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Rob Krier

Architectural Composition

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Rob Krier is a unique voice in today's architectural discourse through his commitment to developing a relevant and pragmatic theory of architecture based on his own experience and observations of architectural practice and opposed to the easy, abstract theorising so common in contemporary architectural writing.

Together with his brother Leon, he has perfected a form of presentation in which the potency of his thinking finds its perfect counterpoint in detailed drawings and sketches which argue his case visually through the power of example. Following the success of his widely acclaimed *Urban Space*, a work which looked at the problems of our cities from a historical, theoretical and practical standpoint, Krier now applies his particular, highly influential mode of didactic criticism to contemporary architecture in continuing search for fundamental architectural truths.

Architectural Composition is both a theoretical and visual analysis which clearly illustrates the creative process which informs Krier's vision and praxis. The culmination of a lifetime's thought and experience by one of Europe's most important architectural theorists, it is without doubt a major achievement and is a standard work of reference for both students and practising architects. The book, published for the first time in 1988 by Academy Editions in London, has been supported by funds from the Fond zur Förderung der wissenschaftlichen Forschung der Republik Österreich, and it was carried out at Krier's former Institut für Gestaltungslehre at the Technische Universität in Vienna.

Rob Krier is an architect and influential theorist for architecture and urban planning. Born and raised in Luxembourg, he moved to Vienna after having studied in Munich and worked for Oswald Mathias Ungers and Frei Otto. After teaching posts in Stuttgart and Lausanne, he was a professor at the Technische Universität in Vienna from 1976 to 1998 and, in 1986, held a guest professorship at Yale University in New Haven, Mass. Krier has developed urban-design concepts for Stuttgart, Vienna, Berlin, Amiens, Montpellier, Leeds, Gothenburg, Lodz, Amsterdam, Den Haag and many other cities. Projects with which he was first able to translate his vision of a spatial concept, such as Rauchstrasse in Berlin, Breitenfurterstrasse in Vienna or Ritterstrasse with Schinkelplatz in Berlin, repeatedly found their place in international publications.

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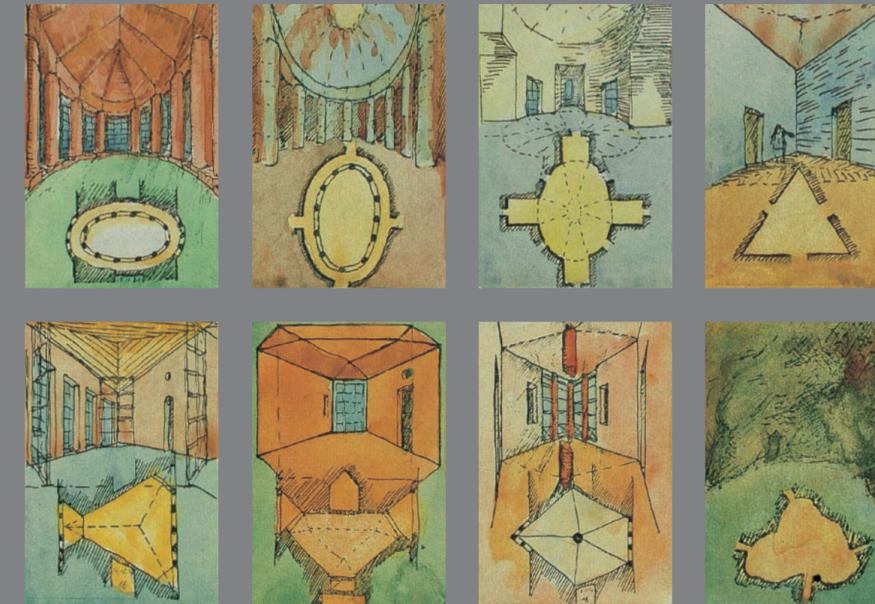
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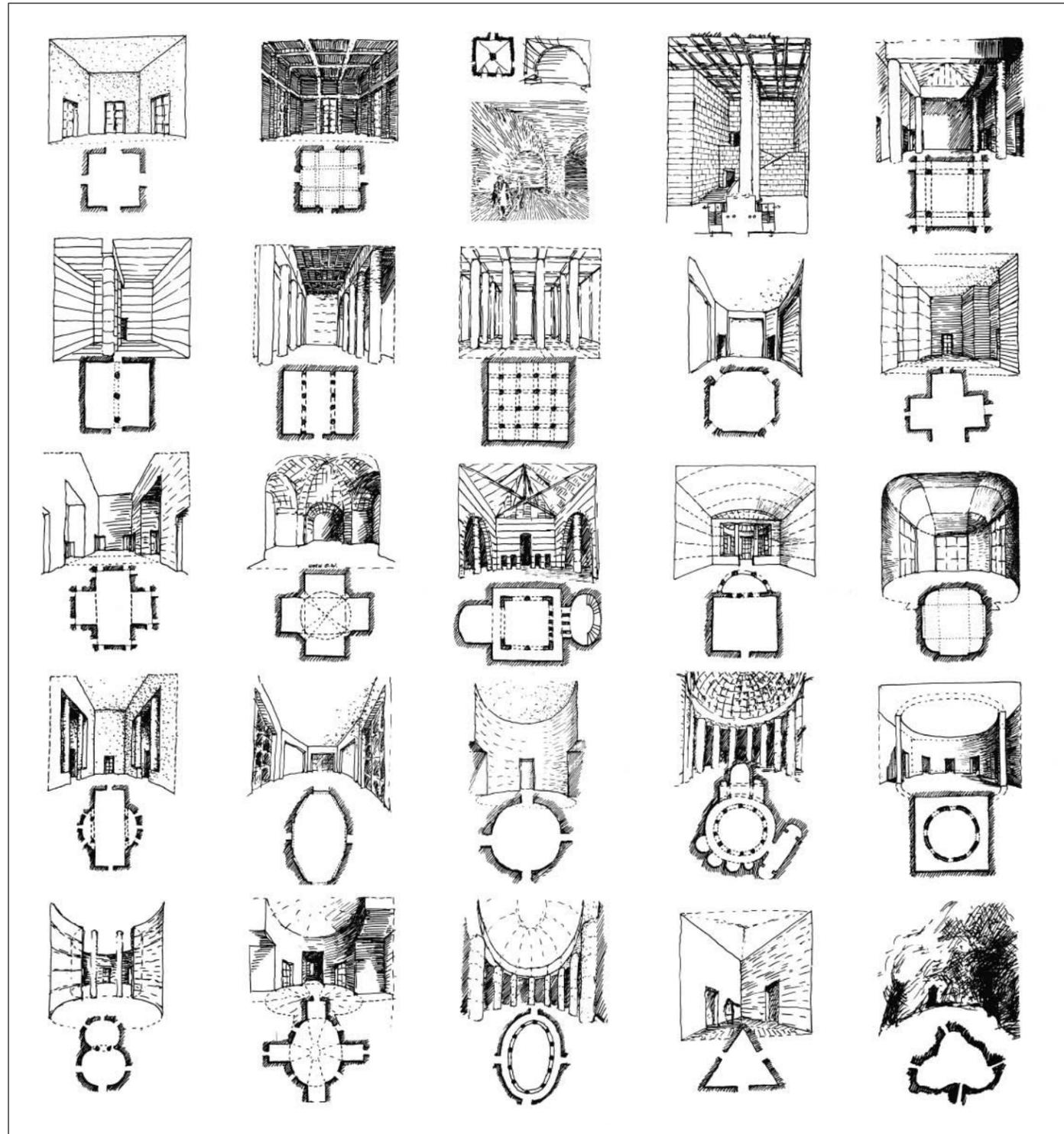
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ARCHITECTURAL
COMPOSITION



EDITION AXEL MENGES

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*For students of architecture,
patrons, politicians and speculators*

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CONTENTS

FOREWORD	7
MOTIVATION 7; THE CONFUSION IN TODAY'S ART OF BUILDING 8	
CHAPTER I	
FUNCTION, CONSTRUCTION AND ARCHITECTURAL FORM	9
ARCHITECTURAL GUIDELINES 10; FUNCTION AND FORM 11; Study of the Basic Types 18; The Organisation of Functional Sequences 18; CONSTRUCTION AND FORM 27; Massive or Solid Wall Construction 27; The Layering of Masonry Walls 28; Supportive Wall Techniques 28; Skeletal Construction 29; Stabilising Cores in Skeletal Construction 33; Flexibility of the Plan 33; Cladding the Skeletal Structure 34; Mixed Techniques of Solid Wall and Skeletal Frame Construction 36	
CHAPTER II	
ON ARCHITECTONIC FORM	41
BASIC FORMS OF THE ELEMENTS 45; 1. Kink, Bend, Fold 46; 2. Break, Cut 47; 3. Segment 48; 4. Addition-Friction-Accumulation-Stacking 49; 5. Penetration-Superimposition-Interlacing-Meshing 50; 6. Emphasis on Foreground and Background in Perspective Representation 50; 7. The Alienation of Elements 52; 8. Unequally Emphasised Transformations and Elements 52; 9. Superimposition and interplay of Dot-Line-Plane-Volume-Interior Space-Exterior Space 54; RETRACING THE ARCHITECTURAL DESIGN PROCESS 56; Primary Building Types 56; 1. Operation: Kinking, Bending 58; 2. Operation: Dividing and Breaking 60; 3. Segmentation, Fragmentation 62; 4. Addition, Stringing Together, Accumulation, Stacking, Layering 63; 5. Penetration, Superimposition, Interweaving 66; The Elements of Architecture 68 (I-VIII)	
CHAPTER III	
THE ELEMENTS OF ARCHITECTURE	69
EXPLANATIONS RELATING TO THE TYPOLOGY OF INTERIOR SPACES 71; Addition 71; Penetration 71; Interior Spaces 72; Square Interior Spaces 73; Distorted, Basically Square Geometries 74; Rhythmic Series of Spaces 74; Rectangular Interior Spaces 74; Octagonal Interior Spaces 75; Addition and Penetration of Spaces in Practical Examples 77; The Art of Composing Spaces 82; Ceilings and Floors 88; Columns and Piers 92; Doors 96; Door Handles 100; Windows 102; Basic Forms and Bars 102; Window Figures 104; The Window as Room Divider 105; Facade and Window Axis 107; Staircases 113; FACADES 122; On the Layering of Masonry 132; Entrances and Portals 137; Arcades 146; Ground Floors 147; Bay-windows, Balconies and Loggias 150; Railings 154; Roof and Attic Storey 160; GROUND-PLAN AND BUILDING FORM 162; Development and Composition 163; Square Buildings 164; Rectangular Buildings 164 (III); T-shaped Ground-Plans 164 (V); L-shaped Ground-Plans 164 (VII); U-shaped Ground-Plans 164 (VII); Towers 164 (VIII); Building Corners 165; Interior Courtyards 169; Outside Staircases 171; Prospect 173; Towers and Monuments 173	
CHAPTER IV	
ON PROPORTIONS	175
MY EXPERIENCES WITH PROPORTIONS IN ARCHITECTURE 177; The Pantograph 178; Segmentation of a Circle into Parts 182; Proportions of the Human Body 192; Proportions of the Human Skeleton 208; Proportional Studies of Sculpture 216; Proportional Studies of the Horse 224; Proportional Studies of Sea Shells 227; Proportional Studies of Leaves 228; PROPORTIONAL ANALYSES OF BUILDINGS 232; St. Etienne Cathedral, Auxerre 232; Notre-Dame Cathedral, Paris 260; St. Etienne Cathedral, Meaux 264; St. Michael, Munich, 266; Proportional Studies of Projects by C. N. Ledoux 272	
CHAPTER V	
ESSAYS ON ARCHITECTURE	285
SYMMETRY 287; REGULAR AND IRREGULAR BUILDING TYPES 287; THE SENSE OF SCALE IN ARCHITECTURE 288; PROJECT FOR KARLSRUHE 288 (I-VIII); ARCHITECTURE IN THE CITY 290; THE URBAN SPACE 290; THE RUIN OF THE BUILDING CRAFTS, OR THE SENSE AND NONSENSE OF THE INDUSTRIALISATION OF BUILDING 291; THE HISTORY 293; OUR DEFECTIVE SENSE OF HISTORY 293; THE RESPONSIBILITY OF THE ARCHITECT 294; THE PLIGHT OF OUR ARCHITECTURAL SCHOOLS 294; THE TRAINING OF ARCHITECTS 296; EPILOGUE 299; THE POETRY OF BUILDING 301; ABOUT MY PLASTIC WORKS 302; A CRITIQUE OF MODERN ARCHITECTURE 303	
SELECTED BIBLIOGRAPHY	316
INDEX	317

FOREWORD

*'It is my aim
to rehabilitate
an architecture
that has become
dishonoured
and disgraced.'*



MOTIVATION

This book deals with the problems of architectural design and is aimed at students of architecture in the early part of their training. I am trying to bring out the connections between function, construction and the resultant architectonic form, and highlight architectonic interrelationships. I do not claim to promulgate an exhaustive design philosophy – my thinking and professional experience are still continually developing. My principal aim is to formulate and establish a set of ground rules that guide architectural composition. The rules are distilled into simple didactic formulae, easy for students to understand and employ.

Even though the architectural and art historical education of the average intellectual is extraordinarily superficial, he invariably ends up – as politician, financier or contractor – influencing architecture to a greater or lesser degree. I hope, therefore, that my 'design instructions' will benefit not only the expert, but also the 'layman', who has not enjoyed an architectural education. Much of this instruction should indeed be taught in our schools as general knowledge or as as part of a cultural history course.

The third chapter illustrates the spatial and structural elements in architecture with the help of carefully selected images. They constitute the summation of preliminary exercises, drawn by my first-year students at the Technical University in Vienna, before they took their first steps in designing.

The fifth chapter traces and analyses the building arts of the twentieth century and their developments. It takes the form of a critical discourse, examining the increasing banality and homogeneity of contemporary work.

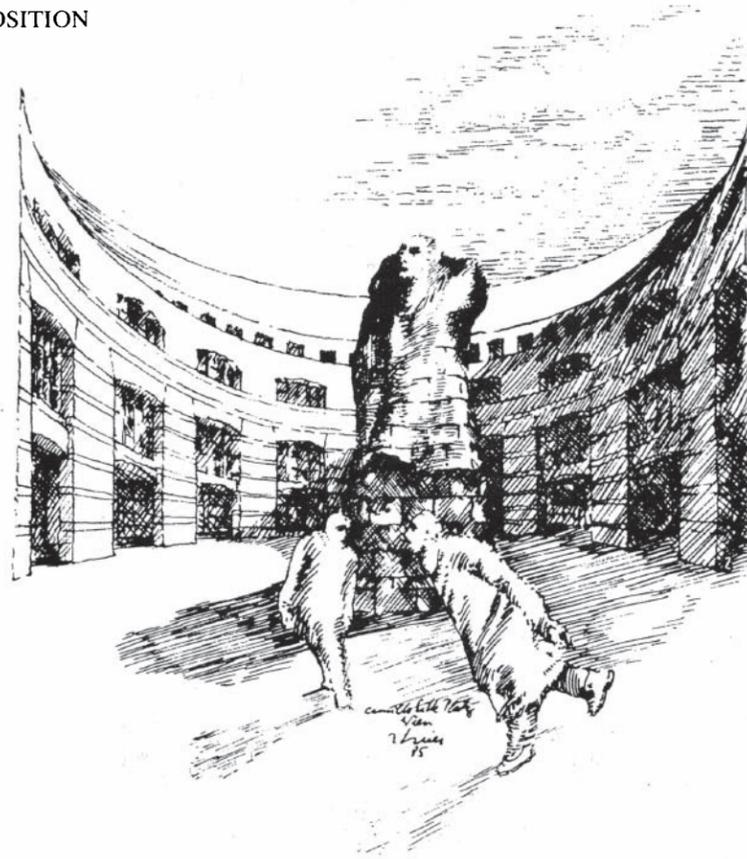
All design considerations are restricted to living spaces, since they concern everyone. In our own homes we all, to some degree, suffer the daily confrontation with 'architecture'. It is, therefore, no wonder that our style of living – an expression of our way of life – mirrors an entire cultural epoch. It cannot be overlooked that our regional, cultural landscape – urban as well as rural – has fallen prey to oppressive industrialisation. Millions of faceless, ugly family houses – cluttered with nasty mass-produced furniture – spoil our countryside. Craftsmanship, together with its rich creative repertoire simply has been left behind. Planning the most economic and cost effective production methods is now confined to the drawing board – there is no longer scope for a cabinet-maker, for instance, to exercise his inventive mind. I do not maintain that the only way out of this dilemma is the return to medieval construction methods; however, as long as our building industry is controlled by ignorant speculators, I cannot imagine how the quality of mass-produced housing is to be improved.

Industrialists, like Michael Thonet, who invest their taste and organisational skills in the promotion of outstanding design prod-

ucts, are few and far between. When large firms, like 'Eternit', run competitions for a 'better living in the future', or the innovative use of their product, these are no more than gestures intended to cover up their true intentions, the brutal reality of which remain all too obvious. Their strategies are those of a politician running for re-election. However, the flowery aroma does not suppress the foul smell of a garbage heap. The good examples I have selected to illustrate my arguments are becoming increasingly rare in our present-day built environment. To search out a building of architectural distinction today, one has to embark on an exhaustive study tour. Where are our architectural students supposed to find cultural landmarks, so important for their architectural education?

One cannot blame the layman when, as a client, he makes the wrong decisions. Examples of good building are thin on the ground. The life-style of the rich has always been trend-setting for all the other income groups. This influence can only be rejected, since the difference between the rich man's and the poor man's taste is only one of scale – larger plot, larger house and larger pool. Their decorative 'kitsch artefacts' are quite interchangeable.

I do not wish to dwell on the sorry state of our present building industry, but I know this is not the last time that the anguish of our lost building tradition will drive me deep into despair. This emotion generated



in me the strength to pursue the fight against the prevailing stupidity in the building sector and has inspired me to write this book.

Just as in my book *Urban Space*, I shall frequently quote Le Corbusier. His theoretical and practical influence on twentieth-century architecture is extensive, and the artistic quality of his work sublime. Le Corbusier did not, in any of his innumerable essays, explain his way of designing. Therefore, the evolution of his design and thought process has never been given full didactic expression. All Le Corbusier ever mentioned were functional, structural and socio-economic factors, at the same time using nebulous poetic statements, such as: . . . architecture is the play of forms under the light . . . Or he speaks about an interior as 'espace indicible', inexpressible space! I would be the last person not to regard these poetic aspects as extremely important, but as a teacher, it is my responsibility to draw my students' attention to what I consider significant in the form-giving process of architec-

ture. This, I believe, can be done through a sequence of simple and easy steps.

THE CONFUSION IN TODAY'S ART OF BUILDING

It comes as no surprise that in the light of today's architectural confusion the student is no longer able to draw a plain and simple window, for example; rather, he unwittingly apes what he has seen in the work of Le Corbusier, Aalto, Mies van der Rohe, etc. The results are fragmented walls drawn on asymmetrical plans with openings that playfully direct the light into sentimental, romantic motifs. The overwhelming concern is to produce a graphic *tour de force*. I am giving this example because I myself, for many years, have been fooled by similar half-baked theories.

The purpose of this book, among others, is to clean up the ideological nonsense in our profession. Where the rational use of our intellect has become diluted, dream-like visions begin to emerge and one gropes for architectural truths like and disciples of

Rudolf Steiner. Or one elevates *secondary themes* to *primary themes* in a bid to renew the profession (contextual building, democratic building, occupant participation, health-conscious building, energy-efficient building, light-weight construction, humane building, industrialised building . . .). All are desperate and one-sided attempts in the search for a lost theoretical framework.

IT CAN ONLY BE THE SUM TOTAL OF THE DEFINITIONS OF THE ELEMENTS, AS WELL AS THE COMPOSITIONAL RULES THAT DETERMINE THEIR JUXTAPOSITIONS!

I am not presumptuous enough to assume that I am here tinkering with a 'bible', rather I am trying to re-establish a set of basic principles that have gone astray.

FOR ME THEORY IS THE UNDERSTANDING OF THE USE AND MEANING OF OBJECTS, THEIR IDIOSYNCRACIES, CHARACTERISTICS AND EFFECTS.

CHAPTER I FUNCTION CONSTRUCTION AND ARCHITECTURAL FORM

ARCHITECTURAL GUIDELINES

The following guidelines have been valid ever since man began to plan buildings rationally and aspired to architecture as an aesthetic product – in other words, to create buildings that are more than just an answer to programmatic problems.

FUNCTION, CONSTRUCTION AND FORM

are factors of equal significance and jointly determine architecture. No single factor should dominate.

FUNCTION AND CONSTRUCTION

are 'useful' elements whose rules always need to be acknowledged as a matter of course. However, a building can only be raised to the status of architecture through the additional fulfilment of aesthetic requirements.

THE FULFILMENT OF AESTHETIC REQUIREMENTS

DEPENDS ON THE FOLLOWING FACTORS:

–Proportion–Structure–Material and colour, and their artistic interpretation.

AESTHETICS

The sense of beauty in architecture is rooted in man's desire to bestow everyday objects with poetic content that will convey the spirit of his epoch to future generations. ('... it is useful, because it is beautiful ...' *A. de Saint-Exupéry*)

GEOMETRY

is the basis for all forms of architectural expression. As organised geometry, architecture draws its strength from opposing rather than adopting the laws of nature. Geometry is the creation of man.

SCALE

in architecture is not solely determined by technical, structural and economic factors; the dimensions of the human body as well as man's perceptions, behavioural patterns and emotions must also be taken into consideration.

ARCHITECTURE IN THE CITY

All new planning should submit to the overall order of the city. Its form should respond to existing spatial patterns.

THE URBAN SPACE

as a concept has been ignored in twentieth-century town planning. Our new cities are a conglomeration of free-standing buildings. Five thousand years of city planning history has taught us that the complex matrixes of streets and squares are successful communication networks and means of identification and orientation. Traditional concepts of urban space are still valid today.

HISTORY

The proper evaluation of our historical inheritance crystallizes our understanding of the past and teaches us how to plan for the future.

THE ARCHITECT'S RESPONSIBILITIES

The architect alone is responsible for what leaves his drawing-board and carries his signature. No politician or developer will bear the architect's cultural guilt for a botched environment. Our universities are responsible for preparing the next generation of architects for this almost insuperable ethical and moral duty.

No one of these factors must be neglected or over-emphasised during the design process. A one-sided solution would result in a 'deformed' architecture. However, it can be the architect's intention – depending on the problem and specific situation – to deliberately over-emphasise a certain form to create a special effect. Recent architectural history bears witness to a multitude of tendencies that are a result of far too narrow a vision: e.g. Functionalism, Constructivism, Formalism, New Brutalism etc.

I work from the principle that the harmony of form, function and construction leads to the right solution. Since the function and construction of a building are always visible, the built form is obviously inseparable from them. For this I will first consider function, and then construction, in relation to form. It is characterised by mutual dependencies and influences.

Using typologies, I shall illustrate the wealth of formal possibilities that – whilst meeting functional and constructional requirements – can be composed into architectural form. The true form of a building is the sum of its perceivable elements. I shall deal with them in a separate chapter in greater detail. In addition, colours, surface textures, materials, light and the quality of technical details play an enormously important role.

FUNCTION, CONSTRUCTION AND ARCHITECTURAL FORM

FUNCTION AND FORM

Architecture has to provide us with physical shelter from our environment, create a framework for our activities and, above all, express symbolic and ethical values.

The extent to which function influences architectural form becomes clear when we remind ourselves of the different uses of a building, and how certain activities can shape its form. The problem lies in the co-ordination of form and function. If this co-ordination cannot be mastered, the results are hollow forms and unsatisfactory living conditions.

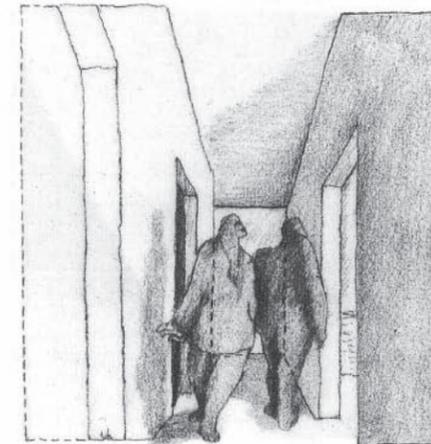
Function is the fundamental starting point for all architectural expression. There is no need to labour the point that it is the architect's responsibility to fulfil all functional requirements of his buildings intelligently and to organise circulation as rationally as possible. The classic pitfalls are inadequate organisation and unsatisfactory planning.

Such examples are infinite; doors that jam and jar, ill-positioned toilet roll holders that bruise elbows, tiny washbasins that splash trousers etc. It is the architect's job to spare his client this kind of aggravation.

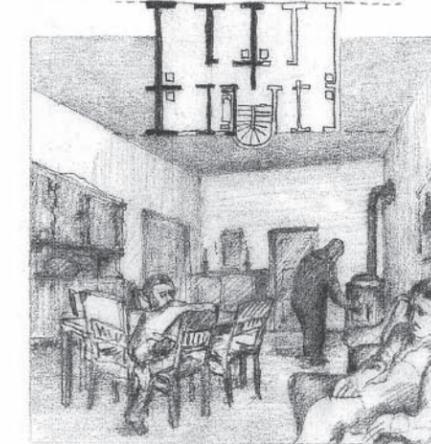
To plan a house with a logical and rational sequence of functions must be the architect's primary concern; yet it is only the starting point. Inhabiting a house must give enjoyment, pleasure and delight. No one would contest this simple statement, and yet it sparks off a fundamental ideological dispute amongst experts which is incomprehensible to the layman. To ascertain an individual's personal living preferences is indeed a formidable problem. Every human being has to answer this question according to his or her inherent spiritual and intellectual behavioural patterns. The experienced architect knows, however, that an individually tailored design solution has only 'one life'. When ownership changes, the

new occupant is left with two choices; either he resigns himself to his predecessor's living habits, or he sets about demolishing the walls of his new home, as far as this is structurally possible, to create his own living environment.

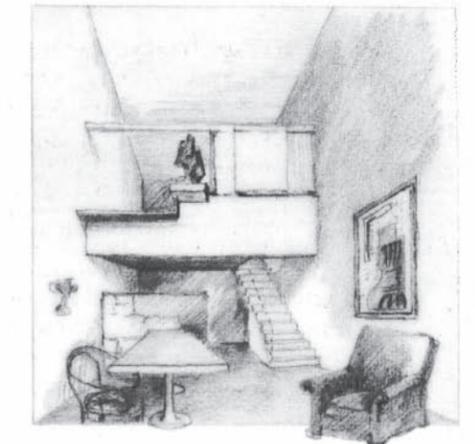
At this point we can, with a clear conscience, formulate a theory that has long been valid in architecture: a free plan and harmonious dimensions allow greater flexibility in the uses of a room. The social hardships of the interwar period gave rise to miserable tenement blocks. Only the best architects of the time successfully resolved the problem of reducing room dimensions without diminishing human dignity. Despite severe economic restraints, Le Corbusier created a living-cell for a family with several children that enjoyed the luxury of a double-height living room in his Unité d'habitation. It was an achievement that upgraded social housing enormously.



Too narrow a corridor



Too small an apartment

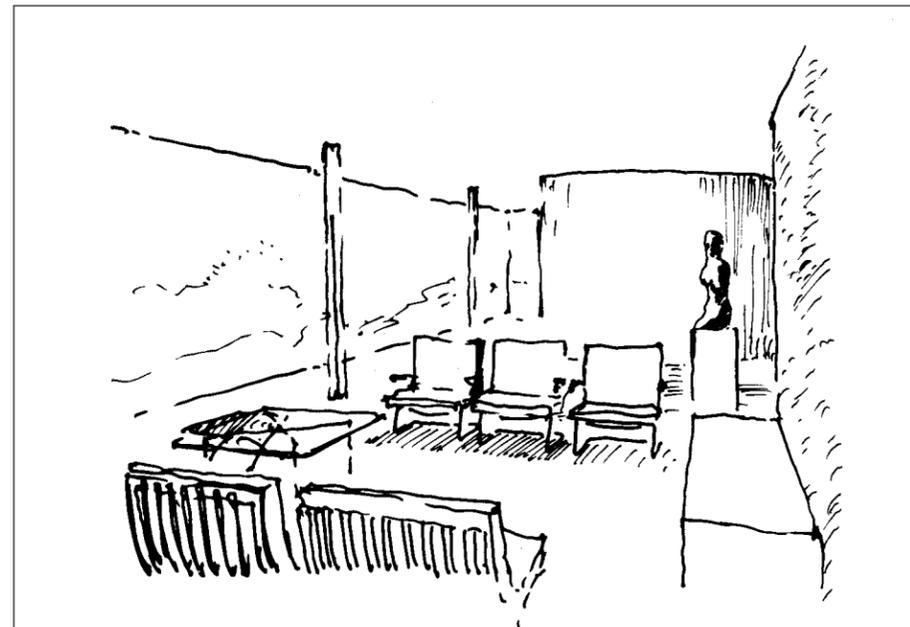


Le Corbusier: double-height living space

To the layman, architecture is what defines and sometimes fatally restricts his living space. He regards it as a commodity and spontaneously demands that it be 'enjoyable to use'. To combine this basic requirement with 'functional dexterity' is to choreograph the art of living, regarded as a matter of course by the rich. It is easy for the wealthy to enrich their daily lives with culture. Whether this is done in good taste is a different matter. The poor have more of a problem.

It has not always been this way! Today we admire the anonymous buildings of so-called primitive peoples. Their houses and living utensils exhibit unsurpassable taste, despite their primitive means. One reason for this high quality lies in a long and unbroken tradition, ensuring the continuous improvement and refinement of the product, and another is the hand-made quality of each item. People understood the processes by which objects were made. They lived in small communities and knew what went on in the workshops of their immediate neighbourhood.

Today we are no longer familiar with the methods by which our everyday objects are being produced. Not many people who settle into a new home know, or ever even meet, the architect. The designers of our furniture, lamps, cups and saucers remain equally anonymous. Only art lovers, *cognoscenti* and snobs bid for Mackintosh or Hoffmann chairs, Behrens cutlery, Bauhaus china and objects of a similar kind. Most of the everyday objects on display in department stores today are an insult to our aesthetic sensibilities, fulfilling only the interests of primitive sales strategies. No one can predict whether these tasteless artefacts will still be marketable in years to come. The consumer is not, after all, that insensitive and stupid.



Modern interior, neutral, tasteful. House Tugendhat, Brno, Czechoslovakia, architect: Mies van der Rohe



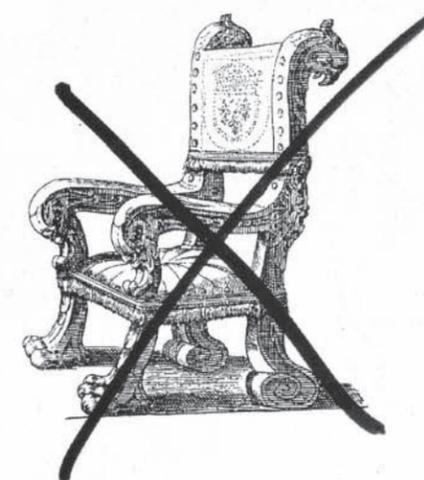
Lounge interior, in the worst possible taste, as displayed by all department stores nowadays



Good old chair



Good modern chair (Otto Wagner)



Bad old chair

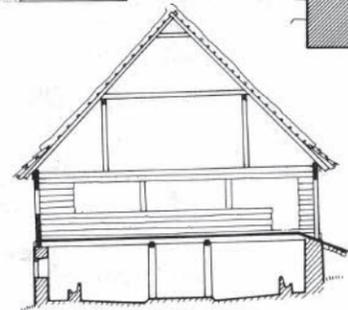
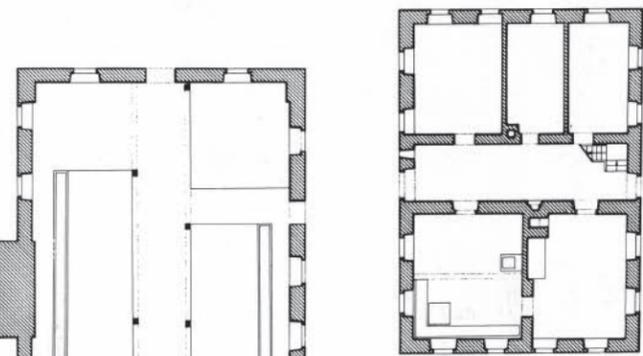


Bad modern chair



The ordering of functions in a building cannot be illustrated as clearly as the comparison between good and bad product design. However, the problem is easier to highlight by comparing a number of house plans.

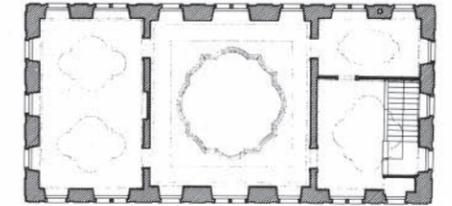
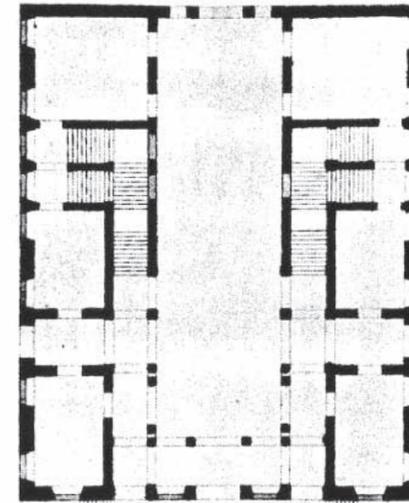
Agricultural buildings:



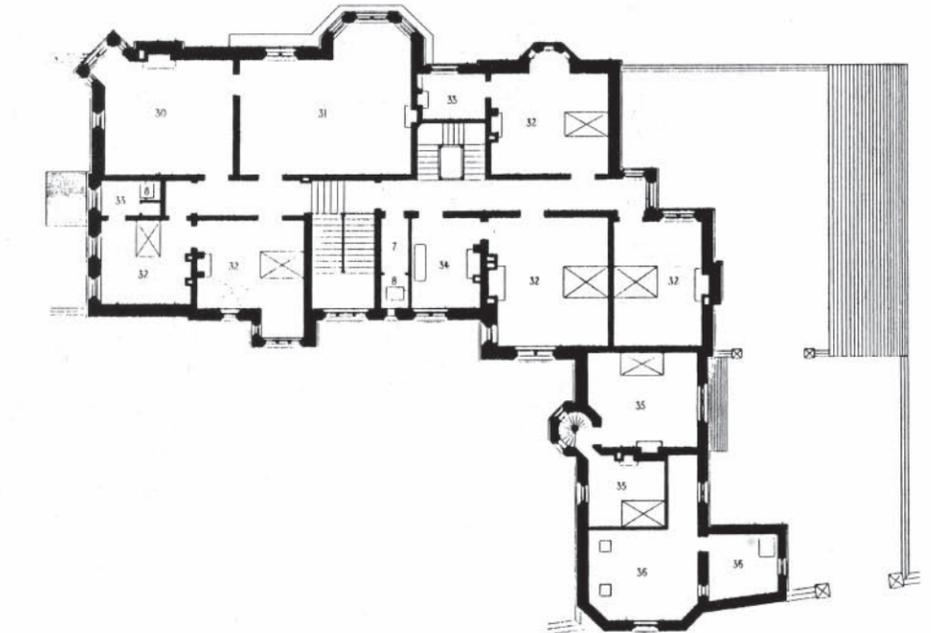
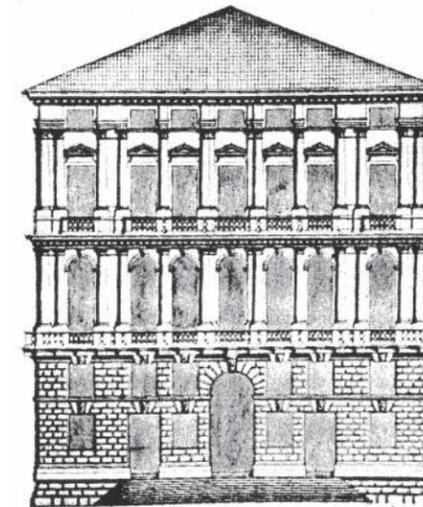
Old and good – farm house in Lower Austria

Old and questionable – farm house in the South of France

Expensive buildings:



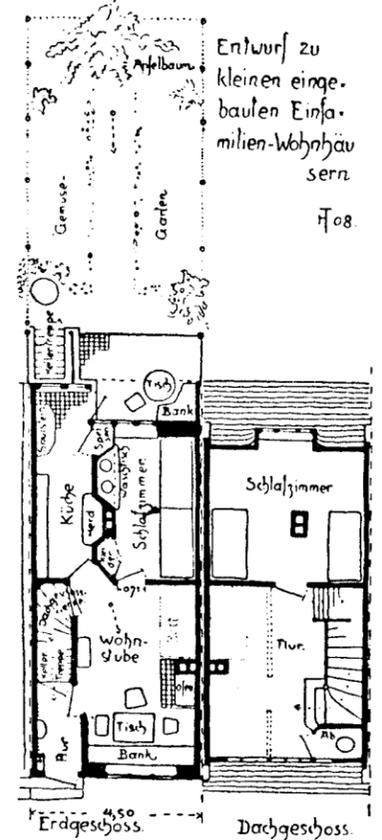
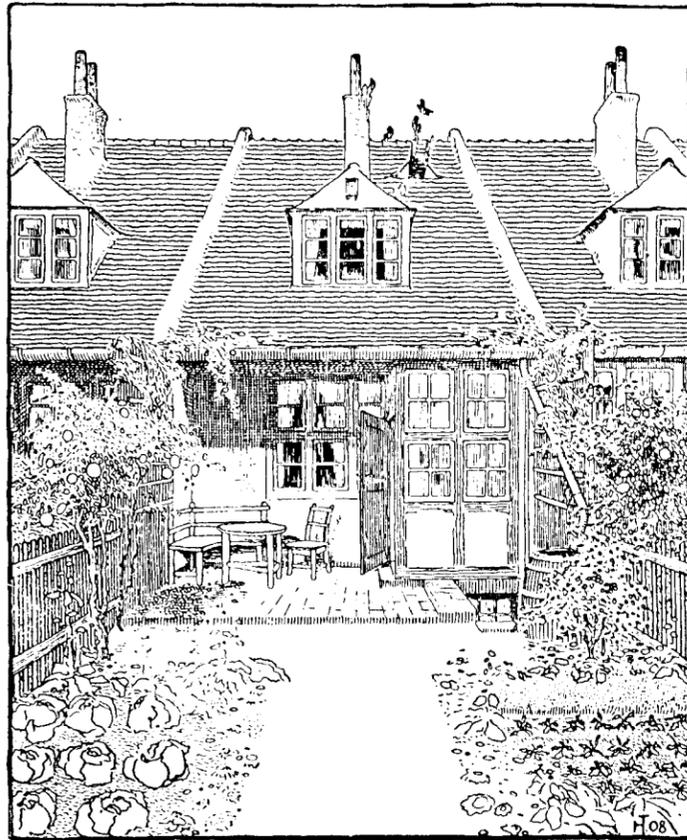
Old and good – Pleasure House in Lower Austria



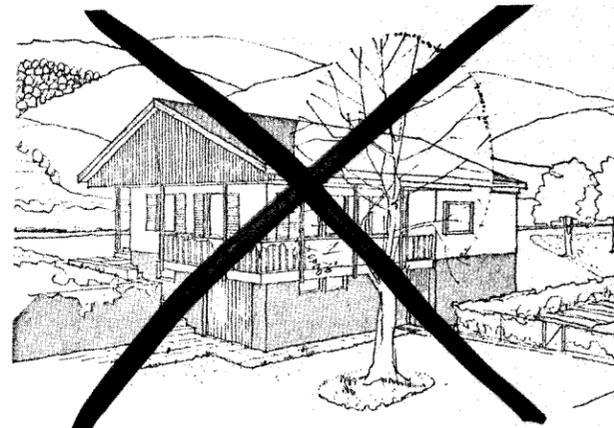
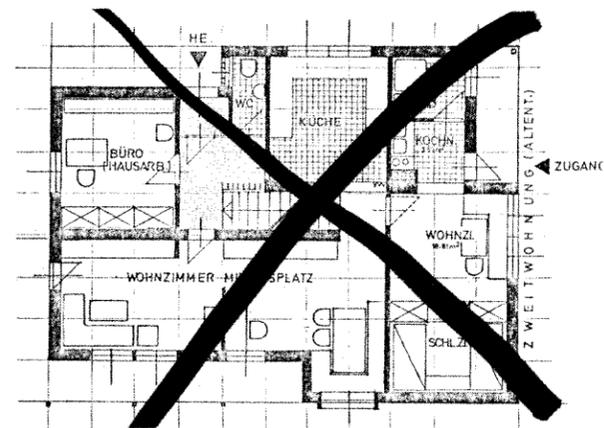
Typical Venetian Palace

Old and questionable – example from *Habitations modernes* by Viollet-le-Duc

Inexpensive Modern buildings

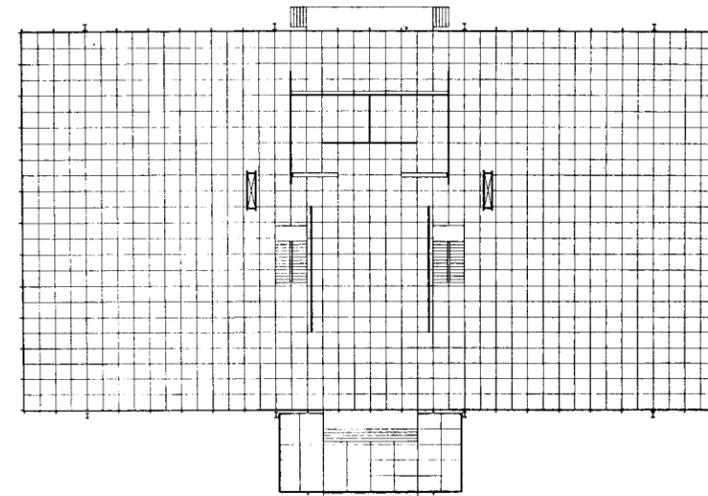


Good example – worker's terraced house, architect: Tessenow

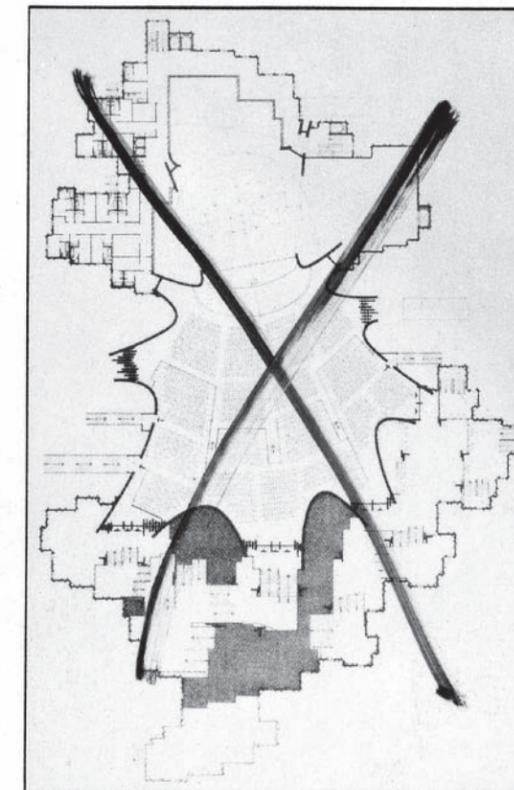


Bad example

Expensive Modern buildings:



Good example – MIT, Chicago, architect: Mies van der Rohe



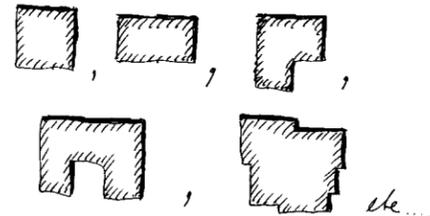
Bad example

Study of the Basic Types

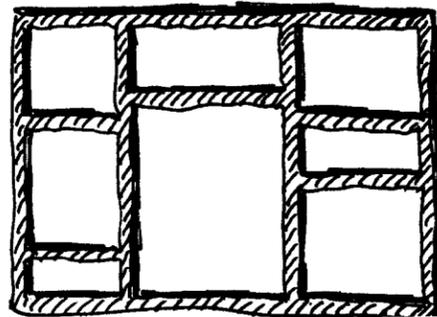
The permutations of type for a domestic plan are very limited.



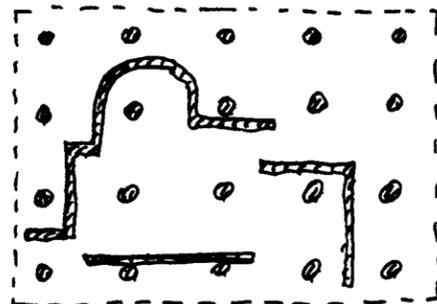
The three basic geometrical forms which can be developed into a plan are: square, triangle and circle



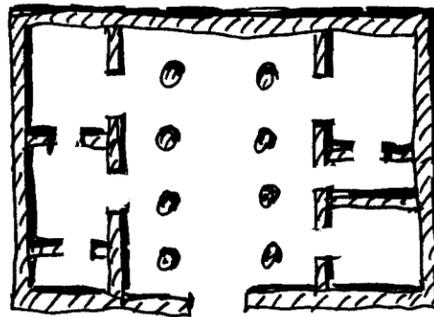
Each one of these basic forms can undergo manifold transformations, as illustrated here by the square:



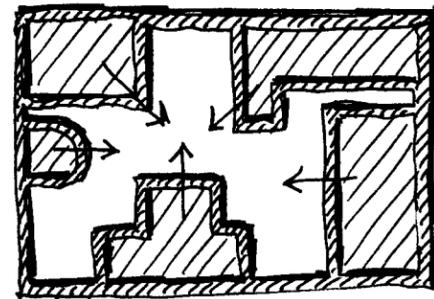
Plan with autonomous cell-like rooms



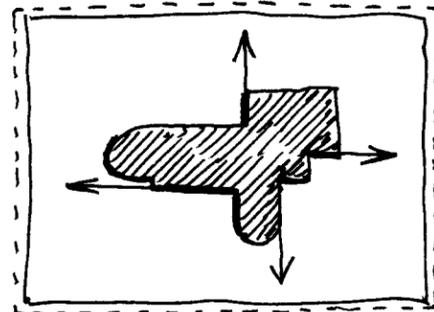
Plan with rooms flowing into each other



Plan showing the result of the superimposition of the two previous examples



The organisation of the plan is either directed towards the centre



or from an inner core towards the outside

The same theme can be carried through the different basic geometries in regular and irregular form.

It is immediately obvious from these permutations that the design process can never be mathematically rationalised. The concept of organisation goes hand in hand with the idea of a spatial sequence. As stated above, architectural organisation cannot be stan-

standardised. It does not follow that a perfect functional solution necessarily results in good architecture. To encompass our way of life, the entire aesthetic repertoire has to be pulled together and a balance created between 'tight' and 'relaxed' ordering (regular and irregular geometries).

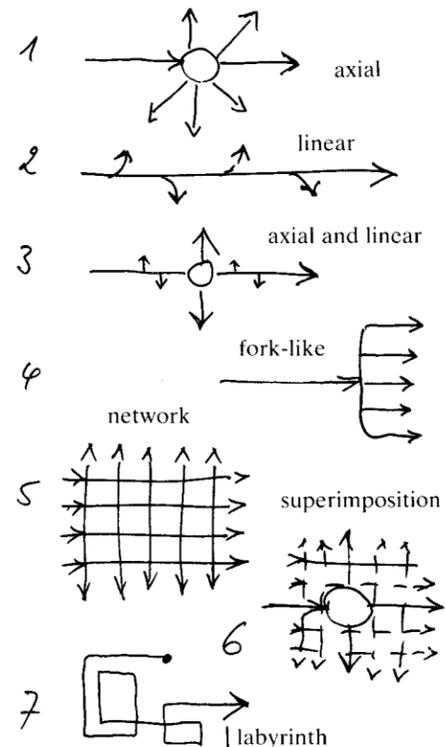
The Organisation of Functional Sequences

The specific function of a house may suggest various constructional forms that channel working routines and modes of behaviour. Orientation, that is 'to find one's way around', plays a dominant role in this.

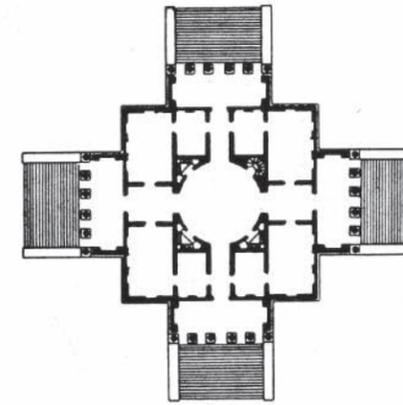
The most important organising and enclosing principles are demonstrated in the following sketches:

1. central/axial
2. linear
3. central and linear overlap
4. fork-like representation
5. network
6. superimposition on different levels
7. labyrinth

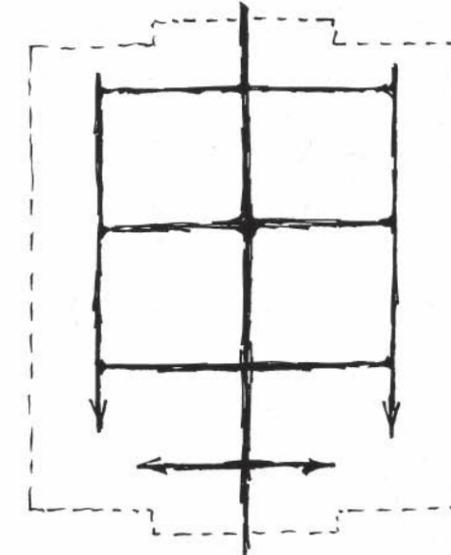
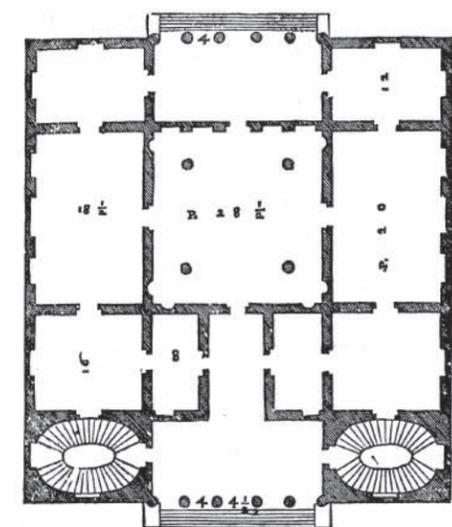
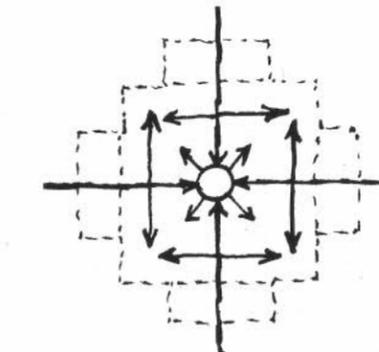
Systems of enclosure:



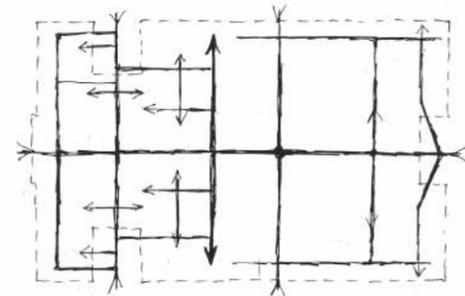
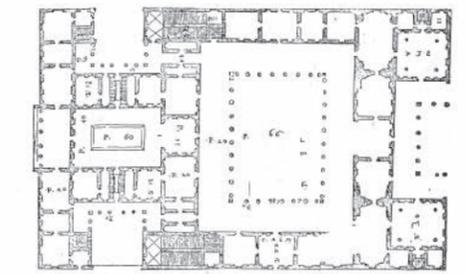
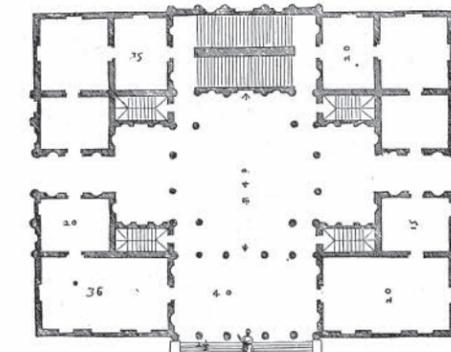
Historical examples illustrating some of the systems of enclosure. In the majority of cases we discover several layers of different systems superimposed.



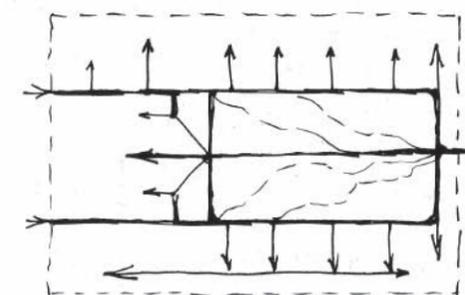
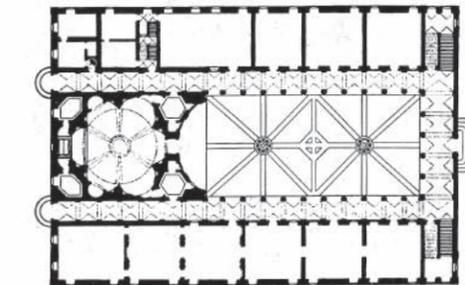
Villa Americo ('La Rotonda'), architect: A. Palladio



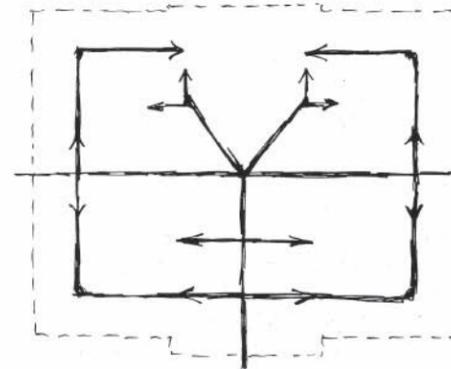
Design for a Palazzo for Gio. Battista Garzadore, Vicenza, (not realised), A. Palladio, *Quattro Libri dell'Architettura*, Book II



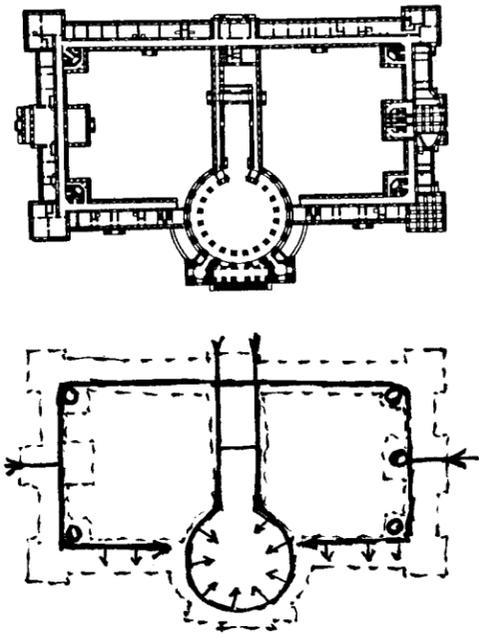
Villa with Tuscan atria, A. Palladio, *Quattro Libri dell'Architettura*, Book II



Palazzo della Sapienza, architect: Borromini



Design for a Palazzo for Gio. Battista dalla Torre, (not realised), A. Palladio, *Quattro Libri dell'Architettura*, Book II

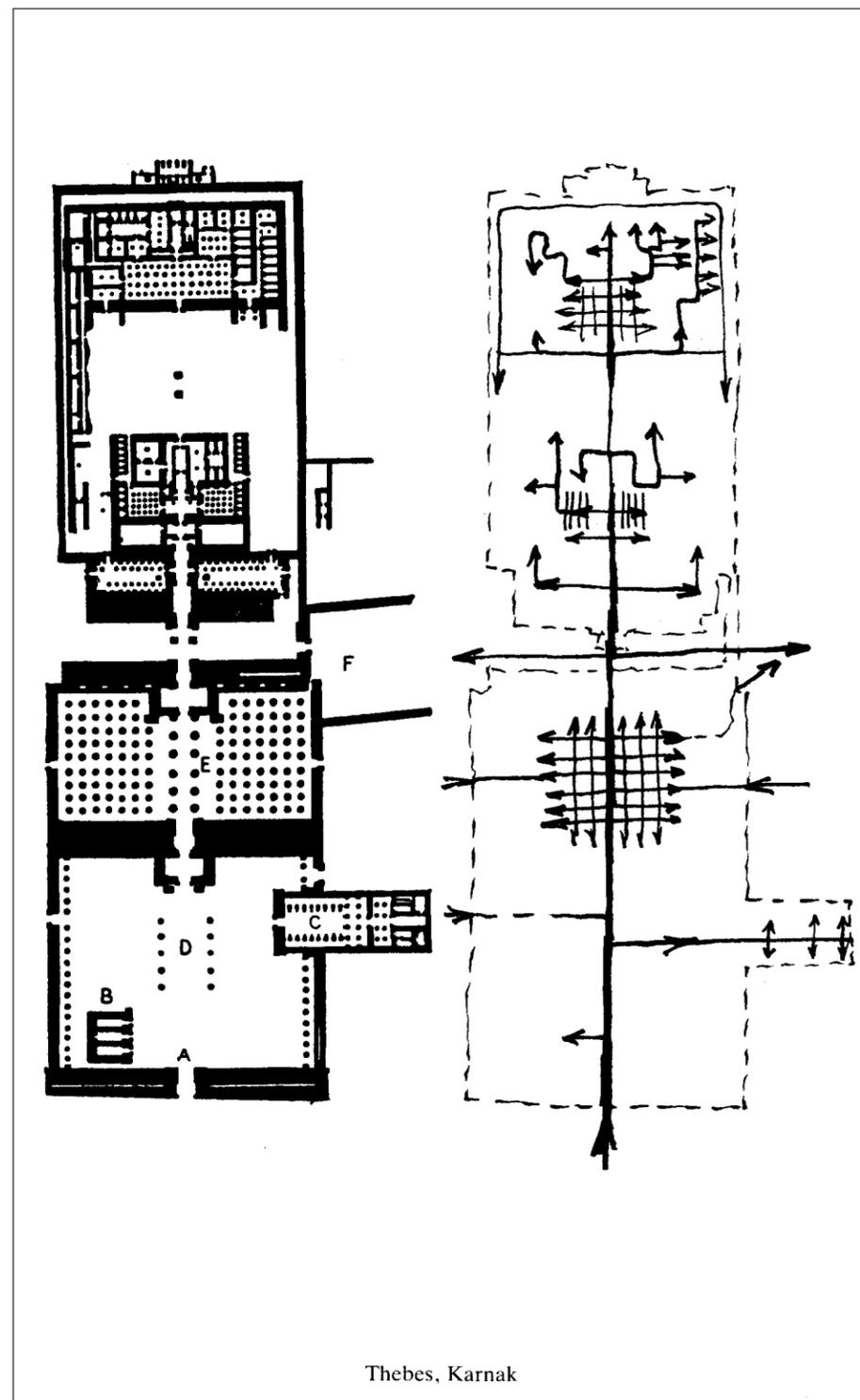


St. Blasien monastery, Baden

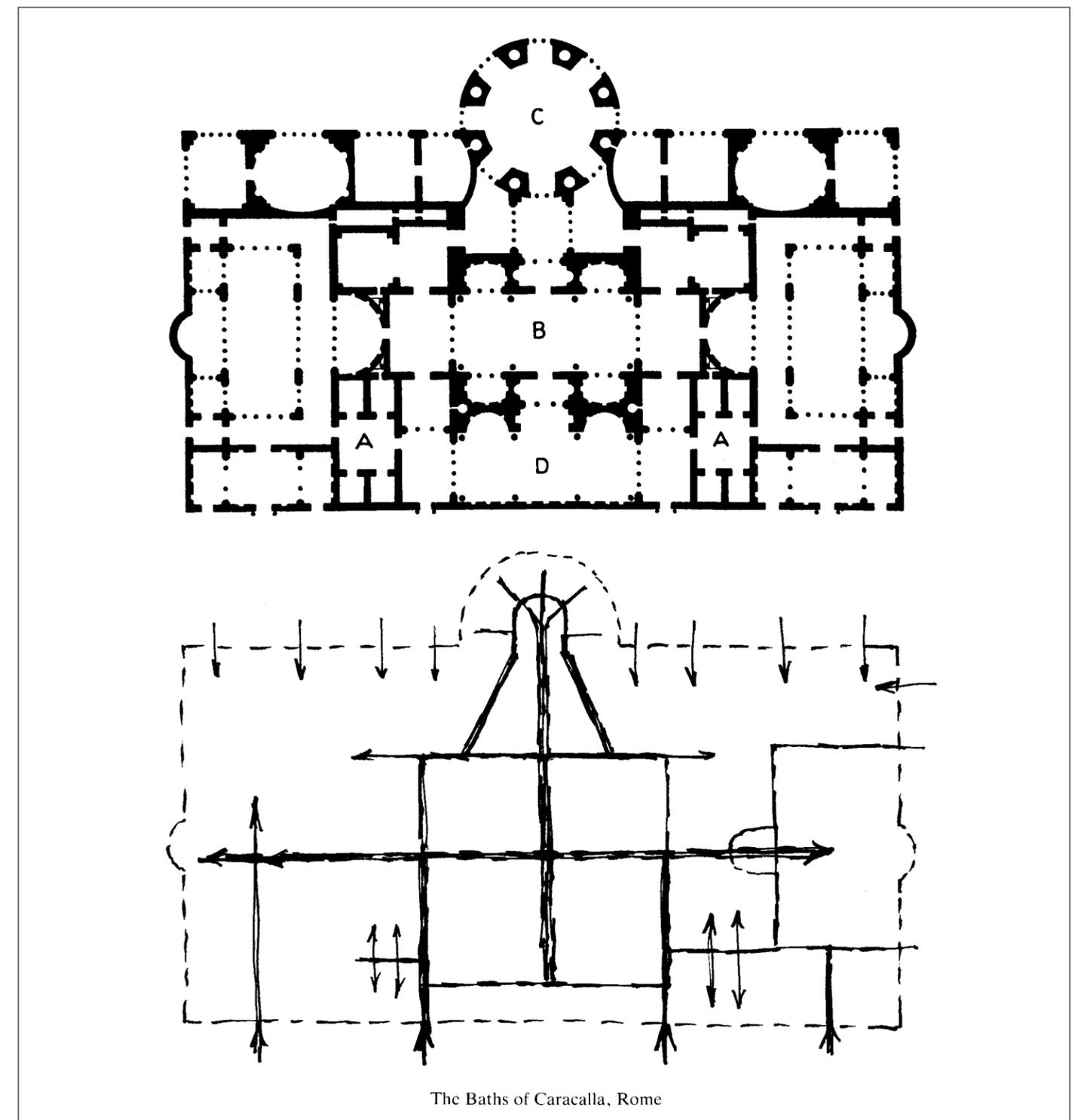
The circulatory route of a house begins at the main entrance, the garden gate or the portico. Here is the main threshold, between the public and private realm. The threshold acts as both demarcation line and connective tissue.

The portico is not accidental; it gives us a spatial and symbolic foretaste of the interior of the building. At the risk of being misunderstood, I pronounce the entrance the most erotically sensitive part of a house. Architecture, as one of the visual arts, has a symbolic dimension that should not be hushed up.

The porticos illustrated are unmistakable testimonies of their semiotic quality. Different cultural epochs have found their own expressions. The illustrations of porticos speak for themselves.



Thebes, Karnak



The Baths of Caracalla, Rome

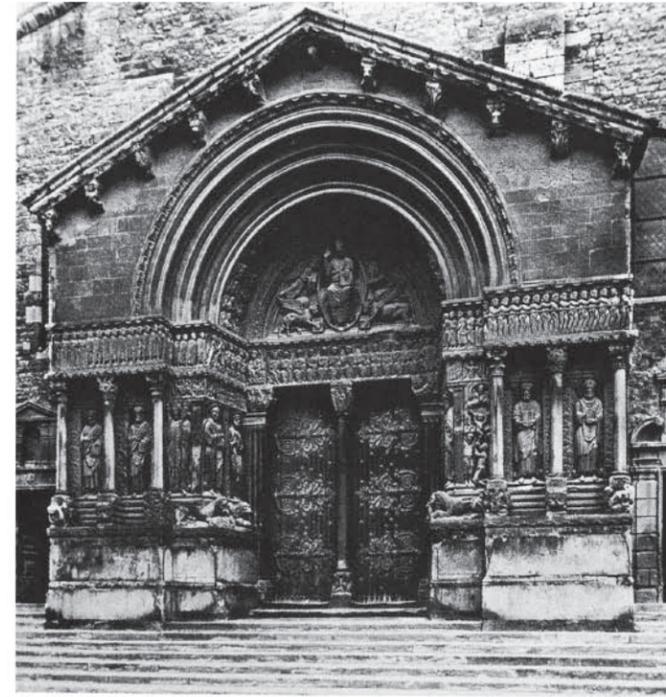
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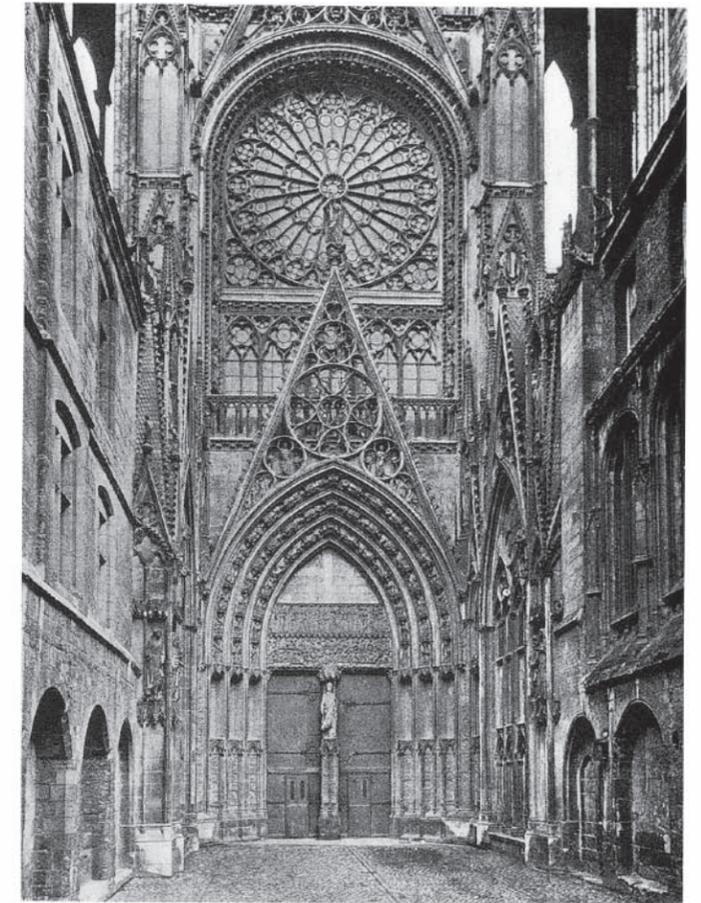
Saqqâra, Djoser burial grounds, perimeter wall, c. 2600 BC



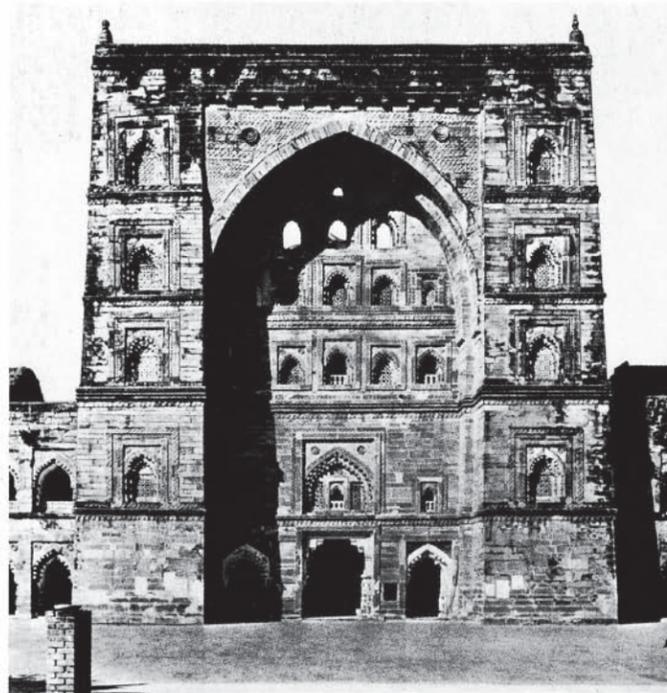
Banteay Srei, Gopura, Ishvarapura temple, gate tower



St. Trophine in Arles



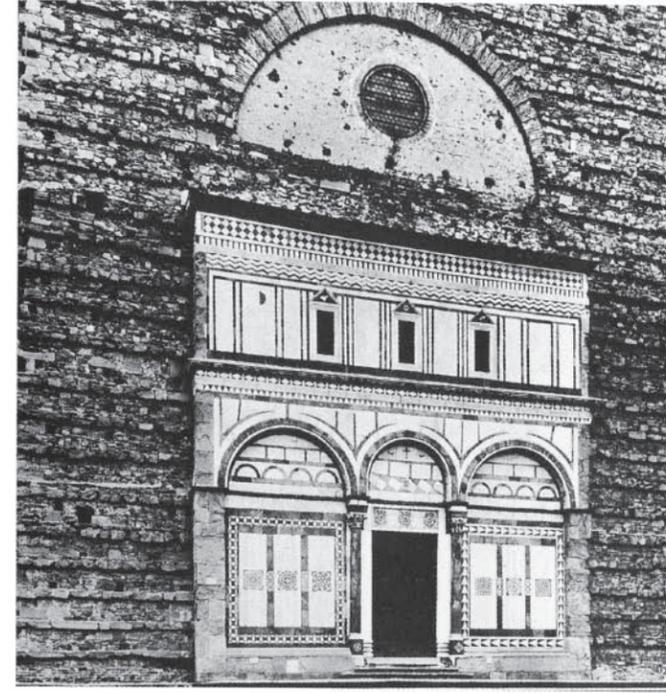
Notre Dame Cathedral, Rouen, 1281-1300



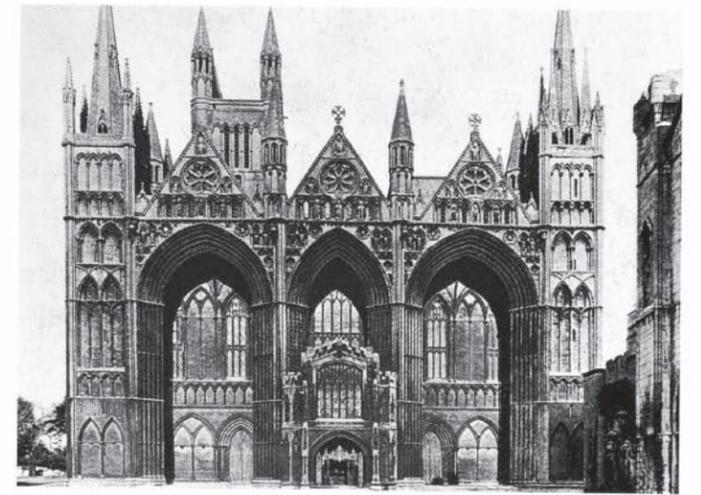
Jannpur Uttar Pradesh, Jami Masjid, c. 1470-78



Uxmal, Governor's Palace, gate with Maja arch



Fiesole, near Florence



Peterborough Cathedral, c. 1200