonna work together on a research project (probably documentation of Turkish Architecture) in the future.

David Gipstein, I have been assigned his buddy when he started this school, but I was not able to discover about his friendship until we became thesis officemates this semester. I sincerely appreciate the sophisticated tools and appliances that he provided all the time, stories that he told, the great parties that he invited. With David and Luke I have had one of the best semesters in the school.

Emin Mahir Balcıođlu, it is thanks to him I was able to make a proposal on the Arsenale, the most exciting and beautiful site I have ever worked on. My sincere thanks for hosting my father and myself at your house at Lido, Venice in 1988, for providing me with documents, for the help in contacting the necessary connections in order to enter the Arsenale, and most importantly for your close and real friendship that is devoid of any preconceptions and prejudices.

Ennio Concina, just after he came back from vacation and during a period he was giving lectures he was really kind to give me the opportunity for a meeting. I would like to thank him for the bibliography and the book he has supplied.

Esra Erduran, one of the most giving, thoughtful and tolerant people I ever met. I acknowledge most importantly her sweet love, her helps in finishing my graduation project in the Technical University of Istanbul, in preparing my portfolio for schools in the USA, giving me very strong psychological support during the demanding application process; all these despite the fact that she has been the most concerned person about my leave. I will always look back.

Ettore della Giovanna, he is the person who wrote a letter in order to facilitate my entrance to the Arsenale, a place very hard to visit unless one has a special permit.

Foresteria S. Fosca and students of architecture from Istituto Universitario di Architettura di Venezia, they let me to stay in the youth hostel for more than two weeks, unusually long period of time in a youth hostel. In addition, they have provided me with documents and large scale drawings that I could not find somewhere else. I enjoyed my stay and volleyball games during night time very much.

Giorgio Lombardi and Enrico Fontanari, in the middle of their busy schedule they were able to spare some time in order to discuss important issues on the Arsenale and to give me significant documents that I have really taken advantage of.

Jan Wampler, he is a very flexible instructor. He always lets his students create in their own world and then he helps them to improve their projects making crucial suggestions of a more realistic point of view in architecture. His knowledge, enthusiasm, energy, friendliness, and support enabled me to keep my own enthusiasm throughout the semester.

Jim Axley, his human, uninhibiting, constructive and fruitful unsureness in his critiques upon which it is possible to build something made me prove that architecture can be accomplished and discussed with no absolute rules.

Kevin Low, we have spent a semester together just for once and now he is in Malaysia, designing and building a real building. I do not forget his friendship even in his absence, we have been writing to each other pretty frequently over the past few months. Thanks to Kevin and André I have had my best semester in MIT. I hope we are going to keep in touch. Godspeed Kevin...I'd like to do something together (can be anything) intensely, full of energy and fun.

Maurice Smith, his broad knowledge made me exposed to different kinds of architecture from all over the world with which I was not very familiar. I was able to strengthen my belief in open architecture being a student of his.

MIT Department of Architecture, my earnest thanks to some faculty, Linda Okun, Leon Groisser, Katie O'Connor who have appreciated me as a student and in person as well.

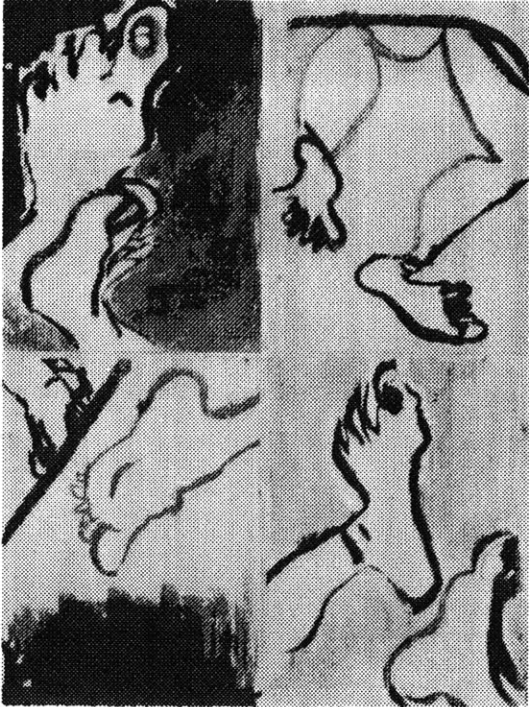
Renée Chow, even though I have never been her student she was always "to the point" as if she knew me. Her comments were very astute, helpful and reflecting a different point of view. I genuinely acknowledge her encouragement for this project, her recognition of my experimentation process in design this semester and considering me as a reviewer.

Samiye Yalırım, my grandmother, she has been a model person for me in trying to find out how to be a responsible person, how to avoid extravagance, and how to behave in different social interactions. She is one of the persons who enabled me to reach my present position.

Seyda Yalırım, my grandfather, his life and our relationship ended much before than I expected, I know I missed a profound relationship. If I have some discipline and if that discipline is the kind that is helpful rather than harmful that is mostly him. I will not forget the times he has spent on me, I wish he were still alive.

Yuan-Kei Luke Tan, we met each other the very first days of our education in MIT, three and a half years ago. He has always shown interest in my personal matters and tried to help me. He is one of the most sharing people that I know. I have high consideration of the things that he provided during the semester such as meals that he brought to the office and he offered in his house with his wife Michelle, modelling/drafting materials, architectural ideas, suggestions and references...

Zeynep Alangoya, I will never forget her courage, straightforward attitude and intense devotion. She is the first person who enabled me to increase the amount of mental effort I have been making. I am looking forward to share again.

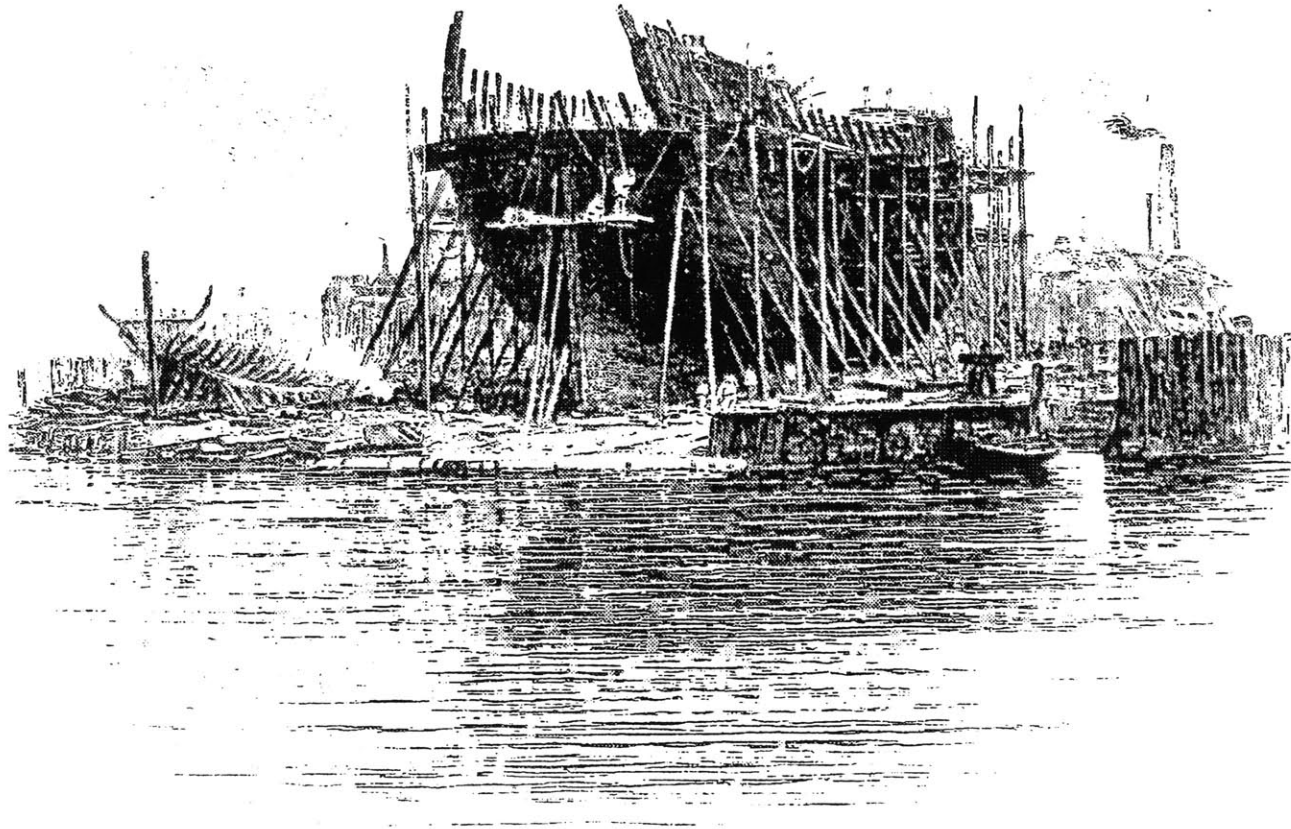


painting by Ayşe Yalırım

Pictures that have the initials MG on the upper and lower corners and the pictures of the models are taken by the author.

The link between architecture and ideology is a muddy one at best. Fascists and communists both approved of modern architects and their architecture at different times. Connecting architecture to abstract ideas, with the implication that it can advance them - or even illustrate them so that they can be understood by large numbers of people- seriously overestimates the designer's power.

Brent C. Brolin "Architecture in Context"



YAPIYLA YAPICILAR

Yapıcılar türküler söylüyor,
yapı türkü söyler gibi yapılmıyor ama.
Bu iş biraz daha zor.

Yapıcıların yüreği
bayram yeri gibi cıvı cıvı,
ama yapı yeri bayram yeri değil.
Yapı yeri toz toprak,
çamur, kar.
Yapı yerinde ayağın burkulur,
ellerin kanar.
Yapı yerinde ne çay her zaman şekerli,
her zaman sıcak,
ne ekmek her zaman pamuk gibi yumuşak,
ne herkes kahraman,
ne dostlar vefalı her zaman.

xii

Türkü söyler gibi yapılmıyor yapı.
Bu iş biraz daha zor.
Zor mor ama
yapı yükseliyor, yükseliyor.
Saksılar konuldu pencerele
alt katlarında.
İlk balkonlara güneşi taşıyor kuşlar
kanatlarında.
Bir yürek çırpıntısı var
her putrelinde, her tuğlasında, her kerpicinde.
Yükseliyor
yükseliyor
yükseliyor yapı kanter içinde.

Nazım Hikmet, 1955 (this is the original Turkish version of the poem, translation in English is on the next page)

BUILDING AND BUILDERS

Builders are singing,
building is unlike singing though.
It is a bit tougher.

Builder's heart
is as lively as a fairground,
yet construction site is not a fairground.
Construction site is dust, earth,
mud, snow.
You sprain your feet in construction site,
your hands bleeding.
Tea is neither sweet in construction site
nor is hot,
nor bread is soft as cotton,
nor everybody is a hero,
nor faithful are friends always.

Building is unlike singing.
It is a bit tougher.
Tougher, nevertheless
building rises, rises
Flower pots are by windows
on lower levels.
Birds are taking the sun to balconies
on their wings.
There is a heartbeat
in each beam, brick, mortar.
Rises
rises
rises the building in blood and sweat.

Nazim Hikmet, 1955

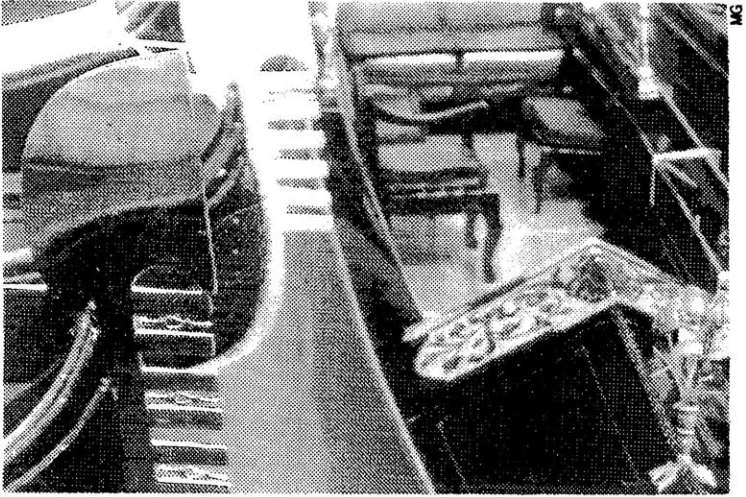


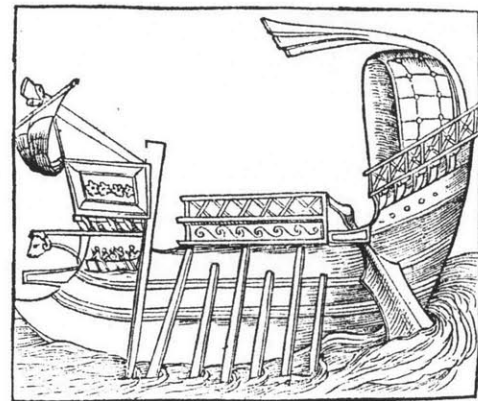
TABLE OF CONTENTS

Title Page.....	i
Abstract.....	iii
Acknowledgments.....	v-vii
Table of Contents.....	xv
CHAPTER ONE.....	1
INTRODUCTION.....	2
I. SITE.....	2
I.1 The History of the Arsenale.....	3
I.2 Previous Re-use Proposals.....	8
I.3 Criteria for the Selection of an Appropriate Function for the Site.....	11
I.4 The Particular Location of the Maritime Museum in the Arsenale.....	13
I.5 Morphological Survey.....	15
I.6 Examples of Executed and Proposed Modern Interventions in Venice.....	16
CHAPTER TWO.....	19
II. THESIS/STANCE.....	20
II.1 The General Design Approach and Redefinition of "context".....	21
II.2 The General Notions to be Followed During the Design Process	
a) Continuity/Discontinuity at Different Levels.....	23
b) Layering.....	24
c) Complementarity of Old and New Materials.....	31
CHAPTER THREE.....	33
III. ANALYSIS OF EXISTING EXAMPLES FOR A SIMPLISTIC CATEGORIZATION OF VARIOUS APPROACHES TOWARDS THE CONTEXT.....	34
Category One.....	34
Category Two.....	35
Category Three.....	36
Category Four.....	41

CHAPTER FOUR.....	45	
IV. THE SPECIFICS OF THE DESIGN.....	46	
IV.1 Objectives.....	46	
IV.2 A Concern.....	47	
IV.3 Relevance of the Design.....	47	
IV.4 A Way of Working.....	47	
IV.5 Inspirations for the Design.....	48	
IV.6 Interpretation/Abstraction of Existing Site Conditions.....	49	
IV.7 Urban Design Factors that are Considered in the Design.....	50	
IV.8 Preliminary Sketches and Related Design Work.....	51	
Conceptual Model.....	52	
Conceptual Sketches.....	53	
Site Model.....	55	
First Scheme.....	56-57	
Second Scheme.....	58-61	
Third Scheme.....	62-64	
Fourth Scheme.....	66-69	
Fifth Scheme.....	70-97	
IV.9 List of Items to be Exhibited.....	98	
IV.10 Level Changes, Visibility of Different Levels Regardless of Location, Bridges.....	98	xv
IV.11 Minimal Solid Building Mass on Ground Level.....	101	
IV.12 Circulation - Ramps.....	103	
IV.13 Insertion of a Diagonal Canal Through the Site.....	104	
IV.14 Canal System.....	104	
IV.15 Separation of Building Systems.....	105	
IV.16 Combination of Materials.....	105	
IV.17 Angle Introduced in the Plan.....	106	
IV.18 Outdoor Exhibits.....	106	
IV.19 Need for a Vertical Element.....	107	
IV.20 Sail-roof.....	109	
IV.21 A Real Ship in the Site.....	109	
IV.22 Program - Uses in the Building - Squarefootages.....	110	
IV.23 Epilogue - Evaluation of the Design.....	110	
NOTE ABOUT VISUAL REFERENCES.....	111	
APPENDIX A: BACKGROUND ON NAVAL ARCHITECTURE.....	113-123	
APPENDIX B: BIBLIOGRAPHY.....	125-127	

CHAPTER ONE

SITE



INTRODUCTION

The exploration of the ideas exhibited in the abstract will be through the design of a maritime museum in a historically significant city fabric, the Arsenal of Venice. The sequence for the presentation of the facts, speculations, and suggestions about the site will be as follows:

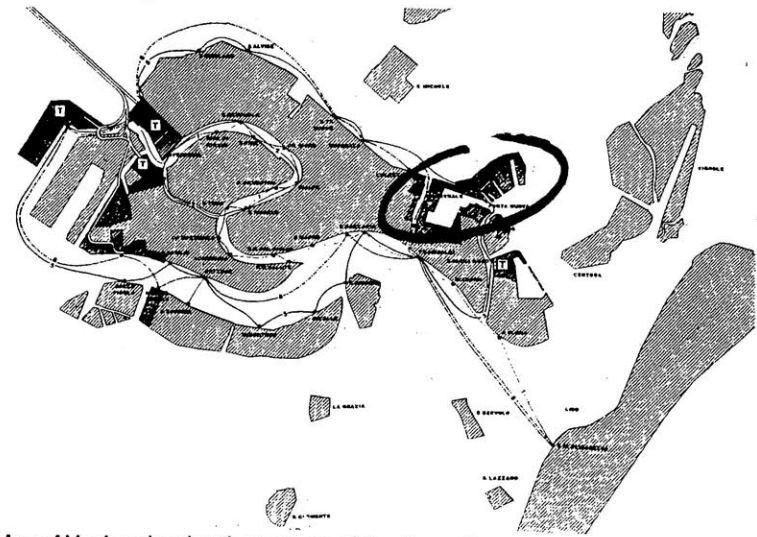
- description of the site
- explanation of the theoretical concept
- study on existing examples of modern interventions in old contexts
- specific information for the proposed design

2

I. SITE

The site chosen is the arsenal complex, The Arsenale, which is located on the eastern end of Venice, north of Canale di San Marco (see circled area in the map).

There are several reasons for selecting the Arsenale as a site for exploration of the hypothesis(es) presented in this study. The Arsenale accommodates particular physical characteristics such as:



Map of Venice showing the location of the Arsenale

- it is a piece of land that is extensively surrounded by water and in which it is impossible to end up with a design that avoids integration of water.
- as far as transportation, the only access to the site is through boats. There are no cars and related parking garage problems. These facts lead to a special consideration of conditions for circulation in the site.
- cranes, ramps, docks, warehouses furnish the site a unique industrial character which is not usually found in every historical context.

Considering this character, the Arsenale is more open to modern interventions than any other site in the residential fabric of Venice.

The reason for this openness is that considerations and parameters for a project in the canals of Venice would be more on a **stylistic** level, while considerations for the Arsenale are **spatially** driven.

-the Arsenale dates from as early as 12th century and as a result it embodies many layers of history and architectural styles. The final physical existence of the Arsenale has not been built at one time, and therefore, it is not an unbreakable unity. In other words, the Arsenale, being as emblematic of Venice as Piazza San Marco, is much more flexible than Piazza San Marco in welcoming new additions. As it has the capability of handling new forms, the Arsenale serves the conceptual purpose of this study which deals with mixing new into the old.

-finally, the Arsenale has been selected by so many architects and institutions to explore ideas related/unrelated to Venice and the Arsenale that only this fact would be enough to answer the question "why Venice?".

1.1 The History of the Arsenale (this section is compiled using two articles, first being "The Arsenals of Venice and Istanbul" by Emin Balcioglu, and the second by Luciano Semerani from "L'Arsenale Riordinato: Nuovi Progetti per Venezia")

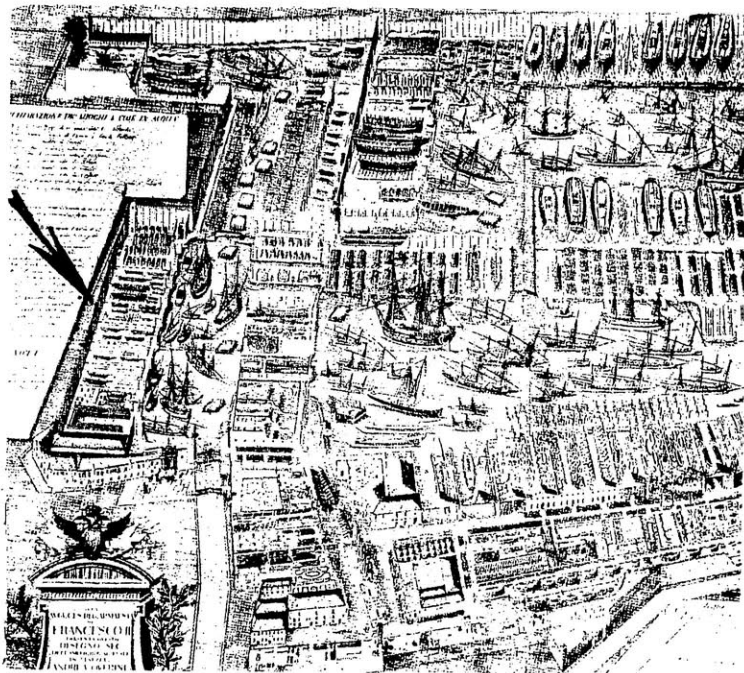
Beyond the monumental complex of Saint Mark's Square, with its church and Ducal Palace, there exists no other place in Venice which can be considered as emblematic of the city as the Arsenale, mythic "Arzàna dei Veneziani" cited by Dante, for centuries the largest productive installation in all Europe. It has a positional importance similar to that of the central areas of other important capitals, such as Les Halles or Beaubourg in Paris.

According to most sources, the beginning of the history of Arsenale can be taken as far back as 1104 when two rows of open shipyards were constructed on the two sides of a narrow basin that stretched from South to North. This basin was called "Rio dell'Arsenale" and is the original nucleus of the Arsenal.

It was during the first half of the fifteenth century that buildings of particular architectural value were erected. After a few phases of expansion, emphasis was given to security matters. From 1522 to 1525 measures were taken to safeguard the storage of gunpowder, which in several cases had caused disastrous fires. During the same period, land was

acquired near the entrance, not only for security reasons, but also to give space to a more monumental entrance. Lastly, new canals were opened all along the perimeter of the compound in order to further isolate it from the rest of the city. The Arsenal was considered to be a military base by the Venetians and therefore needed protection from spies and saboteurs.

4



The Arsenal as of 1797 - The particular site is on the left hand side where the arrow is pointing towards

In spite of the heroic defense of the city by the Venetians in 1849, the Austrians occupied the city once more since the Congress of Vienna in 1815. For the Arsenal a period of decadence began and its fortunes did not change until the Italian army entered the city in 1866. When Venice entered into the kingdom of Italy, the Arsenal regained its original strategic importance. It became the northern Adriatic base of the Italian navy. It was equipped with modern machinery in order to compete with the Austrian arsenal in Pola.

With the beginning of the First World War, a very important phase of the history of Arsenal commenced. As many as 1800 workers were employed at the time. All the most important operations against enemy ships originated from here. With the defeat of Austria, some of the Arsenal's area was given up to private shipbuilders. In 1920 a great fire destroyed the buildings of the oldest section.

Morphological evolution of the Arsenal - chronological formation process

- 1-L'Arsenal Vecchio, 1170
- 2-first expansion towards S.Daniele lake, 1300-10
- 3-addition of L'Arsenal Nuovo, 1320-30
- 4-formation of Fonderie, 1390
- 5-addition of L'Arsenal Novissimo, 1473-85
- 6-formation of Galeazze, 1539
- 7-opening of Canal delle Galeazze, 1581

8-addition of more warehouses at NE corner, 1797

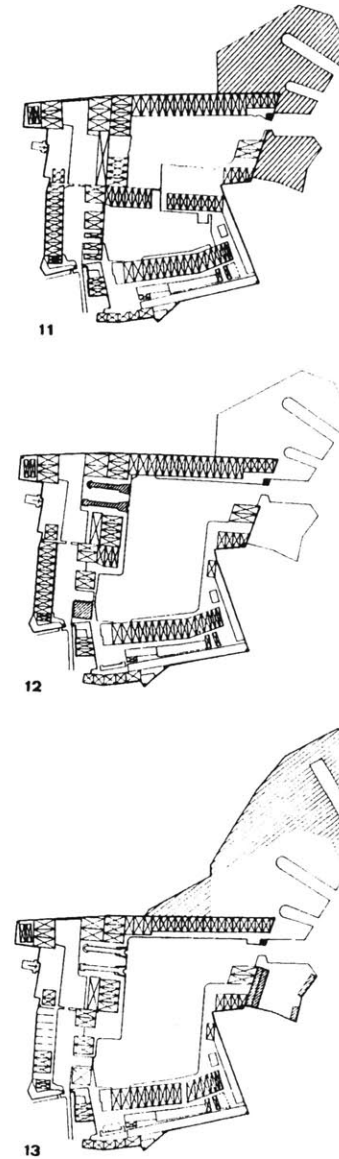
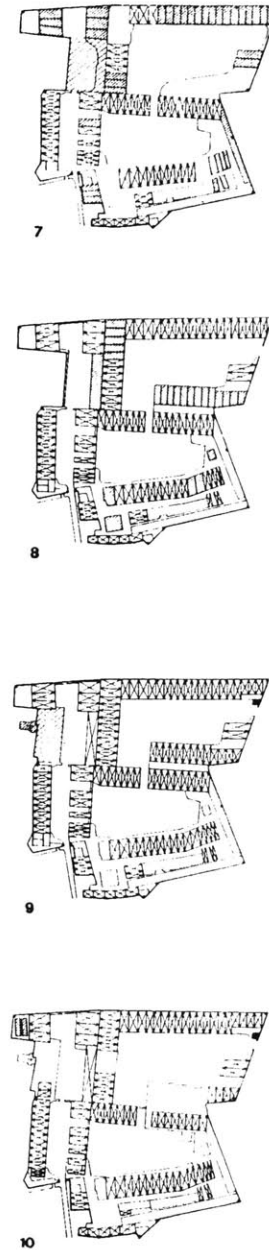
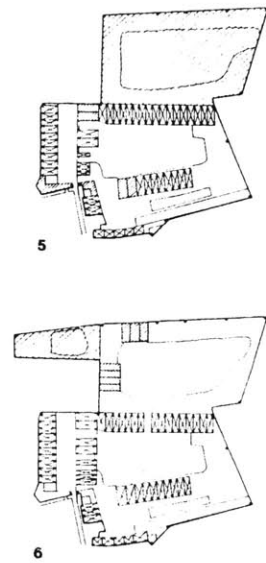
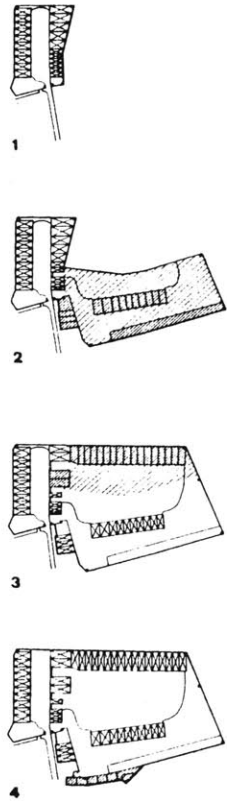
9-annexation of Celestia church, 1810-23

10-transformation between 1823-66

11-transformation between 1871-75

12-transformation between 1876-80, partial destruction of Squadratori

13-transformation between 1887-1936, formation of Piazzale dell'Impero

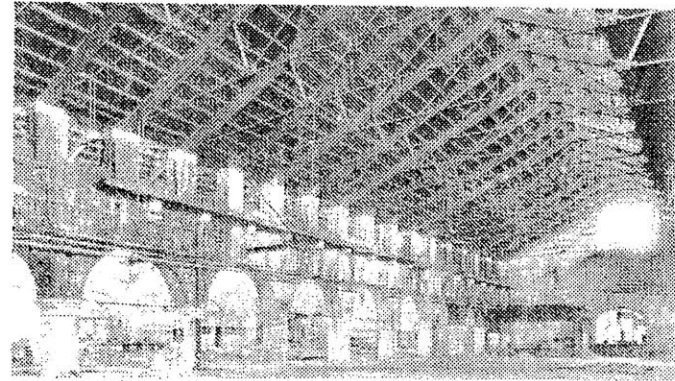


Today, the navy's presence is mostly symbolic in the Arsenale and very limited works of maintenance are carried out. The shipyards north of the *Darsena Grande* are operated by a private shipbuilding company. Nearly all the buildings of Arsenale are abandoned today. They all urgently need extensive restoration.

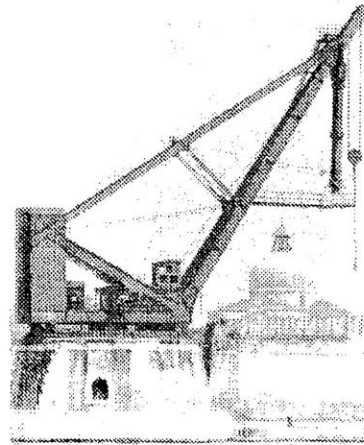
The arsenal complex was once the largest industrial establishment in Venice, and it was used to repair galleys and keep a few in readiness. The complex has a historical significance of being a democratic establishment which provided workers with a considerable power in the management. In addition, it was one of the first institutions that introduced standardization and spatial sectorization in labor.

The Arsenal of Venice occupies today an area of approximately 32 hectares. Considering the size of Venice which is 670 hectares, one can easily understand the importance that this compound had for the city. The whole complex represents the largest spatial potential in the historic district (not on land but, at its margins), of activity characteristic of the new social and economic reality that we now commonly define as postindustrial.

Besides the remarkable historical richness, there is also an inspiring framework consisting of water, cranes, piers, pedestrian bridges, etc. All the water in Venice is either lagoon, channeled river, or streets between houses. In the Arsenale, the water functions as an extension of the workspace, comprising 9 hectares of an overall area of 32 hectares.



Interior of one of the buildings in the north



The biggest crane in the Arsenale, the eastern side of the lagoon

1.2 Previous Re-use Proposals

The Arsenale accommodates the largest open areas in Venice and it is a potential site for public institutions that Venice needs urgently.

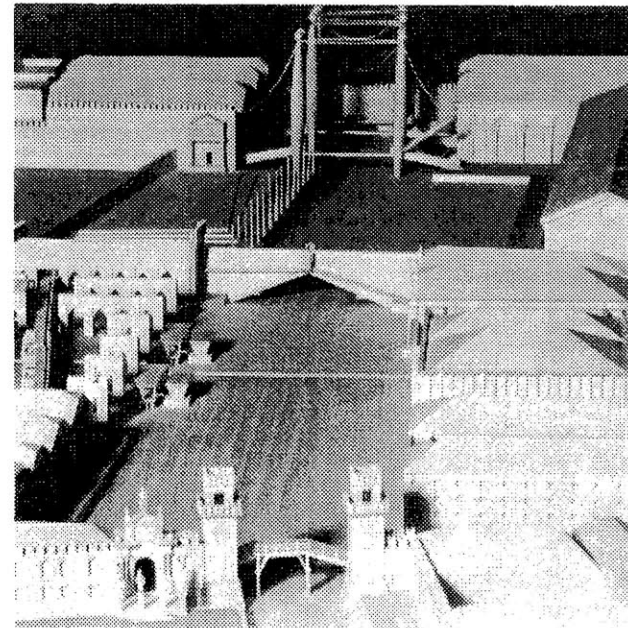
Given the extent of open areas and the good condition of some of the buildings, several interdependent reconversion proposals have been made by different individuals/institutions over the last two decades. The following list is a compilation of these proposals found in several books on the Arsenale.

8

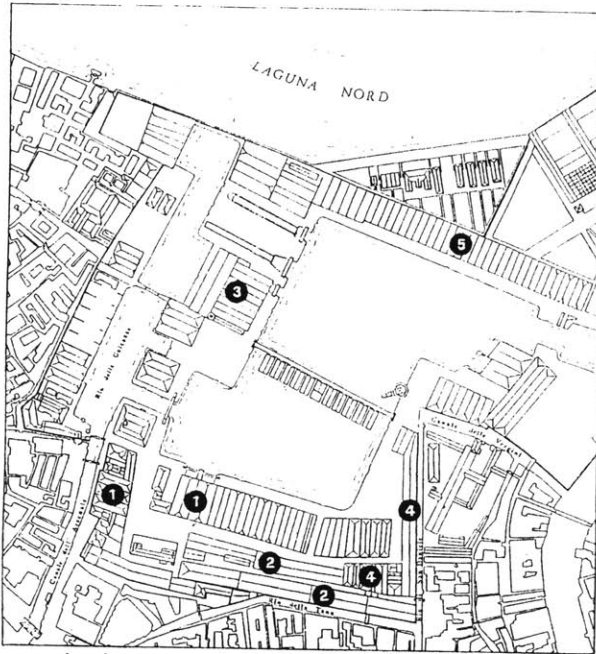
- academic institutions (university, high school)
- hosting the Biennale/cinema, exhibitions
- industrial establishments
- large meeting hall for conferences/congress-center
- luxury hotels/use of internal basins as mooring for pleasure boats, marina
- minor workshop activity (ship, boat, gondola production and repair)
- museums of
 - industrial archeology
 - marine arts and crafts
 - modern art
 - naval history
 - science

- the history of Venice
- urban history

- international center for contemporary art (use of computers for automation (robotics), simulation (computer graphics), analysis (extrapolation), real time communication, teleconference, videoelectronic registration using compact disc and hologram technologies, research, marketing)
- sportive facilities/installations, recreation zone
- storage facilities



Several proposals for the Arsenale by different architects designing different areas in the whole site. All the designs are compiled in a book called "L'Arsenale Riordinato" (The Arsenale Reordered), with professor of architecture Luciano Semerani leading the study



map showing proposed uses for the whole Arsenale

- 1- Museum of the Arsenale and Military Maritime Museum
- 2- Innovation Museum
- 3- Contemporary Art Center
- 4- Restoration Center
- 5- Exposition Area

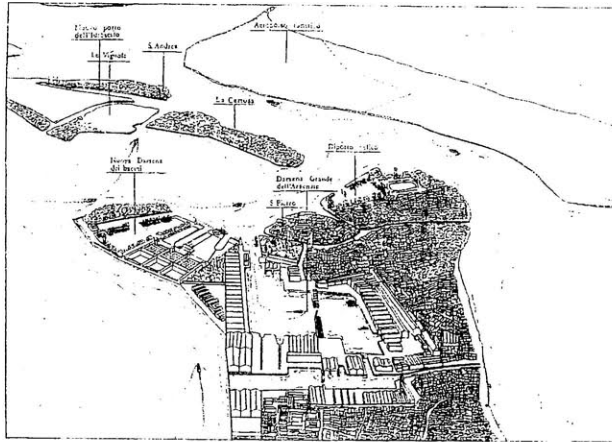


A naval museum proposal by Boris Podrecca for Casa del Bucintoro, Arsenale

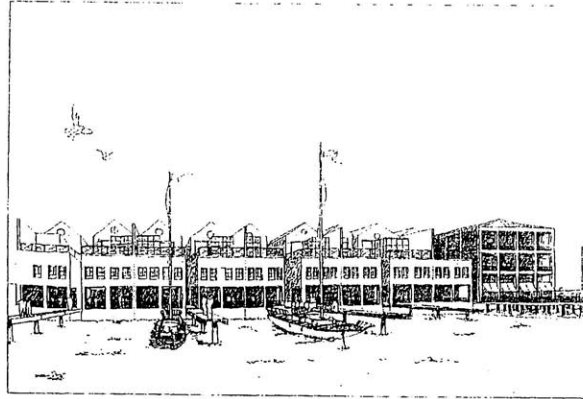
A redevelopment project for the Arsenale of Venice to create temporary and permanent activities for the scenario of the 2000 - Study group: Giorgio Lombardi (project coordinator), Carlo Aymonino, Francesco Bandarin, Giorgio Bellavitis, Andreas Brandt, Enrico Fontanari

Main features of the project (from "Summary of the Preliminary Report for THE ARSENALE OF VENICE AND EXPO 2000"):

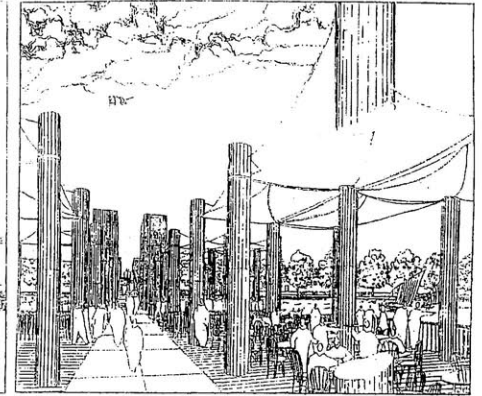
- New museums: The main aim of the planned new museum structures is to satisfy the demand for cultural tourism by seeking to offer a highly stimulating and evocative product:
 - The Navy and Arsenale Museum
 - The Museum of Discoveries (industrial technology)
 - A center of Contemporary Art
- Research centers: With a view to the Expo, the Arsenale could become a special center for techno-scientific research. Research activities envisaged in the project include:
 - A restoration center for educational and research purposes (restoration of modern works of art and cinematographic film)
 - Workshops for the Museum of Discovery and of the Arsenale
 - A research center for telecommunication systems
 - A center for electronic publishing
- Leisure Ports: The Arsenale, conceived as a great Water Plaza, provides the opportunity of reorganizing the Venetian leisure-port system. In this project the Great Harbor of the Arsenale takes on the function of a landing port, like the "Mandrachio" or inner harbor of the ancient Adriatic and Greek cities, a place of exchange between land and sea activities. It will become the heart of a system of harbors and ports in the surrounding lagoon area, known as the San Pietro di Castello basin. A port equipped with leisure facilities, and therefore not compatible with the activities of the Arsenale, is located in a new harbor to be built in the Great Dockyard.
- Residences and community facilities: Vergini Island and the former convent of San Daniele, both incorporated into the Arsenale in the last century, are to be redeveloped for residential purposes and community facilities.
- The Expo project: The Arsenale will be, in fact, a satellite of the expo whose center, the Magnet, is to be situated at Tessera on the mainland, and will be linked by water transport across the lagoon. Expo plans for the Arsenale include a temporary exhibition itinerary and the construction of exhibition structures to be reused later for research and workshop activities.



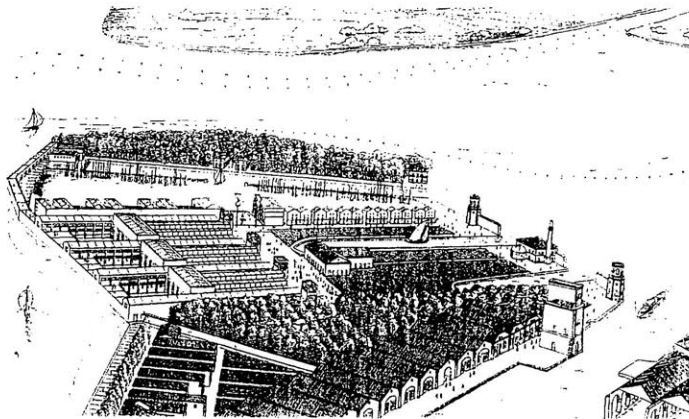
EXPO 2000 Project



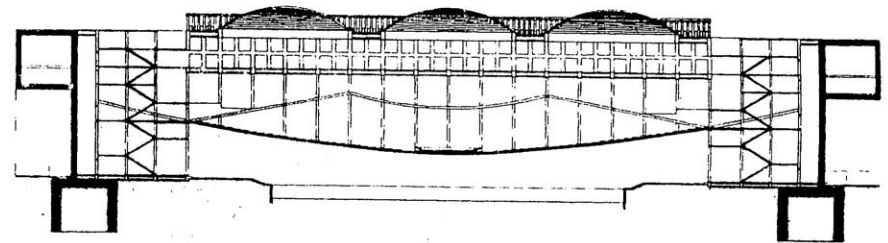
EXPO 2000 Project



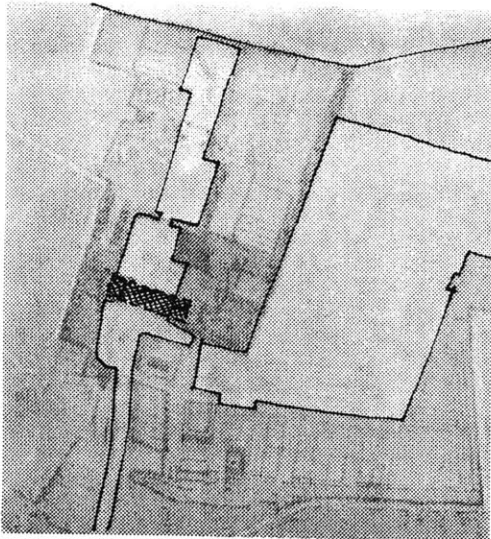
10



EXPO 2000 Project



Palace of Congress, Venice - Louis I. Kahn, 1969 (proposal)
 The site is just next to the specific site used for the maritime museum proposed in this thesis book (see cross hatched figure on the map in the next page)



Palace of Congress, Venice - Louis I. Kahn, 1969 (proposal)

1.3 Criteria for the Selection of an Appropriate Function for the Site

A maritime museum seemed the most appropriate function considering the following issues:

- a naval museum will respect the history of the site.
- this function has already been suggested by some institutions which pursue voluminous research on the Arsenale. The appropriateness has been studied by them much more seriously than my own speculations.

-the building which houses the Venice Marine Museum at the present is short of space. In addition, there is no visual and physical interaction between different floors. In other words, there are no voids which would allow a long exhibit object to be suspended from the roof and perceivable from different levels. Besides the fact that a little percentage of the whole collection is exhibited due to space limitation, the exhibition pattern is constrained by spatial conditions which do not offer different floor heights. Finally, there is no outdoor space available for large outdoor exhibits such as anchors, boats, engines, etc. All these facts prove the necessity of designing a new building for the Marine Museum of Venice.

- a museum inherently contains various uses such as special temporary exhibitions besides the permanent collection, audio-visual performances and shows, archival facilities for research, giftshop, etc. and attracts people with different backgrounds.
- museum design involves daylight study, one of the factors that guide design in general.

- an academic institution would serve a limited group of people in Venice and my purpose is to propose a function that would draw any kind of people.
- an industrial establishment would not be very feasible because there is industrial activity that already functions in the Arsenale (shipyards).
- luxury hotel development is unnecessary since there are many luxurious hotels in Venice.
- a completely commercial function would attract other commercial uses and needs and the whole area would lose its original atmosphere. The reason is that in recent commercial developments in the world, there is a general tendency of following a common architectural language regardless of the cultural context. As a consequence, the purpose behind the initiation of commercial development is definitely not to respect the site on which the building will sit.
- even though Venice is short of sport facilities and the Arsenale has a few potential spots for such development I think this function is not appropriate since it would again serve a certain group of people.

-housing proposals have the potential of leading to some unexpected economic developments as explained in one of Paolo Ceccarelli's articles for Venice:

"Policies for Venice have so far developed along two major lines: massive housing rehabilitation programs and technical infrastructure projects. These programs are both relevant and urgent; however they indicate a reductive view of the complexity of problems existing in Venice. One wonders, for instance, whether the greatest demand is for thoroughly remodeled dwellings (that at the end will be more expensive than they were before) or rather for essential improvements (better sanitary equipment, some window repairs, etc.) and much larger investment in social infrastructure, services, transportation. Housing is just one item of a much more complex and articulated pattern of spaces and facilities used by a family in everyday life. To put all interests and efforts in its improvement might be simplistic and might result in an unbearable increase in costs."

1.4 The Particular Location of the Maritime Museum in the Arsenale

In the beginning of the section called "The Site" reasons were mentioned for selecting the Arsenale as the site. However, those reasons are not sufficient in defining the special location of the design project. Since the whole area covers 32 hectares it offers a wide range of alternative locations with different physical conditions. The selection of the specific location is made according to the following criteria:

- the location flanks Canale Galeazze which is part of the major boat transportation system, and therefore, it is one of the most accessible portions of the Arsenale.
- the Arsenale is surrounded by walls which still keep visitors away. One of the main ideas, besides the investigation on the collaboration of old and new, is to make the Arsenale a more easily accessible territory in Venice. To achieve this goal, in addition to design a building which would attract people, there is need to punch the walls on a minimal level without sacrificing their structural and esthetic unity. The particular location is just next to the western wall, unlike every

location in the Arsenale, and it offers the possibility of taking advantage of the wall as a smaller new gate to the whole complex.

- the location is surrounded by water on two sides, unlike some other locations. This condition suggests integration of water into the site by connecting canals on both sides. Foundations are built to carry a solid block of stone pavement with no voids in between. Presumably, it will be possible to take chunks of pavement and introduce smaller canals of water.
- the arch system, which is leftover side walls of previous buildings from a fire in 1920, is a permeable framework which can potentially allow layers of old and new architecture to be built and perceived simultaneously.

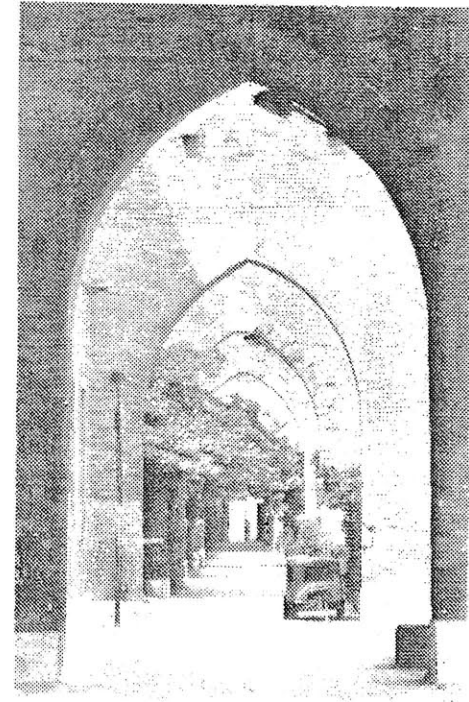
13

The site is the oldest section of the whole Arsenale. After a fire in 1920, some buildings were damaged, the roofs were burnt off leaving the arches exposed.

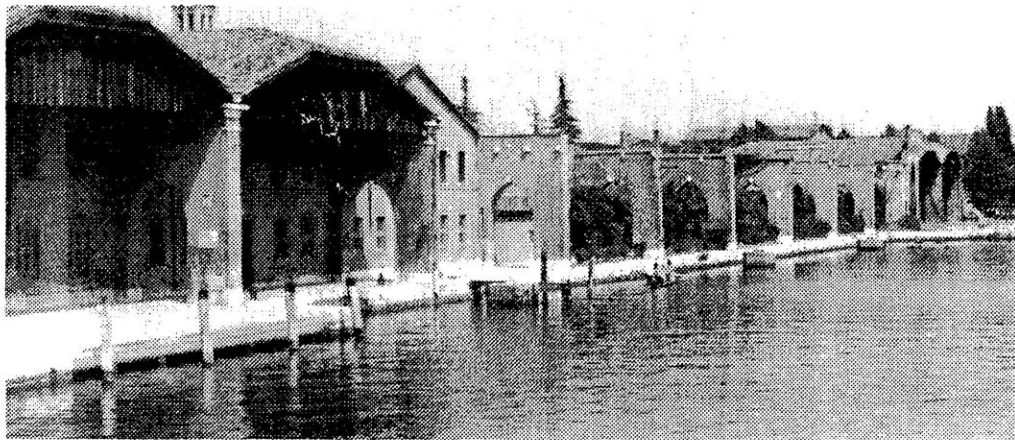
The height of the arches from ground to pointed tops is 20 ft (6 m). The height of the walls is 28 ft (8.4 m). Thickness of the walls is 4 ft (1.2 m). The span between walls is 50 ft

(15 m). There are 6 bays that are roofless. There is a total of 30 arches, 24 of which that are taken advantage of and 6 of which that are sacrificed for the sake of the canal proposed in the middle of the site. The length of the site is 370 ft (111 m) and the width is 150 ft (45 m). The overall squarefootage is 55,500 sqft (4,995 m²).

Picture showing the strong directional movement through the layers of arches

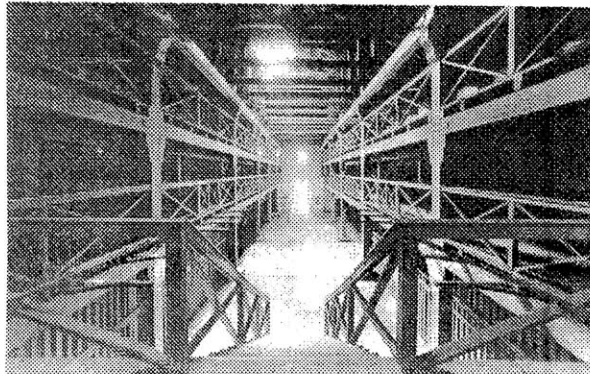


14

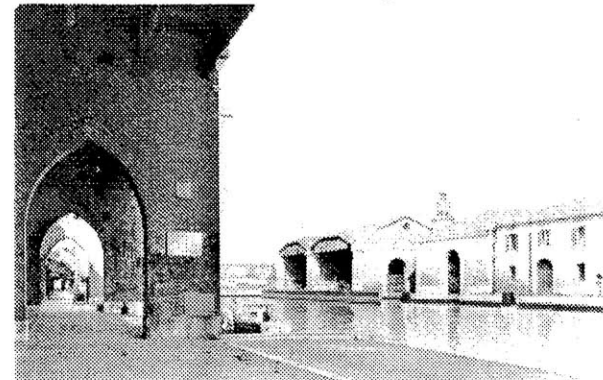


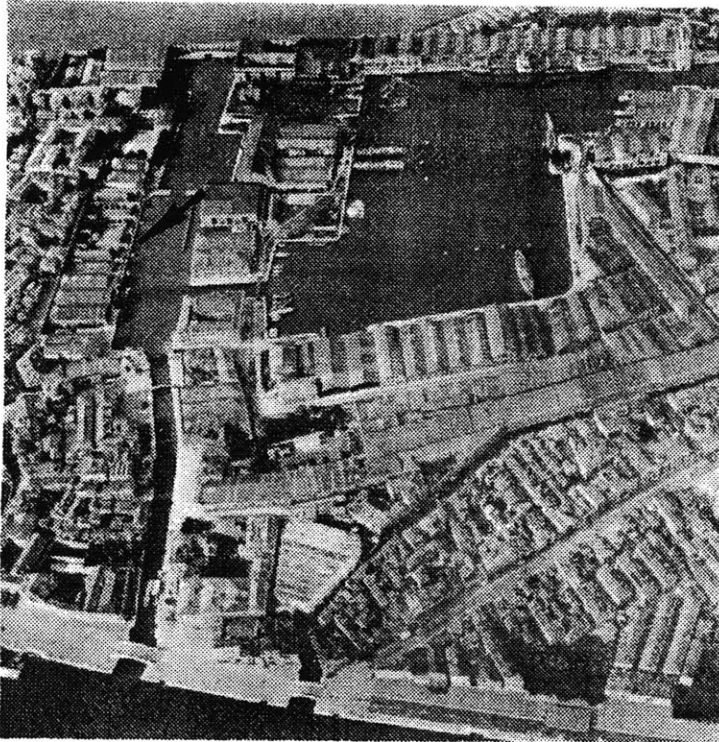
The particular site and arches left from the fire of 1920 - view towards north

Picture showing the arches on the left, Galeazzo Canal in the middle and the other side of Galeazzo Canal on the right

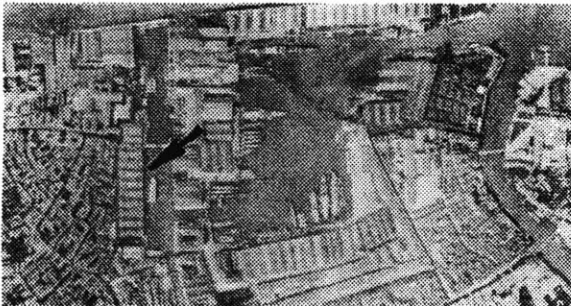


Interior of one of the buildings close to the particular site

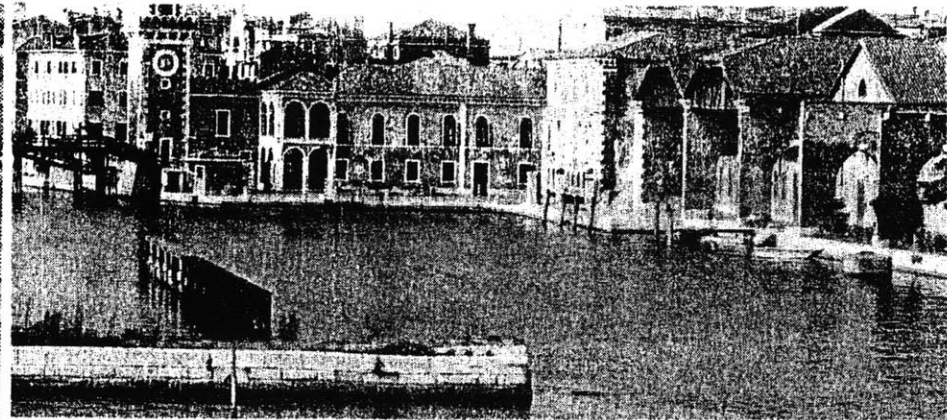




Aerial view of the whole Arsenale in 1980s - the arrow points to the site



Aerial view of the whole Arsenale in 1910s - it is possible to see that the roofs were in their places before the fire of 1920



Picture depicting part of the site on the right, Galeazzo Canal in the foreground and the southern entrance of the Arsenale on the far left - view towards south

1.5 Morphological Survey (this section is directly quoted from a book named "L'Arsenale Riordinato: Nuovi Progetti per Venezia" published by the Architectural Institute of University of Venice)

15

This architectural complex obeys the rationality of a workplace, having a kind of constructive and figurative code which informs all its buildings.

The factories of the Arsenale are not architectonic "types": they have neither the fixity nor the figurative constancy. They are, instead, "spatial schemes" capable of responding to two fundamental exigencies: the maximum free span attainable with wooden trusswork, and the minimum

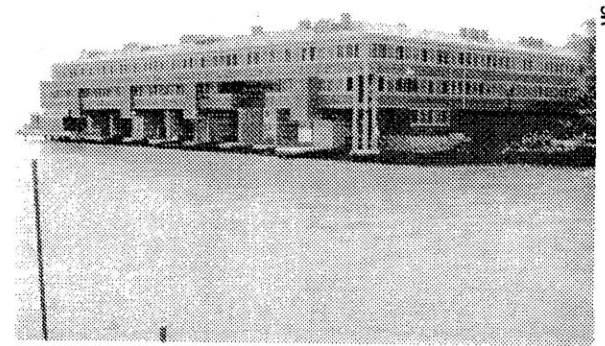
transverse encumbrance from the bearing walls (reducing the thickness of the intermediate sections as much as possible).

Although almost all the wooden roofing of the Arsenale was constructed after the disastrous Napoleonic fire -for which reason, naturally, little is known about precedent systems- the supporting walls, even if restored or reworked, tell us much about the art of construction in the Arsenale of Venice. Based on them a figurative and constructive code may be extracted which, utilizing a reduced number of solutions, is able to describe all the remaining stone and brickwork in the Arsenale. The code clearly indicates the fundamental principle of the factory-roof: the supporting wall must have minimum transverse thickness and must be relieved at the ground level by a large number of apertures made as wide as possible.

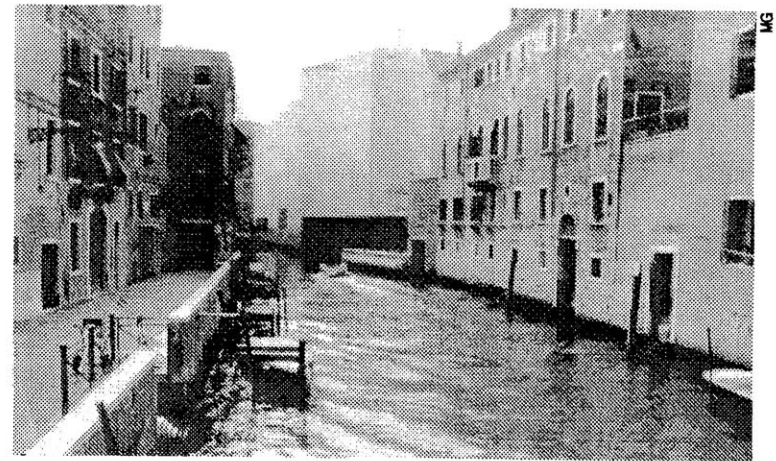
At the site on which I proposed a new use, expansion proceeds through adjacency, utilizing a common wall and two factories in succession. The growth takes place along a passageway defined by covering trusses pushed to the limit of constructive capacity of the time (50 ft inner span in the site that I am using, 77.8 ft inner span in the Gaggiandre, and 83.3 ft outer span in the Squadratori). This kind of growth-by-iteration tends to require a large *permeability* between the spaces of the successive spans. The reason for this is first

of all functional: from the necessity of working liberty around the hulls the composite system of pilaster-arch was developed.

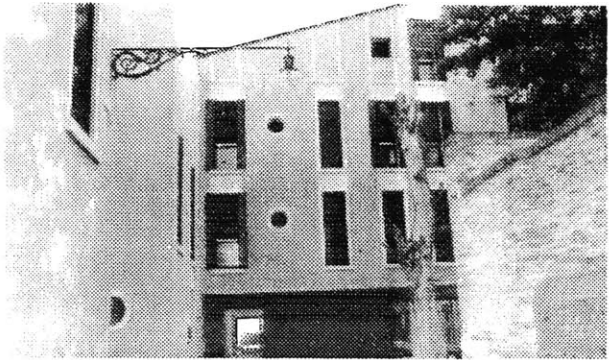
1.6 Examples of Executed and Proposed Modern Interventions in Venice



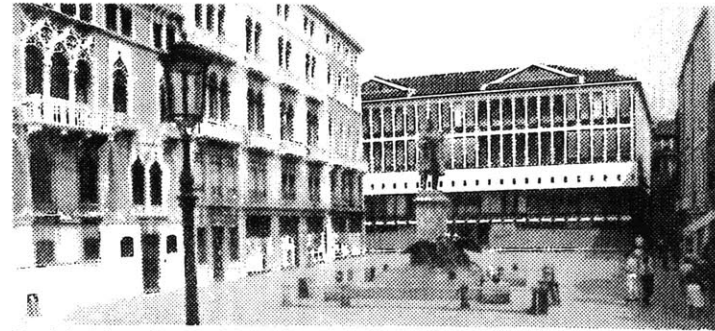
Housing in Giudecca island



Sports Hall very close to the Arsenale



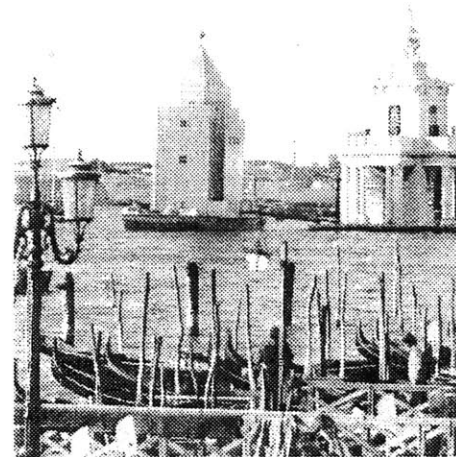
Housing on the northwestern corner of Venice



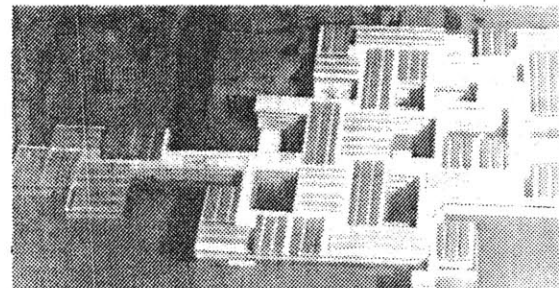
Bank building, Campo Manin, Venice



Hospital in the north



Teatro del Mondo by Aldo Rossi, Venice

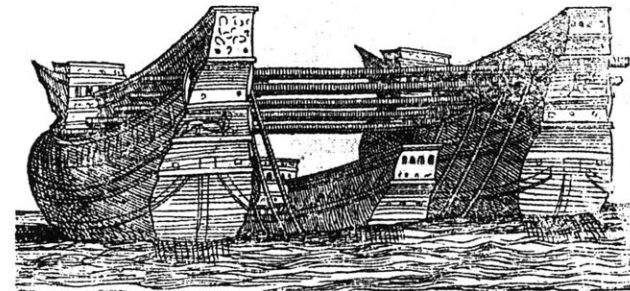


Hospital, Venice - Le Corbusier (proposal)

CHAPTER TWO

THESIS/STANCE

Figura l'effempio delle due navi usate, che siano con la nave sulcata.



II. THESIS/STANCE:

Nothing old is ever reborn. But it never completely disappears either. And anything that has ever been always re-emerges in a new form.

Alvar Aalto, "Painters and Masons", 1921

20 "Today, new technologies, the existence of different economic goals and the pressure of exploiting land use create a set conditions in the urban centers that has permitted the environment to be mishandled; the clash between the old and the new is often clearly in evidence. Many people have sought guarantees to protect us from such clashes. Many design review commissions throughout the century have asked for instructions, definitions and guidelines. Yet, the problem of what is harmonious, what is artistically effective is so variable that it is not possible to draw up such guidelines and still favor creativity."¹

"As far as learning from the past and the context "learning should not only consist by transmittal of information and blindfold application, but it should consist by dialogue as

¹ Giorgio Cavaglieri "The Harmony That Can't Be Dictated" National Trust for Historic Preservation "Old & New Architecture: Design Relationship", Preservation Press, (1980)

well as regarding the appropriateness and fitness of what has been transmitted and how it ought to be applied."²

Considering today's approach described in the first paragraph and "learning from the past" portrayed in the second, the proposal for the re-use of the old as well as introduction of the new into the old contradicts restoration in its pure terms. Contexts are created in accordance with the conditions that were influential at the time they were established. The designer should be aware that these conditions and resulting needs do not exist anymore and as a consequence, the attempt of reconstructing and reviving the old function/appearance may turn out to be unfeasible. In certain cases, behind the attempt of reconstructing there is the dangerous intention of exploiting architecture to bring some cultural and political associations back. The following statement puts it in a different way: "When old styles were imitated, it was only rarely out of consideration for the old style of the immediate architectural context; rather there was a desire for the added meaning that came by association with the

² Anthony C. Antoniades Architecture and Allied Design: An Environmental Design Perspective, (1980), p.20

borrowed style or out of respect for the authority of accepted historical models."³

Taking into account the fact that "demands for cosmetic similarity between old and new may unintentionally devalue the existing buildings by denying their uniqueness."⁴, the purpose of a new intervention should be improvement and enrichment of the atmosphere of the context. In other words, intervention should be a "cultural" repair and not only "physical" repair. An important reference for this approach is Carlo Scarpa "who is in the position of having to employ not simply restorative processes, but also integrative, additional, and substitutive ones"⁵, which end up giving a new appearance to the architecture and its environment. I will again refer to him with more detail in one of the next sections which discusses complementarity of old new materials.

³ Overby, Osmund "Old and New Architecture: A History" National Trust for Historic Preservation "Old & New Architecture: Design Relationship", Preservation Press, (1980)

⁴ Graves, Michael and Wolf, Gary "Beyond Mere Manners and Cosmetic Compatibility" National Trust for Historic Preservation "Old & New Architecture: Design Relationship", Preservation Press, (1980)

⁵ Carlo Scarpa: Il Progetto per Santa Caterina a Treviso, (1984), p.25

II.1 The General Design Approach and Re-definition of "context"

In analyzing old and new design relationships using historical examples, it is possible to say that, as a general rule, new building in the context of old building has almost always been done in the new style

Osmund Overby "Old and New Architecture: A History"

Context can be conceived as "how people use the building/city?" instead of defining it purely as the existing physical conditions of the site. According to this assumption, it is possible to argue that if people frequent a new building which has very little reference to its surroundings, the building can be considered contextually successful since it satisfies its users. In other words, if the use pattern which exists in the surroundings is kept in the new design, regardless of its external look it will be contextual. By continuing or enhancing the basic use organization of the existing urban setting a new building can become a positive addition to the context.

21

The "use pattern" mentioned above can be determined by a few factors:

- urban use (function of a building)
- spatial use (basic structural framework of a building)
- organizational use (circulation system of a building)

-personal use (variety of dimensions in a building which provides inhabitants with alternative corners where they can feel isolated)

Keeping the use pattern can be accomplished by taking into account some or all of these factors. The simplest way is to select a function which is typical in the surroundings. However, function only is not sufficient to continue a pattern.

The next factor to consider is the internal spatial use which depends partially on the structural system and the resulting spans. New structures can accommodate more spacious volumes due to less need for vertical support elements. Yet, concerns about increase in population influence the architectural space through the obligation of fitting as many units as possible into a severely regulated building volume. Consequently, spatial use pattern is probably the most constrained factor to take off from. On the other hand, organizational and personal use patterns are patterns that can be studied, taken advantage of, and applied to the new design with some level of interpretation. These two patterns are crucial to be considered, because they indicate what people are used to, how people are behaving to their environments, and how people turn spaces into personal "homes" through rituals and traditions. Changing those

patterns would be as severe as changing the height of a riser in a staircase.

At this stage, the kind of contextualism that is described is more on an intellectual level than a formal one. As far as the particular maritime museum proposal is concerned, given the context definition above, one of the attempts is to keep the original function of the Arsenale by introducing workshops where ships would be constructed from scratch or repaired. From an open-air amphitheater which is proposed next to the construction area, it will be possible for visitors to follow the production/repair process, just like in the showrooms of glass factories in Murano (one of the smaller islands around Venice). In addition, the fact that the origin of the design is a ship establishes a direct association enough for me to consider the building contextual.

The result of this approach can be a building which does not have a similar façade as its surroundings since the focus is more on internal qualities of the building. In certain cases, the building may even contrast the formal approach that the context has taken years before. For example, the new building can have blank walls with homogeneous surface and no openings in an urban fabric composed of highly textured and ornamented façades with numerous windows. In such a case, the new building may not be considered as

an urban element if the above approach for respecting the context is taken. However, a more formal approach which pursues evaluation on a "cosmetic" level and not on the "use" level, would consider this new building contrasting. Independent of the preference between two approaches it should be taken into account that contrasting is not always neglecting, it can be also used to highlight a point.

Complementarity... the same phenomenon can sometimes be described by very different, possibly even contradictory pictures, which are complimentary in the sense that both of the pictures are necessary if the ... character of the phenomenon shall be visible.

W. Heisenberg

The built elements of historic interest must be conserved. The new elements are distinguished by their constructive character and by their materials. The compositional problems need not be resolved in this context through recourse to imitation. Imitation, lacking as it is in a creative principle of its own, would only devalue the existing historical architecture. The intention is to open a dialogue between historic and modern architecture, and thanks to this superimposition, to obtain a creative tension between the two.

II.2 The General Notions to be Followed During the Design Process

a) Continuity/Discontinuity at Different Levels

There is a considerable amount of parameters to be taken into account in case introducing a new building in to a fabric which has an organic and/or historic character. These parameters can be defined after a careful study of surrounding conditions. A quick itemization of these parameters can be as follows:

- direction prevailing in the site (can be derived from orientation of buildings, a river, a major street, a park etc.),
- the way the façades are organized (solid/void ratio, three dimensionality on the vertical plane (use of balconies, terraces, setbacks), emphasis on vertical or horizontal reading of the building in general, geometries that are used, etc.),
- building materials,
- colors used both externally and internally,
- nature of ornamentation,
- proportion/scale/dimensions,

- surrounding uses/functions; in case of reuse, previous uses
- circulation/access,
- light/dark alteration and use of daylight,
- structural principles (i.e. bay size/building height/types of structural elements/etc.),
- outside/inside relationships,
- massing,
- etc.

24

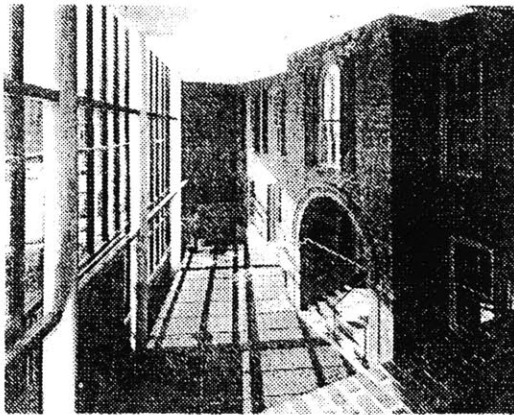
If, in general, *continuity* is respecting the context and *discontinuity* being irrespective to the context, there should not be one general attitude to be applied to all of these parameters, different attitudes can be followed for different parameters. For example, it is possible to use building materials, colors, circulation and access patterns, and outside-inside relationships that prevail in the surroundings, but choose unusual direction, dimensions/proportions, structural system in order to introduce some distinction if necessary.

b) Layering

The transition between outside and inside must be articulated by means of defined in-between places which induce simultaneous awareness of what is significant on either side.

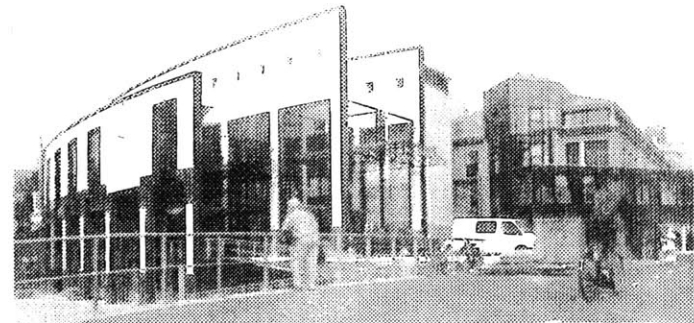
Robert Venturi "Complexity and Contradiction in Architecture"

The purpose of layering is to create usable external and internal slack spaces between old and new structures. These slack spaces serve as *transition* between outdoors and indoors. The reason to pursue layering is that it is possible to end up with a richer space defined by walls/building elements that belong to different times and consequently that offer a variety of sequential perception of these different materialized time layers. The role of layers can change according to the particular situation. In the following picture, *new* is the outer skin and *old* is the inner; in another circumstance *new* can be inside *old* and it may not be a skin anymore, but a bridge, a staircase, a door, a window, etc.



Mechanics Hall
restoration and
addition, Worcester,
MA/USA -
Anderson Notter
Finegold, 1978
(comments by Peter
Blake)

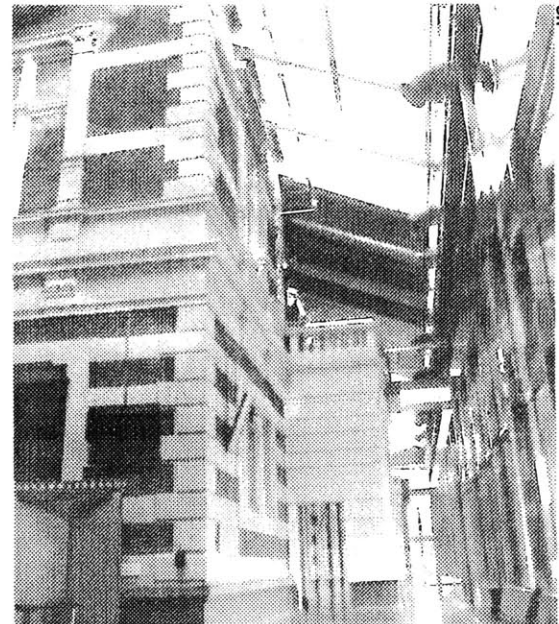
The architects added a tall, glassy lobby space to the rear of the old building and turned the existing brick façade into an interesting interior backdrop, deliberately theatrical in appearance - especially at night. Such glass enclosures serve the additional purpose of offering physical protection to surfaces in need of it.



New Casino/Lido building in Amsterdam/Netherlands - Casino: Prof. ir. H.J.M. Ruijsenaars Lido: ir. M.P. Evelein
Reference for using layers of skin in order to provide sequential use of outdoor/indoor spaces



MG Residences in Amsterdam - reference for minimal addition of new on top of old. In this project, it is possible to find layering of old and new. However, architects followed a different way of creating layers than the way followed in Mechanics Hall addition. Even though the added pipe structure is usable and habitable to a certain degree this kind of layering seems less interactive than the layering in Mechanics Hall.

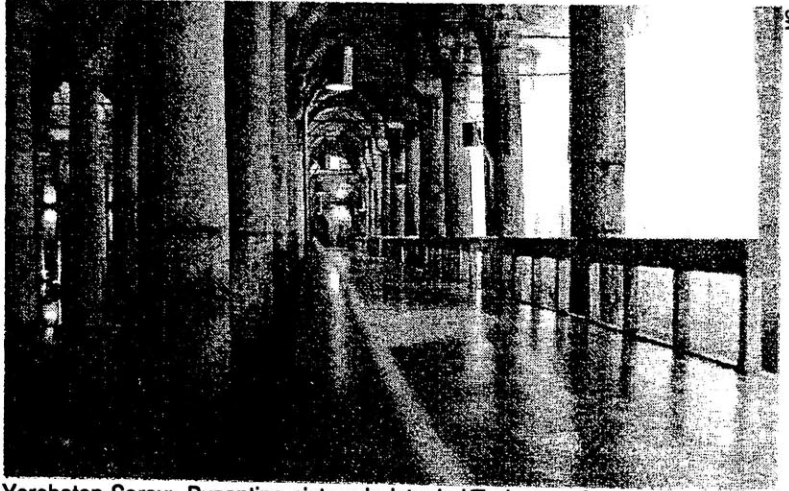


Concertgebouw ("concert building" in Dutch) in Amsterdam - reference for successive layers of old and new skins.

History's mark on a city should never be erased. The visibility of time is one of a city's most vital aspects. Change is not only process but a product, and time's layers should be felt by those walking down a city street.

Paul Goldberger "To Preserve the Visibility of Time"

Use of screens for the partial implementation of the "layering" notion:



Yerebatan Sarayı, Byzantine cistern in Istanbul/Turkey - reference for a forest-like atmosphere created internally

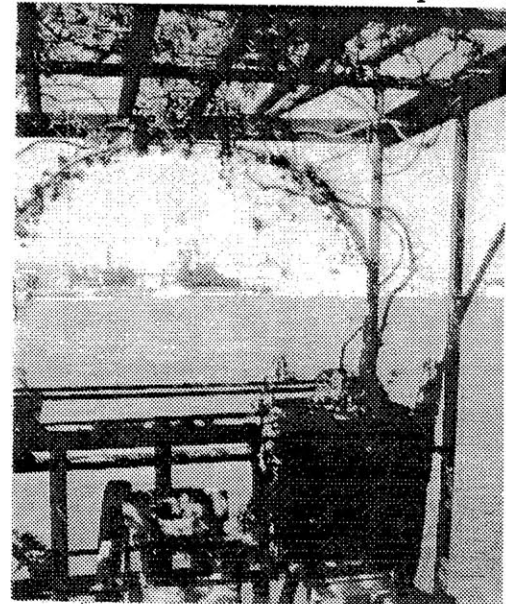
Screen, in a literal sense, is a visually permeable, see-through fabric that is formed of interwoven fibers/sticks/bars. The main idea in most screens is to provide visual privacy from distance and let daylight in at the same time.

If we think in a larger scale, it is possible to conceive structures and systems around us as screens. In case of enlarging the scale the "visual privacy" notion disappears.

However, "seeing through" notion still remains as a feature of these large-scale screens. In addition, the idea is not to seclude the observer from the observed, but to "frame" views spontaneously in different ways as one walks along a building. Large-scale screens are formed:

by;

- columns
- trusses
- rafters
- scaffoldings
- window mullions
- window shutters
- railings/parapets
- louvers
- a combination of plants and trellises (see following picture)



View of Venice from Giudecca Island - reference for a screen that is a combination of plants and trellises

- etc.
- in;
 - partition walls
 - skins of buildings
 - floors of buildings (screen is used horizontally in that case - perforated metal decks)
 - etc.

Screens allow:

- simultaneous perception of different building elements when the observer is inside
- framing of outside views from inside (like the "borrowing landscape" notion in Japanese landscape architecture)
- personal size space definitions both inside and outside by creating visually private corners
- if they are self-stable, which they should mostly be, it is possible to extend the range of use by hanging other building elements off of them (e.g. shelves, tables, seats, niches, etc.)
- reduction of the size of modules to be used in buildings (e.g. smaller sheets of glass, smaller components of opaque materials, etc.; as a consequence, construction cost is diminished)

Having such advantages, screens are the primary means to achieve "layering" that is explained in the previous paragraph under item b). As far as the maritime museum design, the building elements that will be used as screens are:

- self-stable organic A-frame structure that supports the upper portion of the skin of the building
- partially perforated metal deck that will allow visual interaction between floors
- vertical louvers used for daylight control in the lower portion of the building skin on western and eastern façades, and horizontal louvers used on the roof level again for daylight control
- railing that are used extensively in the building since there are voids, levels changes and levels that overlook each other
- glazed/unglazed metal doors that will control access in the building and that will form enclosure on the vertical plane of the existing arch system



Large cloud scene, Vienna/Austria
1976- Coop Himmelblau (Wolf D.
Prix and H. Swiczinsky)

This project is a reference to show the transparency and the lightness of screen-like structures. Even if one builds a large scale structure such as this, the result is not an overpowering mass that changes the whole experience in the square. It is still possible to perceive things the same way as one would do before the installation of the temporary structure. In addition, scaffolding supplies alternative inhabitation at different levels in case of some performance/event.

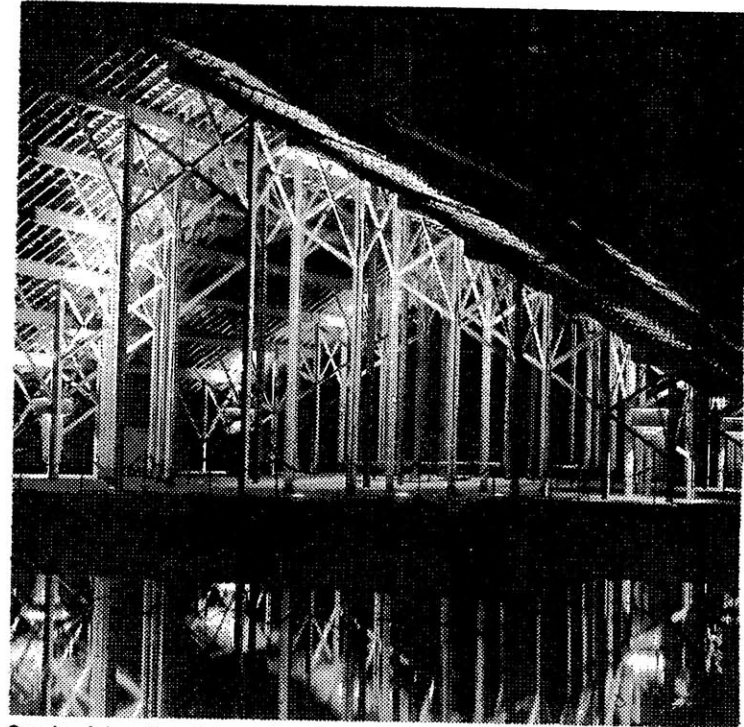
28



Zimmermann Residence,
Fairfax County
Virginia/USA - William
Turnbull

This is one of the few projects that use screen in its real sense. The screen keeps visual privacy for certain portions of the building and, at the same time,

controls the amount of daylight coming in by casting beautiful patterns of shade internally.

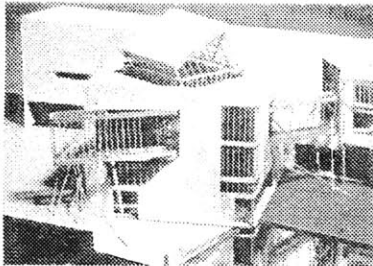


Crosby Arboretum Interpretive Center, Picayune Mississippi/USA - Fay Jones
& Maurice Jennings

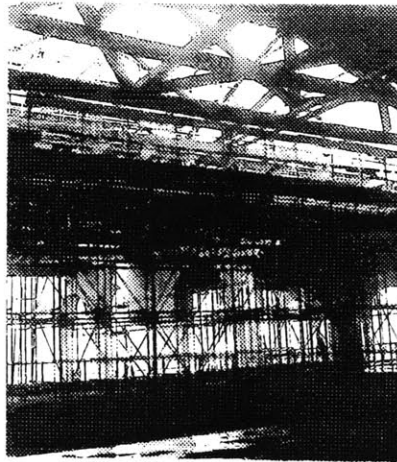
In this picture, it is possible to see the potential effect of a forest-like structure, especially in case of no need for division of space by partition walls.



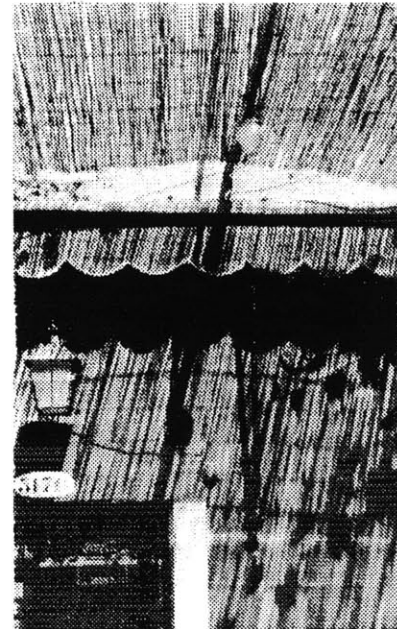
High Museum of Art, Atlanta Georgia/USA - Richard Meier
 The frame structure of ship hull was really attractive for me to use as design inspiration because it would offer a base from which different ways of daylight control can be generated. This particular corner of High Museum is a good example daylight capturing through a cross system of beams and joists which vary in dimension.



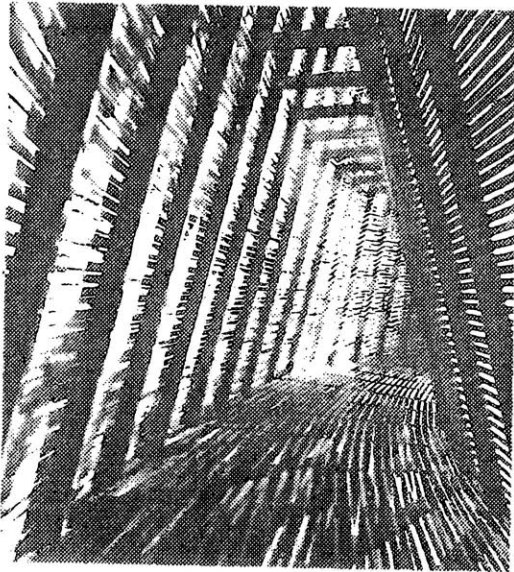
Familian Residence, Los Angeles/USA - Frank O. Gehry
 This is a reference for screens of different quality (one as catwalk, another as corner window, and the last as clerestory) being able to change the dull atmosphere of two simple blocks of building. Here, what matters is the fact that screens can be used on any plane both vertically and horizontally, and not the particular style of architecture.



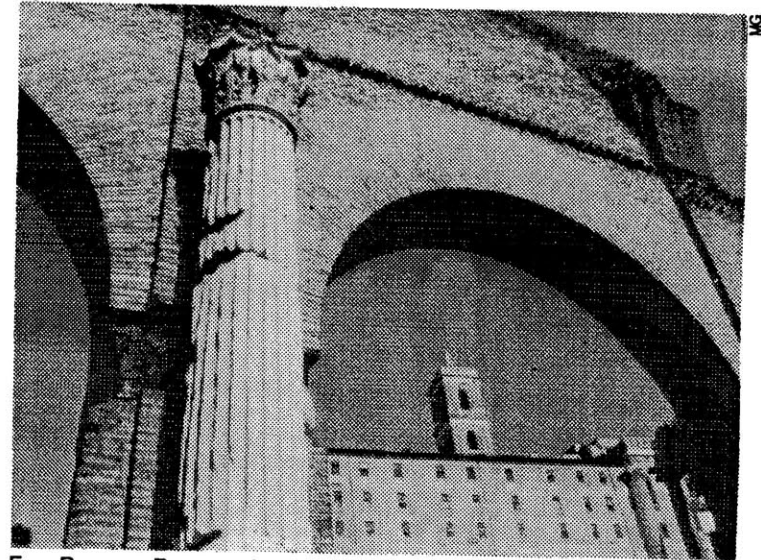
Temporary scaffolding built for repair inside one of the docks in the Arsenal. The fact that a very light system like scaffolding was built as a bridge spanning inside an old framework made me take this picture. I was able to take a silhouette-picture of the structure as I was shooting against light and this enabled me to prove the physical "delicacy" of "screen" systems.



When screens are used vertically the emphasis is more on "view" rather than "light". In case of horizontal use, on the other hand, the concern is control of "daylight". Picture is an example of powerful shadow casting effect of a screen - Venice



Another example for the impressive shadow casting effect of a screen

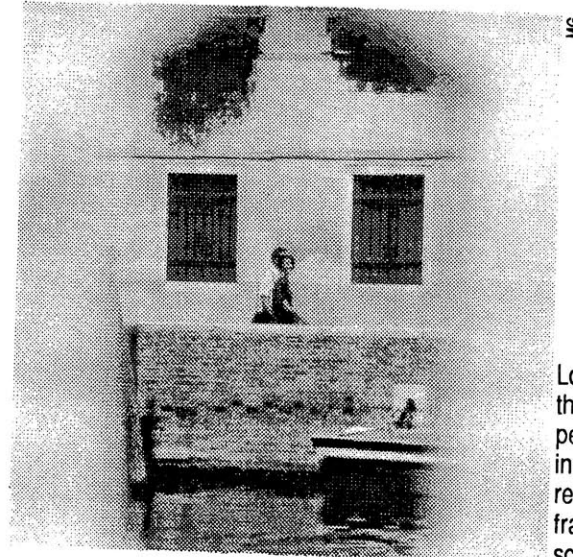


Foro Romano, Rome - reference for a large scale screen and for obtaining framed views through screens

30



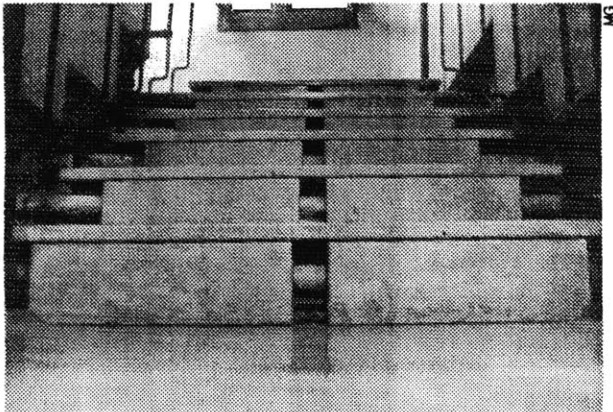
Interior view of the maritime museum in Rotterdam, Netherlands - reference for successful use of vertical metal screens which help increasing the feeling of spaciousness in perception.



Looking through the parapet of a pedestrian bridge in Venice - reference for the framing effect of screens

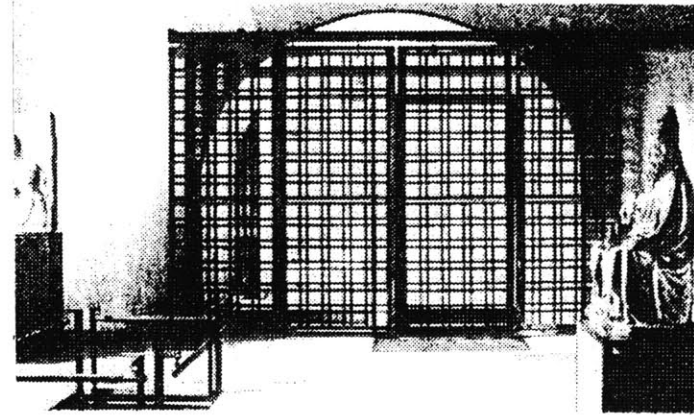
c) Complementarity of Old and New Building Materials

An ideal instance for the collaboration of old and new is Scarpa's modern interventions in old buildings. In his designs, it is very easy to distinguish between old and new. The new has its own system and it never overwhelms the old nor is overwhelmed by the old. As you can see in picture, the addition to the stairs is a very simple form and thanks to the slit in the middle and slack spaces between the addition and the existing side walls, it is possible to grasp the original form of the old stairs.



Palazzo Querini in Venice - internal redesign by Carlo Scarpa

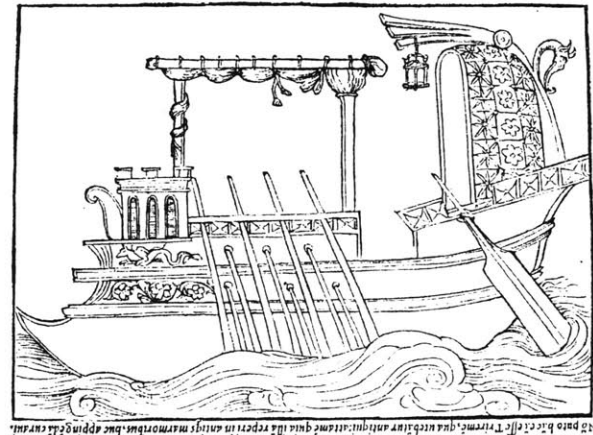
In the following picture it is again very clear what is old and new. The metal grid is independent of the arch behind, but it is also complimenting the arch by leaving its form particular to itself and not imitating it.



Castelvecchio Museum in Verona - internal redesign by Carlo Scarpa

CHAPTER THREE

ANALYSIS OF EXISTING EXAMPLES FOR A SIMPLISTIC CATEGORIZATION OF VARIOUS APPROACHES TOWARDS THE CONTEXT



172 pmo hie cteff. T'remē, quā nreblur anriquū: ariemē quā idā rēpēri in ariis marmorbis. huc appingē dā c'vānā.

III. ANALYSIS OF EXISTING EXAMPLES FOR A SIMPLISTIC CATEGORIZATION OF VARIOUS APPROACHES TOWARDS THE CONTEXT

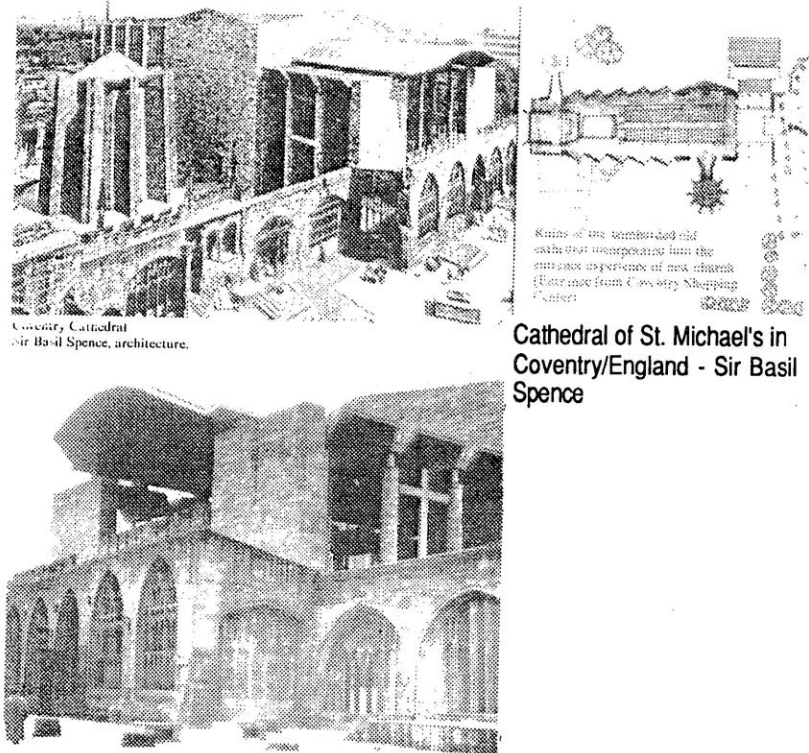
References presented under this subtitle are not to favor any particular architectural "style", they are just suitable examples to explain a specific idea at a specific instance.

As far as the design proposal is concerned, I thought a study on the existing examples would help defining categories of different approaches in respecting or disrespecting the context. The purpose is not to select a particular category at the end and drive the project in that direction. Instead, the point is to identify unreasonable attitudes and to learn "what not to do?" rather than "what to do?". It is possible to develop very specific criteria and end up with tens of categories. However, to make things clearer, I have taken the risk of generalizing excessively and I wanted to keep the number of categories at a minimal level.

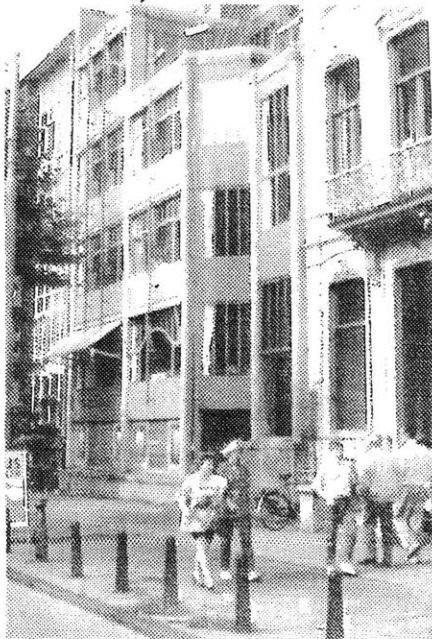
I thought of five different categories (the sequence is not in order of preference of buildings given as references):

- 1) Examples in which it is almost impossible to distinguish the exact demarcation of old and new in the "plan"

level: a successful blend of old and new. The layering idea mentioned in previous paragraphs is favored by/favors this category.



2) Examples that respect their surroundings, and also have distinct character (old and new are juxtaposed in this case).

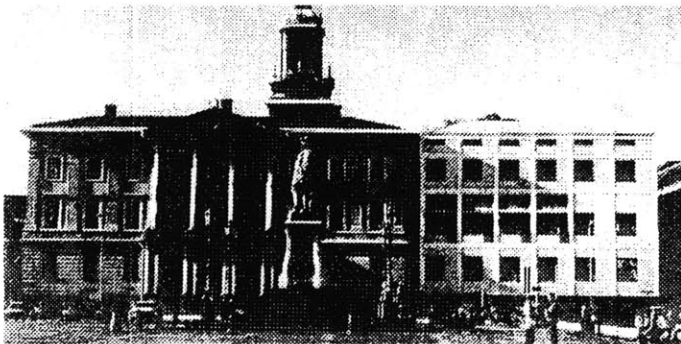


Orphanage House, Amsterdam/Netherlands - Aldo Van Eyck
The building respects the façade plane, height, solid/void ratio, proportions of surrounding buildings, while inducing a new character by its unusual use of lively colors, its new kind of entrance, its new kind of outside/inside relationship, its different use of roof/balcony terraces and the fact that its structural system is more exposed than the other buildings.

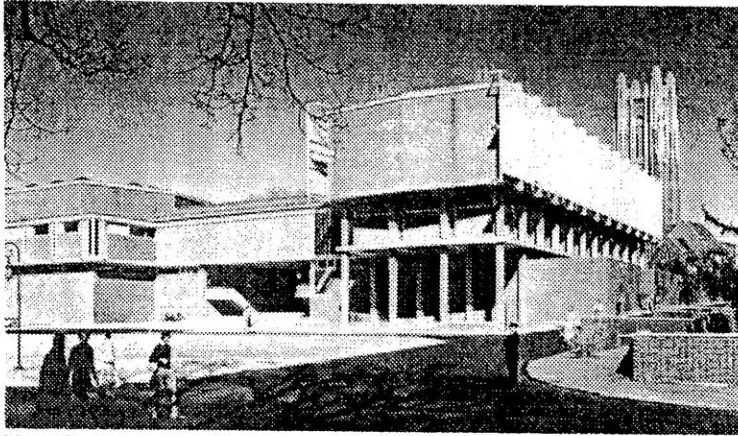
The building is deferent to the adjacent building in its proportions, height, solid/void ratio, façade plane, while stimulating a new atmosphere by its new materials, its new color organization, the fact that the mass of the building is raised above ground level leaving a gap between ground and building, its revelation of structural system.



House and Offices, Amsterdam/Netherlands - Abel Cahen, 1971
Scale of the building is compatible with adjacent buildings. Certain dimensions are kept, the flatness of the façade plane is respected, the convention of using the ground level for public services is continued. Good points that the building introduces newly to the area are: façade material is consistent with the structural system used, structural system is exposed, balconies are inserted, there is another balcony on the top that makes use of the roof level.



Göteborg Law Courts, Göteborg/Sweden - Gunnar Asplund



Mary Cooper Jewett Arts Center, Wellesley/USA - Paul Rudolph, 1958
(comments by Jean Paul Carhian "Guides, Guideposts and Guidelines")

The arrangements of structures devoted to the teaching and study of music and other arts along the brow of an existing plateau skillfully complements the campus's fine Gothic Revival ensemble, while conveying to this crowning space an essential sense of enclosure. The arts wing's sunscreen is systematically divided into panels akin in size, proportion and scale to the adjoining gable-capped pavilions. Skylights, while uncompromisingly contemporary in concept, they contribute to the building's comfortable blending with neighbors conceived in a very different idiom.



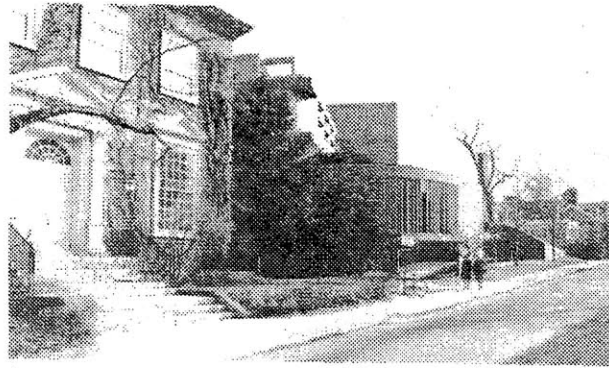
Taos Country Courthouse, Taos, NM/USA - The Architects - Taos, 1970

(comments by John P. Conron "A Three Dimensional Approach")
Taos Country Courthouse is a bold and sympathetic three-dimensional contemporary design solution set within a historic context. It speaks proudly of space. With forceful conviction, it addresses the needs and functions of the present time.

3) Examples that neglect the surroundings, but that bring a new identity due to convincing boldness and eminence of the new design (old and new are again juxtaposed).

One cannot deny that short-range vision has often produced mediocrity, while contrasting effects originally found offensive to the environment, as the Eiffel Tower was to Paris in the 1890s, have become accepted and loved after the passage of time.

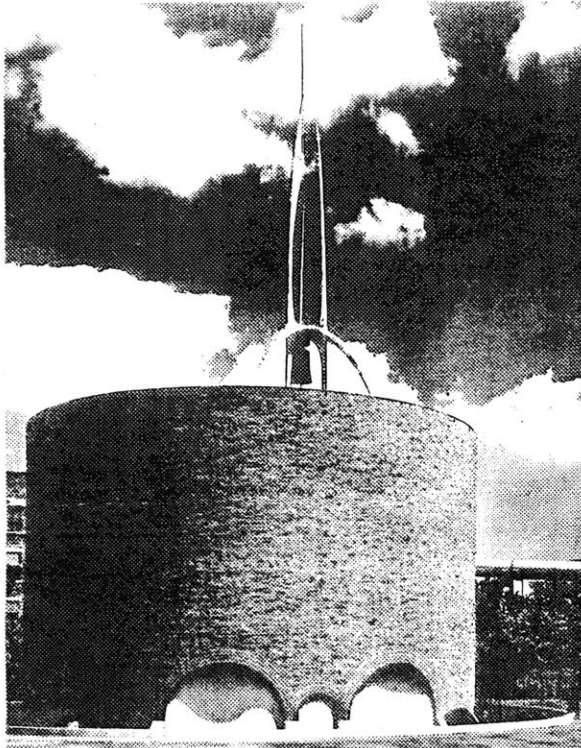
Giorgio Cavaglieri "The Harmony That Can't Be Dictated"



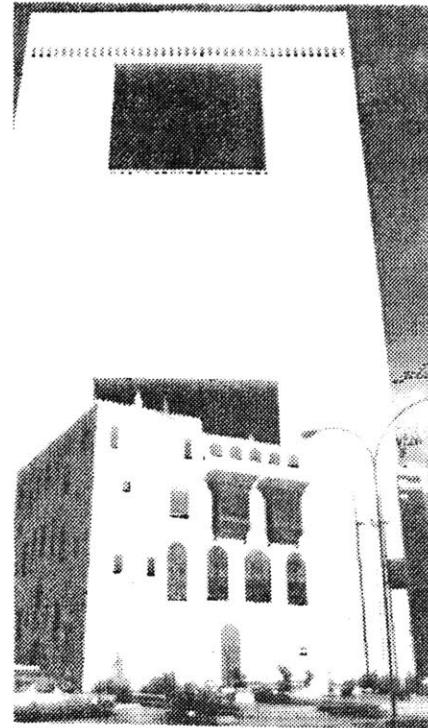
Carpenter Center for the Visual Arts, Cambridge/USA - Le Corbusier with Sert, Jackson & Gourley (comments by Brent C. Brolin "Architecture in context")

Carpenter Center does not fit in and doubtless was not intended to, but it is worth looking at because of the skillful means by which it separates itself from its context. By understanding the means of separation we learn something about possible ways to make connections. The building stands apart immediately

because it is the only building on the block whose façade is not parallel to the street. Approaching from the right we see this rounded form and a relatively unobtrusive ramp. The latter curves up into the main building, whose considerable bulk is made less imposing by being broken into small pieces that step back from the street. Even though the building is fragmented it manages to be retiring without losing strength.

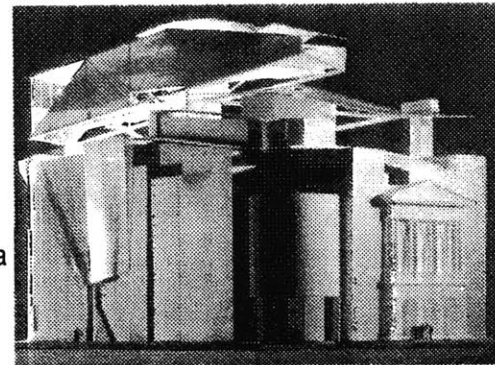


MIT Chapel, Cambridge/USA - Eero Saarinen
The chapel does not have any connection with buildings surrounding as far as location, form, and volume are concerned. However, it really adds something to its setting by creating a focus point through its strong geometry and the beautiful slender sculpture on its top. In addition, the idea of using water as a surface that reflects daylight to the interior of the building is new in the setting and the realization of the idea is a unique solution that brings identity.

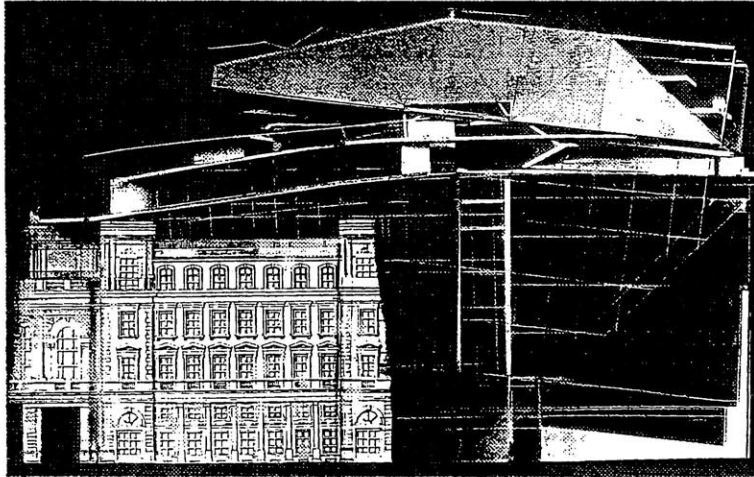


National Commercial Bank Headquarters, Jeddah/Saudi Arabia - Gordon Bunschaft/SOM, 1983
Scale, proportions, materials, structural system, solid/void ratio, surface treatment, plan (triangular) of the building are totally out of context. However, the designers tried to make use of the courtyard component in traditional local architecture and introduced two courtyards at different levels. It is a better version of "atrium" component in skyscraper architecture because the courtyards are surrounded by building wings at two sides and they are open to the sky at the remaining side (see large square openings on the façade). In addition, the open sides at different levels are oriented in different directions and they offer different views subsequently. Finally, the scale of the new design is sufficiently

larger than the old building in the foreground and the surface is adequately homogeneous that the new design literally becomes a background against which the principal object is viewed.

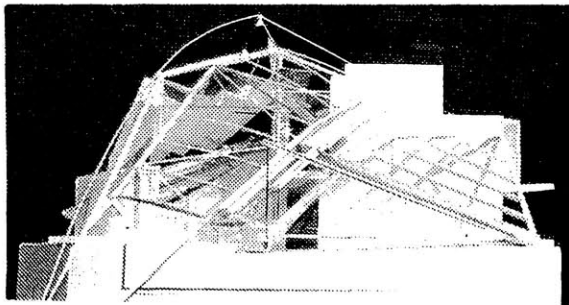


Addition to Ronacher Theater, Vienna/Austria - Coop Himmelblau (Wolf D. Prix and H. Swiczinsky)



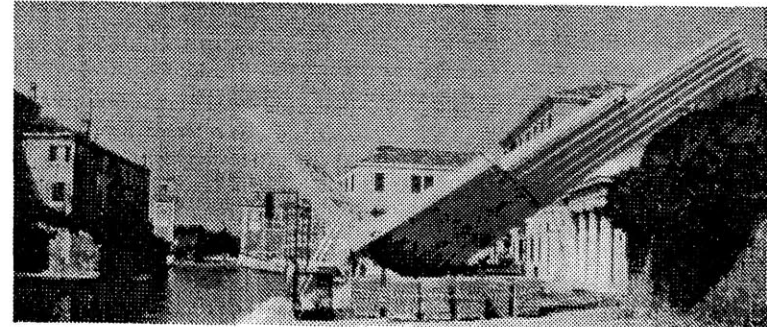
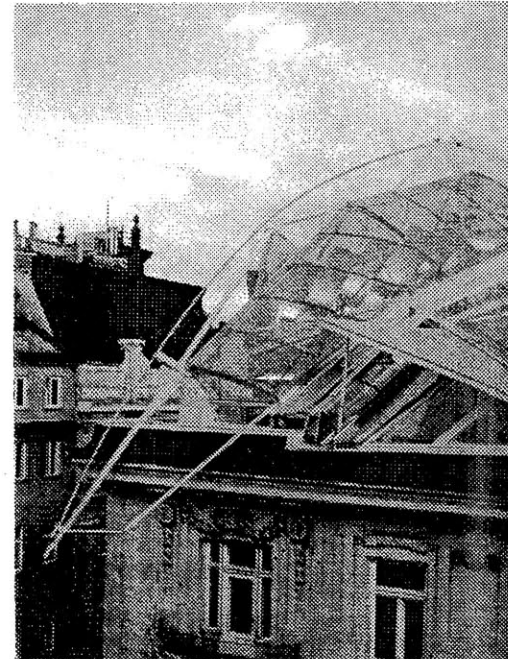
The intention of designers was to reverse the conventional proportion of stage/rehearsal rooms/administration complex to public spaces which is 5 to 1, and therefore leave much more space for public to experience. Because of the building's location near the historic city center, they valued the possibility of experiencing the skyline of the historic city from the roof terrace more than the assimilation of the new Ronacher's silhouette into the skyline. They say "the particular characteristics of a historic landmark should be discernible; in order to preserve its character, therefore, its style, form and technology should not be imitated". Regardless of the "form" issues, I think the purposes and especially the last statement are valid, that's why I wanted to include this proposal as an example that contrasts its surroundings but at the same time brings a new identity.

38



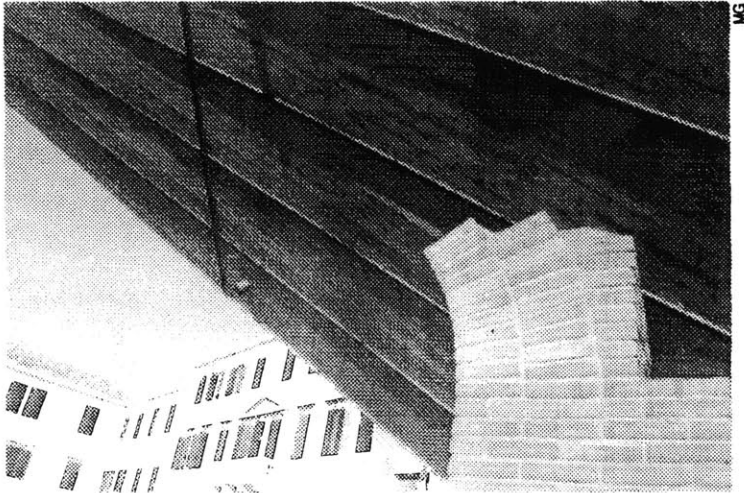
Rooftop conversion in First District, Vienna/Austria - Coop Himmelblau

This is an extension to the roof of an old building. Scalewise the design is much more deserved than Ronacher Theater design. The interior is very rich, it captures a considerable amount of controlled daylight and provides people inside with street views due to its see-through complex frame structure. Considering the reasonable proportion of the out-of-context design to the old building underneath, I think the project is neither overwhelming nor aggressive (unlike Ronacher Theater addition) and it enriches the building on which it sits.

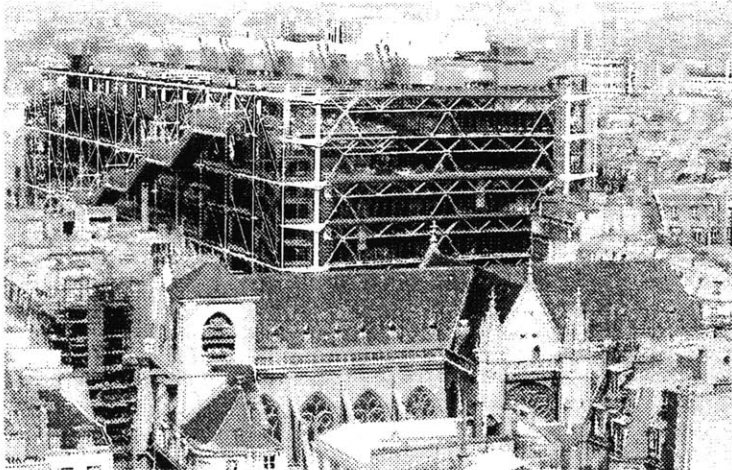


A sculpture designed by Massimo Scolari for the Biennale '91 in Venice

Reference for out-of-context introduction of a new piece which enriches its setting by adding physical and visual experiences that were not there previously.



Close-up shot of the sculpture by Massimo Scolari



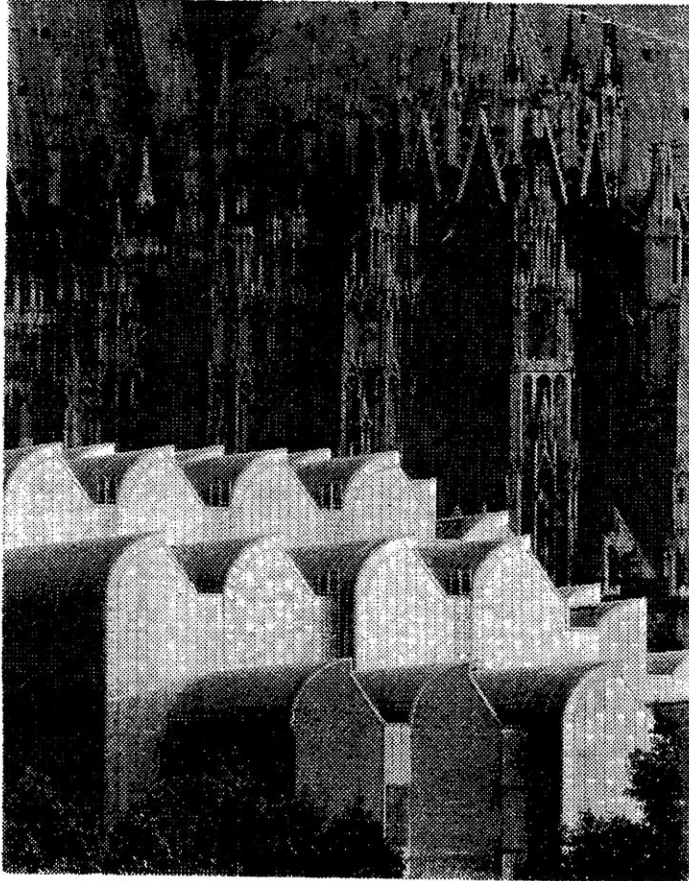
Pompidou Center, Paris/France - Renzo Piano/Richard Rogers

When the building was first built lots of citizens called it "King Kong". However, I think the "redefinition of the context as how people use buildings/cities" idea presented in previous paragraphs works in this particular case. The fact that some people started to frequent the building and especially the entertainment area in front of it, encouraged other citizens to try to enjoy an unusual building. Nowadays, it is one of the most active and crowded places in Paris and it became such a permanent part of the context that it is probably in the top-ten list of most tourists and citizens for places to go in the city. After this point that the building has reached the discussion of whether it is contextually appropriate or not becomes unnecessary considering the re-definition of context.



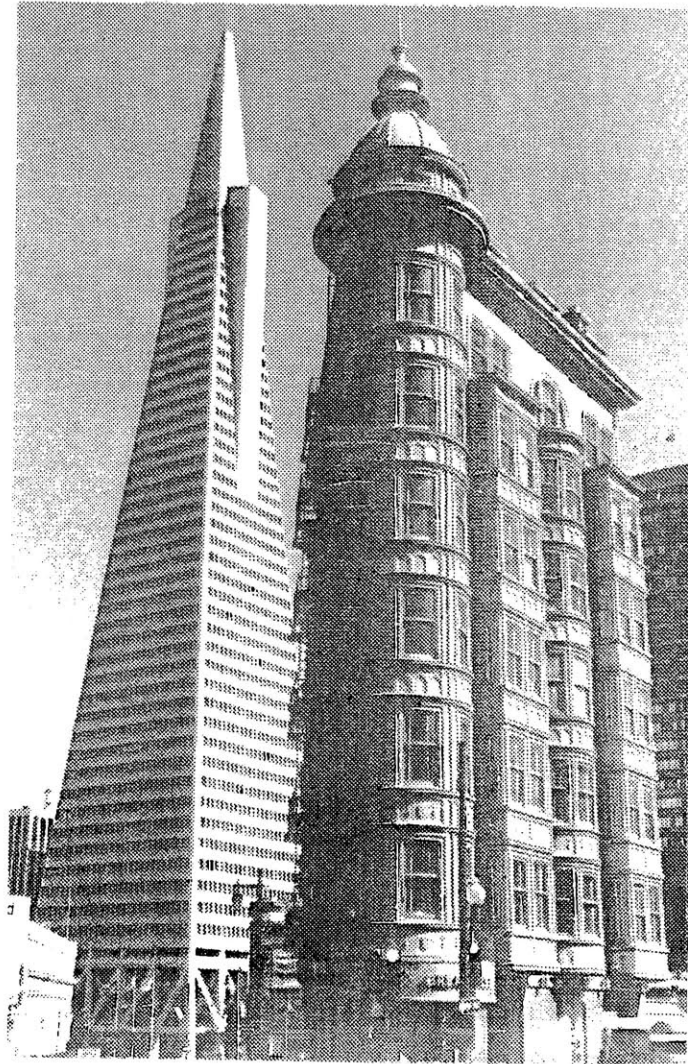
Yet, the building does not take complete advantage of its huge size. *"This large nonbuilding is too low in height to become an all-embracing background for the 19th century houses that surround it. The colorful pipes and intricate brackets of the trusses make a confused texture that overpowers the shadowed façades and the delicate lines of window trims and cornices. These cannot be identified clearly enough in relation to the new background; there are too many shadows, too many conflicting lines"* -Giorgio Cavaglieri *"The Harmony That Can't Be Dictated"*

Finally the following statement mixes the advantages and the disadvantages of the building on a general level and proves its presence through the fact that it is functional, dramatic, and not to be ignored: "The building appears to bear no relation to its surroundings, yet it is an incontrovertible expression of at least some phases of the civilization of its time. The building carries to an extreme the brutalism of recent decades. It is functional, dramatic, not to be ignored" - Samuel Wilson Jr. "Evolution in a Historic Area's 'Tout Ensemble'"



Museum Ludwig, Köln/Germany - Peter Busmann/Godfried Haberer
In this case there is one simple form that is repeated many times and this repetition creates a homogeneous field (continuous surface) in front of the

beautiful Gothic cathedral. This field reinforces the beauty of the cathedral by calling attention (through contrast) to its intricate detailing and incredible variety of forms/dimensions that are used. Even though the new building is in the foreground it, in fact, forms a strong background for the cathedral.



Transamerica Pyramid, San Francisco/USA - William L. Pereira Assoc., 1971

Scale, volumetric configuration, window sizes and organization, ground floor treatment, structural system and its expression are out of context. However, the fact that the pyramidal shape is necessary for such a tall building considering earthquakes, penetrability and impressive exposed structural system on the ground level, visibility from everywhere are sufficient reasons to conceive this building as one of the landmarks in San Francisco which bring identity.

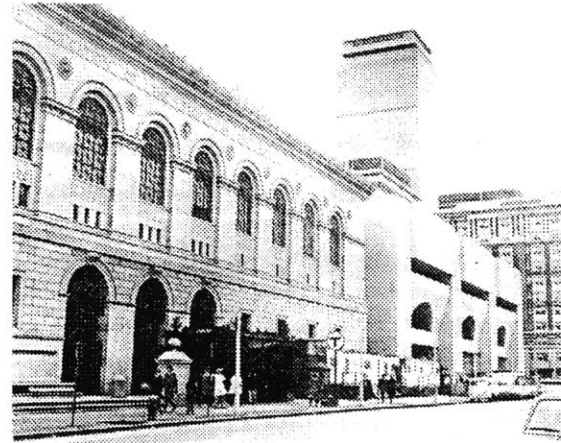
4) Examples which claim to be contextual but that respect their surroundings insufficiently on superficial levels (even though they are reasonable buildings).



Jehovah's Witnesses Building, Brooklyn Heights, New York/USA - Ulrich Franzen Assoc., 1970

(comments by Brent C. Brolin "Architecture in context")

Superficial attempts to relate are obvious: the new building maintains the cornice line of the old, has the same floor to ceiling and window heights, uses the same material and emphasizes the lower floors as do the old townhouses with their stoops and bay windows. In other words, it does everything it can to "line up" with what is already there. However, in terms of composition, it is anchored by the tower on the corner, but it is coincidental that it stops where it does on the right. Without the older buildings it could go on forever. It is vertically uncomposed as well.



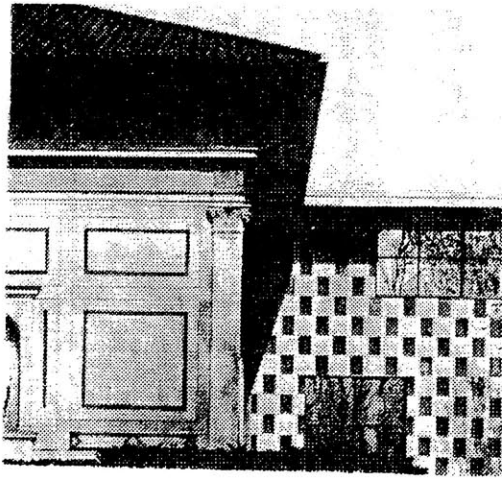
Addition to the Boston Public Library, Boston/USA - Philip Johnson, 1976

(comments by Brent C. Brolin "Architecture in context")

The addition uses the same stone as the original library, maintains the same cornice height and

horizontal divisions, and even emulates the arch motif of the old entrance, although this is done at a difficult scale. Yet with all this effort, there is still a feeling of discontinuity due to difference in scale and proportion. It becomes clear when we look at the façade treatments, that this is mainly due to the main building's lack of appropriate detail.

5) Examples that neglect the surroundings and that are not powerful enough to convince and make observer(s) forget about the context (i.e. they do not make much sense even by themselves isolated from the context).

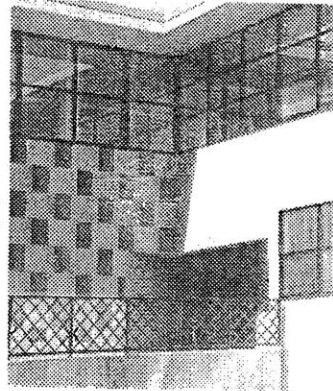


Addition to the Allen Memorial Art Museum, Oberlin College, Oberlin, Ohio/USA - Venturi & Rauch, 1974 (comments by Brent C. Brolin "Architecture in context")

The architects seem to have made the courageous choice (to use their own expression) of "jamming" the addition up against the museum rather than using the typical glass link or

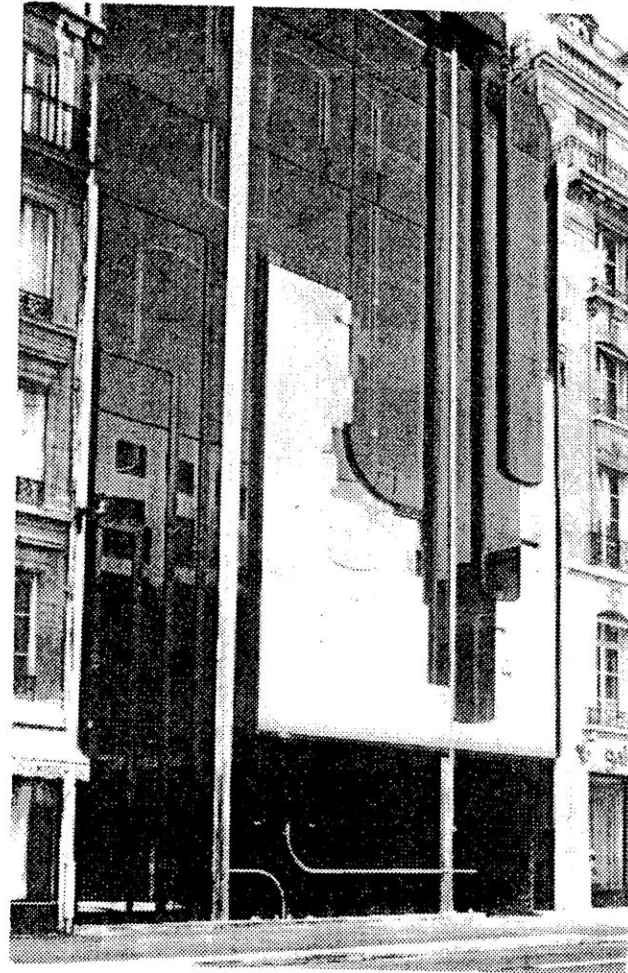
reveal. By butting directly into the museum they say they have acknowledged that the transition must be made by the small scale details rather than at the scale of the building's mass.

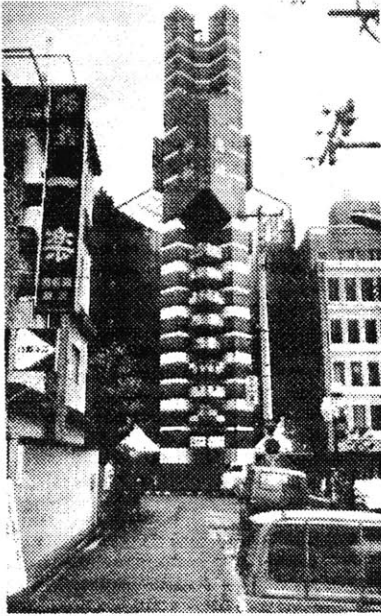
Ironically, after that bold and unconventional choice they settled on what amounts to a link, but at a smaller scale: a flush, vertical strip of gray granite separating the old building from their checkerboard by ten inches. Like the allegedly shunned cliché, it seems to pretend that the buildings never meet.



Matignon Building, Paris/France - Vittorio Mazzucconi, 1973-76 (comments by Peter Blake "The Architecture of Courtesy")

About half a block north of the Place de la Concorde stands this curious monument to "ad hocism" and questionable manners. A more modest solution might have related the new façade to its dignified and very Parisian neighbors. Instead, the architect supplied a design caught halfway between disintegration and decay. The floor-to-ceiling glass wall, inappropriately, faces due west.



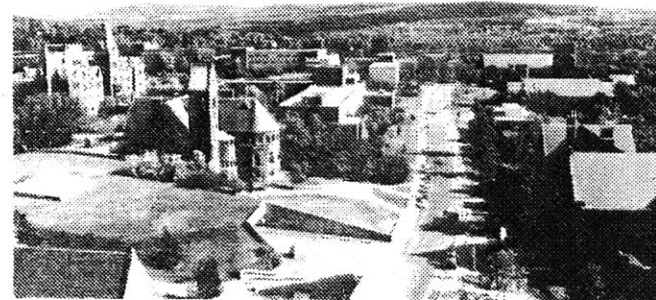


Ichi-ban-kan, Sinzuku, Tokyo/Japan
 - Minoru Takeyama
 This kind of "architecture" is a bad implementation of "paper architecture" and its substance is so superficial that it is not even a sculpture. In the middle of thousands of buildings which intentionally deny their surroundings this buildings possesses a "thoughtless and ad hoc" selfishness, while a building like Pompidou Center would possess a more "generous and attentive" selfishness.

There is another category which cannot be included in the preference list because of the deserved nature of the intervention: The Invisible Addition (this title, its related text and example are captured from Peter Blake's article "The Architecture of Courtesy"). In many instances it is quite possible to enlarge a building considerably by constructing an underground addition. Such acts of modesty or self-effacement are not exactly common due architects' intent on proving that they are superior in talent to their predecessors. Yet, underground additions to existing landmarks often make great deal of sense. Earth is a very good insulator.



Example of a building that does not achieve much for neither its surroundings nor itself - Amsterdam/Netherlands

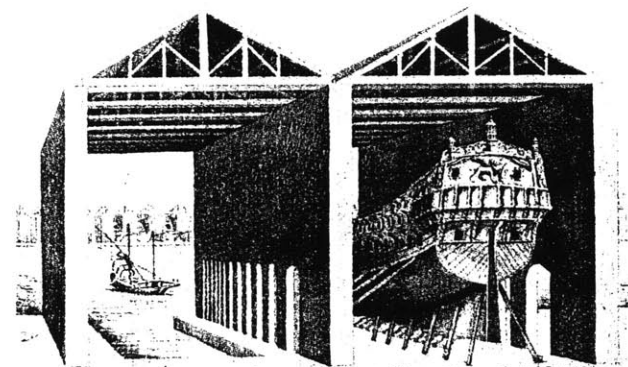


Cornell University Campus Store, Ithaca/USA - Earl Flansburgh and Associates, 1970

The store was designed to do the least amount visual damage to its site in a handsome existing quadrangle. The building was, therefore, placed underground, and its concrete roof was covered with two feet of topsoil over cinders. Only the entrances and the sunken court at the center of the store reveal the existence of a major building.

CHAPTER FOUR

THE SPECIFICS OF THE DESIGN



Perspective of the Architecture of Two Arches of the Venetian Arsenal where Ships are Built & Repaired.

IV. THE SPECIFICS OF THE DESIGN

IV.1 Objectives

The first intention is to design a building which makes visitors feel like in a ship and keeps them:

- aware of where they are,
- awake by offering different spatial experiences through:

- level changes**

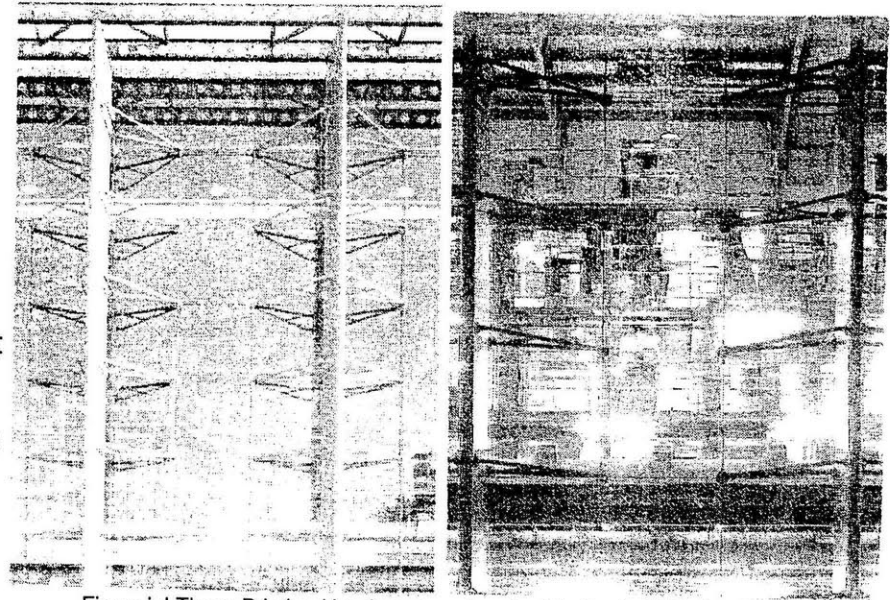
- permeability** of the structure and the skin of the building which allows seeing the surroundings full of marine life and history

- lightness** and **transparency** of building elements that define internal spatial organization in order to provide **simultaneous perception** of different corners in the buildings,

Simultaneous perception of a multiplicity of levels involves struggles and hesitations for the observer, and makes his perception more vivid.

Robert Venturi "Complexity and Contradiction in Architecture"

- interested* in what they are seeing.



Financial Times Printing Headquarters, London/England - Nicholas Grimshaw
Reference for lightness and transparency of building skin

The second intention is to introduce a new building which respects the context on certain levels, but brings a distinct character as well.

Another primary concern in the design is that the building should have a presence in Venice as a **catalyst**, not only architectural but social, touristic and cultural. The fact that the building has an unusual existence, in the middle of an opaque architecture with a much smaller ratio of void/solid, brings the potential of creating such stimulating spot in Venice by attracting people.

IV.2 A Concern

Even though the final product seems to be completely different than buildings surrounding it, it is important to make sure that this is not the intended general architectural approach. When one considers "vernacular" ("vernacular" not in the sense of "regular" but of "unconstrained") architecture, one of the most important things for me that made this architecture end up with humane spaces is the fact that the individual pieces which constitute the whole do not attempt to compete with each other. It is possible to find a more powerful explanation of this idea in the following caption from Italo Calvino:

Zora has the quality of remaining in your memory point by point in its succession of streets, of houses along the streets and of doors and windows in the houses, though nothing in them possesses a special beauty or rarity. Zora's secret lies in the way your gaze runs over patterns following one another as in a musical score where not a note can be altered or displaced.
Italo Calvino "Invisible Cities" p.16

Considering the relationship of the above concept with the design proposal, there was an attempt to reinforce and exploit some spatial qualities which were already in the site. That is why visually and physically permeable structure and enclosure are proposed in order to avoid an overwhelming building mass. On the level of spatial experience the final

product does not compete with its site, rather it grows from it.

IV.3 Relevance of the Design

Regardless of the general issues about contextualism, the decisions made for this design are indeed locally driven and this fact can be considered enough to conceive the whole design as context-conscious. The design concept of using a split ship hull originates from the history of the site; the particular spatial organization takes the existing conditions into account and, in fact, the proposed modular structural system simulates the system of existing lines of arches in the site. Finally, even though the design decisions are locally driven this building as a system can be built somewhere else, however, the configuration of different parts of the building is bound to be different according to site conditions at another location. This is an alternate evidence which proves the particularity of the design for the Arsenale.

47

IV.4 A Way of Working

I was generally more productive during night time, I used models most of the time as part of the design process, and I would unfortunately never have a detailed drawing that can be called a "blueprint" before starting a model. In addition

to all these, my idea generation is sometimes so spontaneous and local due to interest in model making that ideas are as discrete and remote as "stars in the sky". As a consequence, I could not help not quoting this:

"Where is the plan you are following the blueprint?" someone asks.

"We will show it to you as soon as the working day is over; we cannot interrupt our work now" they answer.

Work stops at sunset. Darkness falls over the building site. The sky is filled with stars. "There is the blueprint" they say.

Italo Calvino "Invisible Cities" p.101

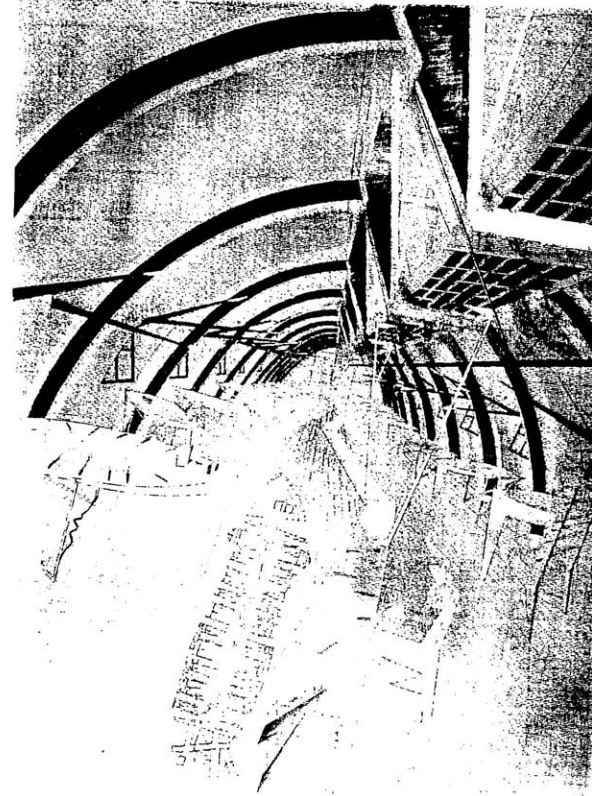
IV.5 Inspirations for the Design

48

The origin for the design idea is two of the ship models I have seen when I was visiting the present maritime museum in Venice. The first one was made to show the construction process of a ship: props that hold the hull of the ship up, some of them perpendicular to ground, some at an angle (see following picture).



Model of frame structure of a ship which was an inspiration for design concept

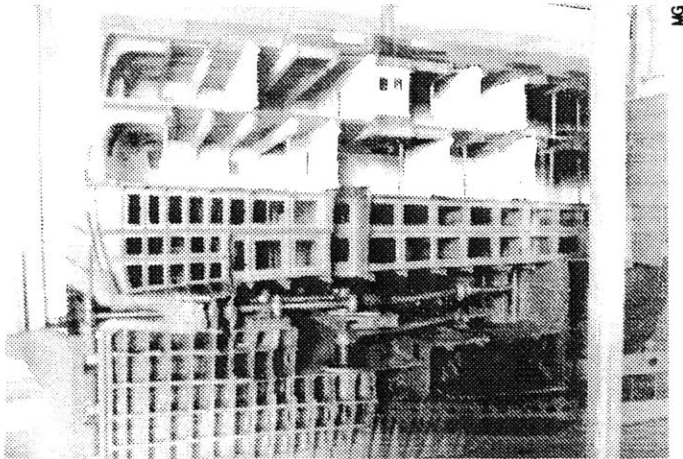


Design by Peter Langan - reference for the possibility of using the framework of a hull in different orientations (upside down in this case, as a consequence framework covers instead of containing)

If one conceives the model as a building, ground level is like a hypostyle hall which houses a forest of vertical compressive elements and which is devoid of solid massing; while the frame of the hull constitutes the structure of the first instance of "building". In other words, the model reminds

Le Corbusier's idea of building on pilotis. Both levels (i.e. forest of props and frame) have a "screeny" quality which brings a richer space organization, definition, and finally perception.

The second model was a section model which would allow visitors to see the internal spatial organization of a ship (see following picture).



Section model of a ship which was an inspiration for the design concept

In most of such models, there is remarkable spatial potential, since there is a variety of dimensions, level changes, and daylight intensities. After the first idea of taking advantage of the hull shape the concept developed further with the possibility of dividing the hull-like form into halves, displacing them a little bit in order to have collective space

in between, and locating them at a shallow angle to each other to invoke some level of dynamism.

IV.6 Interpretation/Abstraction of Existing Site Conditions

"It is possible to define two general approaches in respecting the context:

- conservative
- interpretative

They differ from each other mainly at the level of the user, materials used and the construction technology employed. Obviously, this means a lot of difference in reference to the context."⁶

The conservative approach would probably be considering *formal* morphology of a context and attempting to recreate this *formal* atmosphere. On the other hand, the interpretative approach would probably deal with creating the spatial impression that the local architecture gives us rather than the visual expression of shapes.

⁶ Aga Khan Award for Architecture Regionalism in Architecture: Proceedings of the Regional Seminar in the Series Exploring Architecture in Islamic Cultures, Concept Media, (1985)

My preference would be an interpretative approach. The second paragraph in the "Morphological Survey" section in previous pages, which I will quote again, reinforces the necessity of the preference:

The factories of the Arsenale are not architectonic "types": they have neither the fixity nor the figurative constancy. They are, instead, "spatial schemes" capable of responding to two fundamental exigencies: the maximum free span attainable with wooden trusswork, and the minimum transverse encumbrance from the bearing walls (reducing the thickness of the intermediate sections as much as possible)⁷.

Once the approach is developed it is possible to bring the problem to another level of **relevance of new to old**:

50

- global relevance (would be Venice or even Italy in the particular design problem)
- local relevance (would be the Arsenal)

The global level contains much more parameters than the local level. Consequently, it is more difficult to meet a balance between old and new on the global level than it is on the local level. For this reason, I personally would prefer to remain on the local level in order to increase the possibility of having a simpler solution to the problem.

⁷ L'Arsenale Riordinato: Nuovi Progetti per Venezia, Istituto Universitario di Architettura di Venezia, Arsenale Editrice, (1987)

The features of the Arsenale that I tried to interpret and include in my proposal are as follows:

- buildings are accessible/permeable from many points on the longitudinal sides as well as from a major entrance on the short side
- buildings have ample column-free internal spaces
- there is a considerable amount of cranes that, besides lifting, complete and compliment the industrial atmosphere present in the site, and offset the lack of vertical elements
- water is the most crucial element in the area (it functions as the extension of the work-space) and it should not be neglected as a means that would intensify certain moves in the site (e.g. circulation on the ground level)

IV.7 Urban Design Factors that are Considered in the Design

Rather than actually copying the stylistic language of the surrounding historic buildings, new buildings often attempt to capture the essence of their neighbors while remaining thoroughly contemporary. This can be done by picking up abstractions of the existing buildings or by responding to the larger scaled factors of urban design.

Keith Ray "Contextual Architecture: Responding to Existing Style", 1980, p.99

- Accessibility vis-à-vis general transportation system of Venice
- The original function of the whole complex to be maintained (shipyard)
- Idea of connecting two important canals that were connected hundreds of years ago, and by doing so:
 - increasing the number of entrance points to the entire Arsenale,
 - bringing water into the specific site on which the maritime museum will sit,
 - and finally attempting to draw more people to a part of the city that is a secret place both for the inhabitants and the visitors.
- Idea of taking advantage of the beautiful vistas that presently exist in the entire Arsenale by proposing a mix of transparent and screened enclosure system

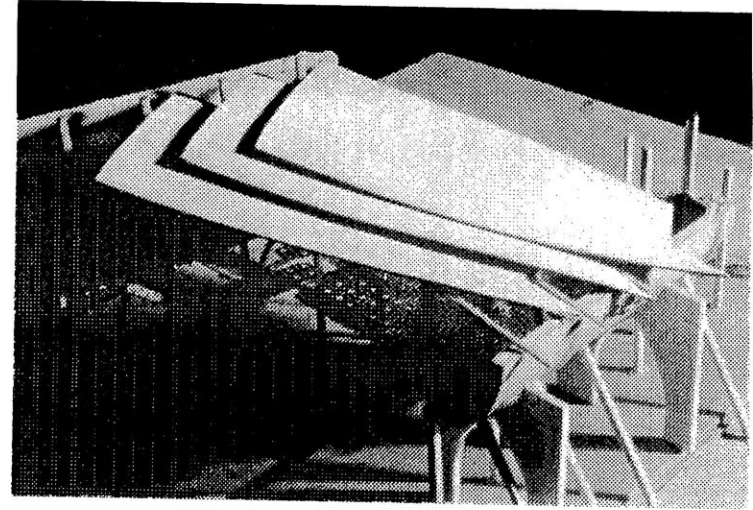
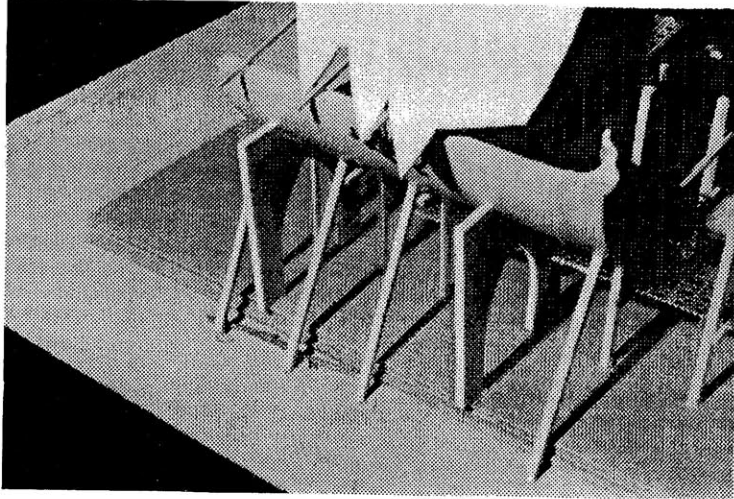
IV.8 Preliminary Sketches and Related Design Work

In this section, included are:

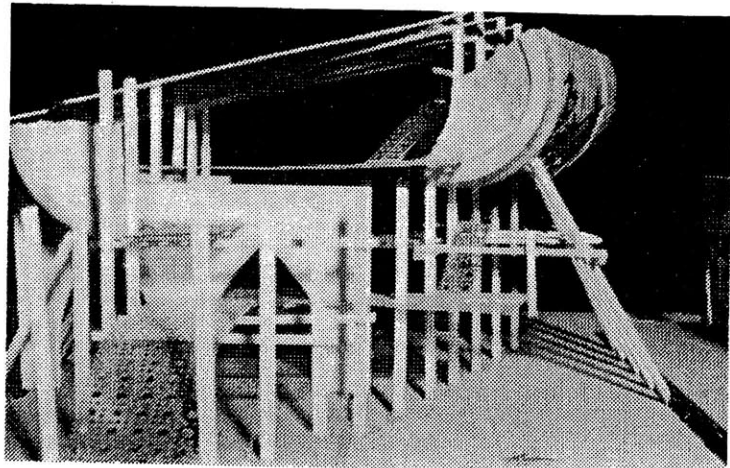
- conceptual sketch drawings
- conceptual sketch models
- plans
- elevations
- sections
- section models
- site model
- models mostly showing only one portion of the design for time saving purposes
- computer graphics
- site plan

The extent of the graphic presentation shown in this section may seem a little excessive. However, my purpose is to show a process which was the result of a constant exchange between presentation techniques, scales, and media. The evolution of the project until it reached the final scheme was important for me to document since I do not conceive any of these proposals as the perfect solution. and there is the possibility of one of the previous schemes being more suitable than the final proposal.

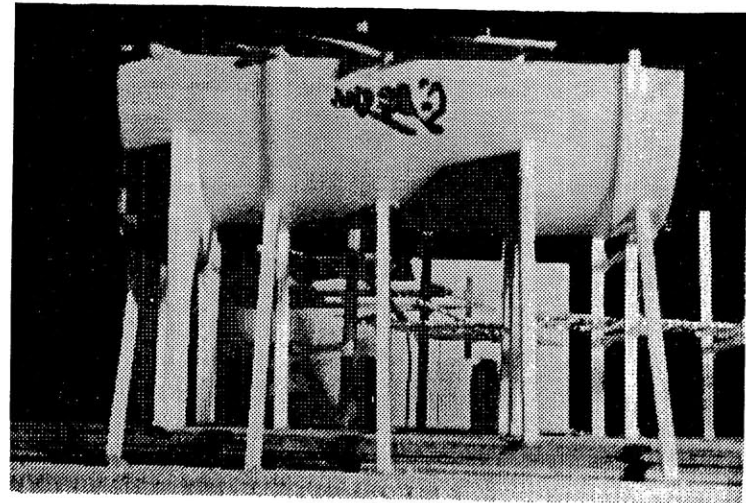
All the work presented is in chronological order.

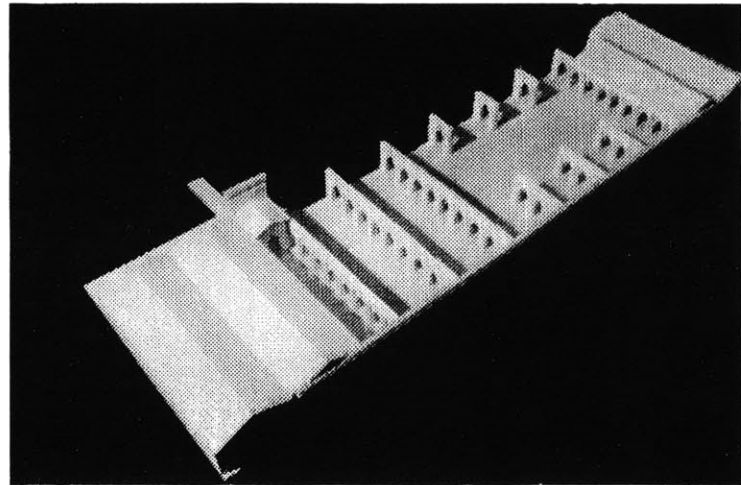
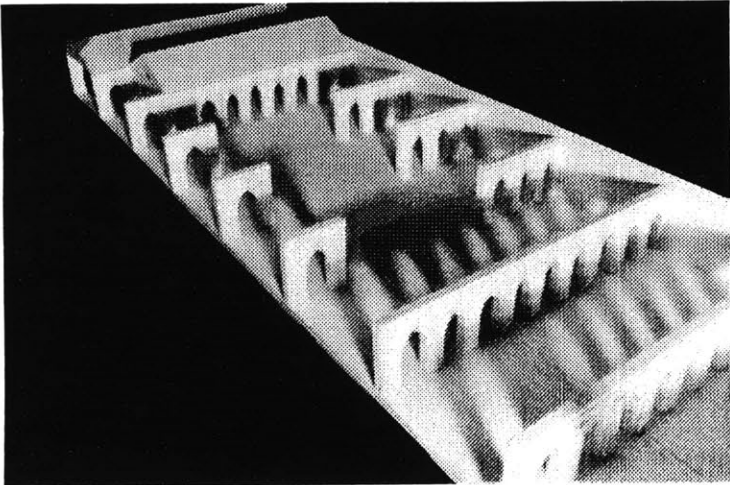
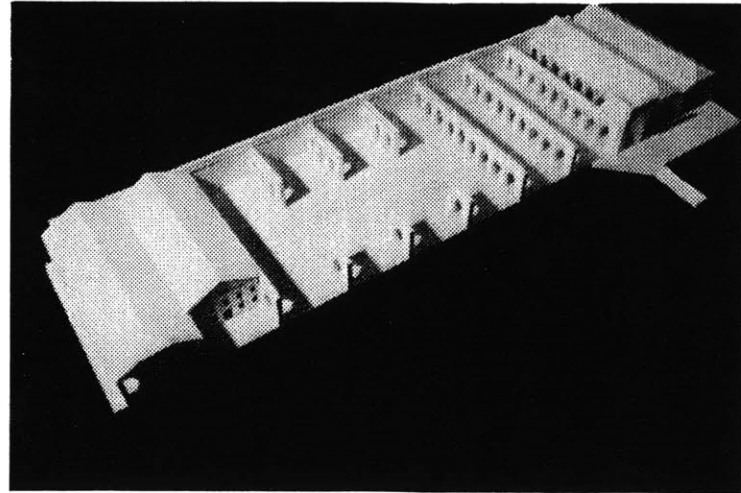
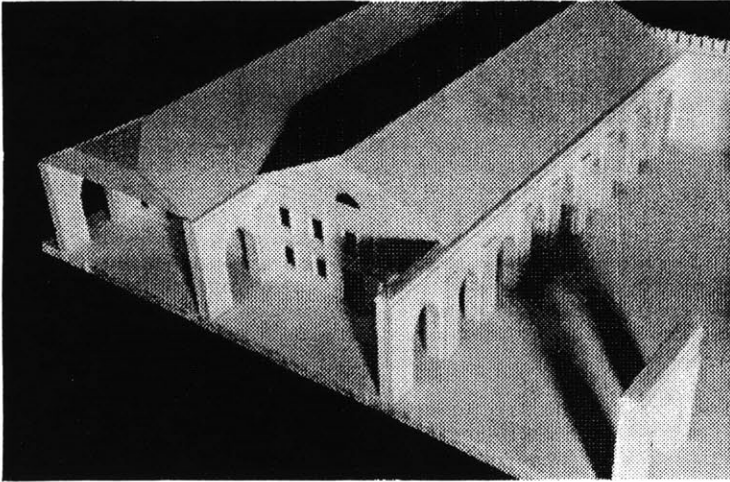


52

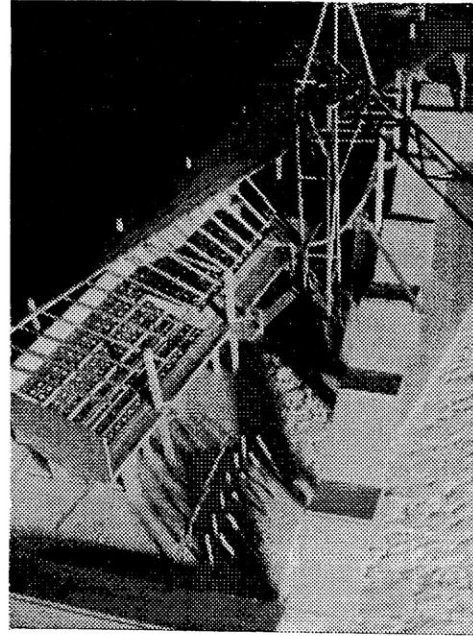
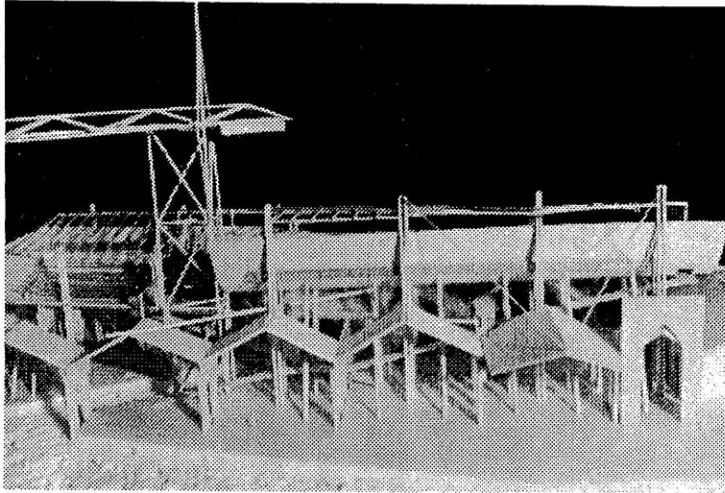


The very first conceptual model - no scale

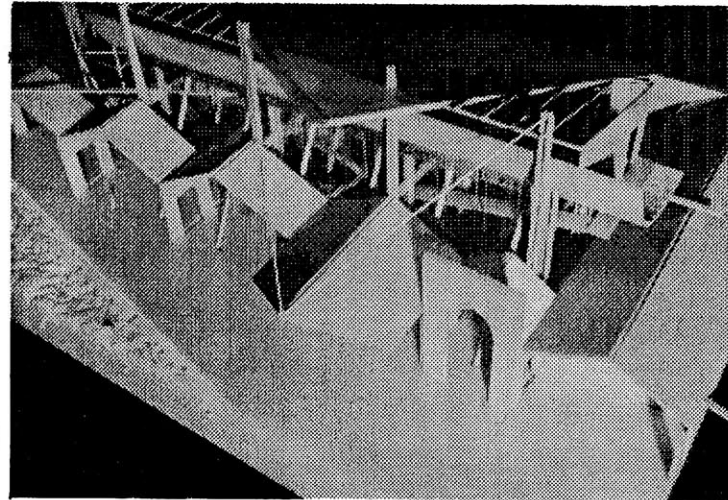
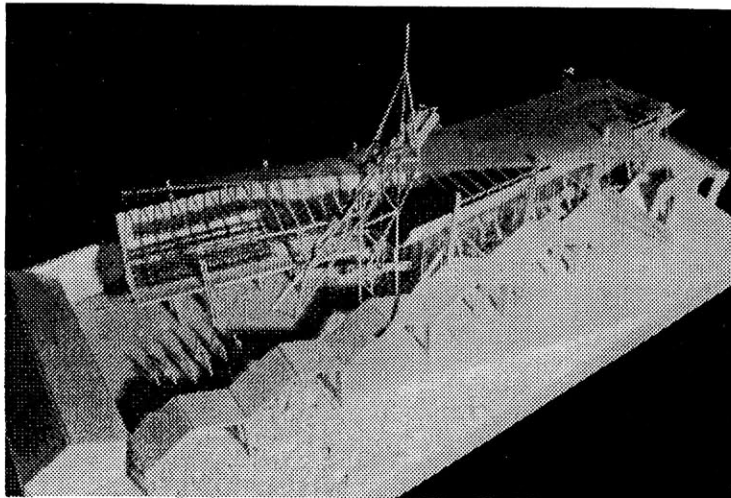




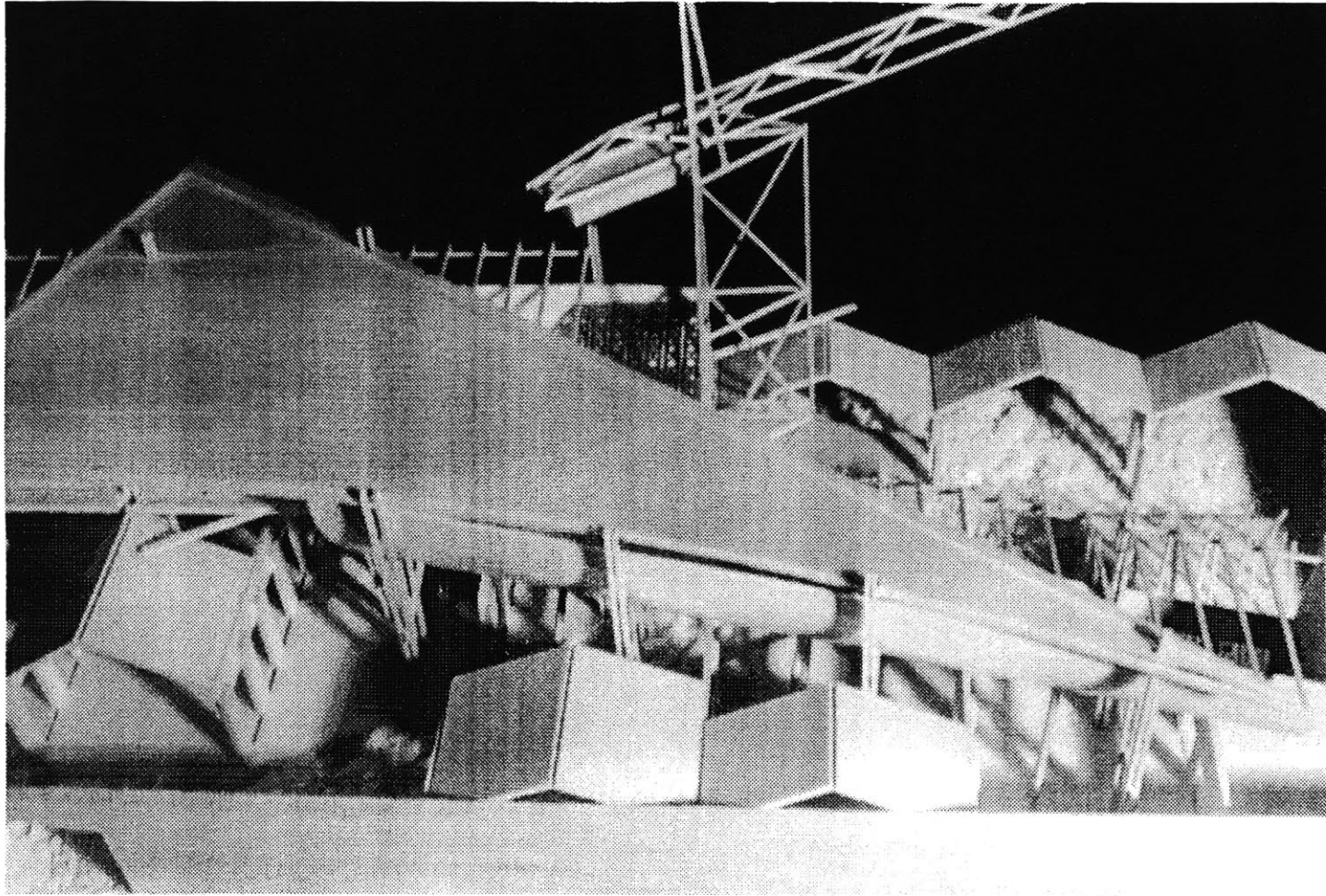
Site model built in order to understand the spatial features and dimensions of the site.

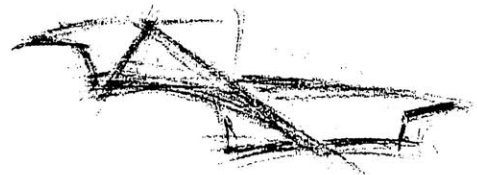
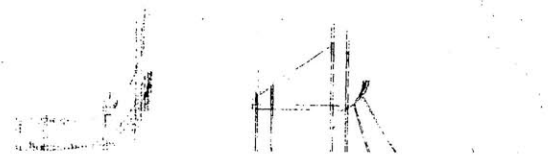
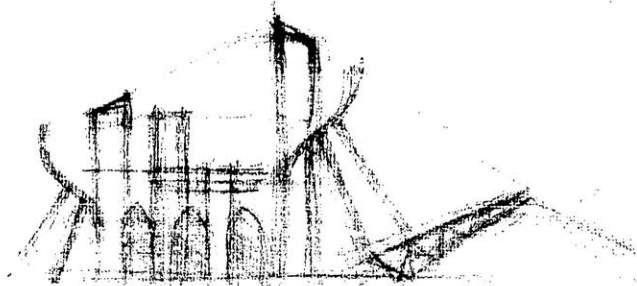


56

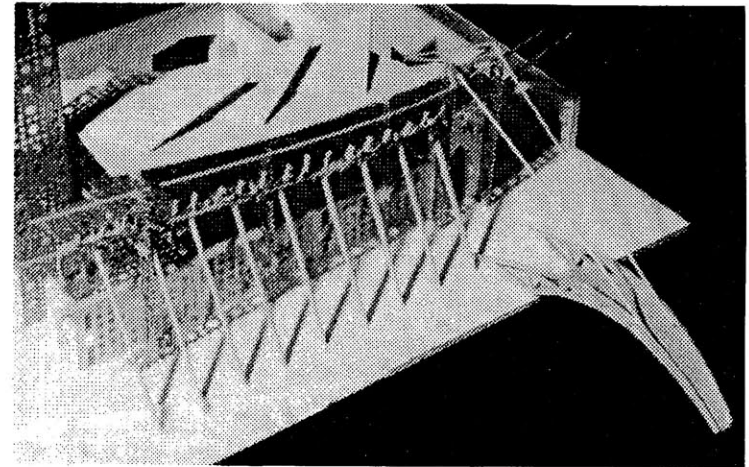
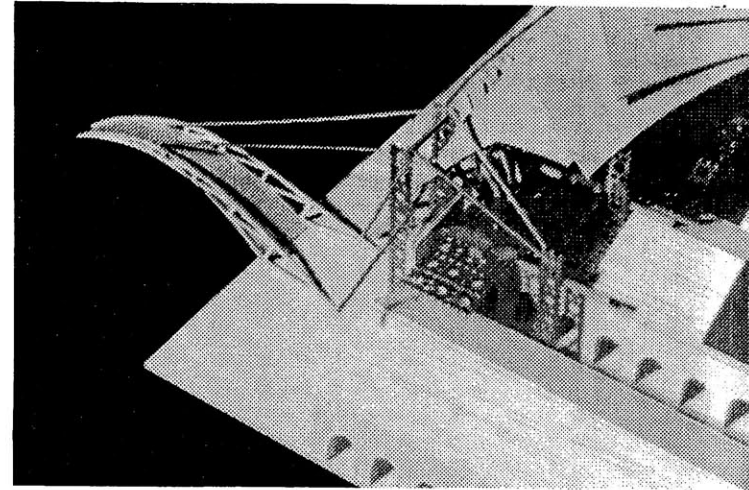


first scheme - trying to accomplish continuity by extending the front roofs; the hull is a solid body with no exposed ribs; a big singular sail-roof rather than smaller fragmented ones... - scale: 1/16"= 1'

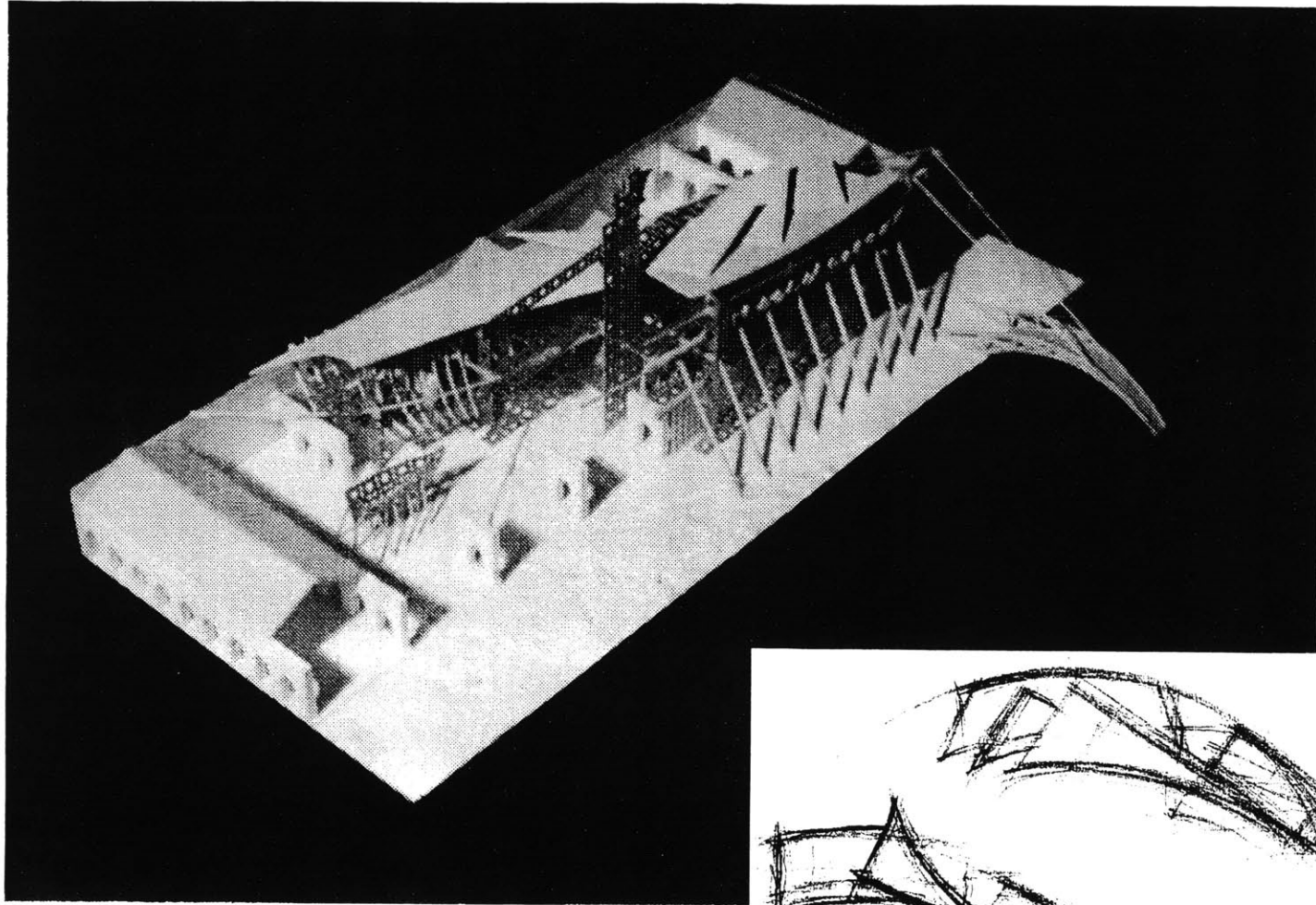


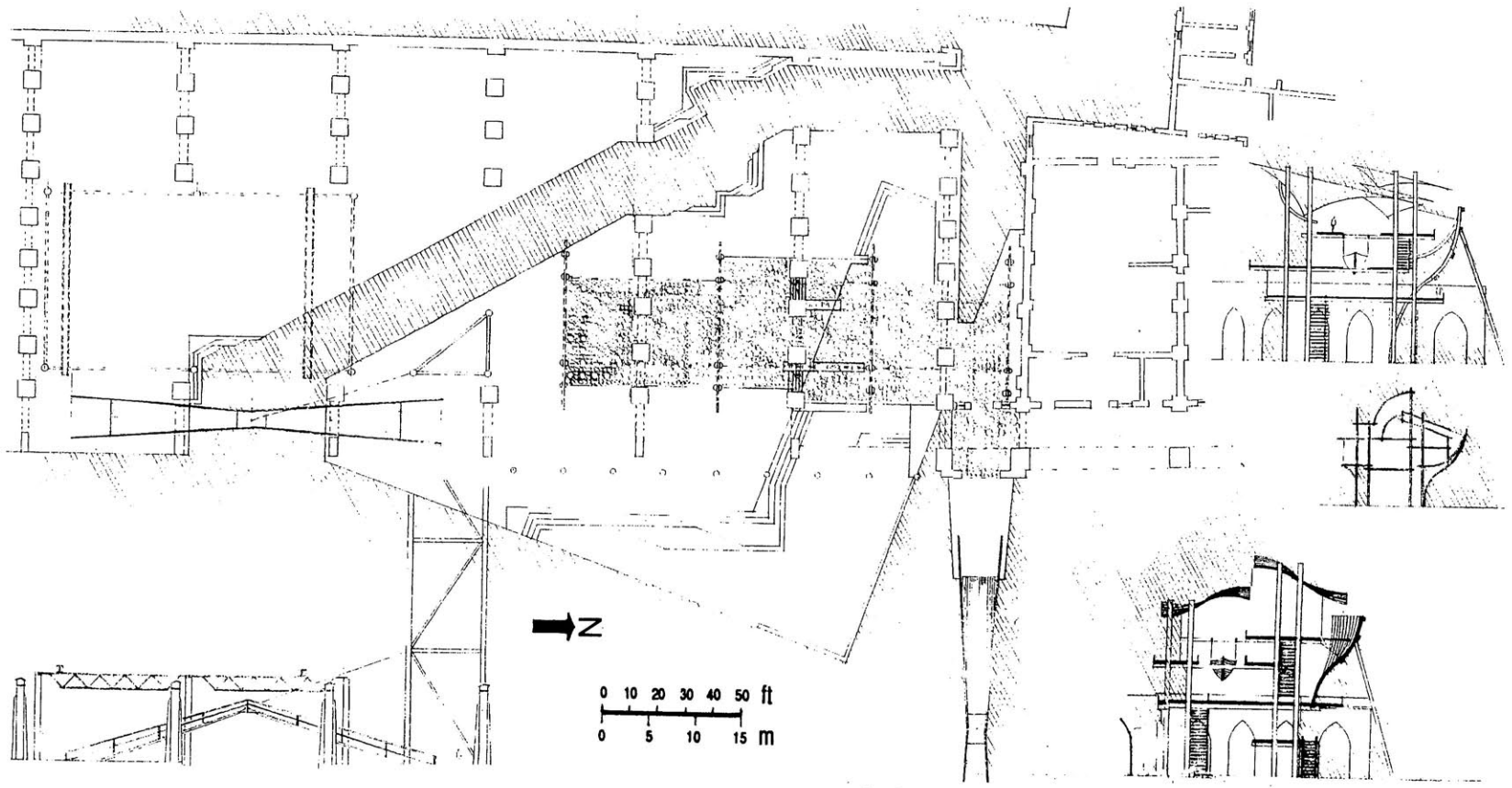


58

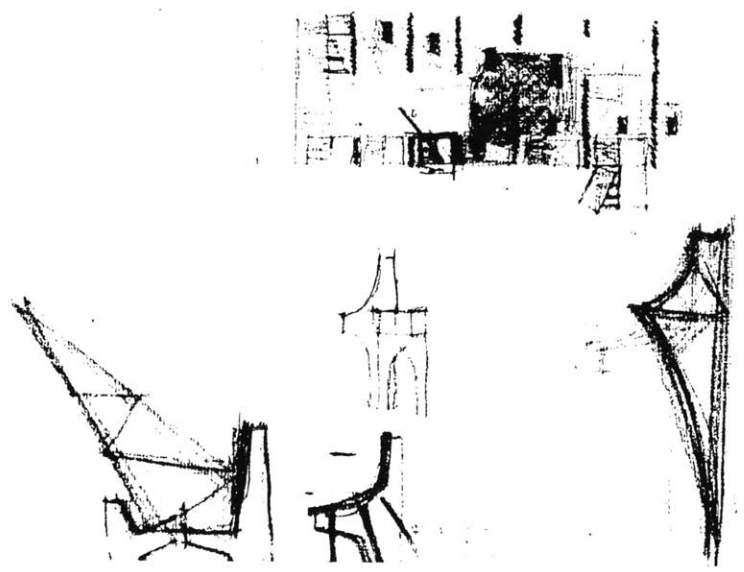
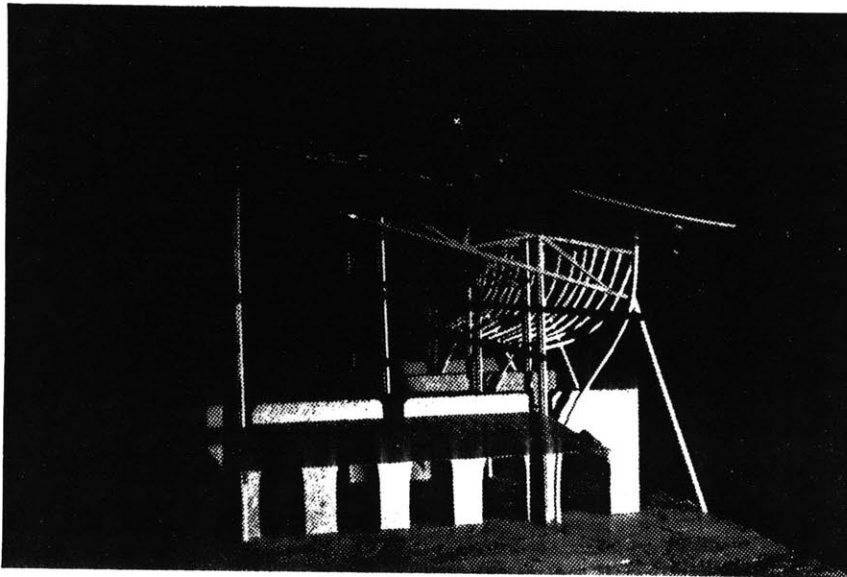
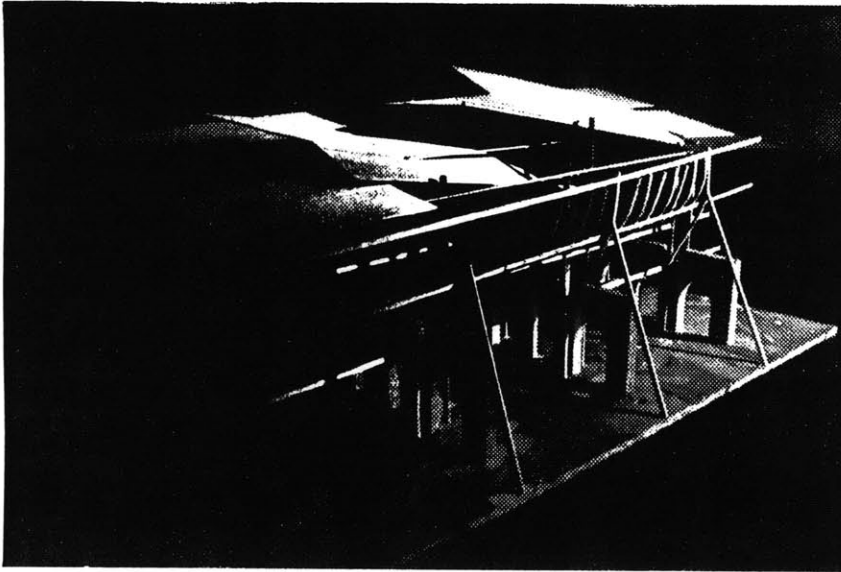


second scheme - the solid hull does not exist anymore, series of exposed ribs instead; more fragmentation in the sail-roof form; fronts roofs of previous scheme were disliked I had to remove them; getting into design of the bridge which connects the site to the other side (or which connects the side to the other site, whichever you like)... - scale: $1/32" = 1'$

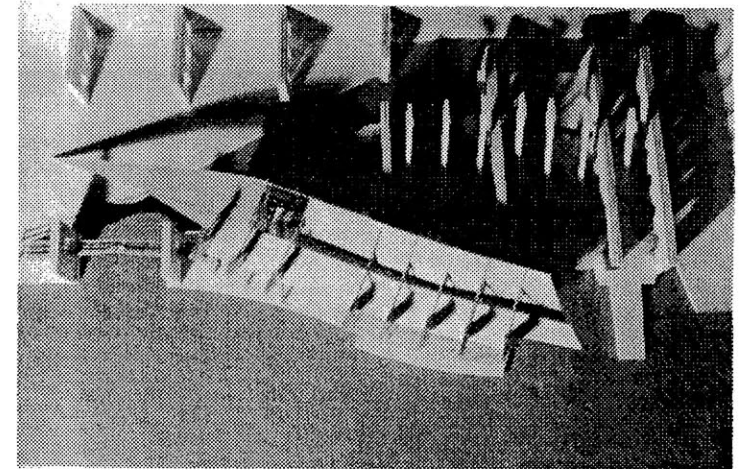
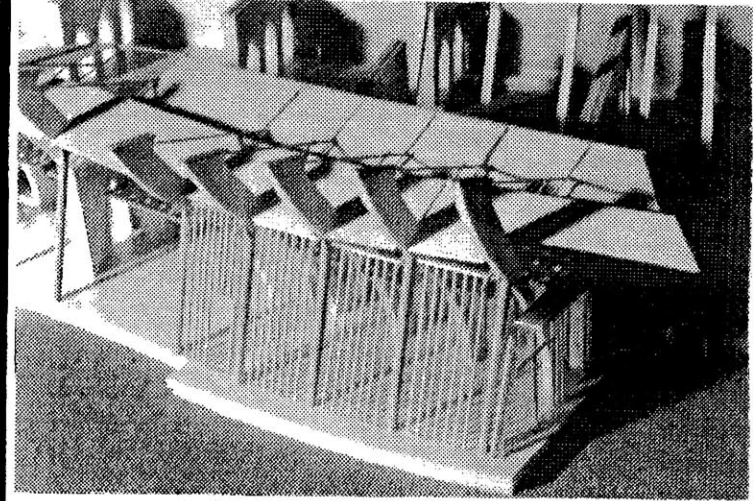
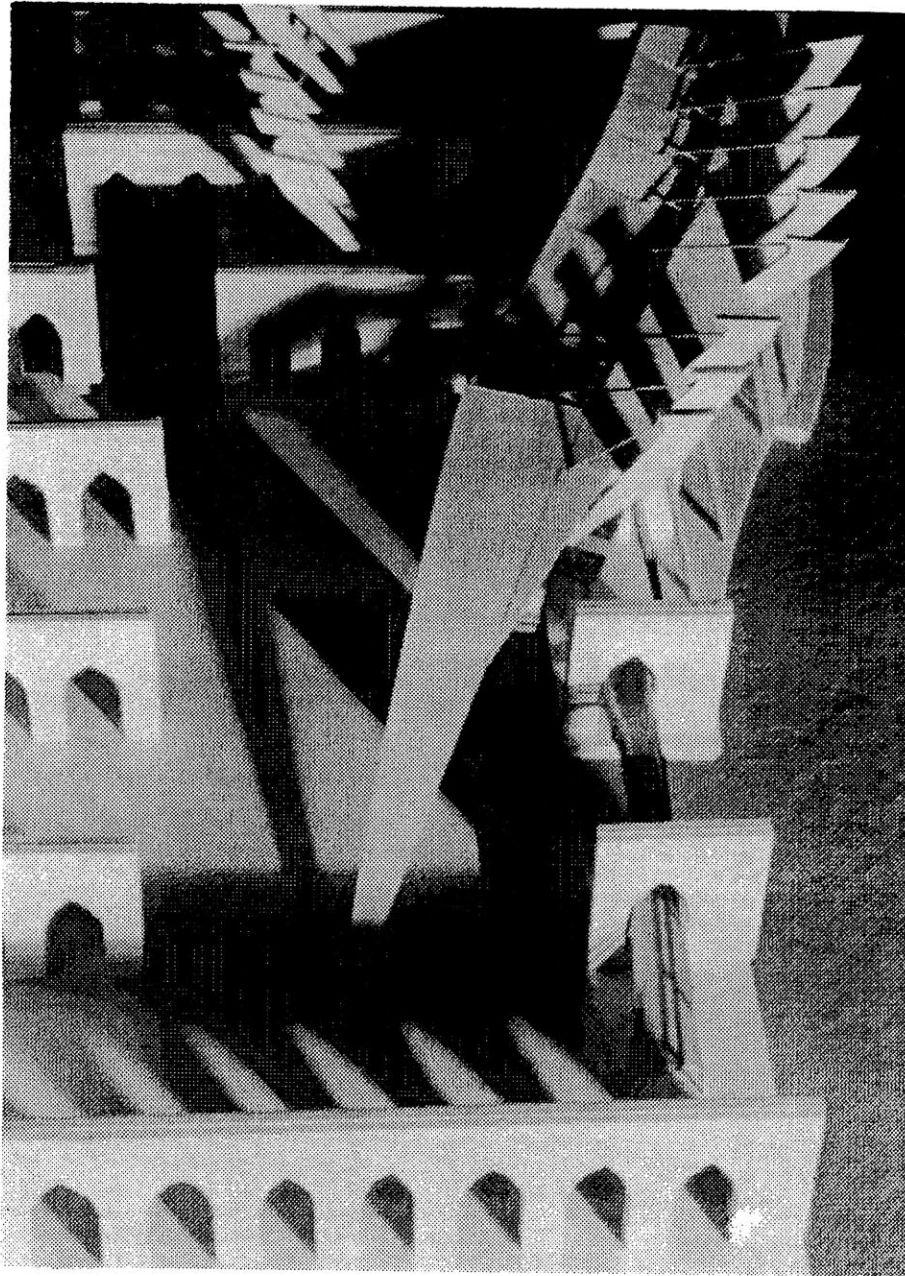




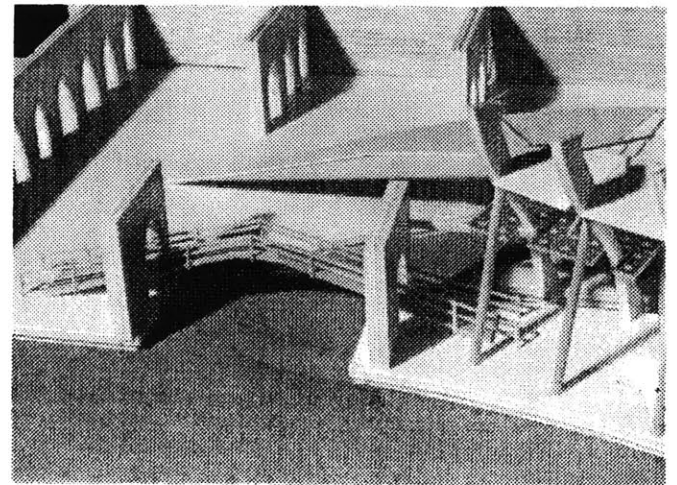
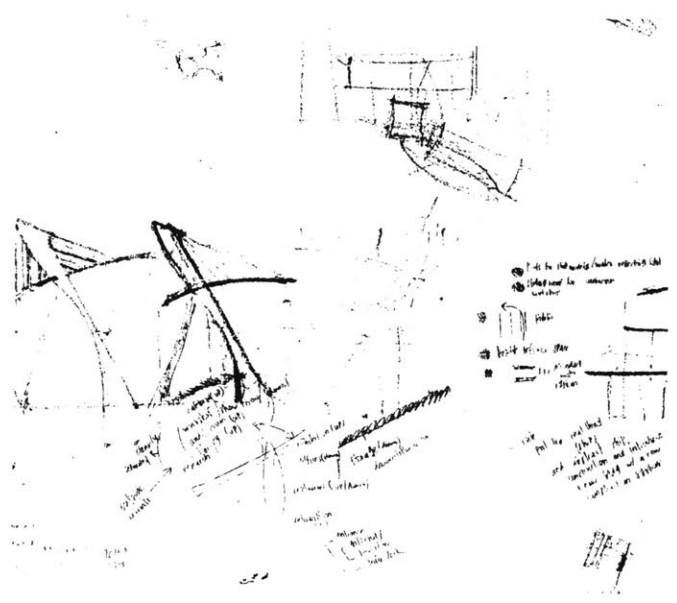
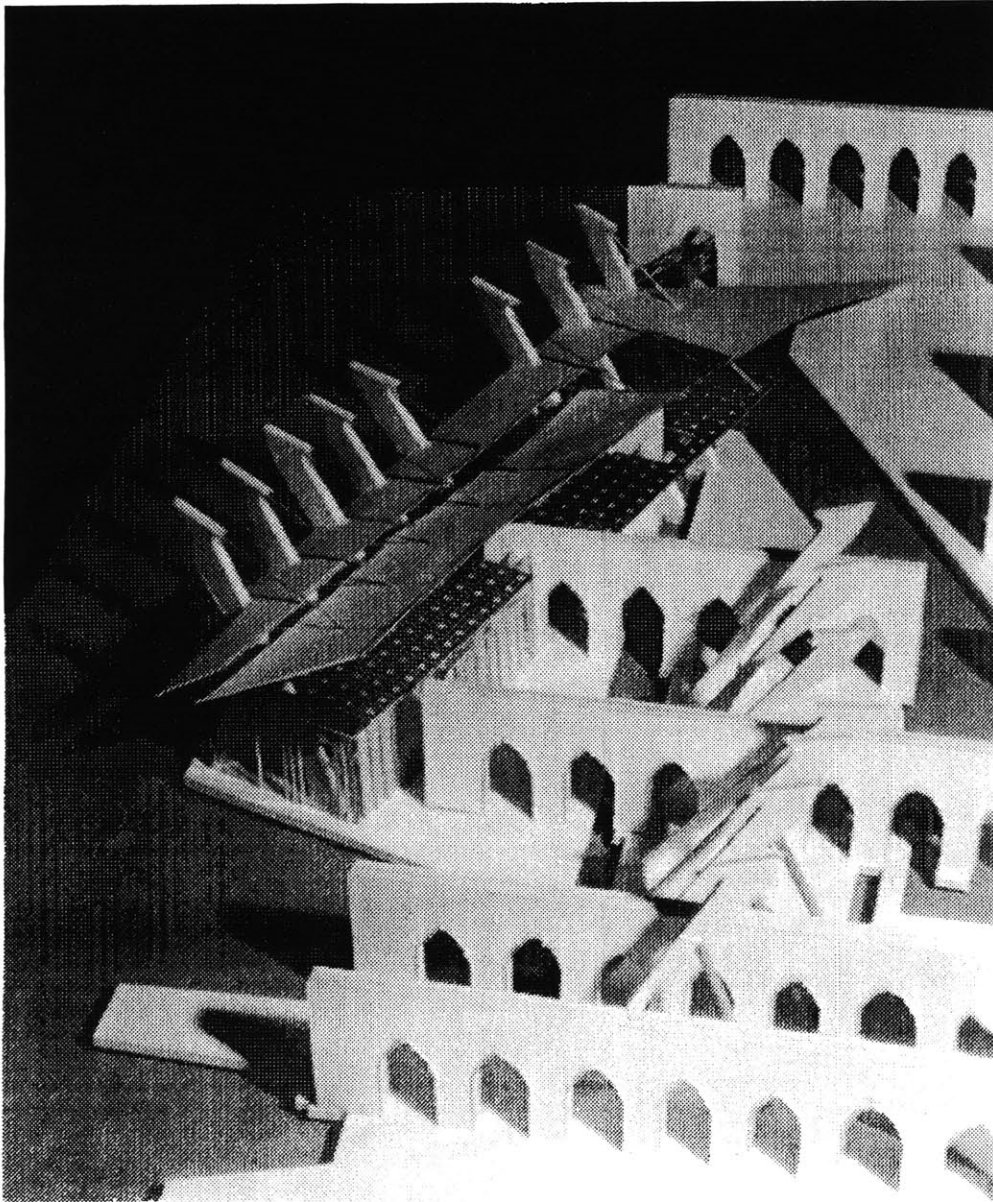
two-and-a-halfth scheme - a plan drawn in order to improve certain details of the second scheme model... - original scale: 1/16"= 1'

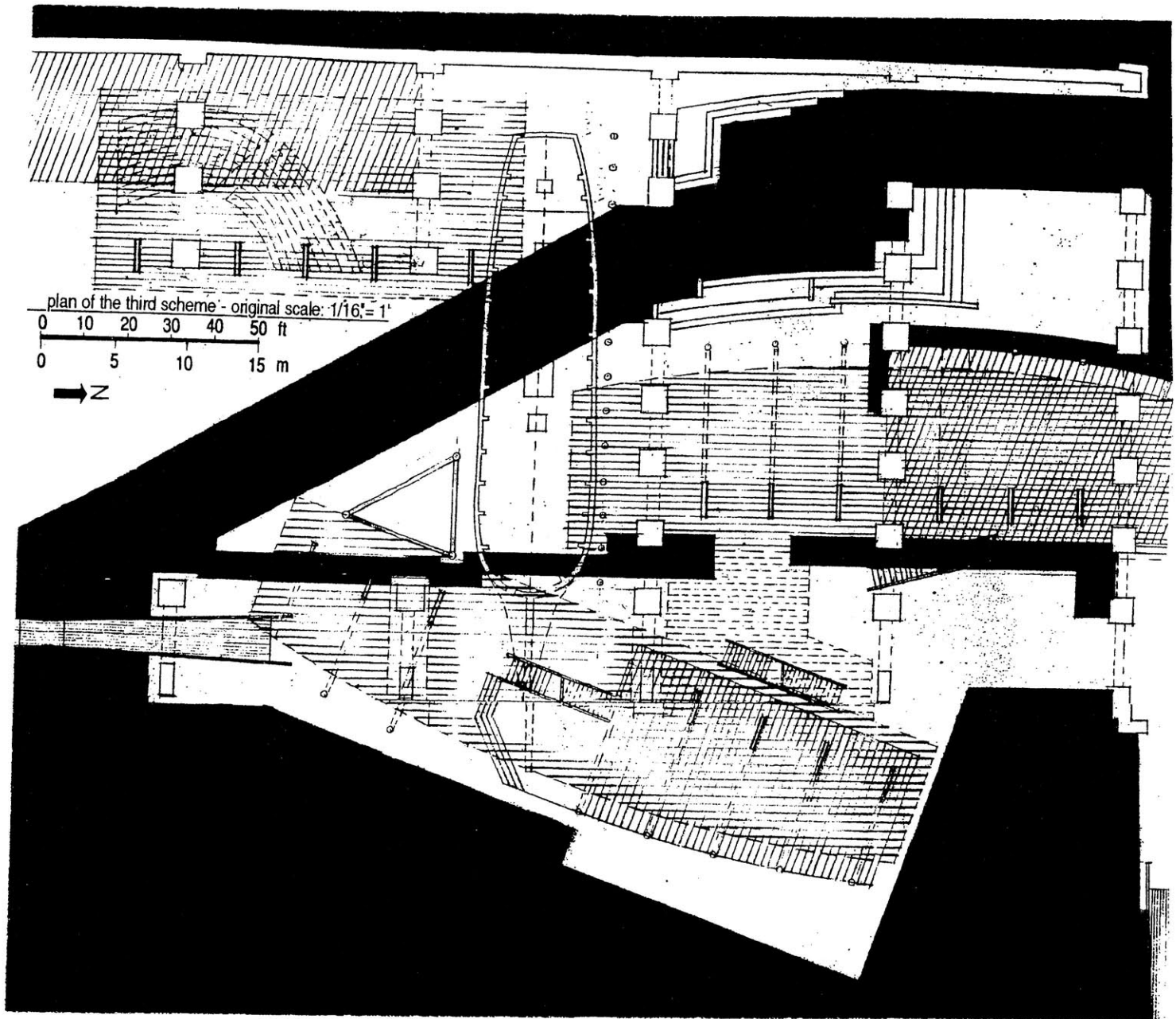


some sketches and a section model for the two-and-a-half scheme - trying to see how old and new materials would come together at a larger scale; changes in the roof form; extension of ribs down to the ground level... - scale: 1/8" = 1'



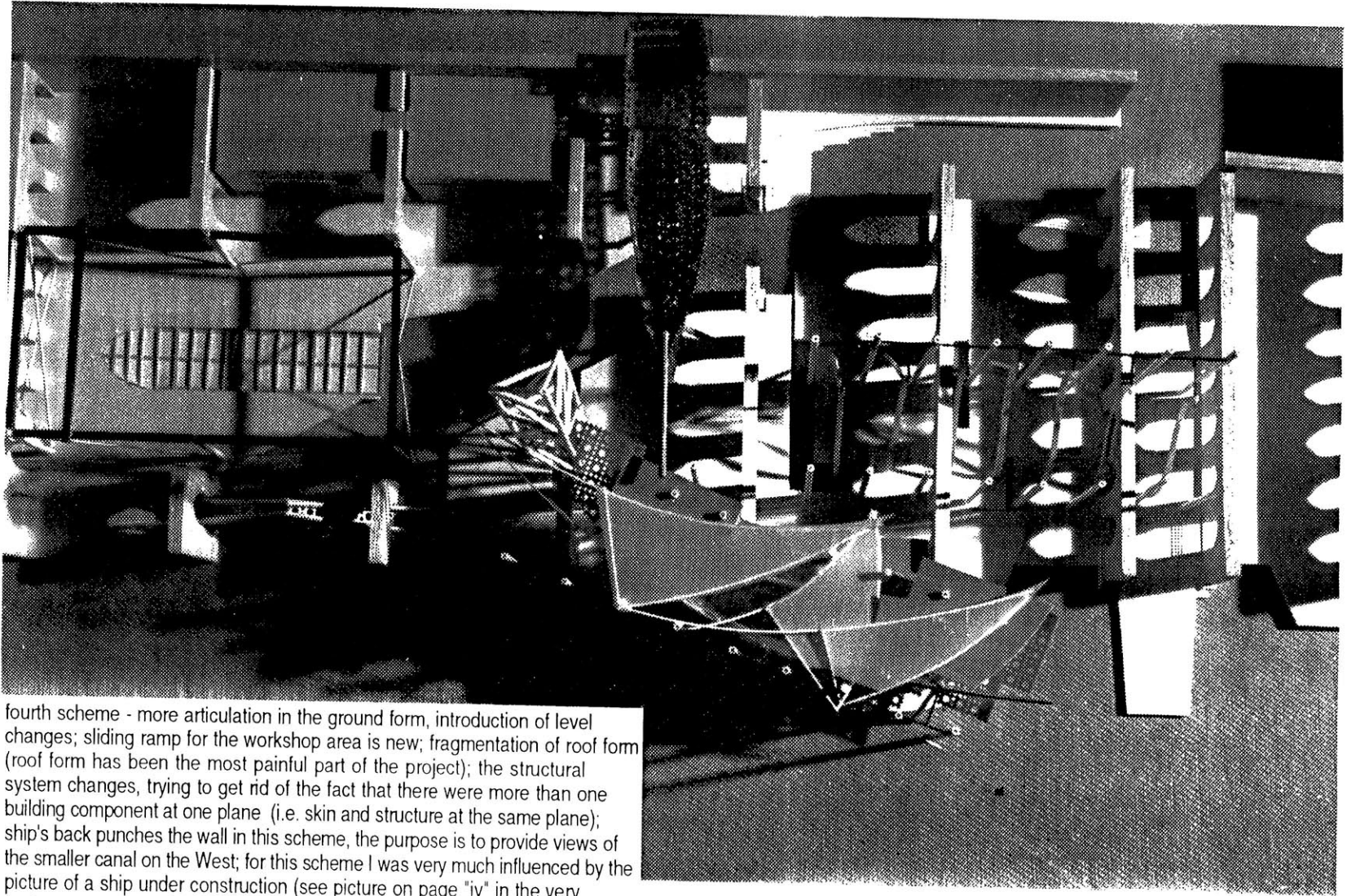
third scheme - introduction of a real ship; transformation of hull+supporting diagonal prop couple into architectural elements; suspension system for the first time; separation of library and enclosed auditorium from two hull halves which constitute the main body of the museum, use of the real ship as a bridge between these separated functions; change in the location of the halves (compare with the previous scheme, no hull half next to the wall anymore); trying to use water for reinforcement of direction of public circulation; single roof form again, fragmented ones don't look appropriate... - scale: 1/16' = 1'



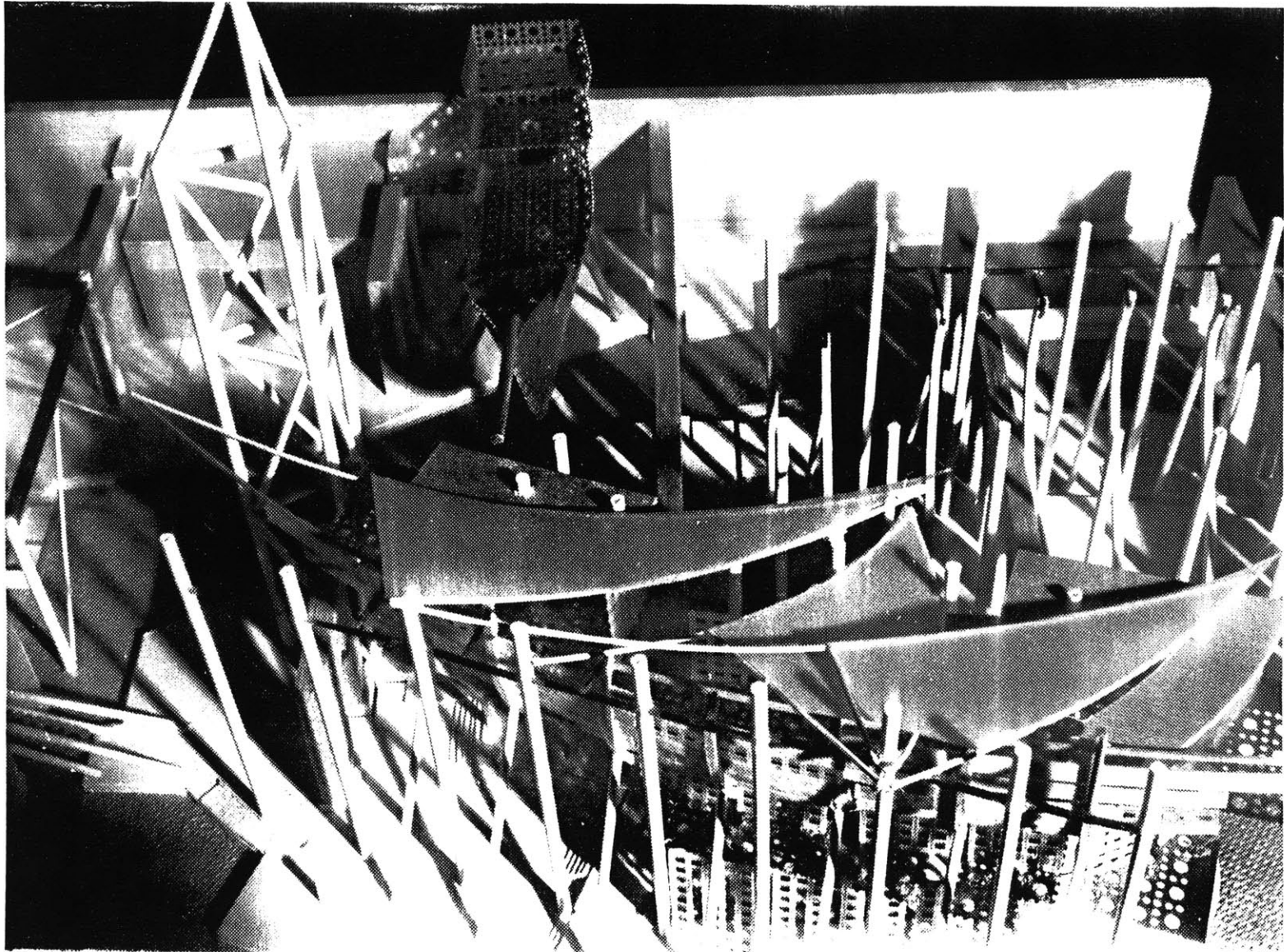




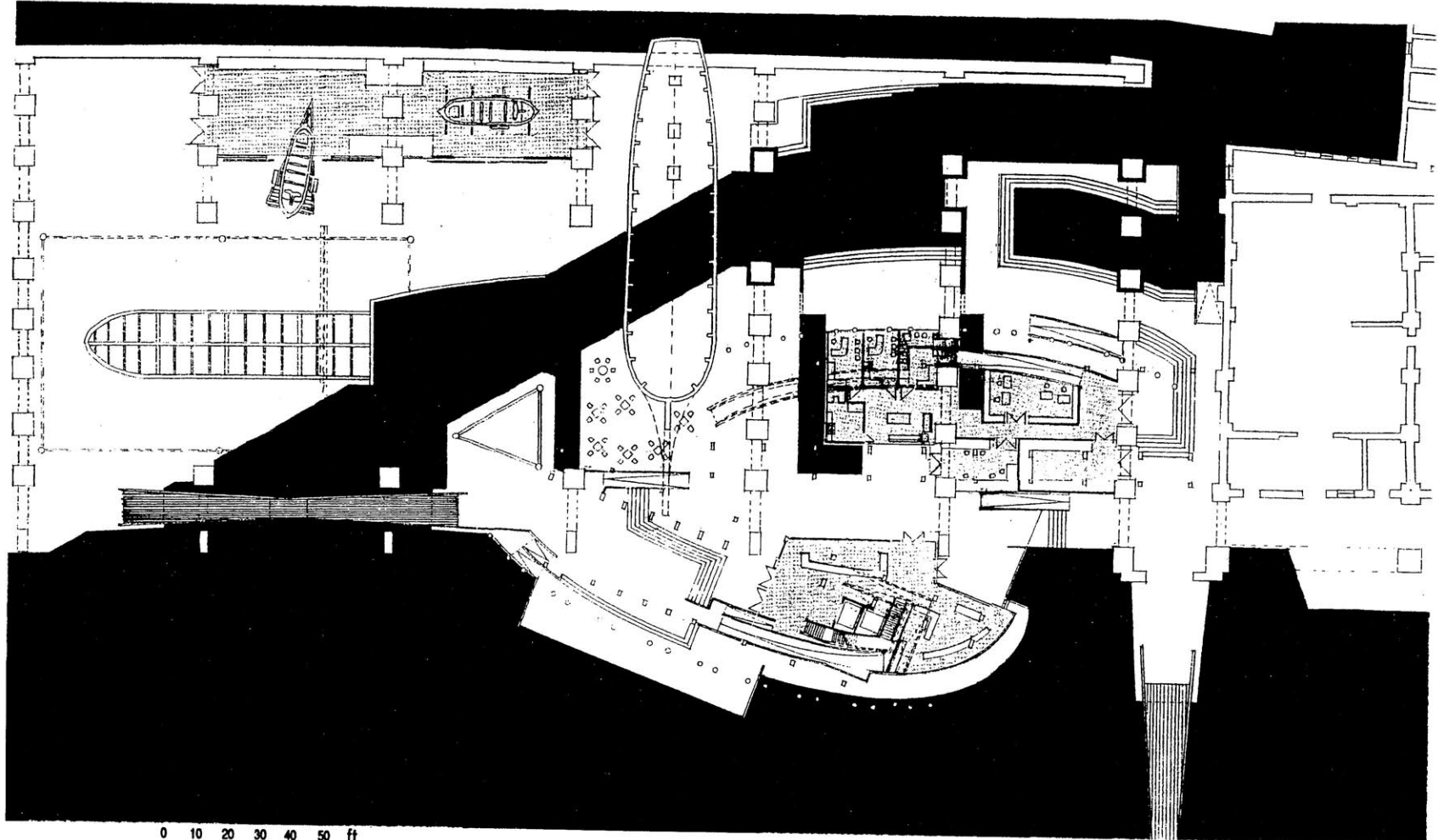
painting by Ayşe Yalınım



fourth scheme - more articulation in the ground form, introduction of level changes; sliding ramp for the workshop area is new; fragmentation of roof form (roof form has been the most painful part of the project); the structural system changes, trying to get rid of the fact that there were more than one building component at one plane (i.e. skin and structure at the same plane); ship's back punches the wall in this scheme, the purpose is to provide views of the smaller canal on the West; for this scheme I was very much influenced by the picture of a ship under construction (see picture on page "iv" in the very beginning - thanks to Katie O'Connor for the book containing this picture); the idea of using planks for the skin of the upper portion of the building is new, the building has a stronger horizontal presence now



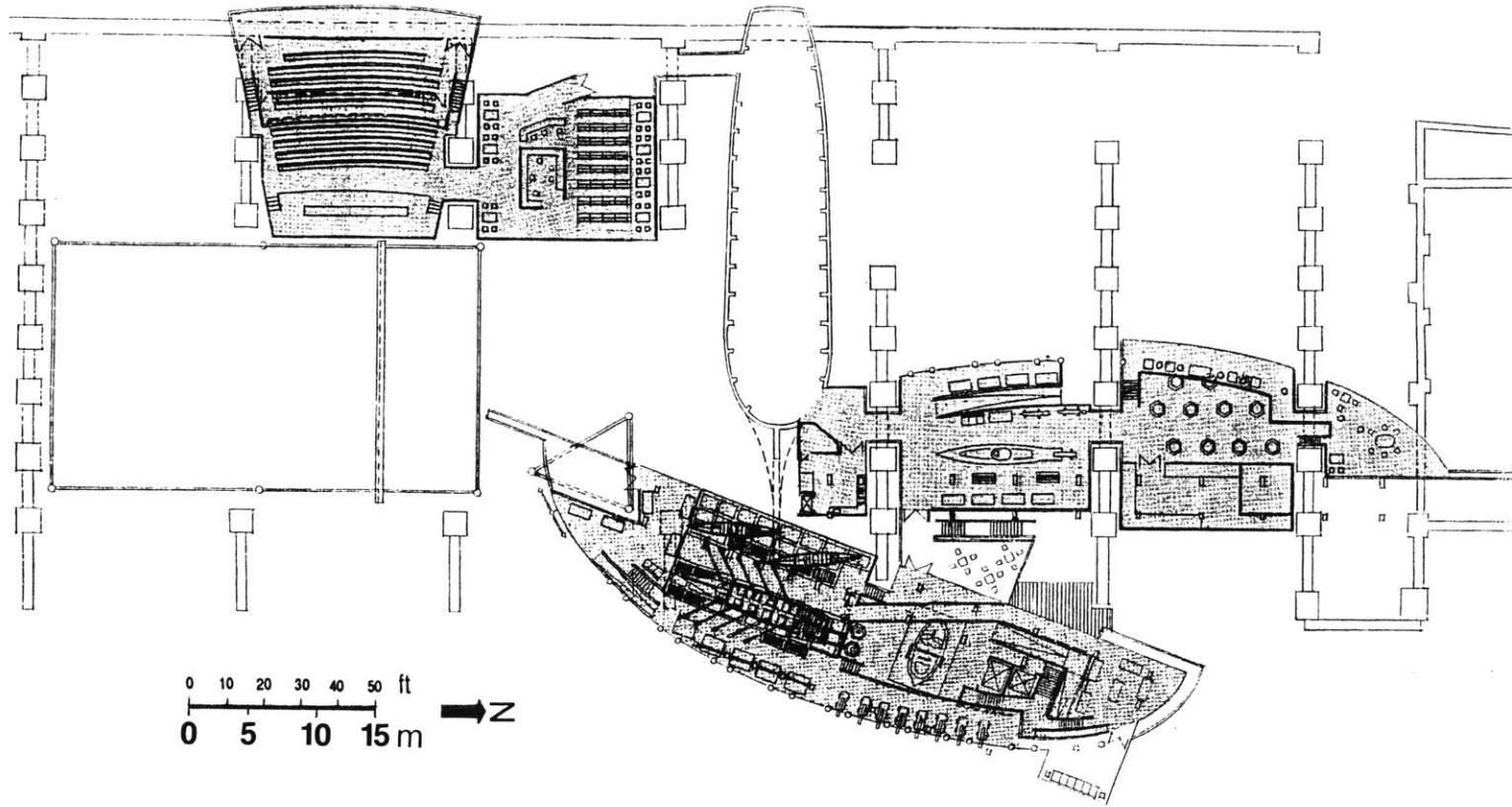
68



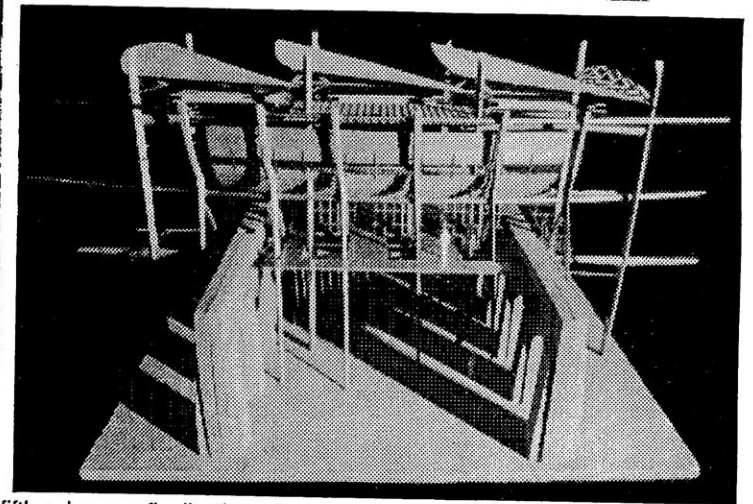
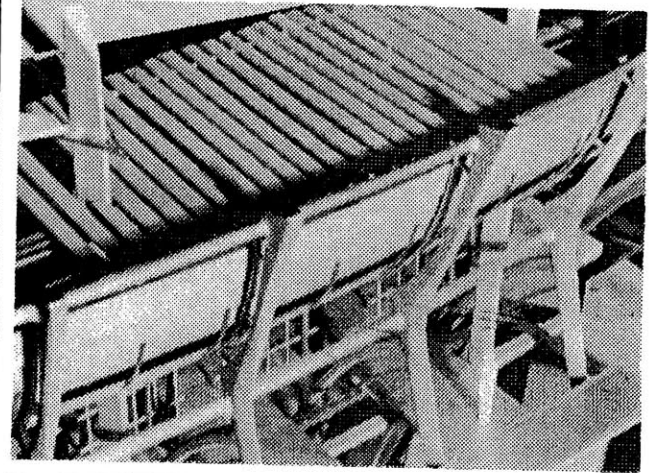
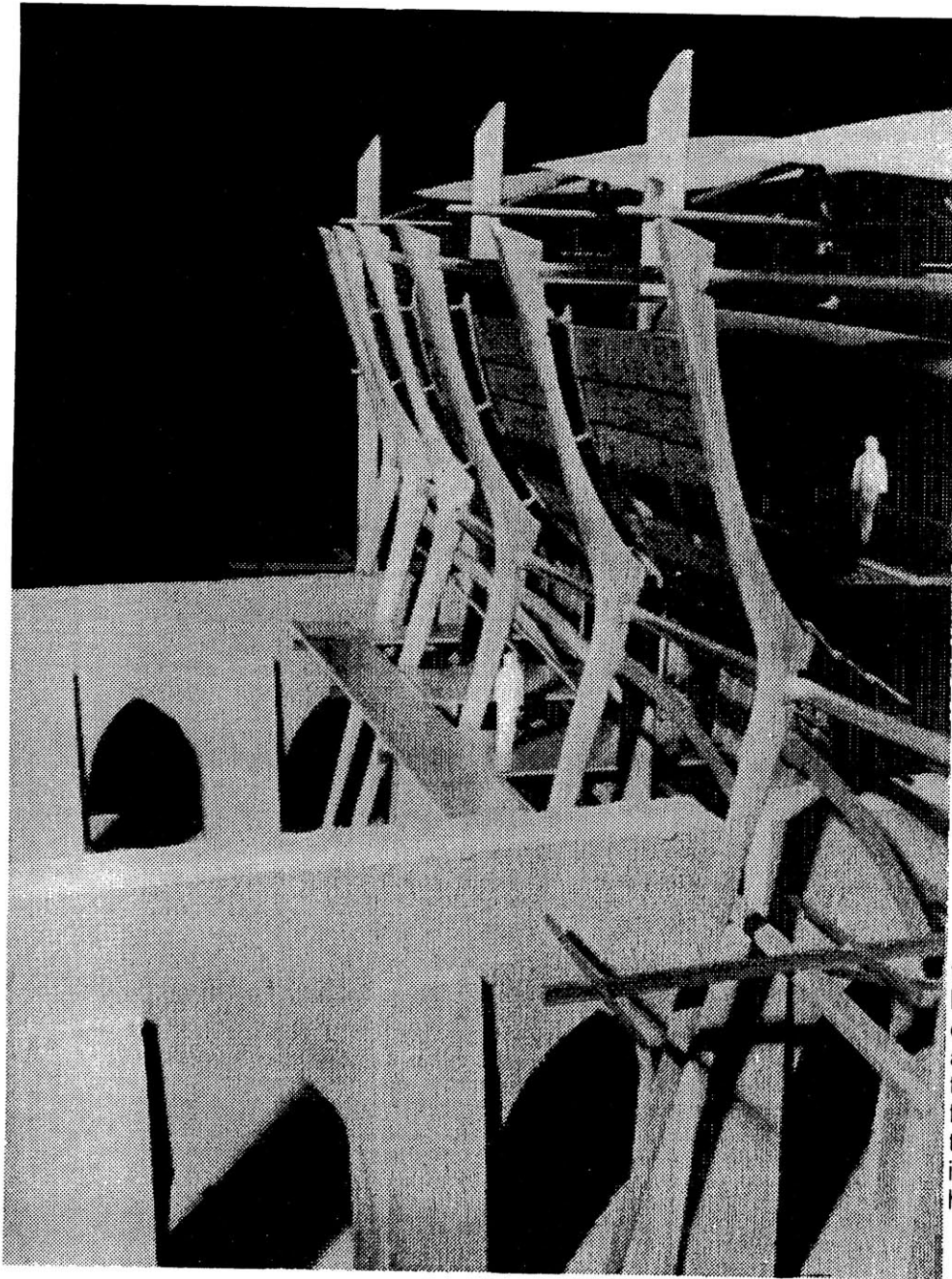
0 10 20 30 40 50 ft
0 5 10 15 m



ground level plan of the fourth scheme - original scale: 1/16"= 1'

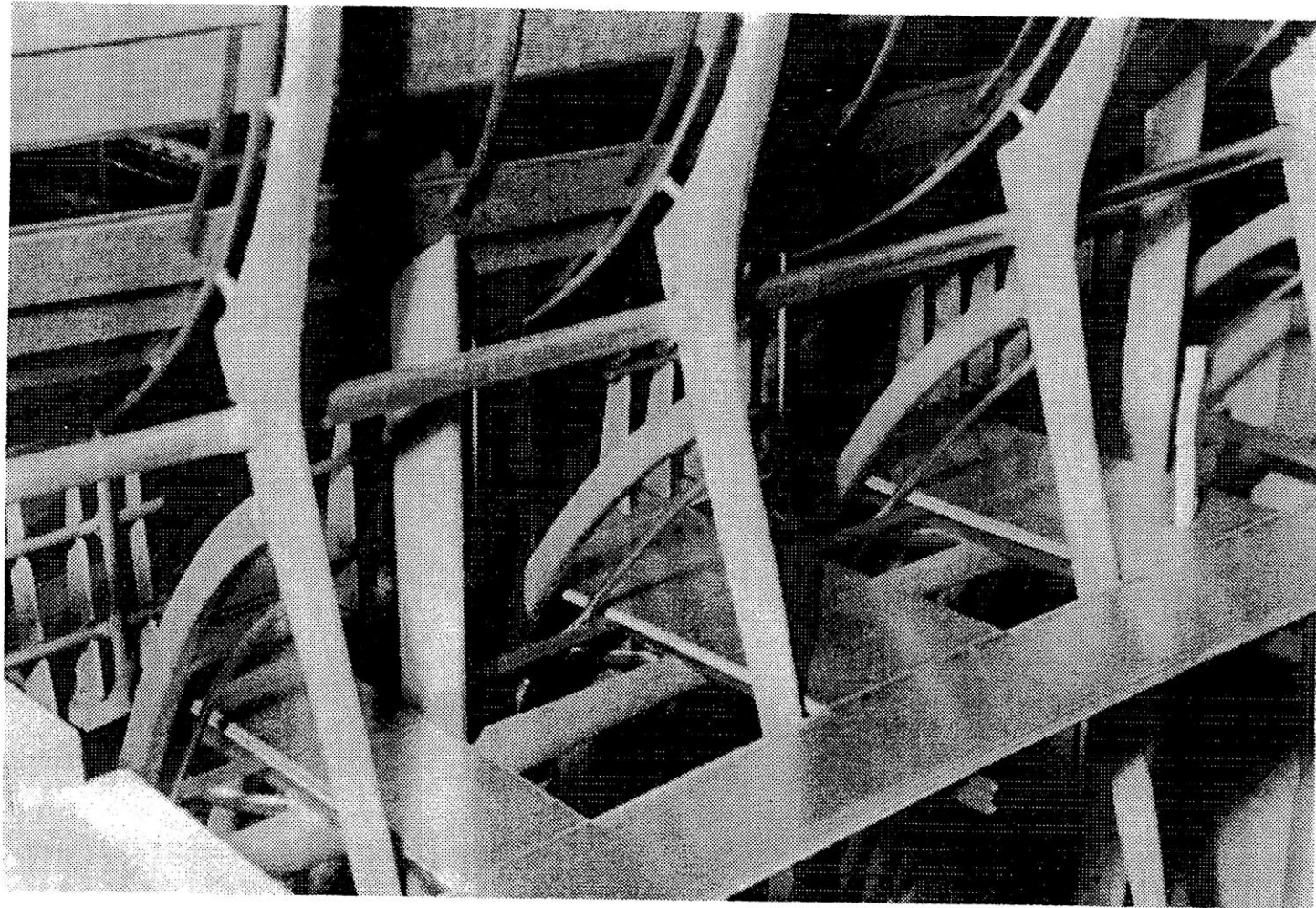


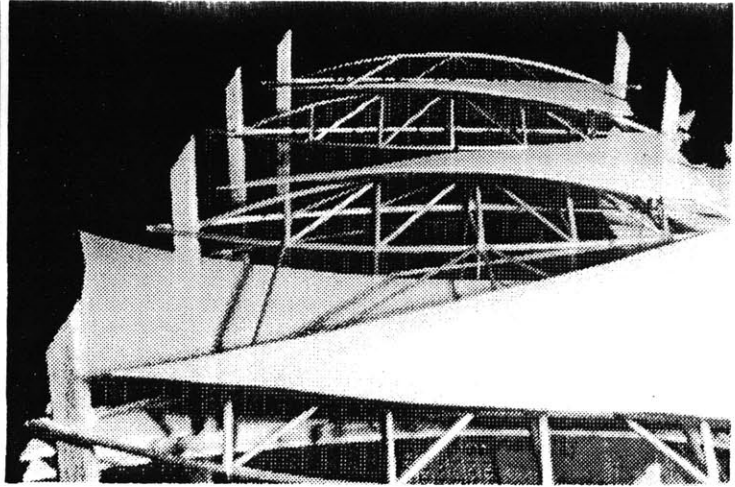
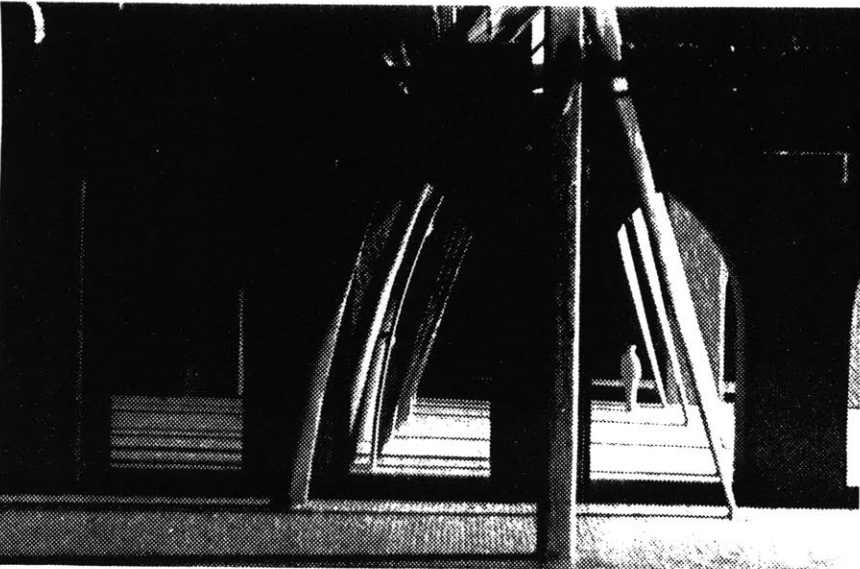
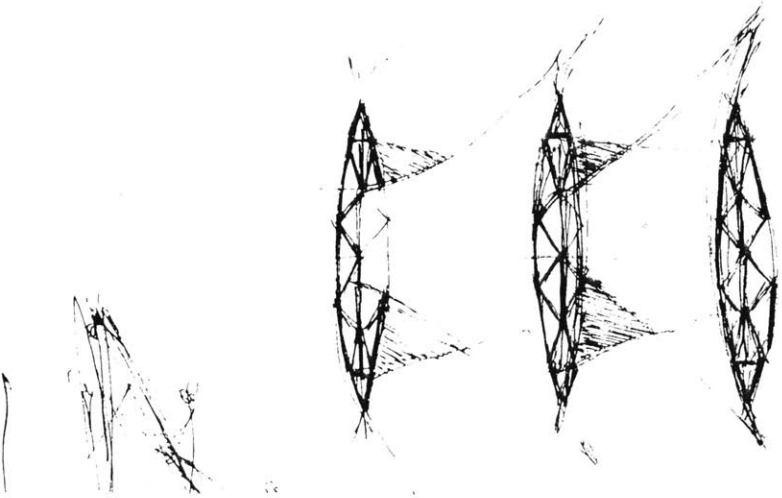
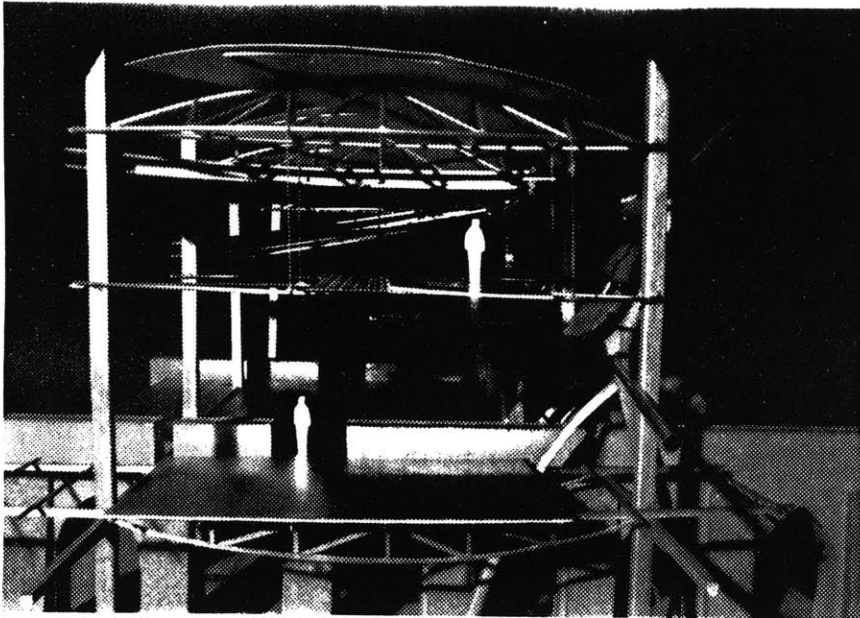
upper floor plan of the fourth scheme - original scale: 1/16"



fifth scheme - finalization of structural system, another transformation of the hull+ diagonal supporting prop couple, bone-like elements start to be the major components; the purpose of this model was to end up with more definition of architectural elements as well as to decide how old and new would come together; bowed 3D trusses at the roof level are new; roof form is once again fragmented (I told you, I struggled with roof form); window mullions and trusses inside the building are red (too bad we're limited with B/W); introduction of vertical louvers at the vertical plane of the skin in addition to horizontal louvers at the roof level... - scale: 1/4"= 1'



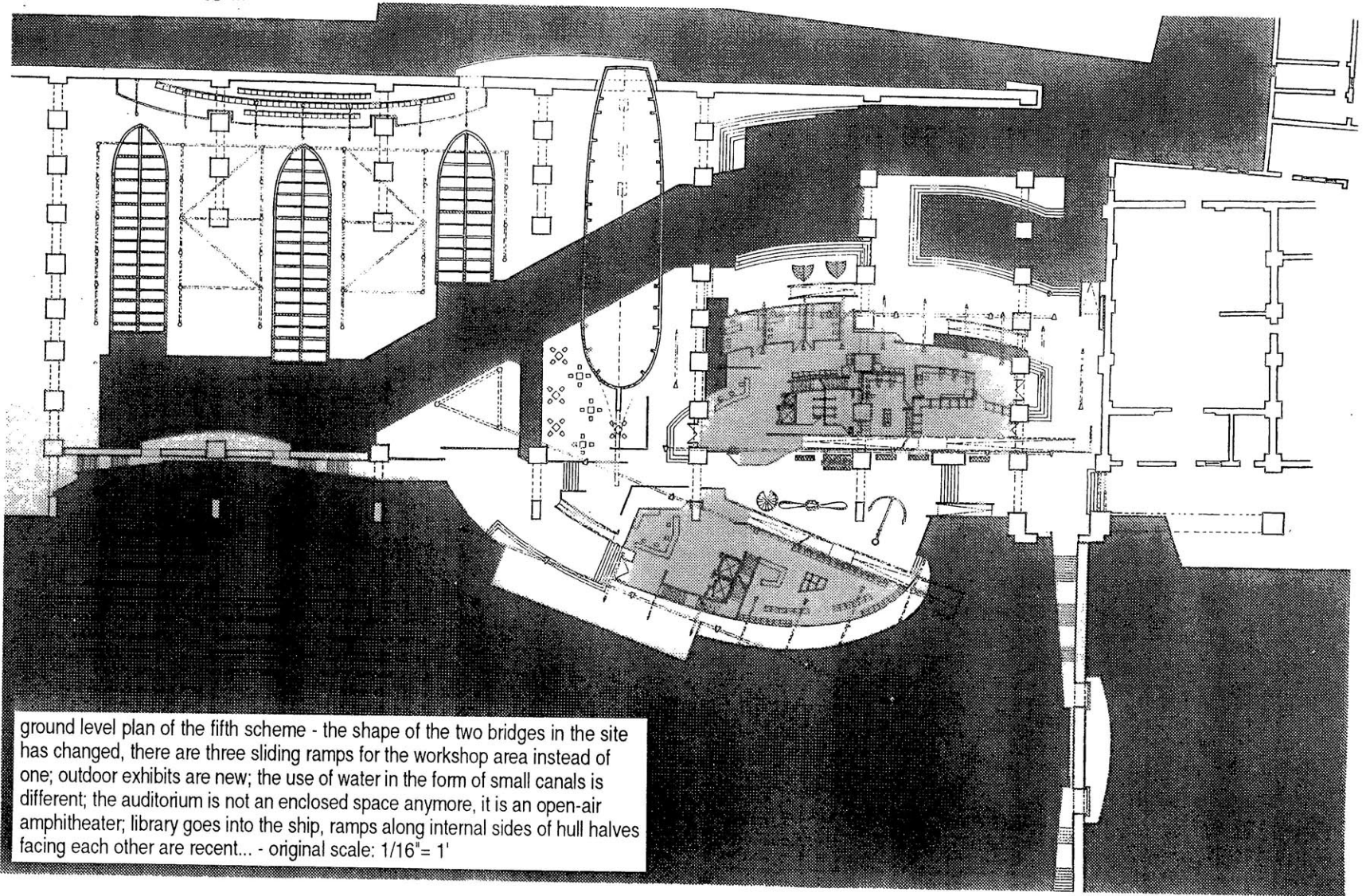






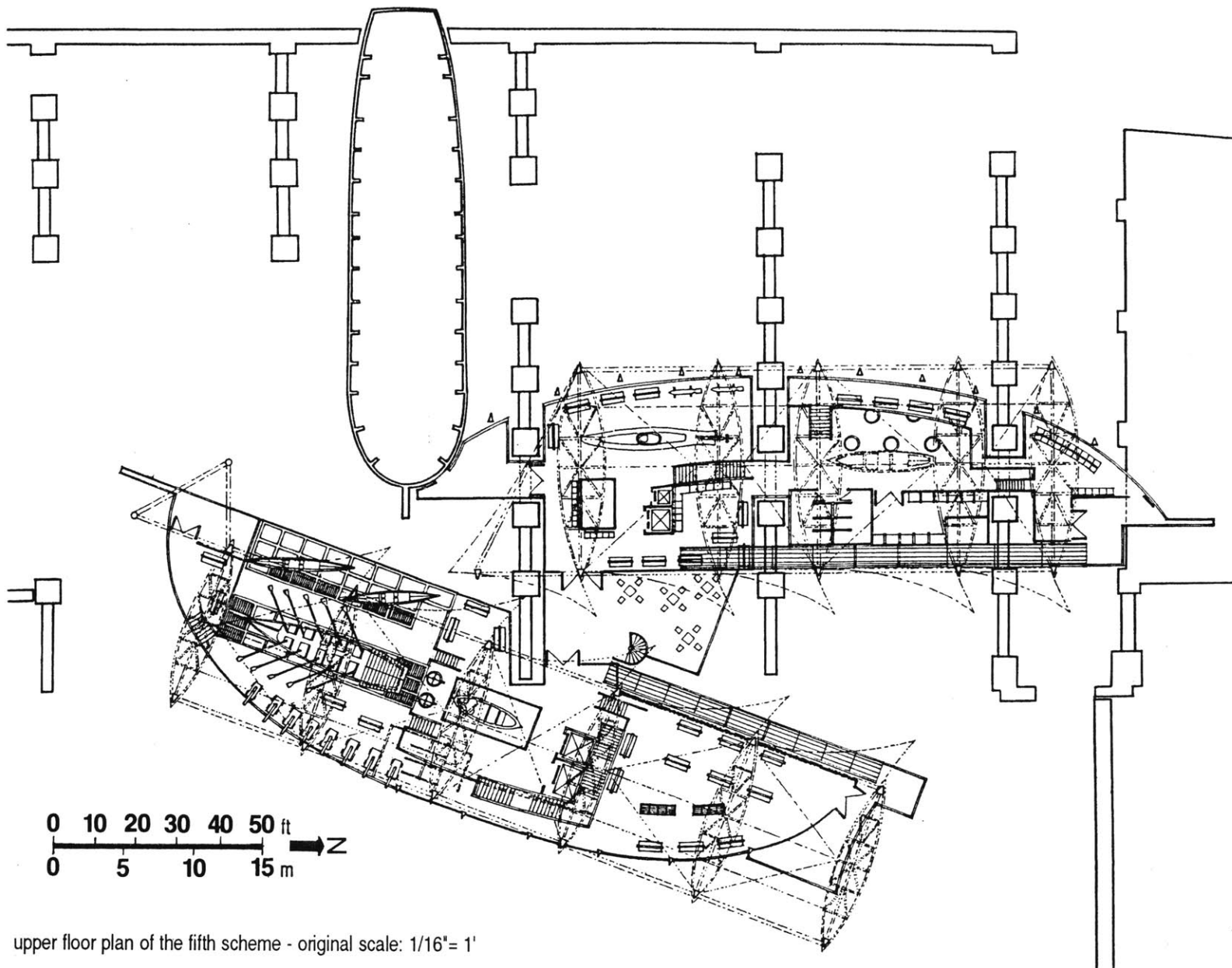
painting by Ayşe Yalırım

0 10 20 30 40 50 ft
0 5 10 15 m → Z



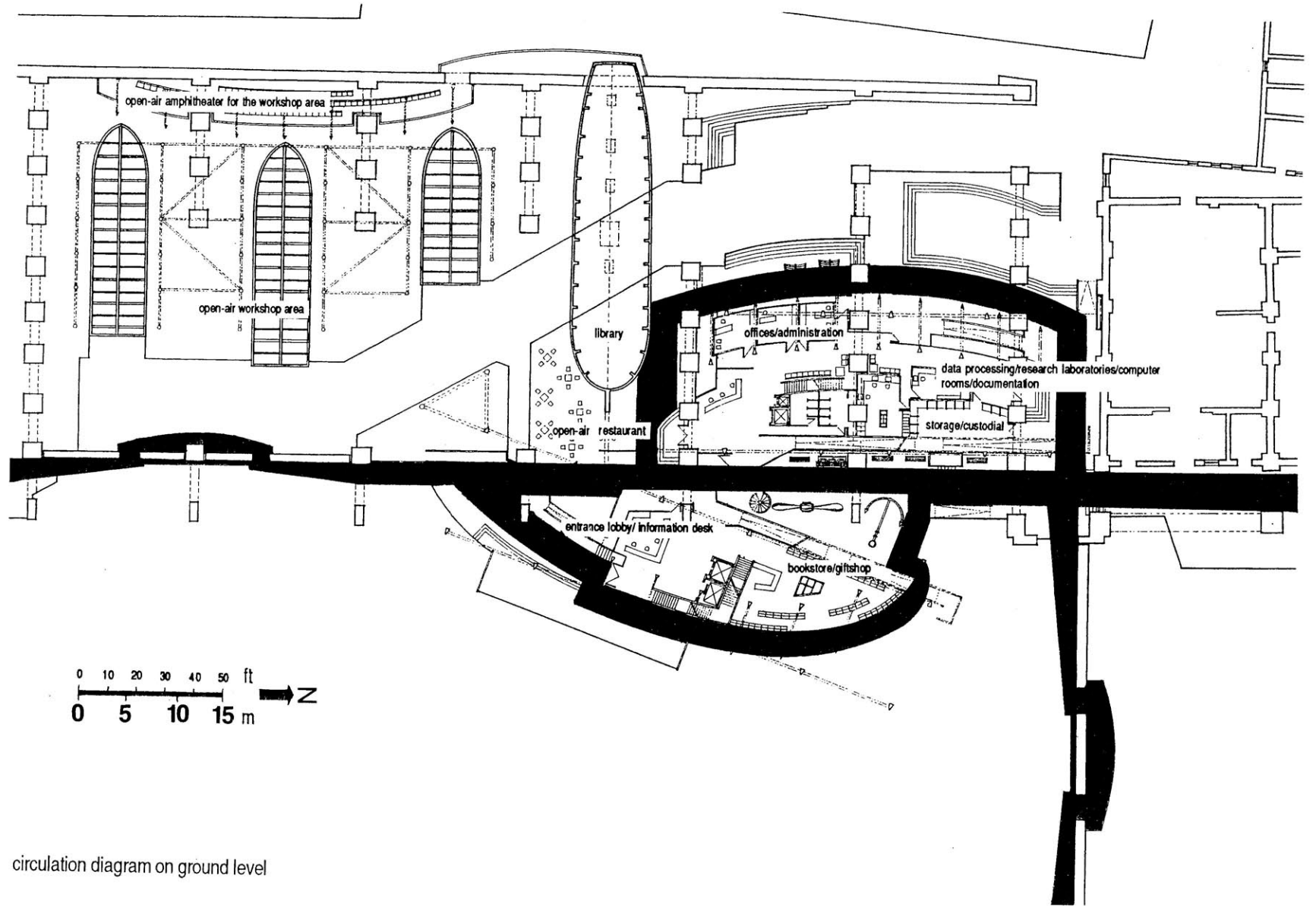
76

ground level plan of the fifth scheme - the shape of the two bridges in the site has changed, there are three sliding ramps for the workshop area instead of one; outdoor exhibits are new; the use of water in the form of small canals is different; the auditorium is not an enclosed space anymore, it is an open-air amphitheater; library goes into the ship, ramps along internal sides of hull halves facing each other are recent... - original scale: $1/16'' = 1'$

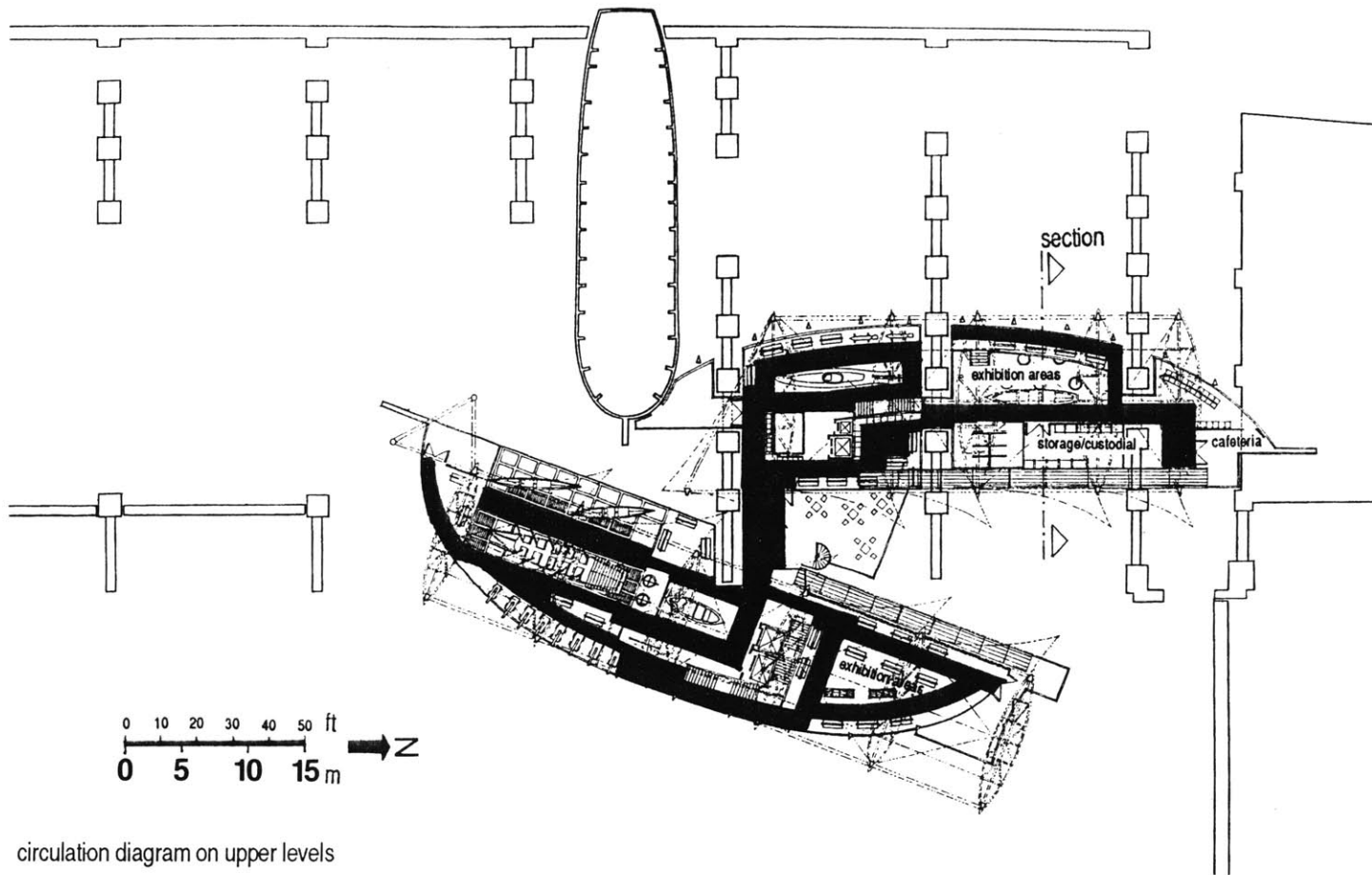


upper floor plan of the fifth scheme - original scale: 1/16" = 1'

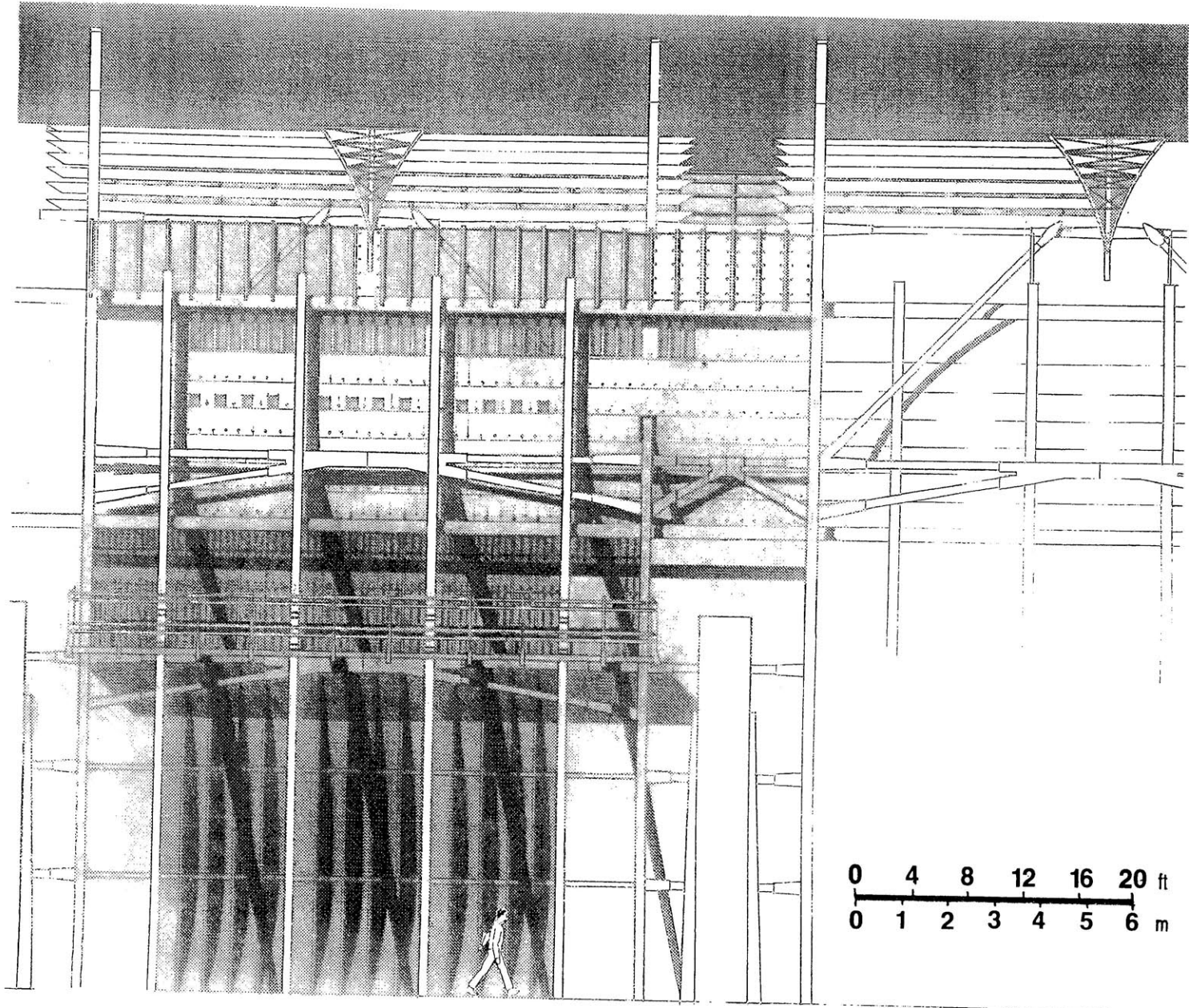
78



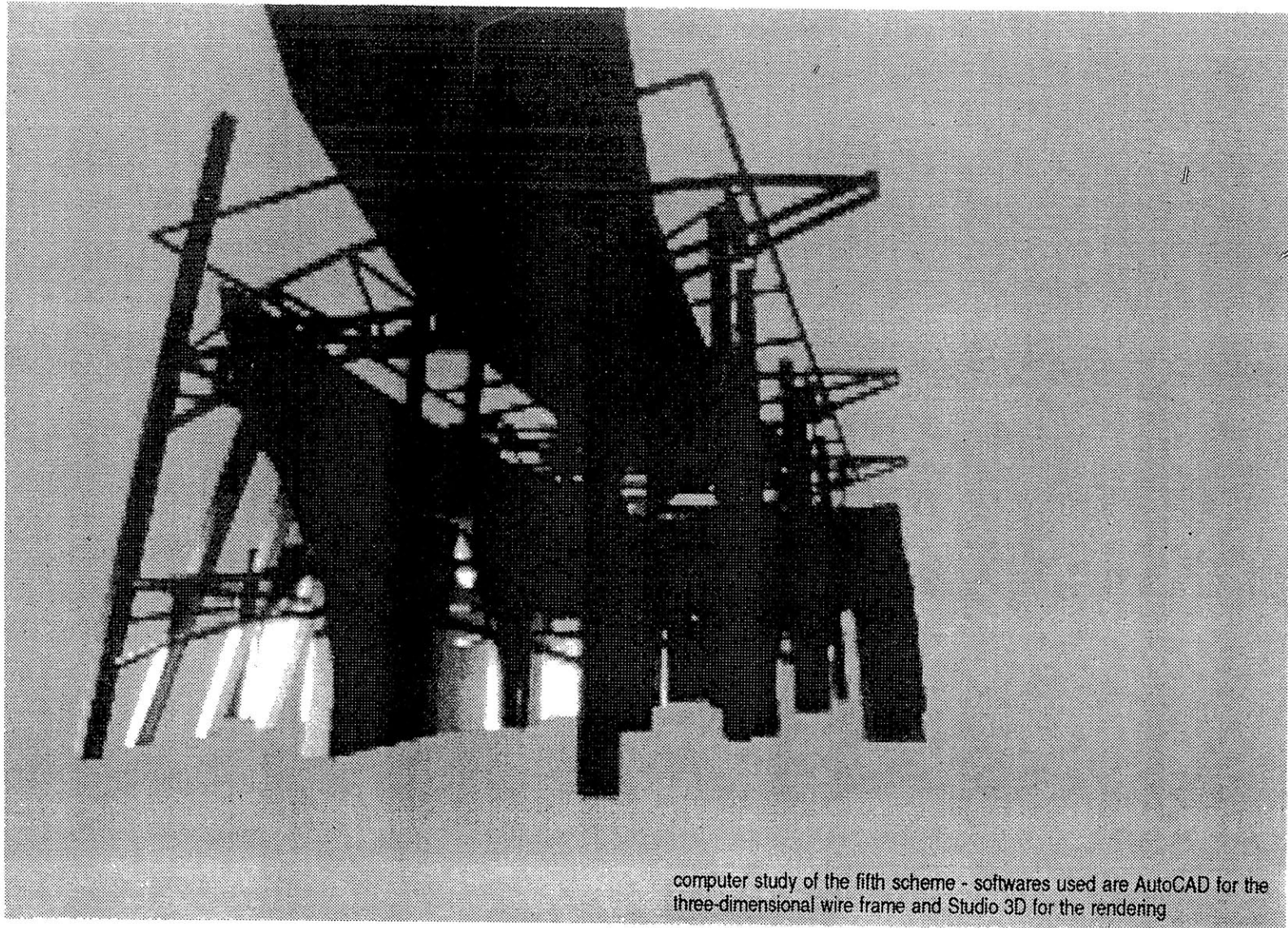
circulation diagram on ground level



circulation diagram on upper levels

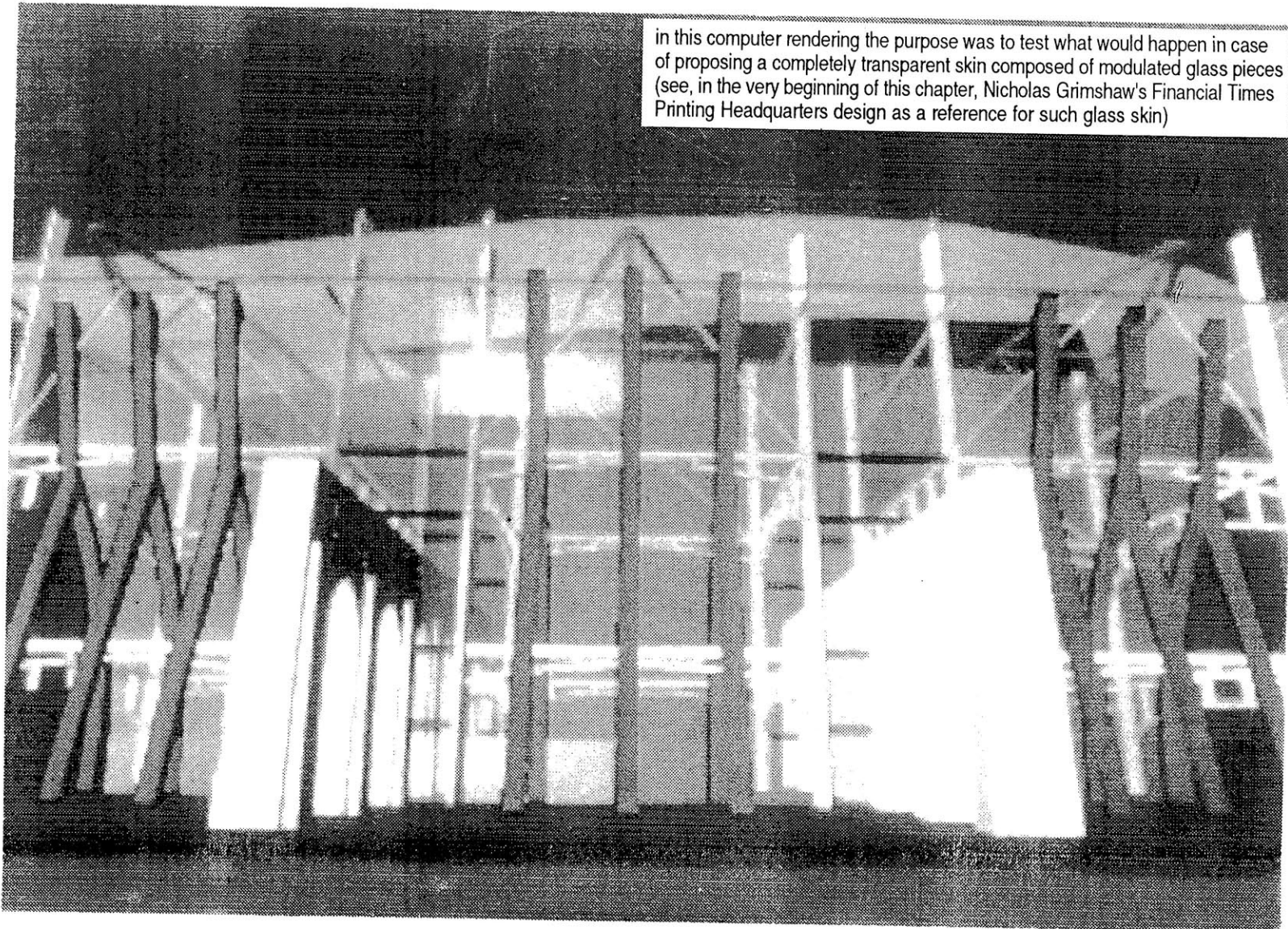


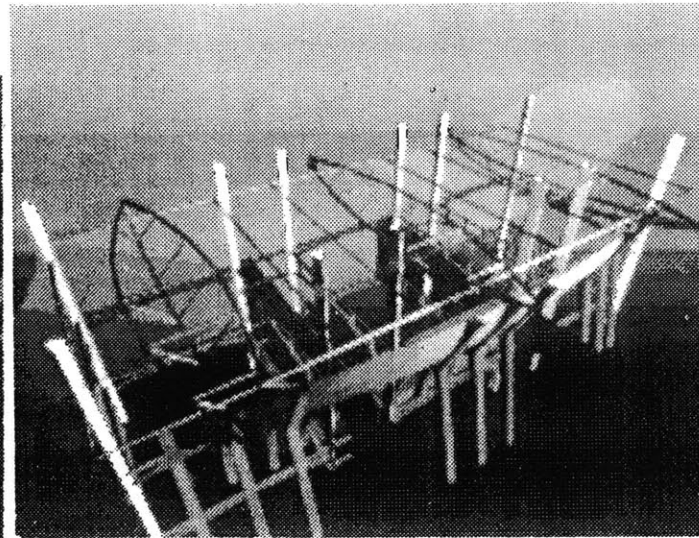
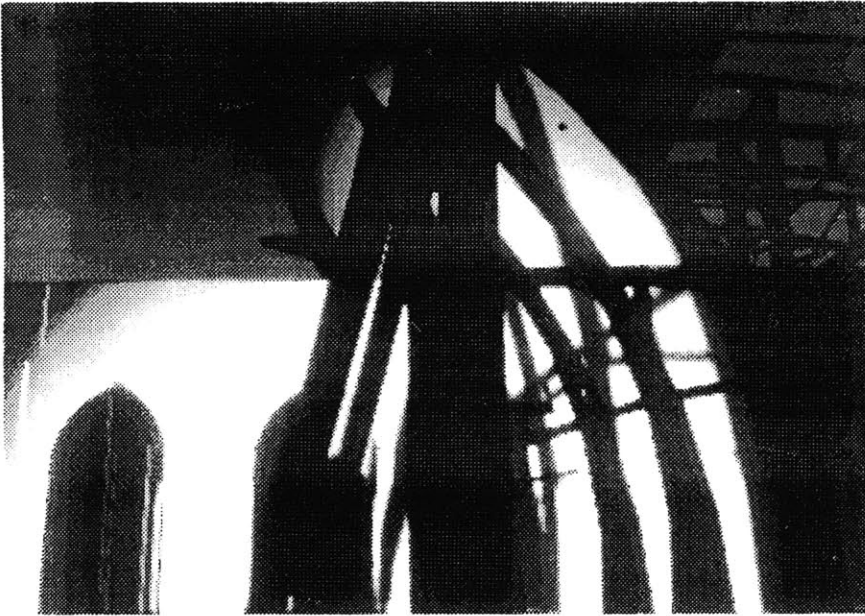
elevation study, fifth scheme - original scale: 1/4"= 1'



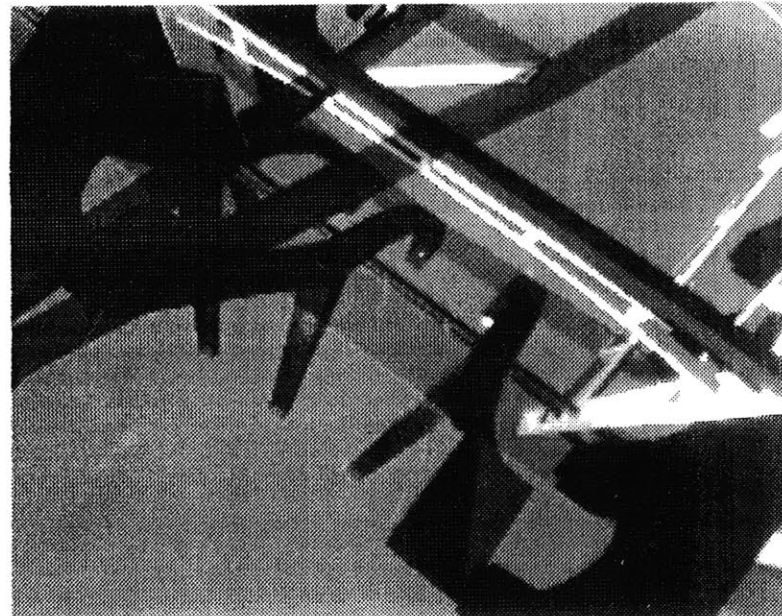
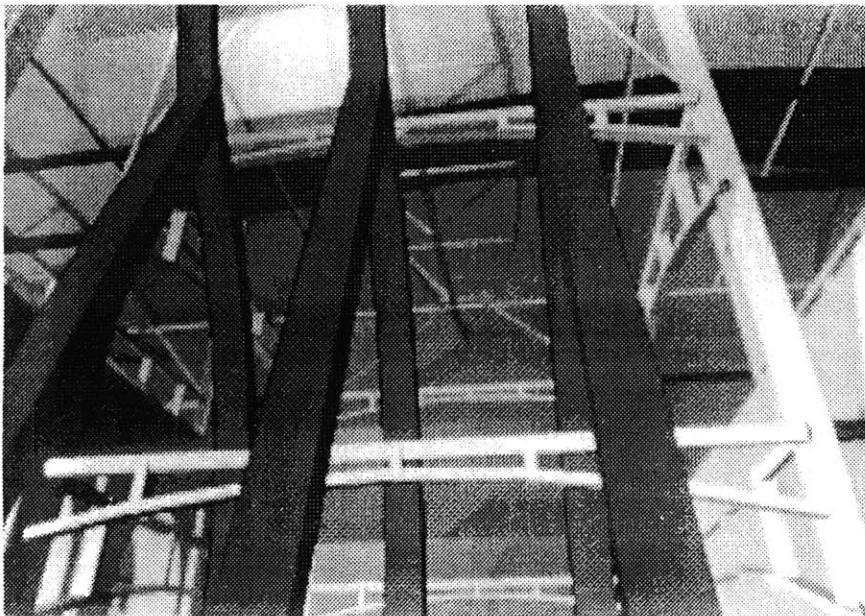
computer study of the fifth scheme - softwares used are AutoCAD for the three-dimensional wire frame and Studio 3D for the rendering

in this computer rendering the purpose was to test what would happen in case of proposing a completely transparent skin composed of modulated glass pieces (see, in the very beginning of this chapter, Nicholas Grimshaw's Financial Times Printing Headquarters design as a reference for such glass skin)





computer studies

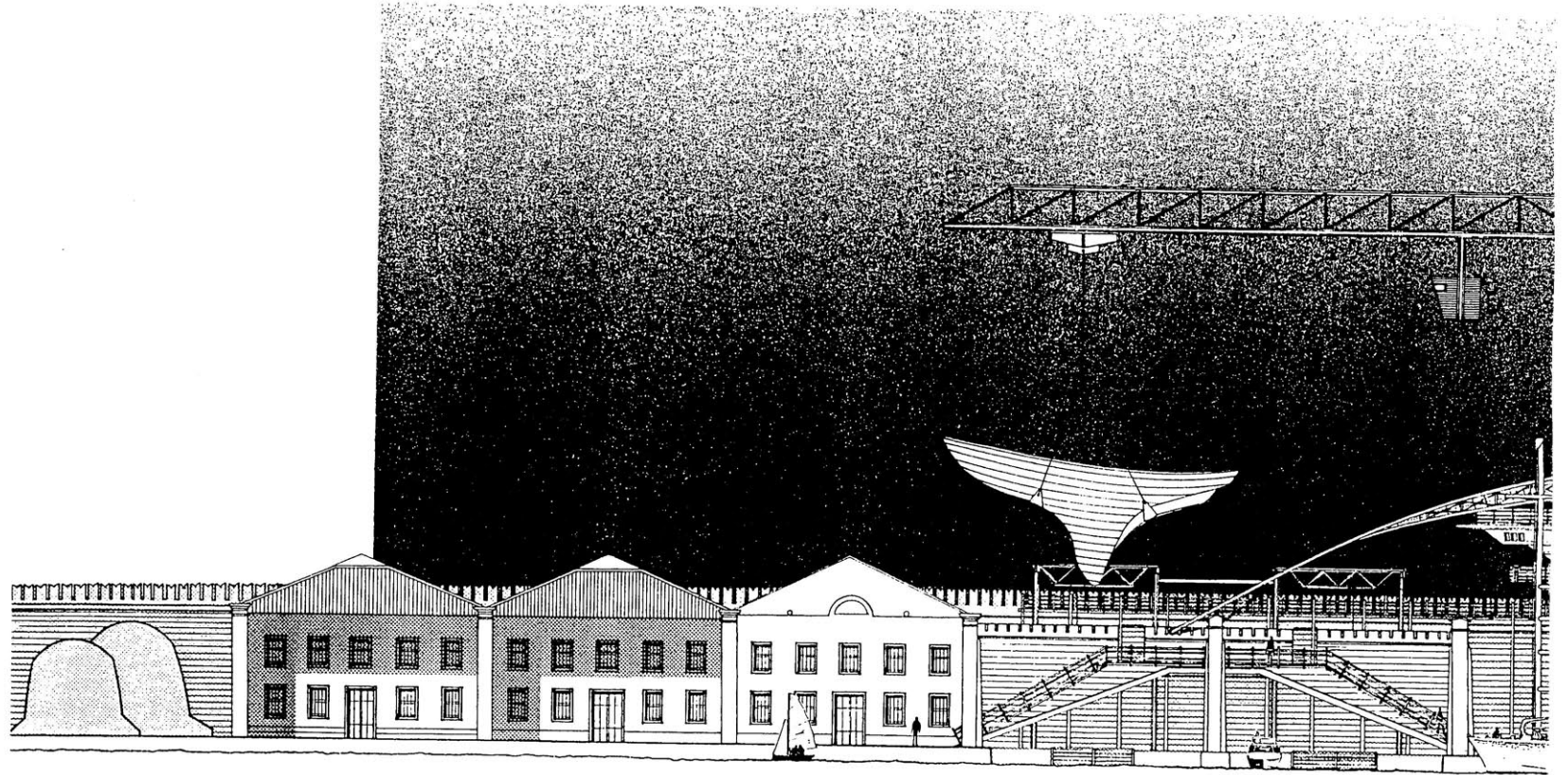


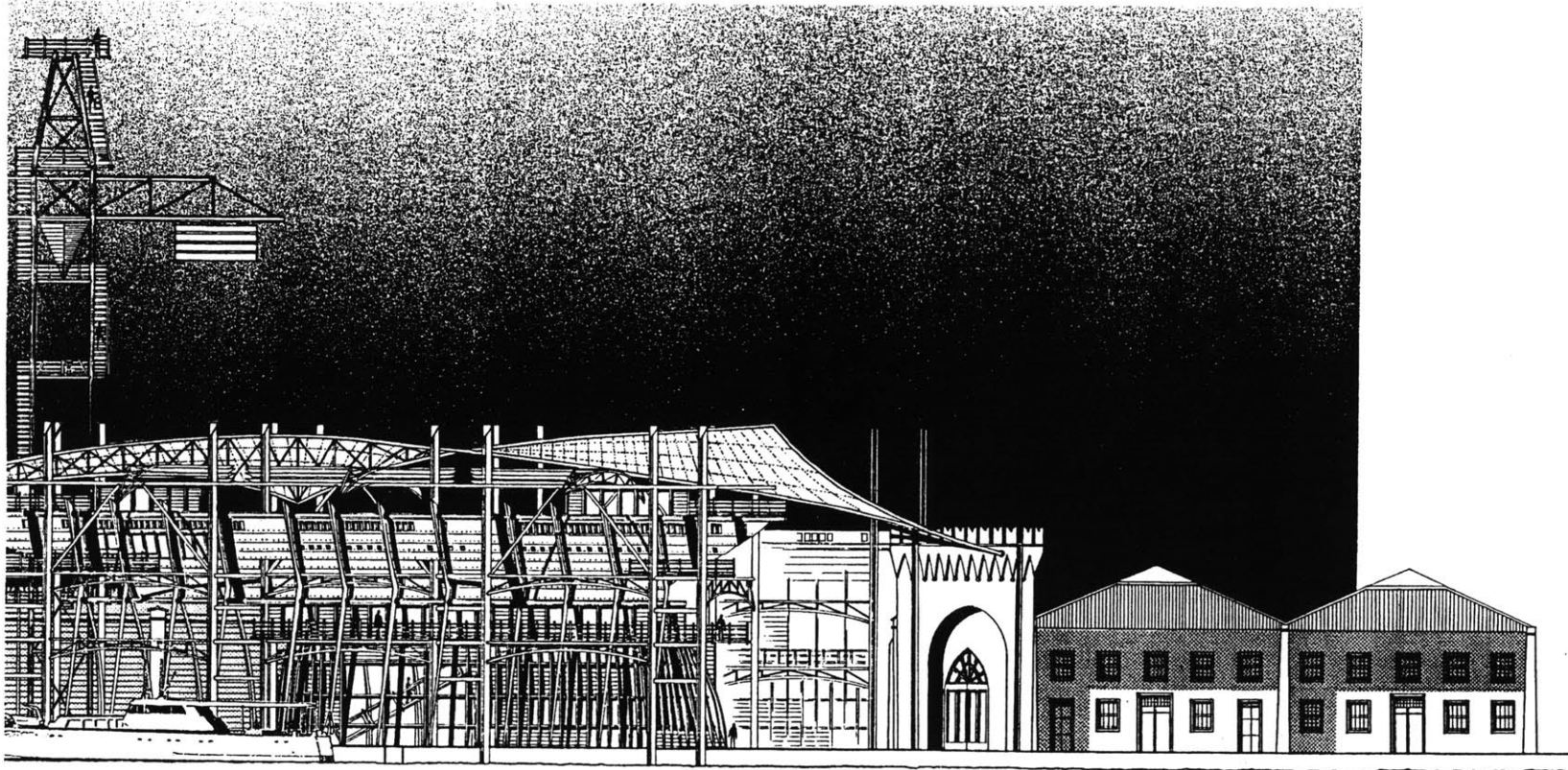
site plan showing how the design sits/fits (or hits), first in the context of the Arsenale and then in the context of Venice surrounding the Arsenale



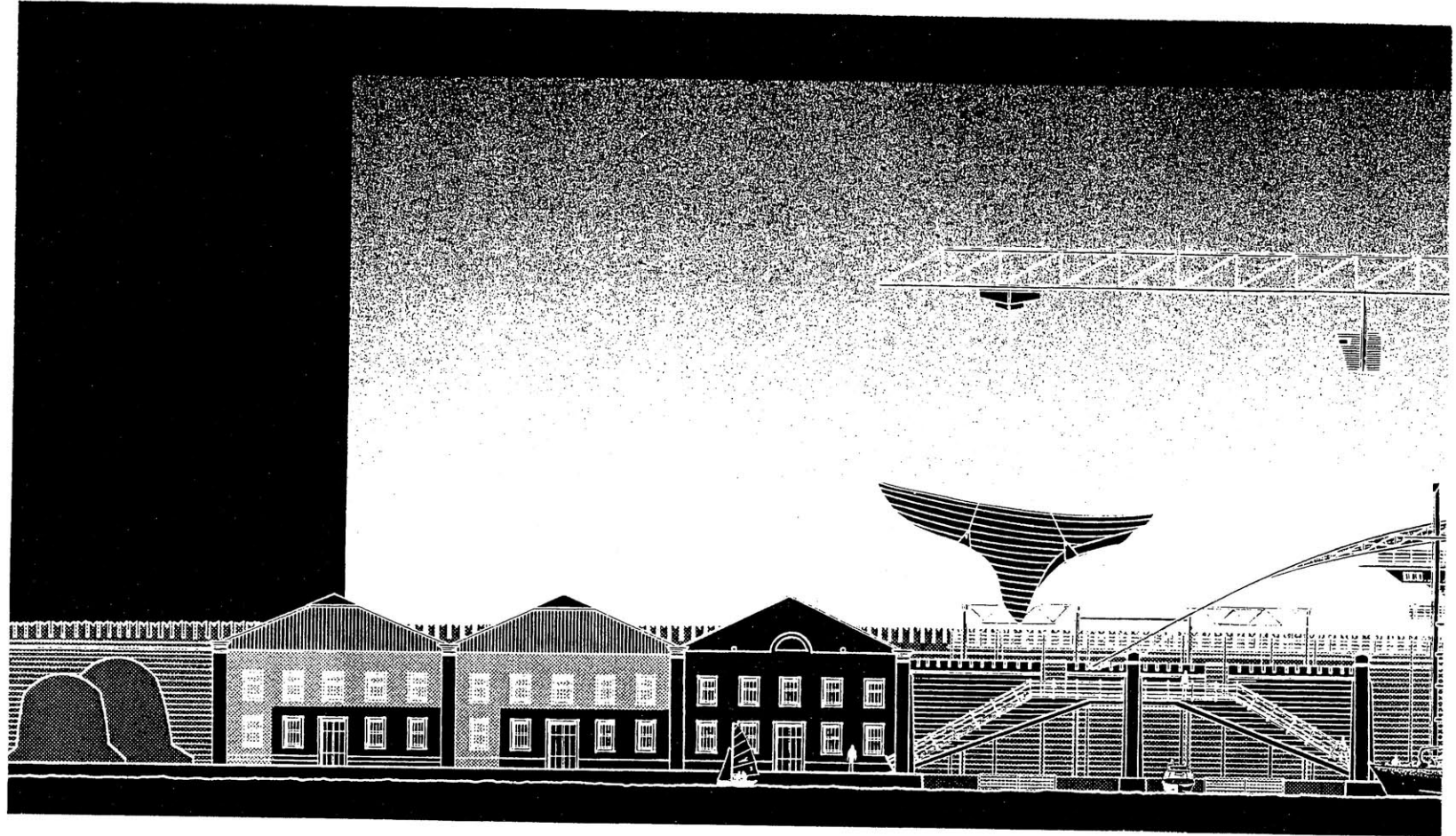


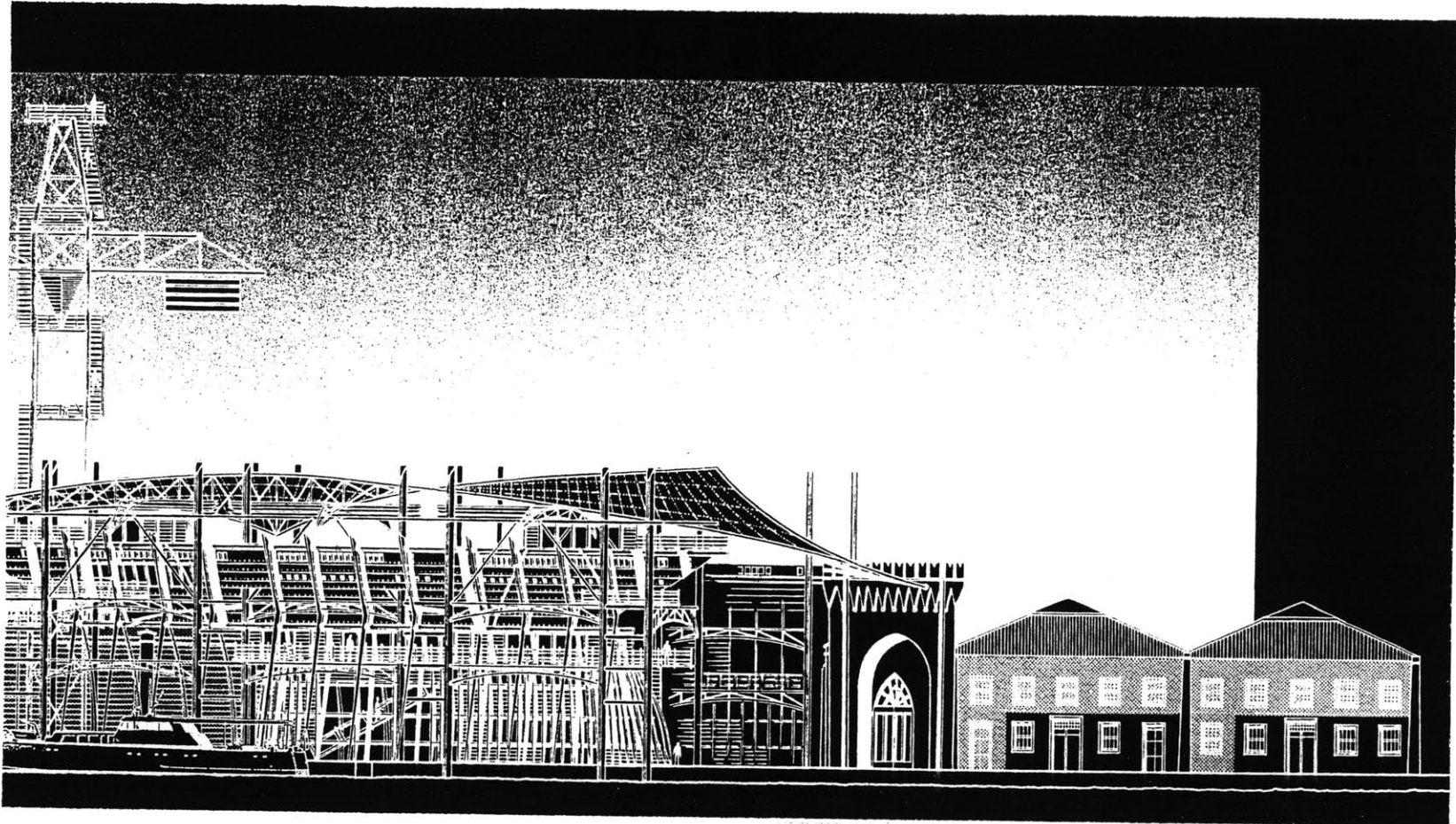
MG



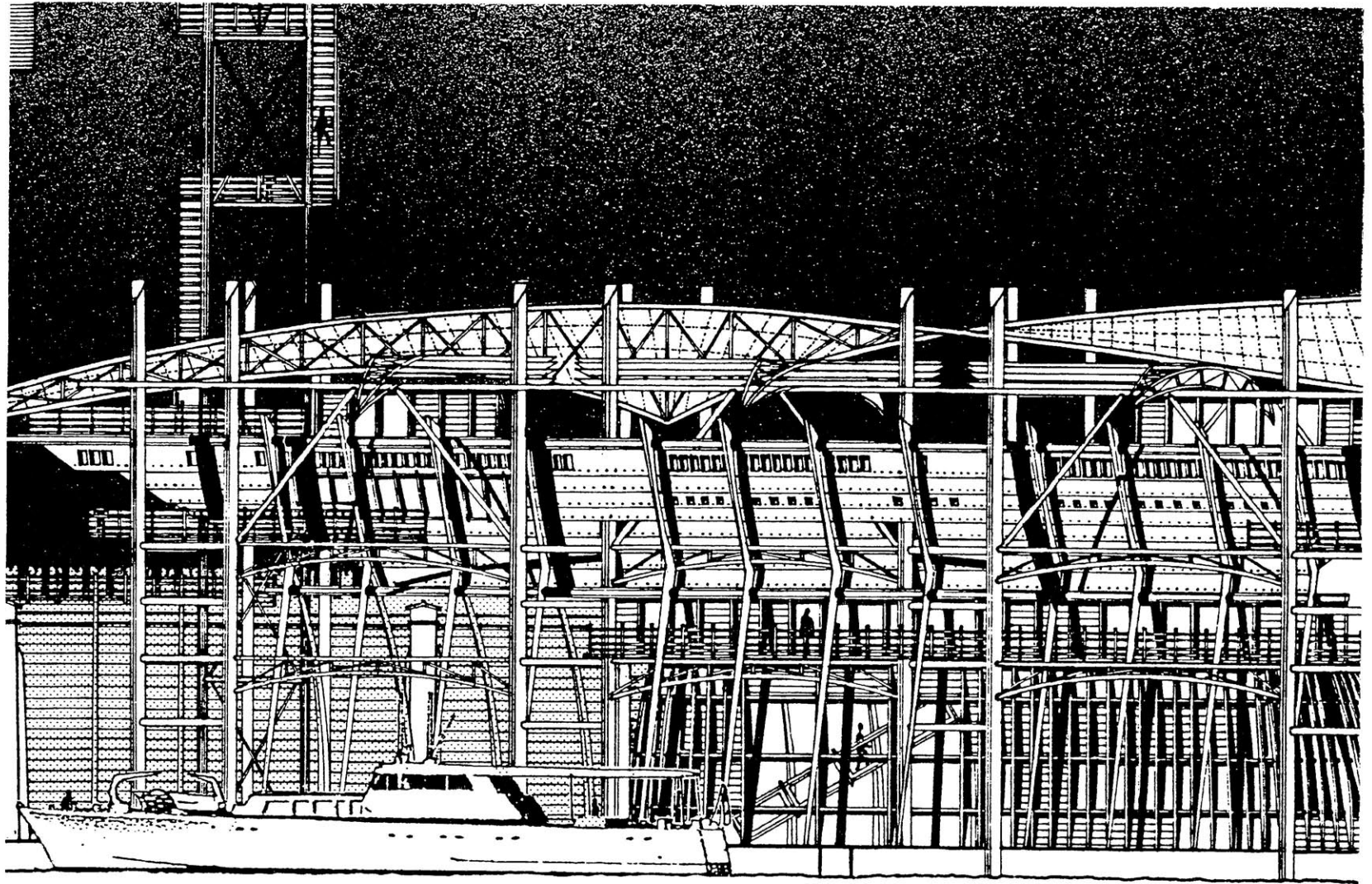


elevation study - original scale: 1/16" = 1'

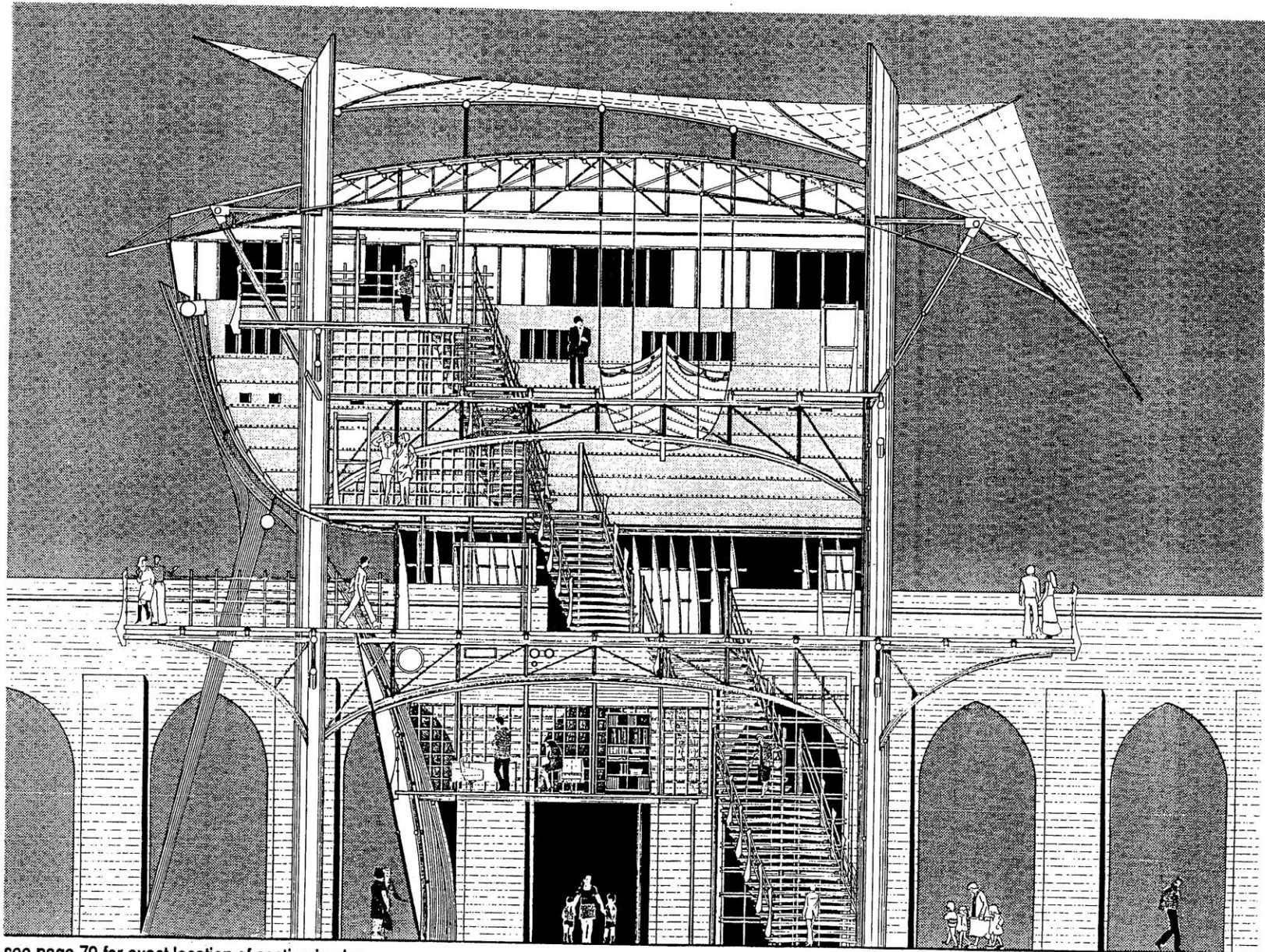




inverted B/W copy of the same elevation study - the reason to include this is that the inverted copy highlights the different features of the design

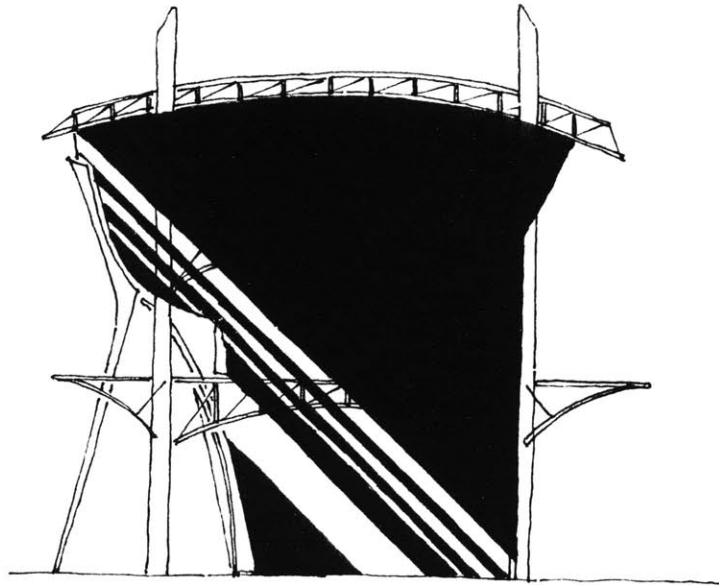


a close-up of the proposed maritime museum, for better legibility of details

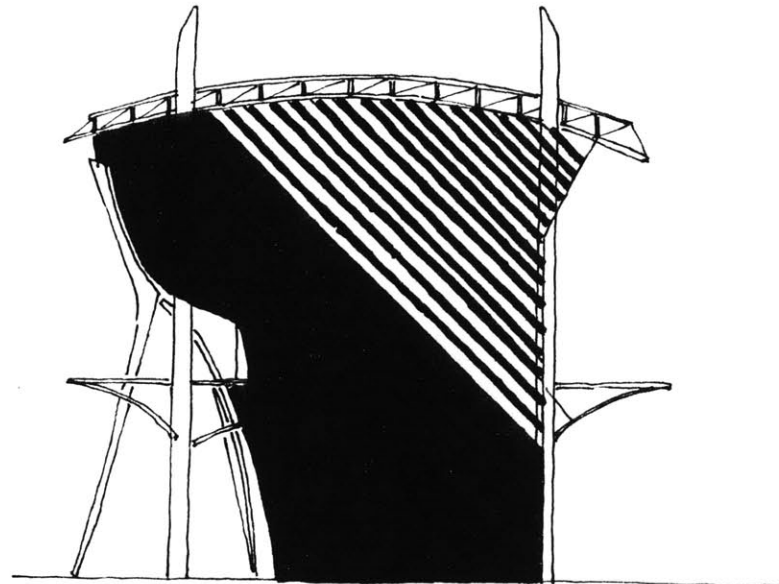


see page 79 for exact location of section in plan

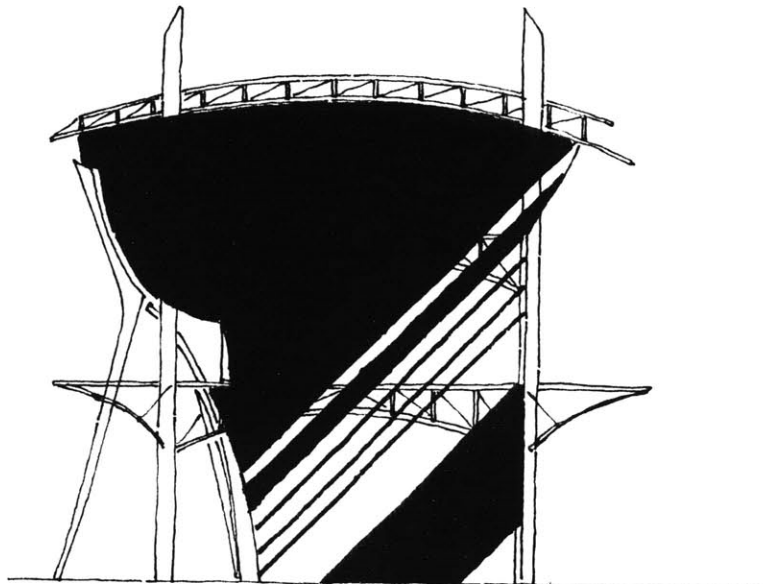
section study - original scale: 1/4" = 1'



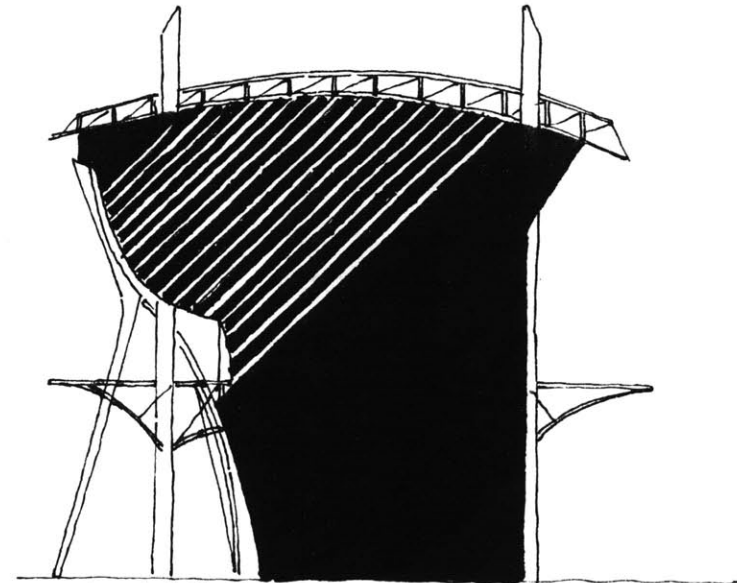
western daylight gain through the western skin of the building



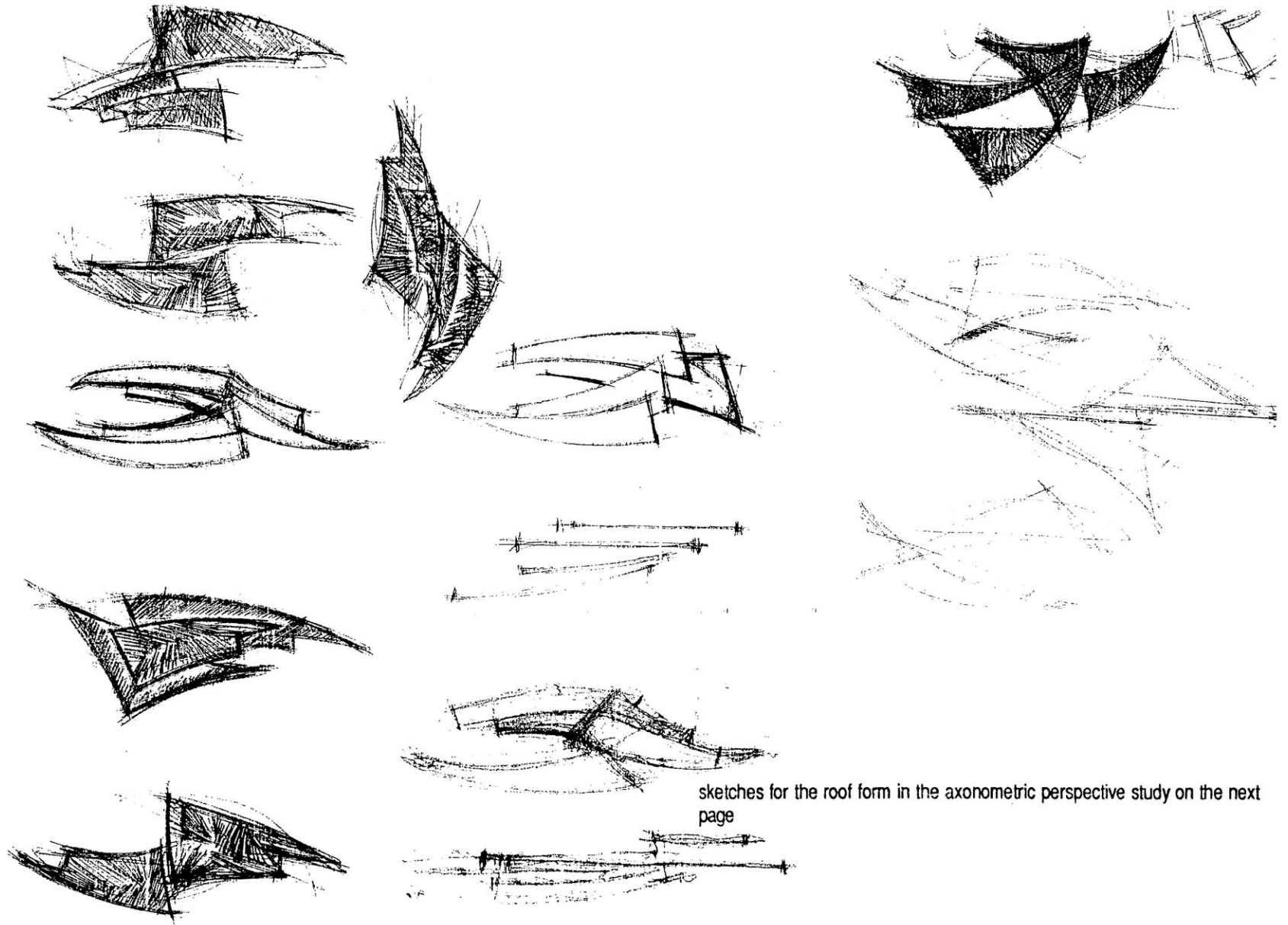
western daylight gain through roof louvers



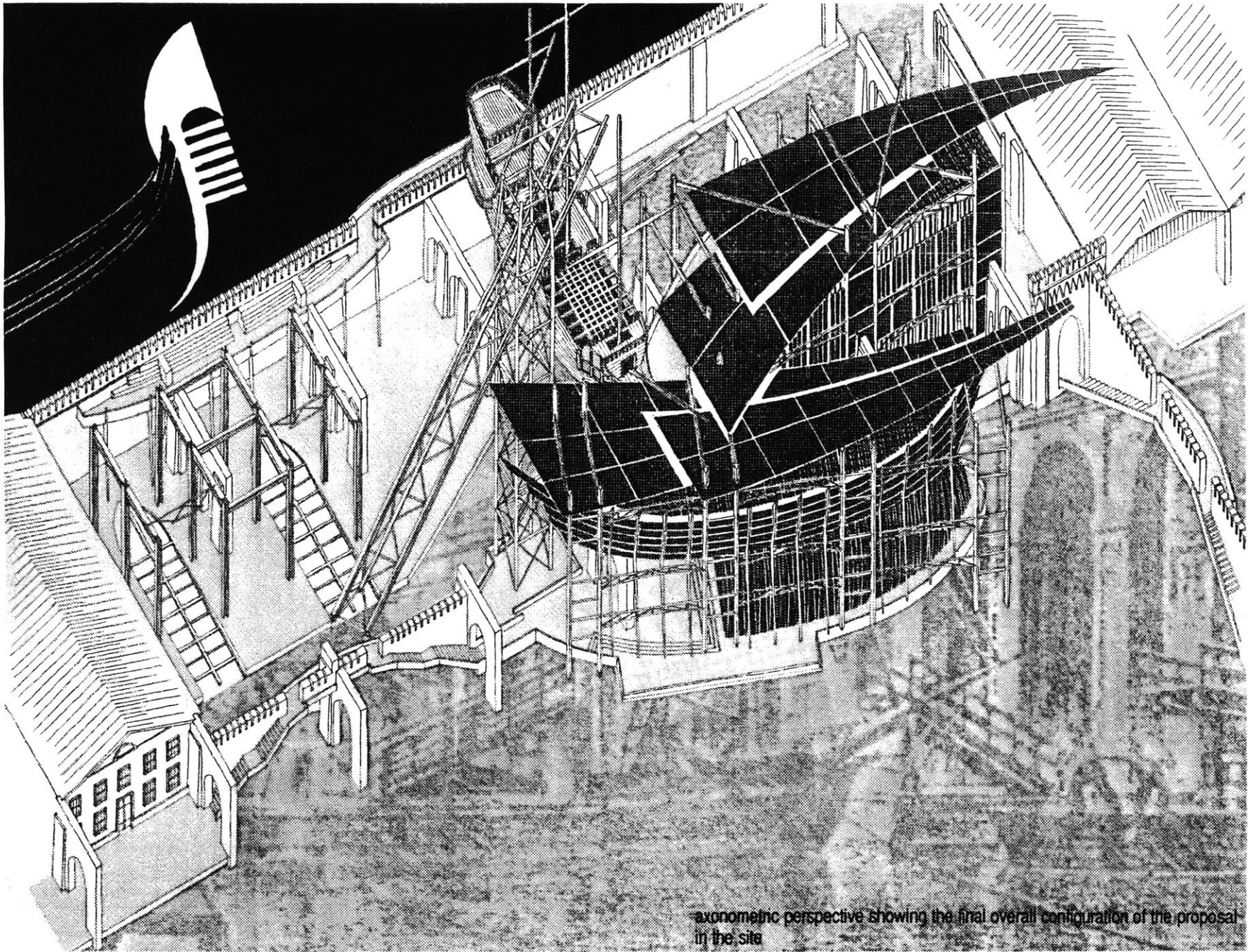
eastern daylight gain through the eastern skin of the building



eastern daylight gain through roof louvers



sketches for the roof form in the axonometric perspective study on the next page



axonometric perspective showing the final overall configuration of the proposal in the site

IV.9 List of Items to be Exhibited

- lanterns
- cannons
- anchors
- armory/weapons/uniforms
- small boats/gondolas
- fortress models
- bathyscaphs
- scuba diving paraphernalia
- small submarine
- anti-aircraft gun
- ship models
- bridge/crane models
- rudders
- propellers
- maps
- flags/badges/logos
- measuring/surveying tools (e.g. sextant)
- oars/oarlocks
- missiles
- binoculars/telescopes/periscopes
- life-buoys
- steam engines
- fishery and whaling paraphernalia (full scale and model)
- oceanography related exhibition
- exhibition about innovations in ship building

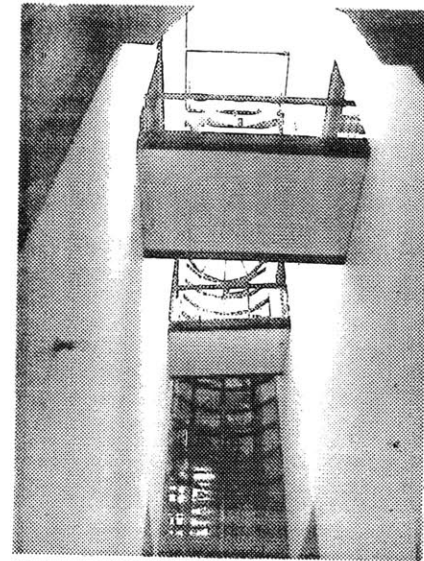
98

IV.10 Level Changes, Visibility of Different Levels Regardless of Location, Bridges



Venetian architect Piranesi's etchings describe the kind of rich interior I would like to end up with. Etchings depict a large world which brings instances of

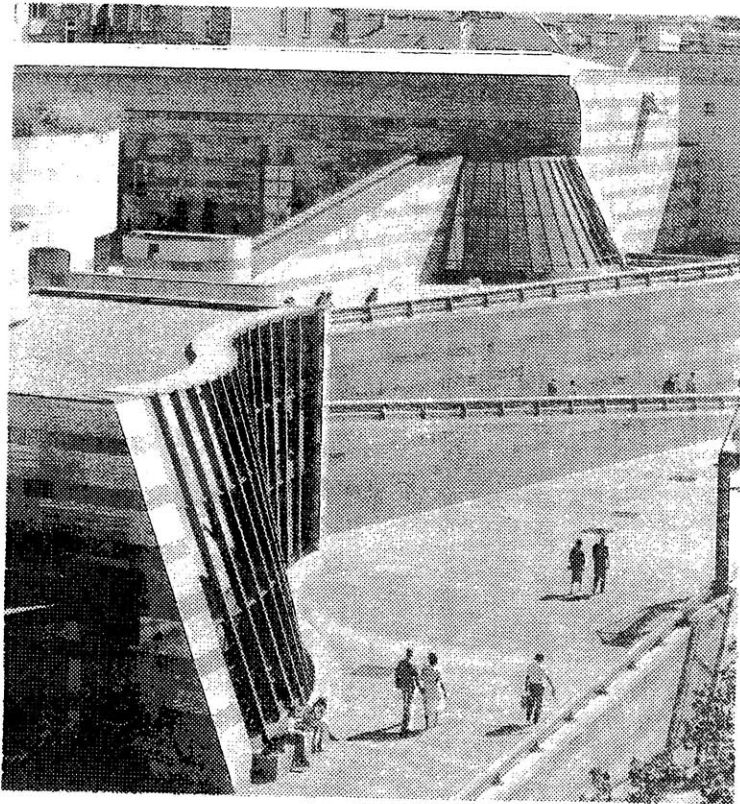
smaller worlds simultaneously. I am impressed by the dense "street" environment that Piranesi creates within enclosed spaces. The issues that I am interested in such as level changes, use of bridges/ramps/staircases, frequent use of columns, and simultaneous perception of a multiplicity of places through virtual frames created by columns, are portrayed in his drawings.



Museum of Jewish History in Amsterdam/Netherlands - reference for bridges, walkways, and catwalks that favor richer space perception due to level changes they create

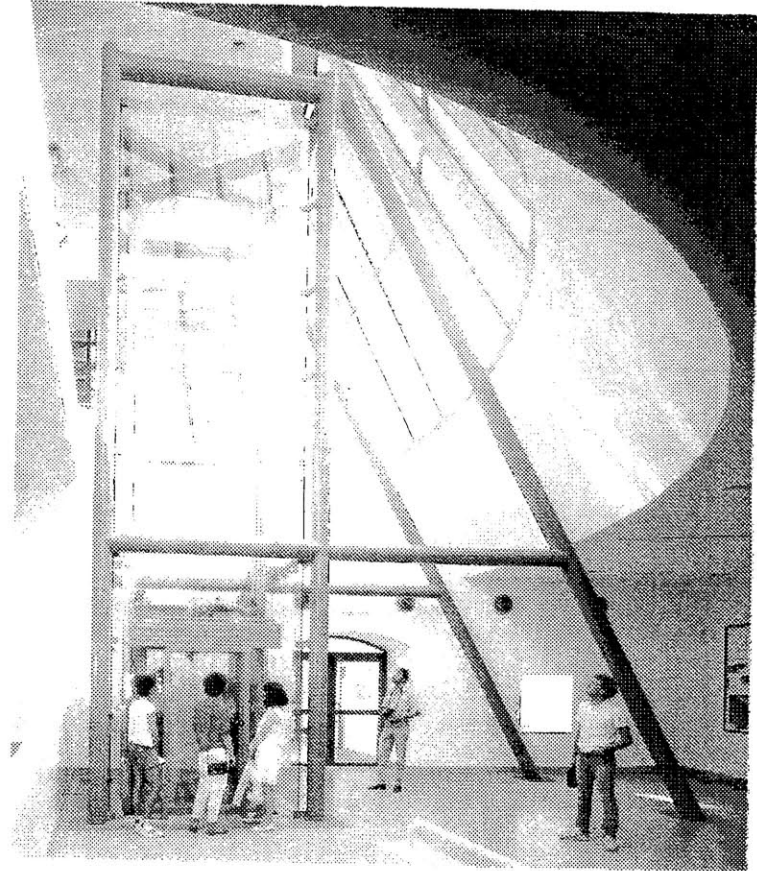
As far as the issue of level changes is concerned, the purpose is to bring the ship-like quality on the vertical plane (i.e. section and elevation) and not on the horizontal plane (i.e. plan). The reason is that human beings observe always from ground level and not from sky level, and the first plane to be subject to cognition is vertical plane which is perpendicular to human vision.

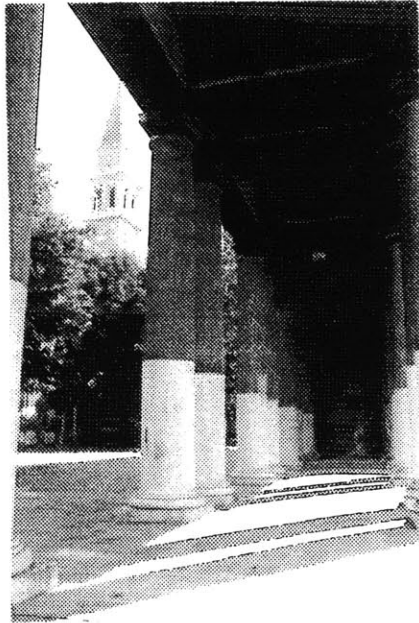
100



Staatsgalerie, Stuttgart/Germany - James Stirling, Michael Wilford

The idea of using a ship hull and the props supporting the hull leads to the use of some vertical elements at an angle to ground surface. Such vertical elements are used both internally and externally in Stirling and Wilford's building. The sloped façade created by tilted mullions in the foreground of picture above, and the diagonal element which leans against two-story high elevator shaft in picture below, are good examples for satisfactory use of diagonals.



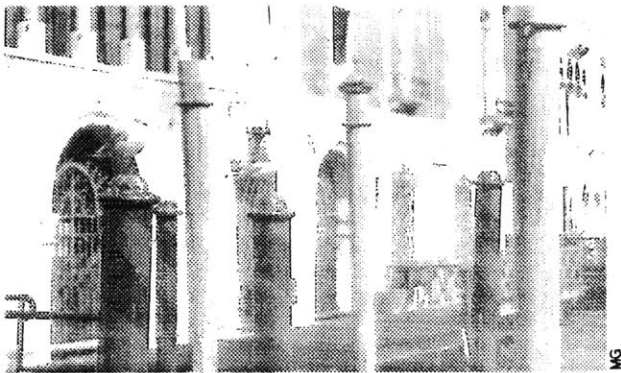


Colonnade in Venice that can be conceived as simplified implication of the idea of props supporting the hull

IV.11 Minimal Solid Building Mass on Ground Level

Venice suffers the lack of public open space very seriously. The particular site that is used for the maritime museum is one of the largest open spaces in Venice, and it is unused at the moment. One of the most important considerations relative to site selection was to find a considerably large open space in the Arsenale and locate the building on this specially chosen site, so that people visiting the museum would, at the same time take advantage of open space. This open space can be used even by visitors who do not necessarily intend to visit the museum, but who come there just for the sake of enjoying an open space reinforced by some public functions like restaurant, library, gift/souvenir shop. In order to realize this, there is need for a significantly little amount of enclosed building mass on the ground level and build the major volume of the museum above ground on columns. The initial conceptual idea of taking advantage of the ship construction framework on props coincides with the spatial concern explained above.

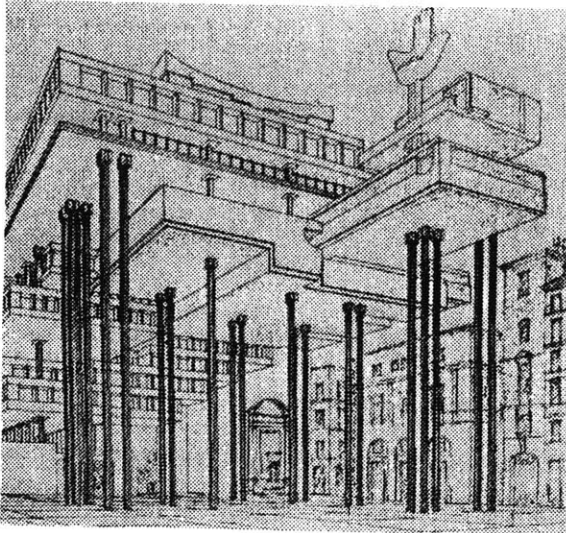
101



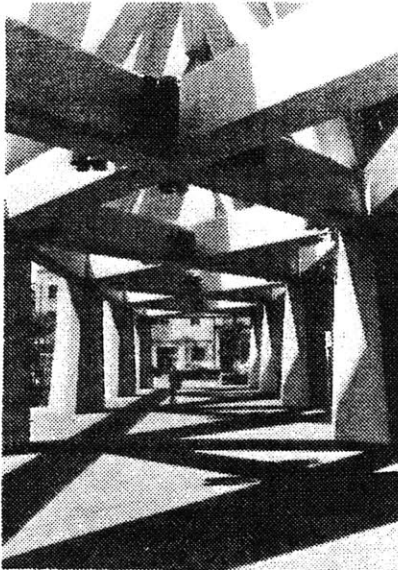
Poles that are used to secure boats - evidence of wide use of props for boats in Venice

IV.12 Circulation - Ramps

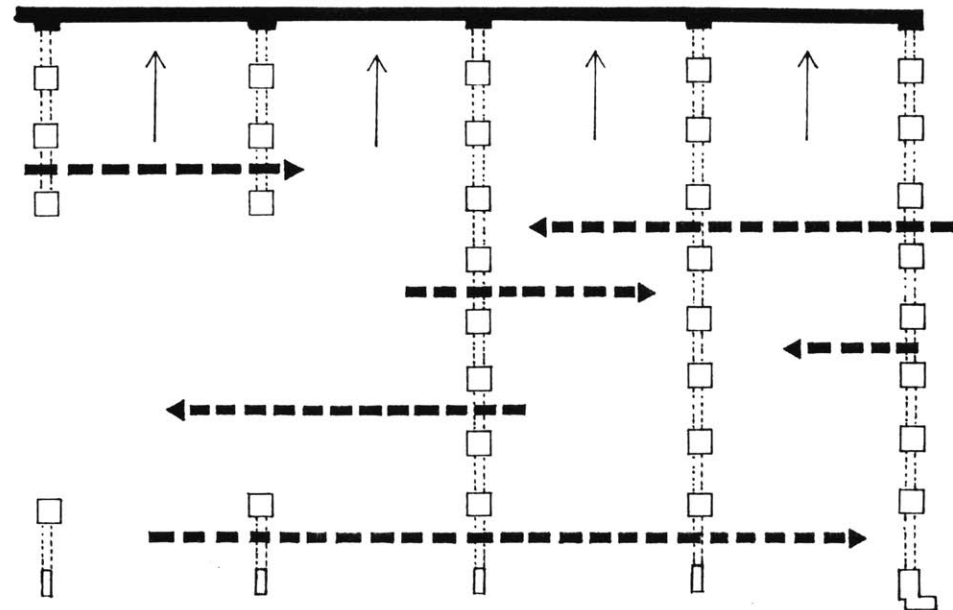
There is a strong directional field in the site suggested by arches.



Montecitorio offices, Rome - competition entry by Giuseppe and Alberto Samonà, 1967 - Reference for minimal solid building mass on ground level



Transamerica Pyramid, San Francisco/USA - William L. Pereira Assoc., 1971
Reference for minimal solid building mass on ground level



Arcades are perpendicular to the wall shown in thick black line in drawing above. All together they imply a clear direction shown by four small arrows. As far as movement through these arcades is concerned, the real direction which prevails in the site is the one which is shown in thicker dashed arrows which run in the North-South direction.

The orientation of the proposed building respects the direction of these latter arrows. As a consequence, circulation system which takes people to the building and also helps them move inside it coincides with the direction of the movement through the arches.

Besides staircases, ramps are major components of the circulation system. Ramps are used as:

- handicapped access
- general access for everybody (as an alternative to staircases and elevators)
- service access in special cases (transport of big exhibits)

104



Museum for the Decorative Arts, Frankfurt/Germany - Richard Meier
Frankfurt Museum is a good reference for ramps that are located parallel to skin of the building and that are used efficiently for any kind of access.

IV.13 Insertion of a Diagonal Canal Through the Site

The eastern portion of the maritime museum site is surrounded by Canale Galeazze, one of the widest canals in Venice. The western side is bounded by a smaller canal which is connected to another canal that leads to Gran Canale, the largest canal in Venice. Historical documents show that, centuries ago, Gran Canale was connected to the internal lagoon of the Arsenale through the sequence of two canals mentioned above. In the design, a canal smaller than Canale Galeazze but larger than these two canals on the West, connects the two sides and re-creates the link that existed centuries before. The goal for the introduction of this canal, besides re-creating a historic instance, is to provide an alternative gate to the Arsenale and more accessibility as a consequence.

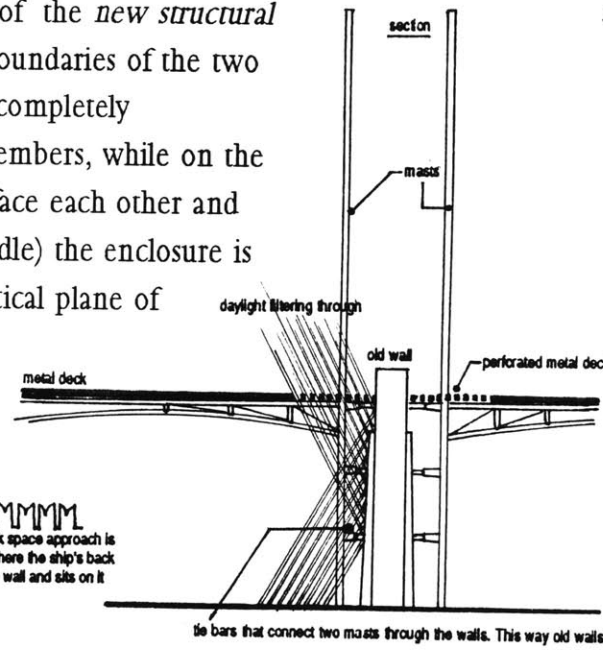
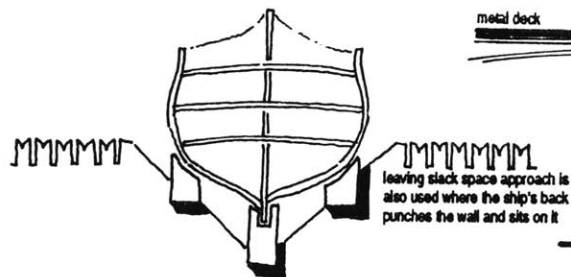
IV.14 Canal System

The incredibly rich canal system is the essence of the unique beauty of Venice in my view. This fact, in addition to the necessity of a diagonal canal connecting eastern and western sides, supported the idea of establishing a small canal system in the site. The organization of the system will follow the directions suggested by the pedestrian circulation on the ground level, and therefore will reinforce it. In other

words, the large diagonal canal (mentioned in the previous section) will run in the North-South and smaller secondary ones in the East-West directions (see previous diagram for circulation).

IV.15 Separation of Building Systems

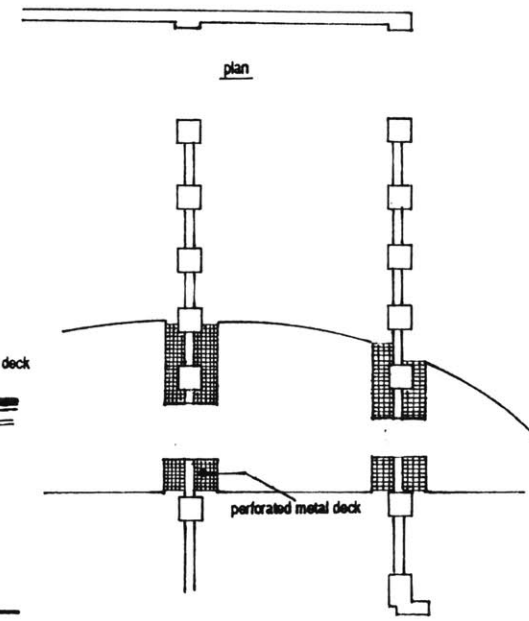
- 1) **Old wall system** is used to secure lateral stability for the new structural system that has long spans.
- 2) The **new structural system** is partially dependent on the old arch system for lateral stability and it is used to support the roof and the floors.
- 3) **Skin/enclosure system** is a secondary self-stable system that is structurally independent of the *new structural system*. On the curved outer boundaries of the two building halves the enclosure is completely independent of the structural members, while on the linear inner boundaries (which face each other and form collective space in the middle) the enclosure is about the same plane as the vertical plane of structural members.

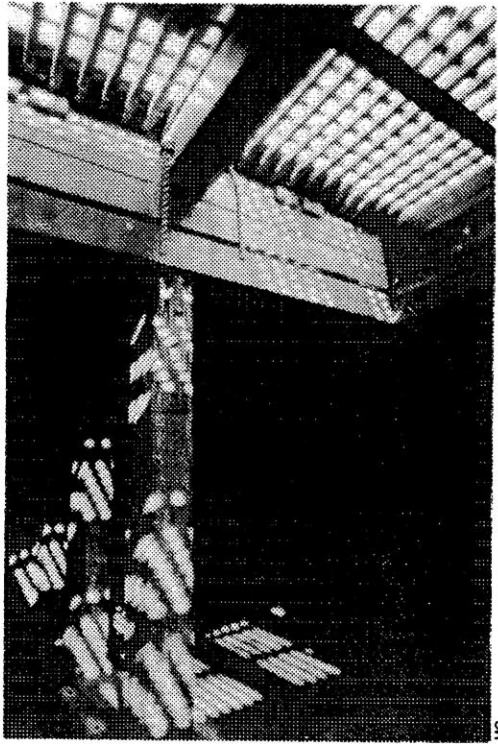


IV.16 Combination of Materials

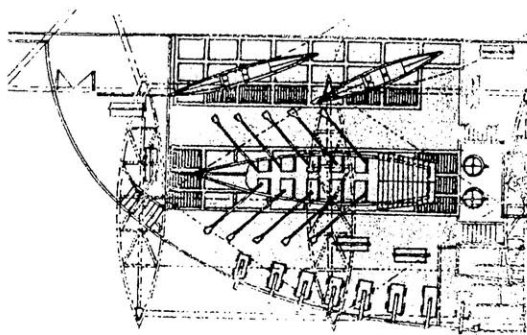
There is a contrast between the solidness of the leftover masonry arched walls of historic buildings and the transparency of the glass-and-steel skin of the intervention.

One of the approaches that Carlo Scarpa follows consistently in Castelvechio Museum, when he introduces a new material close to an old one, is to leave a transitional slack space between new and old. The purpose is to provide a clear and independent reading of old and new and at the same time end up, in fact, with a single entity that is a unity formed by discrete pieces.





The gap between the new floor and the old wall is filled with a perforated metal deck that lets light in. Same kind of metal deck is also proposed for the upper levels where real size boats are exhibited (see picture below). The picture on the left is taken inside a real ship in San Francisco National Maritime Museum. The picture portrays the advantage of having such screens as far as daylight gain is concerned



The upper level of the proposal. The floor surface drawn in rectangular blocks is of perforated metal. In this particular case, the purpose of using perforated metal is to create horizontal visual exchange between the upper floors and the

ground level and there is no concern about daylight. In this portion of the building there is no solid mass on the ground level and the building is supported on columns. People on the upper levels will be able to see the activity on the ground level through the perforated deck and vice versa. Same deck is not proposed at other locations in the building where floors are close to each other due to undesired disturbed visual privacy for women who wear skirts.

IV.17 Angle Introduced in the Plan

The eastern portion of the building is at approximately 20° angle to the western portion. The angle does not originate from anything close or remote in the site, it is just the result of a decision made according to visual and speculated physical comfort. The reason to have the eastern portion at an angle is to expose more façade to the boats proceeding along the canal. As a consequence, the building, instead of being a flanking wall that favors zoom-through movement, becomes a gate which welcomes and invites the boats which offer the only way of public transportation.

IV.18 Outdoor Exhibits

After my visits to Rotterdam and Amsterdam maritime museums I have observed that full scale outdoor exhibits in a maritime museum are a must. The reason is that the scale of some marine/ship-related objects to be exhibited is sometimes too large to be placed indoors, and in addition, the possibility of continuing the museum visit experience

outside is worthwhile to consider since such visits can get boring due to the obligation to stay inside the building for a long time. The large scale objects that can endure weather conditions and will be exhibited outdoors are: big propellers, boats, anchors, steam engines, etc.



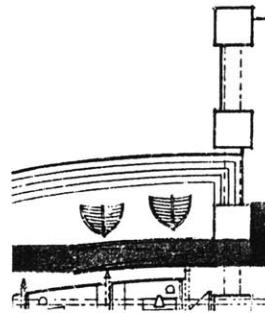
A locomotive that is cut and tilted up as if it were driven underground, Rotterdam - reference for an unusual way of outdoor exhibition



Rope houses on the beach at Brighton - reference for the alternative use of boats



Two halves of a boat used as outdoor exhibition in the way it is shown in the picture above (the ground level plan of the design).



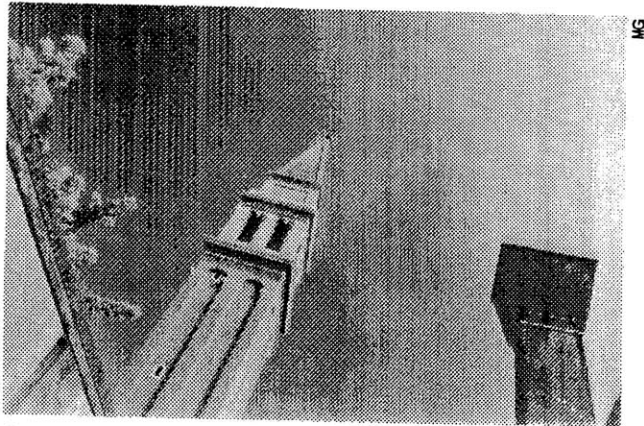
IV.19 Need for a Vertical Element

Besides the intricate canal network Venice is also known for its bell towers (*campanile s*) which are located in such a way that they constitute a network taking visual proximities into

account. In the Arsenale there are no such towers. Only features that serve as vertical elements are cranes. Thereafter, there is need for at least one vertical element considering several factors:

•**sky definition:** When the observer is close to a tower, the tower becomes an element that is more than a slender member which serves as a reference point from distance. It starts to act like a virtual roof. It is not a roof in the literal sense as it does not protect from rain. However, especially when the observer looks up, it provides some definition in the sky and therefore a sense of enclosure.

108



A campanile and a chimney in Venice - reference for the need of vertical elements in a city for sky definition whenever there is no horizontal enclosure covering a collective space

•**look-out point (like a campanile):** I have been to two of the towers in Venice, one being the most famous San Marco campanile and the other being the campanile in San Giorgio Maggiore island. From the very top, it is possible to obtain magnificent panoramic views of Venice. Therefore, towers in Venice are urban elements that can motivate the single reason to visit a place. Since attraction of people is a very important consideration in this design proposal, a look-out tower will be one of the major elements to accomplish the urban goals of the design.

•**reference point:** The Arsenale and the gardens on the southeastern side compose a relatively large area in Venice. Both of them are used as exhibition spaces during the Biennale of Venice and they do not accommodate any vertical urban element that would serve as a reference point. In addition to two functions mentioned above, a tower, especially when it is under the form of a high-tech crane rather than a conventional tower, will be visible from distance and it will function as an interest point which renders the site as one of the final destinations in the city.

•**need for a crane:** There is workshop activity proposed in the site for the maritime museum. Since there was need for an uninterrupted circulation path on the ground level the mouths of the sliding ramps of the workshop area are

blocked by a pedestrian bridge. As a result, it becomes impossible to slide the large boats to be constructed or repaired, and a crane is required to launch and maneuver the boats around. Considering the demand for a crane, the point was to mix the architectural necessity of a vertical element and the functional necessity of a crane and to end up with a crane that would also serve as an observation tower.

IV.20 Sail-roof

The weather barrier for the roof level is at the plane of the lower web of the trusses which span the building transversely between the masts (see section drawing). At the upper web of the trusses there are louvers that control daylight. Over the trusses there is a plane of synthetic fabric that is stretched between the tubes of a light structural system that is independent of the trusses but dependent on the masts (columns) and spars (beams) in between. The synthetic fabric takes the form of a large sail and its purpose, besides the association with ships, is to diffuse daylight and avoid glare inside the building.

IV.21 A Real Ship in the Site

I personally thought that it was a very instructive experience to be in a real ship when I was visiting the Amsterdam Maritime Museum. The is the first reason to propose the introduction of a real ship within this project. The other reason is that there is an open-air amphitheater which is incorporated within the wall that bounds the site on the West and there was need for some kind of bridge or building component in order to reach the amphitheater from the main museum building. The solution was to locate the ship in such a way that it would act as a bridge between the museum and the open-air amphitheater. Another advantage of having a real ship was the possibility of suggesting a library which is a function that needs to be isolated. Thus, the library would be inside the ship at the lower levels with a quite warm atmosphere (see the pictures of a full-size ship exhibited at Amsterdam Maritime Museum in Appendix A "Background on Naval Architecture").

**IV.22 Program - Uses in the Building -
Squarefootages**

The program consists of:

entrance lobby/ information desk	ground floor	350 sqft
bookstore/giftshop	ground floor	1,100 sqft
offices/administration	ground floor	600 sqft
library	inside the ship	2,500 sqft
restaurant	open-air	1,400 sqft
data processing/research laboratories/computer rooms/documentation	ground floor	600 sqft
exhibition areas	upper floors	9,000 sqft
storage/custodial	ground/upper floors	900 sqft
workshop area	open-air	12,000 sqft
cafeteria	upper floor	300 sqft
amphitheater for the workshop area	open-air	1,200 sqft
services	ground/upper floors	2,500 sqft
internal circulation	ground/upper floors	4,000 sqft
TOTAL		35,250 sqft

110

IV.23 Epilogue - Evaluation of the Design

As far as respecting the context, different parameters were defined in previous pages and it was stated that continuity did not have to be accomplished for each parameter. The parameters that were respected and that led to some interpretation of existing conditions are as follows:

- direction suggested by the permeability of arches that run North-South was respected and the orientation of the new building conforms to that.
- existing outside/inside relationship guided the outside/inside relationship and the access system of the new proposal.
- despite the fact that existing dimensions are not kept, existing proportions influenced some decisions on structural bay sizes and height/length ratio.
- existing circulation pattern is kept and furthermore reinforced by the building's minimal presence on the ground level.

On the other hand, the parameters that were not considered worthwhile, in terms generating design ideas and enriching the atmosphere of the site, were:

- existing façade composition, nature of ornamentation,
- existing building materials,
- colors
- use of daylight and dark/light alteration
- massing of volumes

Considering the analysis of existing examples and the simplistic categorization that was the result of this analysis, one may ask under which category the design proposal falls according to the author's view. In fact, it is not very easy to categorize the proposal. It has some common features with the first three categories. The design may not be considered a successful blend of old and new by most people, but it can be partially included in the first category since old and new are overlapped at least. Despite the fact that the building does not look like any of the surrounding buildings, the spatial issues considered are sufficient to instigate some level of respect to the surroundings. In addition to the latter, the design induces a new identity in the site, though it is arguable whether this new identity is appropriate or not. These two facts are enough to include the design both in the second and the third categories.

NOTE ABOUT VISUAL REFERENCES

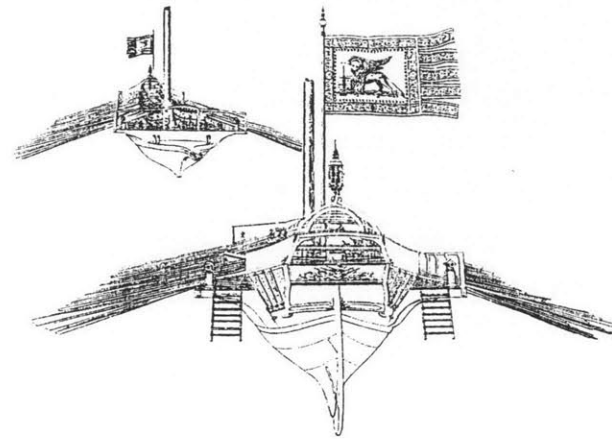
This study puts an emphasis on visual references rather than words. The reason is that, first of all, architecture addresses the vision of observers. Communication in architecture is achieved through visual representations such as drawings, paintings, models, collages, photomontages, computer graphics, and finally actual built products -i.e. buildings. In addition, one single word can convey more than one

meaning or induce more than one association for different people, and as a consequence can actuate various interpretations. Since visual communication leads to less interpretation the pictures included are used to reinforce and clarify the issues addressed.

As far as words in this text, no specific vocabulary is used, terms and concepts mentioned keep their established meanings except some that are personally re-defined.

The buildings and architectural concepts that are depicted in these visual references should neither be taken as cases to legitimize the proposals in this book nor as formal prototypes of an ideal maritime museum design. They should be conceived as realistic implications of some of the design ideas that I have generated over the past three years mostly, dependent or independent of these examples included.

APPENDIX A
BACKGROUND ON NAVAL
ARCHITECTURE



BACKGROUND ON NAVAL ARCHITECTURE

Analysis of Existing Maritime Museums

1) *Mary Rose Tudor Ship Museum, Portsmouth - Great Britain* (Ahrends, Burton, Koralek)

The whole museum focuses on the wreck of a real ship. The wreck is not complete, it is almost like one of these section models of ships that expose split hulls. The floors are close enough to the wreck to enable people to experience the ship spatially. It is possible to perceive the ship from different levels.

2) *Rotterdam Maritime Museum, Netherlands* (J.G. Verheui/J. Nieskens) - personally visited

The building does not convey anything about its function on the façade. It is a very box-like building. However, the internal organization is one of the richest I have ever seen both in terms of space and content. A ramp has a major role in circulation. The floor material is light-weight metal and brings the place a ship-like atmosphere which is quite appropriate. There is a very good informative system which is supported by videos and visitor-operated computers. The

equipment used to support and contain exhibited objects is sturdy, efficient, and esthetically decent.

Another good point is the variety of outdoor exhibitions, it is possible to see full-scale real boats, ships, cranes, engines, and related paraphernalia.

3) *Amsterdam Maritime Museum, Netherlands* (Daniel Stalpaert) - personally visited

The building is a 17th century arsenal converted into a museum. The exhibit pattern complies with the original internal organization which was not particularly designed for a maritime museum. As a consequence, the general atmosphere of the museum is not as attractive as Rotterdam's. There is a clear separation between floors and therefore a tall vertical exhibit perceivable from different levels does not exist. However, the same fact helped to create a very clear classification among the subjects of exhibition. A good point is again outdoor exhibitions, which is a full-scale reconstruction of a historical ship. The bottom level inside the ship is used for video presentations and it accommodates a very warm atmosphere which is architecturally attractive with all the details of the frame structure exposed internally. This bottom level, besides the ship models I have seen in maritime museums, is one of the

influences which made me to think about designing a building which would feel like a ship.

4) Venice Marine Museum, Italy - personally visited

This also is an old building converted into a museum. Therefore, it has a similar feeling of constrained exhibition pattern just as Amsterdam's. Besides, the available exhibition space is not sufficient at the moment. As a result, a considerable amount of things is not exhibited. In addition, there is no space for outdoor exhibits, a fact which limits the size of objects to be exhibited. The nature, content, and extent of the items exhibited being very rich and varied, there is definitely need for a larger and spatially more flexible building.

5) Cabrillo Marine Museum, Wilmington - California/USA (Frank Gehry)

Keeping in mind that this is a new building rather than an old one to be converted, and that there is possibility to design a building which would make people to generate associations with the function of the building, Frank Gehry's design is like Rotterdam Museum. The building does not convey from outside what is inside. A good point

is the scaffolding-like structure outside the building which brings variety for exhibition patterns.

6) Vasa Museum, Stockholm - Sweden (Ove Hidemark Goran Mansson Arkitektkontor)

This is the best example as far as association with marine life is concerned. The exterior of the building reminds original plank-on-frame construction of hulls. Plus, there are masts sticking out of the roof as if the roof were constructed around original masts of "Vasa", the ship exhibited inside. However, these masts are fake, they reach a higher level in the sky than the real masts which are enclosed completely by the building and create a very powerful effect. The plan is the most organic of all examples I could visit or find in the books, it centers around the ship and services are distributed on the edges very skillfully. The final shape of the plan suggests a ship-like form.

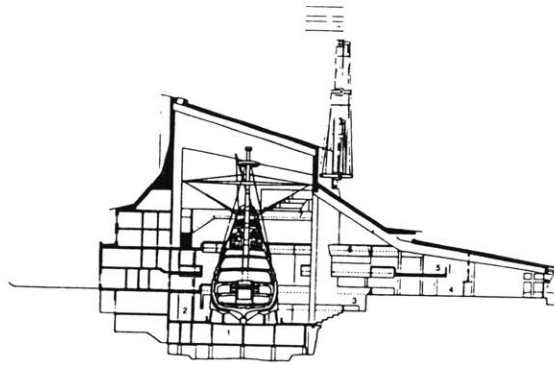
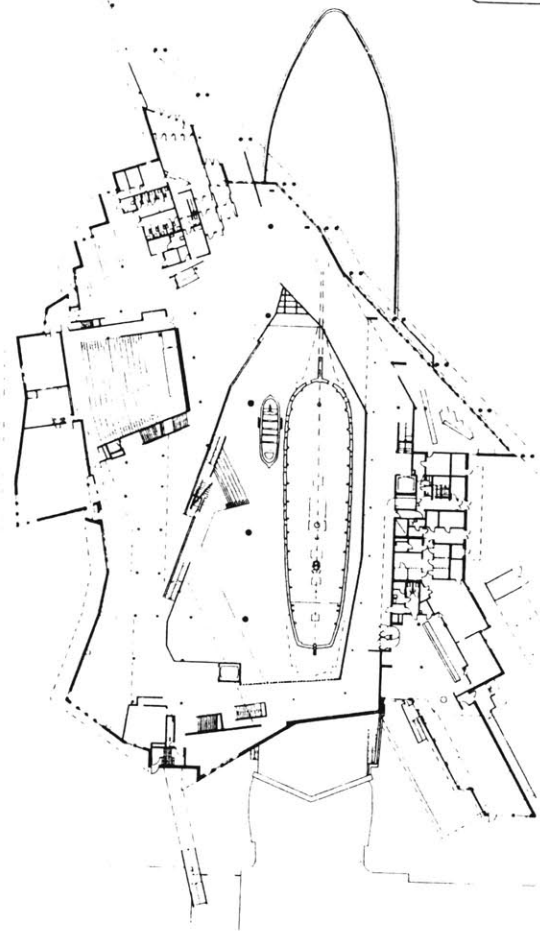
7) Batavia Expo Centrum, Leylstad - Netherlands (Jan Rietveld)

The fact that the A-frame seems it stemmed from length and location of spars along the mast is very positive. However, the deployment of the idea ended up with a skin that covers the whole ship. The resulting building does not have the qualities mentioned in the previous paragraph that Vasa

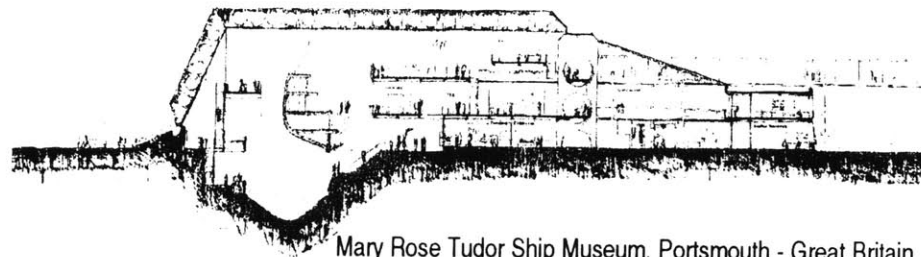
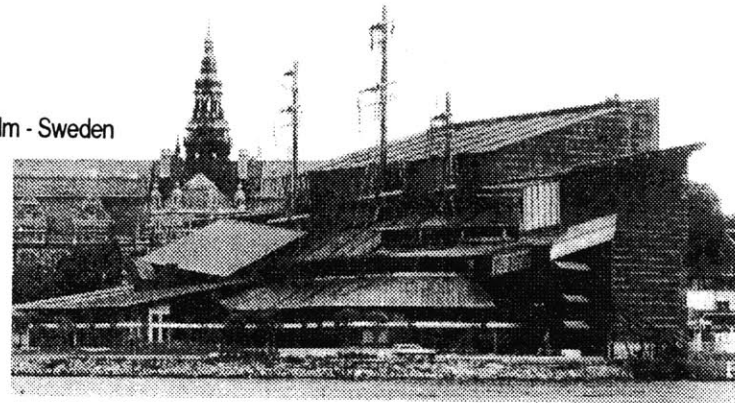
Museum has. A-frame is very close to the mast on higher levels and it does not have catwalks that would offer the possibility of beholding from a very unusual viewpoint. Forgetting about function the design is daring and potential, but taking function into account the idea is not exploited enough.

8) *Coastal Museum of Sogn og Fjordane, Flora - Norway* (Svein Hatløy, Kåre Frølich)

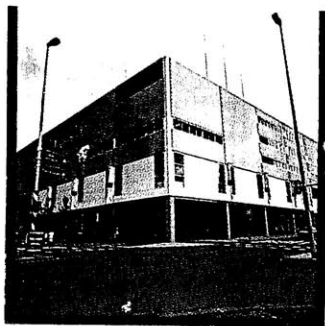
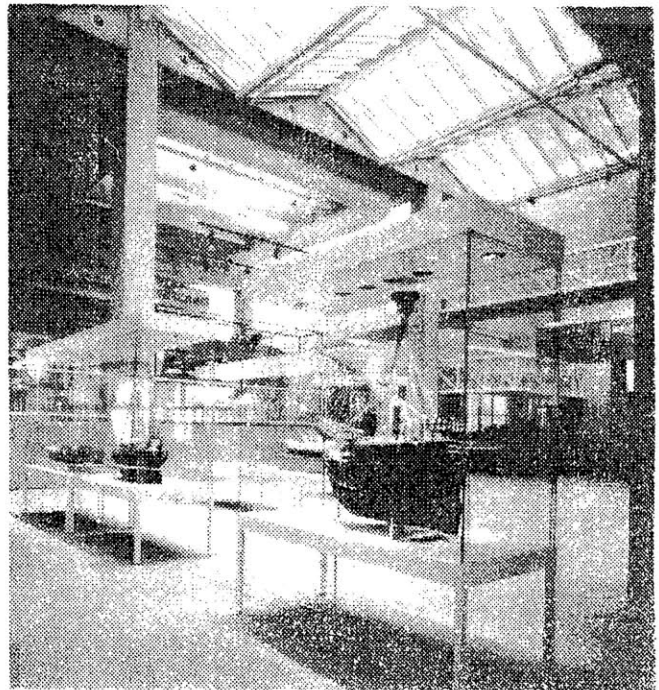
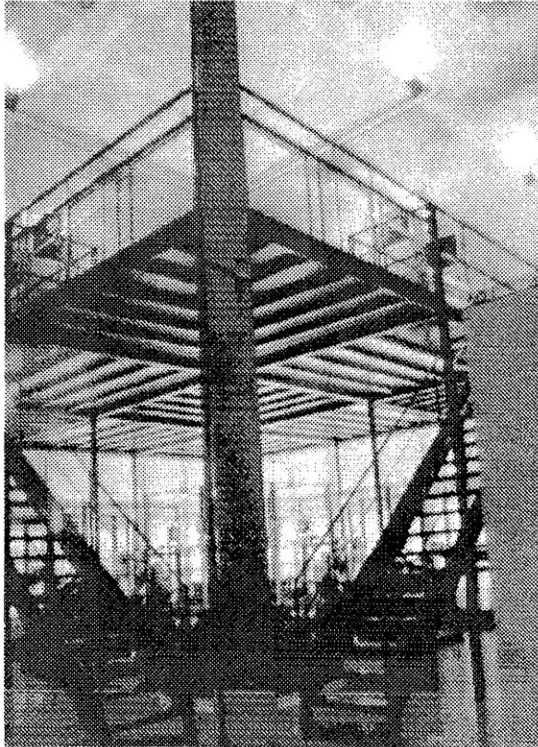
Exposed frame structure, clarity of circulation system, the way that bridged walkways and stairs span from one place to another, simplicity of internal organization devoid of crowded exhibition pattern, are worthwhile details in the building.



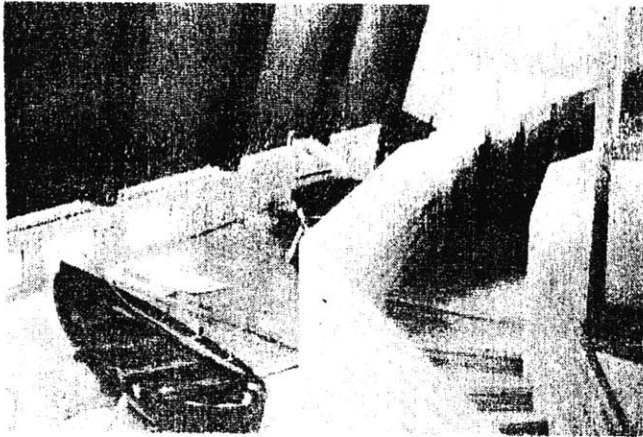
Vasa Museum, Stockholm - Sweden



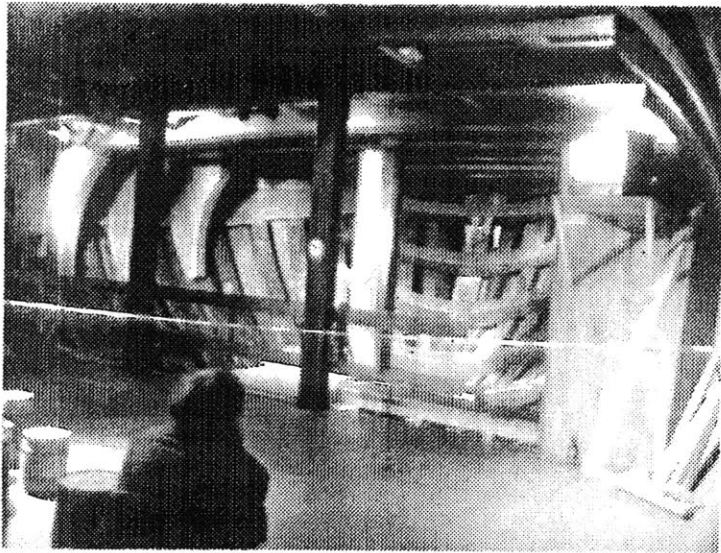
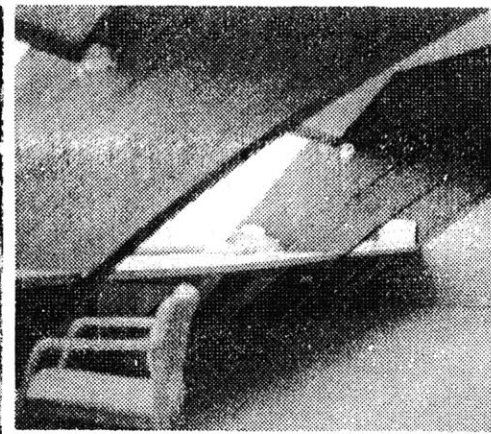
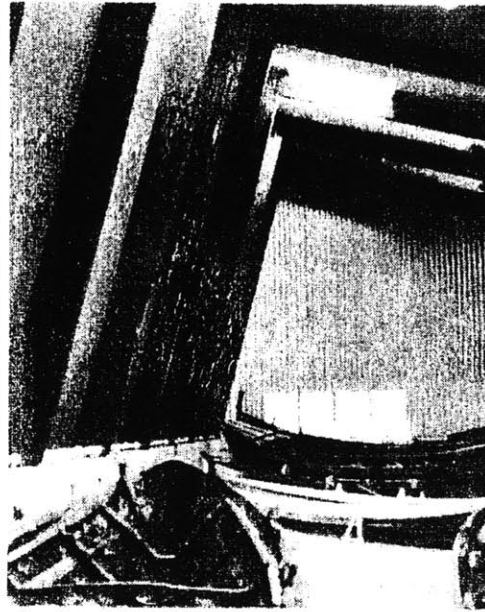
Mary Rose Tudor Ship Museum, Portsmouth - Great Britain



Rotterdam Maritime Museum, Netherlands

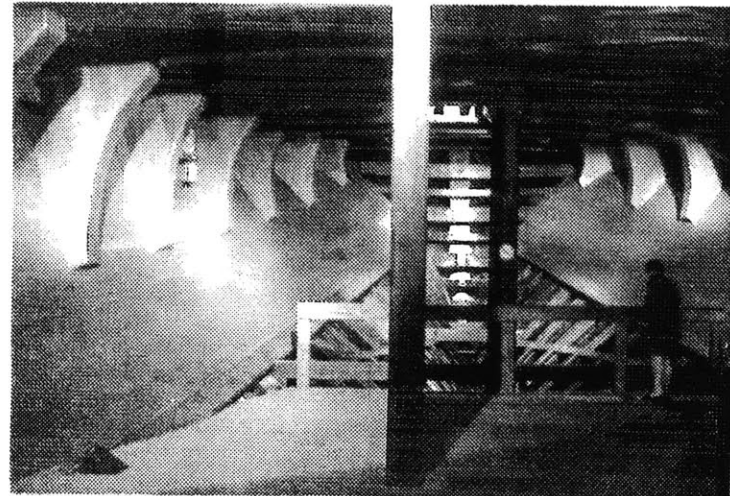


Coastal Museum of Sogn og Fjordane, Flora - Norway

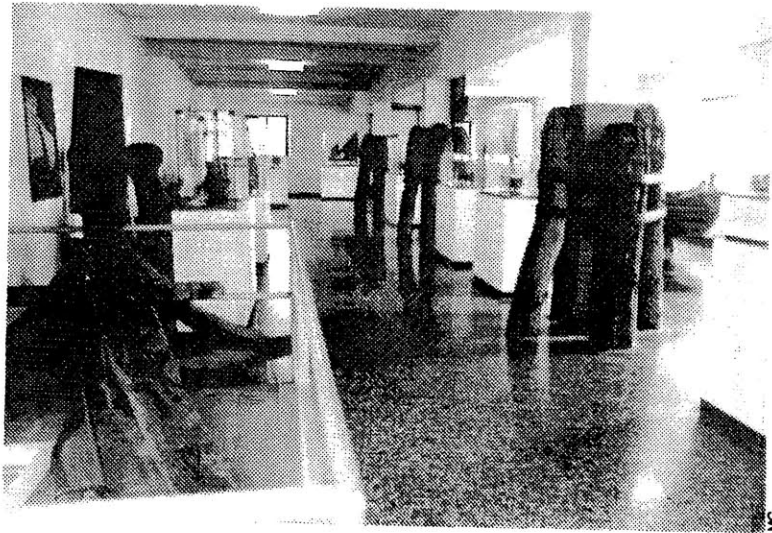


MG

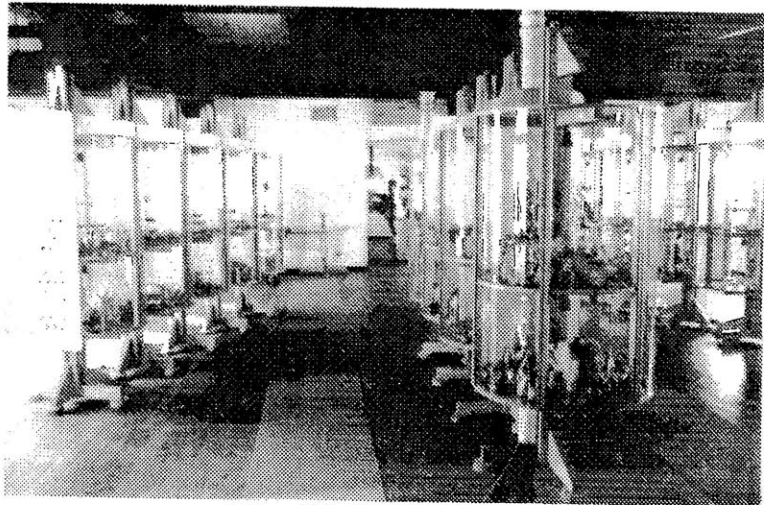
Amsterdam Maritime Museum, Netherlands



MG

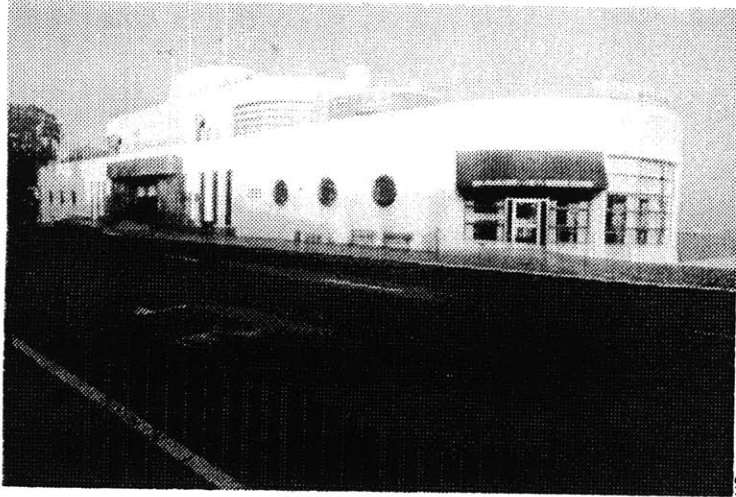


120

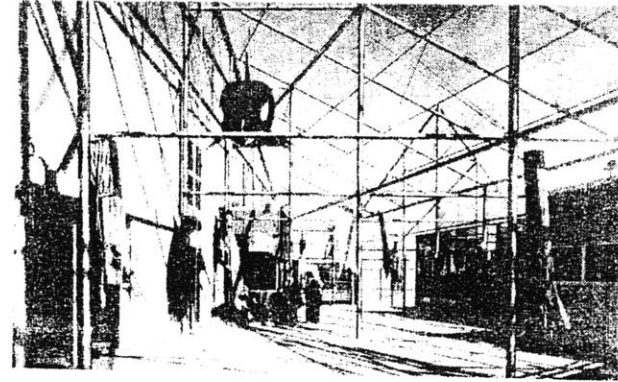


pictures showing the internal exhibit pattern at the Naval Museum of Venice

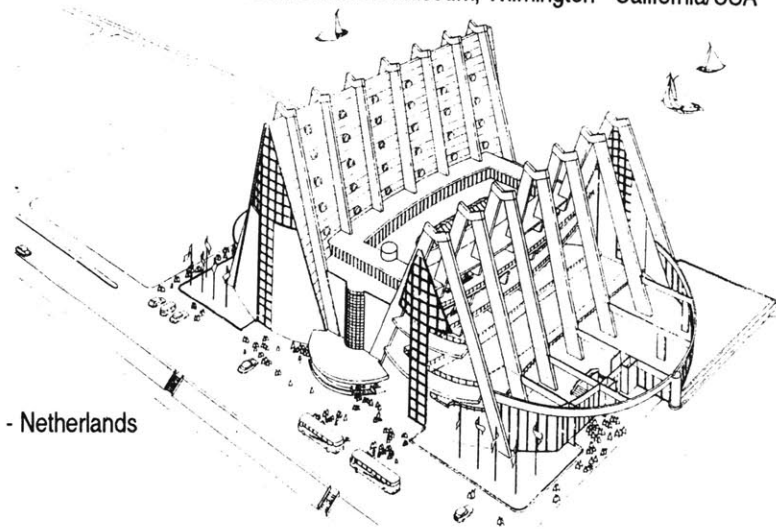




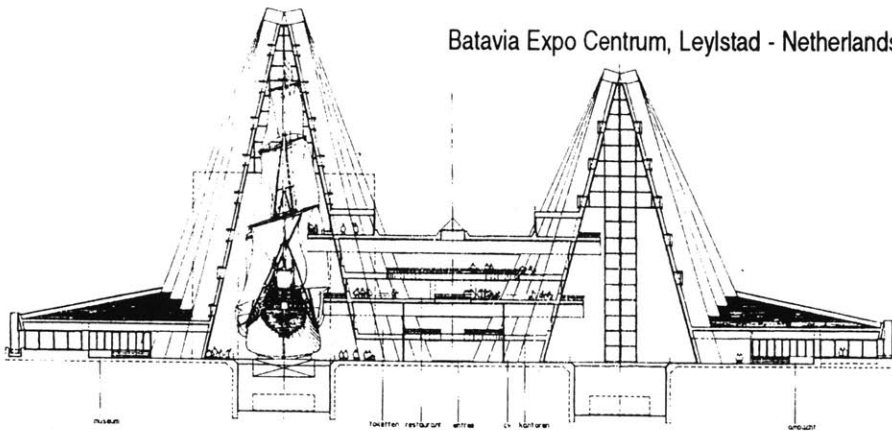
San Francisco National Maritime Museum - California/USA

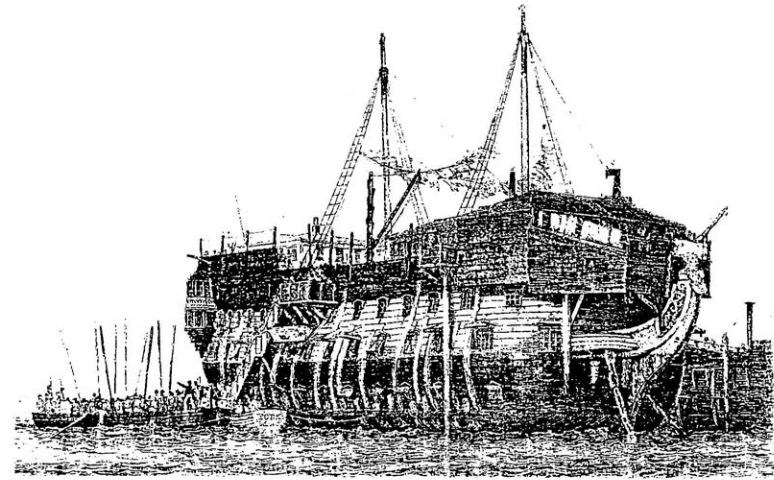
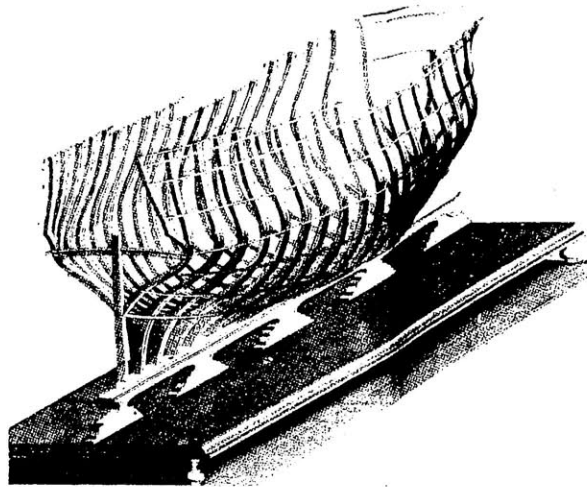


Cabrillo Marine Museum, Wilmington - California/USA

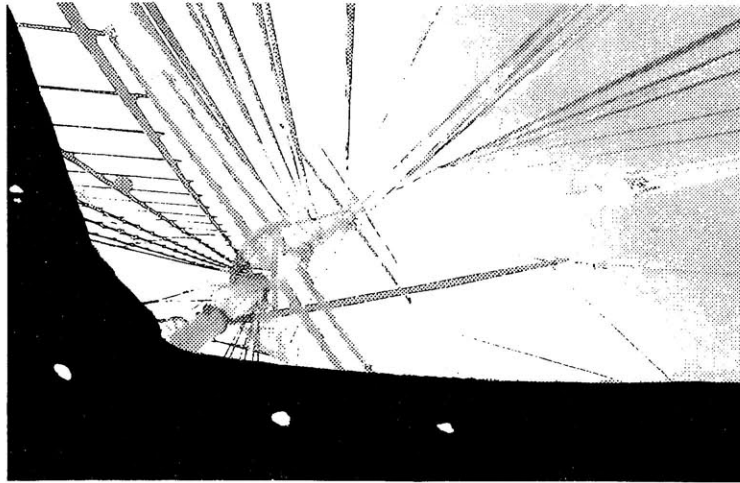


Batavia Expo Centrum, Leylstad - Netherlands

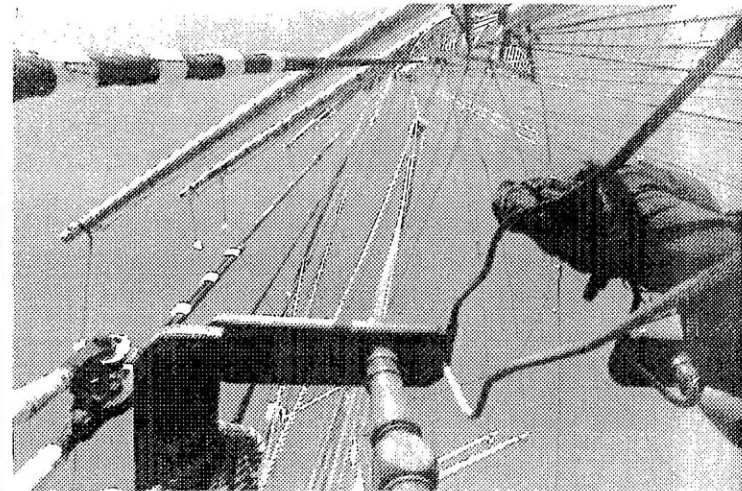




Prison ship in Portsmouth Harbor, England, convicts going on board

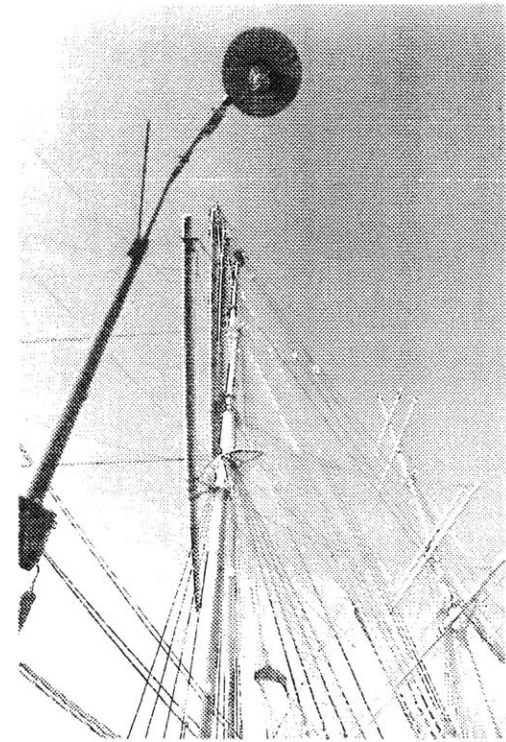
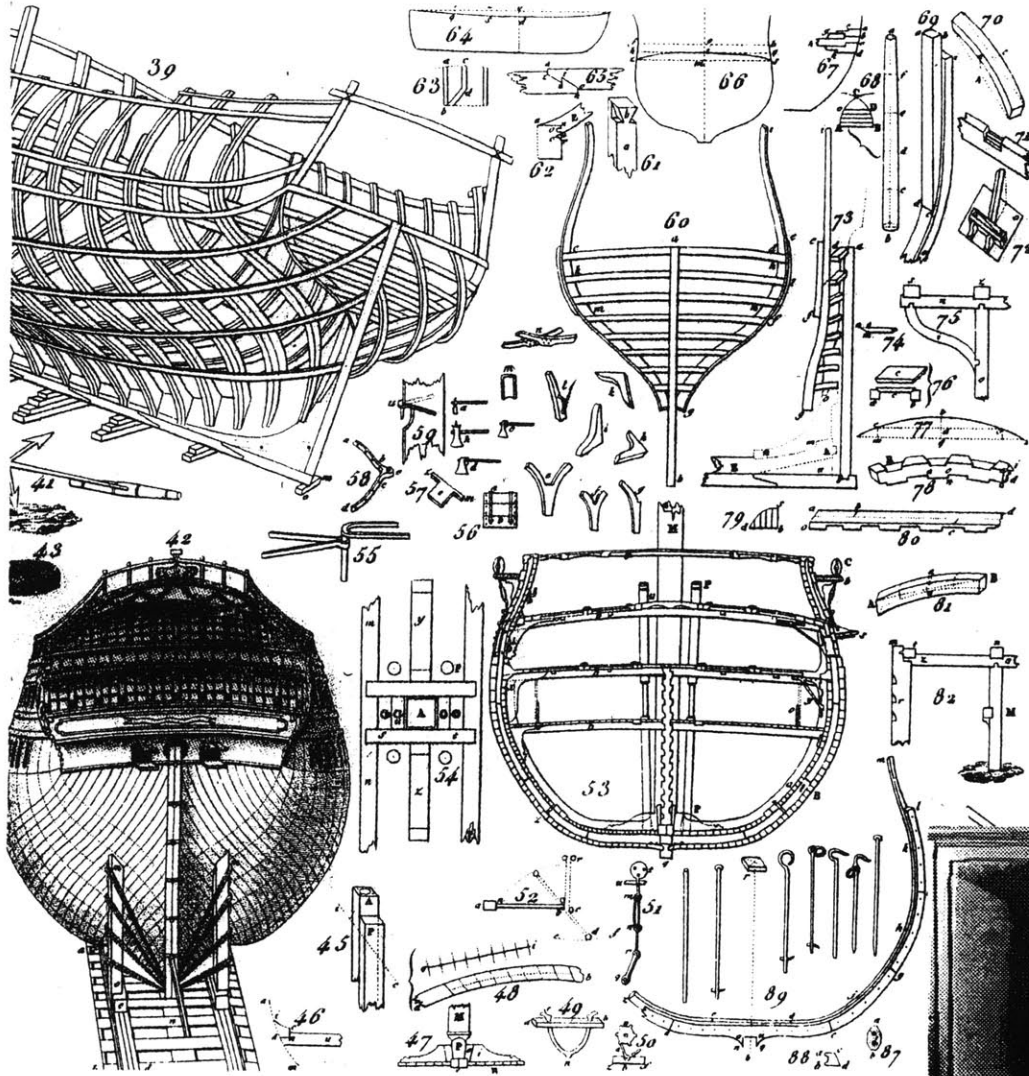


MG

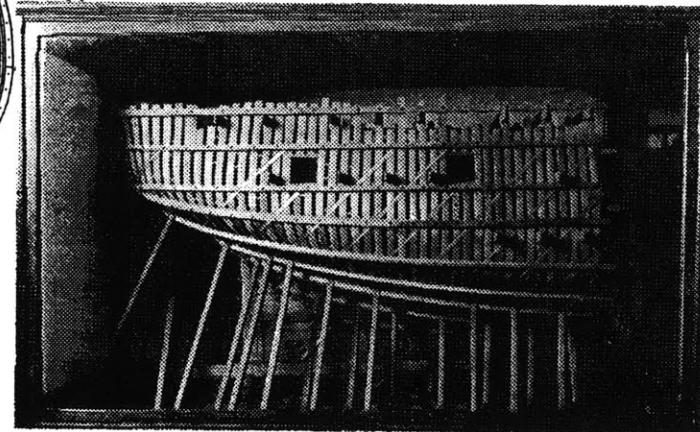


MG

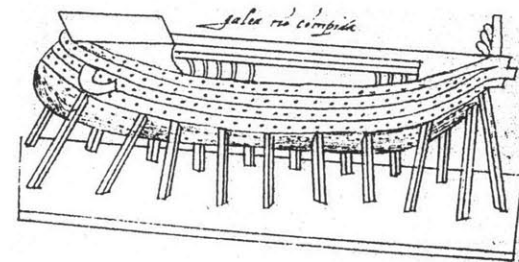
boat-related visual references



boat-related visual references



APPENDIX B
BIBLIOGRAPHY



BIBLIOGRAPHY

AA Files no.15 (Summer 1987), pp. 19-29

Aga Khan Award for Architecture Regionalism in Architecture: Proceedings of the Regional Seminar in the Series Exploring Architecture in Islamic Cultures, Concept Media, (1985)

Antoniades, Anthony C. Architecture and Allied Design: An Environmental Design Perspective, Kendall/Hunt, (1980)

Architect's Journal vol.193, no.14, (April 1991)

Architectural Record vol.179, no.2, (February 1991)

Architectural Review vol.183, no.1094, (April 1988)

Architectural Review vol.184, no.1101, (November 1988)

Architectural Review vol.184, no.1102, (December 1988)

Architectural Review vol.187, no.1120, (June 1990)

Arkitektur vol.90, no.8, (October 1990)

Balcioğlu, Emin "The Arsenals of Venice and Istanbul", Mimar

Bellavitis, Giorgio L'Arsenale di Venezia: Storia di una Grande Struttura Urbana, Marsilio Editori, (1983)

Bouw vol.42, no.12, (June 12, 1987)

Brolin, Brent C. Architecture in Context: Fitting New Buildings With Old, Van Nostrand Reinhold, (1980)

Calvino, Italo Invisible Cities, Harcourt Brace Jovanovich, (1974)

Carlo Scarpa: Il Progetto per Santa Caterina a Treviso, Vianello Libri, (1984)

Ceccarelli, Paolo Venice: Urban Renewal, Community Power Structure, and Social Conflict

Chirivi, Romano L'Arsenale di Venezia: Storia e Obiettivi di un Piano, Marsilio Editori, (1976)

Concina, Ennio L'Arsenale della Repubblica di Venezia: Tecniche e Istituzioni dal Medioevo All'età Moderna, Electa, (1984)

Cooke, Edward William Sailing Vessels in Authentic Early Nineteenth-Century Illustrations

Coop Himmelblau Architecture is Now, Rizzoli, (1983)

Davis, Douglas The Museum Transformed: Design and Culture in the Post-Pompidou Age, Cross River, (1990)

GA Document no.5, (1982)

Gennaro, Paola – Testi, Giovanni Progetto Arsenale: Studi Ricerche per L'Arsenale di Venezia, Cluva Università, (1985)

L'Arsenale Riordinato: Nuovi Progetti per Venezia, Istituto Universitario di Architettura di Venezia, Arsenale Editrice, (1987)

La Biennale di Venezia 1980: The Presence of the Past - First International Exhibition of Architecture, La Corderie dell'Arsenale, (1980)

Markus, Thomas A. Building Conversion and Rehabilitation, Newnes - Butterworths, (1980)

Museum vol.35, no.1, (1983)

National Trust for Historic Preservation Old & New Architecture: Design Relationship, Preservation Press, (1980)

Porphyrios, Demetri Sources of Modern Eclecticism: Studies on Alvar Aalto, Academy Editions, (1982)

Progressive Architecture, (May 1987)

Quantrill, Malcolm Reima Pietilä: Architecture. Context and Modernism, Rizzoli, (1985)

Ray, Keith Contextual Architecture: Responding to Existing Style, MacGraw Hill, (1980)

Venturi, Robert Complexity and Contradiction in Architecture, New York Museum of Modern Art Publications, (1977)

Werk, Bauen + Wohnen no.5, (May 1988)