Copyright Warning & Restrictions

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a, user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of "fair use" that user may be liable for copyright infringement,

This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve violation of copyright law.

Please Note: The author retains the copyright while the New Jersey Institute of Technology reserves the right to distribute this thesis or dissertation

Printing note: If you do not wish to print this page, then select "Pages from: first page # to: last page #" on the print dialog screen

NJIT New Jersey's Science & Technology University

The Van Houten library has removed some of the personal information and all signatures from the approval page and biographical sketches of theses and dissertations in order to protect the identity of NJIT graduates and faculty.

FIRST IMPRESSION: THE STUDY OF ENTRY IN ARCHITECTURE

by
Siriwan Polpuech

Thesis submitted to the Faculty of the Graduate School of the New Jersey Institute of Technology in partial fulfilment of the requirement for the degree of Master of Science in Architectural Studies
1989

APPROVAL SHEET

Title of Thesis: First Impression: The Study of Entry in Architecture

Name of Candidate: Siriwan Polpuech
Master of Science in Architectural Studies, 1989

Thesis and Abstract Approved:

Prof. David L. Hawk Date
Professor of Architecture
School of Architecture

Signatures of other members of Thesis Committee.

Prof. Bharat Gami Date

Virgilio Gonzales Date

VITA

Name: Siriwan Polpuech

Permanent Address:

Degree and Date to be Conferred: Master of Science in Architectural Studies, 1989

Date of Birth:

Place of Birth:

Secondary Education: Traimudom Suksa School, 1979.

Collegiate Institutions	Dates	Degree	Date of Degree Attended:
School of Architecture, Silpakorn University	6/80-3/85	B.Arch	3/85
School of Architecture, N.J.I.T.	1/87-5/89	MSAS	5/89

Major: Architecture

Positions Held:

Architect Intern (1/89-Present)
Bonsignore Brignati & Mazzotta P.C. Architects
275 Seventh Avenue
New York, New York 10001

ABSTRACT

Title of Thesis: First Impression: The Study of Entry in Architecture.

Siriwan Polpuech: Master of Science in Architectural Studies.

Thesis directed by: Prof. David L. Hawk

Entrance as an element of architecture has had an important role in the design process from the very beginning of the architecture. Its role varies according to culture and the belief of people. The characteristics of entrances are as diversified as are architectural style and historic periods.

Architectural styles continue to change. New forms and technologies add to the growth of styles. All these contribute to the eclectic of design ideas. The specifics of an entrance can arise from, be complementary to or in contradiction of a style. They always serve as a mediator between interior and exterior spaces. The entrance can be meaningfully related to a building's design or it may be an abstraction about a new style, or it may reference an earlier architectural style.

The purpose of this study is to provide architects with a means to evaluate and analyze entrances for particular designs. Entrance can serve as a standard for the entire building, a beginning to integrate meaning with use in building elements.

The study intends to demonstrate how entrances best function as a combination of aspects of history, architecture, and psychology. An entrance functions on many levels at once. A skilled architect needs to be aware of the complexity of the entrance resulting from its meaning meeting its function. For example, a high arched entrance may serve to enhance the experience of entering the building while at the same time provide a large public entry space. At a socio-cultural level it can also make a statement about history either by reiterating a previous historical style, or, just as significantly, denying all prior historic models.

This study begins by tracing the role of entry through periods of history in different cultures. The entries of the present time are organized under building type categories. Illustrations will be offered of each period along with an explanation of each. In addition to precedent and building types, entries can be explained through shape, form, size, color, and texture. The analysis of aesthetic criteria can then be clarified. Examples of entrances with this type of categorized will be offered. The relationship of users to meaning of entry will be examined. This includes aspects of form, usage, and decoration as they effect users.

Combining these provides a means of categorizing entry under different cultures and background. The important transition between interior and exterior space may be accentuated quite differently in different parts of the world. In the orient, it is common to remove one's shoes upon entering an interior space. It is important to respect the entry as the moment of transition, the interior space is protected from "contamination" by the outside world. In the west, entry can have meanings of similar significance, although of very different orientations, or it can simply be a hole in a wall.

The appreciation of the value of entries is important. Designers should organize them to make people aware of the values in functional and aesthetic domains. Then the sense of place can be created and supported. Many criteria effect the design of entrance, and it is hard to predict the meaning that users will assign or comprehend, but we must do better in knowing the outcome of the design and how it will satisfied the people who use it. This study is to help the ideas of purposeful design of building elements and architecture.

CONTENTS

CHAPTER I INTRODUCTION p. 1

Problem Statement p. 1

Significant of the Study p. 3

Objective p. 4

Procedure p. 4

CHAPTER II ENTRIES IN ARCHITECTURE p. 6

History of the Role of Entry in Architecture p. 6
1. In Asia p. 6
   - 1.1 India p. 6
   - 1.2 Chinese p. 11
   - 1.3 Japan p. 19
2. In the Middle East and Europe p. 23
   - 2.1 The Ancient World p. 23
     - 2.1.1 The Stone Age period p. 23
     - 2.1.2 Egypt p. 25
     - 2.1.3 Greek p. 30
     - 2.1.4 Roman p. 30
   - 2.2 The Middle Age p. 37
     - 2.2.1 Early Christian and Byzantine p. 37
     - 2.2.2 Romanesque p. 37
     - 2.2.3 Gothic p. 37
   - 2.3 The Renaissance p. 43
     - 2.3.1 The Renaissance p. 43
     - 2.3.2 The Mannerist p. 43
     - 2.3.3 The Baroque p. 49

Meaning of Architectural Entry in Modern World p. 49
1. The Seventeenth and the Eighteenth Century p. 49
2. Modernism p. 55
3. Post-modernism p. 65

Architectural Entry of Present Time p. 69
1. Private Building p. 69
2. Semi-public Building p. 80
3. Public Building p. 80

General Characteristic of Entries p. 80
1. Shape p. 80
2. Form p. 80
3. Size p. 93
4. Color p. 93
5. Texture p. 93

Criteria for Entry Analysis p. 93
1. Site and Geographical Feature p. 97
2. Culture and Tradition p. 97
3. Purpose p. 100

Possible Entry Forms p. 100
1. Motif p. 100
1.1 Doorway motif p. 102
1.1.1 Away and towards p. 102
1.1.2 Above and lower p. 102
1.1.3 Sideways p. 102
1.1.4 Revolving p. 102
1.2 Door casing motif p. 102
1.2.1 Frame motif p. 105
1.2.2 Split motif p. 105
1.2.3 Niche motif p. 105
1.2.4 Shelter motif p. 105
1.2.5 Directional wall motif p. 110
1.2.6 Side tower motif p. 110
2. Setting p. 110
2.1 Entries between interior and exterior spaces p. 110
2.2.1 Entries on ground level p. 110
2.2.2 Entries on upper ground level p. 110
2.2.3 Entries on lower ground level p. 111
2.2 Entries between interior spaces p. 111

CHAPTER III USERS AND ENTRIES p. 117

Users and Meaning in Architecture p. 117
1. Representational Meaning p. 118
2. Responsive meaning p. 118

Architectural Expressive Quality p. 120
1. The Importance of Expressive Quality p. 121

The Impact of Users and Building Entrance p. 123
1. Usage p. 123
2. Motif p. 127
3. Setting p. 131
4. Color p. 134

CHAPTER IV FACTORS CONTRIBUTING TO THE DIFFICULTIES IN COPING WITH THE PROBLEM AND POSSIBILITIES FOR A SOLUTION p. 135

Psychology and Architectural Entry p. 135

Individual Differences p. 136

Personal Varieties in Satisfaction and Viewpoint p. 136
1. Experience and Remembrance p. 136
2. The Difference Due to Background and Experience p. 140
    1.1 Education and occupation p. 140
    1.2 Culture p. 141

Mean to Respond to User Needs p. 142
1. Functional Values p. 143
    1.1 Use p. 143
    1.2 Purpose p. 143
2. Aesthetical Values p. 145

Creating the Sense of Place p. 145

CHAPTER V CONCLUSION AND RECOMMENDATION p. 147

BIBLIOGRAPHY p. 150

LIST OF ILLUSTRATION

Fig. 1 Barabar, Chitaya of Lomar Rishi. 246-226 B.C. p. 8

Fig. 2 Nasik, Sangharama, Chitaya NO. 18. p. 8

Fig. 3 The great stupa. Sanci. 3rd-1st Century. p. 9

Fig. 4 Taj Mahal. Agra. 1632-1647. p. 10

Fig. 5 Plan of Forbidden City. p. 13

Fig. 6 Entrance of Chinese garden. p. 15

Fig. 7 Moon Gate. p. 15

Fig. 8 Petal-shaped door. p. 16

Fig. 9 Doorway in the gallery of Yu Yuan. Shanghai. p. 16

Fig. 10 Leaf door in Nei Yuan. Shanghai. p. 17

Fig. 11 Vase-shaped door. p. 17

Fig. 12 Octagonal-shaped Moon Gate. p. 18

Fig. 13 Doorway in the garden. Nanking. p. 18

Fig. 14 Asukadera type temple. Japan. p. 20

Fig. 15 The entrance of tea room. p. 21

Fig. 16 The inside of tea room. p. 22

Fig. 17 Oval hut with thatched reeds and poles. Nice. p. 24

Fig. 18 Houses of Catal Huyyuk. Anatolia. c.6000 B.C. p. 26

Fig. 19 Bronze Age temple, Hal Tarxian. Malta. p. 26

Fig. 20 Lion Gate. Mycenae. c.1250 B.C. p. 27

Fig. 21 Complex of King Zoser. Saggara. c.2750 B.C. p. 28

Fig. 22 Mortuary complex of Rames III. Madinet Habu. p. 29

Fig. 23 Pylon. Temple of Khons. p. 29

Fig. 24 Acropolis. Athens. 400 B.C. p. 31

Fig. 25 Greek Domestic. p. 31

Fig. 26 Plans of Greek Architecture. p. 32

Fig. 27 Treasure of the Siphnians. Delphi. c.530 B.C. p. 33

Fig. 28 Harvey Lonsdale Elmes'. St. George's Hall. Liverpool. 1840. p. 33

Fig. 29 Arch of Titus in Forum Romanum. Rome. 90 A. p. 35

Fig. 30 Palace of Diocletian. Split, Yugoslavia. 300 A.D. p. 36

Fig. 31 Temple of Jupiter. Capitolinus, Rome. 509 B.C. p. 36

Fig. 32 Plan, Church of the Holy Sepulcher. Jerusalem. 335 B.C. p. 38

Fig. 33 Tomb of King Theodoric. Ravenna. c.526. p. 39

Fig. 34 S. Costanza. Rome. c.625-38. p. 39

Fig. 35 Perish Church. Maursmunster. Mid 12th century. p. 40

Fig. 36 S. Ambrogio. Milan. 12th century. p. 40

Fig. 37 S. Miniato at Monte. Florence. Mid 11th-12th century. p. 41

Fig. 38 S. Michaele. Pavia. c.1100-60. p. 42

Fig. 39 Notre Dame. Paris. c.1200-50. p. 44

Fig. 40 Lyon Cathedral. End of 12th century. p. 45

Fig. 41 Fillippo Brunelleschi. Pizza Chapel. Sta.Croce, Florence. Begun after 1442. p. 46

Fig. 42 Leon Battista Alberti. Palazzo Rucellai. Florence. c.1455-70. p. 46

Fig. 43 Fillippo Brunelleshi. Palazzo Petti. Florence. 1458. p. 47

Fig. 44 Lyon Battista Alberti. S. Andrea. Mantua. 1472. p. 47

Fig. 45 Baldassare Peruzzi. Villa Farnesina. Rome. 1511. p. 48

Fig. 46 Baldassare Peruzzi. Palazzo Massimo alle Colonne. Rome. 1532. p. 50

Fig. 47 Andrea Palladio. Villa Rotonda. Vicenza. 1566-70. p. 50

Fig. 48 Andrea Palladio. Villa Godi. Lonede. 1538-42. p. 51

Fig. 49 Carlo Maderno. Sta. Susanna. Rome. 1597-1603. p. 52

Fig. 50 Francesco Borromini. S. Carlo alle Quattro. Fontaue. 1665. p. 52

Fig. 51 Baldassare Longhena. Sta. Maria della Salute. Vanice. 1631-32. p. 53

Fig. 52 Johanna Ficher von Erlach. Karlskirche. Vienna. 1715. p. 53

Fig. 53 Inigo Jones. Doorway for Arundel House Strand. London. p. 54

Fig. 54 Inigo Jones. Gateway for New Hall Essex. 1623. p. 54

Fig. 55 Andrea Palladio. Villa Pojana. Vicenza. p. 56

Fig. 56 James Gibbs. Senate House. Cambridge. 1972. p. 57

Fig. 57 Roger Pratt. Coleshill. Berkshire. 1662. p. 57

Fig. 58 Nicholas Hawksmoor. Christ Church Spitalfields. 1723. p. 58

Fig. 59 Claude-Nicolus Ledoux. Barriere de Monceau. Paris. 1785-89. p. 59

Fig. 60 Karl Friedrick Schinkel. Schauspielhaus. Berlin. 1819-21. p. 60

Fig. 61 Karl Friedrick Schinkel. Altes Museum. Berlin. 1824-28. p. 60

Fig. 62 Louis Sullivan. Merchant National Bank. Grinnell, Iowa. 1913-15. p. 62

Fig. 63 Louis Sullivan. Guaranty Building. Buffalo, New York. 1894-95. p. 63

Fig. 64 Frank Lloyd Wright. Winslow House. River Forest, Illinois. 1893. p. 63

Fig. 65 Burnham and Root. Monadnock Building. Chicago. 1889-91. p. 64

Fig. 66 Holabird and Roche. Marquette Building. Chicago. 1893-94. p.64

Fig. 67 Hector Guimard. Gateway to the Castel Beranger. Paris. 1894. p. 66

Fig. 68 Antoni Gaudi. Casa Batllo. Barcellona. 1905-7. p. 67

Fig. 69 Charles Rennie Mackintosh. Glasgow School of Art. 1897-1909. p.68

Fig. 70 Mies van der Rohe. Seagram Building. 1954-58. p. 68

Fig. 71 Robert Venturi. Chestnut Hill House. Philadelphia. 1962. p. 70

Fig. 72 Arata Isozaki. Fujimi Country Club. Oita, Japan. 1973-74. p. 70

Fig. 73 City of Bevery Hills Civic. Bevery Hills, California. p. 71

Fig. 74 Michael Graves. Newark Museum. New Jersey. 1987. p. 72

Fig. 75 Entrance of private house.

-Peter Waldman. Private Residence. New Jersey. p. 73

-Charles E. King. An Underground House. Missouri. p. 73

-Batey & Mock. Tenen Residence. California. p. 74

Fig. 76 Entrance of apartment building. p. 75

Fig. 76a High rise building.

-Robert Venturi. Guild House. Philadelphia. 1960-63. p. 75

-Pensacola Place. Chicago, Illinois. p. 76

Fig. 76b Low rise building.

-Three-story apartment. Farm Lane. p. 77

-Windswept Kiawah Island. South Carolina. p. 78

Fig. 77 Entrance of housing complex.

-Social Housing. France. p. 79

-Moore Ruble Yudell. The Tegal Harbor Housing Complex. Berlin. p. 79

Fig. 78 Entrance of service center building.

-Allen & Philip Architects. All-care Medical Clinic. Phoenix, Arizona. p. 81

-Michael Graves. Youngstown Historical Center. Ohio. p. 81

Fig. 79 Entrance of detension center.

-Arkansas Valley Correctional Facility. Arkansas. p. 82

-Gallatin County Detension Center. Montana. p. 83

Fig. 80 Entrance of jail.

-Jail entrance tower. Terre Haute. p. 84

-Philadelphia Industrial Correctional Center. Pennsylvania. p. 84

Fig. 81 Entrance of school.

-Dartmouth College. Massachusetts. p. 85

Fig. 82 Entrance of office building. p. 86

Fig. 82a High rise office building.

-International Design center. New York. p. 86

-Champion International Headquarter. Connecticut. p. 86

Fig. 82b Low rise building.

-The Purdue Frederick Headquarter. Connecticut. p. 87

-Mount Pleasant Corporate Center. New York. p. 87

Fig. 83 Entrance of cafeteria.

-Cafe Pacifico. Connecticut. p. 88

Fig. 84 Entrance of retailer.

-Country San Francisco. California. p. 88

Fig. 85 Entrance of Museum.

-James Sterling. Neue Staatsgalerie. Stuttgart. 1977-83. p. 89

Fig. 86 Entrance of department store.

-Wal Mart. Texas. p. 89

Fig. 87 General shapes of entrance. p. 90

Fig. 88 Dr. Koji Yagi. Shigeo Fukudu House. Japan. p. 91

Fig. 89 Salisbury School. Maryland. p. 92

Fig. 90 Walter Gropius. Fagus Factory. 1911-13. p. 92

Fig. 91 Entrance with vestibule. p. 94

Fig. 92 Santa Maria della Consolazione. Topi. p. 95

Fig. 93 Gammage Residence. Phoenix, Arizona. p. 96

Fig. 94 Houses in different areas. p. 98

Fig. 95 Entrance with canopy. p. 99

Fig. 96 Entrance of suburban Thai house. p. 99

Fig. 97 Entrances for different purposes. p. 101

Fig. 98 Doorway motif. p. 103

Fig. 99 Door encasing motif. p. 104

Fig. 100 Shelter motif. p. 106

Fig. 101 Added porch roof

-Talfair House. Washington D.C. 1818. p. 107

Fig. 102 Shed porch roof.

-A house in Texas. p. 107

Fig. 103 Two-story porch roof.

-Palazzo Chierkati. Vicenza. 1550. p. 108

Fig. 104 Cut-out porch roof.

-Johnson Burgee. Art Museum of South Texas. 1972. p. 108

Fig. 105 Dog-run porch roof.

-Michael Graves. Clos Pegase Winery. California. p. 109

Fig.106 Entry on ground level.

-Santa Cruz Pretrial Detention Facility. California. p. 112

Fig. 107 Entry on upper ground level.

-Giuliano da Sangallo. Villa Medici at Poggia a Caiano. Near Florence. c.1485. p. 112

-Metropolitan Museum. New York. p. 113

Fig. 108 Entry on lower ground level.

-The Gallery at Market East. Pennsylvania. p. 114

-Huge Stubbins Associates. Citicorp Center. 1974-77. p. 114

Fig. 109 Entry between interior spaces.
-Fillippo Brunellishi. S. Lorenzo. Florence. 1421-28 p. 115
-Entrance in private residence. p. 115
-Entrance in museum. p. 116
Fig. 110 Luna Park. p. 119
Fig. 111 La Puente. California. 1964. p. 119
Fig. 112 Entrance of an armory building. p. 122
Fig. 113 Pinnacle Peak Electric Switching Station. p. 122
Fig. 114 Door swinging feature. p. 124
Fig. 115 Door hinge feature. p. 124
Fig. 116 Gate with drawbridge. p. 125
Fig. 117 Portcullis. p. 126
Fig. 118 Frame motif.
-Giulio Romano. Pallazzo del te. Mantua. 1527-34. p. 128
Fig. 119 Split motif.
-Leon Cathedral. End of 12th century. p. 129
Fig. 120 Niche motif.
-Leon Battista Alberti. S. Francesco. Rimini. c.1450. p. 130
Fig. 121 Shelter motif.
-Gianlorenzo Bernini. S. Andrea al Quirinale. 1658-70. p. 132
Fig. 122 Directional wall motif.
-Entrance of private house. p. 133
Fig. 123 Side tower motif. p. 133
-St.-Denis. 12th century. p. 133
Fig. 124 The experiment of people's remembrance. p. 137
Fig. 125 Nirvana House. Fujigawa. Japan. p. 139
Fig. 126 National characters of waistcoats and trefoids. p. 144

CHAPTER I

INTRODUCTION

PROBLEM STATEMENT

The process of creating architectural space is synonymous to defining or enclosing built environments. The result is at the interface between natural and man-made worlds and defines the basis of human arrival and departure. Central to a created space is the physical feature of an entrance. An entrance is a focal point and an object of immediate importance and intense scrutiny. It plays an critical role in the space and building of which it is apart and can have an impact on the architectural composition of which it is simultaneously a functional, emotional, and aesthetic part. It is meaningful, yet we often see and seldom notice it. Entrances are an essential component of designs.

Well-designed entrances can invite and orient visitors, restrict intruders, prevent accidents, save energy, enhance delight, represent owner's value, offer a viewpoint, and present an artistic taste. A bad entrance can destroy many other aspects of the building. In designing an entrance there are many things of which designers have to be aware. Three are:

1. Appearance

Many types of appearance occur in entrances. When only a utilitarian function is considered, a mundane appearance is created. As Christopher Alexander says in his book, Timeless way of building:

> *"Every barn must have a double door, so that the farmer can drive his hay-wagon right to the barn for unloading..."* (Alexander, 1979, p. 176.)

The farmer is primarily concerned with the function of the entrance. The farmer plans his design according to the design of previous and, nearby barns. The same often happens to designers. The character of an entrance might merely be a

transfer point between the inside and outside. Careless design creates repetition of the same entrance appearance on many buildings.

Major problem of entrance design is how to integrate an entry to the whole. Ignoring a building's structural or aesthetic integrity can create a banal entrance which ignors its human uses. Appearance of entry is important and affects the design of the whole.

2. The Balance Provided by Scale

Entrances define people's impression of and orientation to buildings. The design of an entrance requires organization of apparently conflicting interests including those of its aesthetic, security, cost, maintenance, and accessibility. In terms of aesthetics scale of an entry presents an area of possible conflict. This can be to the good or bad of the general design. Human usage evaluates the size and arrangement requirements of doors, but a person faraway from and perhaps unfamiliar with a building must be able to identify its entrance. Many criteria such as relative scale of people, number of people using the entrance, and the scale of the building are all important scale considerations of an entrance. The relationships of scale to a building can make an entrance more or less important and visible. A badly selected scale of an entrance affects the quality of the entire building and also the quantity of its use.

3. Accessibility

The first impression people have of a building occurs when they enter it. If an entrance is not immediately visible it may detract from the usefulness and impression of the building. Many kinds of functions and materials announce the accessibility of the buildings, such as, plaza, stair, bridge, or even sculpture. Plazas and stair are gathering places of people before they enter the building and can also function for people passing by. An inside waiting area located near and within view of the entrance can function as a connecting space between the entrance and

elevator while acting simultaneously as a waiting area for people entering or exiting the building. The relative importance of these elements may vary with different building types. Good design of the entry sequence is crucial to the overall solution and helps increase accessibility.

All these aspects of entry design depend for efficiency on designers who are aware of both aesthetic and functional considerations. The question is how they can be applied and interpreted through the design. Buildings and their elements convey meanings, both aesthetical and functional, which user can comprehend. Many problems occur when users do not realize and attribute the same meaning to the building elements as the architect does. This misunderstanding also occurs in entrance designs. It is very hard to design an entrance which satisfies all conditions. The important thing is how the meaning of the entrance itself can be expressed and easily understood by user groups.

The specific problems addressed by this study are:

1. What factors are a constraint of people's understanding to the generic entrance design ?

2. How can the problem of comprehension of the various meanings in entry design be addressed ?

SIGNIFICANCE OF THE STUDY

An entrance is more than an opening by which one can enter or exit. It is the first impression people have of a building when they pass through. The effect of entries on the outside facade initiates thoughts and feeing in those who use and pass by the building. Entrances also help define people's impression of and orientation to the building. Thus, good entrances can help the visitor knows where they are and can be an outstanding characteristic for the facade, inviting entry. For these reasons it plays a most important role in the creation of a building.

The theme of this research is the study of relationships between entries of buildings and user groups as a means to understand the variety of ways that different entries affect people. This will assist architects in realizing how users comprehend their designs. It will also make accessible the many ideas and meanings of entrance design, helping to create by way of entrance a more comprehensive structure. Architects can benefit by using this knowledge to improve the design of buildings and of individual elements. Moreover, this research will provide the general user with knowledge and a better understanding of the meaning that architects try to achieve in their work. In this way architectural design can be enhanced from the viewpoint of both architect and user.

OBJECTIVE

The objectives of this study are:

1. To identify and describe the possible characteristics of entries.

2. To investigate the relationship between those entrances and their users and the effect the entrances have on the general user.

3. To identify and recommend strategies and possibilities for an entrance solutions.

PROCEDURE

1. Human behavior and psychology as it relates to architecture will be considered. This provides a means to evaluates users' understanding of meaning in architecture.

2. The method will be through analysis and comparisons of information of different kinds of entries to find factors and concerns of those entrances. Various criteria will be considered such as culture, weather, and user type. The goal is to

provide evidence of entry possibilities. Various examples will be used to demonstrate the psychological effects of different entrances on users.

3. Concepts for entrance design buildings will be addressed, as well as the way in which design can be improved by applying a knowledge of psychology and human behavior. Pictures and illustrations will be used to show and explain the research.

CHAPTER II

ENTRIES IN ARCHITECTURE

HISTORY OF THE ROLE OF ENTRY IN ARCHITECTURE

Nothing is as certain as change. Although it seems a contradiction, it is nonetheless true that the world adheres to and thrives on change through time. Buildings and their elements express the traditions of societies, of a given time period, and how that tradition changes just as cultures are influenced by the architecture of their period. Architecture thus becomes a gesture of a whole society, as was mentioned by Abramovitz in her book, People and Space:

> *"The buildings of the past, just as the buildings of today, varied in their purity, competence, and impressiveness of design. But because they strove to meet the particular needs and ideals of their time, they reveal trends in civilization and characteristics that show differences in culture."* (Abramovitz, 1979, pp.26-27.)

Certainly it is the duty of designers to study history and the role of entrance in different regions and different periods of time. The study of the many aspects of entrances in different cultures improves the strategies of the designer.

1. In Asia

The architecture of the Eastern world is known for its special significance; a world in which art and religion are intertwined in a complicated system of symbolic implication.

1.1 India

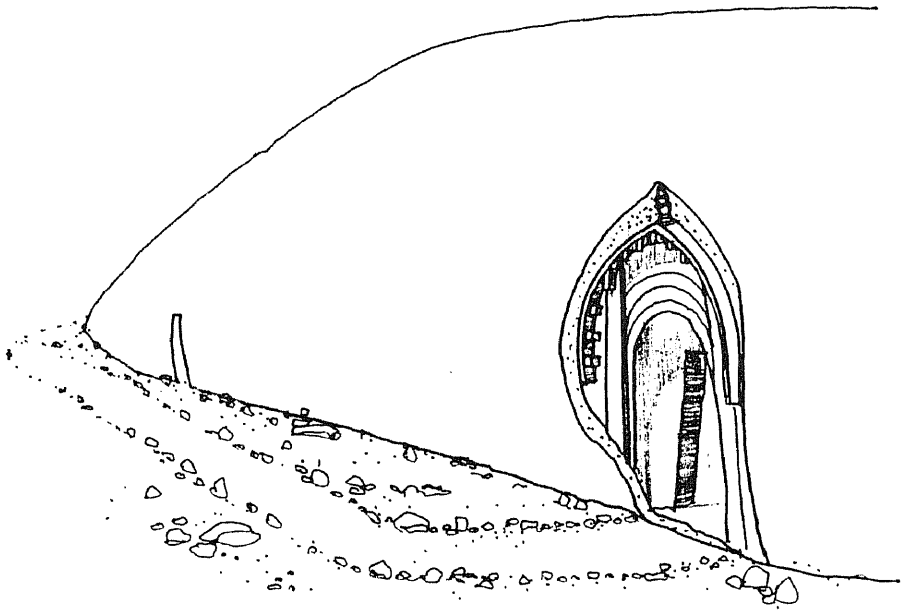
In ancient times, about the third millennium B.C., India was already deeply intent on urban planning. From the onset there was a great splendor of civilization with metropolises laid out on a grid plan (the sign of precise and rigorously maintained planning) and there was every indication of a division into neighborhoods in accordance with the productive specialization of the inhabitants,

along with a seemingly modern interpretation of the distance between home and work place (Bussagli, 1973, p. 21).

The concept of the city was defined by a planned functionalism and collective utilitarianism. Houses usually had only one story, although some had two, but all of them utilized central courtyards which doors and windows opened onto. Interestingly, the entrances would face the least important street. As a result, uninterrupted walls were lined along the primary street creating private, hidden entrances, and the city itself was an architectural work.

With respect to the sacred monuments of Indian architecture, meaning was derived in a way quite different from that of the Western world. The fundamental theme of Indian architecture was a basic grid pattern combined with symbolic geometrical figures. The facades, as already mentioned, were pure walls along the main street and the sides and rear of the building were defined only by the entrance to the interior. The *kudu* (horseshoe arch) often served as a frame for the entrance (Fig. 1). Sometimes rectangular doors were applied, but they were usually shown within the arches (Fig. 2). It became one of the most prevalent motifs in Indian architecture.

Sacred buildings were of several types; *stambas* (isolated pillars), *chaityas* (sanctuaries), and *Viharas* (monasteries), as well as the stupa which was a massive construction having very different forms and sizes. A number of famous stupas were built in the second or first century B.C. In order to protect and orient the stupa, it was surrounded by a *vedeka* (fence) with open *toranas* (gates) at the four main directions north, south, east, and west. The stupa at Sanci was originally surrounded by a railing with four gateways built of wood, but the railing was later replaced by a similar structure in stone. Each gate consisted of two square vertical posts with built-in horizontal bars, providing a suitable ground for religious imagery (Fig. 3).



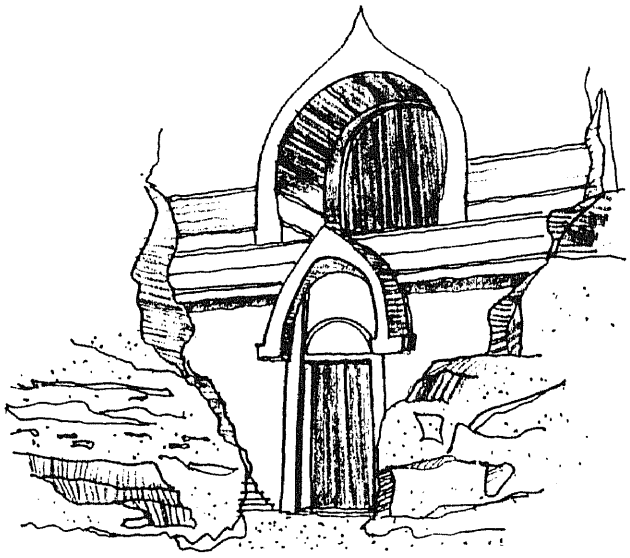


Fig. 1 Barabar, Chitaya of Lomar Rishi. 246-226 B.C.

Fig. 2 Nasik, Sangharama, Chitaya NO. 18.

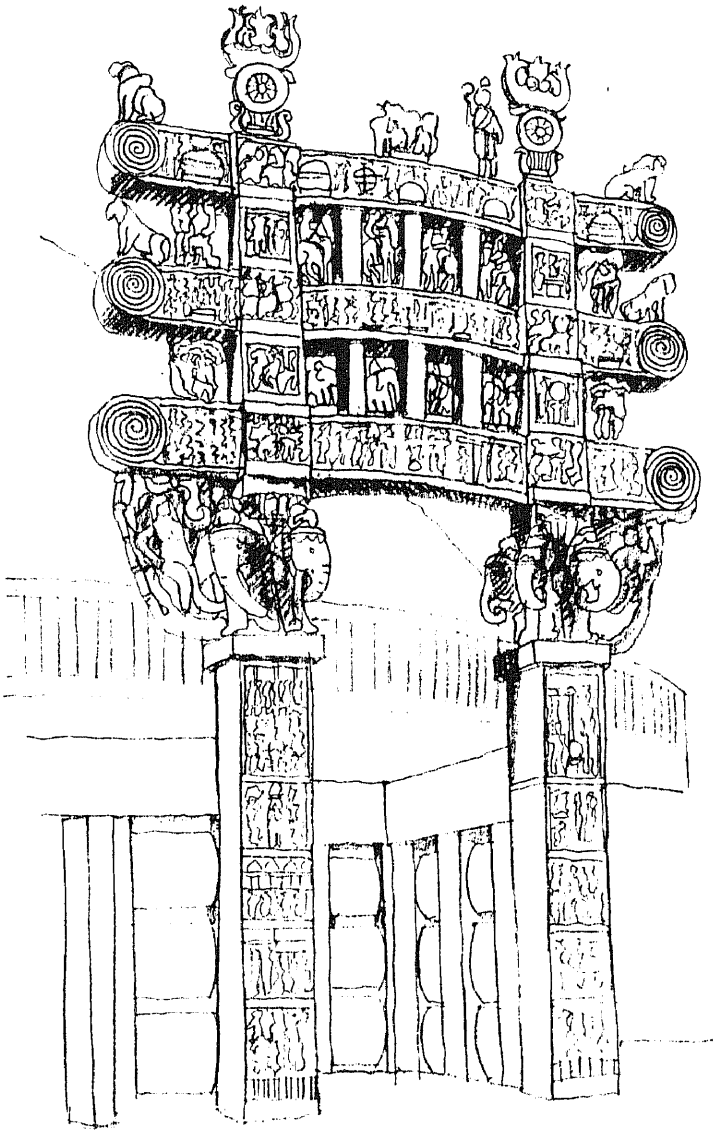


Fig. 3 The great stupa. Sanci. 3rd-1st Century.

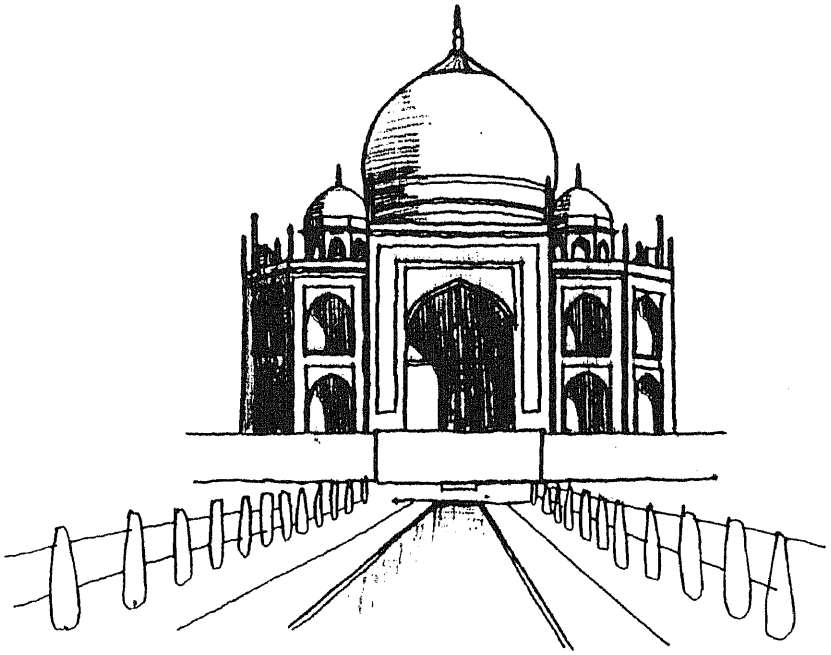


Fig. 4 Taj Mahal. Agra. 1632-1647.

The elements of the gate were prominently carved in the form of female figures or animals, usually lions and elephants. This engendered a new development which eventually led to a focus on imagistic over expressive function and a sense of movement replaced the more static and pure forms of earlier carvings.

During the 11th to 14th centuries the Muslim conquerors occupied Northern India and Islamic architecture developed in that area. A great number of mosques of the purely Islamic tradition, tombs constructed in cubic and octagonal shapes, and palaces decorated with ceramic tiles inspired by Persian architecture, were produced at this time. Later in the 15th and the 16th centuries the various regional styles developed from origins in those buildings.

Doorways gradually developed from the original horseshoe arch frame to a pointed arch. In sacred buildings, the pointed arch framed every doorway and, sometimes, even decorated a false door. The largest archway was always in the center and served performed the important function of the building's main entrance (Fig. 4).

1.2 Chinese

Chinese architecture is conceived in the art of construction and ordered space, developed over a long period of time. Because of their understanding of the universe, spaces were conceived with a dynamic quality. The design of the building and the planning of the town undoubtedly reflected the image of the cosmos.

During the 16th to the 11th century B.C. the indication of an equal division of space first appeared. It was expressed in the symmetrical construction of the ancestral temple and of the shrine to the god of soil which stood on either side of the southern axis of the town. As a result the middle of the building's southern facade was always set at the main entrance to the town.

In many important structures such as palaces and temples, the planning was similar. The main gateway was always located at the southern side as, for example,

in The Forbidden city in Peking, built in 1406, and oriented along the southern axis. The Imperial Way began through the city's southern gate which is marked by two white marble pillars known as the *Heavenly Gate*. Within the palace there was another gate called *Gate of the Supreme* which protected the imperial courtyard inside. The Forbidden City has been renovated several time since then (Fig. 5).

The concept of the universe was demonstrated in the capital of the Zhou dynasty (1122-221 B.C.) which was built and based on an initial square outline and centralized axial plan. The Zhou ceremonials were considered to be part of the design. It established a relationship between architectural form, function, and the use of space which are described in the book, Non European Architecture, by John J. Norwish.

> *"The cosmic symbolism of the city is characterized by 12 gates, placed at regular intervals along the four walls and representing the 12 phases of the moon in the cycle of the zodiac. The architectural symbolism embodies the bond between the universe and humanity, expressing the relationship between time and space: the east is associated with spring, the south with summer, the west with autumn, and the north with winter.."* (Norwich., 1984, p. 19.)

There was no break with the traditional concepts of the cosmos and the universe. Chinese architecture symbolized these concepts through the application of the entrance gates of the city.

Other examples of Chinese architecture which will be mentioned are house and garden design. Entrances also play an important role in these instances, as shown in the following detail:

> *"According to ancient cronicles, there were two categories of early Chinese habitations: pole-and-branch huts and domed houses similar to clays ovens, dug deep into the earth..."*
> (Norwich, 1984, p. 24.)

Pole-and-branch huts were constructed with an opening in the roof, and lived in during the warm season. Domed houses, on contrary, protected people during the severe winters. The round or square house had an entrance porch in the front which introduced an intermediary stage in the progression of the house. In some

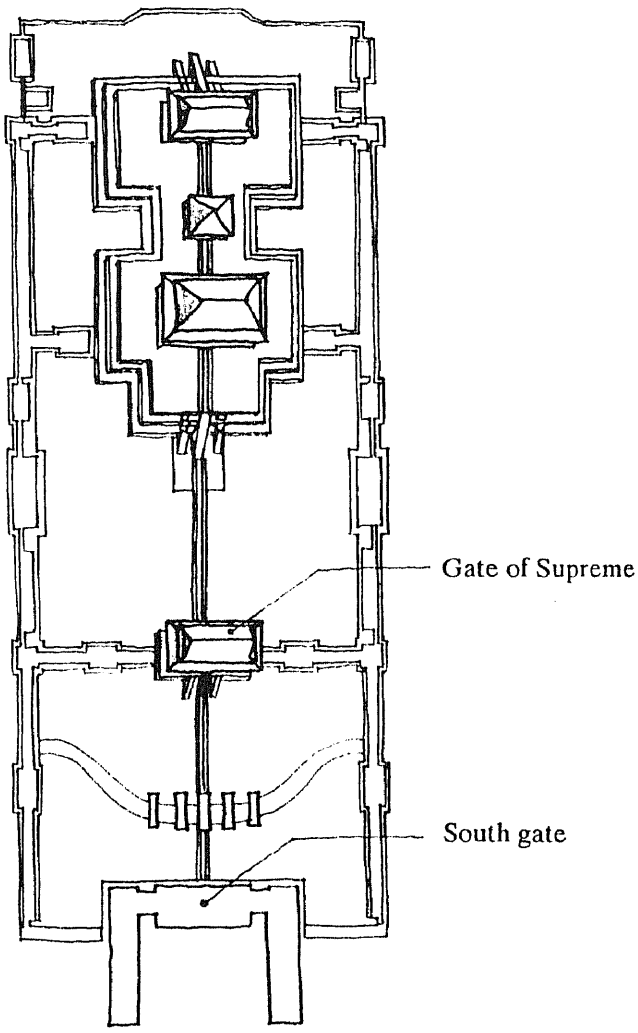


Fig. 5 Plan of Forbidden City.

villages these entrances faced the village's center, oriented toward either a temple or a sacred granary.

Entering a Chinese garden affects people in an abstract sense. The general geometrical form and rectangular door give the sense of a gateway to another world and separates the city noise outside from the surrounding world. Nothing on the inside can be seen from the outside. The entrance with an alleyway prepares visitors for the encounter with various unknown effects ahead. The visitors progress through the entrance to the garden inside. A sharp turn is performed after entering. It is the Chinese belief that the organization of the functions inside and the entryway will keep demons out since according to Chinese understanding demons cannot negotiate a sharp turn (Fig. 6).

The general design for a Chinese garden encourages a vision of organization. The long wall might be painted in a soft and cloudy gray and half-concealed behind trees. Sometimes there is a round doorway known as a *"moon gate"* on the wall, indicating an additional courtyard beyond. In Chinese tradition, the round door is a symbol of heaven. The moon gate provides the best location for a view. It focuses the eyes toward what is revealed behind the wall. The visitors have to step into the gate over the curved bottom of the circle and walk straight through the center one by one (Fig. 7). The act of entry, thus, gives personal emphasis. Besides the circular entry, there are many unusual doorway shapes including doorways shaped as flowers, shells, and vases (Fig. 8-13).

The characteristics of traditional Chinese architecture, especially of cities and sacred buildings, were usually based on the Chinese concept of space and of the universe. Although present day architects have planned larger and more complicated projects, these traditional theories were not likely modern theories of building design and city planning. Chinese concepts of design were widespread to Korea, Japan, and other nearby countries.

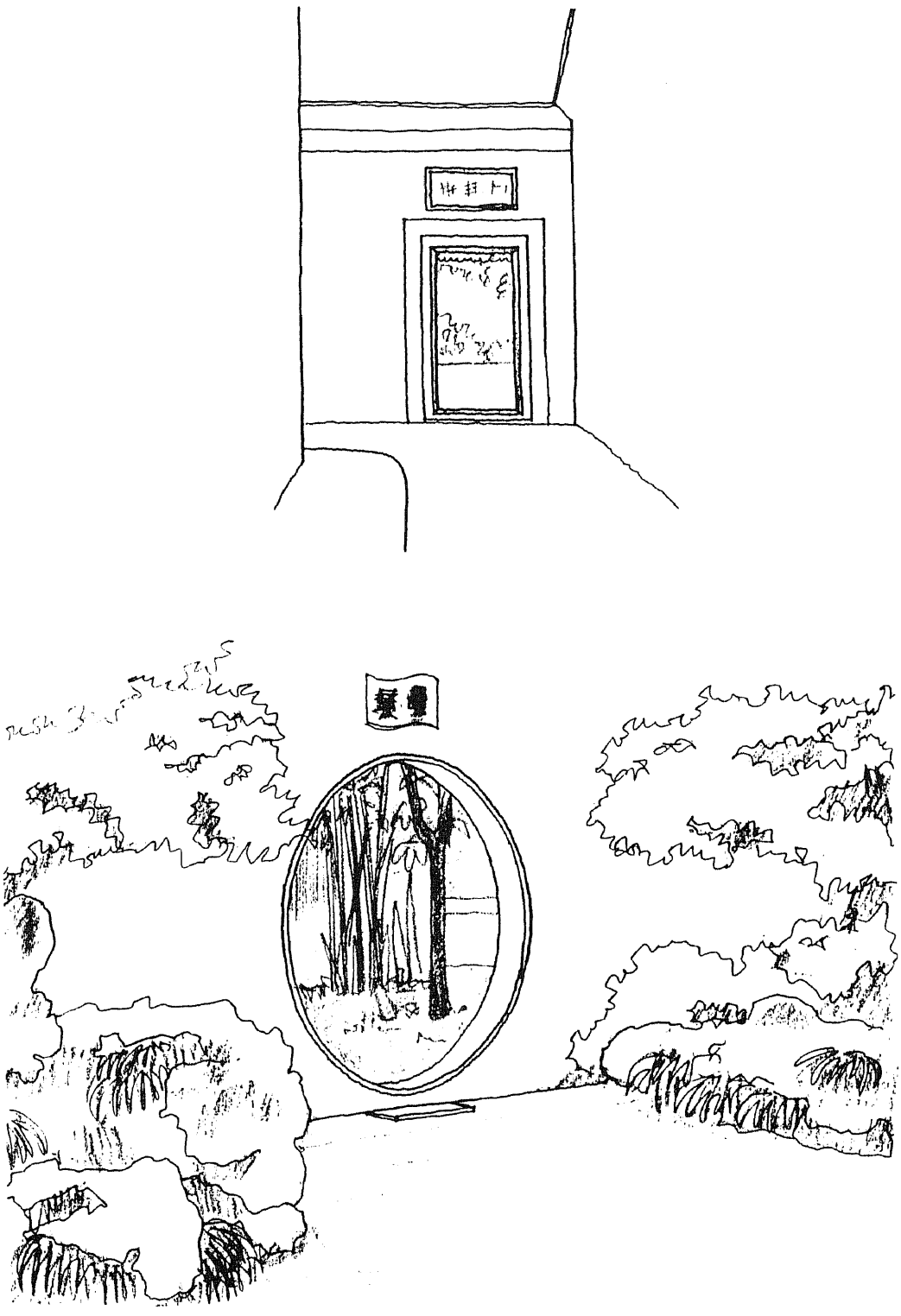
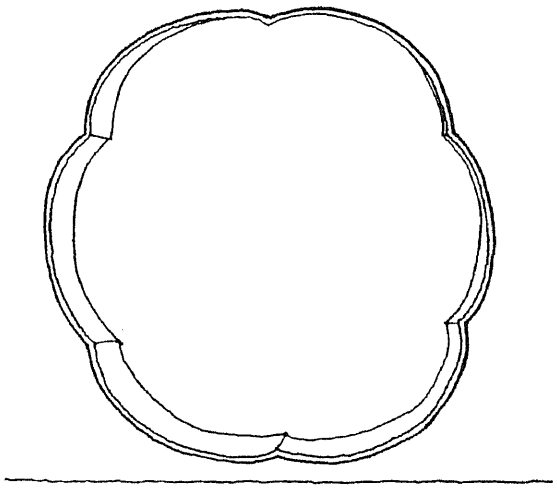


Fig. 6 Entrance of Chinese garden.

Fig. 7 Moon Gate.



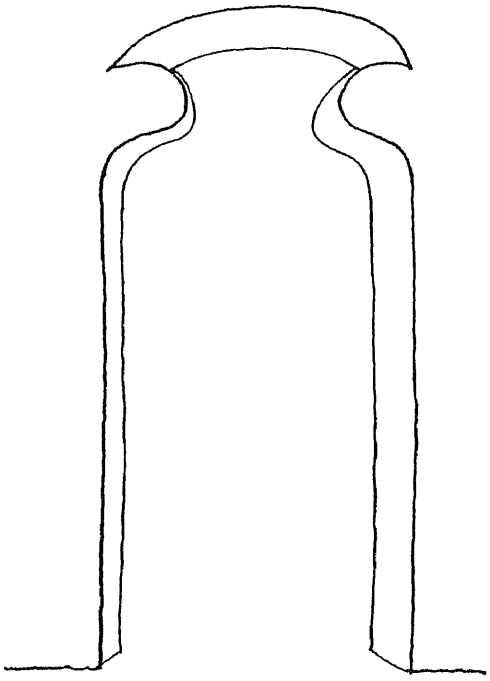
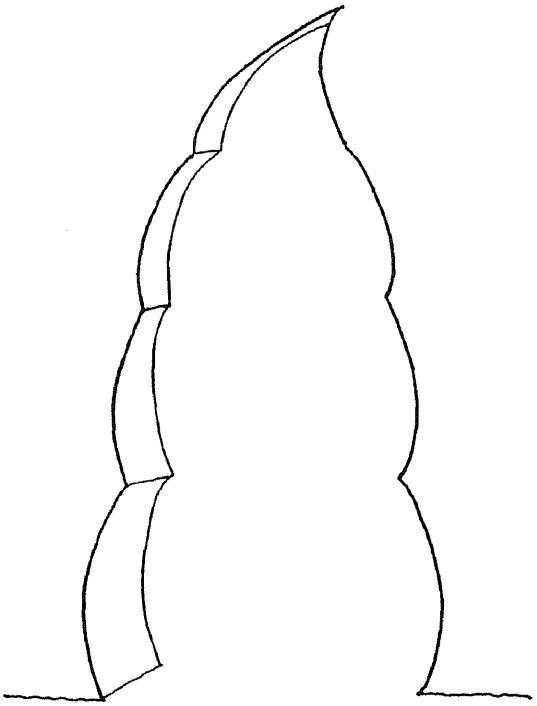


Fig. 8 Petal shaped door.

Fig. 9 Doorway in the gallery of Yu Yuan. Shanghai.



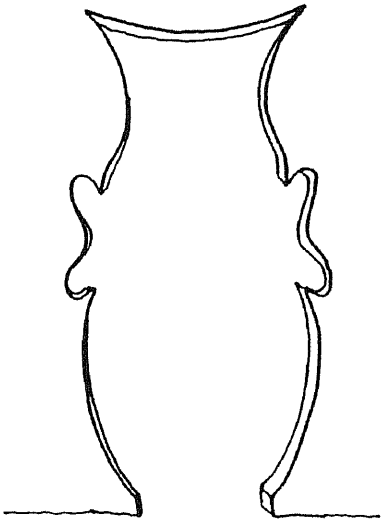
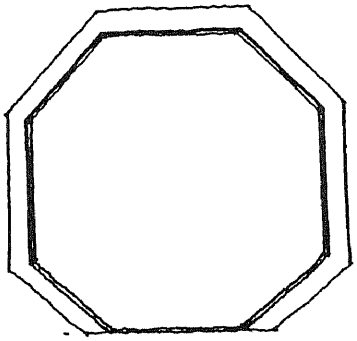


Fig. 10 Leaf door in Nei Yuan. Shanghai.

Fig. 11 Vase shaped door.



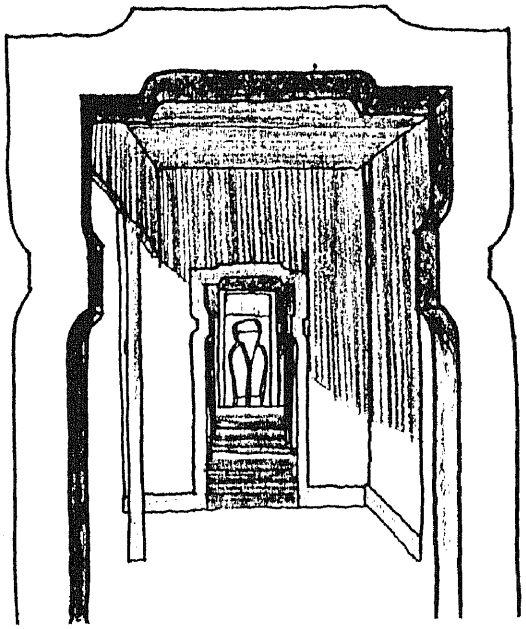


Fig. 12 Octagonal shaped Moon Gate.

Fig. 13 Doorway in the garden. Nanking.

1.3 Japan

In ancient Japanese architecture, the entryway played a very important role in designating sacred places, especially the gates. In general, a gate is an opening in a wall or a fence. It refers primarily to a passageway or the representation of an entrance to a place. But the gate in ancient Japan had more meaning than that; it was used by the emperor and priests as a sacred place to perform religious ceremonies.

Kairo is a Japanese word which refers to the fence of an ancient period. The gate in the kairo was not only an entrance, but also a place that separated the inside and outside space and clarified the different qualities of them. A gate built in the kairo was called an inner gate. The kairo was a long narrow structure enclosing and protecting an area, and the gate was usually set in the south side. The kairo defined an independent space for the construction of a pagoda, a palace, a temple, or a shrine and lent a feeling of elegance to these important buildings.

In the early temple arrangement the inner gate was usually built at the middle of the kairo's south wing; and a lecture hall would usually be located at the north wing. Within the kairo there was a pagoda and main hall(s). The open space between these buildings and the gate was not enough for crowds of people to congregate, as a result, the inner gate was the designated place for worship. For example, an inner gate of the Asukadera type was three bays by three bays and in front of it was the pagoda surrounded by three main halls (Fig. 14). The emperor sat at the gate and faced those buildings. The spacious area, however, was used only for the purpose of ceremonies of worship. This large, special design of the inner gate was still common in later times and today it is known as a *worship hall* (raido) because of its function.

The shrine is an important sacred building which was enclosed by the *Kairo* (fences). Ise shrine, for example, was surrounded by a number of fences and these

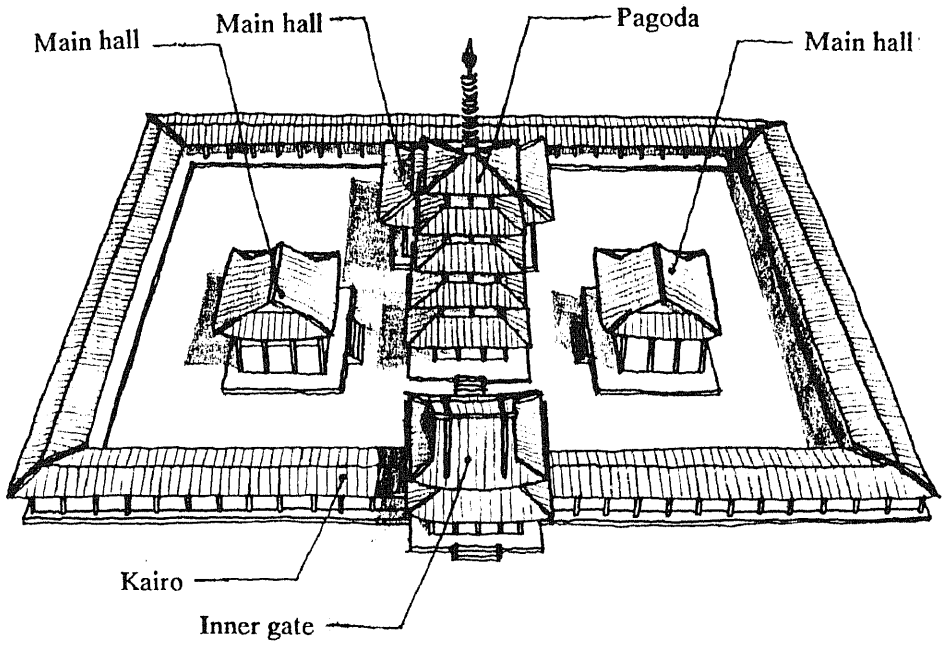


Fig. 14 Asukadera type temple. Japan.

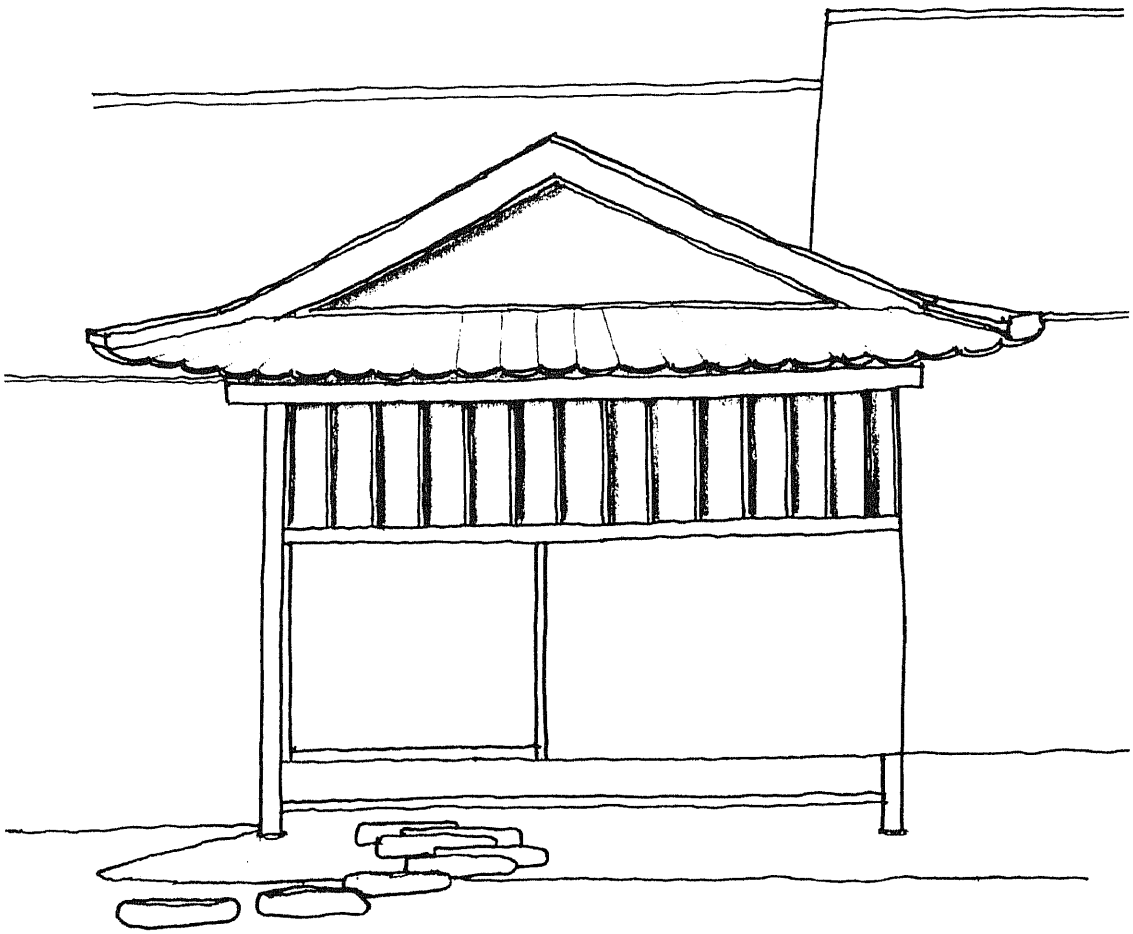


Fig. 15 The entrance of tea room.

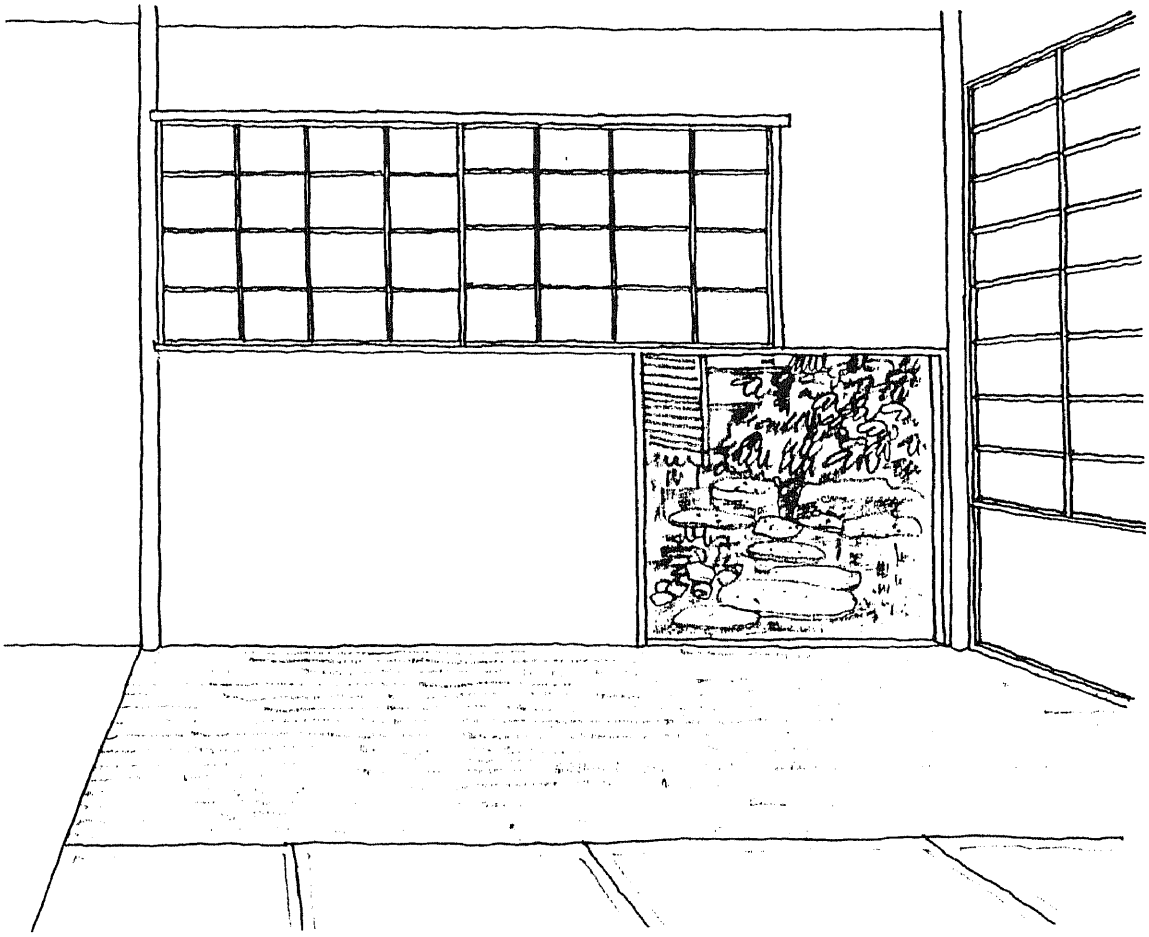


Fig. 16 The inside of tea room.

had gates which had specific names. They were also used as places of worship like the gate of the temple.

Gates in both the temple and the shrine functioned as formal places of worship for the emperor. This function eventually disappeared in the case of the temples, but still continued in the shrines long after ancient times.

In Japanese houses, entrance functions according to the Japanese tradition of entry. The ceremony of entry includes formal recognition such as respect shown by bowing their heads. Although the entrance to tea-houses is usually no more than a square meter, it is placed above the ground about 60 cm. (Fig. 15). As a result, one entering the house must be on his knees and bend his head at the same time. This action deliberately puts the visitor in the state of humility and is the expressive intent of the low door. Japanese people regularly sit on the floor and at the height of the low door they are able to see the scenery of the garden outside, enjoying the activity in the house as well (Fig. 16).

Clearly, entrances are a very important element, especially in the case of the Japanese culture and tradition. In the modern world space is limited and modern Japanese houses no longer employ this special character of entrance. However, it still can be seen in conservative areas or old cities in Japan.

2. In the Middle East and Europe

2.1 The Ancient World

2.1.1 The Stone Age period

The most impressive thing accomplished in early civilization was the rapid development of architecture. The earliest dwellings appearing in Western and Southern Europe were known as Stone Age dwellings. They were caves and rock shelters and fragile tentlike assemblies of thatched reeds supported with poles. There was only one enclosed multi-use space with one entry (Fig.17). With improved skills, in the New Stone Age period, village communities were developed

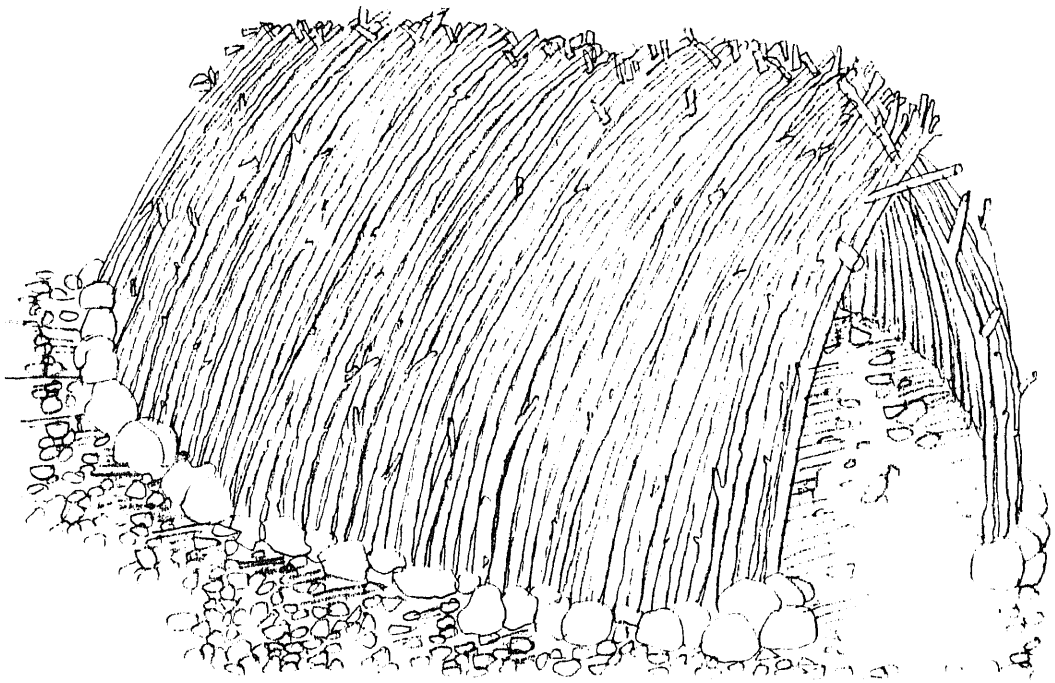


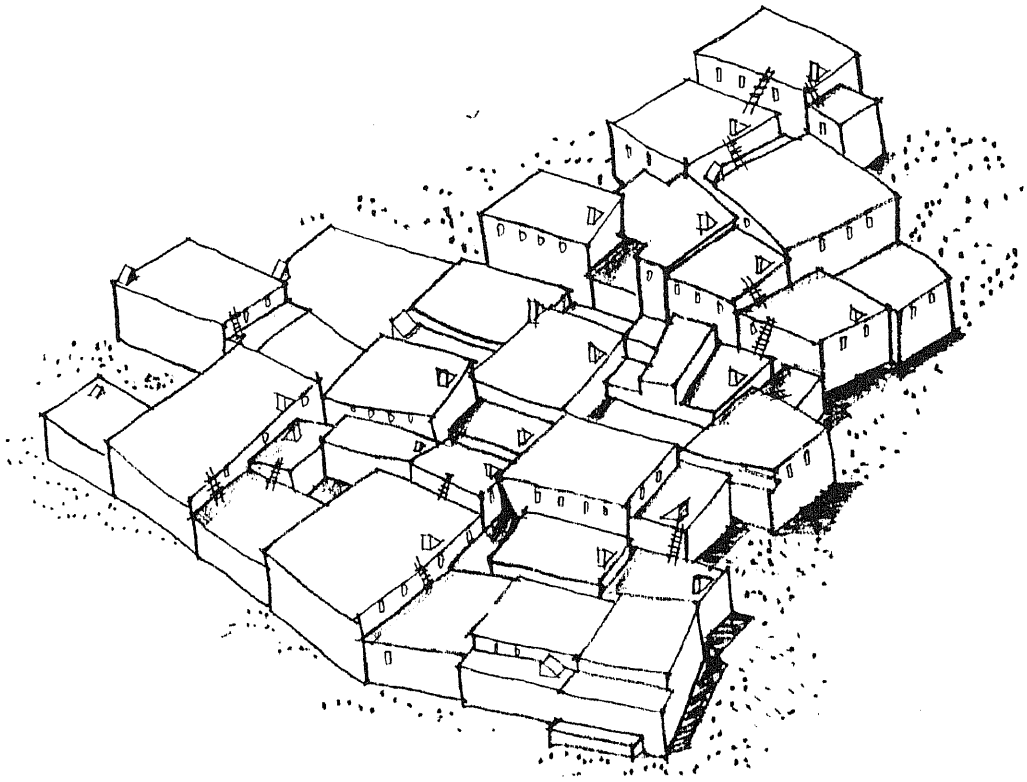
Fig. 17 Oval hut with thatched reeds and poles. Nice.

with complex structures which began to suggest the complexities of civilization. Catal Huyyuk was a highly organized city near the Turkish city of Konya which houses made of shaped mud-brick (Fig. 18). An unusual feature of these dwellings was that occupants entered the house through *a hole in the roof*, operating as the *doorway*. Movement from house to house took place only through the roofs. The doorway also functioned as the chimney. Thus, these houses appeared to be solid blank walls to outsiders who approached. The entryway served to define the living space of these communities from intruders.

Entrances became more developed among communities of the New Stone age people because post and lintel structure systems came into use, still one on the most important concepts in structural systems. The entranceway was generally elongated serving as the sanctuary area inside. Hal Tarxien in Malta, the place for burial and shelter for the dead, was built with gigantic stone blocks forming the post and lintel as the entrance (Fig. 19). From the front, the post and lintel entry created a grandly scaled and strong structure and the feeling of a safe place for the dead.

2.1.2 Egypt

The notion about shelters for the dead was common until the Egyptian period. Egyptian architecture took a new turn, emphasizing the intention to present an eternal order in a symbolic form (Fig. 20). *"Home of eternity"* referred to tombs and mortuary temples, the primary buildings of ancient civilizations (Fig. 21). The general meanings of elemental forms were conceived as natural meanings which made temples and tombs a direct representation of the nature. In the Egyptian cosmos, entrances played an important role as the representation of threshold. The temple was oriented toward the east, as was its gateway. The pylon, referred to as the entrance of the temple, was created in a monumental form which consisted of two massive towers and inclining walls united by tall doors (Fig. 22, 23). The rising



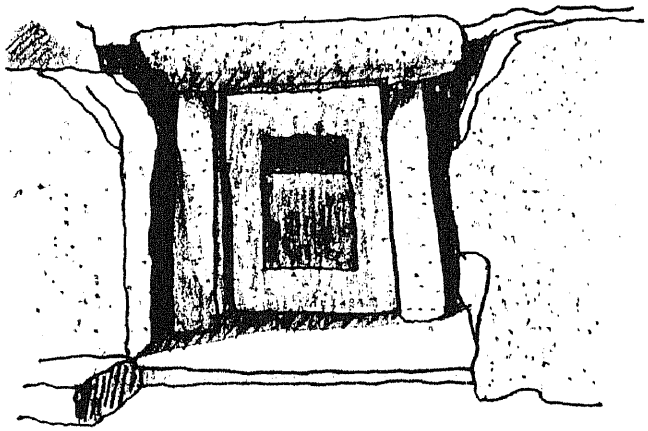


Fig. 18 Houses of Catal Huyyuk. Anatolia. c.6000 B.C.

Fig. 19 Bronze Age temple, Hal Tarxian. Malta.

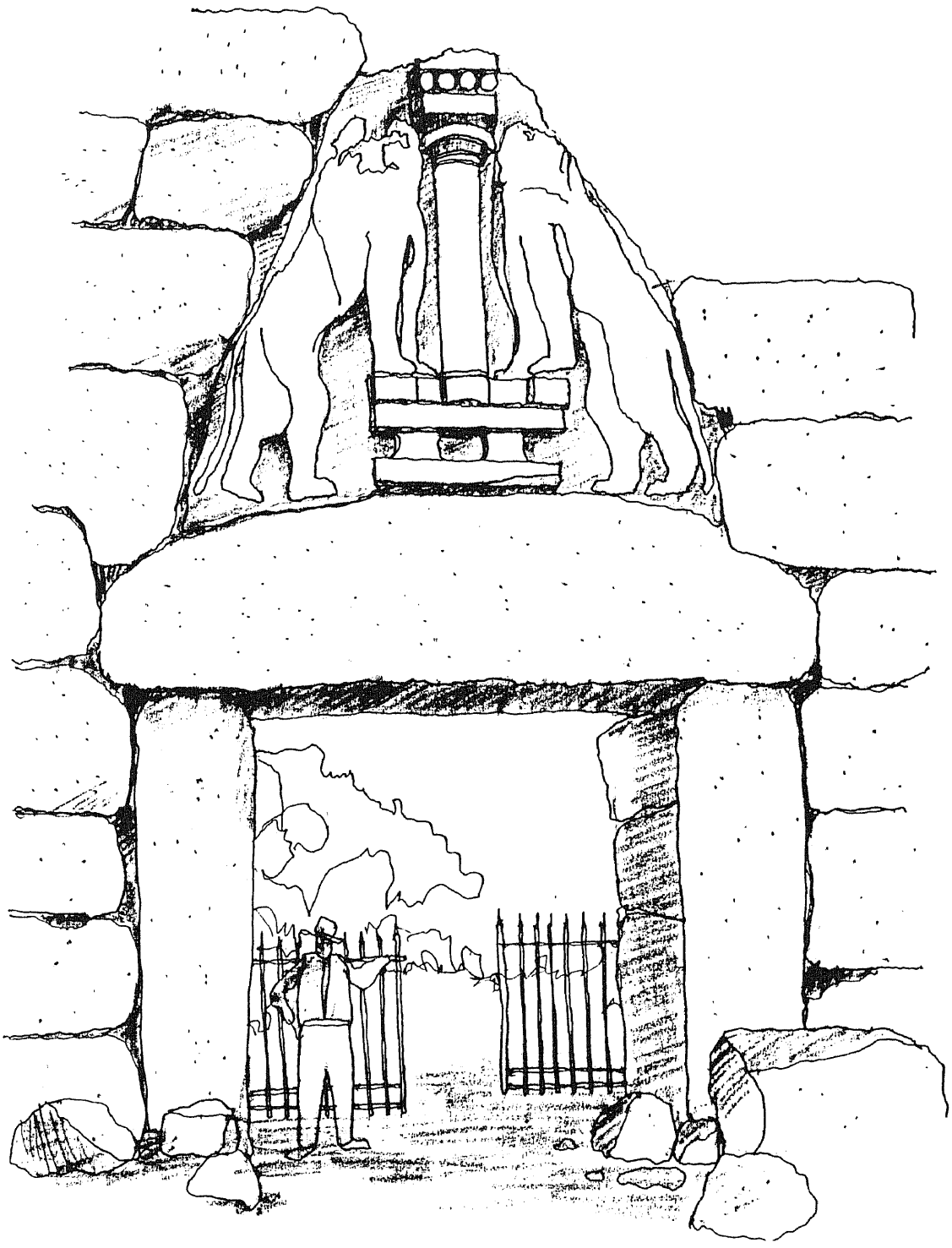


Fig. 20 Lion Gate. Mycenae. c.1250 B.C.

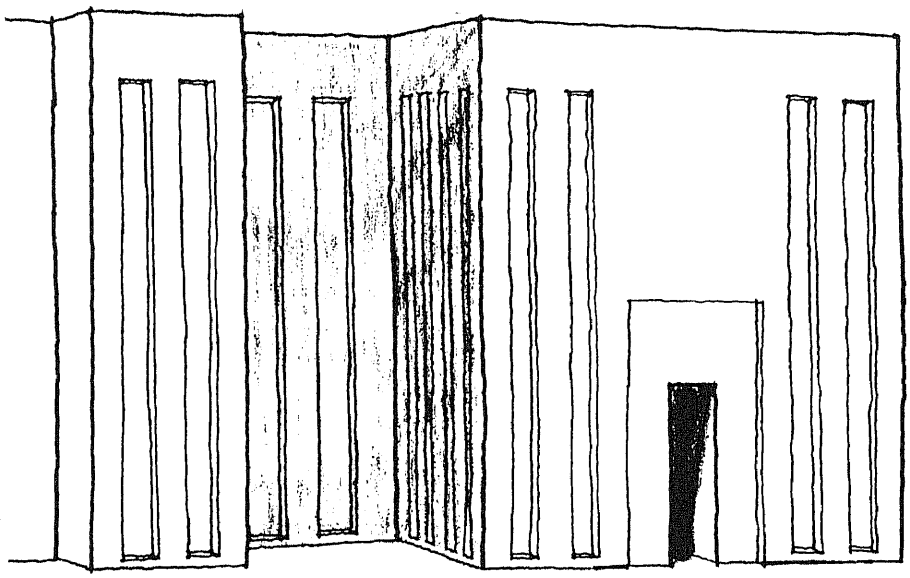
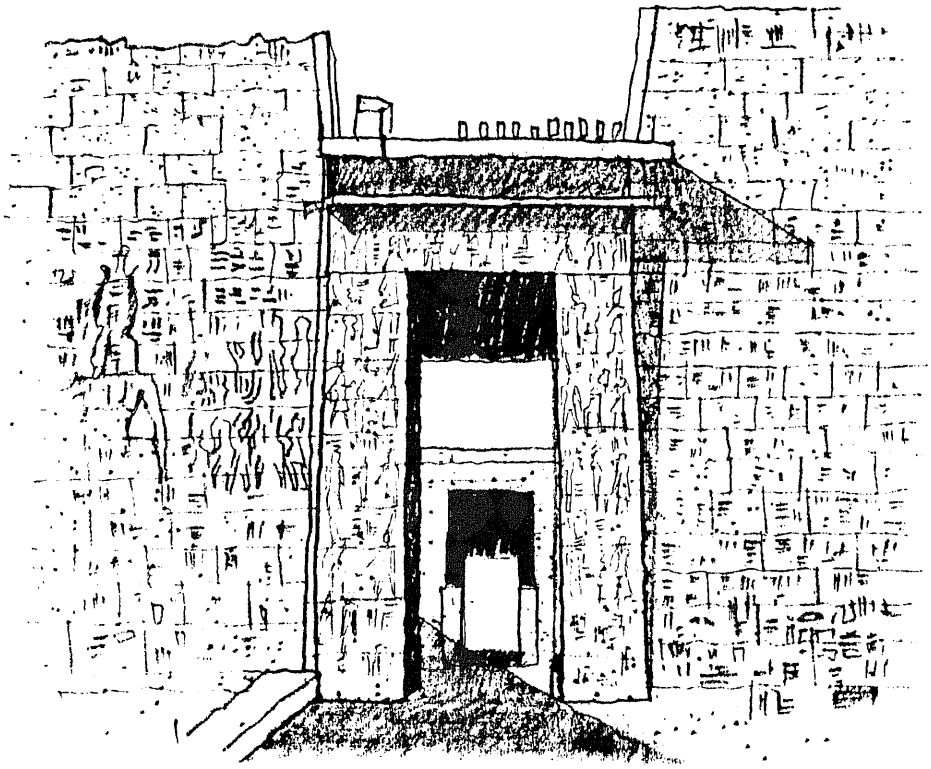


Fig. 21 Complex of King Zoser. Saggara. c.2750 B.C.



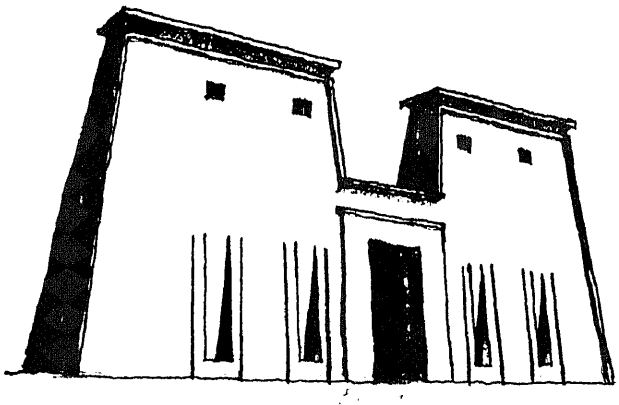


Fig. 22 Mortuary complex of Rames III. Madinet Habu.

Fig. 23 Pylon. Temole of Khons.

sun, therefore, was seen from inside between the two halves of the pylon. The principal meaning of the gateway was the "*gate of heaven*," represented by sun.

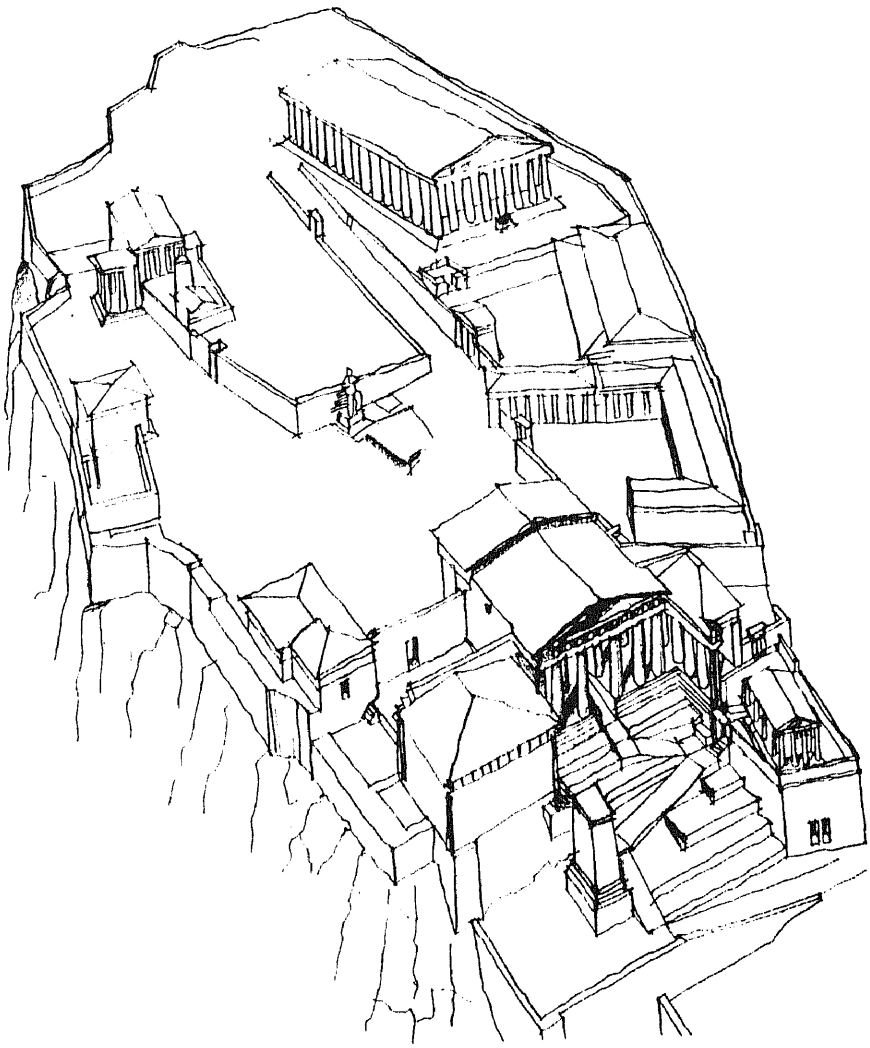
2.1.3 Greek

The character of the gateway was further developed in the period of Greek architecture. Organization within the complex was treated according to various angles based on the natural geography of the site. The gateway was traditionally constructed as a small gabled temple which created a space for the arrival of a visitor (Fig. 24). Then this kind of gateway was adapted for use in Greek domestic dwellings (Fig. 25).

The Greek culture revolved around outdoor space where daily activities and entertainment took place. Thus, the colonnade and portico were the first structures to be created. The function of these outdoor spaces was to serve as a promenade and meeting place for public discussion and conversation which occurred around the building or, sometimes, in front of the building entrance. They also made efficient shelters from the hot sun and sudden rain showers (Fig. 26, 27). The predominant Greek facade with its porticoes and colonnades is common in the United States today. The most obvious examples are the buildings built in the 1800s (Fig. 28) (Abramovitz, 1979, p. 50).

2.1.4 Roman

Whereas the Greek world was concentrated in natural phenomenon, the Roman world worked to technically control nature. This achievement was epitomized by the system of roads and aqueducts. But it does not mean that the Romans were not interested in nature and their architecture forms drew meaning from natural context. Roman architecture was considered sacred because of its location or context in the world of nature, as can be understood by the Latin concept of *genius loci*. When a Roman place was consecrated, the augur seated himself in the center and with his stick he divided the space into four areas with two main axes



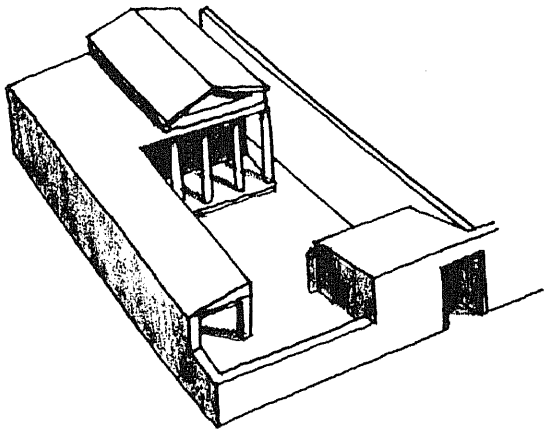


Fig. 24 Acropolis. Athens. 400 B.C.

Fig. 25 Greek Domestic.

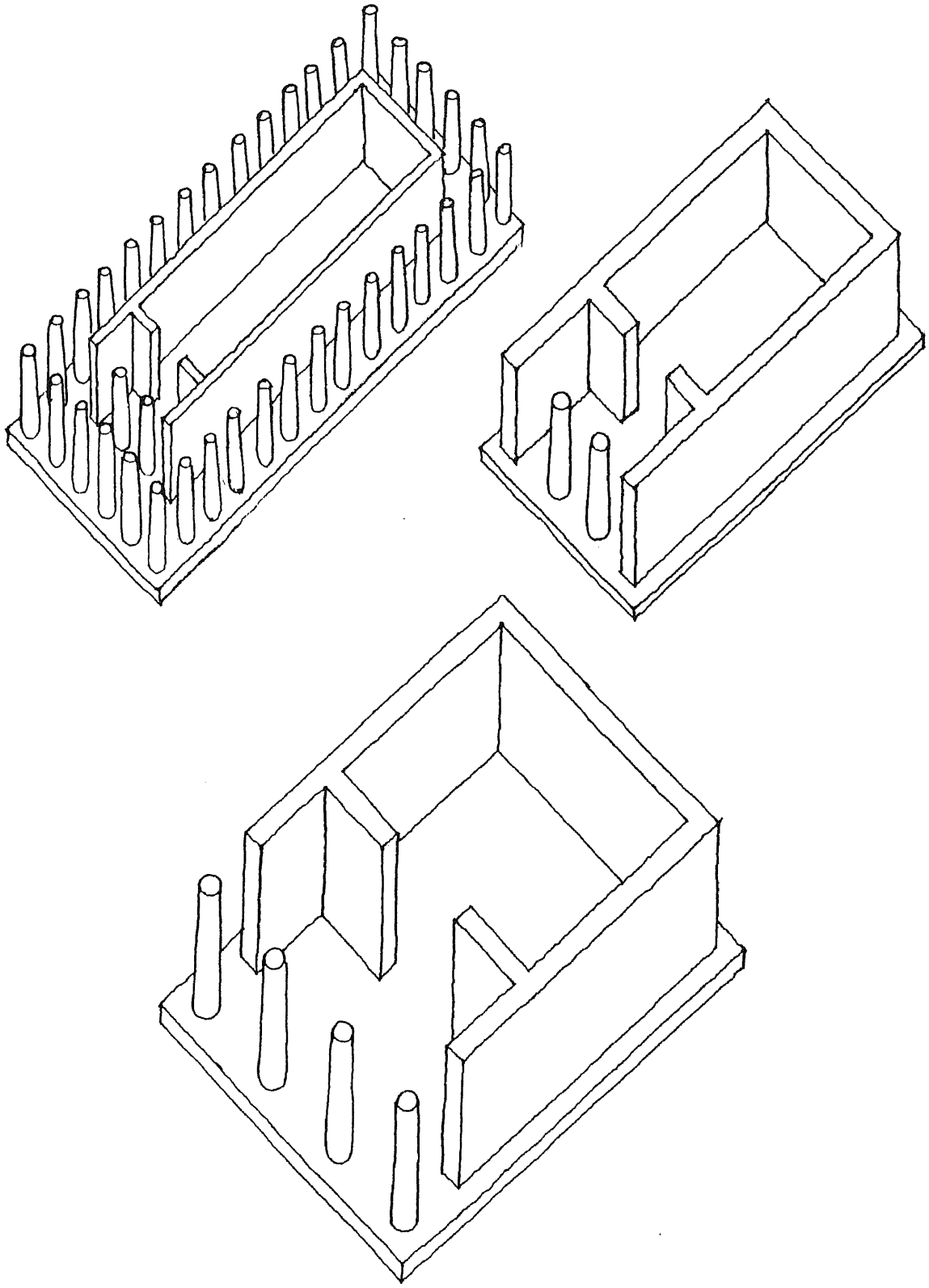
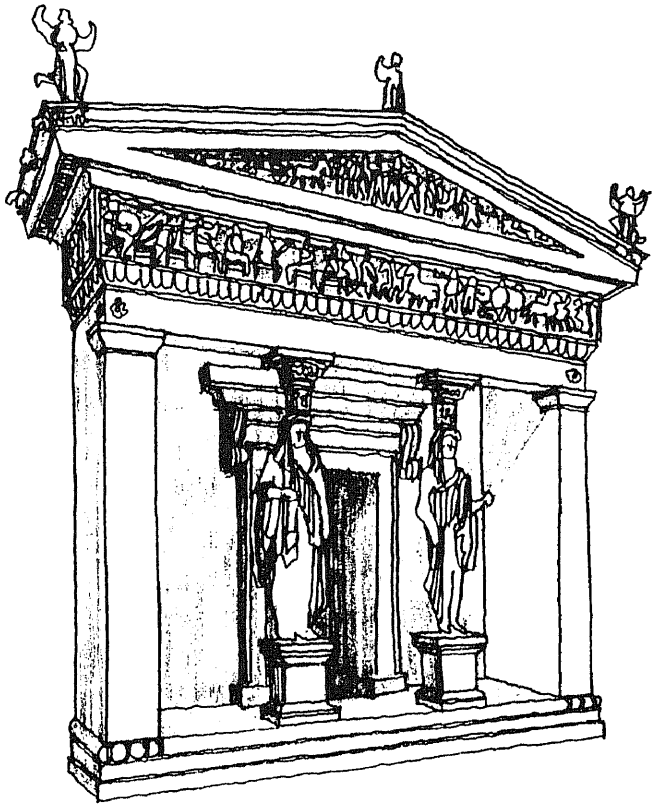


Fig. 26 Plans of Greek Architecture.



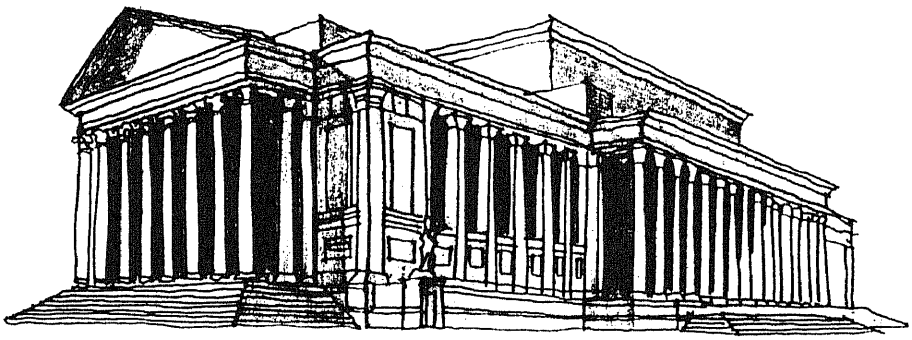


Fig. 27 Treasure of the Siphnians. Delphi. c.530 B.C.

Fig. 28 Harvey Lonsdale Elmes'. St. George's Hall. Liverpool. 1840.

through the middle. Roman communities were a manifestation of this basically cosmic order, with the main axes developing into a network of roads. The nodes were quite important in the network and were given due attention by means of a gateway and triumphal arches (Norberg-Schulz, 1980, p. 84).

The Romans believed in the god Janus who was the god of all doorways and public gates through which roads passed. With his two faces, Janus could preside simultaneously over the exterior and interior of the building. He was also the god of departure and return.

Roman gateways acquired additional symbolic significance according to the shape. Round, square, and octagonal towers were most common, reinforcing the city wall and flanking the city gate.

> *"The gateway became a kind of architectural ideogram denoting a Sacrum palatium as the seat of government and the place from which emanated the divine wisdom of the state."* (Smith, 1956, p. 10.)

The triumphal arch survives as a model for monuments and memorials although the original meaning is no longer a conscious intention. For the early Romans, the triumphal arch related directly to their way of life, it was the principal gateway for armies and for public access. When the victorious army came home from the war, they marched through the gateway and were received by a cheering public (Fig. 29).

> *"If you were a Roman soldier, the triumphal arch would have a special meaning for you. It served as the sacred gate, for courage in battle and military successes were not considered individual accomplishment alone, but were always acknowledged as due to the great of the gods. As you passed through the arch, you would probably leave your bloodied spear on its inner wall. In doing so you were cleaned and released, symbolically, from the destructive forces necessary to wage war, and the leaving of your weapon also signified a return to everyday living."* (Abramovitz, 1979, p. 61.)

Terraces, colonnades, ramps, and stairs, were sometimes integrated into the temple design (Fig. 30). In the Temple of Jupiter, Capitolinus, Rome, these elements enhance the act of entry into the place (Fig. 31). Steps, in particular, were

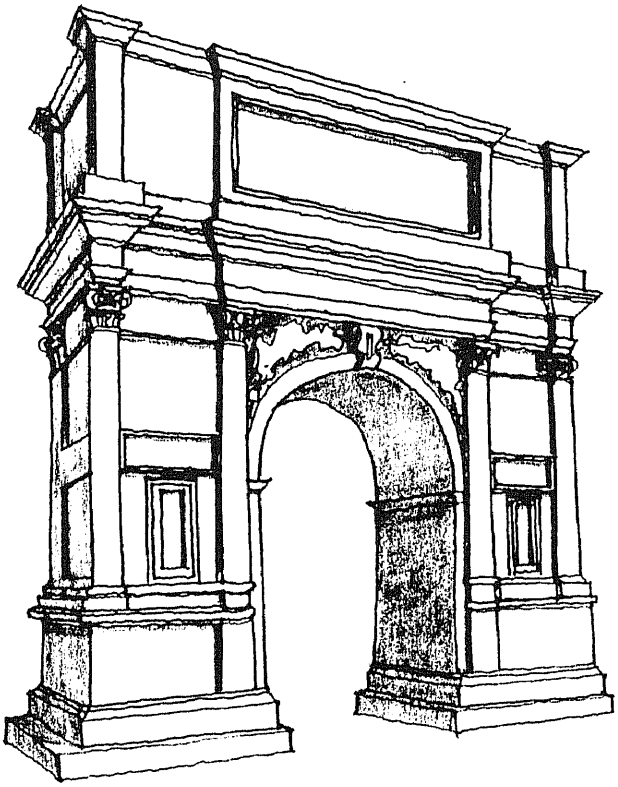
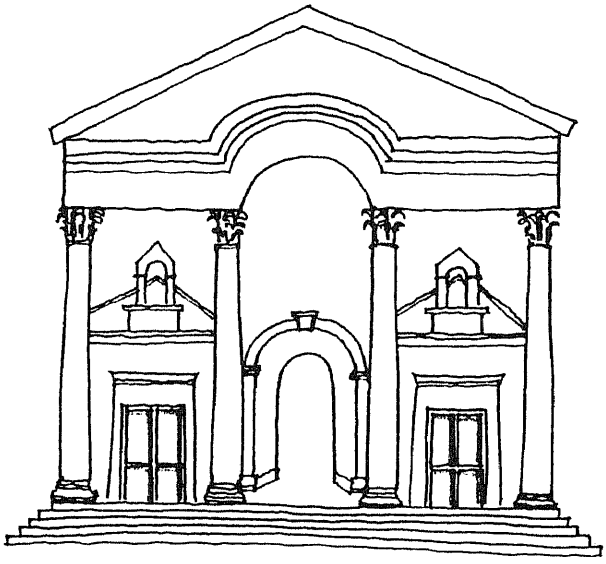


Fig. 29 Arch of Titus in Forum Romanum. Rome. 90 A.D.



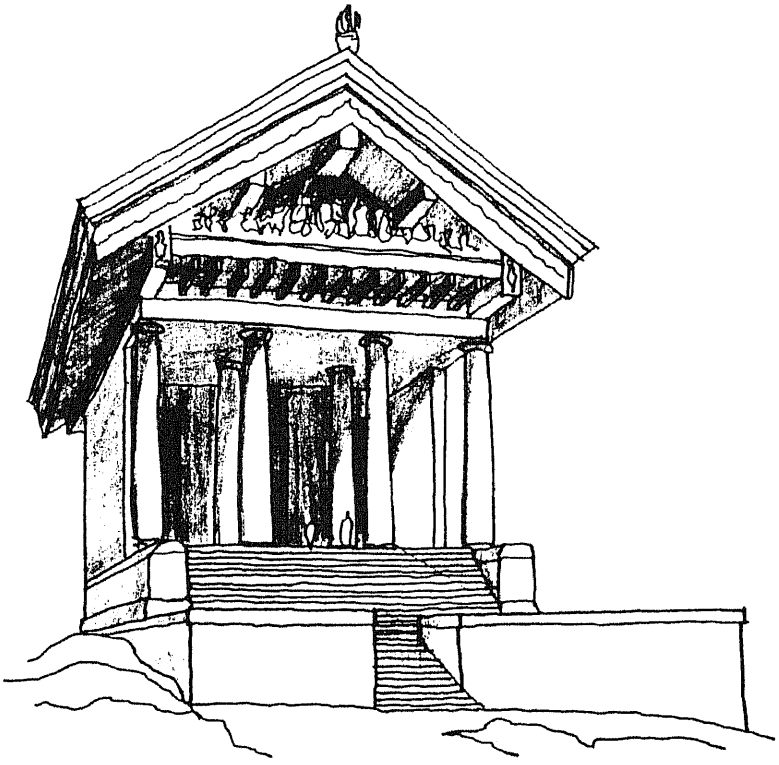


Fig. 30 Palace of Diocletian. Split, Yugoslavia. 300 A.D.

Fig. 31 Temple of Jupiter. Capitolinus, Rome. 509 B.C.

effective, creating a series of significance rises up toward the final goal at which point the visitors would experience the spatial force drawing them forward. The sense of a sacred place is created from the moment visitors first enter the temple.

2.2 The middle ages

2.2.1 Early Christian and Byzantine

The architecture of early Christian times was similar to Roman architecture; the difference was the transposing of old forms to new functions.

The typical entrance form of early Christian architecture was a triple door at the west end which led people into the nave. In the plan of the church of the Holy Sepulcher, Jerusalem, c.335, three entrance gates opened to a large atrium for overflowing crowds (Fig. 32). The character with the arch-framed entrance were most typical trait of Byzantine buildings (Fig. 33, 34).

2.2.2 Romanesque

Flanking towers reappeared in Romanesque architecture, usually applied to the entrance facade or sometimes used over the transept as well (Fig. 35, 36). The style and proportion of the towers was developed in each period according to the particular belief of people in those periods. Romans drew their measure with a mind set on the concretization of the cosmic order, as a result the scale of the Roman entrance was very large and not to human scale (Fig. 37, 38).

2.2.3 Gothic

During the Gothic period design focused on dynamic vertical massings rather than the static engineering of the Romanesque period. The structural skeleton was emphasized, streamlining the massive Romanesque forms. The main elements of the west facade still remained, as in the Romanesque period, but the experience of form and space was transformed into an experience of lightweight and dynamic structural form.

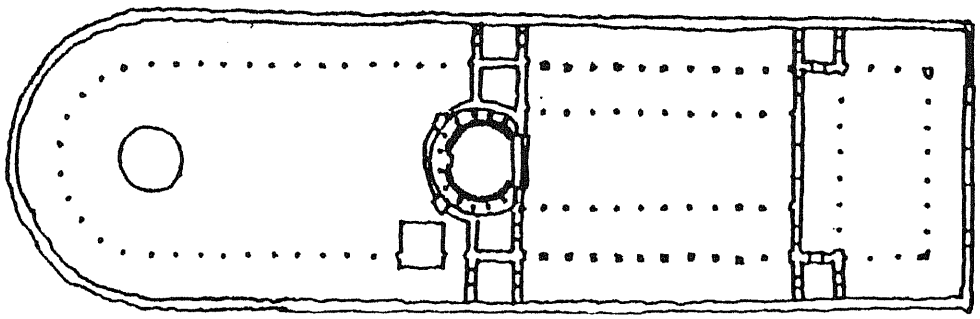
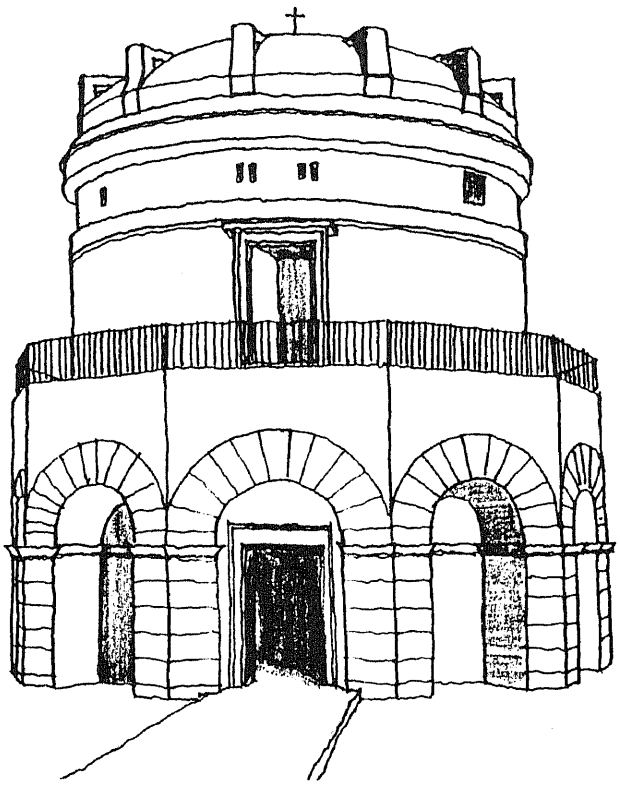


Fig. 32 Plan, Church of the Holy Sepulcher. Jerusalem. 335 B.C.



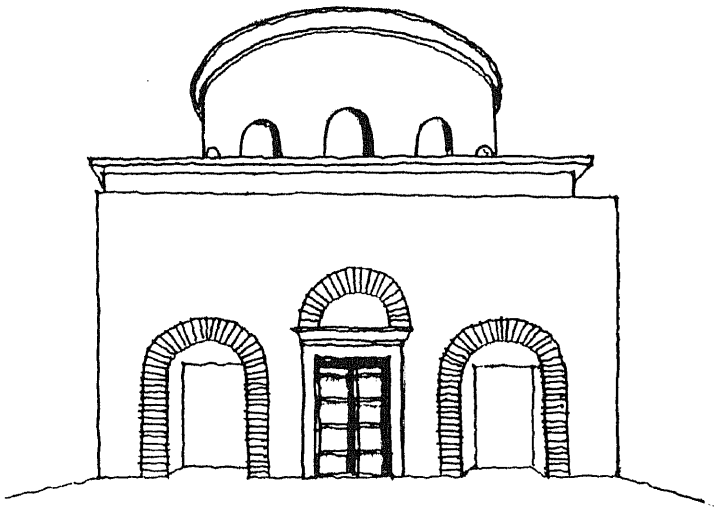
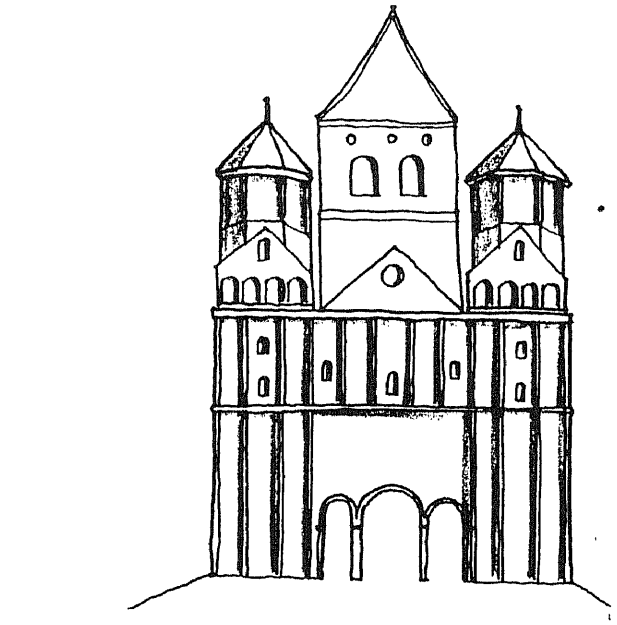


Fig. 33 Tomb of King Theodoric. Ravenna. c.526.

Fig. 34 S. Costanza. Rome. 625-38.



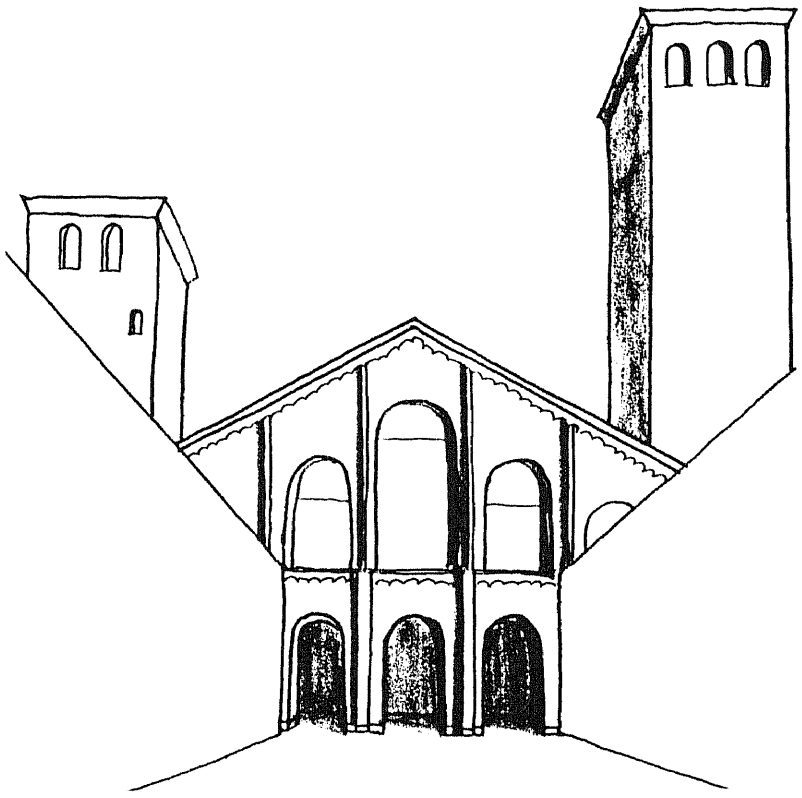


Fig. 35 Perish Church. Maursmunster. Mid 12th century.

Fig. 36 S. Ambrogio. Milan. 12th century.

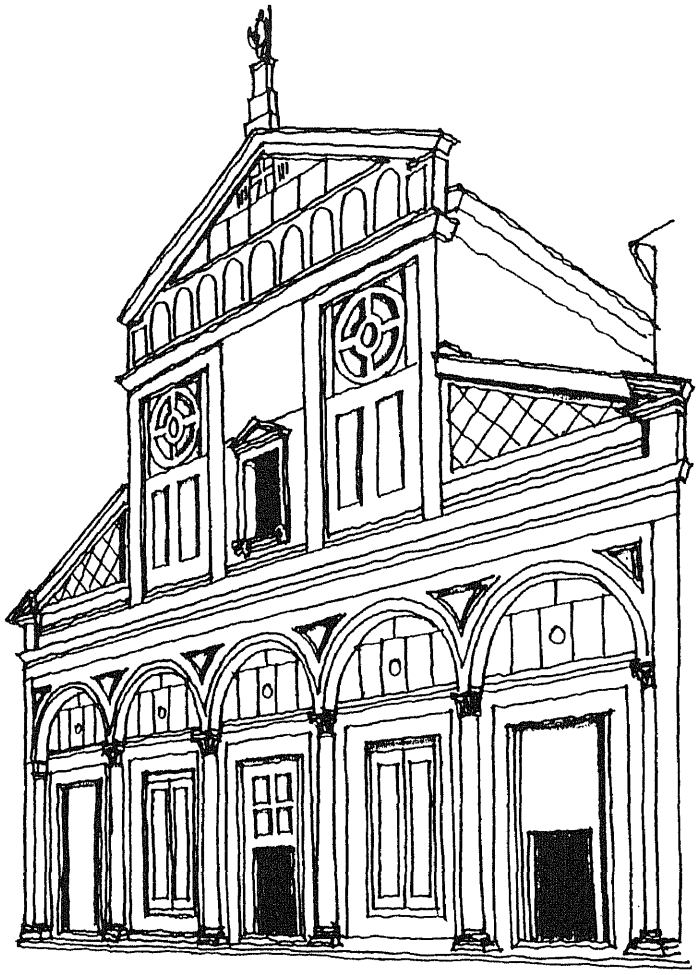


Fig. 37 S. Miniato at Monte. Florence. Mid 11th-12th century.

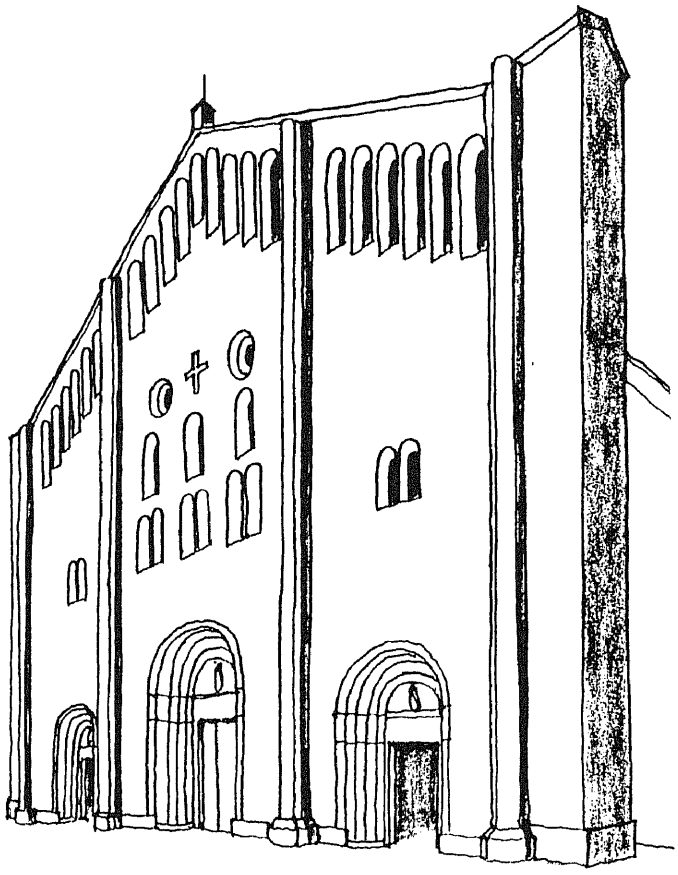


Fig. 38 S. Michaele. Pavia. c.1100-60.

Another essential element of Gothic buildings was stained glass which replaced opaque walls and allowed light to penetrate the sacred area. Together with other elements, such as flying buttresses and rib vaulting, in Gothic cathedrals, pointed arch played an important role in Gothic cathedrals. The typical Gothic entry with pointed arch framing achieved a soaring effect intended to uplift the human spirit (Fig. 39, 40).

2.3 The Renaissance

2.3.1 The Renaissance

During the Renaissance architecture related simultaneously to the cosmic and human scale but actual buildings and their elements were designed according to human scale (Fig. 41, 42). The use of towers gradually disappeared. Some entries served as integrated elements within the facade and their proportions related to the whole. In this way the entrances became less outstanding (Fig. 43). Another example is the case of St. Andria where the designer, Leone Battista Alberti, was influenced by the Roman triumphal arch but he incorporated as an entrance in the facade (Fig. 44).

2.3.2 The Mannerist

During the Mannerist period, the relationship between man-made and natural environment was more complex. An example of the Mannerist is the Villa Farnesina of Peruzzi, where a horseshoe-shaped plan embraces a central approaching space (Fig. 45). The villa has an entrance facade extending with open loggia between the wings.

In the Palazzo Massimo the building entrance displays an interesting order and rustication (fig. 46). The doubled-orders carrying the rusticated wall generate tension which is intensified toward the center of the facade. The entrance with its axial orientation in plan implies a strong relationship between the building and its urban environment. Thus, the static, symbolic, and self-sufficient space and volume

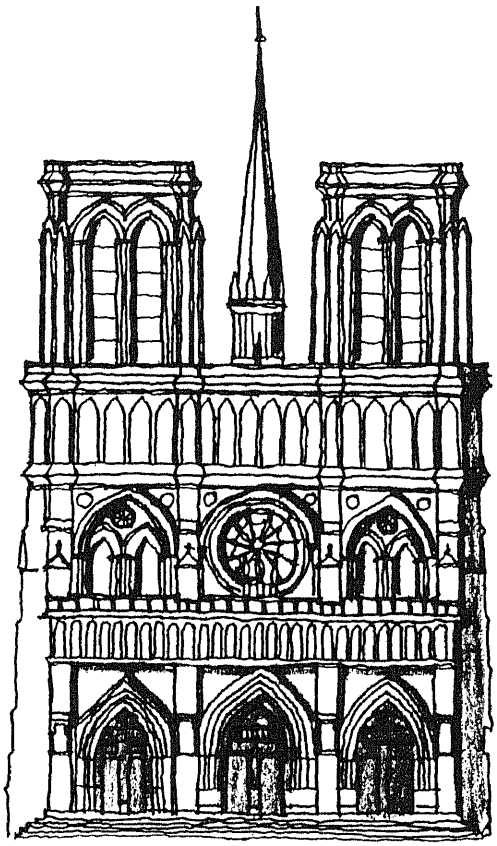


Fig. 39 Notre Dame. Paris. c.1200-50.

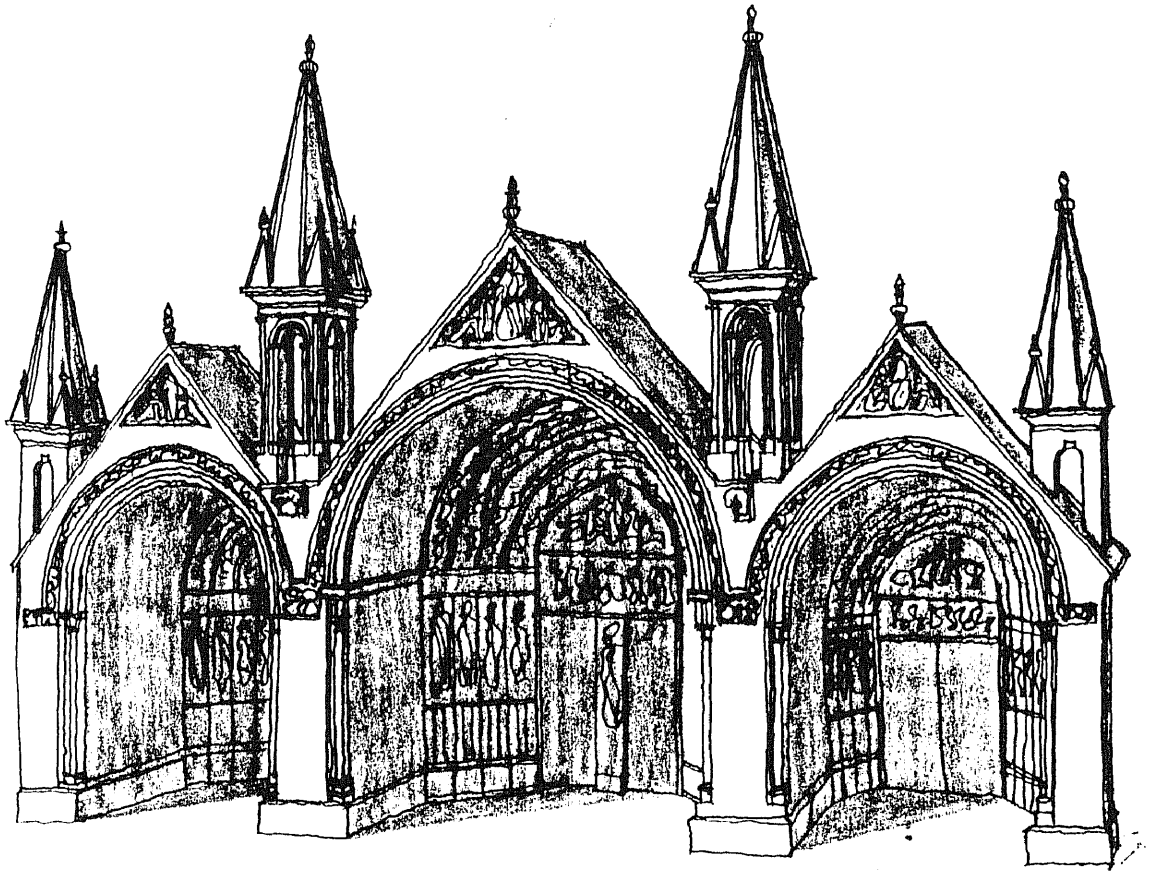


Fig. 40 Lyon Cathedral. End of 12th century.

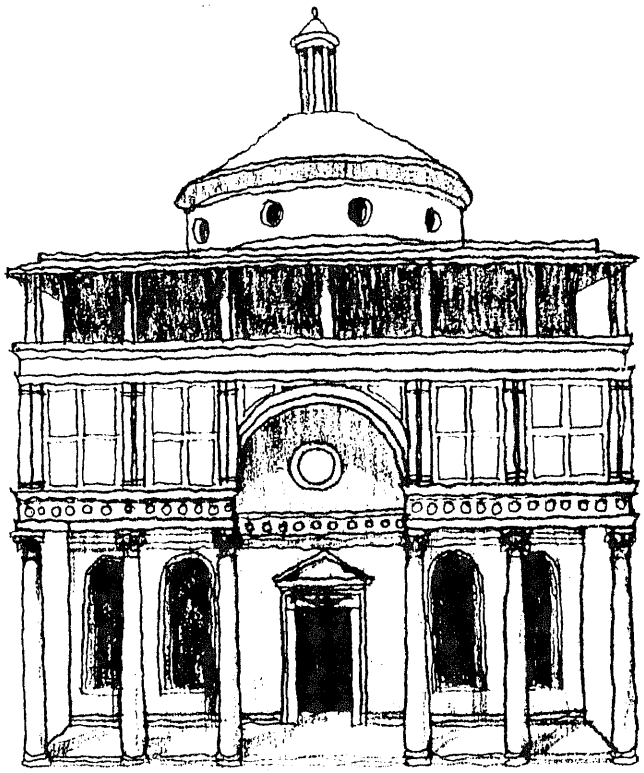
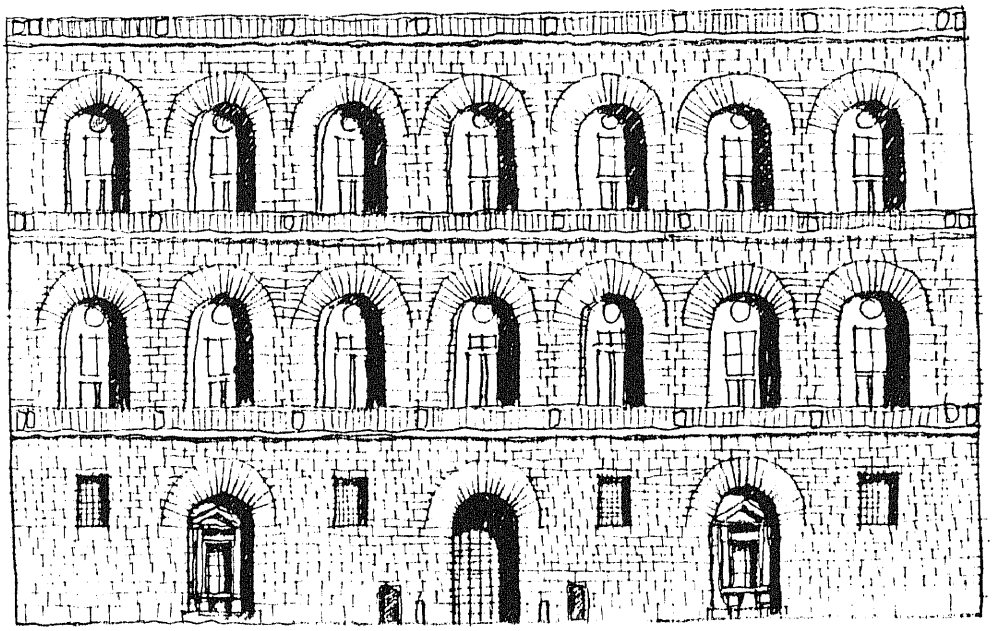


Fig. 41 Fillippo Brunelleschi. Pizza Chapel. Sta.Croce, Florence. Begun after 1442.

Fig. 42 Leon Battista Alberti. Palazzo Rucellai. Florence. 1455-70.



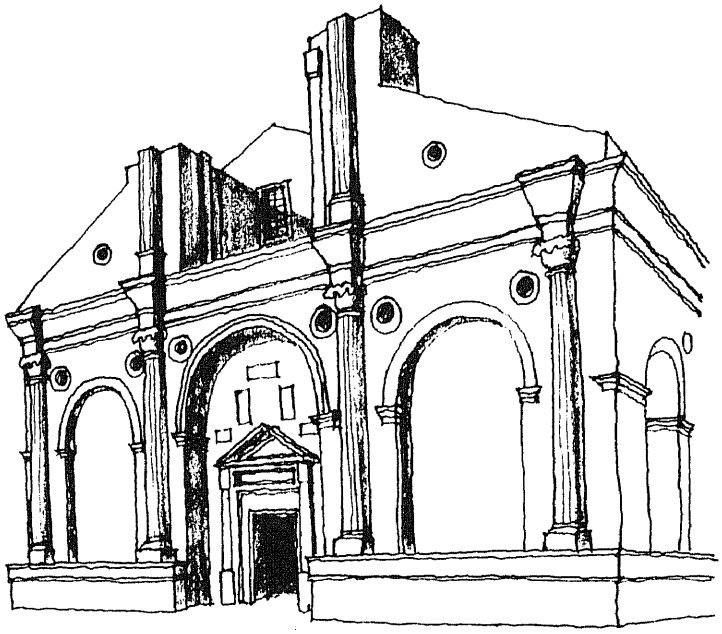


Fig. 43 Fillippo Brunelleshi. Palazzo Petti. Florence. 1458.

Fig. 44 Leon Battista Alberti. S. Andrea. Mantua. 1472.

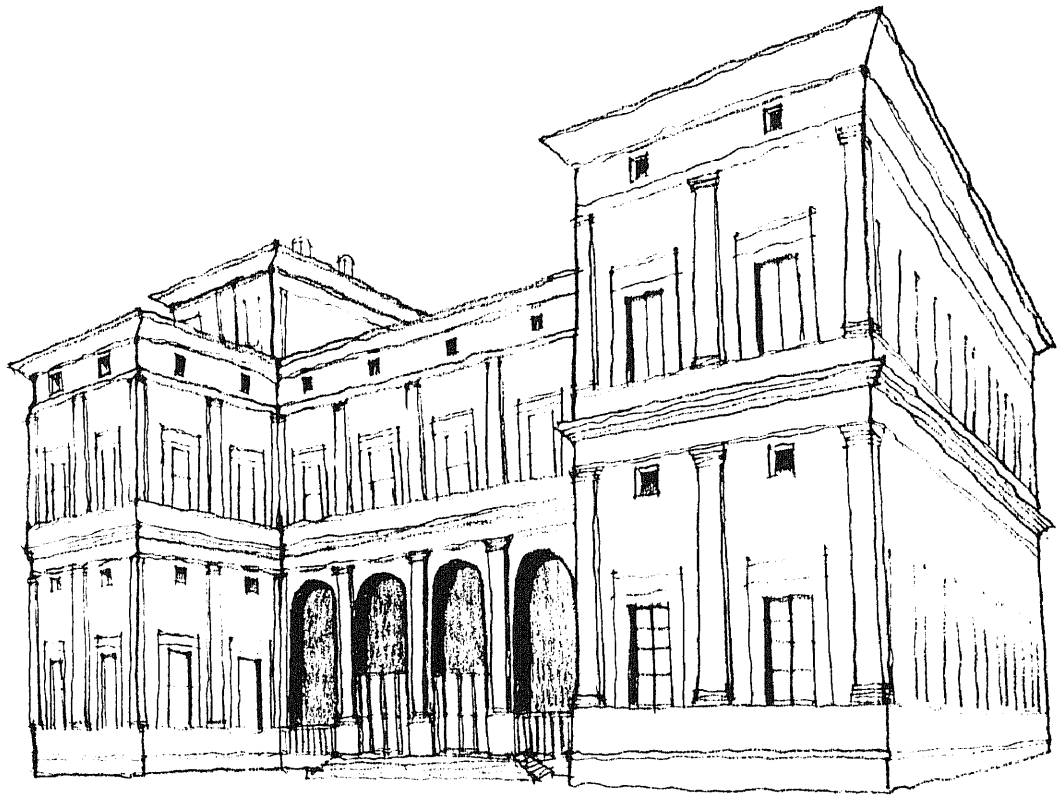


Fig. 45 Baldassare Peruzzi. Villa Farnesina. Rome. 1511.

of Renaissance architecture was gradually modified to engage in a dynamic dialogue with the environment. The use of stairs and plaza, or court, in order to connect the building with its surroundings, became more prevalent in this period (Fig. 47, 48).

2.3.3 The Baroque

Baroque architecture is worked to integrate the organization of Renaissance space and Mannerist dynamism (Norberg-Schulz, 1980, p. 315). The expressive entrance was composed in an orderly fashion with detailed articulation. At least a few stairs were used to clarify the entry (Fig. 49, 50). The space defining the entrance was mostly enclosed by plazas, courts, or stairs; or a combination (Fig. 51, 52).

MEANING OF ARCHITECTURAL ENTRY IN MODERN WORLD

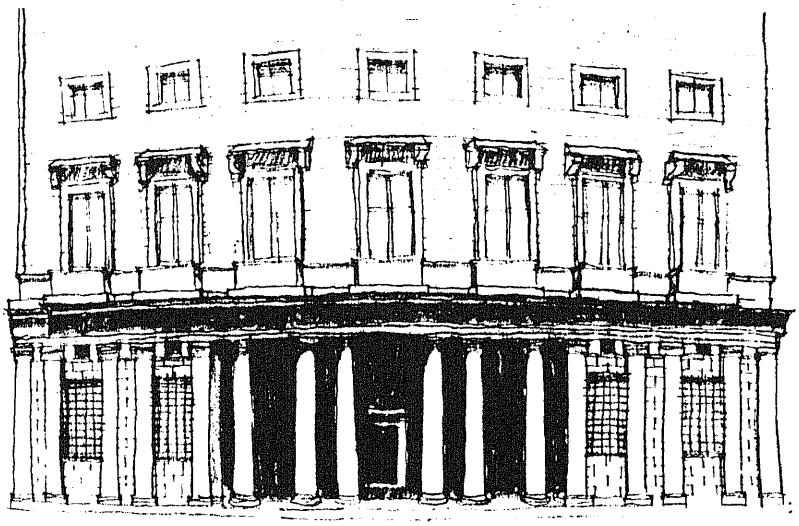
1. The Seventeenth and the Eighteenth Century

As modern architecture developed in the late eighteenth century progressive ideas took hold in the design world. The notion of *modern* architecture was stated by William Curtis as follows:

> *"For basic to the conception was a sense of history as something which moves forward through different epoches each with a spiritual core manifesting itself directly in the facts of cultures."* (Curtis, 1983, p. 14.)

A major force in the creation of modern architecture was the Industrial revolution, which offered new methods of construction and suggested new forms. The architectural progression, during the age of revolution, stood on the threshold between classical eighteenth century design concepts and later concepts of high modernism.

The characteristics of these buildings are their large and heavy proportions which differed from the pure classical styles of the day (Fig. 53,54). The characteristic style of Andria Palladio (1508-1580), who rejected classicism and developed the characteristics of large and harmonious proportions, influenced the



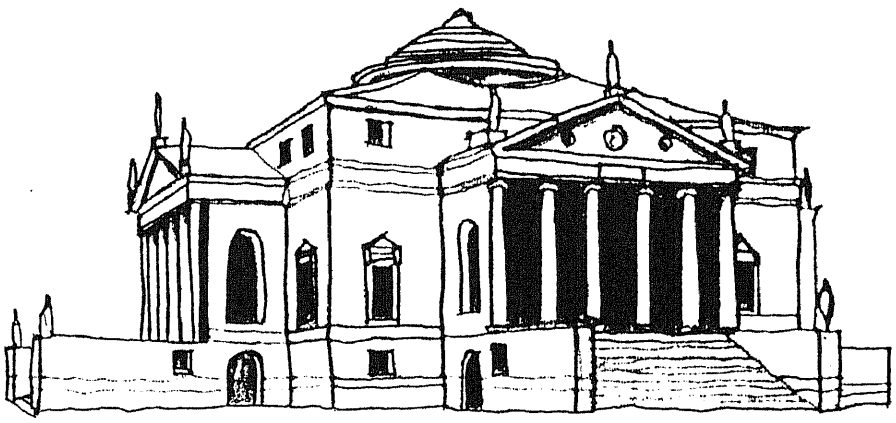


Fig. 46 Baldassare Peruzzi. Palazzo Massimo alle Colonne. Rome. 1532.

Fig. 47 Andrea Palladio. Villa Rotonda. Vicenza. 1566-70.

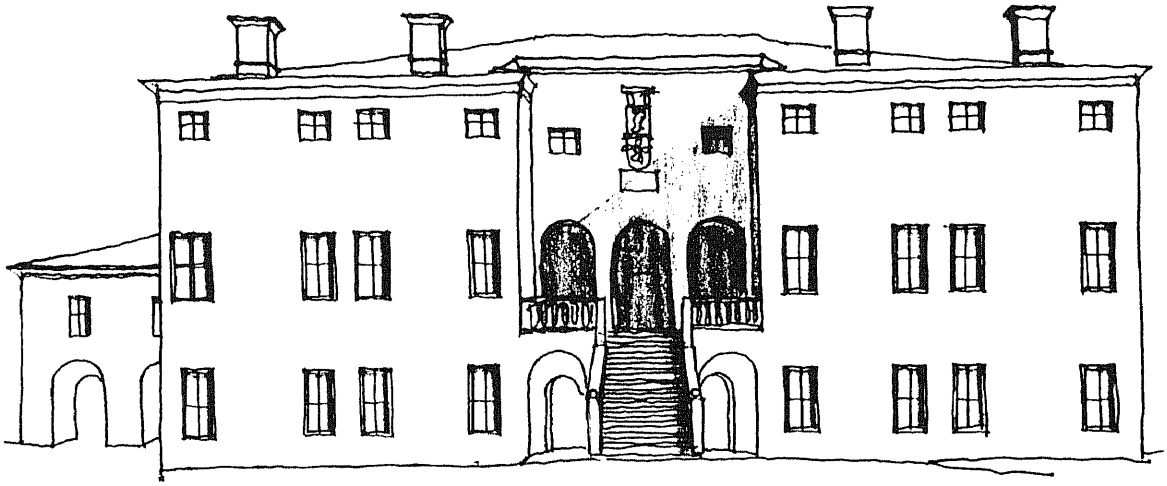
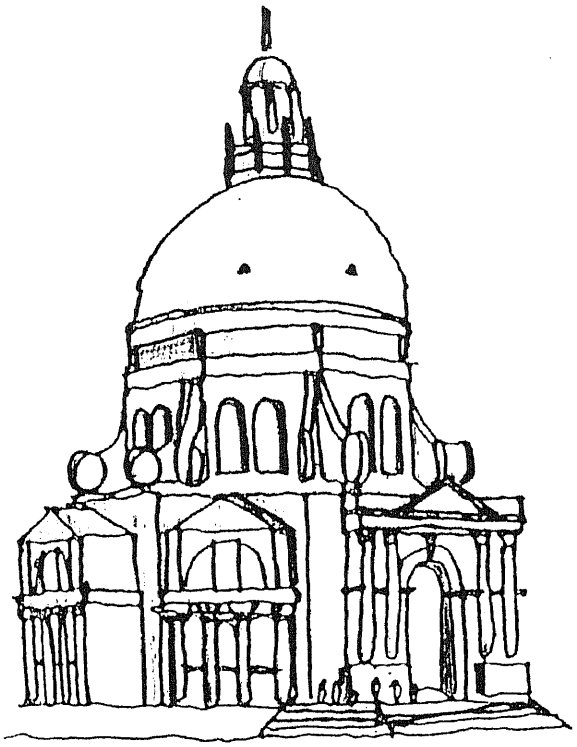


Fig. 48 Andrea Palladio. Villa Godi. Lonede. 1538-42.

Fig. 49 Carlo Maderno. Sta. Susanna. Rome. 1597-1603.

Fig. 50 Francesco Borromini. S. Carlo alle Quattro. Fontaue. 1665.



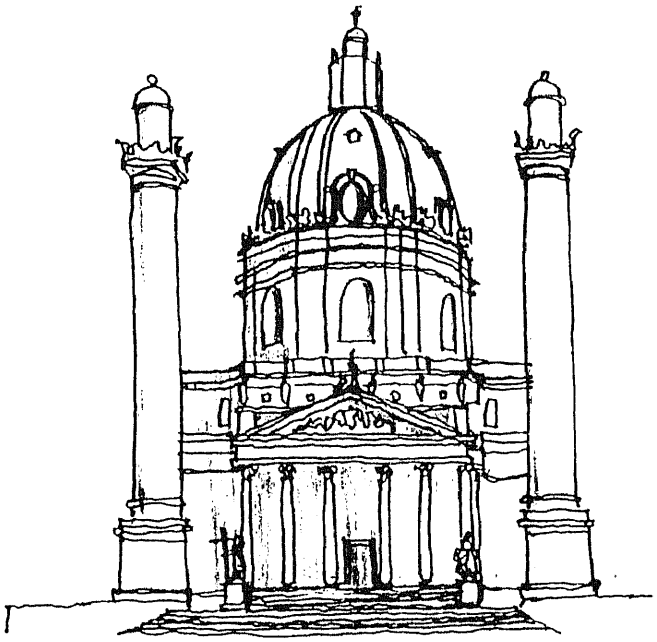
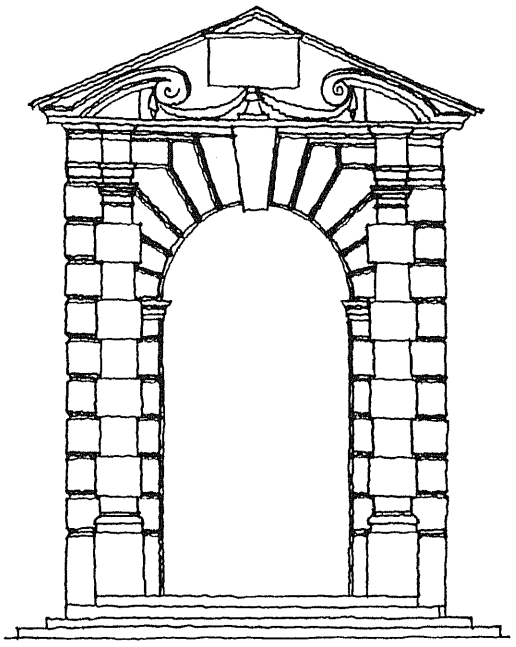


Fig. 51 Baldassare Longhena. Sta. Maria della Salute. Vanice. 1631-32.

Fig. 52 Johanna Ficher von Erlach. Karlskirche. Vienna. 1715.



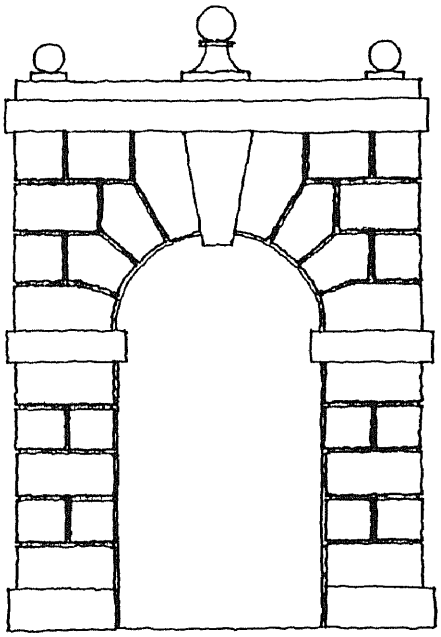


Fig. 53 Inigo Jones. Doorway for Arundel House Strand. London.

Fig. 54 Inigo Jones. Gateway for New Hall Essex. 1623.

design of public buildings as well as houses (Fig. 55). The Senate House in Cambridge (1972) by James Gibbs demonstrates the repetition of corinthian orders and windows along the front facade while the main entrance is emphasized by central pediment bays (Fig. 56). Also, in small houses, the proportion of doors and windows were related to one another (Fig. 57). The Palladio motif, which had been applied in Palladio's own designs, was important tool of architects in this century. Also, in church buildings of Hawksmoore, such a motif was used at the main entrance of the Christ Church Spitalfields (Fig. 58).

Another influence in the development of late eighteenth century design was an increased interest in antiquity. Architects explored Greek and Gothic styles and looked toward the past as the key to a better future, searching for a rational explanation to develop their designs (Fig. 59).

2. Modernism

The imposing character of the grand entrance was motivated, in part, by a political purpose, in order to make the buildings of state more magnificent. In the nineteenth century classical orders were used in the colonnaded portico in Schauspielhaus (1819) and The Altes Museum (1824), the two master pieces work of Karl Friedrich von Schunkel (1781-1841) (Fig. 60, 61). Ionic orders were represented in the front facades and the actual entrances were emphasized by stairs.

In the United States, traditional forms were, in some instances, abandoned. Architects tried to develop indigenous forms. Louis Sullivan (1856-1924), an American who sought non-classical articulation in his design schemes at times used natural and botanical motifs. The rich details of Sullivan's building entrances were often inspired by nature, and can be clearly noted in many of Sullivan's banks. He characteristically designed the entrance as the generating force of the facade. Examples are the People's Saving bank and Loan Association in Ohio, the national Farmers Bank in Minnesota, and Merchants National Bank in Iowa. These facades

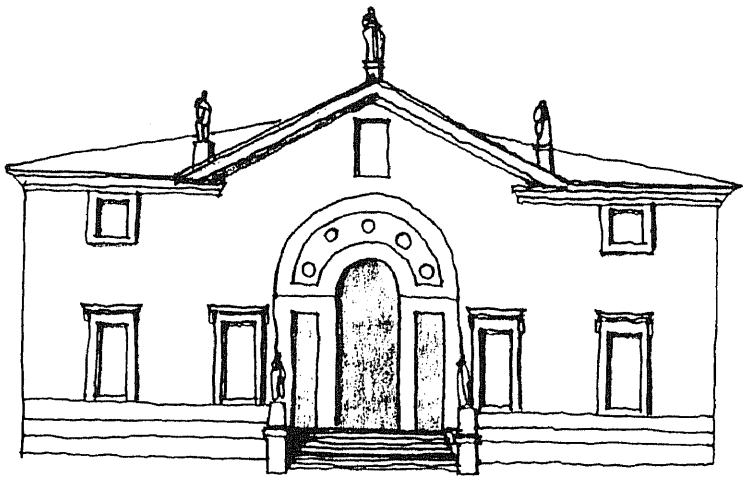


Fig. 55 Andrea Palladio. Villa Pojana. Vicenza.

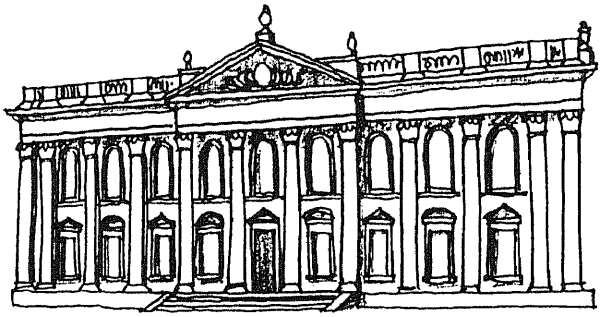


Fig. 56 James Gibbs. Senate House. Cambridge. 1972.

Fig. 57 Roger Pratt. Coleshill. Berkshire.1662.

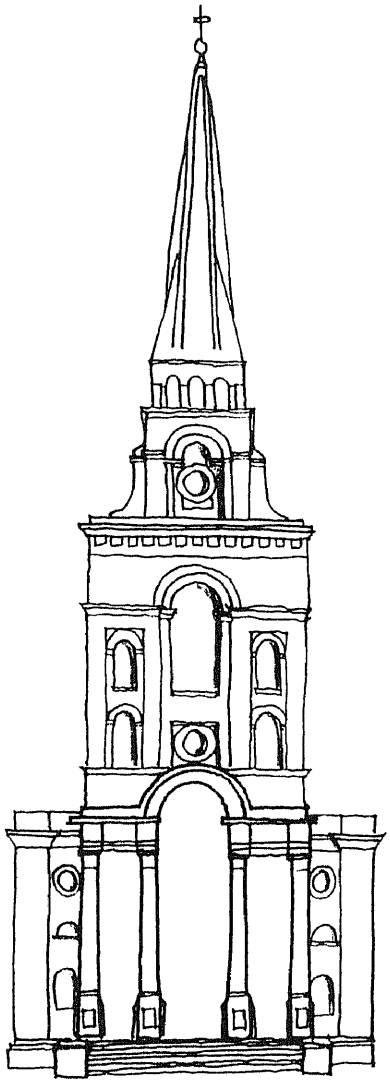


Fig. 58 Nicholas Hawksmoor. Christ Church Spitalfields. 1723.

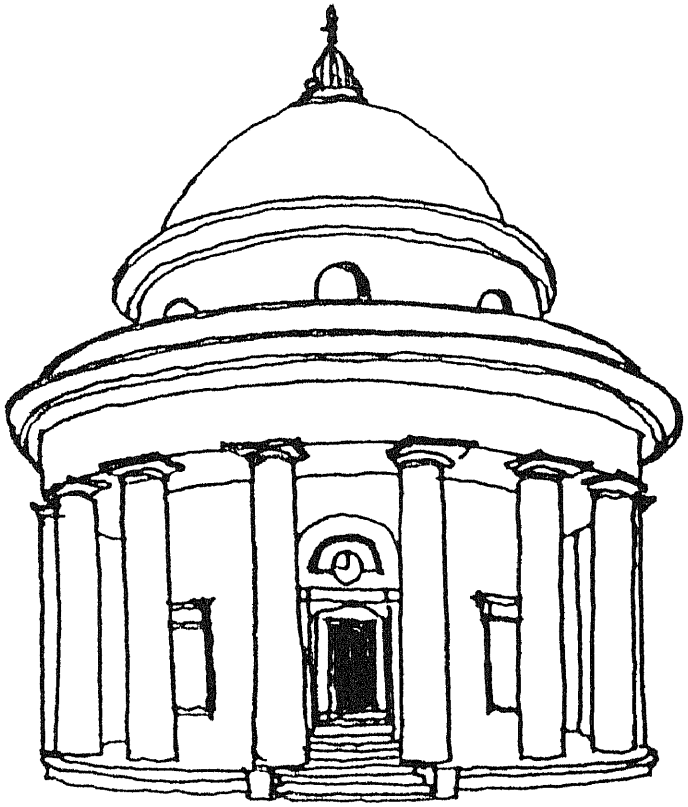
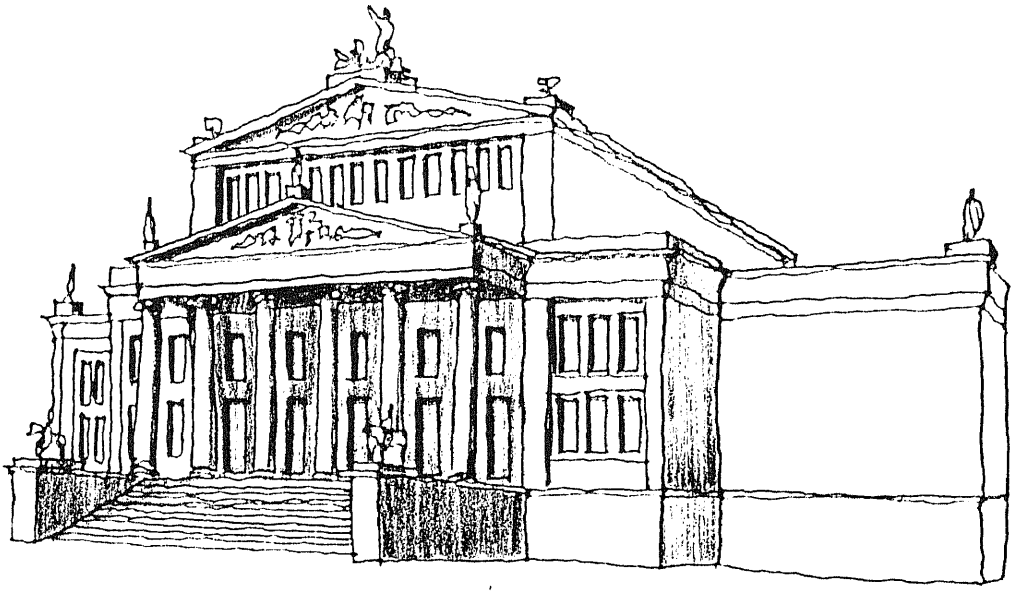


Fig. 59 Claude-Nicolus Ledoux. Barriere de Monceau. Paris.



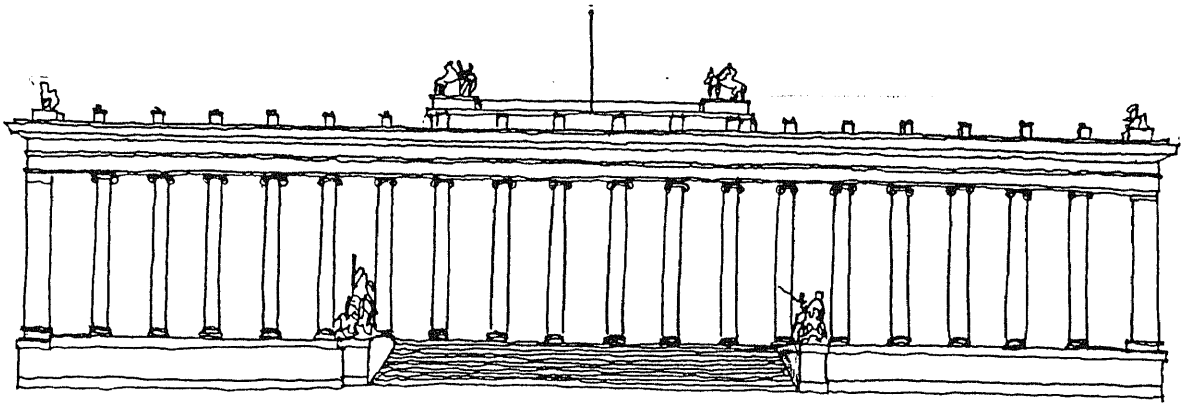


Fig. 60 Karl Friedrick Schinkel. Schauspielhaus. Berlin. 1819-21.

Fig. 61 Karl Friedrick Schinkel. Altes Museum. Berlin. 1824-28.

emphasized their entrances, decorated with half circle and circle forms (Fig. 62). In Sullivan's Guaranty building in Buffalo (1894-95), the entrance is in the middle bay of a two-story base. The columns flanking the entrance are treated separately, as square columns instead of round ones. The street entrance is emphasized by half-circle arches and a row of terminal arches at the top of the building (Fig. 63).

The attitude of Sullivan influenced the later works of Frank Lloyd Wright (1869-1959) who was also sought a relationship between architecture and nature. Wright focus on horizontal movement, inspired by the Prarie and, thus, the height of his typical entrance was quite low when compared with its width. His early masterpiece built in 1893, the Winslow House in River Forest, Illinois, had a centrally located entrance (Fig. 64). The low, wide doorway was punched through the wall and emphasized the breath of the movement.

Architecture during the late nineteenth century assumed many different forms but in all cases structure was an issue. Structural systems began to influence aesthetics, expressing the strength and elegance of the industrialized world.

Skyscrapers came into being all across the United States as the result of technical development as well as rising land-cost. The cataclysmic fire in 1871 which destroyed much of Chicago, brought in its wake a surge of rebuilding, using fire proof and materials, when possible, such as the cast-iron framing. These new buildings were often articulated with an overlay of historic details. John Wellborn Root, an architect of the Chicago school thought that building masses and elements should reflect the strength and simplicity of intention and not be delicately ornamented. Entrances appeared in almost square voids and elaboration was no more than a drafted rustication of the base. The Monadnock Building (1889-91) in Chicago, built by Burnham and Root, suggested in its massing the Egyptian pylon (Fig. 65). The application of columns in the Marquette Building (1893-94) indicates a powerful entrance (Fig. 66).

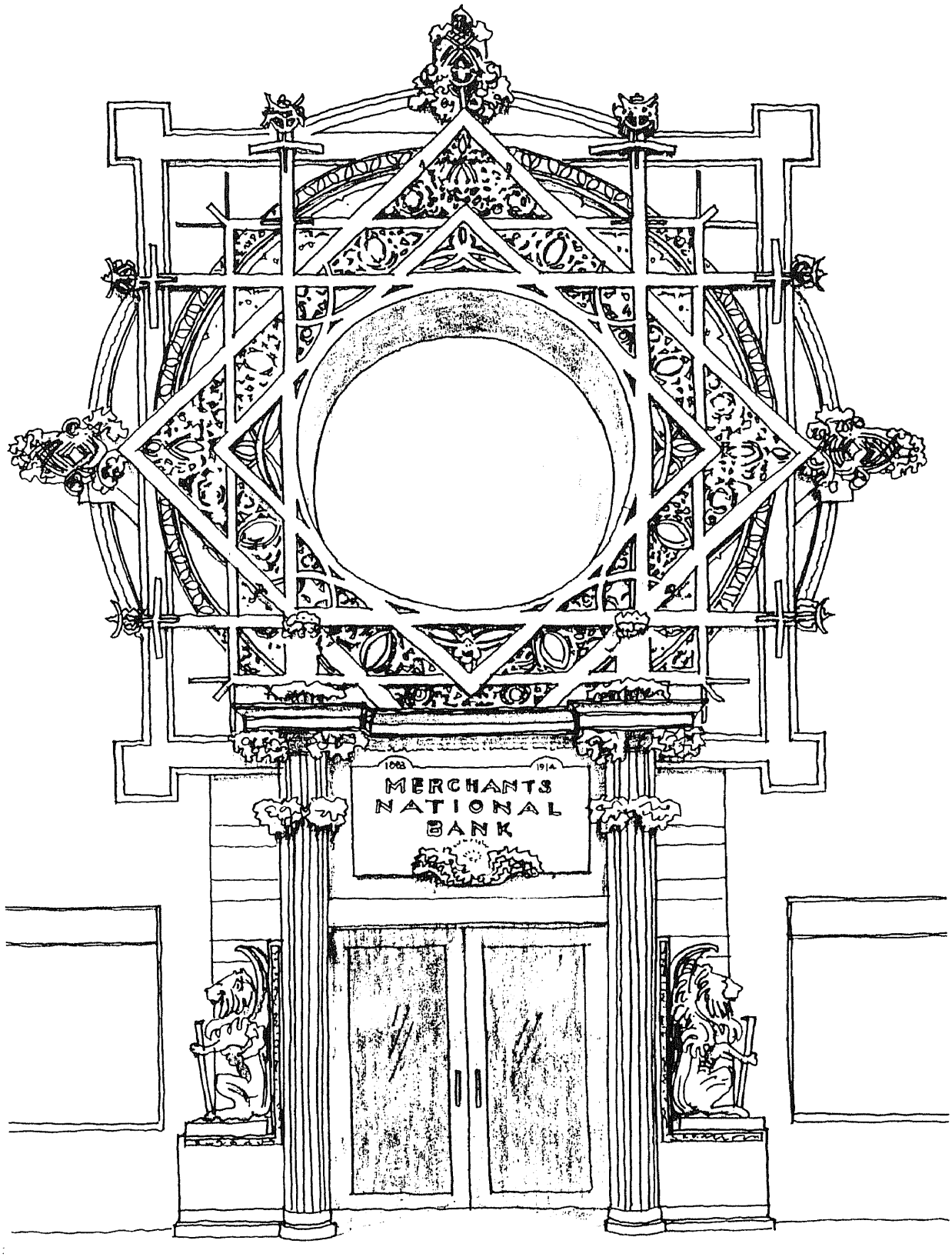
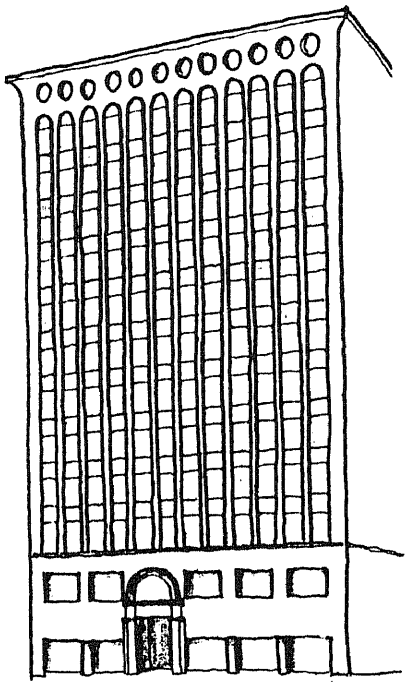


Fig. 62 Louis Sullivan. Merchant National Bank. Grinnell, Iowa. 1913-15.



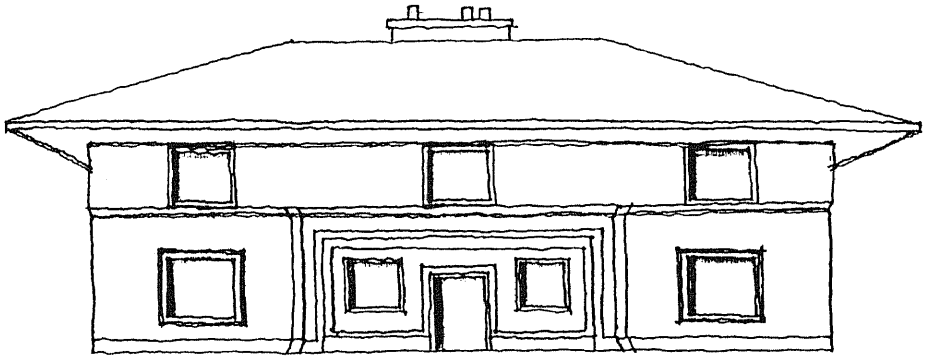


Fig. 63 Louis Sullivan. Guaranty Building. Buffalo, New York. 1894-95.

Fig. 64 Frank Lloyd Wright. Winslow House. River Forest, Illinois. 1893.

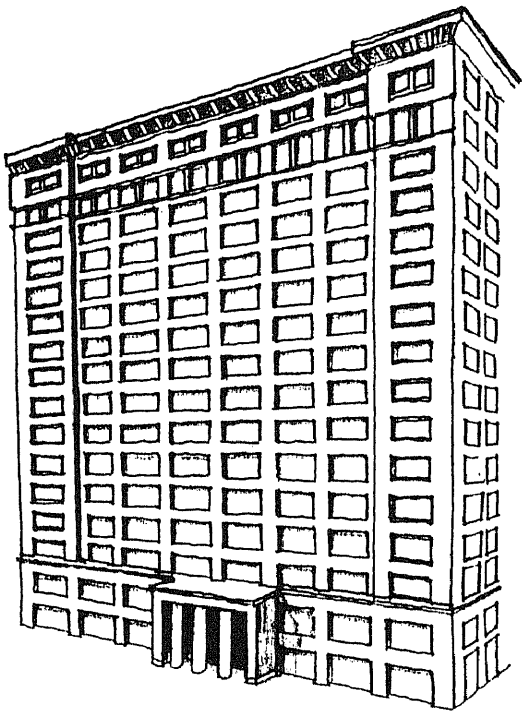


Fig. 65 Burnham and Root. Monadnock Building. Chicago. 1889-91.

Fig. 66 Holabird and Roche. Marquette Building. Chicago. 1893-94.

Another design movement which arose during this period was Art Nouveau. It was a movement which evoked the flowing curves and limp lines of tendrils of plants or the twisting forms of flames. Such a style implied a feeling of softness even when built in wrought iron (Fig. 67).

An outstanding architect who developed a very personal interpretation of Art Nouveau was Antoni Gaudi. His entrances generally engaged the whole facade in their strange and exotic movements (Fig. 68). Another exceptional architect was Charles Rennie Mackintosh (1868-1928), a Scottish architect of the Glasgow School. His major work, an art school, demonstrated a personal style, as in the case of Gaudi, but utilized a different organizational principle (fig, 69). His design was plain, rather than exotic, but the application of materials, the rigidness of brick stone and the fineness of iron, was well implemented.

By the early twentieth century, modern architecture moved into an era of industrial influence and design. Architectural features strove for simplicity using undecorated geometrical forms, often of white or subdued colors. The development of the steel frame and use of glass were widespread and came to be a feature of this era. The famous Seagram building of Mies van der Rohe (1956) is an example, a simple rectangular skyscraper of steel-framed glass (Fig. 70). Its entrance is recognized only by an applied human scale to the typical panel. Most entrances of this period were unadorned, they adapted by simple forms, taking advantage of those materials and the structural system of the building without introducing entrance ornament.

3. Post-modernism

In the mid 1970s, a new movement called Post-Modern began to emerge. It stemmed from Modern architecture, but can be seen as a hybrid architecture which applied historical forms and symbolism, to the pure forms of modern structure. The emphasis on modern architectural form influenced the character of the post-modern

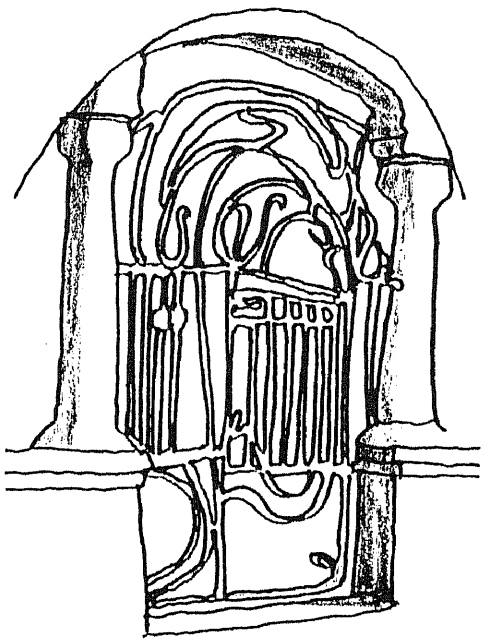


Fig. 67 Hector Guimard. Gateway to the Castel Beranger. Paris. 1894.

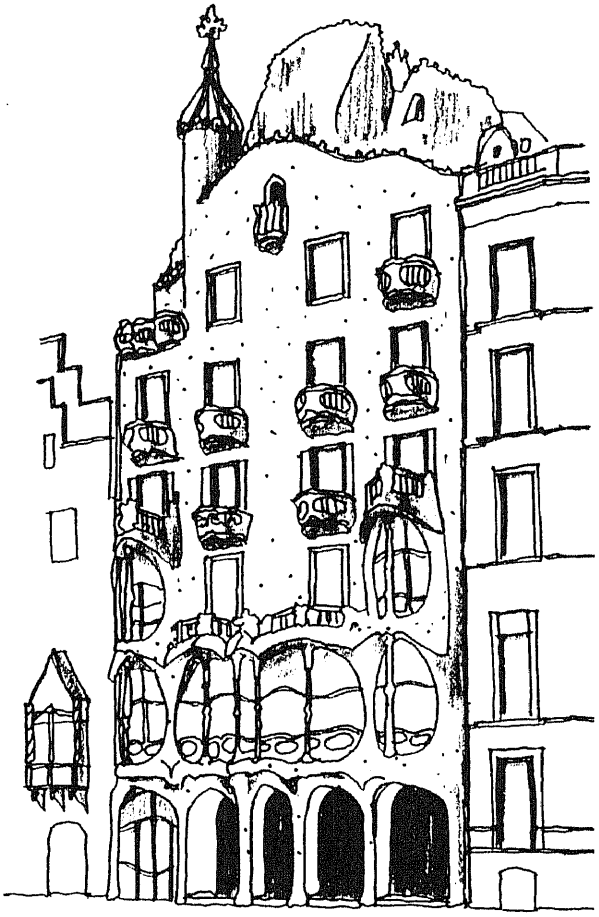
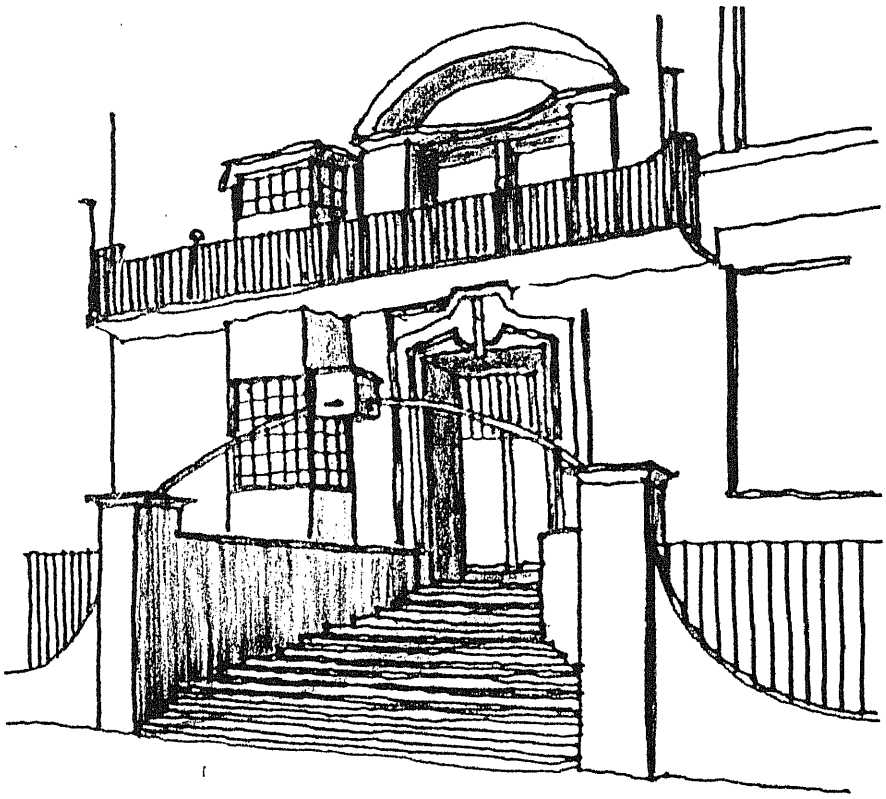


Fig. 68 Antoni Gaudi. Casa Batllo. Barcellona. 1905-7.



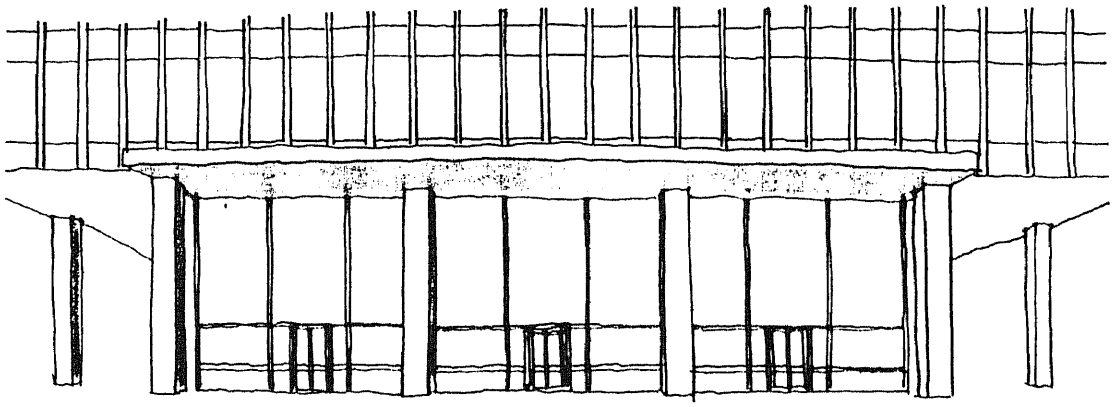


Fig. 69 Charles Rennie Mackintosh. Glasgow School of Art. 1897-1909.

Fig. 70 Mies van der Rohe. Seagram Building. 1954-58.

entrance. In the Chestnut Hill house of Robert Venturi, an example of this type of entrance can be seen in the flattening shelter over the entrance, the absence of ornamentation, and form of the building (Fig. 71). Arata Isozaki, a Japanese Post-Modern architect designed a work, the Fujimi Country Club, which seeks through a lack of ornamentation and simple form, but extinguish (Fig. 72). The front treatment which is less in solid expresse a the traditional Japanese wall.

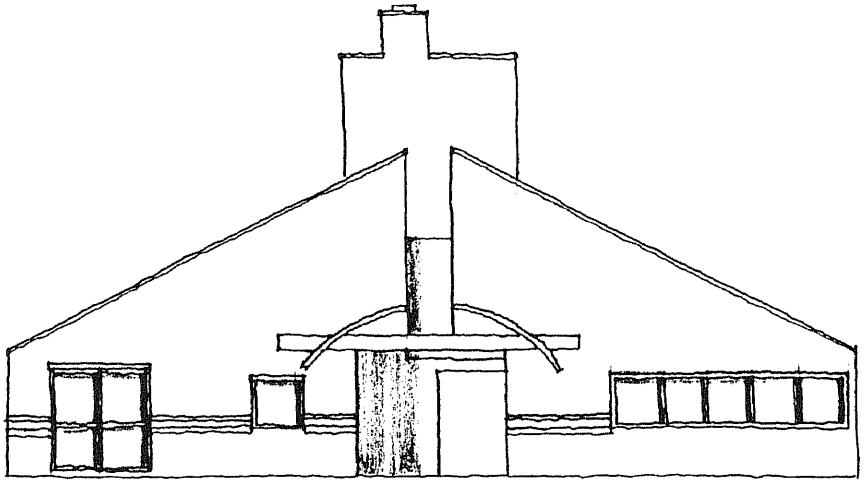
Many architects have designed in the post-modern style, such as Philip Johnson, Robert Venturi, Charles Moore, Robert Stern, and Michael Graves. In each case their own personal design attributes create a variation of the post-modern idea (Fig. 73, 74).

ARCHITECTURAL ENTRY OF PRESENT TIME

Today architectural entries can best be described as eclectic. Architects of the present employ many styles of entrance. The two most easily defined categories are 1) single and 2) double door entrances. There is no regulation stating a type of building must have a particular design feature in its entrance but building types have developed over time, a typical approach which can be identified, and its particular style can be traced historically, demonstrating the sources of that style. The scale of the entrance and its features will depend on various criteria, including the specific design concept of the architect. The following types of buildings present characteristics of entrances most generally applied:

1. Private Building

Domestic buildings such as houses and apartments. have entrances composed of single or double doors, usually a standard size. It is enrichment due to materials, colors, and ornament that makes these entrances different and distinctive. For apartments buildings the entrance may vary considerably and its treatment will depend on the size of the building (Fig. 75-77).



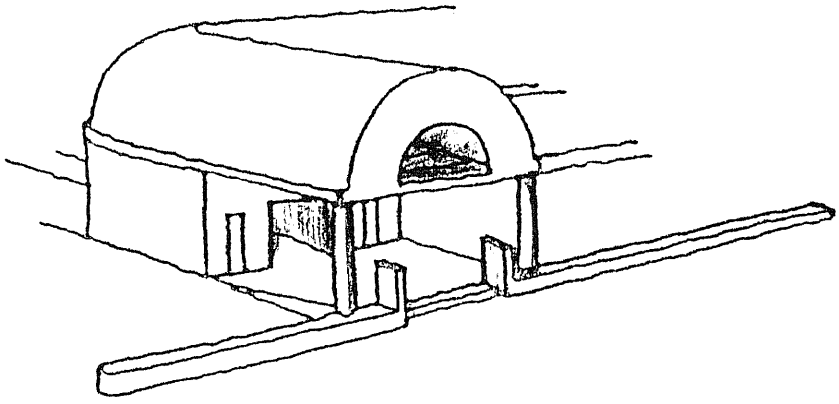


Fig. 71 Robert Venturi. Chestnut Hill House. Philadelphia. 1962.

Fig. 72 Arata Isozaki. Fujimi Country Club. Oita, Japan. 1973-74.

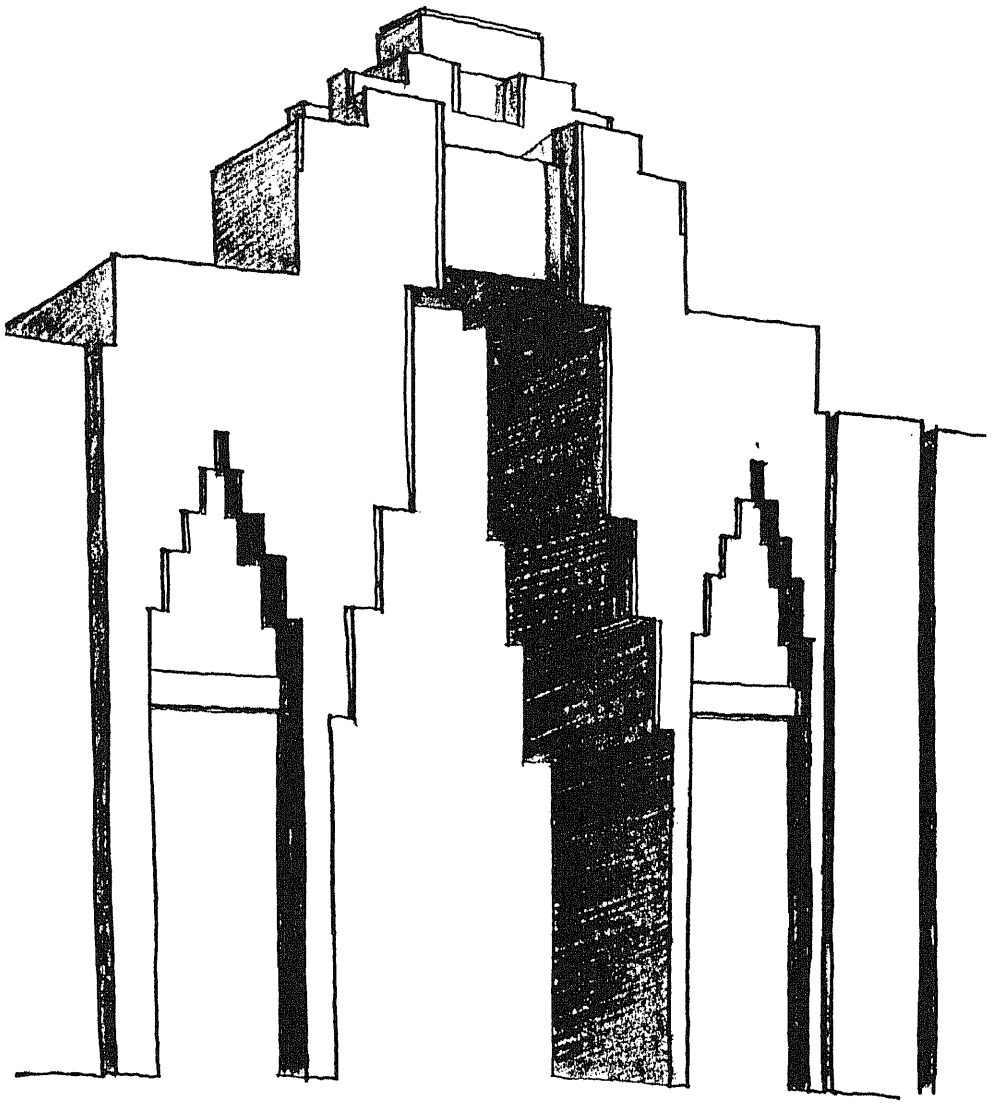


Fig. 73 City of Bevery Hills Civic. Bevery Hills, California.

Fig. 74 Michael Graves. Newark Museum. New Jersey. 1987.

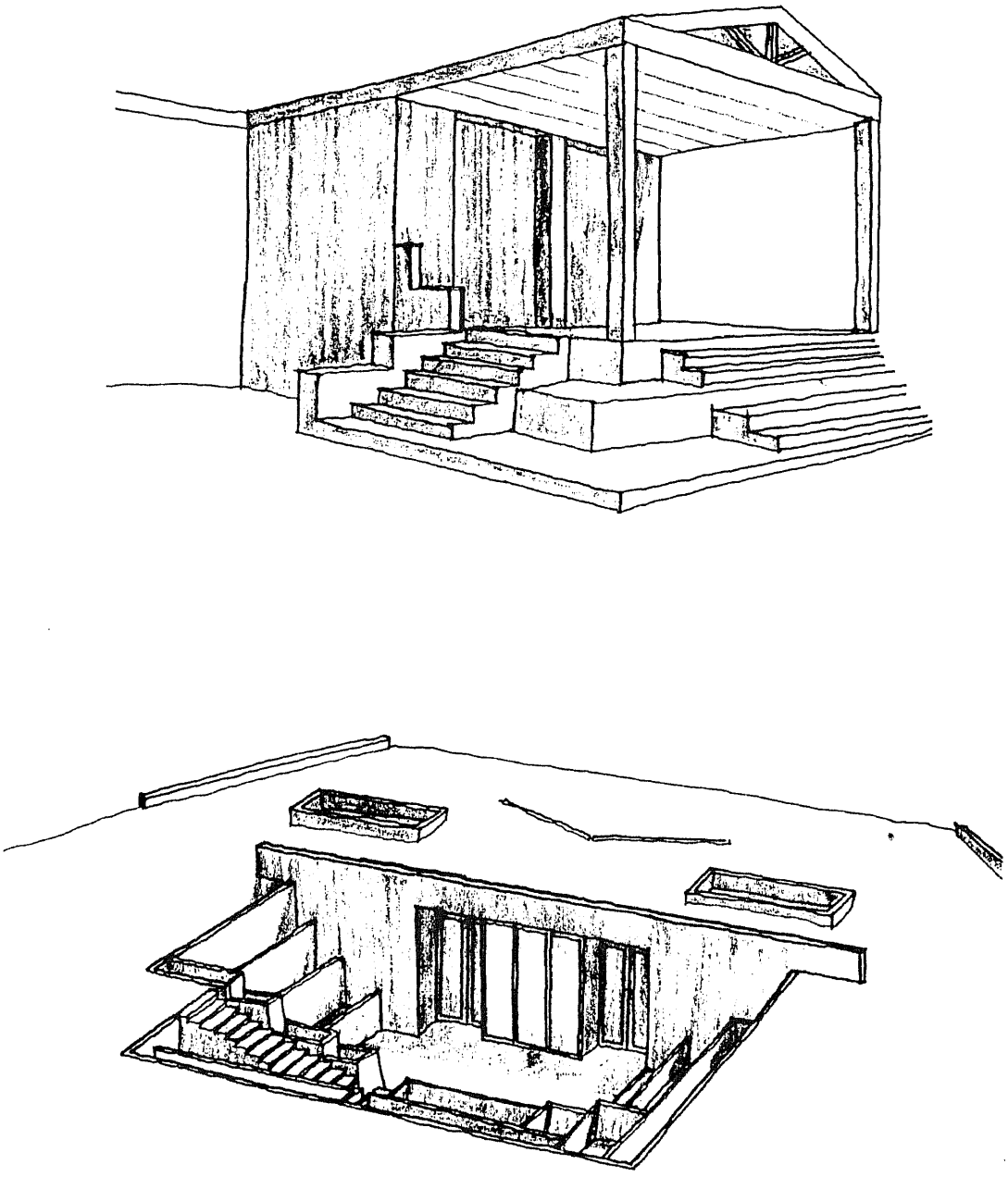
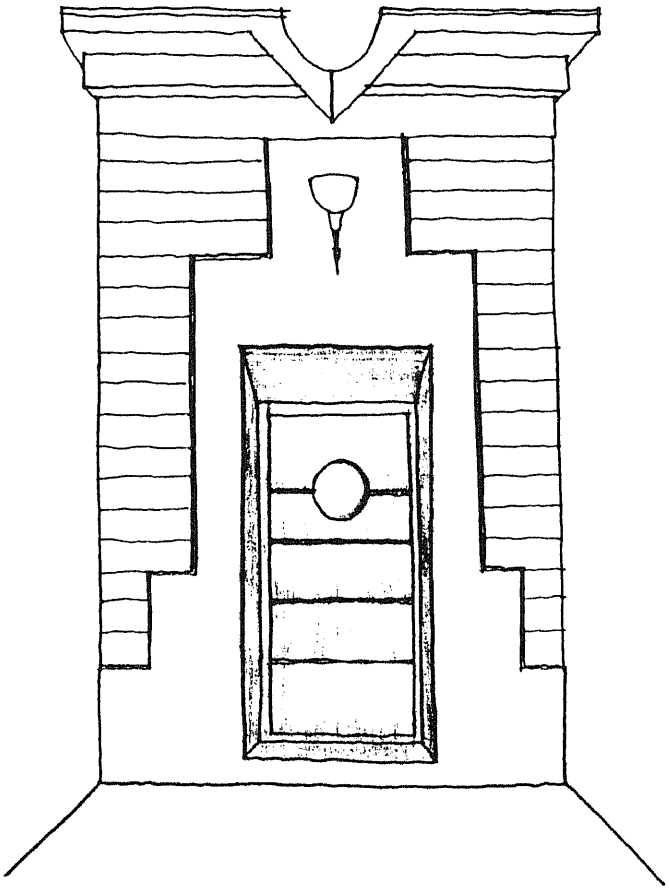


Fig. 75 Entrance of private house.

-Peter Waldman. Private Residence. New Jersey.

-Charles E. King. An Underground House. Missouri.



-Batey & Mock. Tenen Residence. California.

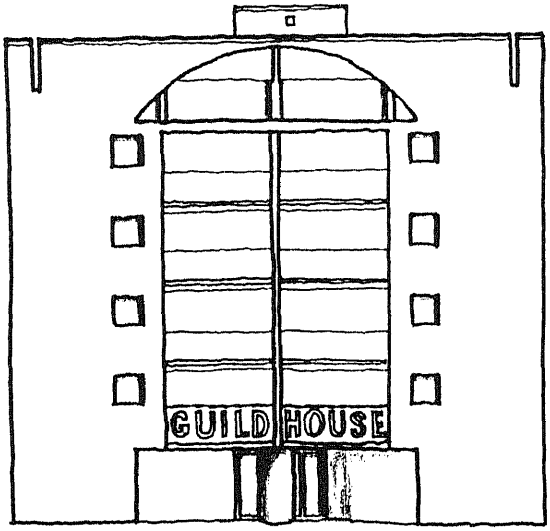
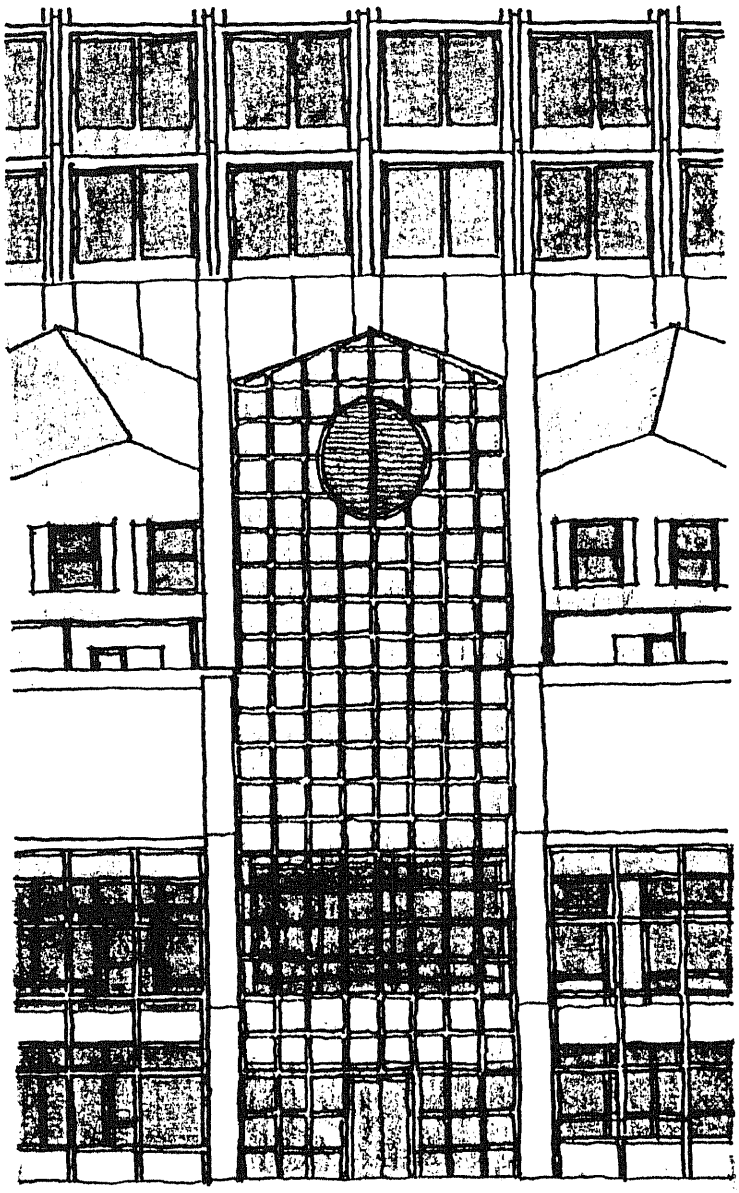


Fig. 76 Entrance of apartment building.

76a High rise building.

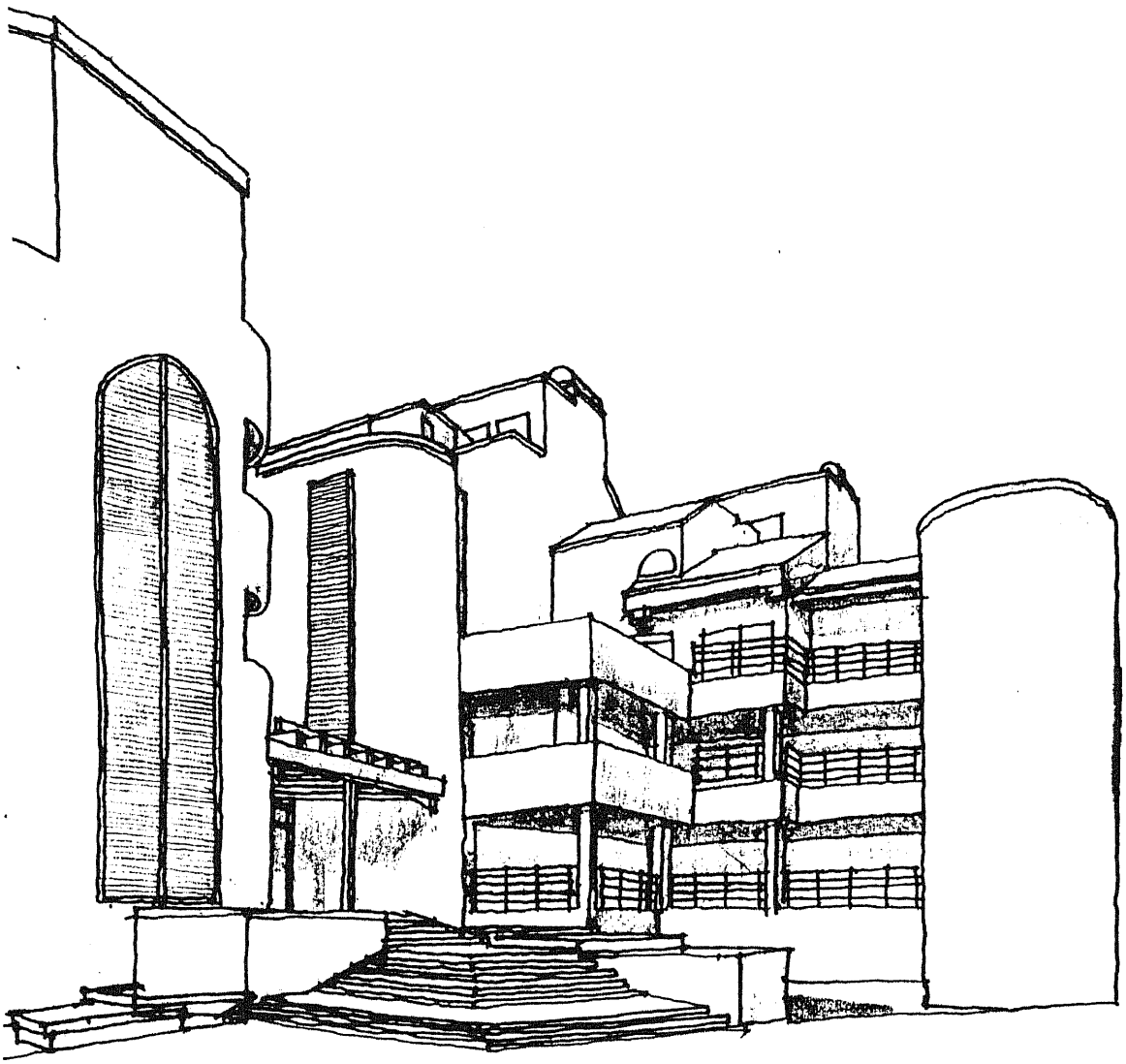
-Robert Venturi. Guild House. Philadelphia. 1960-63.



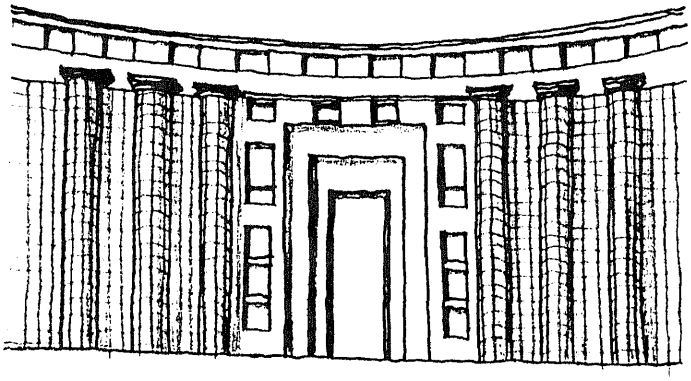
-Pensacola Place. Chicago, Illinois.

76b Low rise building.

-Three-story apartment. Farm Lane.



-Windswept Kiawah Island. South Carolina.



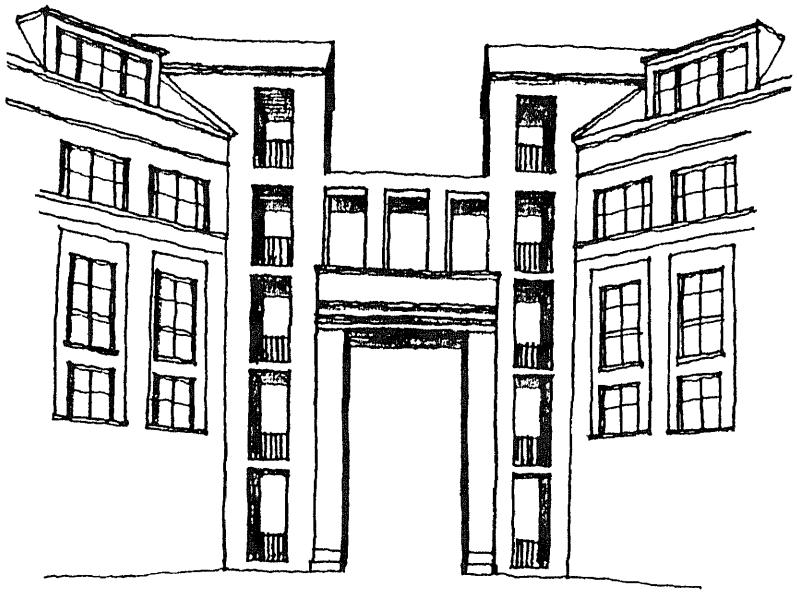


Fig. 77 Entrance of housing complex.

-Social Housing. France.

-Moore Ruble Yudell. The Tegal Harbor Housing Complex. Berlin.

2. Semi-public Building

Semi-public buildings such as government buildings, schools, and jails, require special treatment in entrance design because the building must function as half public, half private. The general public is not admitted and, yet, not entirely excluded. It depends on the design that draw attention to themselves and are prevented by physical security system. Otherwise these entrances should not be too much outstanding. Even so, they must have proper structure as public buildings (Fig. 78-82).

3. Public Building

Public buildings give special consideration to the entrance in order to focus attention and draw people into the building. Designers use the opportunity of public entry to create an outstanding visual and spatial effect. In a public building the designer can take advantage of the path of circulation in order to locate the entrance at the most accessible point (Fig. 83-86).

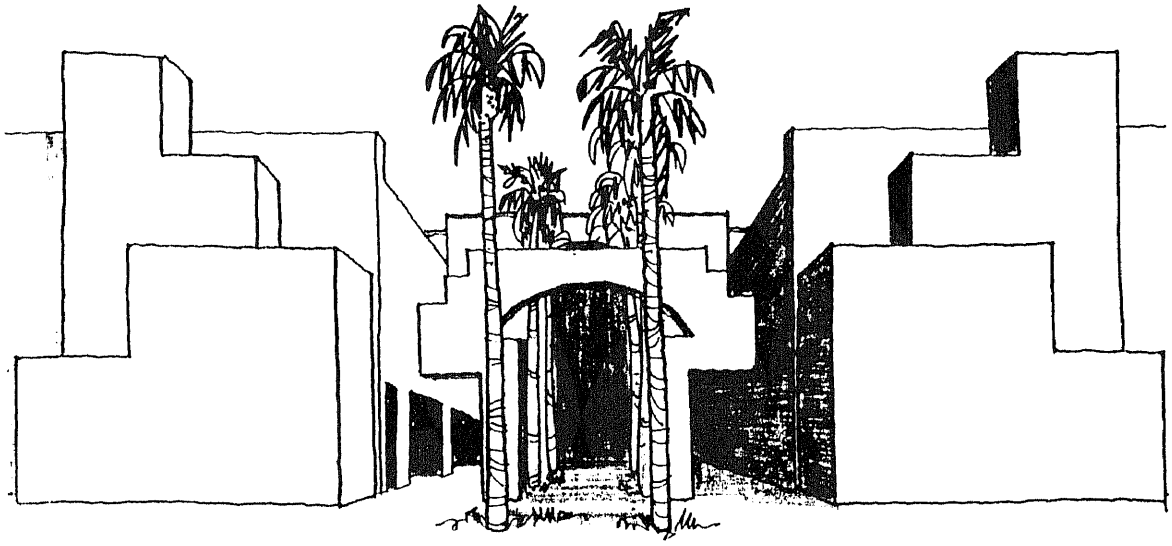
GENERAL CHARACTERISTICS OF ENTRIES

1. Shape

Generally, a doorway is some variation of an upright rectangle. According to style and purpose, the top of a door may be arched or to pointed but the human shape has led to standard proportions. Although the style of doors is often investigated to find new trends, clean and simple lines have reemerged again and again in the history of entrance style (Fig. 87-89).

2. Form

The basic form of an entrance is a frame encasing an opening. An important functional element is the vestibule whose size varies depending on the anticipated number of users. To create distinction and meaning, an entrance may incorporate a



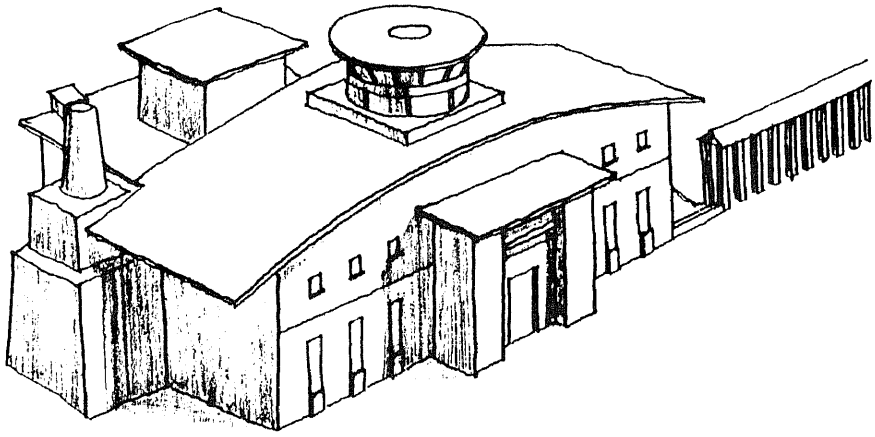
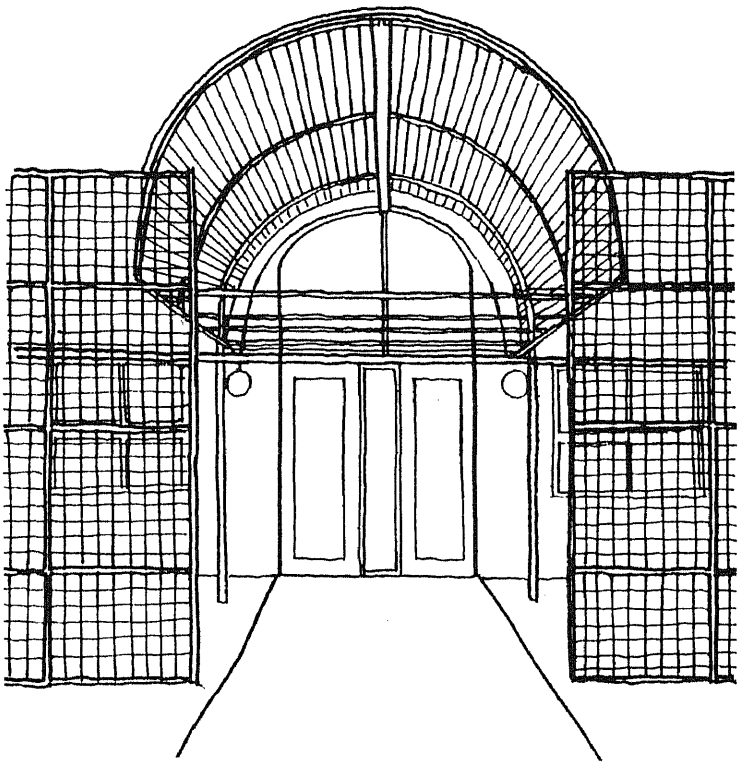


Fig. 78 Entrance of service center building.

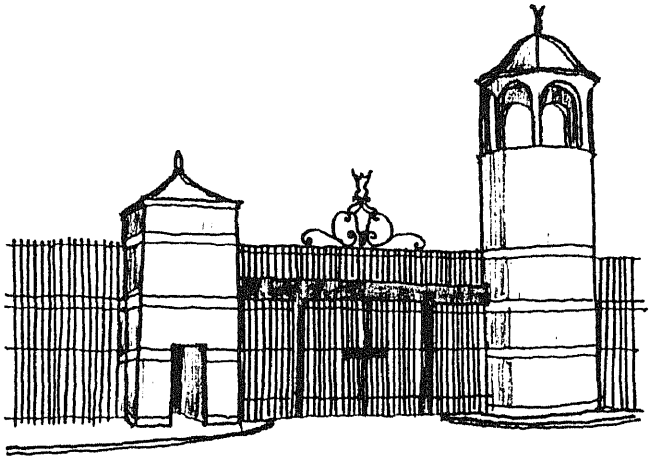
-Allen & Philip Architects. All-care Medical Clinic. Phoenix, Arizona.

-Michael Graves. Youngstown Historical Center. Ohio.

Fig. 79 Entrance of detension center.
-Arkansas Valley Correctional Facility. Arkaksas.



-Gallatin County Detension Center. Montana.



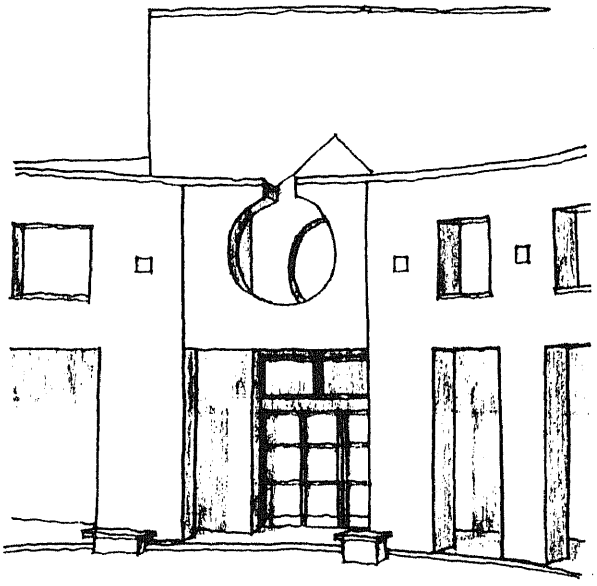


Fig. 80 Entrance of jail.

-Jail entrance tower. Terre Haute.

-Philadelphia Industrial Correctional Center. Pennsylvania.

Fig. 81 Entrance of school.

-Dartmouth College. Massachusetts.

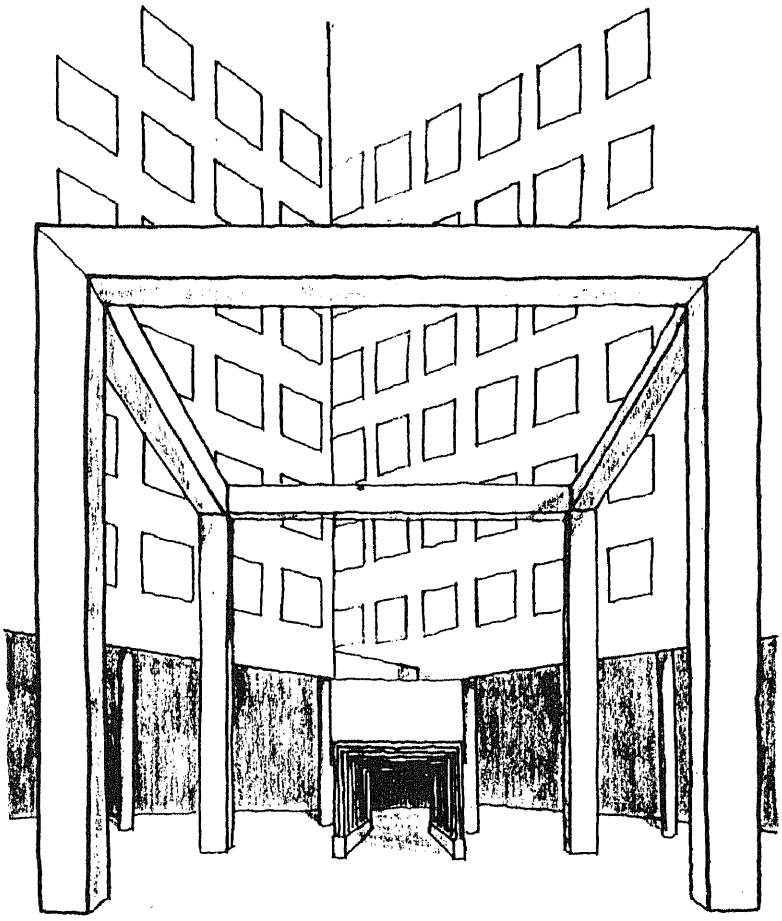
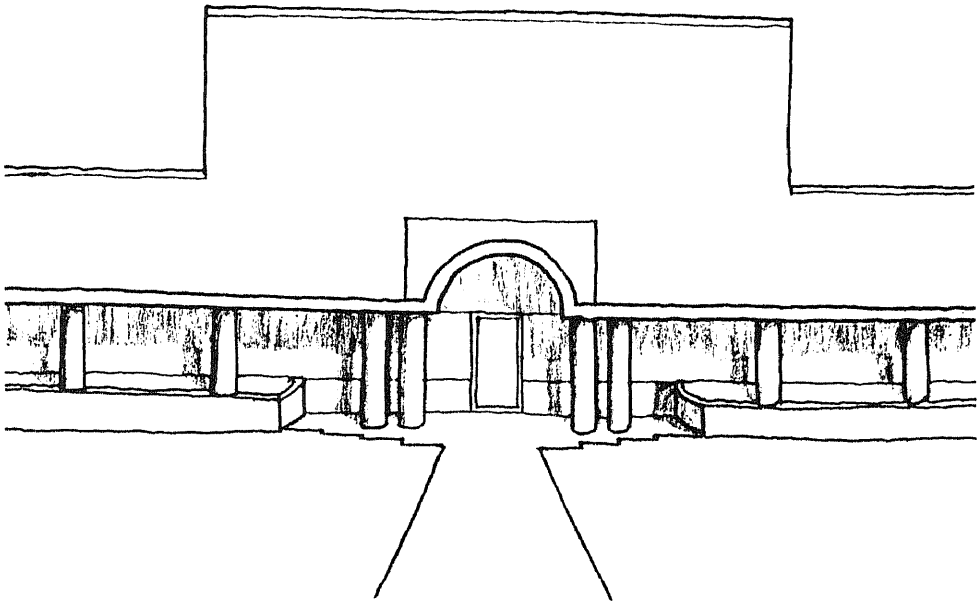


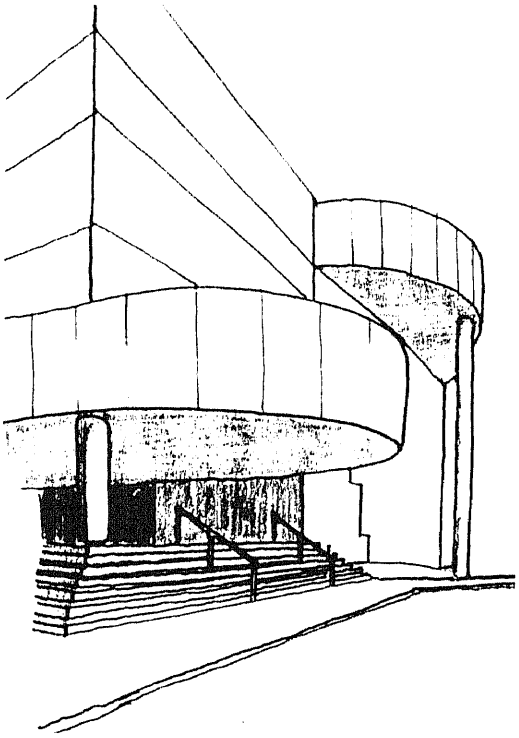
Fig. 82 Entrance of office building.

82a High rise office building.

-International Design center. New York.

-Champion International Headquarter. Connecticut.





82b Low rise building.

-The Purdue Frederick Headquarter. Connecticut.

-Mount Pleasant Corporate Center. New York.

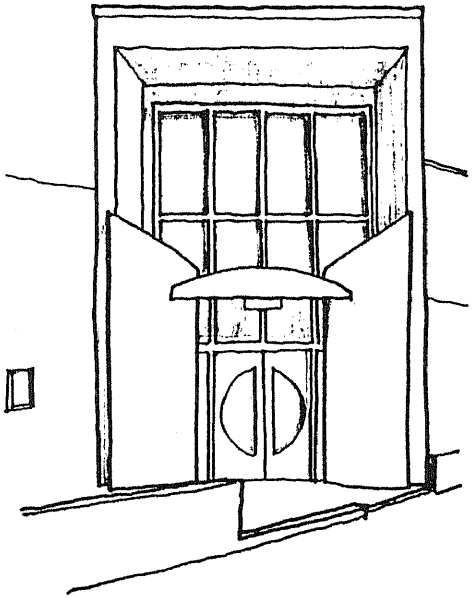
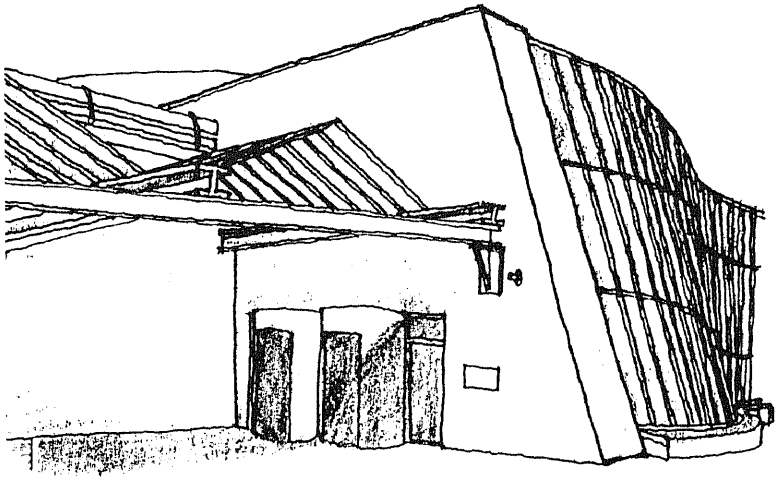


Fig. 83 Entrance of cafeteria.
-Cafe Pacifico. Connecticut.

Fig. 84 Entrance of retailer.
-Country San Francisco. California.



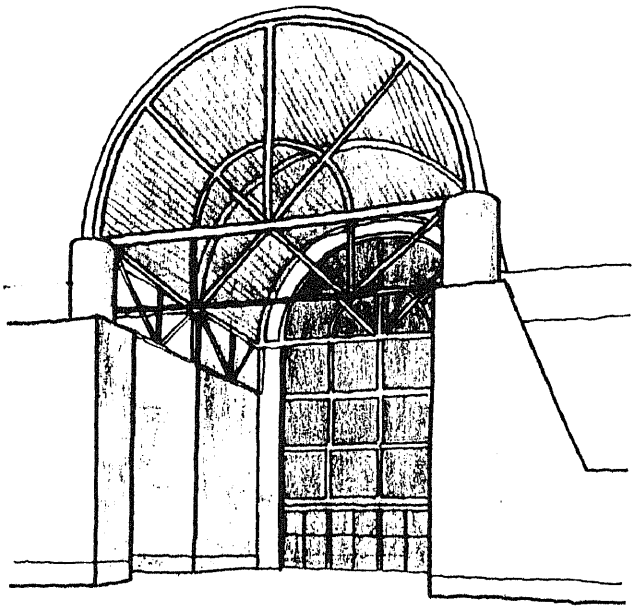


Fig. 85 Entrance of Museum.

-James Sterling.Neue Staatsgalerie. Stuttgart. 1977-83.

Fig. 86 Entrance of department store.

-Wal Mart. Texas.

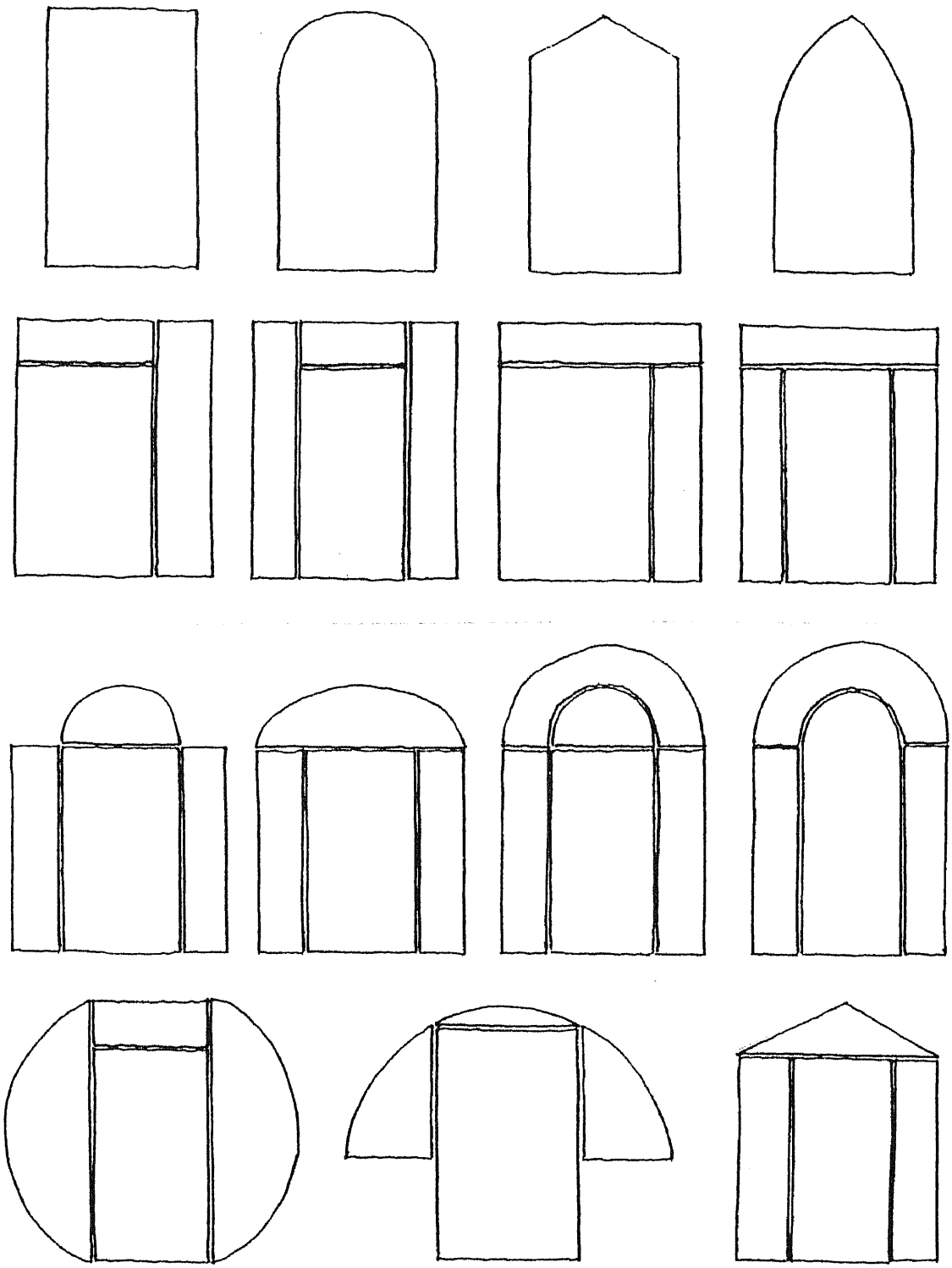


Fig. 87 General shapes of entrance.

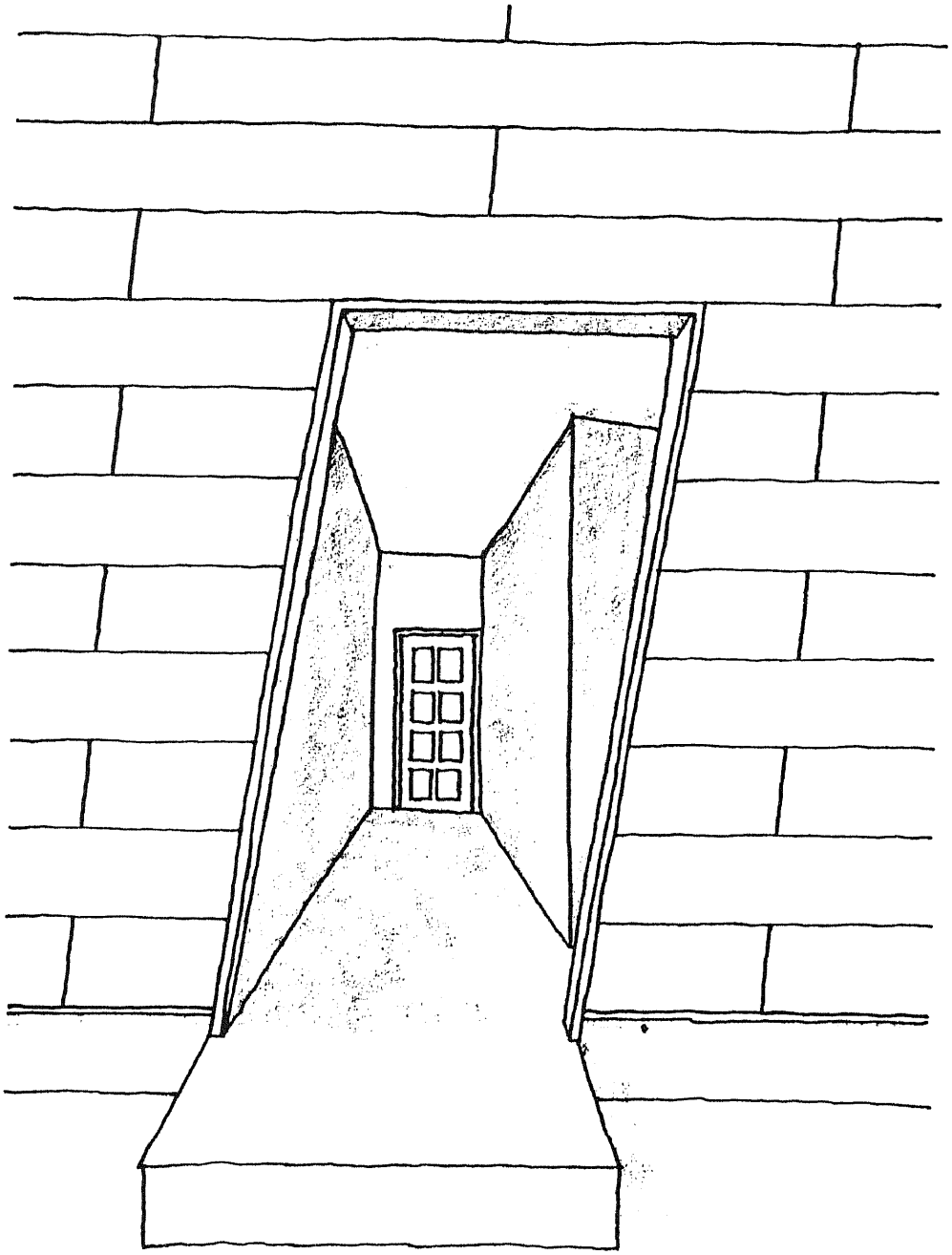
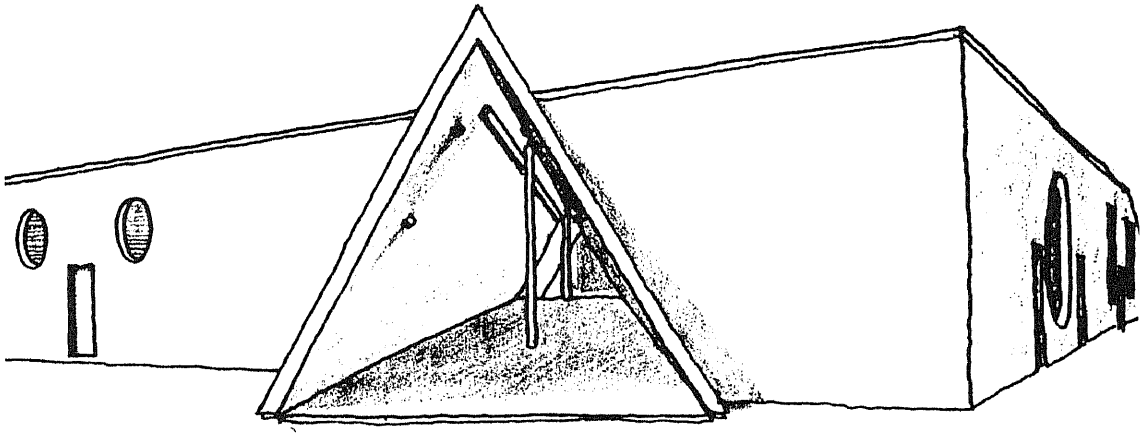


Fig. 88 Dr. Koji Yagi. Shigeo Fukudu House. Japan.



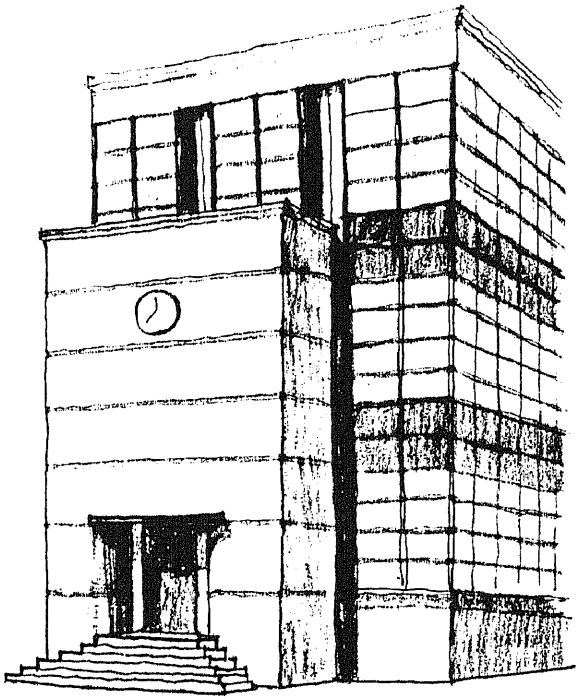


Fig. 89 Salisbury School. Maryland.

Fig. 90 Walter Gropius. Fagus Factory. 1911-13.

plaza, path, or stairs. These special elements are powerful effects that architects may exploit in their designs (Fig. 90-91).

3. Size

One way the intent of an entrance can be expressed is in its relationship to the size of the whole building. The actual size of an opening depends upon the space that one, or more human bodies can pass through, but it relates and responds to human purpose as well, whether the entrance is intended for use by individuals, crowds or vehicles. The sense of a building's significance will determine the monumentality of the entrance. For example, the size of the monumental door of Santa Maria della Consolazione is oversized in comparison to the human scale. In some cases such monumentality can be expressed by a small door accommodated within a monumental door (Fig. 92).

4. Color

Colors have an effect on the building entrance, both in determining style and psychological effect. Usually, entrances in buildings are primed in the same color as the building facade. Specified purposes may constrain the choice of color.

5. Texture

Texture, also, influences the quality of the building entrance. Smooth or rough texture can be used to the advantage of an able designer. A rich texture of light and shadow can enhance the quality of textures or be used to exaggerate contrast between the building texture and the materials used in constructing the entrance (Fig. 93).

CRITERIA FOR ENTRY ANALYSIS

In the end, the deciding factor which contributes to the entrance design. It is human activity which determines the criteria since their movement, in and out of the building, is the dynamic action which becomes a part of the entrance experience.

Fig. 91 Entrance with vestibule.

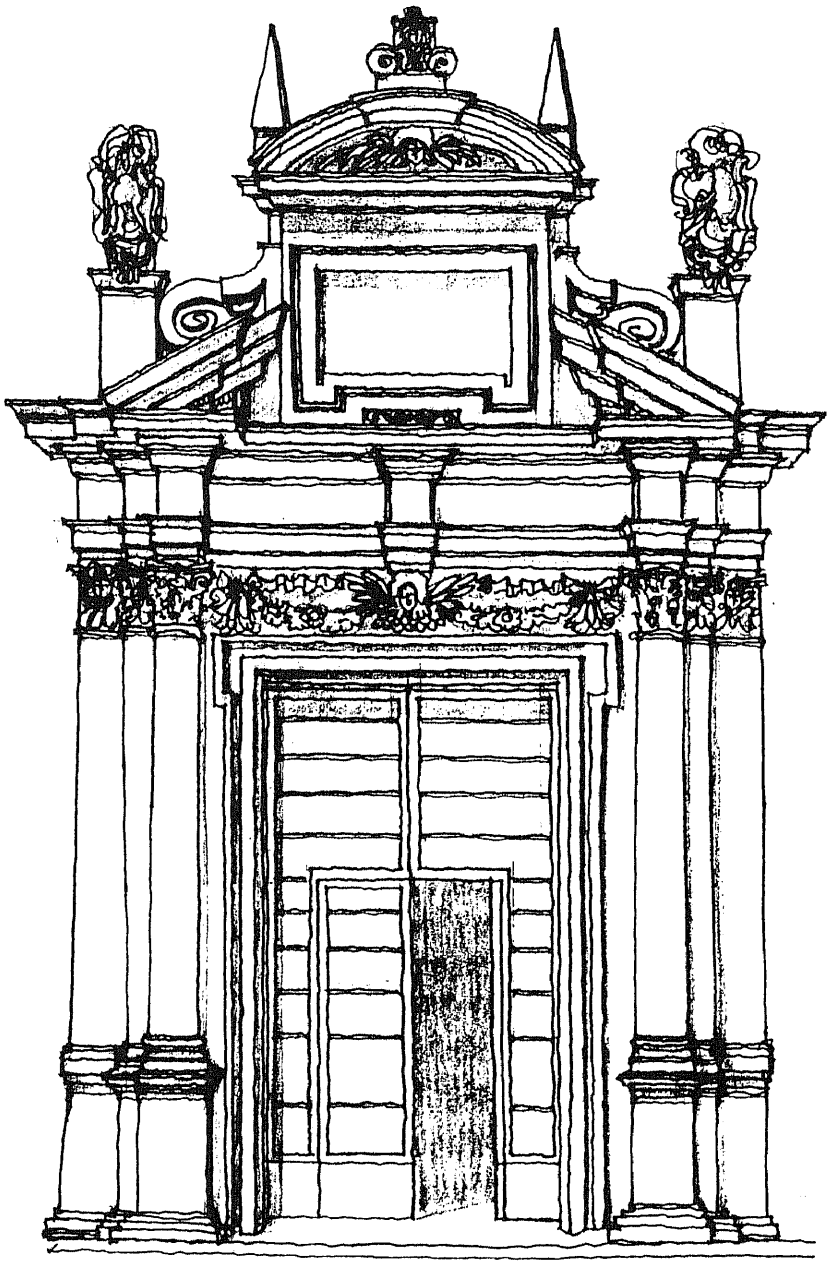


Fig. 92 Santa Maria della Consolazione. Topi.

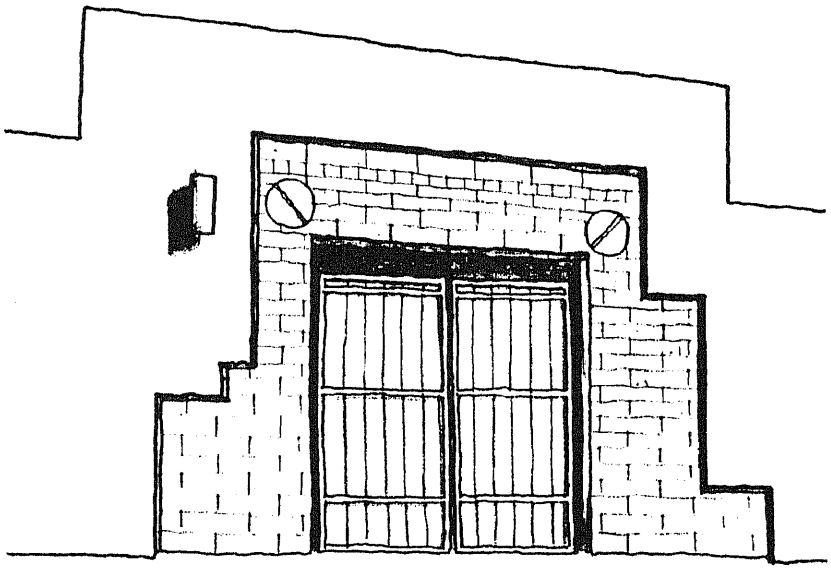


Fig. 93 Christensen-Miller & Associates. Gammage Residence. Phoenix, Arizona.

People create the kind of space and characteristic form they need, desire and enjoy. Before the entrance itself become a reality the human criteria come into play and these influences have fundamental effects on the characteristics of all entrances. The next chapter will describe various criteria concerned with entrance analysis.

1. Site and Geographical Feature

Climate is another important factor in determining entrance design. Obviously, entries in a southern, sunny climate are different from those in areas with rain, sleet, snow, and ice (Fig. 94). An entrance with a vestibule and two doors is common where there are long cold winters in order to protect against strong wind and snow, while a single or double door is sufficient in a tropic or desert environment. Canopies are an entrance adaptation used to protect the entry from bright hot sun and used for decreasing sunglare. Architectural entrances in tropical areas have canopies for functional reasons, and at the same time they are an important element of facade decoration (Fig. 95).

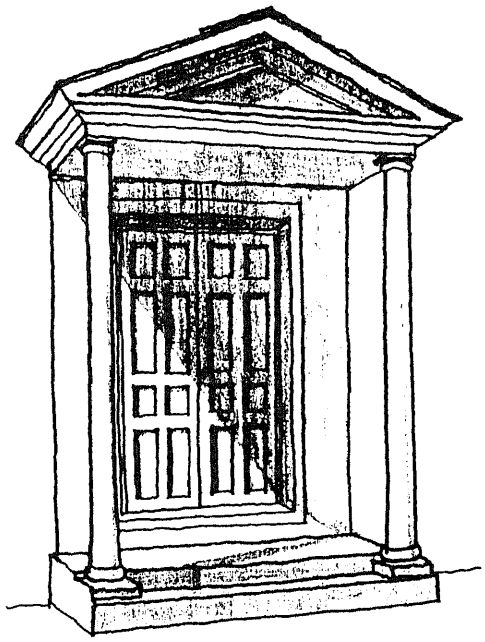
2. Culture and Tradition

The general image of the gateway in its most simple form is standard, no matter where it is. Compared with the chapter of a book, the entrance of a city or building is like the beginning or the end of the passage. Within the text is the tradition which gives meaning to the basic architectural concepts. The simplest form of an entrance is a rectangular opening in a panel or wall but culture and religion are engaged with the forms that give meaning to lifestyles and beliefs of people and it is this cultural meaning that makes an entrance distinct.

The culture and religious belief of a people greatly influences their lifestyle. Entrance is a way of introducing symbolic value to a place and reveals both the rituals and behavior of a culture.

Entrances often take on meaning that is fundamental to a way of life. In Thailand people believe in the superstitions surrounding death. The bodies of dead

Fig. 94 Houses in hot weather area (above) and cold weather area (below).



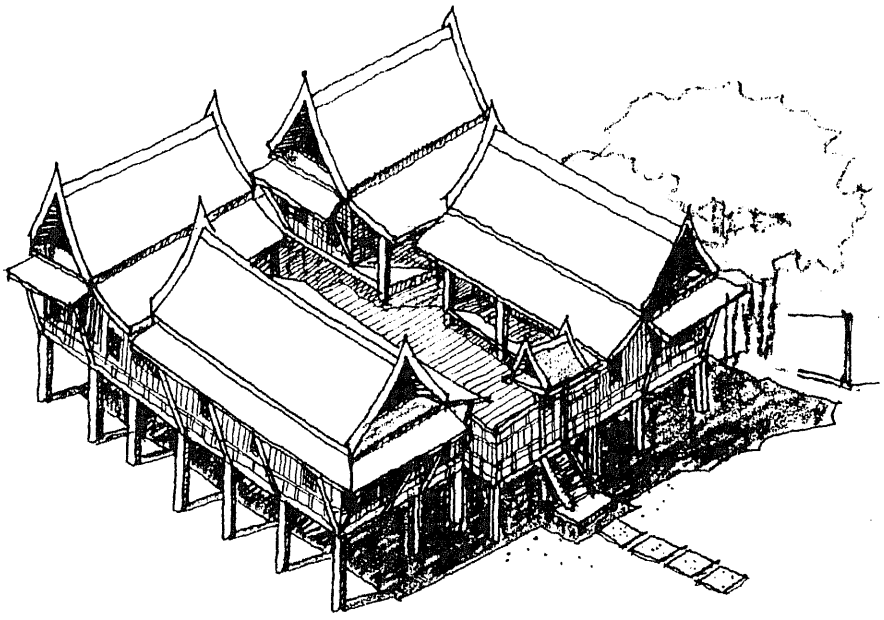


Fig. 95 Entrance with canopy.

Fig. 96 Entrance of suburban Thai house.

people always face west and so it is considered an unlucky or unsuitable direction for entrance. East is the direction of sunrise and represents new life, therefore, the ancient Thai people always built the main entrance facing east. The entrances within the building also were affected by this belief; so that doors can face any direction but the west (Fig. 96).

3. Purpose

Although designers are in agreement that the entrance is an important factor in an overall design, the actual entrance in any given design is as individual as the building itself. The designer must consider building type and function, whether it be private or public, a house, a barn, a hotel, a school, a library, an office building, a hospital, or a factory. Each requires a particular entrance solution (Fig. 97).

POSSIBLE ENTRY FORMS

The entrance acts as a transfer point from the area outside to the area inside the building. It also serves the function of a connection point between spaces and rooms. Forms of entrances are usually created by considering their functions. Some building entrances may need stairs or a plaza in front, but some may only need an opening. Significantly, each building has a main entrance which is the focus for the public approach. People gather together or prepare at this point for entrance into other parts of the building. Although building entrances can be differentiated by many shape and form, in this chapter entrances will be categorized by their motif and setting.

1. Motif

The two specific motif elements will be considered are 1.) The opening itself (doorway motif) and 2.) The surrounding frame around the doorway (door encasing motif).

Fig. 97 The comparison of entrances which respond different purposes.

1.1 Doorway Motif

Depending on styles and purpose, an entrance can be composed of a single or double door. A differentiating characteristic is the way the door is opened. The doorway motifs reveal four types based on the manner of opening doors (Fig. 98).

1.1.1 Away and Towards

A door itself can be seen as a movable part of the wall. The door and the direction it swings provide different experiences and relationships between users and the space inside.

1.2.2 Above and Below

Examples of the doors opened from above and below are, respectively, the drawbridge and the portcullis. They create a more protected entrance and were frequently used in ancient buildings.

1.2.3 Sideways

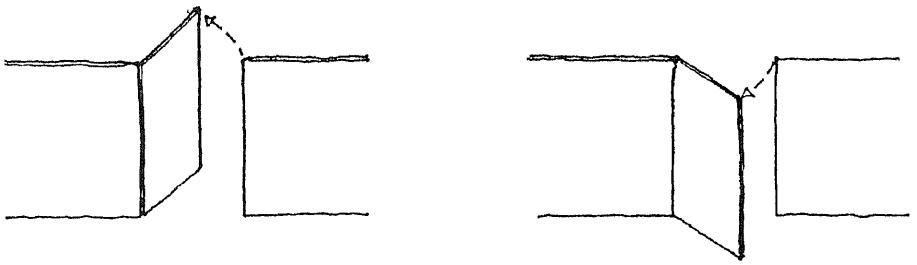
Doors can be opened by sliding or folding to either side and this variation is preferred in entries of limited space because of the space saving advantage.

1.2.4 Revolving

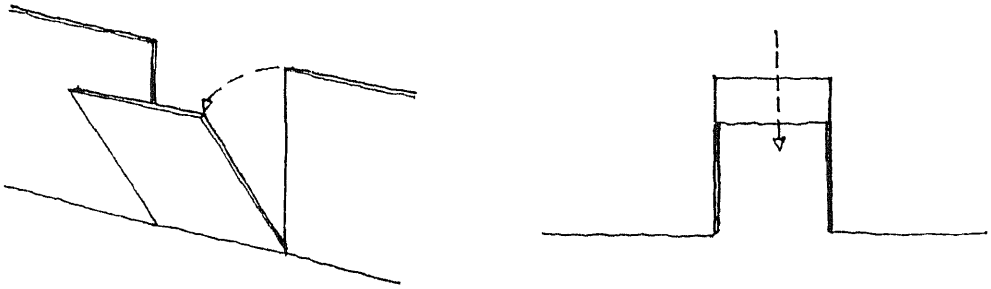
This kind of opening has been used for many years, especially in public buildings. Revolving doors are especially advantageous in cold weather areas to protect people inside the building from the exchange of air which occurs during frequent use of the doors. These entrance types are usually located at the entrances of shopping centers and office buildings.

1.2 Door encasing motif

The motifs used as the casings around openings fall into categories which emphasize various aspects of the opening. Each type of opening creates a different relationship with building users (Fig. 99).



Away and towards

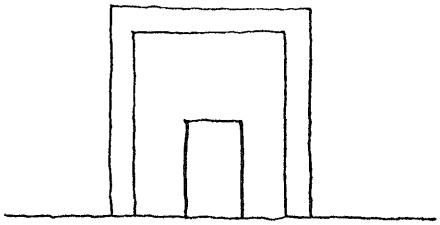


Above and Below

Sideways

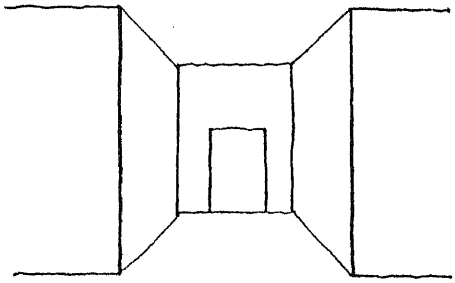
Revolving

Fig. 98 Doorway motif.

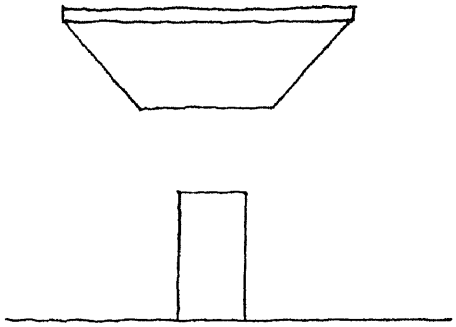


Frame motif

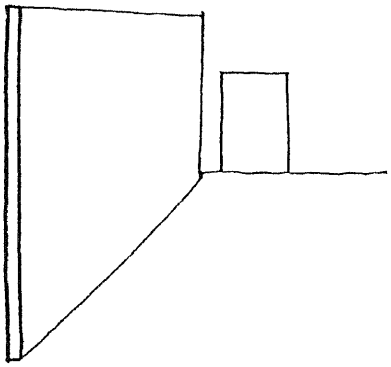
Split motif



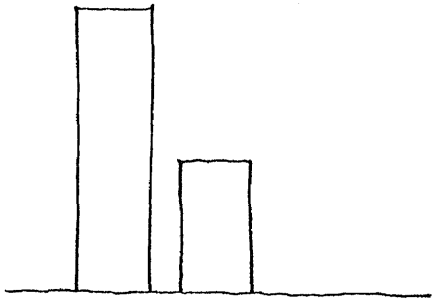
Niche motif



Shelter motif



Directional motif



Side tower motif

Fig. 99 Door encasing motif.

1.2.1 Frame motif

The frame or portal motif is best described as a front entrance where the entrance becomes the principal form in the front facade, the main character of the motif. It appears in various types of buildings ranging from simple ornamentation around the door of a house to huge columns flanking an entrance such as entrances or entries in the monumental architecture of ancient Greece.

1.2.2 Split motif

The split, or twin-tower motif, conveys the feeling of moving between two vertical structures. Verticality is the outstanding characteristic of the type and it is much used in sacred architecture such as temples and cathedrals.

1.2.3 Niche motif

The niche or deep-set motif is the type of entrance where the door is set into an opening which embraces the entry. Two projecting side wings enclose the opening and form a protected space. This niche gives a sense of entry set apart.

1.2.4 Shelter motif

The shelter motif is examplified by the passing under of a constructed shelter or anteroom prior to entrance. In many cases the shelter motif develops into a roof form. Examples of the diverse roof forms can be categorized as follows (Fig. 100-105):

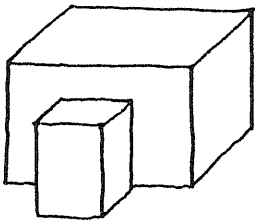
a) Added porch roof.

b) Shed porch roof.

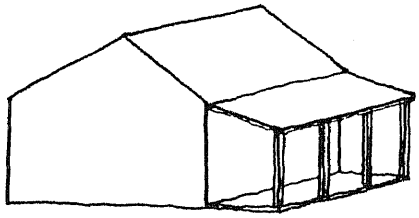
c) Two-story porch roof.

d) Cut out porch roof.

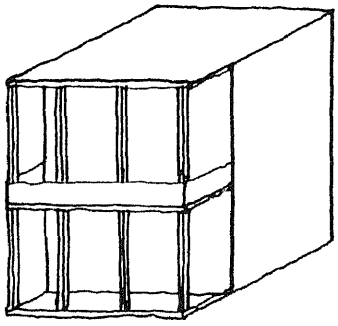
e) Dog run porch roof.



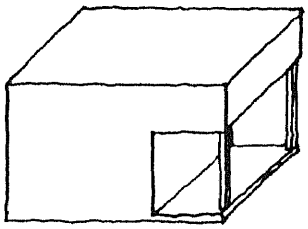
Added porch roof



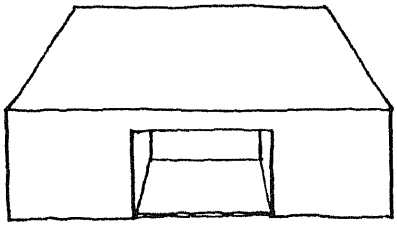
Shed porch roof



Two-story porch roof

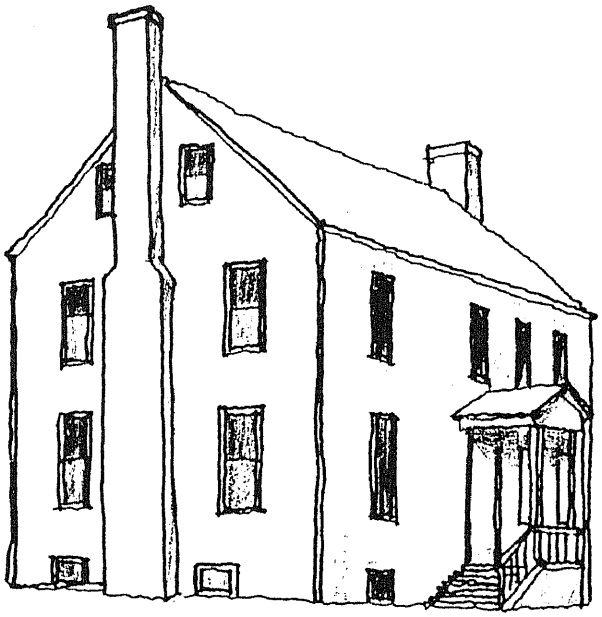


Cut out porch roof



Dog run porch roof

Fig. 100 Shelter motif.



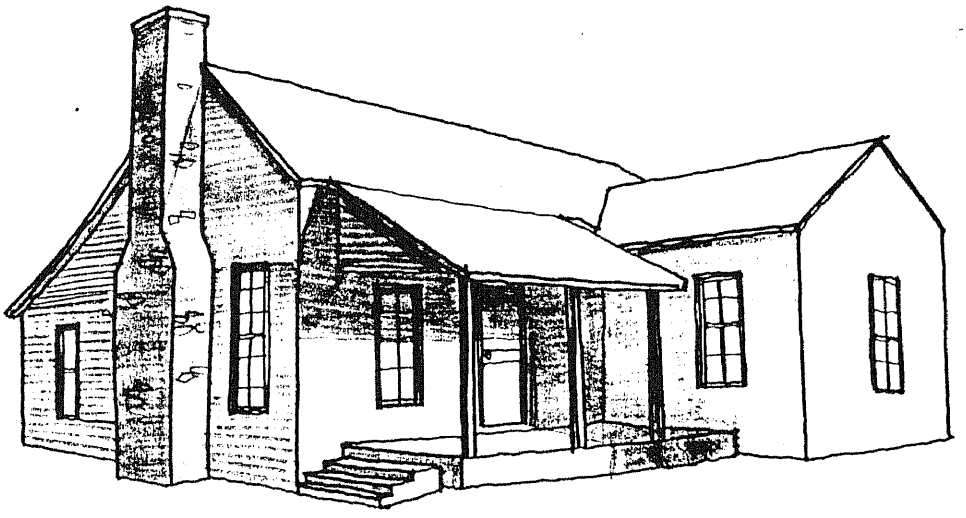
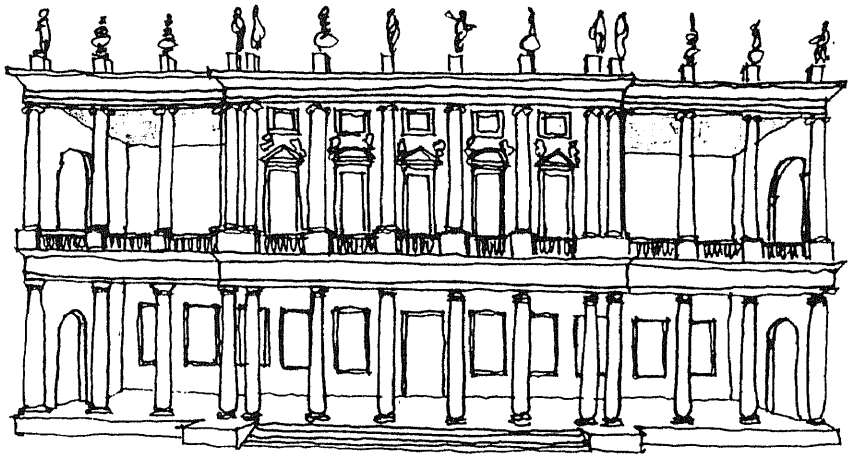


Fig. 101 Added porch roof.

-Talfair House. Washington D.C. 1818.

Fig. 102 Shed porch roof.

-A house in Texas.



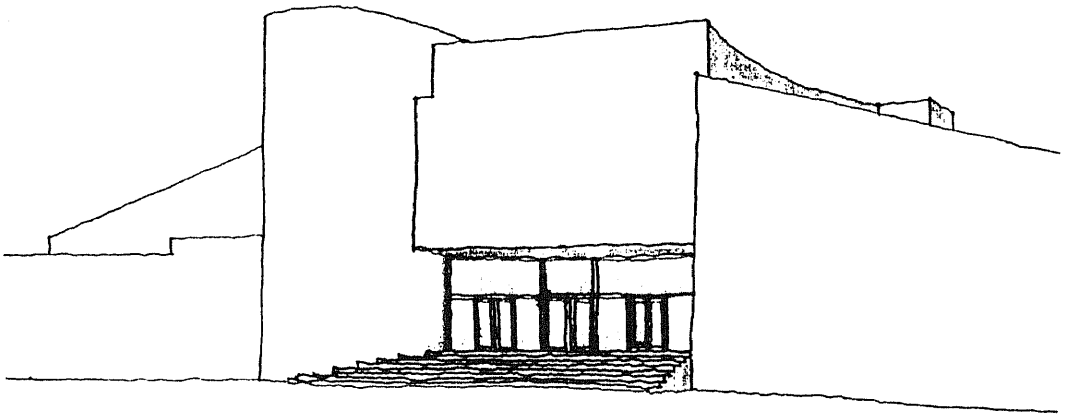


Fig. 103 Two-story porch roof.

-Palazzo Chierkati. Vicenza. 1550.

Fig. 104 Cut-out porch roof.

-Johnson Burgee. Art Museum of South Texas. 1972.

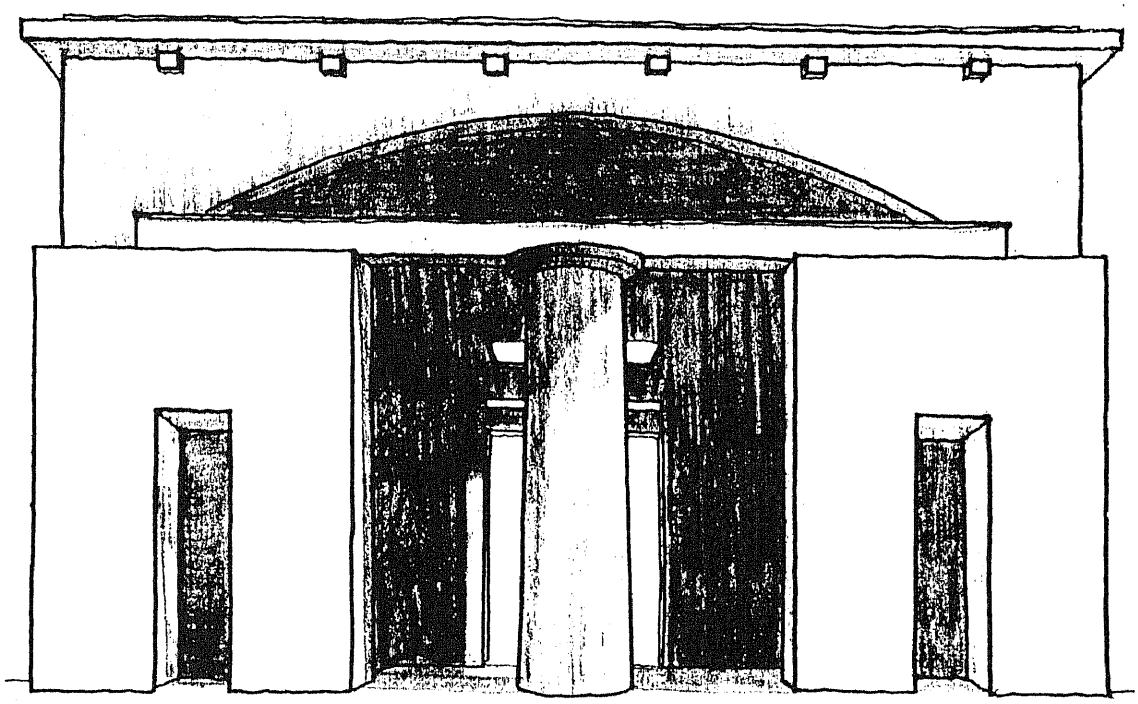


Fig. 105 Dog-run porch roof.

-Michael Graves. Clos Pegase Winery. California.

1.2.5 Directional wall motif

The directional wall is a wall that leads the approaching public to the entry. The guiding wall is usually as a symmetrical feature of the design, opposing vertical with horizontal movement.

1.2.6 Side tower motif

Vertical movement is emphasized in the side tower motif as in the split motif. Contrast is created between the vertical lines of the tower and the horizontal lines of the ground, with the entrance placed beside this accentuated point. The effect of the side tower is to create a focus by the entrance, acting as a sentry.

2. Setting

2.1 Entries between interior and exterior spaces

The entry way mediates between the building and its surroundings. As mentioned earlier, the entry way often includes a space such as a platform, a terrace, a plaza or steps. Occasionally within a large landscape, there are garden, courts, and water basins positioned to enhance the grandeur of the buildings.

2.2.1 Entries on Ground Level

When entry occurs at ground level a path serves as the connection to the entrance. The path leads to the entrance which serves as the goal or focal point of the entry axis. This straight forward approach is demonstrated in many types of buildings (Fig. 106).

2.2.2 Entries on Upper Ground Level

As further development of the directional path is the connection between two different levels, accomplished with stairs leading up to the entry. It creates anticipation on the part of the person approaching. There is a sensation of expecting an encounter or a meeting place to be reached at the top of the stairs. Stairways also provide the potential for variation and stylistic development. Examples of exceptional stairways in New York, such as the New York Library and

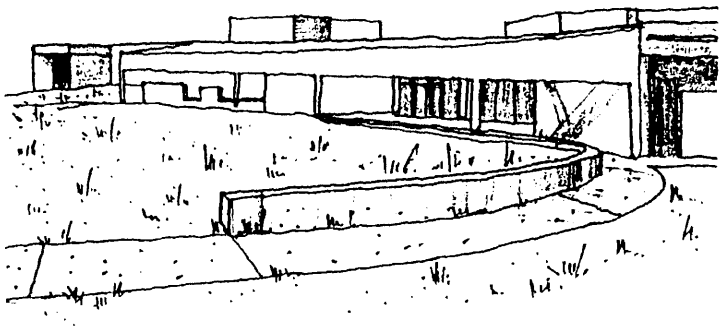
Metropolitan Museum, demonstrate that stairways as entrance also provide social and performance space for the general public (Fig. 107).

2.2.3 Entries on Lower Ground Level

An example of a successful building with a main entrance on the lower level is The Gallery at Market East, Pennsylvania. The surrounding stairs descend from the street toward the main entrance leading people into the building. This type of entry is not common because the feeling created by descent can have a negative effect on people as they approach a building (Fig. 108).

2.2 Entries between interior spaces

Within the building entries act as the transfer point between rooms. This passage from room to room can be designed with or without a door. In Some buildings, such as a museum, the location of interior entries is very important. When people are in one room, they should be able to see other rooms in partial view. This arouses their curiosity encouraging circulation from room to room. For the most part, entry treatment between rooms takes place on the same level. In the case of particular or specialized rooms the interior entry can be stressed by the character of doors, door casings, and ornament, as will be mentioned in the next chapter (Fig. 109).



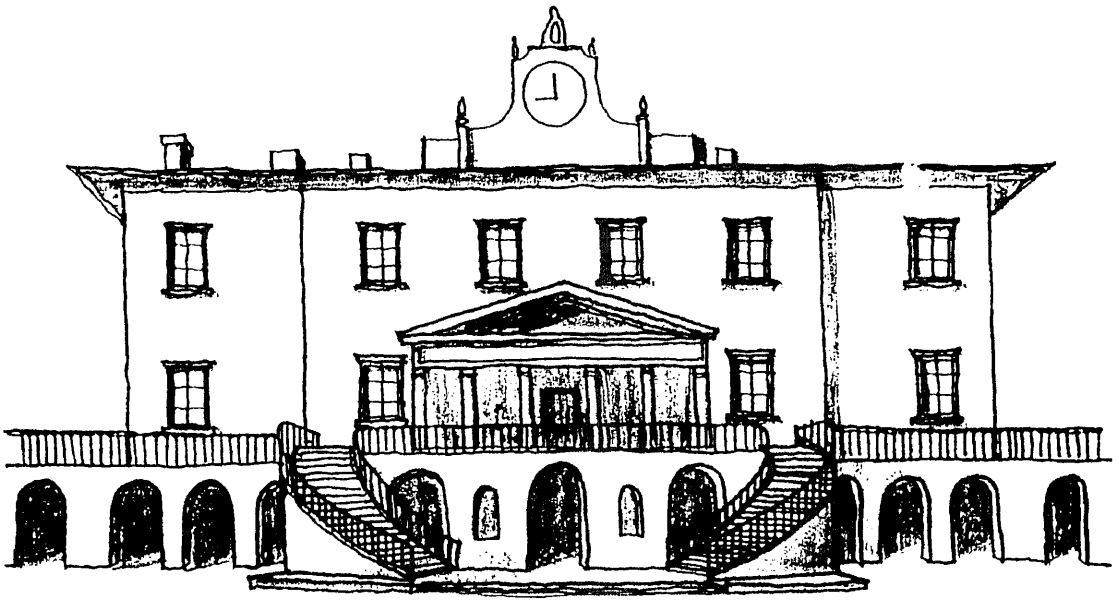
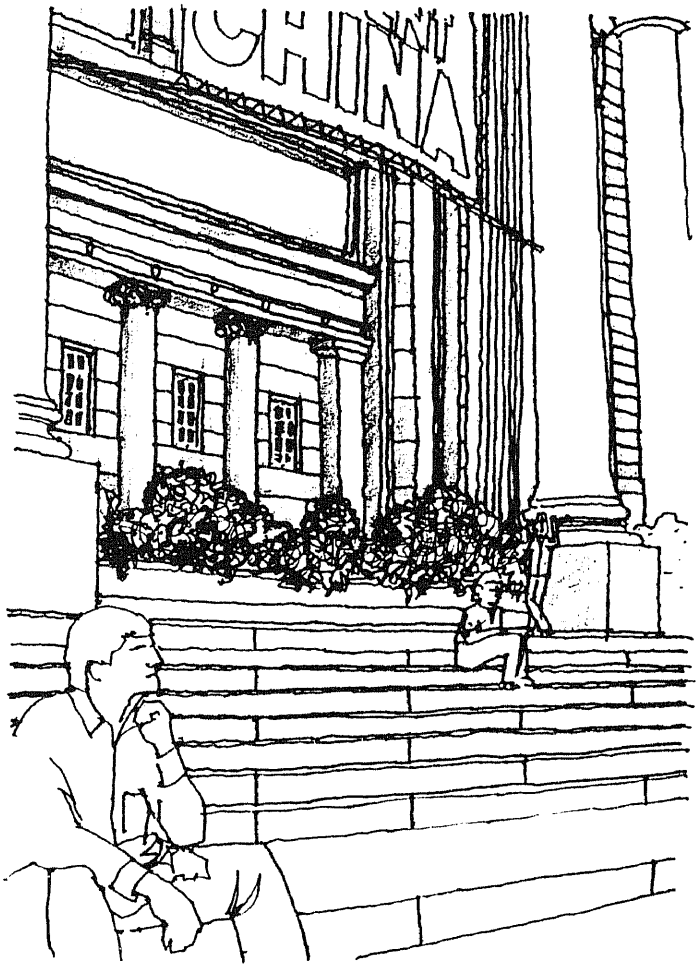


Fig. 106 Entry on ground level.

-Kaplan/Mclanghlin/Diaz Architects. Santa Cruz Pretrial Detention Facility. California.

Fig. 107 Entry on upper ground level.

-Giuliano da Sangallo. Villa Medici at Poggia a Caiano. Near Florence. c.1485.



-Metropolitan Museum. New York.

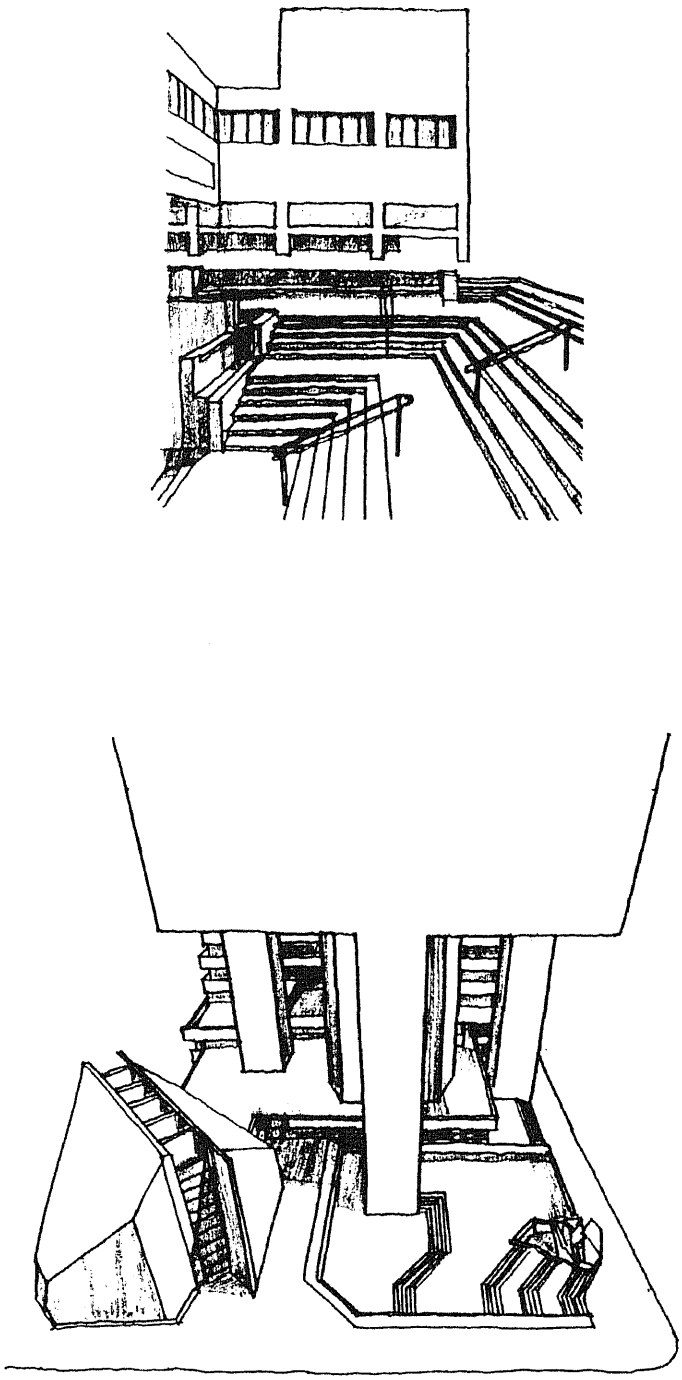


Fig. 108 Entry on lower ground level.

-The Gallery at Market East. Pennsylvania.

-Huge Stubbins Associates. Citicorp Center. 1974-77.

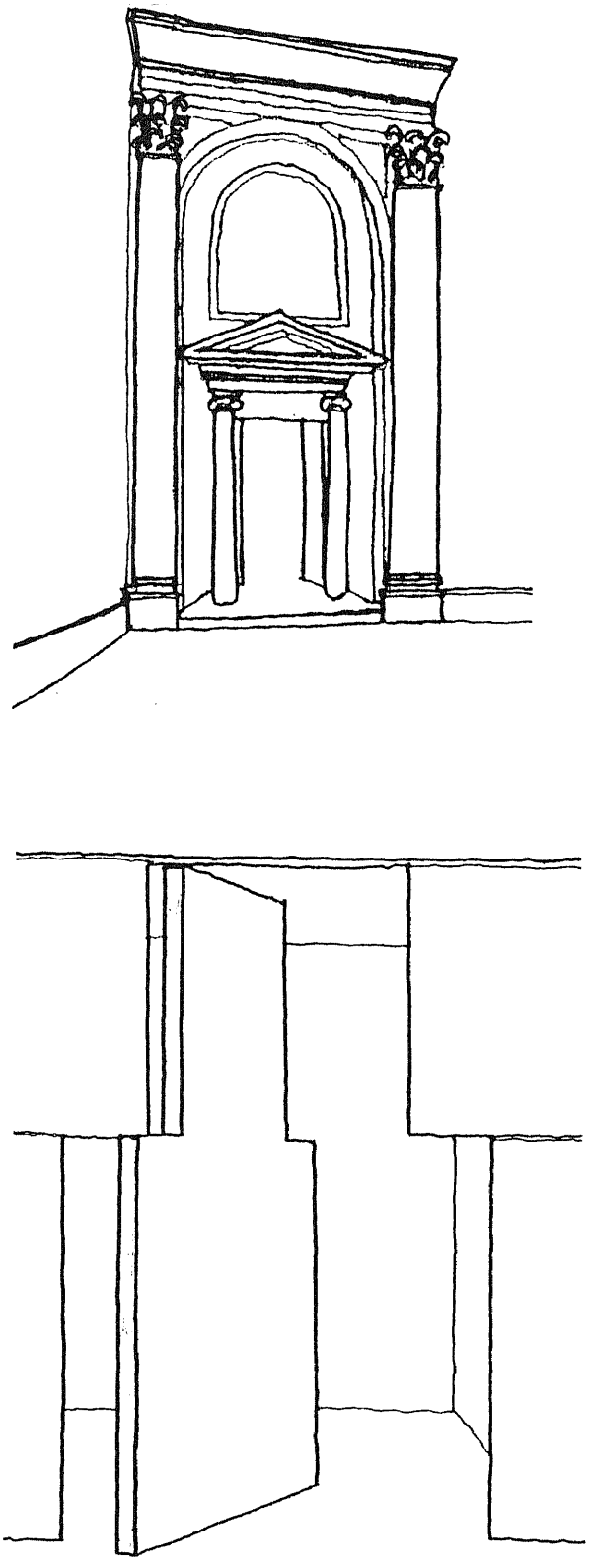
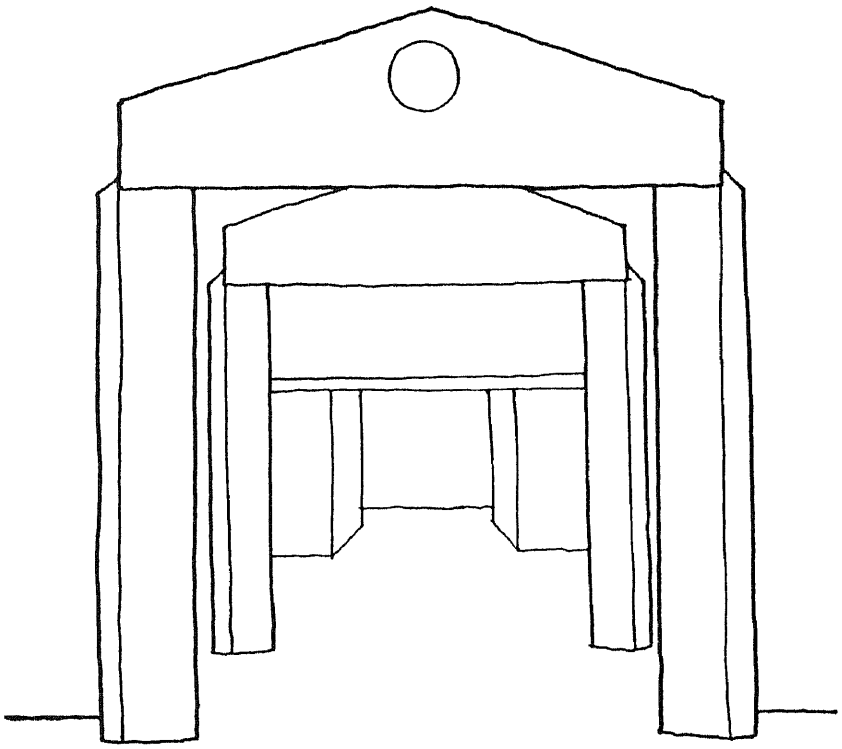


Fig. 109 Entry between interior spaces.

-Fillippo Brunellishi. S. Lorenzo. Florence. 1421-28.

-Entrance in private residence.



-Entrance in museum.

CHAPTER III

USERS AND ENTRIES

USERS AND MEANING IN ARCHITECTURE

Today designers are consciously aware of how they can instill meaning into architectural symbols, not only the building can convey the meaning, but also each element of the building. Imagine a large hand-carved oak door in front of you, before you pull it back and enter, what do you expect to see behind the door ? By approach and the introduction of style beyond, entryways have been used toward this goal.

Environmental research has served to further the study of meaning in architectural environment. Hershberger, R. G. maintained in his Ph.D. dissertation at University of Pennsylvania, A Study of Meaning and Architecture, that there are two essential categories of meaning of which architects should be aware. The first can be classified as *representational meaning*, the second as *responsive meaning*. The two types of meaning are explained as follows:

> *"In representation meaning, the architectural environment is known, in that it, and anything to which it refers, is represented in the human organism as a percept, concept, idea, or whatever. We see the rectangular object, recognize it to be a door, feel the coolness of the bronze knob, and so on. The second, or responsive meaning, consists of internal responses to the already internal representations. These responses might be affective, evaluative, or prescriptive in nature; tingling in our spine, feeling of disgust or contempt, thoughts about the value of represented environment, or ideas concerning what should be done about it."* (Hershberger, 1974, p. 148.)

These two meanings are related. The responsive meaning depends on representational meaning. The reaction or responsive meaning among users may vary, but both meanings are useful in predicting human behavior. It is useful for architects to understand the representation their forms suggest as well as to reasonably predict how users will react to their designs.

1. Representational Meaning

On one hand architectural forms present themselves to viewers without acting as signs. What users recognize depends on their past experiences and background, which will differ from that of the designer. It is necessary for architects to be aware of these differences in order to create the intended effect. While the architect may intend to evoke people's reaction to passing through a main building entrance by representing an outstanding shape and form, the user groups might attend to its color and texture instead. Certainly, both groups will not be attracted to the same aspect in the same manner.

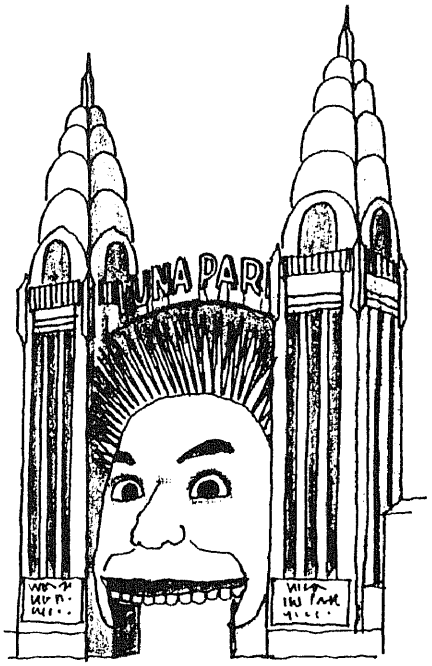
The character of an entrance can be observed by users as revealing the architect's psychological make-up, or personality (Fig. 110). It can reflect an attitude toward society. The relationship works both ways since society also reacts to and shape the attitude of the design and/or designer.

Some forms act as signs or symbols which bring mind and feeling to objects or events. An example of such a form is *language* and the meaning attached to words. The representation of the form of the word itself is trivial relative to the representation which it evokes, its meaning (Tannenbaum, 1964, p. 67) (Fig. 111).

2. Responsive Meaning

When the representation is formed our internal responses develop concerning our representations. The representations may excite, please,or bore users. As people confront a building; the bright shapes, forms, colors and texture of the entrance may delight them and arouse the desire to come closer and walk through the building, to discover the internal space.

Sometimes responsive meaning has to do with immediate emotion toward form. When people first encounter a form they might be excited and pleased, then they bring values, criteria, or attitudes to bear on the representation. Their reflections determine in their own mine what is exciting or boring, pleasant or



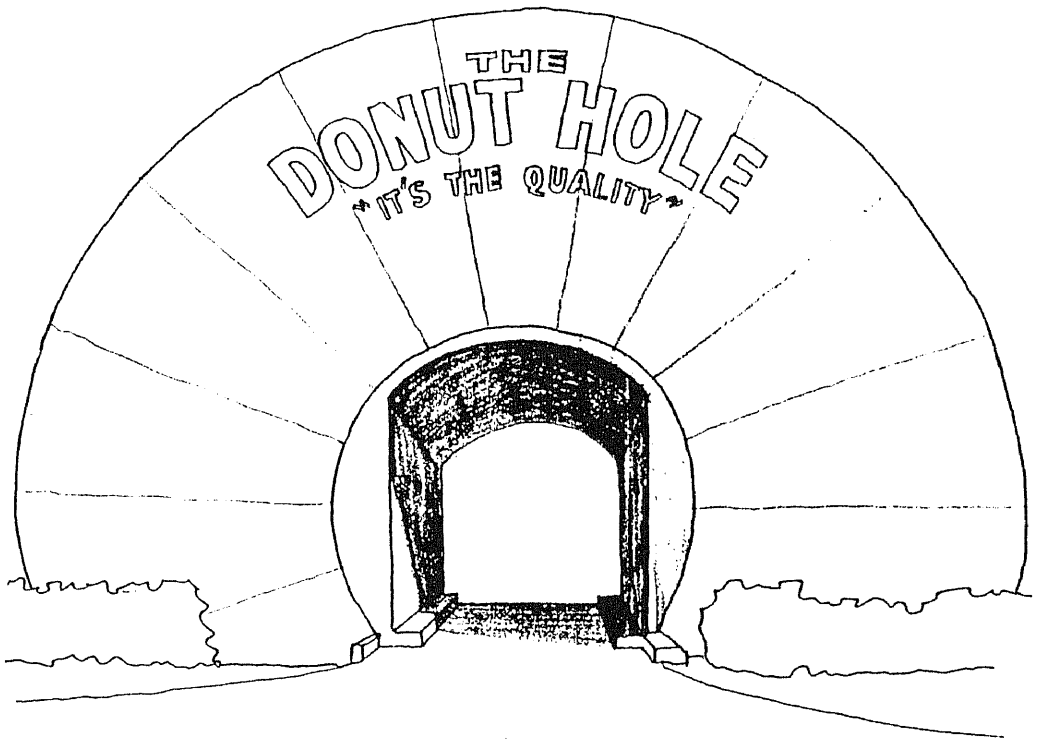


Fig. 110 Luna Park.

Fig. 111 La Puente. California. 1964.

unpleasant, ugly or beautiful, common or interesting, and so on. Once the representation has been perceived, and evaluated, the next behavioral response is to decide what action to take. This behavioral response is most significant to architects who anticipate that their buildings will be used for the purpose they intended.

ARCHITECTURAL EXPRESSIVE QUALITY

It is necessary to be concerned with *"direct experience."* Direct experience occurs in psychology when we directly and uncritically approach our experience, accepting and recording all aspects of it, without judgement. A striking general feature of our perception of experience is organization. For example spatial organization interprets the perception of things as behind, before, above, and so on (Levi, 1974, p. 111).

Architects are concerned with the experience of expressive qualities in form and can exploit them in order to create a quality of space. Rudolf Arnheim, a gestalt psychologist, mentioned that expressive qualities relate to particular configurations in our experience and David Levi supports Arnheim's notion in his article as followed:

> *"This is true of the class of forms experienced through the visual modality. Visual shapes are experienced as having expressive qualities which can be used in the visual organization of architectural forms and therefore should form part of every architect's vocabulary."* (Levi, 1974, p. 111)

Expressive quality denotes a property of shape evoking human response. The whole property cannot be destroyed. The response is to a totality, an experience of the whole. The response can be altered without changing its main structure as, for example, in the case of experiencing two objects which are equal in shape, form, and material but different in color, one being black and the other white. In this case, the whole property of the object is effected by the color change.

The different colors evoke different visual experiences, they have very different expressive qualities.

To clarify the notion of architectural expressive quality, consider the example shown in the next figure (Fig. 112). The building presented here has an entrance on the right .

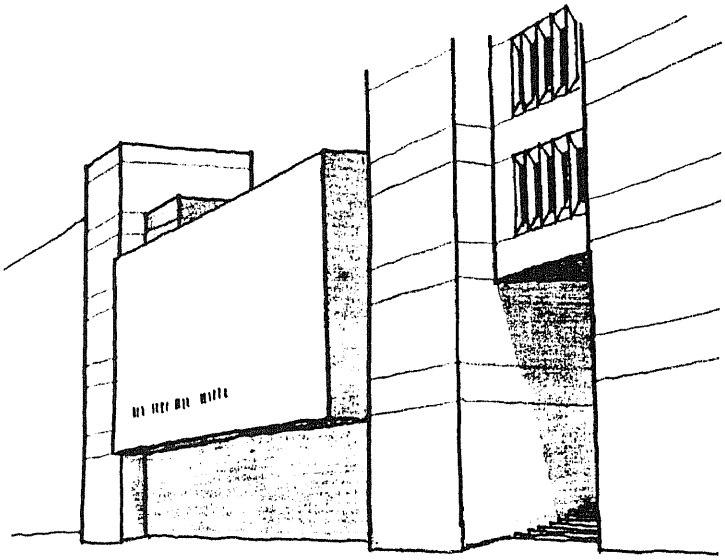
> *"The entrance to the building is dominated above by a vertical mass and set between two larger vertical masses, almost as if the entrance and the upper mass are pressed into place. There is apparent pressure exerted by the vertical masses, a sense of controlled force dominates our experiences of the form and, as a result, a "powerful" quality is derived from the apparent tension between the comprising masses of this building. This powerful quality is the expressive quality, the building appears threatening." (Levi, 1974, p. 115.)*

1. The Importance of Expressive Quality

Unfortunately, the lack of expressive quality in modern building types is far too common. The configuration of elements of the building often has little or no meaning for users, and activities inside the structure are given no relation to outer form, making it differcult to anticipate or even decipher the form's intent. The result is an alienation instead of the feeling of wholeness which results when the architect deliberately employs expressive form and meaning.

An example of how expressive form can be used is shown in figure 112. It is no surprise that the building is an armory. That is, we can find a powerful quality in the appearance. Another example is demonstrated in the design of the Pinnacle Peak electronic switching station. Although the entry is not easily identified, giving the building a mysterious expressive quality, the building is architecturally integrated in such a way that it allows for the necessary access (Fig. 113).

It is not possible for every building to articulate social meaning through expressive qualities. However, images of expressive quality can relate to many modern buildings and this world greatly increase the impact of the design.



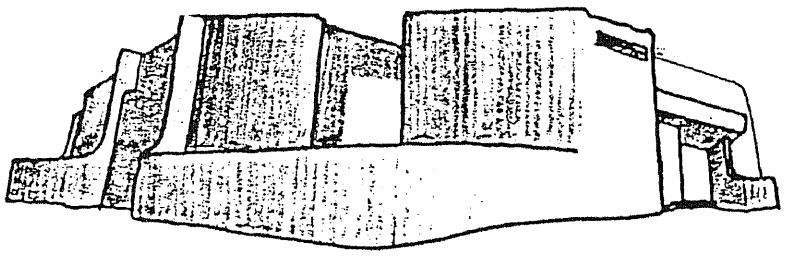


Fig. 112 Entrance of an armory building.

Fig. 113 Pinnacle Peak Electric Switching Station.

THE IMPACT OF USERS AND BUILDING ENTRANCE

Psychology has shown that the quality of space effects users. Maslow and Mintz conducted a study which compared the reactions of people tested in an aesthetically pleasing or cluttered room. The experiment clearly demonstrated that work carried out in an aesthetically pleasing environment is more relaxed and productive.

As an element which sets the stage for the experience of the inner space, entries are an example of the profound effect the esthetic nature of a building can have on its users.

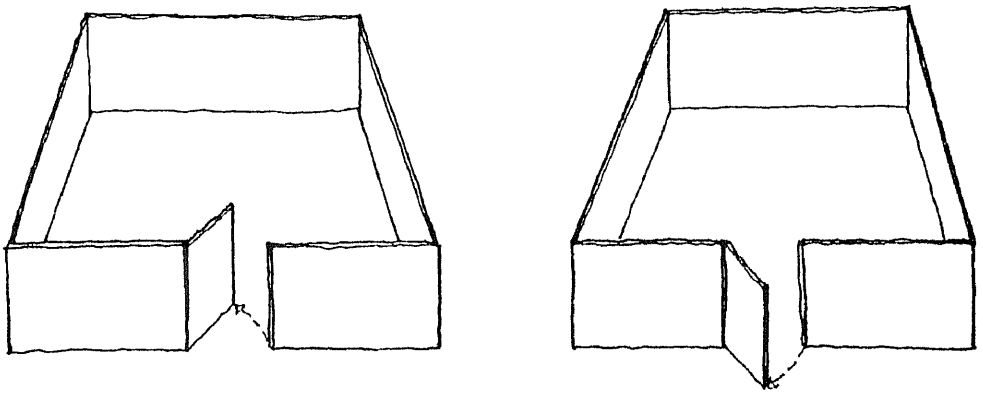
1. Usage

The way a door is opened and the experience people have when confronting a door is varies considerable. The door may contribute to a feeling of rejection or persuasion.

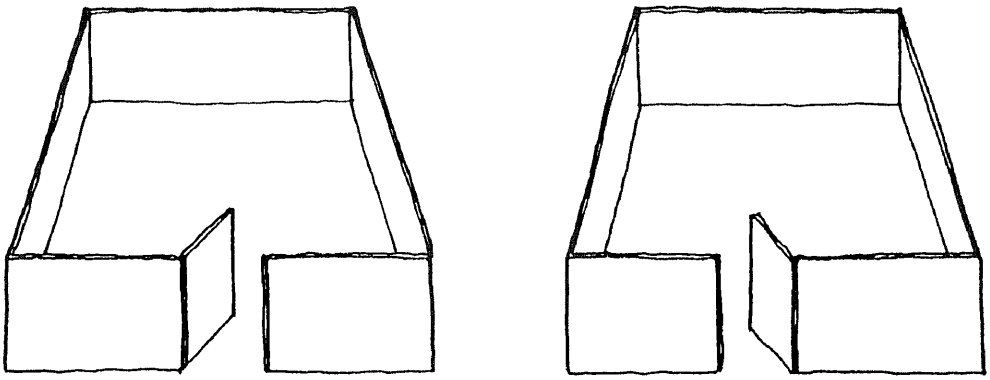
Also, the way a door swings contributes to the degree of dynamic strength experienced in entering (Fig. 114). The motion relates to the movement of inner or outer space. A door swinging outward brings the inner space toward us, giving the impression of the interior space pushing us away, an impression of rejection. On the contrary, the inward swinging door leads the outside space into the interior, giving intensity to our movement inward, an act of persuasion.

Characteristics of doors also differ according to how they are hinged (Fig. 115). If a door is hinged on the right; the action of entering is strong because the person will use the stronger hand in order to open the door, forcing the interior space to one side. If a door is hinged on the left, the action is reduced.

A drawbridge or a portcullis lowered from above conveys a threatening image (Fig. 116, 117). The drawbridge is especially forbidding because it displaces the entire space in front of the opening. The Medieval fortress benefits from both types of entrances in a way that makes for an effective rejection of enemies.



Door swinging (inward and outward)



Door hinge (left and right)

Fig. 114 Door swinging feature.

Fig. 115 Door hinge feature.

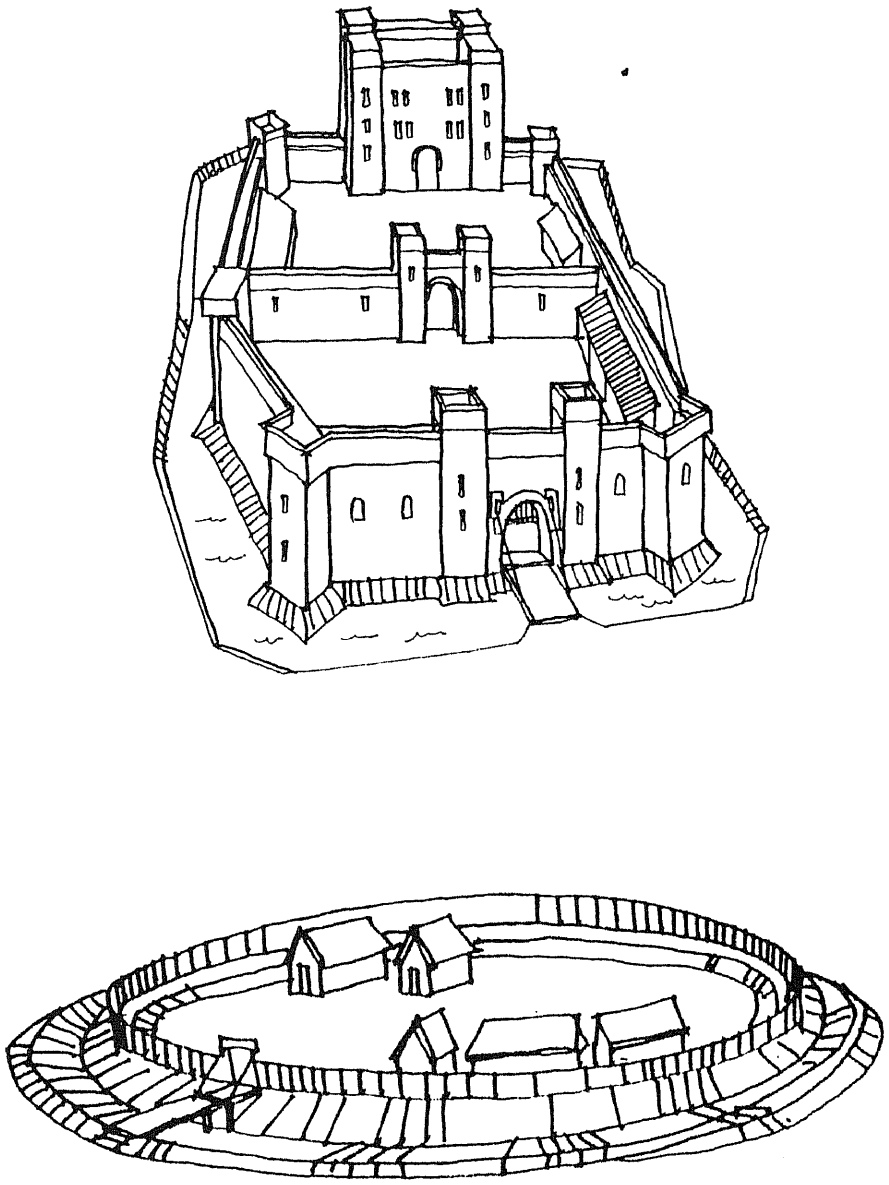


Fig. 116 Gate with drawbridge.

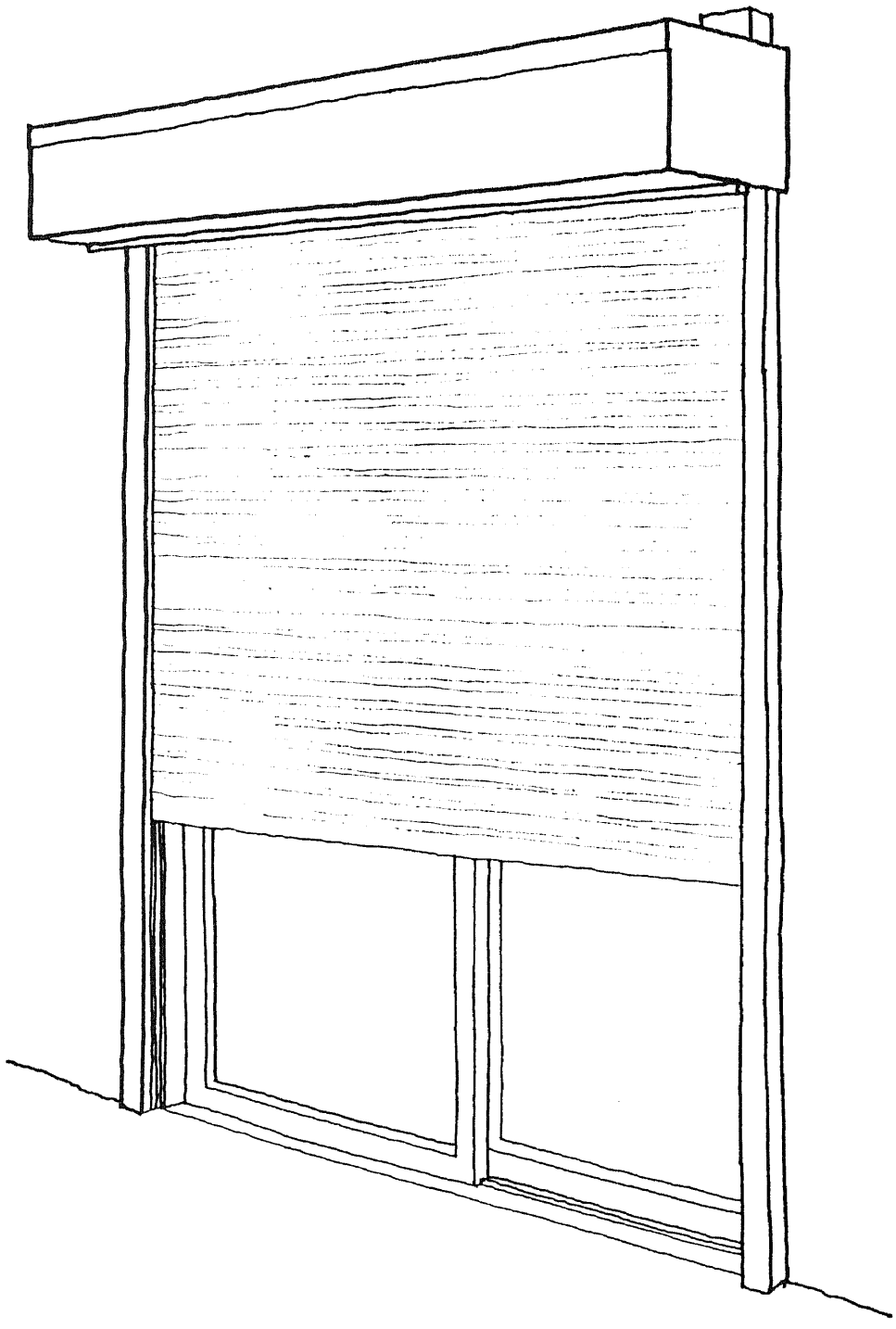


Fig. 117 Portcullis.

2. Motif

Motion can be compared to language as a description of physical orientation relating to surroundings when people experience various types of movement and emotion, they can transfer their experiences to the motifs they see as if it were a kind of language. In other words, they enter mentally before doing so physically (Thiis-Evensen, 1987, p. 289). The motifs become part of the entrance progression and in some cases different motifs may appear various motifs are combined in the same facade in a single facade as steps leading toward the goal.

The frame motif

The frame motif has an idealized meaning. As it was utilized in Roman period, the triumphal arch had a significant function and meaning to Roman soldiers (Fig. 30). The action of marching through the arch was mentally cleaning and releasing from the destructive war and returning to everyday living. The frame motif can be seen in many type of building entrance (Fig. 118).

The twin-tower motif

Verticality is a powerful symbol expressing a vitality and pride of place. The intimidation which arises between the intense towering flanks make the human being feel dwarfed and give respect to the place. This motif is often found in sacred building (Fig. 119).

The niche motif

The niche motif conveys the sense of an architecture that yields before us. It can be explained as the intrusion of exterior space; or as an interior space that yields to the space before us. The motif mentally implies warm atmosphere almost as if arms were extended embracing and receiving visitors. It represents a welcome gesture of place (Fig. 120).

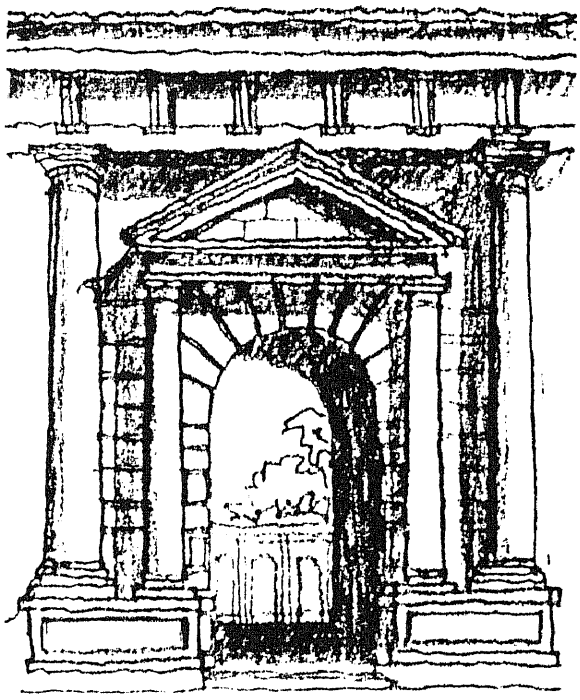


Fig. 118 Frame motif.

-Giulio Romano. Pallazzo del te. Mantua. 1527-34.

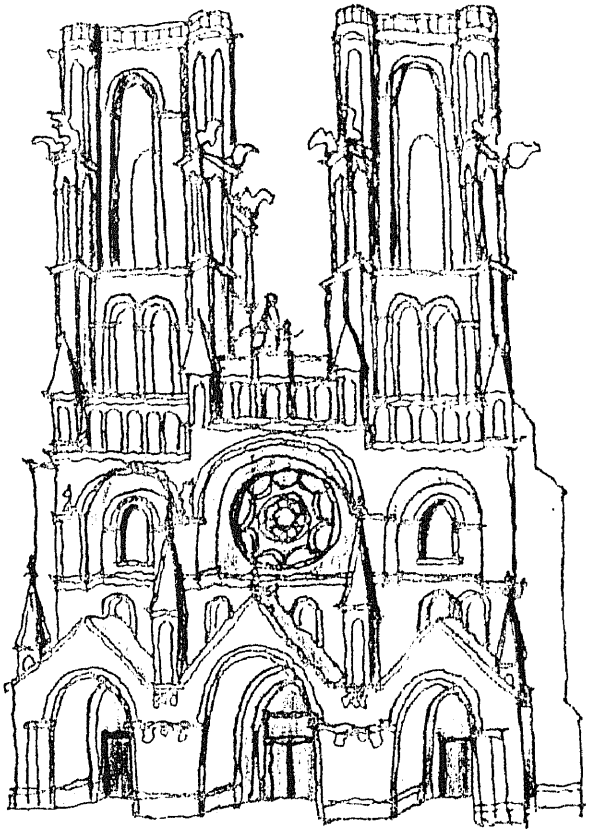


Fig. 119 Split motif.

-Leon Cathedral. End of 12th century.

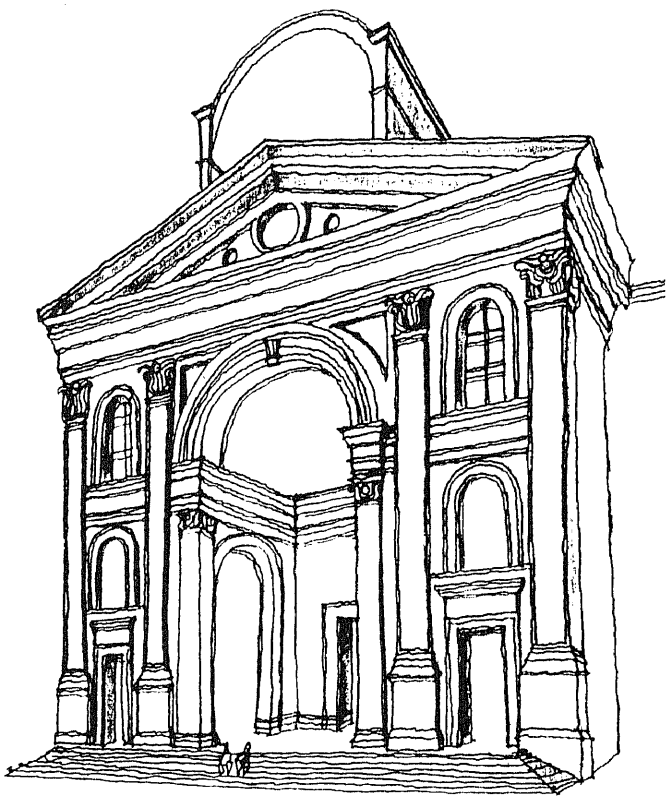


Fig. 120 Niche motif.

-Leon Battista Alberti. S.Francesco (Tempio Malatestiano.) Rimini. c.1450.

The shelter motif

The shelter motif is characterized by an enclosed space in front of the door opening. Such space might intrude into the building or might be under a canopy extending from the building wall. Generally, the motif has an effect on guests which allows preparation before the act of entering. Such preparation may bring about hesitation or may encourage the feeling of being welcomed (Fig. 121).

The directional wall motif

A large open space in front of a building may cause a person to loose their hearing or make it difficult to find the entrance. The directional wall motif directs an approaching public straight toward the entrance. As a result, the motif creates a sense of assurance but, at the same time, can create a constrained action at the point of entry (Fig. 122).

The side-tower motif

The side-tower motif creates a similar feeling of security and dependence, as with the directional-wall motif. However, an entrance at the point where the ground and tall tower meet causes a surprising and contrasting effect (Fig. 123).

3. Setting

The entrance setting effects, not only the feeling of the person entering, but, more significantly, it influences the frequency of the entrance usage.

The entrance of a public building should be unobstructed and inviting. The site plan should introduce users to facilities and evoke interest as well as arouse curiosity. In a building where subtle control is intended, an entry should be integrated without obvious identification. In order to dissuade unselective access it amight be treated in a way that allows only controlled entry.

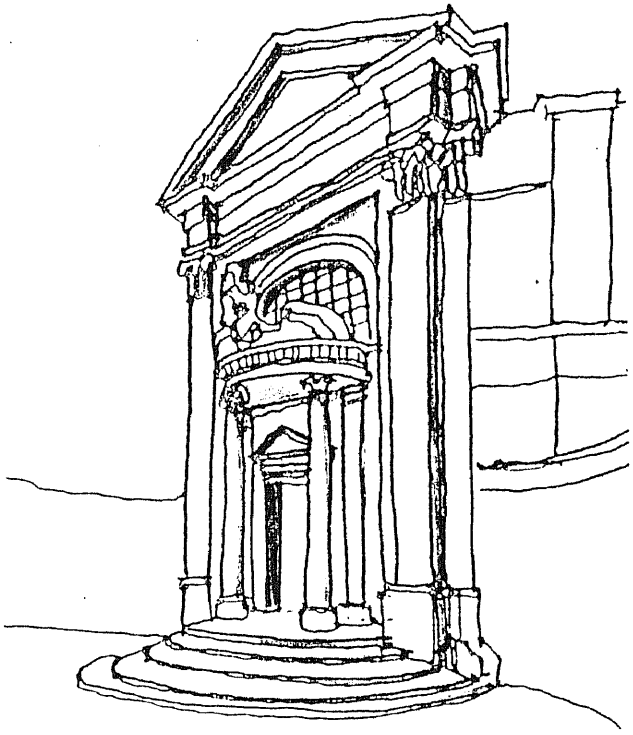
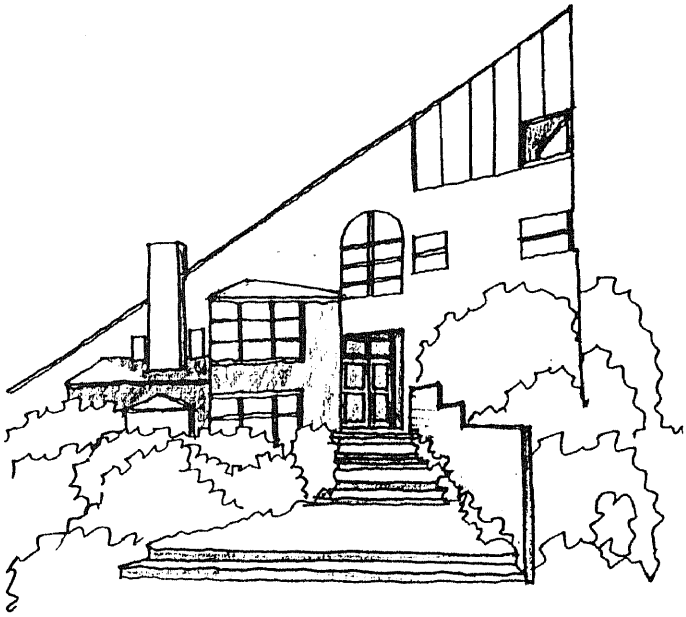


Fig. 121 Shelter motif.

-Gianlorenzo Bernini. S.Andrea al Quirinale. 1658-70.



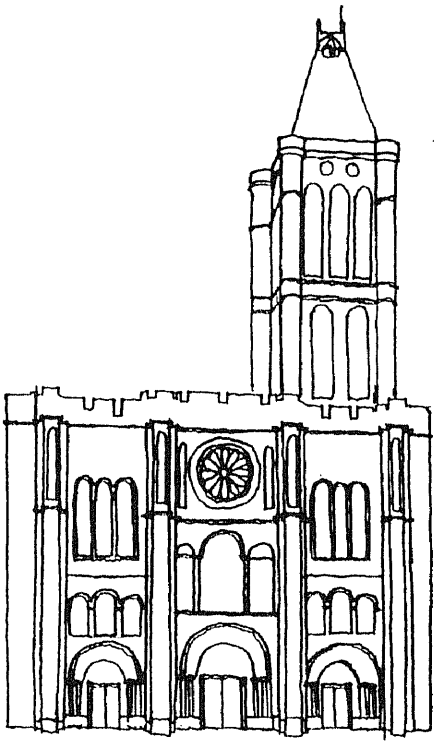


Fig. 122 Directional wall motif.

-Entrance of private house.

Fig. 123 Side tower motif.

-St.-Denis. 12th century.

4. color

In our everyday life color has a profound impact on us. It may incite or calm energies, for instance, red raises blood pressure and enhances the respiration while blue tends to reduce both. Color affects all aspects of design. It stimulates the consciousness of people and can be used in the entry environment to invite or exclude.

CHAPTER IV

FACTORS CONTRIBUTING TO THE DIFFICULTIES IN COPING WITH THE PROBLEM AND POSSIBILITIES FOR A SOLUTION

PSYCHOLOGY AND ARCHITECTURAL ENTRY

This chapter will deal with the psychology which enables us to better understand the benefit of architectural design and the way it relates to the general public. A wide variety of preference and response can be shown to exist in people's response to the building environment. In the same way there are differences among architects. Architects may make decisions in entrance design based on previous personal experience and background and assume what they think is typical of human behavior.

Because human behavior can be predicted, as statistics has shown, it should be possible to produce a building entrance which satisfies the general public. One solution available to the designer for coping with these differences is to provide flexibility (Brauer, 1974, p. 107). The many varied possible responses can be addressed if designers can create flexibility in the designs. One way to do so is to have a deeper understanding of individual differences. For this reason a basic knowledge of psychology and its process can bring about an improvement in design decision making by allowing for a wider range of individual responses. A more comprehensive understanding of people will help architects avoid erroneous assumptions about human behavior. By discovering general principles underlaying human behavior and the subsequent trends, designers can improve the appropriateness of their design decisions resulting in more satisfactory building entrances for users and, at the same time, a greater work of art.

INDIVIDUAL DIFFERENCES

The user groups of a public building will be very diverse, varying from middle-aged people to children and serving people from all walks of life. For those who work in the building the entrance assumes an everyday looks and becomes less noticeable. Others may use the entrance in the sense of a landmark, a place to meet people, or a point of reference in moving around the city. These various users will be influenced by the entrance according to their own needs. At the same time they will have different interpretations about the entrance and how it affects them.

PERSONAL VARIETIES IN SATISFACTION AND VIEWPOINT

In a given situation general judgements of people regarding their perception of space will concur. A place may be recognized by association with certain behavior. For example, the experiment by Canter, West, and Wools, done in 1974, shows the ratio of expectation of occupants in specific rooms. It was determined that particular types of people will be found in a particular room. However there are many circumstances which may modify judgements of people when responding to space. One important factor is memory, their perceptions are based on impressions made by previous experience.

1. Experience and Remembrance

Frederick Bartlett published a book in 1932 titled Remembering, which claimed that an examination of normal perceptual process lead directly and inevitably to an investigation of related mental processes and, in particular, to a study of imaginary and of recall (Canter, 1977 p. 13).

To investigate this he showed someone a drawing and asked that person to draw it from memory and repeated this same request for ten or more people (Fig. 124). All characteristics of the original drawing were lost. The outline became oval and then round. The details inside were transformed into eyes, nose and a mouth,

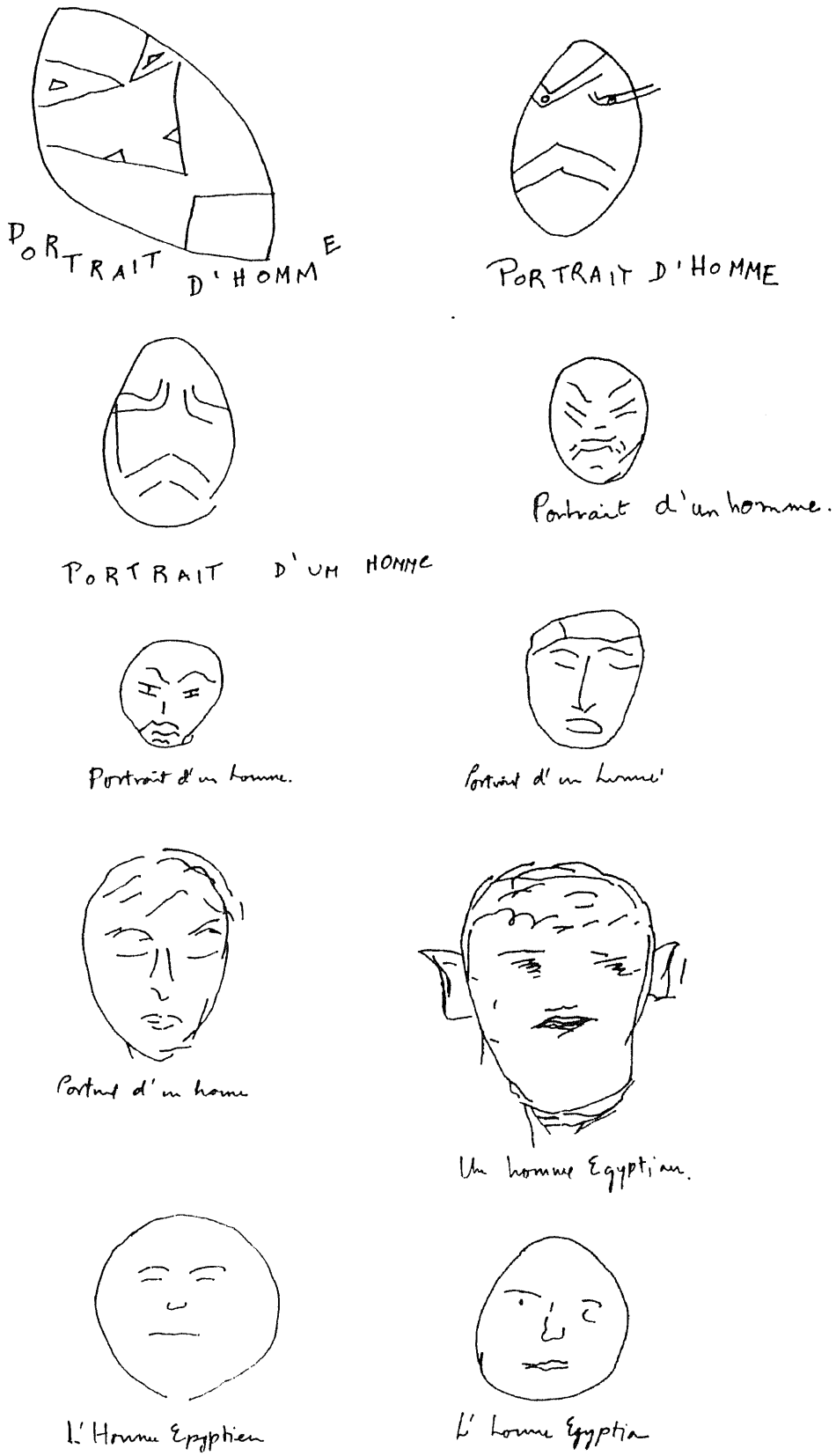


Fig. 124 The experiment of people's remembrance.

the composition of a face. This investigation showed that each individual tends to depict what they see or experience based upon internal representations. It was each person's accepted set of expectations that made them produce and also contribute to the drawing of distortions.

It is natural to find a representation of human form, especially the face in natural as well as designed form. Anthropomorphic are generated by cloud formations as well as building facades. Although such representations are unintended, we can see the equivalent of our own features appearing in the typical building facade with windows as eyes and the door as a mouth. This expression can be carried further to identify emotions, fierce or friendly (Fig. 125).

Sir Henry Head, a neurologist, explained that we carry a model of our body in our brains. This model is constantly being modified on the basis of information received about each action. Head's theory can be applied to spatial concepts:

> *"In the sensory cortex is a storehouse of past impressions. They may rise into consciousness as images but more often, as in the case of spatial impressions, remain outside central consciousness. Here, they form organized models of ourselves which may be called schemata. Such schemata modify the impressions produced by incoming sensory impulses in such a way that the final sensations of position or of locality rise into consciousness charged with a relation to something that has gone before."* (Head ,1920, pp. 605-606.)

Our *previous experiences* can be organized in different ways. Bartlett said that mental processes give rise to *"an active organization of past reaction or past experiences."* An example is as follows:

> *"When we see a school building for the first time, we respond to it in relation to all the other experiences of similar buildings. This in turn will influence whether we perceive the school as big or small, old or new, good or bad. The schema, then, is a "unitary mass" of the active organization of past reactions."* (Canter, 1977, p. 17.)

Refer to the face of fig 124, when we look at the drawing, we tend to see the drawing of a man rather than a pattern of unfamiliar lines.

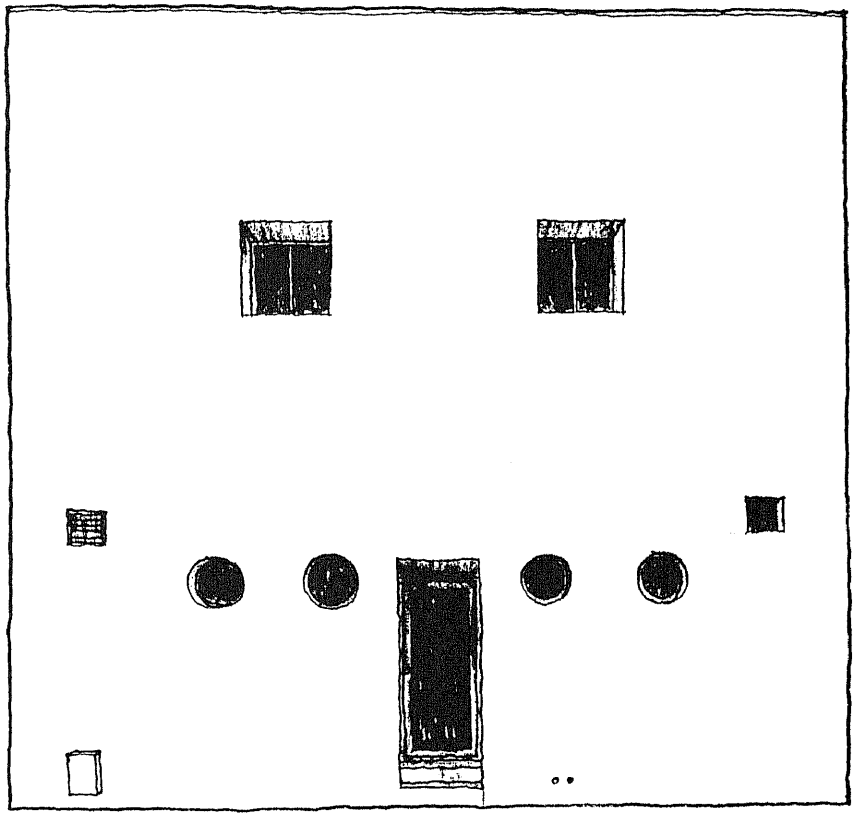


Fig. 125 Nirvana House. Fujigawa. Japan.

2. The Differences Due to Background and Experience

Prediction of human response is difficult. It is not possible for an architect to produce a work which will meet the satisfaction of all users with their varied goals, interests, habits, and activities. It is certain that an architect will fail to achieve the desired meaning in his design if he is not familiar with the cultural values of his users and their life style.

1.1 Education and Occupation

People who are apparently or physiologically similar respond differently according to their education and occupation. A form which fascinates a layman may bore a designer and vice versa. There is an evidence based on an experiment conducted at the university of Pennsylvania which compared the interpretation of meaning of nonarchitects and prearchitects, that the two groups respond to the same design criteria with very diverse and even conflicting assignment of meaning. It was clear that the professional education of architects had a great deal to do with the way they comprehended the architectural environment (Hersberger, 1974, p. 154).

This experiment illustrates how educational diversity gives rise to personal conceptual difference. In this case the particular roles learned in professional life determines the experience and even enjoyment of art. In other words, the artwork is relative to the social, conceptual system of the observer. Education plays an important role in the development of the conceptual frame work. In another experiment carried out by Constantini and Hanf in 1972. More than three hundred people were interviewed concerning a variety of developments in the Lake Tahoe basin of the Sierra. They showed different degrees of concern for the environmental changes which could be traced to their occupational and social level. Significant differences appeared between professional people and business people, and between local government and state government officials.

The two examples above show how the type of education, occupation, and activity can lead to quite different viewpoints and evaluations. The point must be emphasized here that we are not dealing with isolated opinions and preferences. Thus, the experience of people can be predicted on the basis of their professional, social and economic status.

1.2 Culture

In another experiment architecture students at Arizona State University and University of Pennsylvania were compared on the basis of their attributing meaning to an identical group of buildings. It can be shown that there are many differences between these two groups of people because of different cultures in the case of lifestyle. It was discovered that there were significant differences of interpretation between these two educational groups stemming from cultural difference (Hersberger, 1974, p. 154). It can be concluded that life style and cultural diversity even within a homogenius groups such as "architecture students in American Universities" can greatly affect the perception of meaning.

At the same time professional groups demonstrate a striking similarity in their conceptual understanding cross culturally. Architects are especially prone to respond as architects to spatial experience and design criteria regardless of cultural background. Consider another interesting example which contrasts the previous experimental finding. Canter, Sanches-Robles, and Watts carried out a study in 1974 in which three European groups from Spain, Germany, and England were asked to evaluate houses presented in slides. The expected results were that differences relating to the different cultures would manifest. Interestingly, the differences among the three cultures were much less significant than expected. The groups responded as architects and their professional bias tended to over rule cultural diversity.

Considering the two examples above, we can see that, although environment and life style greatly affect perception of architectural elements, especially in the case of climate factors and materials, education and training can to some degree reduce cultural differences. The level and the type of variation expected are considerations that designers have to be aware of in designing for their own, or for foreign cultures.

Again, if the result were generalized according to population groups other than those based on professional types, the results would favor cultural difference. This suggests that a high level of awareness is necessary when architects design buildings for the general public, cross-culturally.

MEAN TO RESPOND TO USER NEEDS

A good entrance design should satisfy users in terms of *functional value* and *aesthetical value*, in order to achieve the desired response. When we notice a stranger walking along the street, we can suppose many things about the person's background and culture based on the person's dress. Personality and character are revealed in personal style and ornament. This revealing of personality through style is explained in the following paragraph from The American Architect and Building News of 1878 :

> *"The national character of a people is expressed in its dress and its ornaments in the same manner that handwriting carries with it the character of the writer. For example, take the English, the French, and the German. In England the leaders of fashion, etc., are from twenty to thirty years old; in french, old and young alike interest themselves; in German, the old professor gives the tone in art matters. Now take a coat of each and note the characteristics of the people in the cut of it: the English, square and angular; the French, graceful and soft in its lines; and the German has some of the former, and adds some scholasticism inclining to the pedantic. Take, again, the treatment of a simple trefoil by the different peoples; and we find the first is all vigor, nearly every thing in straight lines; the second is all grace and elegance; the last, with some vigor (sharp corners), and some grace in the motion, has the scholasticism in the central divisions, which must all have the convex and concave sweep."* (Abercromble, 1986, p. 131.)

Personality introduces us to the value of general society. It is similar in the case of architectural values (Fig. 126).

1.Functional Value

Value can be expressed in relative to forms themselves or can be expressed relative to the uses and purposes of the forms.

1.1 Use

It is an architects' job to create effective forms which can be recognized according to human use and at the same time fulfilling structural requirements. In designing an entrance, an architect communicates to the users the event of passing into a building, responding to *human needs*. At the same time, the entrance should give a sense of security and, certainly, must be structurally sound.

1.2 Purpose

The form an architect chooses to communicate his purpose should effectively respond to *physiological purpose*, and *social purpose*. All aspects need to be addressed by the form. A comparison can be made with the human body, for example, the mouth is a part of a human body which allows for the entrance of food as well as functioning as an organ of speech. It can be shut completely when we do not want to talk or eat. Now compare the mouth to a door. A door, which can be opened to allow for people passing through and also to connect between internal and external spaces, can be shut and locked to prevent movement through, either entering or exiting that corresponds to the physiological purpose. The physiological purpose is the feeling created by passing through or approaching the building. Entrances also indicate a status. For instance, in a building there can be a main entrance, sub-entrances, and entrances between internal spaces. Each type of entrances plays a different roles in the functioning of the building. A main entrance may need a big door with a wide space in front to congregate a crowd of people,

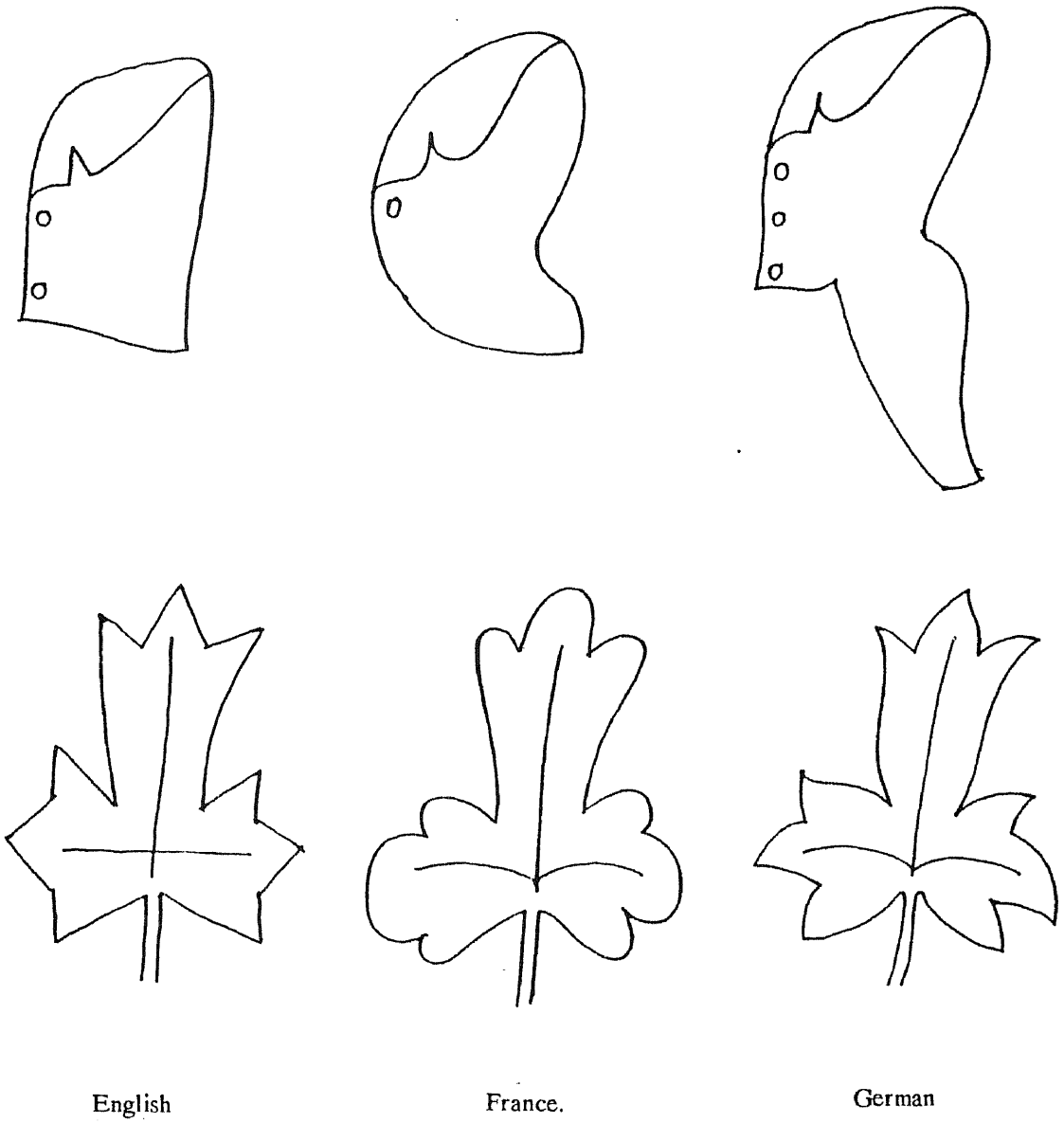


Fig. 126 National characters of waistcoats and trefoids.

while a side entrance may require only a single door. This is an example of the response of social purpose.

2. Aesthetical Values

Forms will elicit response, not only by their functioning in the sense of purpose and use, but also for their aesthetic quality. Aesthetic expression contributes greatly to the value attributed to architecture design. The two types of aesthetic quality, which will be mentioned here; *beauty and ornament*. "Beauty" consists in "the harmony of all parts," and is the result of "proportion and connection;" in other words, the overall aesthetic impact. "Ornament" is something added to the form as an "improvement to beauty." Entry articulation, such as rustication and classical detail, belonged to the category of ornament in architecture.

CREATING THE SENSE OF PLACE

In order to arrive at an internal environment which is physically protected, the process of accessibility moves through a series of connecting points. Such points will be directed or confined by architectural devices which express the act of permitting or resisting entry.

The event of passage can best achieve distinction if the sequence of approach and entry reveals *a sense of place*. The result is a comprehensive image. The notion of architecture creating a sense of place is an important concept which has been around since Roman times. The general attributes of places and place making are those components having to do with building activity, building concept and physical characteristics. They can be further explained as those attributes which are associated with behavior, or with the physical parameters of the setting or with the conception of that place. These three components have a relationship to each

other. It is important to remember that building activity and concept will be, in part, determined by the location and physical surrounding.

An entry is distinct place that responds to needs, encourages exploration, and demonstrates a connection between separate spaces. The sense of place of an entry defines its quality and makes it special. A major concern of entry design is identification of place. Most architects conceive of entry in terms of appearance as well as integration with form and facade. At the same time architects are trying to create a physical form which will produce the proper response and appreciation by users. The purpose of the entry can be understood either as symbol or function but it should appeal to both the symbolic and functional level if it is to be most successful. Users should be able to recognize the building entrance. Even in the case of a private building, the entrance should be effectively called out and the intention understood.

If the full range of possibilities is not fully developed in designing an entrance, a great asset to the building may be lost. In some cases an awkward of inappropriate entrance design will greatly diminish the architectural impact of the whole building.

CHAPTER V

CONCLUSION AND RECOMMENDATION FOR DESIGNERS

Entrances as an architectural element have played a crucial role in design development throughout history. Many problems of entry occur because designers are not aware of the effects of their design or the function of the entire building. Appearance, balance of the scale, and accessibility are problems that must be addressed in entrance design. The most important aspect of entry addressed in this study is the relationship of the building and public user groups. The success of the design is in finding a meaningful entrance which satisfies the user groups. Psychology plays an important role in understanding and predicting the reaction of users to any given entry. The understanding is of paramount important to the designers. It is also true that the general public needs to better understanding the architectural elements and how the combine, creating concepts. A way to achieve this level of understanding on the part of the architect and the public is to study entrance design in an historic contaxt.

In each region the ancient concept of entrance design has its own meaning. The role of architectural entry in the countries of India, China, and Japan plays an important influence in the creation of architectural characteristics of other countries in the Eastern world. Sacred buildings are particularily important in considering the significance of entry design. Entrances are located according to local belief and superstition; and the entry takes on dynamic purpose in the world of sacred architecture. Entrances of sacred buildings function not only as passage, but also as gathering points for ceremonial sites of passage. Sacred buildings did much to influence and develope the importance of the entry.

In the Middle East and Europe entrances have had an important role since the Stone Age period. The building type evolved from a simple multi space with entry way to a more complicated plan with a main entrance and inside doors. The

direction of the entrance also plays an important role according to local beliefs and customs. The rising sun shining between doors flanking the entry was used to establish a connector with entrance as the "Gate of Heaven."

Entries have changed and developed many particulars throughout history. In each period architects have tried to create their own personal style which might be expressed in some outstanding features such as size, ornaments, and material used. Gigantic entrances were commonly used in the ancient world. In the Renaissance period entries were more often built according to human scale. The Baroque period emphasized rich ornamentation. However it should be noted that the treatment of entry in ancient buildings usually followed the style of the whole building. Often the entire facade was generated from the entry. Even plazas and stairs can be seen as means of emphasizing and developing the entry procession.

Many architects of the modern world introduce their own personal styles into entry design. They create new ideas and way of interpreting the play of elements. Those styles are followed by the next generation of architects and further developed becoming quite specialized.

Currently entries are ape to be high-bred, an ecletic respond to the many varied possibilities of enties. Since not all building types employ the same entrance style, the character of the entrances can be addressed in two categories: motif and setting. Generally, a typical feature of any entrance is an upright rectangular opening which varies according to size and form and function. The impression the entrance makes on users is vary important especially the initial reaction. The entry becomes the pivot and point at which inner and outer world meet. The treatment of the entry will determine the characteristics of the entrance and the expected effect on building users.

It is necessary to be aware of these characteristics which effect the outcome of the design. People in different areas and cultures will comprehend the meaning

in quite different ways. It is difficult for the architect to express the meaning through physical appearance, but it is, nevertheless, important to do so in order to convince people of the underlying value, functional and aesthetical. A basic knowledge of general psychology helps architects understand the human potential. No matter if the actual design is simple or complex, the entry should respond to the users' needs and yet be suitable to the culture of the people who use the building. In any culture it is desirable that the entry be flexible and provide many large meanings. Architects should be prepared to meet all aspects of the design and address the meaning of entry on all levels.

BIBLIOGRAPHY

Abercromble, Stanley, Architecture as Art. New York: Van Nostrand Reinhold, 1984.

Abramovitz, Anita, People and Spaces: The View of History through Architecture. The Viking Press, 1979.

Alberti, L. Battista, Ten Books on Architecture (De Re Aedificatoria). London, 1955 (1726), VI, ii.

Alexander, Cristopher and other, A Pattern Language which Generates Multi-Service Centers. California: Center for Environmental Structure, 1968.

Alexander, Cristopher, Notes on Synthesis of Form. London, 1964.

Alexander, Cristopher, "The Gate: Our Language," Timeless Way of Building. Oxford University Press, 1979.

Andrews, J.J.C., The Well-built Elephant and Other Roadside Attractions. New York, 1984.

Bussagli, Mario, "India and Ceylon," Oriental Architecture. New York: Harry N. Abrams, Inc., Publishers, 1973.

Braner, Roger, "The Important of Individual Differences in Buildings," Psychology and Built Environment. Halsted Press, 1974.

Canter, David, The Psychology of Place. London, The Architectural Prass Ltd., 1977.

Crowe, Norman and Laseau, Paul, "A Sense of Place: Trusting Intuition," Visual Notes for Architecta and Designer. New York: Van Nostrand Reinhold Company, 1984.

Curtis J. R., William, "The Idea of Modern Architecture in the Nineteenth Century," Modern Architecture Since 1900. New Jersey, 1983.

Famous, George, "The art of the Entry," Door and Hardware, Vol.52 No.7 (July 1988) pp. 32-35.

Gutman, Robert and Westergaard, Barbara, "Building Evaluation, User and Design," Designing for Human Behavior: Architecture and the Behavior sciences. Halsted Press, 1974.

Hersberger, Robert, "Predicting the Meaning of Architecture," Designing for Human Behavior: Architecture and the Behavior Sciences, Halsted Press, 1974.

Inoue, Mitsuo, "The function of The Gate," Space in Japanese Architecture. New York and Tokyo, 1985.

Itoh, Teiji, "Elements on Residence," GA Houses 15. Tokyo, pp. 7-11.

Jencks, Charles, The Language of Post-modern Architecture. Rizzori, 1977.

Keswick, Maggie, "Walls, Gateways, and Windows," The Chinese Garden: History, Art, and Architecture. London and New York, 1986.

Levi, David, "The Gestalt Psychology of Expression in Architecture," Designing for Human Behavior: Architecture and the Behavior Sciences. Halsted Press, 1974.

Moholy-Nagy, Sibyl, "The Sense of Quality," Native Genus in Anonymous Architecture in North America. New York: Schocken Books, 1976.

Moore, Charles, and other, Dimensions: Space, Shape & Scale in Architecture. New York, 1925.

Moslow, A.H. and Mintz, N.L., "Effects of Aesthetic Surrounding 1: Initial Shorterm Effects of Three aesthetic Conditions upon Perceiving Energy and Well-being Faces," The Journal of Psychology 41. 1956.

Norberg-Schulz, Christian, Meaning in Western Architecture. New York: Praeger Publishers, 1980.

Norwich, John, "Non European Architecture," The World Atlas of Architecture. New York: Portland House, 1984.

Palladio, Andria, The four Books of Architecture. New York and London, 1965.

Progressive Architecture. Sep 1985, pp. 89-90.

Risebero, Bill, The Story of Western Architecture. Massachusetts, 1987.

Smith, E. Baldwin, Architectural Symbolism of Imperial Rome and the Middle Ages, New Jersey, 1956.

Tannenbaum, P. H., and others, "An Experimental Investigation Of Typeface Connotations," Journalism Quartery, Vol.41, No.4, 1964.

Thiis-Evensen, Thomas, "The Entrance," Archetypes in Architecture. Norwegian University Press, 1987.