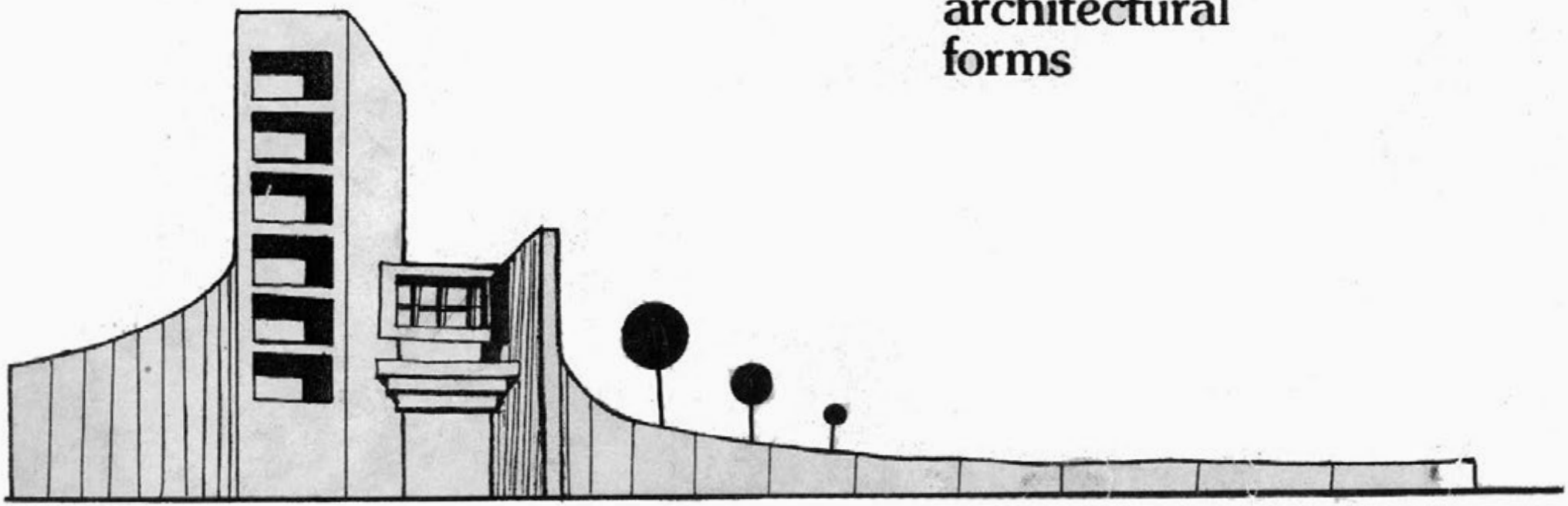
a vocabulary of architectural forms



هذا الكتاب اذ نقدمه لكل مهندس وطالب معمارى انما نرجو أن نستطيع الاستفاده بأقصى قدر ممكن من الدراسات الاساسية المستفيضة التى يحويها بين صفحاته .

انه الكتاب الأول من نوعه من حيث نوعيات الدراسات الشاملة وغزارتها وكثرة وتنوع الامثلة والكروكيات التى يوضح بها الدراسات المختلفة .

فعلى سبيل المثال وليس الحصر :ـ

بهذه المقدمة المتواضعة نرجو أن نكون قد نجحنا فى أن نعرفك بنوعية الدراسات فى هذا الكتاب الثمين . كما أننا حرصنا كل الحرص على عدم افساد متعتك حينما تكتشف الكثير من الدراسات القيمة التى يحويها كتابك هذا ... فقط نطلب منك أن تتصفحه بامعان وتقليل من التركيز سوف تتحقق من أنك تحمل بين يديك كتابا أكثر من رائع . مع أجمل أمانينا بمستقبل مشرق ..

Introduction

Introduction

Vocabulary

CONCEPT SOURCEBOOK

a vocabulary of architectural forms

1 Preface

Need

At the end of our careers as architecture students, we seem to graduate with a relatively small vocabulary of architectural forms for responding to project needs. This is not because the forms are unavailable, but because present methods for acquiring them are very inefficient. As a result, in the role of professional designers, we tend to handle very different projects with very similar building forms that have become comfortable and familiar.

In both architectural practice and education, concept getting is demanded but seldom taught. More often than not, it is learned peripherally, in a piecemeal manner as the residue of design case study experiences in the studio. These are several reasons for the neglect of this central aspect of design activity.

1. The study of concept getting has traditionally been "mind oriented" and as such has encountered problems due to the scarcity of information about the workings of the mind.
2. The value placed on "purity and innocence of design authorship" as a requirement for "creativity" has tended to promote a "hands off" attitude toward both training in concept getting and systematic exposure to available concepts.
3. The preoccupation with preserving the individuality of the student has resulted in waiting until he makes his concepts before beginning serious discussions about synthesis.
4. The growing body of facts from other fields to which the designer must respond has become an object of attention in itself and has drawn off much of the theoretical thinking done by those interested in front end processes in design.
5. The perception of architecture as ultimately product oriented has channeled much of the mental effort in design theory to analysis of completed building designs.

All of these factors taken together have left us without any developed body of theory about concepts or concept getting. The subject is seldom addressed directly in architectural education even though required of the student in the studio.

Below are offered some observations about the conditions that have prevented the maturity of concept theory and concept training in design.

1. The view of concept getting as an intricate, infinitely complex system of largely subconscious thought processes, hopelessly buried in grey matter and defying analysis is probably correct. We can circumvent this problem however and effectively teach concept getting by simply teaching concepts. The situation is no different than teaching sentence getting in english composition. We do not propose how the mind works when creating a sentence but rather we show the student examples of good sentences and some ways of making them.
2. Somehow the design student acquires the misconception that to reuse and apply what concepts he has come to learn is uncreative, a form of self plagiarism and an admission that he has no ability to generate ideas "on his own." An attitude is developed that design strategies learned through travel, distilled from architectural history, seen in periodicals and tried in last year's studio have been "used up" and cannot be drawn upon for present or future work. The "true" designer must deny

himself access to outside sources when seeking concepts for his projects. This is nonsense. Creativity results from knowing more, not less. The designer must absorb as much as he can from as many sources as possible to equip himself to produce his best projects. There are numerous valid and proven alternatives for dealing with project needs in building form. It is senseless to persist in attempting to design while wearing blinders, reinventing fundamental and well known strategies and refusing to use available concept vocabularies. Originality in design comes from making these strategies second nature so that they can be creatively chosen, combined, varied and manipulated to produce totally new ones.

Design teachers should assume a "hands on" posture toward the student in teaching concepts and in encouraging the student to more actively seek exposure to and use of concept sources and catalysts.

3. There is no doubt that different building solutions to the same set of project requirements are a great source of stimulation and meaningful learning in the design studio. The essence of the validity of this learning tool is sometimes seen as the protection of the individuality of the design student, the avoidance of tampering with the ways the student generates his concepts and the religious reluctance to predispose the student toward certain solutions by teaching concepts directly. As will be discussed further on, no two designers will approach a project in exactly the same way because of their unique and different experiences, life views and values, design philosophies and perceptions of the problem. Discussions in the studio about getting their concepts and expanding their vocabularies of available concepts in architecture cannot possibly erase the inherent individuality of designers and should in no way reduce their capacity to generate different building solutions. Similarities between building designs in the studio are more likely a result of a tightly structured project program, a building type with extremely strict performance standards or a teacher with a strong opinion about which building forms are appropriate for the project.
4. Behavioral relations between man and building, ecological interactions between building and nature and the role of building in man's perception of and orientation to the city scape are some contemporary considerations that the designer must address in planning buildings. The subissues of these concerns and others that are becoming available to architecture from related fields such as sociology and psychology are mounting in number and complexity. Add to this the increasing complication of the traditional architectural concerns and the greater demands placed on building performance and it becomes evident that the designer is faced with a dilemma. He is caught between a huge and still growing body of information which must be translated into building form on one hand and more stringent criteria for judging the success of buildings on the other. There are two problems that result from this condition:
   a. The information overload puts too much pressure on the designer, often resulting in mental constipation during conceptualization.
   b. The characterization of the new data as totally different from any data he has dealt with before implies that the designer must generate totally new concepts in response.

   Both of these difficulties have to do with concept getting and concept vocabularies. The first makes it

even more mandatory that we address concept getting directly as subject matter in the studio. It is the point where the information is initially translated into an idea for physically dealing with it in building form. The second need, to create new concepts, renders the teaching of concept vocabularies not only legitimate but necessary. The designer must have access to the language before he can create new words and sentences, and in time, new grammar and syntax.

5. It is difficult to argue against the belief that the effects of and on a building when in use are crucial and perhaps even the most important concern in building design. All the techniques, methods, processes and theory having to do with design activity are largely aimed at producing buildings that cause desirable consequences. The validity of the study of design is founded principally in the construction and use of successful buildings. There is sometimes a feeling by those who share this attitude that there is too much self-indulgent manipulation of method theory for its own sake in architectural education. This may be the case, but it is important not to hastily react by rejecting all efforts at theory development. The experienced designer can surely see the relation between concept getting and the positive and negative qualities of the eventual physical building. Greater emphasis on developing and teaching concept theory is one of the most effective ways of controlling building consequences more completely and of insuring that they are as desired and predicted. It is mandatory, of course, to develop sensitive feedback mechanisms together with thorough building evaluation techniques to continually check the validity and relevancy of the concepts that are being taught and to monitor the relationship of design concepts to the realities of constructed and inhabited buildings.

Goals

The goals of this book are derived from the needs just discussed:

1. To provide the "layman" with some appreciation of the considerations that architects deal with in building design.
2. To introduce the beginning architecture student to some of the concerns of building design.
3. To promote beginning designer confidence in his ability to competently respond to project needs with building form.
4. To offer an efficient way for the design student to accumulate a vocabulary of architectural forms and concepts.
5. To serve as a stimulant and catalyst for generating concepts.
6. To promote creative design by helping to make traditional design strategies second nature.
7. To help the designer become more efficient in his work and more able to deal with complexity.
8. To provide a spectrum of alternatives for dealing with a single design requirement or situation.
9. To allow the designer to become facile in concept getting sooner so that more time may be spent in developing, refining and manipulating building form.
10. To encourage the design student to explore project requirements thoroughly for form giving issues.

11. To help foster an understanding about the relationship between project facts and building form.
12. To help the designer overcome the tendency to spend too much time in plan.
13. To help the designer transcend his timidity in exploring new building forms.

Organization

The book is divided into two major sections, the Introduction and the Vocabulary.

There is an important distinction between the theory presented in the Introduction and the concepts presented in the Vocabulary. There are obvious personal values and biases included in the Preface and Theory of the Introduction. The Vocabulary section, on the other hand, makes no proposals or recommendations but simply presents alternative design strategies. It serves much as a dictionary in that the user must choose the appropriate strategies for his particular design situation. This is not a book of "answers" but rather a collection of concepts from which the designer may choose, derive, assemble, refine and manipulate his own answers.

The Introduction is verbally presented and is relatively short. It is composed of two chapters, Preface and Theory. The Introduction has no direct relationship to the Vocabulary section.

The Vocabulary section is graphically presented and embodies the principal purpose of the book. The concepts presented are organized under the following headings:

1. Functional Grouping and Zoning
2. Architectural Space
3. Circulation and Building Form
4. Response to Context
5. Building Envelope

This author believes very strongly in the multifunctioning roles of books. The value of this source book may be direct, as when the designer chooses to use some of the ideas presented here. Just as valuable, however, are the indirect roles such as:

1. Providing concepts that may be altered to suit special needs.
2. Stimulating the designer to generate his own concepts.
3. Calling to mind antithetical concepts from those presented here.
4. Fostering the creative combination of concepts.
5. Helping to develop diagramming ability.

The concepts are sometimes presented at a given scale but may be applicable to many scales. They are sometimes applied to a particular architectural situation but are applicable to many situations. The concepts are offered in plan or section but are valid for both. Many of the diagrams are examples of the concepts being applied to a specific building type. The user of this book should strive to understand the generic form of the concepts presented to benefit from their broadest applicability. The book is intended as a broadening tool, not as a limiting one. Hopefully the contents will help stimulate the growth of a concept vocabulary that will extend well beyond the covers of the book.

The book is meant as a catalyst in concept getting for each project undertaken. It belongs at the drawing board. The different meanings that it has from project to project and from designer to designer will hopefully prompt many rich

and beneficial discussions.

Potential Problems

There are some possible problems that should be pointed out which may result from misconceptions about the book:

1. The book does not propose a design process or method. Sometimes this is interpreted from the presentation sequence of the material. The beginning student is particularly proned to be procedure oriented and to search for rules which, if followed, will insure design success. The order in which the concept vocabulary is presented does not propose a sequence for addressing design concerns in a project. This must be determined by the designer after careful problem analysis and establishment of project emphases.
2. The book focuses mainly on physical design issues. Relationships between the concepts presented and the intentions and goals of the designer must be made by the designer. Alternative ways of handling spaces are presented, for example, but not reasons or intentions for handling them that way. The designer must choose from among the alternatives presented and have reasons for his choices. This is true for all the concept sections. The concepts are presented neutrally. Value, emphasis, rationale and choice are the responsibility of the designer.
3. Access to a concept vocabulary demands designer discipline and restraint lest his building design become a muddy and uncoordinated assembly of unrelated ideas. There may be a tendency to try to incorporate too many concepts, some having no connection to project needs and issues. This almost always leads to unnecessary complication and compromise of the really important concepts. It is vital that concepts chosen be relevant, appropriate and related to each other in a unified solution.
4. The designer may have the attitude that a concept vocabulary somehow lessens the effort needed for development and refinement of the solution. The opposite is the case. There is much more demanded of the designer in terms of making relationships, resolving conflicts and mediating the competition between alternative design strategies for making building form. In enriching the building form, the project becomes more complex for the designer, not more simple. For any set of concepts chosen, there is important adaptation and refinement to be done before the concepts truly respect the project requirements and each other.
5. The book is not intended to be stifling to the designer or to be more of an influence on his building solutions than the project requirements. The danger here is that the book will be the only source used to generate design ideas. This would be deadly to the designer's personal development. There are more notions about design that are not contained in this book than are in it. Each designer must accumulate his concept vocabulary from as many diverse sources as possible. Notes and diagrams made while traveling, magazine cut outs, edited history notes, handouts from design studio classes and a diary of ideas as they occur while reading are some of the ways the designer can build his own concept book. This of course does not diminish the absolute necessity for detailed analysis of the project needs. This analysis gen-

erates criteria for choosing from among available concepts in the designer's vocabulary. Because the ideas presented in the vocabulary section are physical concepts, there may be a temptation for the designer to prematurely choose and manipulate them before completing the project analysis. Sometimes the student is inclined to believe that "making buildings" is the business of architecture and that the sooner he gets physical in design the better. If he can insert another word and say the "making successful buildings" is his chief concern, he can more easily see the importance of writing good programs, analyzing the project and responding to the needs faithfully, completely and creatively. Total understanding of the project situation must always precede a search for the physical concepts that lead to building form. The more the designer knows about the project needs before choosing concepts, the more meaningful, effective and intelligent will be his choices.

Achieving this kind of mental discipline is very difficult, particularly when the project needs are overly complex, seem too simple or for some reason are uninteresting. In these instances, the designer often finds his mind wandering to thoughts of how he will handle the column transition to ground or some other escape from the task at hand. Although this may be an effective escape from the tedium, he must guard against allowing these notions to pass as valid until they are tested against the findings of project analysis. While it is true that many decisions about form are made as a response to or in continuation with previous form decisions, still the early form decisions should be founded in project analysis conclusions. These form decisions are the context for the form decisions that will follow.

9 Theory

Definition

The architect, the architectural student and the design teacher are all involved with the making of building forms. There are many valid techniques, models, paradigms, idioms and processes for designing, learning design and teaching design, all with the same essential goal of providing successful architecture in every sense. They all serve as vehicles or catalysts for improving our effectiveness as designers, to broaden and deepen our understanding of design activity and to organize and present information about designing. One of these, the notion of "concepts" will be used here to present some thoughts about architectural design.

There are several statements about concepts which, taken together, can convey a sense of what they are. A concept is:

1. An initial generalized idea.
2. A germination which is to be expanded and developed later in more detail.
3. An embryonic framework which is to accommodate a richer complexity.
4. A perception about form resulting from an analysis of the problem.
5. A mental image deriving from the project situation.
6. A strategy for moving from project needs to building solution.
7. The rudimentary set of tactics for proceeding with design.
8. The preliminary grammer for developing the principal project issues.
9. The designer's first ideas about building morphology.

From these notions we can distill several facts about most concepts:

1. They are derived from problem analysis or at least initially prompted by it.
2. They are general and rudimentary in character.
3. They both require and must embrace further development.

Traditionally, architectural concepts have been the designer's way of responding to the design situation presented in the program. They have been the means for translating the non-physical problem statement into the physical building product. Every project has within it what might be described as prime organizers, central themes, critical issues or problem essences. These all exist within the project situation or within the designer's perception of the problem situation. The designer must establish what they are, and then out of them, or in response to them, create concepts for dealing with them architecturally. The designer's concepts are sometimes called the "big idea," "basic framework" or "primary organizer."

As we will see further on, concepts may be process or product oriented, take place at any stage in the design process, occur at any scale, be generated from several sources, have a hierarchal nature, possess intrinsic problems and be plural in number and concern within any single building.

As the designer, we are presented with project situations. They come to us from programmers or clients and they require a building or buildings to satisfy the outlined needs. Often, we think of a building design as consisting of one concept or overall idea. Evidence of this exists both in school and in the profession. Competitions ask

for a statement of the concept. Student projects are explained in juries by beginning: "my concept for this project is" . . . Although it is true that the design of the project may begin with a single overall direction of how to respond to the problem, ("this is a functional problem" or "this is a contextural problem") any building design is in fact composed of many concepts. Even small scale projects contain a great deal of complexity and it is virtually impossible to deal with all the aspects of the building simultaneously with a single concept. The designer must divide the project situation into a manageable number of parts, deal with them individually and then synthesize them into one whole "simultaneous" building.

Some general categories under which the concerns and issues of a building may be listed and addressed in design are:

1. functional zoning
2. architectural space
3. circulation and building form
4. response to context
5. building envelope

Economy applies to all of these. The issues of most building types fit conveniently under these five categories and taken together, the categories seem to describe most of the important concerns about building design.

There are undoubtedly many other ways to decompose building design into issue topics that are equally as useful. The ones listed here have proven useful to me in my own design work and so I have addressed myself in this book to the development and presentation of some of the concepts possible under each of the five headings. There has been no effort here to explore alternative taxonomies for describing building design activity.

"Functional zoning" and "response to context" involve an existing condition. The client operation and the context where the building will be located are givens. "Space," "circulation and form" and "building envelope" are the designer's means for responding to the givens and transforming the project situation into a building. The designer acts upon and develops concepts about all five: function, space, circulation and form, context and envelope. Within any of these categories the designer may produce several concepts. When developed and combined, the functional, spatial, formal, contextural and envelopmental concepts produce a building design. The quality of that design and the resulting success of the eventual constructed building will depend upon the designer's ability to produce valid, complete, efficient and creative concepts and to put them together into a harmonious whole. The goal is to design a building that is totally successful in all respects. The book is intended as a checklist to bring some of those concerns to the attention of the designer.

Depending upon the designer's personality and individual design method he may address conceptual issues in a rigid sequence or skip among them in some order or at random until the mosaic of the building solution is finally complete. This sequence of attention to the respective problem issues and the assignment of emphasis to them by the designer will have a profound effect upon the nature of the solution. Those issues addressed first in design are usually the most important in the designer's mind and tend to be solved best. Also, because they are solved first, they tend to be formalized early and so become the context for solving the other issues. The remaining issues must adapt themselves to the ones solved first. This seems to be true

even with design recycling and the tentativeness that characterizes most design decisions until everything fits.

Relation to Design Process

Concepts in architecture are normally thought of as belonging to the schematic design phase of the planning process. This traditionally has been where the designer has generated the "big ideas" for the building design.

Concepts actually occur at all levels of planning from programming, schematics and design development through contract documents and construction administration.

The concepts in these planning phases may be directed at the evolving building design or may address the procedures to be followed within the process phases. For example, in schematic design, there may be concepts for overall site organization (building design) and concepts for the teamwork relationships between the designers to facilitate team communications (process).

A few examples of building and process oriented concepts within each planning phase are outlined below.

1. Programming
   a. Building
      1.) Client operations and business policy.
      2.) Lending institution concept of what constitutes a feasible project scope.
      3.) Programmer concept of the essence of the problem.
      4.) Concepts of required space adjacencies.
   b. Process
      1.) Programmer's concept of best interview method for the project.
      2.) Office manager's (architect) concept of allowable and affordable time for programming.
      3.) Client's concept of who he should assign to represent his business in giving information to the programmer.
2. Schematic Design
   a. Building
      1.) Concept for grouping and zoning site functions.
      2.) Grouping and zoning of building functions in relation to themselves and to context.
      3.) Structure and enclosure in relation to spatial concepts.
   b. Process
      1.) Concepts for intercommunication between design team members.
      2.) Concept for assigning sections of the program to individual designers.
      3.) Concept for presentation of schematics to the client.
3. Design Development
   a. Building
      1.) Concept for detailing fenestration.
      2.) System of handling doorway conditions.
      3.) Systems of materials and connections.
   b. Process
      1.) Insuring client input on furniture arrangement design.

2.) System for avoiding furniture and equipment oversights.

3.) Concept for presentation strategy to client's Board of Directors.

4. Contract Documents

a. Building

1.) System for scoring stucco facade.

2.) Concept for organizing all hardware in the building.

3.) Concept for specifying allowable material quality ranges.

b. Process

1.) Allocation of working drawing tasks to draftsmen.

2.) System for invitation to bidders.

3.) Concept for insuring job completion within allowable schedule.

5. Construction Administration

a. Building

1.) Concept for insuring installation quality for material.

2.) Supervising execution of detailing concepts.

3.) Concept for siting the building.

b. Process

1.) Handling problems on the construction site.

2.) Supervising client payments to contractor.

3.) Concept for insuring thoroughness at final inspection.

For any category of concern in building design or planning process, then, there exist many concepts.

There are several characteristics of concepts that may be useful in generating them or identifying them.

1. They are usually stated in synopsis or overview form, even when they pertain to detailed concerns. (Example: "All building hardware should belong to the same material and form family")

2. Because the designer usually generates them in synopsis form, they normally require a considerable amount of elaboration and development to make them applicable to specific design decisions in the making of form.

3. Concepts may first come to the designer in the form of words or visual images or both. It is advantageous for the designer to perform the heuristics of expressing his concepts succinctly in words and of translating his words into visual images through diagramming. The transformation of a concept into the visual mode brings it closer to being expressible in the physical or building mode.

4. Within any one building issue or process issue there may be multiple concepts which, taken together, comprise the overall concept of the issue. For example, the concept for presenting schematics to the client may include:

a. Who should attend the presentation from the client and architect team.

b. Where the presentation should be held.

c. The length of time for the presentation.

d. The degree of detail needed in the presentation.

e. The sequence of the information.

f. The best media to be used to convey the information.

g. The furniture arrangement in the presentation space.

h. Respective roles of the people during the presentation.

Concept Scales

The concepts in building design deal with various aspects of the facility and its site. It is critical that concepts be generated for every aspect of the building deemed important by the designer. It is useful in solving the design problem to break the problem down into a manageable number of parts that can be addressed by the designer. The manner in which the problem is decomposed will vary from designer to designer. Some may see the problem as a series of systems to be combined and housed while others see it as an artful and humane synthesis of the activities to be contained in the facility. It is vital that all building concerns be represented in the array of parts to be addressed by the designer. The whole design situation must be defined prior to generating concepts for solving the problem. The design situation always includes "core issues" and "tangential" or "surrounding issues." Core issues deal with essential aspects of the project that bear directly on the design (functional adjacency of spaces). Tangential issues are relevant to project success but not in a direct relationship to building design (legal aspects, approval boards, general community issues). The core issues presented in the vocabulary section of this book include function, space, circulation and form, context and enclosure. Within each of these building issues, concepts may occur along a broad spectrum of scales. Within the realm of function for example, concepts involving activities may include the:

1. Universal
2. International
3. National
4. Regional
5. State
6. County
7. Metropolitan area
8. City
9. Neighborhood
10. Specific Site
11. Groupings of buildings
12. Building
13. Departments
14. Department Sections
15. Rooms
16. Activity zones within rooms
17. Work nodes within activity zones.

The criterion of functional adjacency can be applied to any of these scales in relating their activities. Specific activity characteristics that can be used for sorting, grouping and zoning are also applicable to any of these scales (environments required, effects produced, etc.). The same scalar spectrum applies to space, context, circulation and form and enclosure.

Contexts for Concept Getting

Before addressing considerations dealing directly with building projects, there are some broader concerns which form a context for understanding architectural concept getting:

1. General philosophy and life values of the designer.
2. Design philosophy of the designer.
3. View of the problem by the designer.

The first of these serves as a context for the second, which in turn forms a context for the third. Number three directly influences the concepts generated for the specific project.

1. General philosophy and life values of the designer.

These issues are not within the traditional realm of architecture although they profoundly influence it. Designer values, attitudes, life views and general behavioral patterns all play a critical role in the formation of the designer's general views about design. "Designing" in this sense is but one segment of man's behavior and is as governed by psychological considerations as the rest of his behavior. Some of the general psychological categories that combine to influence the formation of a design philosophy and which affect the making of design decisions are:

a. Motivation and interest
b. Enhancement of self-image
c. Dependence on or independence of outside reinforcement of self-worth
d. Expansion of one's sphere of influence
e. Concern for fellow man
f. Immediate and deferred goals
g. Conservation of what is scarce and valued
h. Quest for simplification
i. The material and the spiritual

The designer's posture with respect to these and other issues combine to form his general life view. Certainly these may change over time, having a corresponding effect upon his design philosophy and procedures. Their influence upon design activity is a critical relationship to understand in tracing the origins of the designer's architectural concepts.

2. Design philosophy of the designer.

The designer, through his training and experience, has usually developed a design philosophy, a set of postures or values about design which he relies upon for making form in building design. Sometimes these postures can be verbalized. Often they cannot or have not been.

Whether articulated on a conscious level or not, these views of design which the designer possesses profoundly affect his work. His design activity takes place within and is, in a sense, governed by these basic values about design.

Within a design philosophy there is usually room for many design methods, processes and building solutions, all of which are consistent with the designer's context of values. Because of his basic tendencies however, the designer often gravitates toward some of these more than others.

Design philosophies may have differing emphases and occur at several levels of generality. Some are applicable only to architecture while others are really life philosophies directed at architecture.

Some examples follow. My apologies to the authors of these for liberties taken in paraphrasing.

a. The building should be what it wants to be, not what the designer wants it to be.
b. The building, when in use, is a living organism. It must be designed so that all its life functions are accommodated (intake, circulation, digestion, organ size and function, waste, perception, etc.)
c. Building design is basically an act of identifying, assembling and refining parts into a whole.
d. Form should be derived from the organizing and clothing of activity patterns.

e. The solution to the problem is contained in the problem itself.

f. A building must perform on several levels: health and safety, utility, economy and aesthetics.

g. Buildings are a synthesis of activities and geometric patterns in form.

h. Building forms must be clear with their messages.

i. The problems and conflicts in a project are a rich source of creativity in developing building form.

j. Architecture should be expressive of the values of the culture where it occurs.

k. The simpler the building the better.

l. Nature is the best source of functional and formal analogies in building design.

m. The effects on and by buildings that have been constructed are the only important issues in design.

n. Building elements should possess a sense of fit, both with respect to each other and to their surrounding context.

o. Building design should begin with a whole and then carve away what is not needed. It is a subtractive process.

p. Good design is something that must be finessed out of the mind. It cannot be forced.

q. A building is nothing more than a set of experiences.

r. Architecture should be a vehicle for social processes.

s. The building is the physical clothing around the spatial solution to the problem.

t. Buildings should always reveal how they have been put together.

u. The more complex the problem, the less human experience, as it relates to using the building, can be respected as a design determinant. Systems come first and people adapt to the systems.

v. In any building there are spaces that serve and those that are served.

w. The identification of what is sacred and what is profane in a building offers creative potential for zoning and grouping functions and generating form.

There are many more of these design postures as well as combinations and derivatives. The designer may hold several of them as important. It could be argued that the list contains approaches to particular problems or that general postures toward design shift from project to project. This may be true. The generic values that a designer holds for all of his work in this case lie deeper or are more removed from design activity than the concepts listed above.

The designer's general posture about design almost always includes attitudes and values about a range of issues that are closer to design activity than those listed above. These notions that are held by the designer have a direct impact on specific projects. The values of the designer regarding these sub-categories of design philosophy provide a mosaic of him as a maker of buildings. The more sub-categories he uses to describe his view of design, the more complete the mosaic. Listed here are some of the issues about which the designer may hold values:

a. artistic — scientific

b. conscious — subconscious

c. rational — irrational

d. sequential — nonsequential

e. evaluate as you go — evaluate when you're done

f. knowns — unknowns

g. individual — society

h. personal — universal
i. verbal — visual
j. needs — wants
k. ordered — random
l. structured — unstructured
m. beginning point important — beginning point unimportant
n. objective — subjective
o. one answer — multiple solutions
p. creative — commonplace
q. your needs — client needs
r. specific — general
s. man — nature
t. critical issues — minor issues
u. complexity — simplicity
v. parts — wholes
w. patterned process — random process
x. preconceptions — response to facts
y. indeterminate — mechanistic
z. design for now — design for future

It would be unreasonable to assume that the designer holds to an unchanging design philosophy for a lifetime. As he accumulates experience, tests his ideas and reflects on his basic intentions, his postures about design surely evolve. At any given point in time however his philosophy in its present form is brought to bear on the project at hand.

When thinking about the factors influencing the design of the building then, we should include a look beyond the project situation to the issues which will probably have a great deal to do with the nature of the building design, namely the general design posture and values of the designer.

3. View of the problem by the designer.

Presented with a specific design project, the way that the designer perceives, understands and describes that project occurs within the framework of his life values and design views. Different designers will "see the problem" differently. The designer's perceptions about the project at these early stages before planning formally begins, will be some of the most important thinking that he does in the entire planning process. This is the area of architectural concept getting at the most general level. The designing that comes later will be done within the context of this early thinking.

There are several judgments that the designer makes about the project that, together, constitute his view of it:

a. Whether the project calls for an architectural solution. (Whether it is in his province to satisfy the needs.) The client may need a new managerial system rather than a new building.

b. What the limits of the project are. What are the project edges in terms of the designer's responsibility? (The designer may not be involved in site design.)

c. What the categories of concern are within the project that the designer will use as a checklist. Taken together, these categories must describe the whole design situation. Some of the traditional categories include:

function (activity grouping and zoning)
space (volume required by activities)
geometry (circulation, form and image)
context (site and climate)
enclosure (structure, enclosing planes and openings)

systems (mechanical, electrical, etc.)

economic (first costs, maintenance costs)

human factors (perception, behavior, etc.)

Every important design issue must be accommodated by one of the project categories.

d. Where the designer should concentrate his design efforts based on his perceptions of the problem's essence and its unique characteristics.

e. What the physical elements to be manipulated are within each of the issue categories.

In each of these five judgmental areas of developing a view of the project, the early thinking predisposes the designer toward views about those that will follow. He begins to define project edges by establishing that a project is needed. He defines categories of concern by defining project edges and he predisposes himself toward families or classes of building elements and their priorities by naming his categories of concern.

Within the design process, the families of building elements chosen for manipulation and synthesis predispose the designer towards certain types of solutions.

Without even considering synthesis techniques after the view of the problem has been established, we can sense some of the reasons why different designers arrive at very different solutions to the same problem. Differences in life views and philosophies result in different design philosophies which in turn affect the designer's perception of specific projects. His general posture toward that problem profoundly affects his design decisions in synthesis.

It is important not to close this discussion without recognizing the feedback mechanisms in this entire set of issues. The relative success of a completed building affects the designer's feelings and perceptions about his design process. This in turn may influence his view of similar problems when encountered in the future. Several good or bad experiences in design may influence the designer's general design philosophy and indeed have an impact on his life view as a human being.

Concept Getting

Concept getting is often the stage in planning when the designer experiences his most intense frustrations and satisfactions. It is sometimes very difficult for the designer to make those initial commitments toward a solution and yet this is the point where he must begin his work. There is probably more anxiety over the validity of these first ideas about the building design than at any other point in the planning process. The success of the building is dependent on the correctness of the judgments made during planning and nowhere are more design alternatives eliminated or the direction of the solution more strongly influenced than at the beginning.

The designer may assume a passive role toward generating these first ideas about the building design. Here he prefers to assimilate project data from the program and then wait for the concepts to "bubble up" to consciousness. Or, he may attempt to actively make the concepts using conscious techniques. The first philosophy believes in "allowing concepts to happen" while the second believes in "making them happen."

The designer probably develops his ideas with a combination of active and passive concept getting. Their pro-

portion depends upon his personality, what feels comfortable, and of course, what seems to produce the best design results.

Although there is no conclusive proof and really no way of researching it, there seems to be a trend toward active concept getting. Some of the reasons for this are:

1. Systematic, rational, discussible design methods are easier to learn and teach than artistic, subjective, intuitive ones.
2. The proven success of scientific method in other fields has put pressure on the design fields to become more analytical.
3. Increased accountability demanded of the architectural profession has made its planning techniques more systematic.
4. There has been a movement in architectural education to remove the shroud of mystery from designing so that the teaching of design could become less a matter of nurturing "innate student creativity" and more a matter of methodically teaching design principles.
5. The amount of information that is relevant to the building's performance which must be addressed in design has become too unwieldy to deal with in an intuitive, interpretive manner.
6. The growing use of computers and other mechanical design aids has demanded that the designer reduce his operations to discrete routines.

Whether inclined toward active or passive concept getting, the designer often relies upon catalytic methods for idea stimulation. Some of the sources that are used are:

1. Thumbing through architectural books and magazines.
2. Studying buildings that have addressed similar design problems.
3. Recalling applicable concepts used in the past that have proven successful.
4. Reviewing checklists of architectural concerns in building design.
5. Making a list of key concerns and issues in the problem.
6. Brainstorming the project with fellow designers.
7. Restating the description of the project in the designer's own words.
8. Restructuring the program format to describe the project as the designer understands it.
9. Making a list of key words that seem to capture the essential project qualities and issues.
10. Translating key issues into visual images through diagramming.
11. Reviewing a list of buzz words meant to trigger concepts through metaphor and analogy.
12. Doing an in-depth analysis of a related building type.
13. Drawing upon analogous and metaphoric associations found in nature, art objects, other disciplines such as music, art, poetry, physics, and physiology and other building types ("a store is like a theater").

As the designer becomes more sensitive to the catalysts he uses for making his concepts, he will become more facile in design.

The subjects used by the designer as catalysts in concept getting are in a constant state of evolution and development themselves. These changes in the sources of idea stimulation have a corresponding impact on the design

concepts derived from them. For example, the field of microscopic photography has uncovered entirely new realms of form models found in nature. As these sources become richer, concepts become richer. As the spectrum of available idea catalysts broadens and deepens, the spectrum of available conceptual alternatives to design problems expands. The use of music as an organizational model in architectural design offers rich potential as a catalyst for concept getting. As music evolves and new ways of perceiving and making relationships between notes, chords, instruments, melody and lyrics develop, the architectural concepts that derive from the music model will also evolve.

In the same way the limits of the catalysts affect the limits of the concepts derived from them, so also do the limits of a language affect the limits of concepts that can be conceived in that language. The designer will have tendencies toward thinking in certain ways. The mental images of his concepts when first conceived are only one aspect of the mental language that he uses in his everyday life. No matter how first thought about by the designer, the concepts must eventually be stated in visual terms. If we think of the spectrum of language modes spanning from mental to verbal to written to visual to physical, we begin to sense the translational problem faced in design. Because his responsibility is architectural and thus, physical, the designer must transform as much of the problem as possible into physical terms. He must distill out the architectural implications of the problem. An excellent translational device for this task is diagramming, where the problem is stated in visual terms.

It normally is much easier to move from the visual to the physical than from the mental, verbal or written to the physical.

Concept Hierarchies

Within a given architectural problem it is important to be sensitive to the hierarchal nature of the concepts being used. They are in continuum with the designer's personal values and are, in that sense, generated by them.

Some concepts encompass and govern other concepts. The philosophy of a company governs its policies. Policy governs operations. Operations, in turn, govern specific activities which will be housed in the new building. The housed activities influence the building form. There are concepts contained within each of these strata. The issues at the upper levels form the context within which concepts at the lower levels are made. This hierarchal characteristic of concepts permeates every aspect of building design.

There are many concepts available at the "lower levels" that are in sympathy with "upper level" governing concepts. For a given set of company goals, for example, there may be several acceptable and equally effective types of operations that will meet them. For a specific operation, there are several activity sets which are valid. And, for a given activity set, there are several building concepts that may work.

The designer is usually presented with the philosophy, goals, policy, operations and activities and normally accepts these as they are provided by the client through the programmer. These early concepts, then, are "givens." The concepts generated by the designer are in response to these and attempt, insofar as possible, to establish a conceptual continuum with them. Some examples of the concepts the designer normally makes in the course of designing the building follow:

1. Definition of the essence of the problem, core issues and unique opportunities. Development of concepts for dealing with these and their interrelationships.
2. Establishment of building roles and goals, their relation to problem essence and their interrelationships.
3. Grouping and zoning of client operations and spaces into manageable clusters.
4. Master site zoning of on-site operations and building operations in relation to each other and to context.
5. Development of interior and exterior master circulation concepts.
6. Grouping and zoning of clustered rooms in relation to themselves and to rooms in adjacent clusters.
7. Zoning use areas within individual rooms.
8. Development of formal, mechanical and physical envelope concepts in response to space and context.
9. Manipulation and refinement of all relationships to maximize positive effects on and by the building. This requires that the designer maintain a sense of tentativeness and fluidity in all decisions until all enjoy a sense of fit in terms of the whole.

There are many other issues that conceptualization addresses in design as well as a multitude of subconcepts that must be developed with them.

The sequence of concept development is largely dependent upon where the designer sees the problem emphasis. Even though the designer attempts to keep his early concept commitments fluid until the whole project works, the concepts generated early in the planning process tend to solidify the designer's perception of the problem and thus influence and even govern the concepts that follow. Just as the building must respond to site, so also must detailed concepts made later in the planning process respond to general, early concepts.

First concepts tend to be determinants for later concepts. We can sense, from this notion, the importance of the designer's first ideas about the problem and how critical it is to have all important project information before beginning to make concepts. We can also sense that because of the cumulative establishment of concepts as the designer moves through the planning process he becomes less and less flexible in his design decisions as he nears the later planning stages. Fewer and fewer decision opportunities are available as the building form becomes more and more firm. The designer initiates the building solution in the early planning stages and then the form begins to take on its own needs. The form itself begins to "want" certain things to happen and the designer begins to respond to the forms he has made. When he has reached the later stages of his decision making, there has accumulated such an overwhelming set of governing concepts that there may be only a few design options open that seem to fit. Sometimes there are in fact no options that seem consistent with previous decisions. This is a principal cause of compromise in design. Given this dilemma, the designer may:

1. Retain the concepts he has developed and solve the remaining aspects of the problem as best he can, recognizing that these may be less than optimal and even weak. The designer in this instance would be reasoning that it is more important to preserve the strength of the major concepts to the detriment of the lesser ones rather than allocate the strength equally among the major and minor concepts.
2. Undo some of the minor concepts to see if different ones can be made that will be more respectful of the major

concepts. How far "up the line" of concepts toward the major ones the designer goes in undoing his sequence of commitments depends on how important the misfit concepts are, how many there are and which governing concepts they must respond to.

It is not unusual for the designer to partially abort a design at any point in the planning process to create more flexibility and opportunities in solving the rest of the problem. It is a method for getting out of "corners" that previous planning decisions have backed the designer into.

3. Abandon the entire solution and search for a fresh insight that will better accommodate all the problem needs from major to minor. Sometimes the designer sets the solution in a direction that seems to create a struggle at every design decision. Where the early general concepts don't seem to easily accommodate the more detailed ones, the general ones may be invalid or simply offer little opportunity for consistent development. Another point of view on this issue is that the designer's early thinking about the project, if correct, will lead to reasonable early concepts and that he should accept the fact that there are just some problems that are more difficult than others. This view argues against the aborting of general governing concepts.
4. Finally, redefining the problem needs to fit the design concepts that the designer is generating or that offer some strongly positive aspects that don't have much to do with the problem definition. Many designers would consider this unfair designership and, in a sense, an admission of failure in attempting to solve the needs as originally given.

All of these involve difficulties encountered in the planning process and the compromising of either the early general concepts that have already been established or the more detailed ones to come.

There are several additional concerns regarding the subjects of hierarchies, diminishing design options and compromise in design.

1. There doesn't seem to be any universally applicable sequence in which building concerns should be addressed when generating concepts. Whereas one project might require a functional (activity) concept which, in turn, governs spatial, circulational and formal concepts, another project might demand initial attention to form which, in turn, would become a determinant for function, space and context.
2. Just as the relative validity of a more detailed concept may be judged by its consistency with and support of more general and governing concepts, so also is the validity of early concepts tested by their openness and accommodation of more detailed planning. If the concepts of a company's philosophy cannot be expressed in physical building terms, then those philosophical concepts may be irrelevant architecturally. If a site zoning concept doesn't allow a workable building plan concept, the site zoning concept may be barren in its opportunities for future development. If the flow diagram and the resulting spatial cluster produce an ugly form despite repeated manipulation and refinement, a different flow concept may be required that will allow a more pleasing form.
3. These factors point out the need for flexible and open-ended early concepts. The more alternative avenues open for responding faithfully to early concepts with detailed planning, the greater the chances of avoiding

major design compromise. In fact, it is desirable to always choose the most flexible and open ended concepts at all levels of planning to facilitate the designing yet to come. The making and testing of alternative concepts must occur throughout the design process from general issues to detailed ones. Part of this testing process must involve developing concepts to more detailed levels to see which of the alternatives best accommodate the remaining design issues.

4. When the designer encounters a problem or a conflict between the facts and needs of the project, there are usually several levels at which he may attempt to solve the problem. These concept levels have the same hierarchal characteristics as those previously discussed, ranging from the very general and governing to the very specific and governed. For example, there may be a client operation in the new building that produces loud noise and another that cannot tolerate the noise. The problem may be solved at any of several levels:
   a. Eliminating one or the other operation from the client's process.
   b. Replacing one or the other operation with one that has no such problem.
   c. Altering one or the other operation so that the problem is eliminated (change noisy equipment to quiet type).
   d. Separate the conflicting operations to separate sites.
   e. Separate the conflicting operations into separate buildings on the site.
   f. Zone the conflicting operations as far apart as possible in the same building.
   g. Interrupt the continuity of the structural and mechanical systems between the operations to isolate noise transmission.
   h. Provide acoustical buffer spaces like storage between the conflicting operations.
   i. Put an acoustical wall between the conflicting operations.
   j. Introduce background noise which is acceptable to the quiet operation and which masks the objectionable noise.
   k. Protect only those things in the quiet operation that are sensitive to the noise (use ear plugs).
   l. Rely on the quiet operation to gradually adjust to the noise.

The first few alternatives for handling the problem demand "high level" changes in policy, operations, systems and even perhaps company philosophy. The last few alternatives, on the other hand, are "lower level," more detailed and are of a character that they don't require "backing up" into the higher level concepts to achieve a solution. Depending on the problem situation it may or may not be advantageous to solve problems at lower, more detailed conceptual levels. Where the solution to the problem can be achieved at higher levels without jeopardizing the integrity of those concepts then this may be desirable.

The principal intent of solving problems at the highest possible conceptual level is to free the concepts that follow to deal with the other problems that will arise and to spend them for reasons other than just "solving problems." If the designer must continually address project problems throughout the entire concept spectrum, he must, in a sense, design defensively. He never gets beyond the problems to the manipulation and refinement of form. The designer's strategy in concept getting should be to get as many problems solved as possible as early as possible to

free concept getting for making positive building consequences rather than just avoiding negative ones.

Demanding buildings, those with tight functional requirements and numerous problems, are more difficult to control in terms of building form. The form becomes what the solutions to the problems and the satisfaction of the tight performance specifications dictate. The designer who is able to find ways of satisfying the basic needs of the problem with the first general concepts, frees the rest of the concept pallete for making the building more than just the satisfaction of the problem requirements.

One of the ways of using a single concept to best advantage is to have it solve several problems or meet several needs. The more efficient each concept is in dealing with multiple issues, the less work is left for the remaining concepts to do. The matter of concept efficiency is particularly well illustrated in building form issues. A window concept, for example, may simultaneously satisfy needs for light, ventilation, exterior view, seating, privacy from the exterior, protection from direct sun, conditioned air access, emergency exit and display of merchandise.

If it is valuable to load concepts with as many need satisfactions as possible, it is also of value to solve the most problems and meet the most needs with the fewest concepts. This is akin to the scientific idea of parsimony, where it is of value to be able to explain the greatest number of phenomena with the fewest and simplest laws and formulas. The elegant simplicity of designing a solution with only a few multifaceted concepts is a very difficult goal. It is normally easier to design a solution using a large number of inefficient concepts.

The question of the validity of early concepts encompasses more than just testing for accommodation at more detailed concept levels. It is possible to create a beautifully consistent series of concepts based on a set of invalid assumptions. Validity is defined as "being of sound basis." "Validity" in this sense generally applies to the highest conceptual levels and has to do with the comparison between the designer's desired and predicted building effects and the extent to which the building's effects, when occupied, were in fact positive and as predicted. For example, the client's concept of merchandising that governs all subsequent design decisions may be invalid and even though the building design may respond strongly and consistently to the merchandising concept, it will fail due to the faulty assumptions in the early conceptual thinking. This same relationship between the validity of a concept and its subsequent supporting concepts happens throughout the entire planning process. Any single concept must face two ways. It must respond to and respect those that came before it and it must govern and influence those that come after it. This latter relationship points out the need for conceptual validity at all levels of decision making to avoid the unfortunate situation where a series of supportive concepts are, in fact, reinforcing an erroneous governing concept.

This discussion is based on the premise that conceptual thinking in design proceeds from the general to the particular, from the abstract to the real, from the non-physical to the physical and from the philosophical to the concrete. Each step in conceptual thinking attempts to implement the previous level of conceptual thinking. Each subsequent concept is a way of accomplishing the intent of the earlier thinking. The following list is an example of conceptual thinking from general to particular, where at any point in the series all subsequent concepts deal with the implementation of the previous ones.

1. Reduction of long term operational costs.
2. Minimization of utility consumption.
3. Minimization of required mechanical equipment.
4. Reduction of cooling loads in the building.
5. Orientation of glass areas away from direct sunlight.
6. Protection of exposed glass areas with canopies, wing walls and landscaping outside the building.
7. Use of tinted or double pane glass where exterior protection is not possible.
8. Use of curtains, shades or blinds inside the building.
9. Detailing the window openings to respond to the selected treatment.

Post construction evaluation is a very important feedback mechanism in the search for conceptual validity. The accumulation of knowledge about what actually happens in a constructed building as a result of design decisions is critical if the designer is to make his decisions with confidence and exercise control of the desired and predicted building consequences.

Concept Reinforcement

Building design qualities that seem to be of value in architecture are clarity and consistency. A key planning concern in attempting to impart these characteristics to building form is that of concept reinforcement.

Reinforcement involves the statement of the principal messages of the form in as many ways as possible. There are several ways that the building conveys messages to those using it. Scale, extent of entry invitation, type and amount of fenestration, the way the building meets the ground and the functional access between the departments are a few of the ways the building communicates to its users. The more ways that the designer can mobilize his vocabulary of forms to convey the messages he intends, the more clearly and strongly his building will communicate the desired information. A design message said five ways with form has a better chance to be perceived and understood than if only said one way. For example, a building on stilts could be interpreted as:

1. man (the building) dominating nature (rising above the land) or
2. man (the building) in harmony with nature (imposing on the land minimally).

If the stilt concept were combined with vigorous man-made land forms, regimented tree rows and trimmed hedges there would be little doubt that the first message was the one intended. When involved with function, space, circulation, form, response to context and building envelope, all should be searched for possible support of the principal design issues. The intent here is not merely mutual compatibility or tolerance between concepts but positive reinforcement. It is a matter of thematic continuity.

The supportive relationships between building concepts often are symbolic or metaphoric in nature. Because symbolism can often be misinterpreted due to the varied experiences and association linkages of the building's users, it becomes especially important to design multiple statements of the same message to increase the chances of the information being read correctly. The extent to which the symbolism of building forms is esoteric, remote or subtle is the responsibility of the designer. Artificially created symbolism and tenuous associations can result in serious user interpretation problems. This is discussed later under

"Problems in Concept Getting."

In searching for concepts that respond symbolically to important design themes it is useful to explore the available design alternatives for meeting each single project need. There are usually several that are valid for each requirement. From among the possible concepts it is sometimes fruitful to look for concepts that seem to be valid solutions to several project needs. Singular concepts that solve multiple problems not only result in a more efficient building form (it does more things) but also leaves more concepts to spend on reinforcement.

The quality of consistency in building design can be promoted and fostered by remembering to handle similar design needs with similar formal solutions. If there are several conditions in a project that are of the same need family, they can often be solved with a single family of form responses. This aids greatly in the search for a sense of system and unity in building form. A series of repetitive and similar needs calls for a series of repetitive and similar forms.

Even when the forms range across a varied spectrum, if they are derivatives of one another, the unity will usually be perceived. For example, a strong window form concept may change slightly depending upon whether it is protecting from sun on the south, shielding from storm winds and rain on the west or controlling views from offices on the north.

For the designer, unity, clarity and order may be more difficult to achieve than complexity and interest. In the latter, the designer is capitalizing on distinctions and differences with architectural form. In the former, he is searching for similarities and larger families of needs, issues and requirements so that the building form can be simplified.

It could be argued, and validly so, that the formal inconsistencies and complexities that result from an approach to needs in building design are in reality a form of consistency. It is consistent inconsistency and as such a systematic approach.

Creativity

When considering the issue of creativity in architectural design it is helpful to use the entire spectrum of conceptual scales and contexts as a referent.

There are opportunities for creativity ranging from the designer's life philosophy to the detailing of a building in working drawings.

Recalling some of these conceptual scales and contexts:

1. Life view or philosophy of the designer.
2. Designer's view of design or design philosophy.
3. Designer's posture about each sub-category of his design philosophy.
4. Determination of whether the solution to the problem is in fact architectural.
5. Definition of project limits.
6. Establishment of the categories of concern within the problem.
7. Translation from problem issues to physical elements to be manipulated in design.
8. Statement of client philosophy.
9. Definition of client goals.
10. Establishment of client policies.
11. Determination of client's operations and their relationships.

12. Pinning down the "centers of gravity" or "problem essentials" and defining their relationships.
13. Stating building goals and tasks.
14. Grouping and zoning of client activities into operational clusters.
15. Allotting space to activities.
16. Master zoning of site and building functions in relation to each other.
17. Development of internal and external master circulation concepts.
18. Grouping and zoning of spatial clusters in relation to other spatial clusters.
19. Migration of individual spaces within clusters to their optimum locations.
20. Development of sculptural, mechanical and envelopmental concepts.
21. Selection or design of furniture and equipment.
22. Design of the interior visual environment and graphic systems.
23. Development of construction detailing concepts.

It seems reasonable that even concepts and philosophies that are remote from direct design activity can in fact affect the nature of the final building form by influencing the processes leading to it. Creativity at the general philosophical level (life view and design view) is every bit as architectural and design oriented as manipulating the building form and can oftentimes foster a creative building design.

Creative architectural concepts may occur in several forms and at several levels:

1. Completely new concepts or sub-concepts on a generic level.
2. New ways of combining traditional concepts.
3. Novel methods for refining and manipulating traditional concept linkages.
4. Original techniques for solving traditional problems and conflicts.

There are several issues involved in evaluating creativity:

1. What is creative to one designer may not be to another. What is original to the layman may not be to the designer. An informed designer who is aware of most of the concepts that have been used in design throughout history would probably be the best judge of true creativity as he would be able to judge it against a comprehensive vocabulary of approaches that he knows had been used in the past.
2. The concept must be unique. It should be a new way of handling the problem not thought of before.
3. There should be some positive value in the concept and it should contribute somehow to the betterment of the built environment. Creative conceptualizing may, for example,
   a. Shorten the time it takes to design and construct the building.
   b. Permit the designer to achieve a better fit between building and the client's operation.
   c. Offer a more efficient way of structuring, clothing and fenestrating the building.
   d. Allow singular form decisions by the designer to be more efficient by having them solve multiple needs simultaneously.

Creativity should promote a more efficient and effective realization of desired goals.

It is a common misconception, particularly held by the beginning designer, that he is under pressure to "be differ-

ent" and creative in all his design work. There is sometimes a frenzied anxiety about "rushing to originality" without first understanding the project. It is important to learn to search the problem for sources of creativity. Most problems contain opportunities for creative design that could never be equalled by a solely internalized effort by the designer. Rather than trying to "be creative," the designer should respond creatively to the findings of problem analysis. "Creative" is a quality of designs, not people. Instead of pressing and forcing the development of a solution, the designer may be better advised to indulge in a relaxed analysis of project requirements and a playful manipulation of project definition and implications. This saturation process allows the designer to "milk" the project for its creative opportunities.

It is sometimes beneficial to systematically relate all project issues to each other using the matrix method to methodically discover unique combinations of issues that ordinarily might not come to mind. Creativity need not be something that the designer must "wait for" but may be actively, purposefully and consciously pursued in design through systematical problem analysis and issue definition, pairings and combinations.

It is often disturbing to the beginning designer that an inability to refine the building form sculpturally obscures creativity that was accomplished at an earlier planning stage. Building form is where the designer normally expects to see the result of creative design whether that creativity occurred in programming, problem analysis, function, space, geometry, context or enclosure. The building form is where the designer expects to see the expression of creativity.

It is important for the designer to become facile in the area of translation to form and manipulation of formal relationships to avoid the frustration of losing the impact and meaning of a creative discovery in the process of transforming the problem to physical building form.

Fluency in the language of form is important to the articulation of a creative idea in the physical building just as these qualities are relevant to the expression of a creative idea verbally or in written form. Admittedly, fluency and glibness alone with no depth of thought are shallow and meaningless and they can be dangerous to the designer who has experienced success in school because he can deftly assemble all the popular idioms of the day. The ability to creatively make and refine architectural building forms must be supported with thorough, insightful and creative problem analysis.

Problems in Concept Getting

The project needs and requirements faced by the designer are real and specific and the number of architectural solutions that will be successful for a given problem are limited. The client's operation to be housed and the contextural situation where the building will be located are given. The designer must give the client's operation a physical pattern, relate it to a circulation system, provide spaces for the operations to occur, assemble them into a three dimensional form, integrate structure, enclosing planes, openings and mechanical with the spatial organization and weave all of this into the context surrounding the building. When constructed and used, the building will have definite effects and interactions resulting from the decisions made by the designer. The building will affect and be affected by its own physical components, the client's operations,

the people using it and its surrounding context. The building will be specific and real as will be its successes and shortcomings. It is important, then, that the designer root his design decisions in the reality of the project needs and that he, at some point, evaluates his design as a pattern of cause and effect relationships that will occur when the building is built and occupied.

The problems that can occur when the concepts and their development are not founded in fact are well known to architects:

1. Building exceeds client's budget.
2. Incompatible activities zoned together.
3. Layouts don't allow client's operation to work efficiently.
4. Spaces too large or cramped.
5. Furniture arrangements don't fit activity patterns.
6. Too much or too little furniture in spaces.
7. Room scales non-supportive of their contained activities.
8. Building form won't accommodate future growth and change.
9. Undersized or oversized HVAC systems.
10. HVAC systems difficult to service.
11. Inefficient HVAC register placement.
12. Vibration and noise problems.
13. Improper use of glass resulting in HVAC overload.
14. Poor placement of electrical outlets.
15. Insufficient lighting.
16. Overdesigned or underdesigned lighting.
17. Ineffective stimulation of desired mood in space.
18. Improper security provisions.
19. Oversized floor area for allowable building area on site.
20. Violation of codes or ordinances.
21. Inefficient utility routes to and from building.
22. Settlement damage due to faulty footing design.
23. Parking problems resulting from poor site drainage pattern.
24. Building damage due to site drainage.
25. Damage to adjacent property due to site drainage pattern.
26. Obstructed views because of poor building placement.
27. Destruction of site amenities such as trees due to building placement.
28. Poor zoning of building functions on site in relation to views, noise, privacy, sunlight, public access and security.
29. Unreasonable distance from parking to entry.
30. Disruption of existing on-site circulation and use patterns.
31. Destruction of existing ecological relationships.
32. Insufficient or undersized parking spaces.
33. Cramped vehicular movement patterns.
34. Insensitivity to neighborhood scale and image.
35. Poorly scaled exterior space.
36. Inappropriate landscaping design and materials.
37. Failure to integrate with contextural geometric patterns.
38. Inadequate contribution to streetscape or neighborhood.
39. Inconsistent building form image in relation to housed operations.

40. Poorly placed site access and egress points.
41. Violation of existing social patterns.
42. Weak response to climatic concerns.
43. Insufficient consideration given to potential natural catastrophe.
44. Poorly utilized land.
45. Unreasonable traffic forced upon surrounding street patterns.

These and other difficulties resulting from faulty or incomplete design concepts have real and felt effects upon the client, his employees, the site, the people in the surrounding neighborhood, people who pass by the building and the building itself.

There are several potential problems in early concept getting related to the necessity of rooting the design solution in the reality of the project needs.

The use of analogies for providing the solution with some initial organization must be done with careful study. Here, the elements in the analogy are likened to the elements in the design project. The relationships between the elements in the analogy are then used to relate the project elements together to form a concept. For example, in the analogy "a retail store is like a theater," the director is the manager, the players are the salesmen, the audience is the customers, the play is the merchandise, the stage is the display of goods and the wings and backstage are the support spaces of the store. In this case all the roles and relationships of the theater situation are transferred to the store situation and are used as a means of concepting about how the store should be designed. The danger here is that the relationships assigned to the project from the analogy may not truly represent those which must occur if the project is to be successful. There is sometimes a temptation to force analogical relationships upon a project even when they don't fit simply to be consistent with the analogy model. Analogical models are useful tools in design because they are ways of giving the project elements a sense of order and a rationale for relating to each other in particular ways. In these cases the designer may feel that the analogy chosen was a valid one since it proved effective in giving the project a sense of order. The issue however is not only how easily the analogy allowed the designer to generate his concepts but also whether the analogy fostered valid relationships in the project solution. The project must eventually be successful as a built and used product. A preoccupation with the interface between analogy and solution can sometimes obscure that fact. Designing in this instance can too easily become a process of translating as much of an analogy into building form as possible rather than solving the architectural problem as originally defined. Analogies are only design tools, not the designs themselves and must constantly be evaluated for their relevance to the reality of the project.

The use of key words which capture the unique and essential qualities of the project is another useful technique in concept getting. In this approach, specific words or verbal phrases that the designer has distilled out of the program are massaged and manipulated for all the visual imagery they can offer. These visual translations of the key words are then developed into concepts for the design of the building. There is often a considerable amount of verbal and visual association that occurs in this process where a few key words are built into a more complete sense of what approach the designer might take in making his concepts. For example, out of a program for a lawyer's

office that is to be located in a historic neighborhood setting the designer might extract key words such as "young," "aggressive," "team," "image conscious" and "respect." From these, by association, the designer might expand his key word set to "contemporary form, color and interiors," "assertive building," "strong sense of entry," "feature library to balance youth image with competence-experience image," "cluster to communicate sense of team," "strong clear orientation to whole scheme from lobby to communicate openness and desire for simplicity as firm's philosophy," "building skin on exterior to respect historic surroundings, while inside the skin, the building respects only itself." This process of building conceptual descriptions by association may continue until the designer feels ready to become visual and physical with his concepts. It is natural to assume that different designers may identify different key words, build their associations in different ways and translate their verbal thinking into different visual images. The danger here is that the designer may sometimes invent key issues in a project or assign qualities to the project that really aren't there. Should this be the case, the designer will develop his concepts out of early faulty thinking and will have created a solution based on artificial problem issues. Here again, it is important that the key words and issues identified are in fact at the heart of the problem.

Another problem related to the key words idea is that of misplaced designer attention. Where the issues of the project are particularly rich in architectural form potential, the designer may sometimes succumb to the temptation to shift his attention from designing for important project needs to form-making for its own sake. This problem is prevalent where progress toward a solution leads the designer into formal issues that offer great potential for intellectual manipulation and sculptural interest. For example, the integration of building with site may require some earth form work. The designer may become so interested in the earth sculpture concept that he expands it as an idea, develops it for its own sake and allows it to smother the concepts born of the original problem.

After the designer has determined the physical project elements to be arranged in forming his design, the manner in which these are clustered or grouped into larger families is important to the success of the project. The grouping process in design allows the designer to reduce the total number of elements he must manipulate in design to a manageable quantity and insures that his first zoning concepts on the site and within the building will deal with major planning decisions rather than minor details. In the grouping technique, the details are lumped together into families and are buried in early planning within major functional groupings. For example, in general site zoning for a school, major elements to be related conceptually might be the building, parking and vehicular circulation, playfields, pedestrian circulation and future growth. All detailed planning within these major headings is postponed until the placement of these elements on the site is resolved. The next level of planning would involve the major constituent elements within each of these groupings. In the building, this might entail zoning the classrooms, special learning spaces, support and administration.

Within parking and vehicular circulation the designer might address car drop off zones, bus pick-up and drop off area, delivery and pick-up of food and materials, trash pick-up, visitor parking, teacher and staff parking and security patrol.

More detailed playfield planning would deal with placement and orientation of baseball, football fields, basketball and volleyball courts and general play areas. Pedestrian circulation and future growth would be detailed similarly. As each layer of issues becomes resolved, even though tentatively, the designer moves to a more detailed level of design issues within each family of concerns. Designing in this approach begins with broad-stroke concepts for dealing with the most encompassing issues and proceeds generally (with recycling) toward more detailed concepts. The potential problem here has to do with the designer's perceptions about grouping the problem issues into families. In conceptualizing about the client's operation, the designer may be using "people" as a heading for meeting the functional and circulational needs of the project. There are several ways that "people" can be grouped or "sorted" to provide cues for functional and circulational concepts. The people in the client's operation might be grouped under "service-client-staff-officers-executives" headings or possibly under "public-semi private-private." A secretary would belong under "staff" in the first approach and under "semi-private" in the second. Her final physical position in the building may be quite different under the two approaches. The way she actually functions in the building may or may not have been respected by either grouping concept. Different grouping concepts, when finally assembled into the whole pattern of functional relationships in the building will result in more or less effective placements of the secretary. In planning the building, the designer must be selective in choosing the ways that he will sort the elements to be manipulated and group them into families. The chosen grouping approaches will predispose the designer toward certain building solutions. It is vital that the designer be sensitive to the reality of the project needs and select sorting methods that reflect that reality. To do otherwise, while possibly leading to a well ordered solution, will not produce an order that is sympathetic with the way the functions will actually happen when the building is in use. This issue is important not only for functional grouping in design but also applies to the notion of grouping contextual, spatial, formal, circulational and envelopmental concerns as well.

All of these potential problems in concept getting derive from the use of symbolism as a means of organizing project needs and building form. In each case, the designer converts reality into symbols so that he can more easily manage the synthesis process. The analogy, the key words, the inordinate attention to tangential issues and the idea of sorting and grouping all deal with representations of project reality. By manipulating the symbols, the designer hopes to arrive at a synthesis, in symbolic form, that has some relation to reality. Symbols are useful tools in design, and their use often produces new insights about the problem and creative building solutions. The dangers in using them, as in any use of symbols and representations of reality, lie in the fact that they are not the reality itself and that it is quite easy for the designer to begin to see the problem as one to be solved within symbolic systems and not within reality. There seems to be a tendency, characteristic of all symbolism, for the symbol-to-reality relationship to wither away and for the symbol itself to gradually be regarded as the reality. Some examples of this are the perspective drawing (symbol) to actual built space (reality) relationship and money (symbol) to quality of life (reality) relationship. In both of these instances it becomes quite easy to labor over the symbol to the detriment of addressing the reality. In each case, an admirable

job may be done symbolically (draw a beautiful perspective or make lots of money) but fail in reality (design a poor spatial environment or be unhappy at work).

The designer must constantly reassess whether his manipulation of symbols in design still represents a manipulation of reality. He must not allow a deterioration of the interface between the two.

Vocabulary

35 Functional Grouping and Zoning

Need for Adjacency

RELATIVE NEED FOR BUILDINGS, DEPARTMENTS, SPACES OR ACTIVITIES TO BE ADJACENT

ADJACENCY NEED RANGE

CRITICAL

NECESSARY

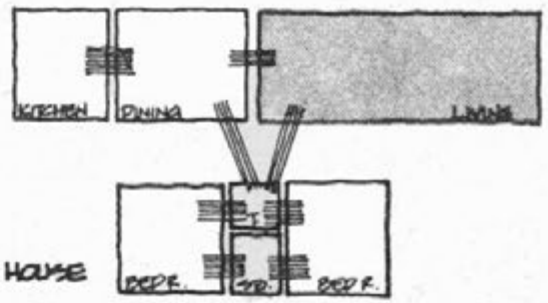
DESIRABLE

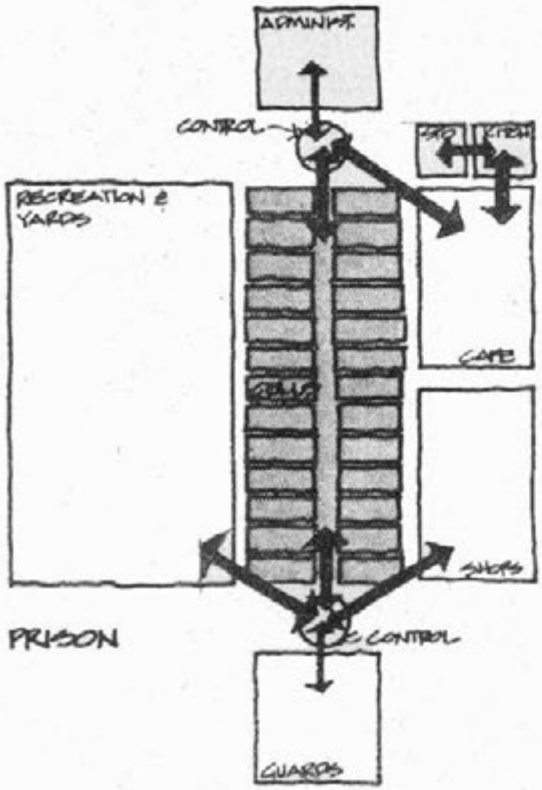
NEUTRAL

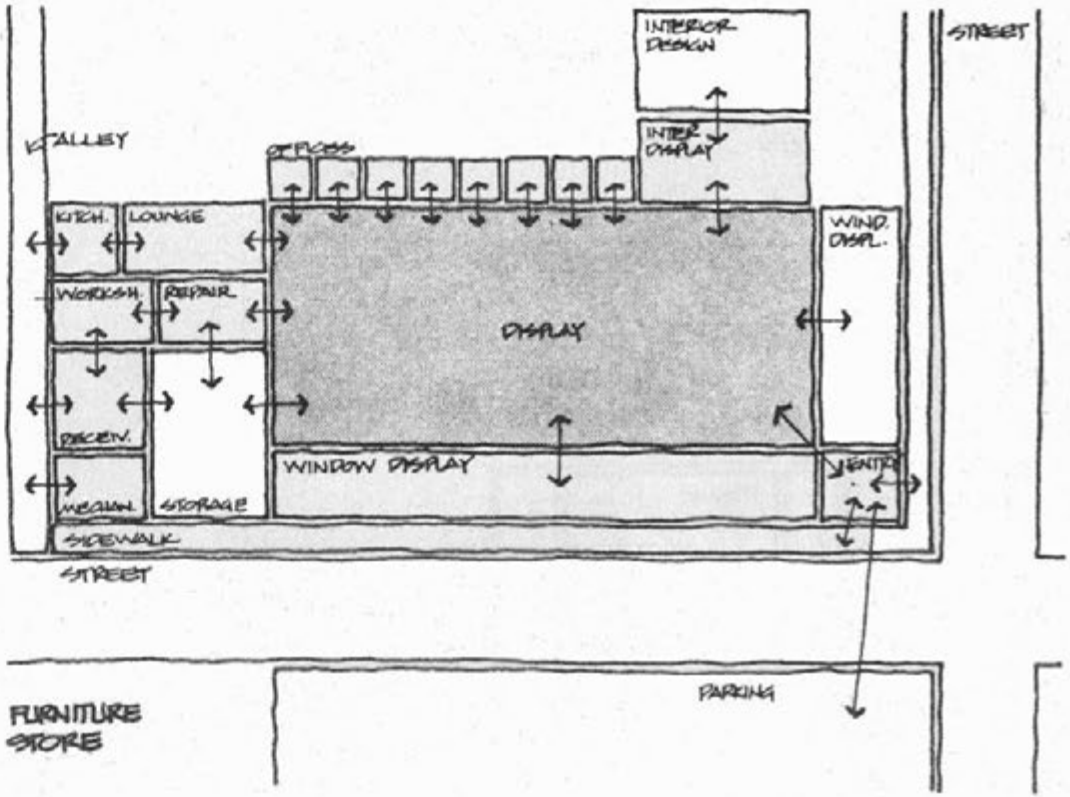
UNDESIRABLE

NECESSARY SEPARATION

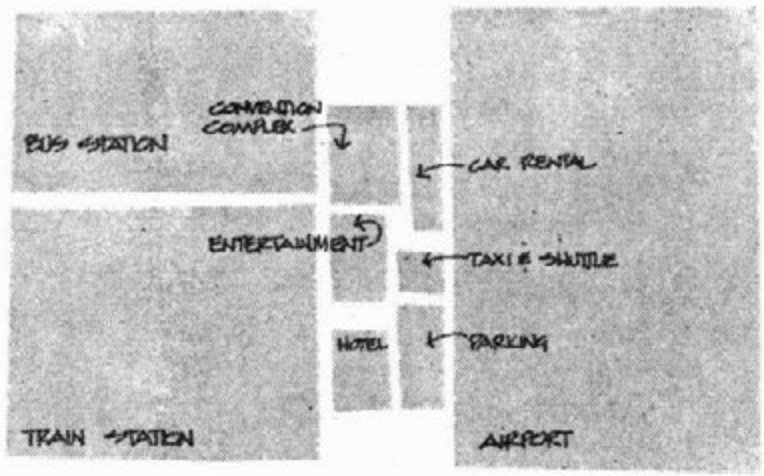
CRITICAL SEPARATION



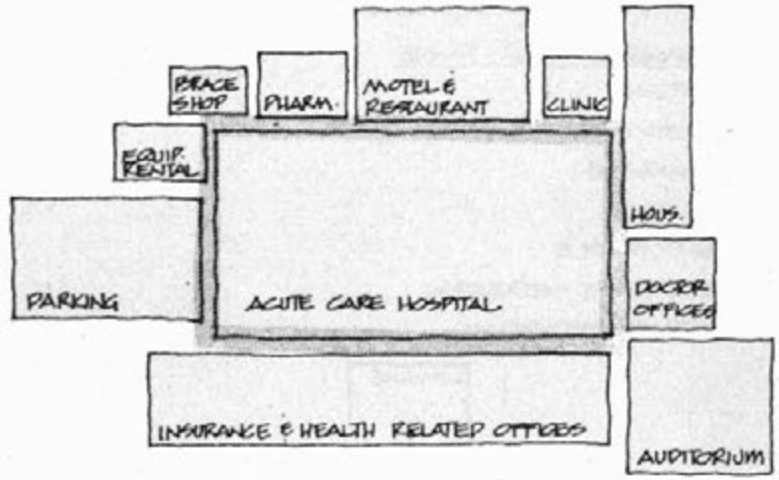




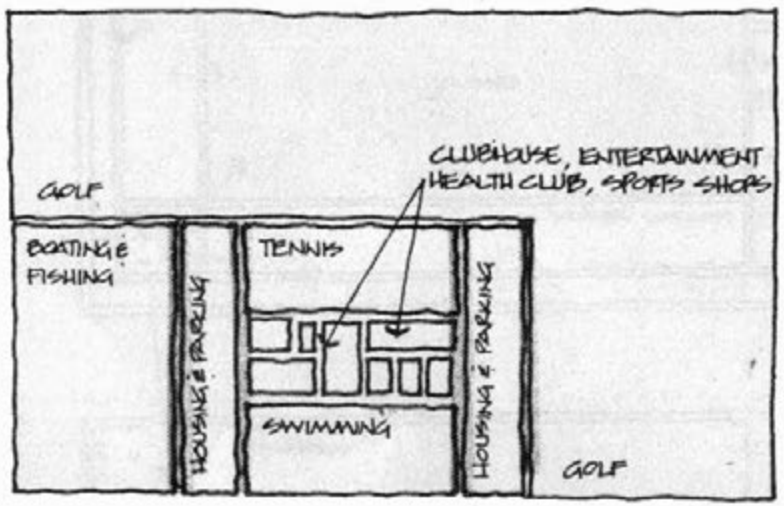
Similarity in General Role



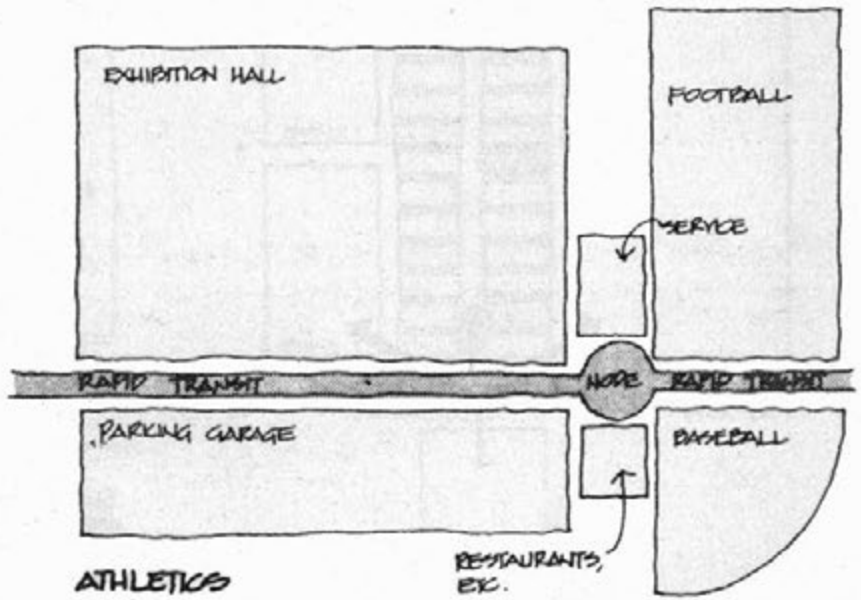
TRANSPORTATION



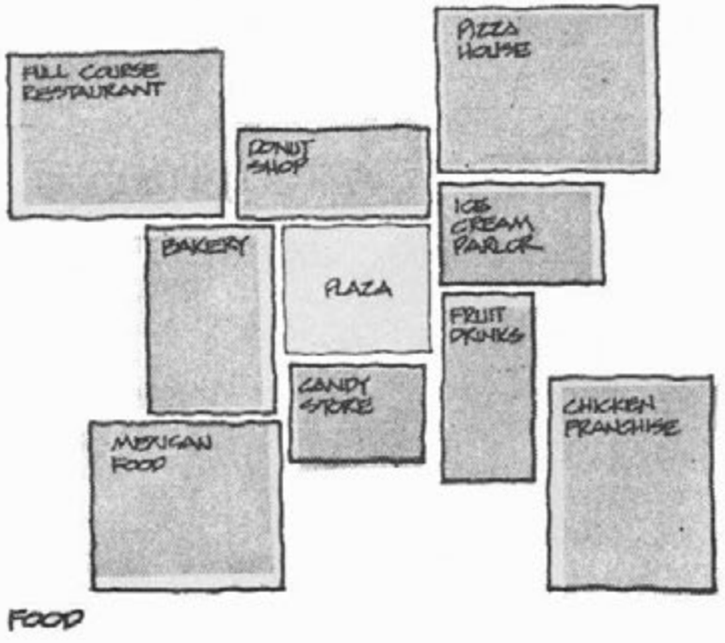
HEALTH CARE

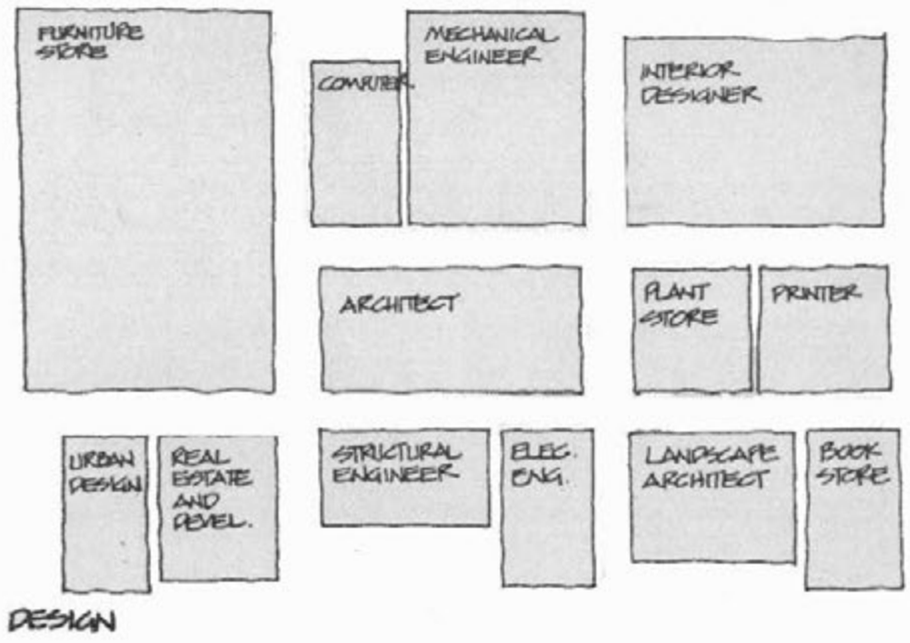


RECREATION

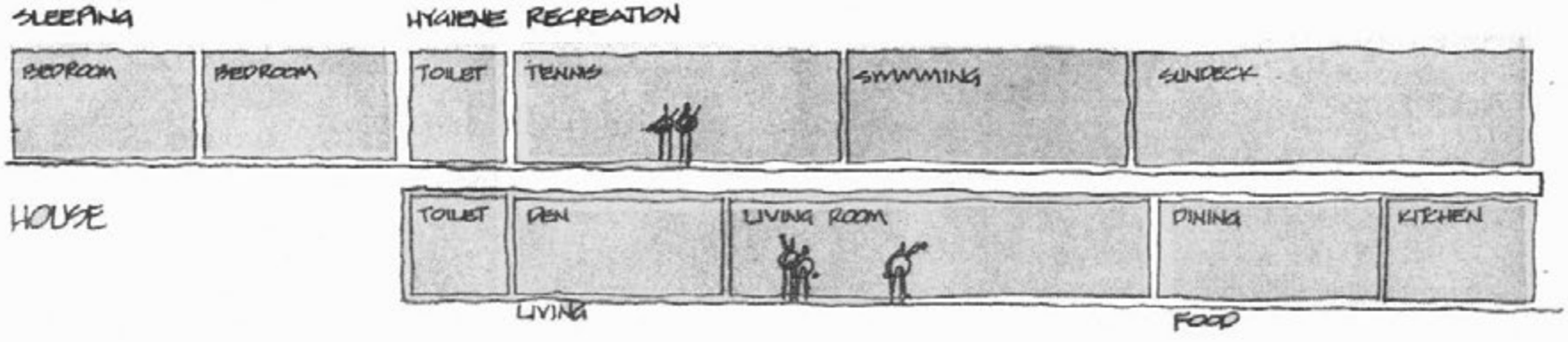


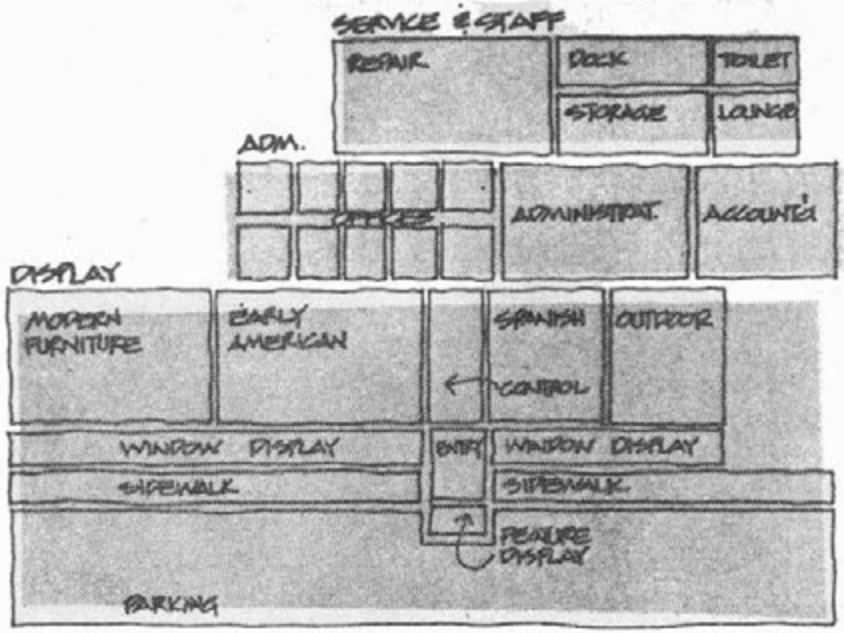
ATHLETICS



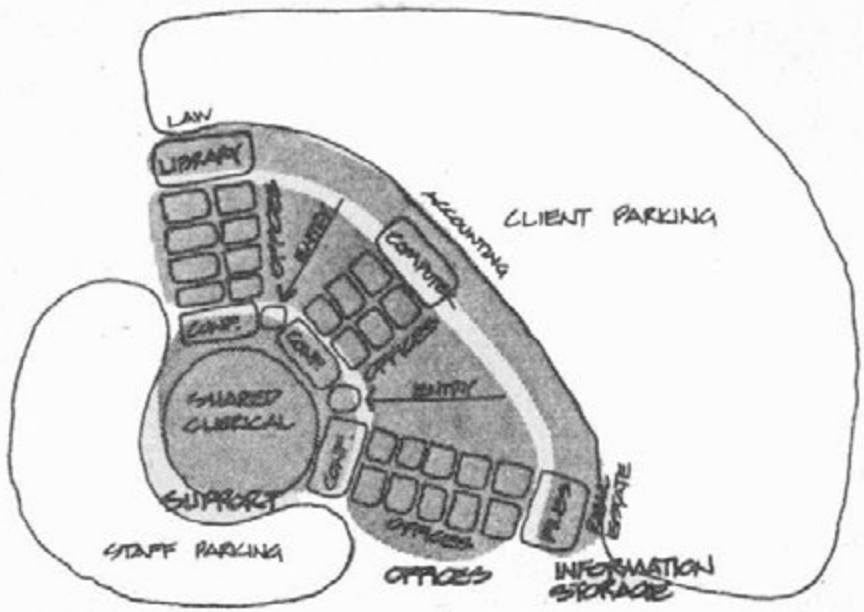


Relatedness to Departments, Goals and Systems

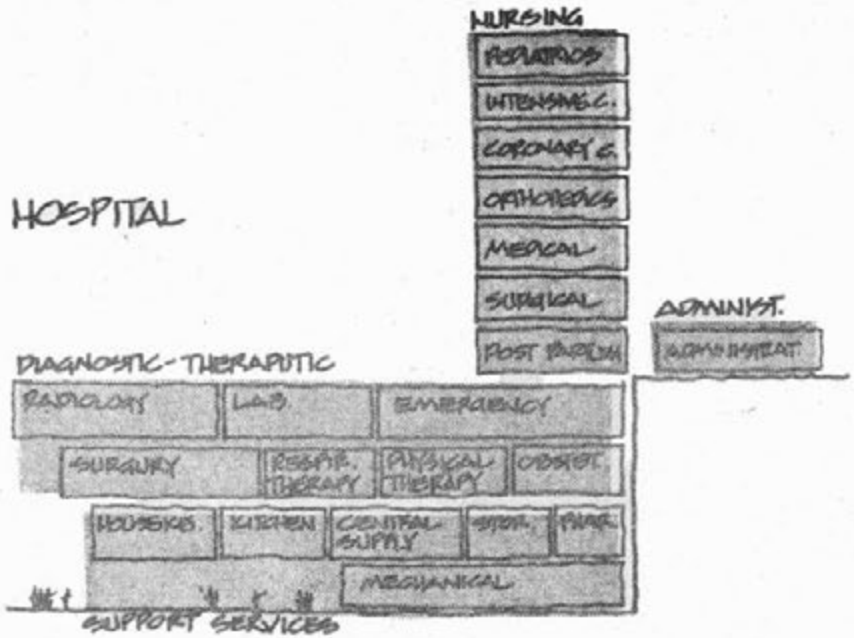




FURNITURE



MANAGEMENT CONSULTANTS



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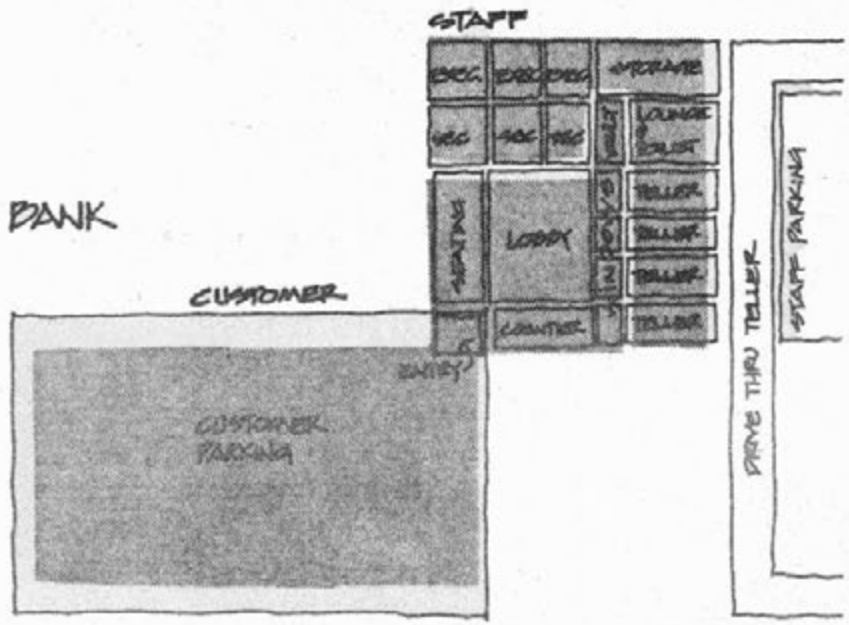

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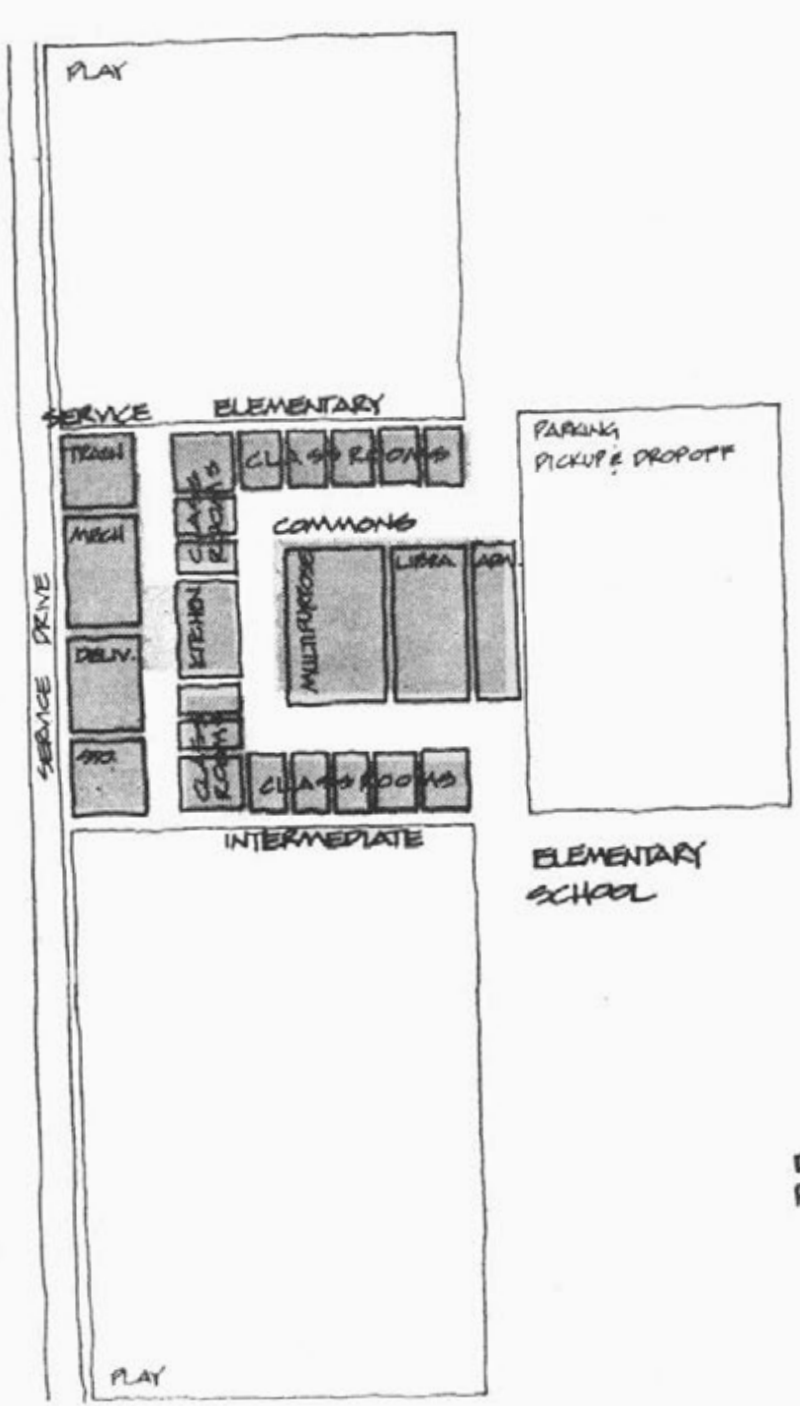
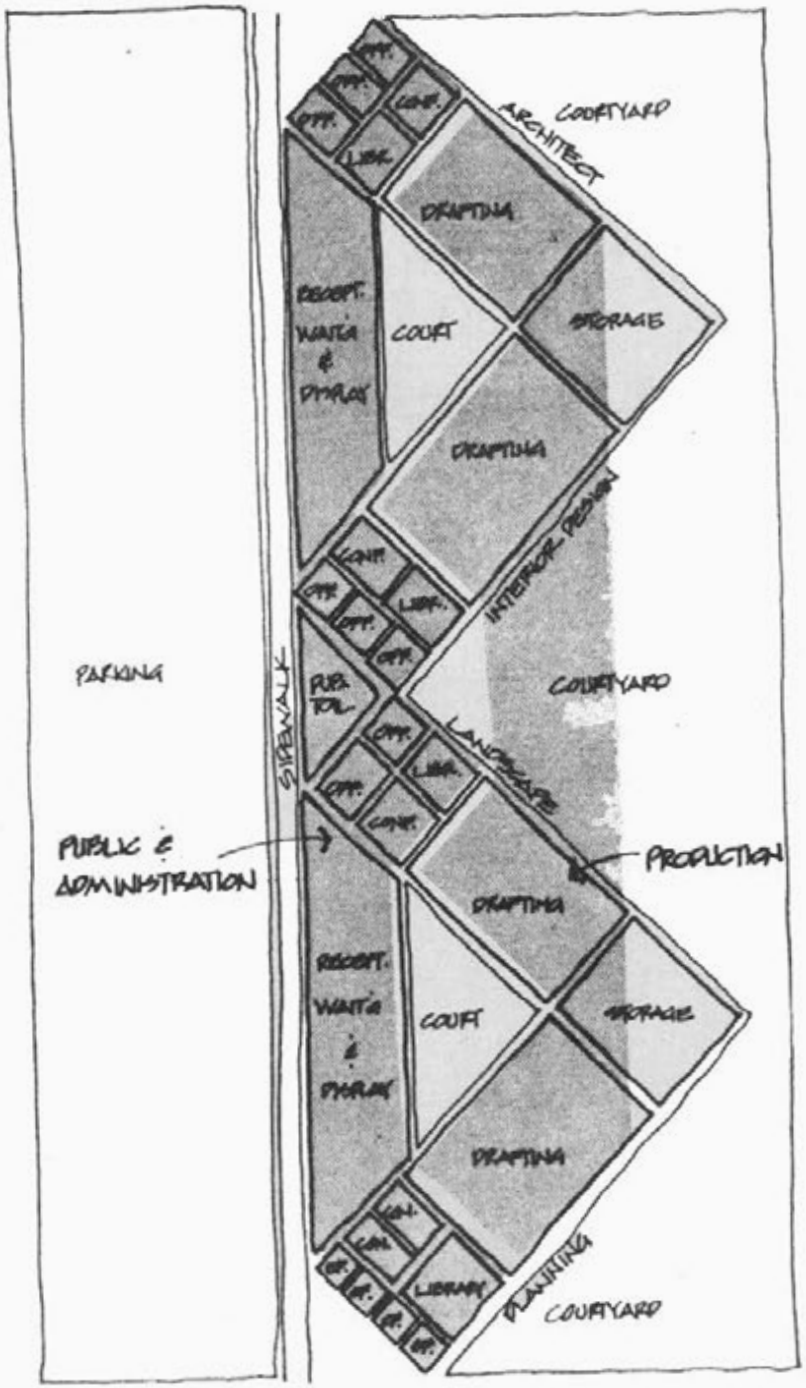
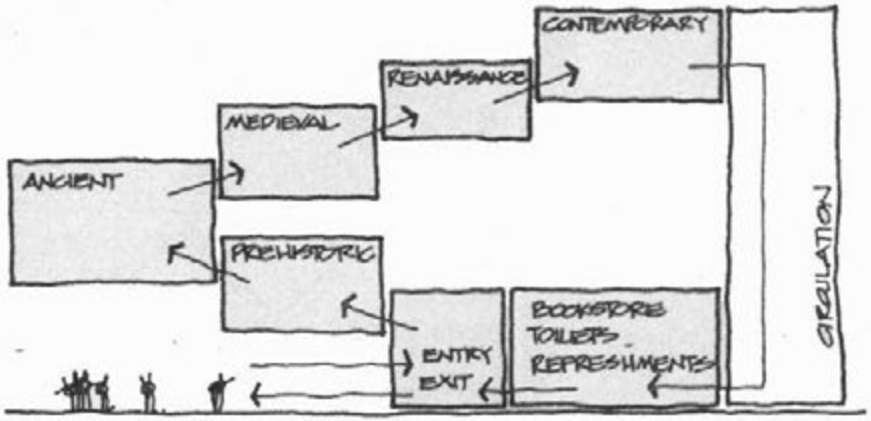
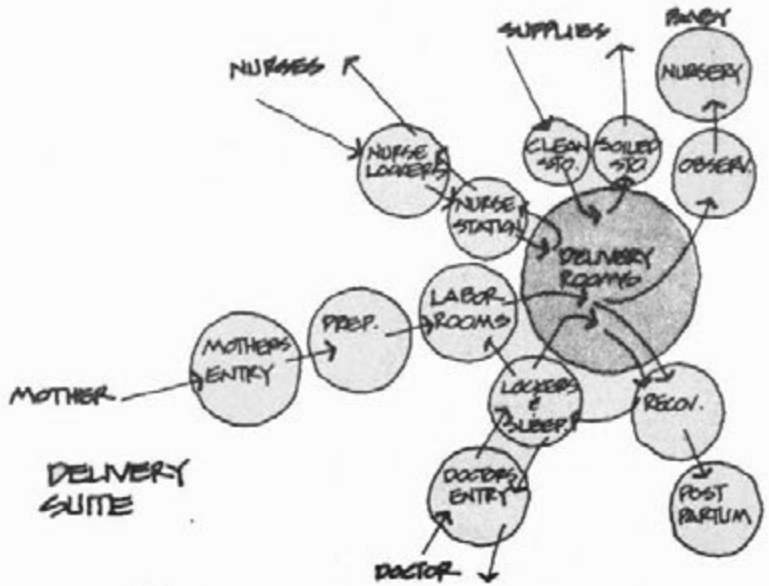


DESIGNER
PLAZA

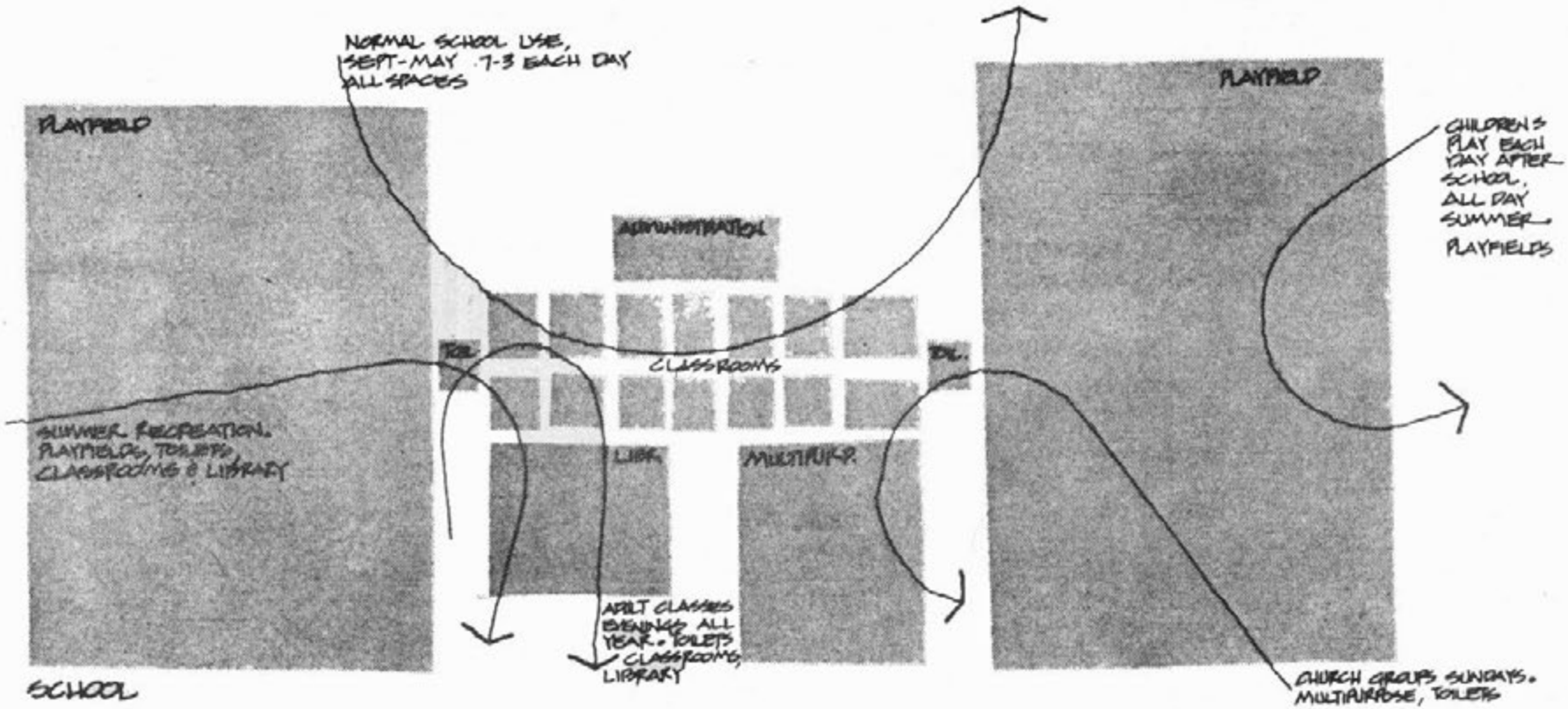




ART MUSEUM

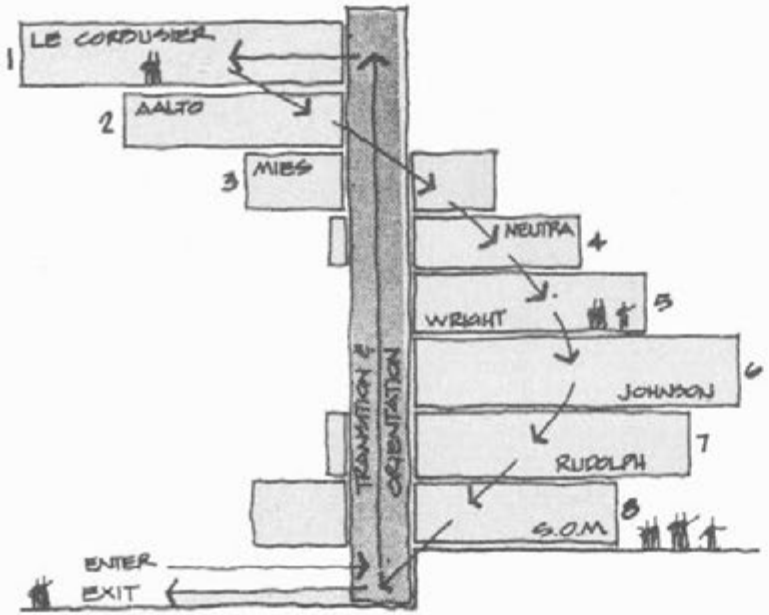


DELIVERY SUITE

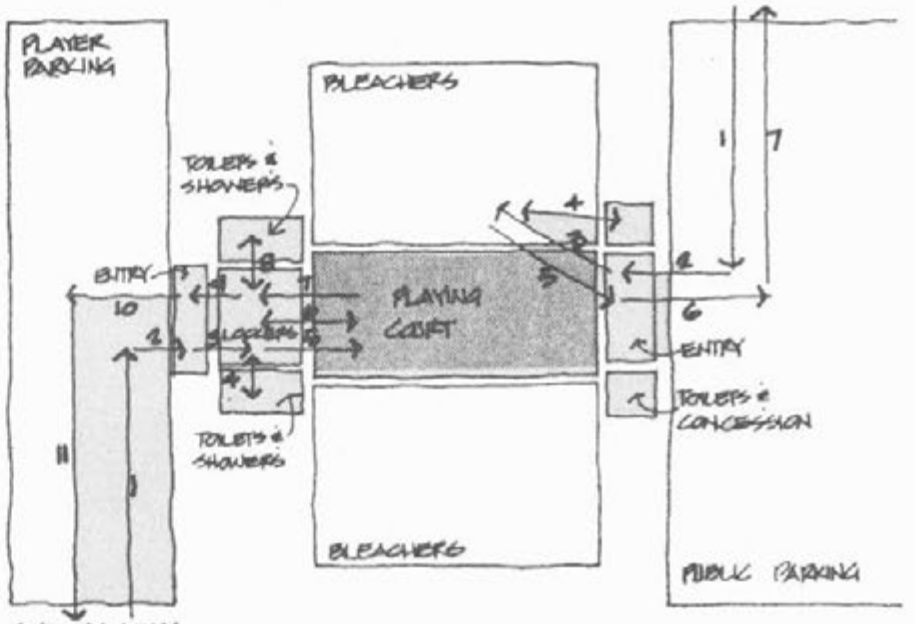


SCHOOL

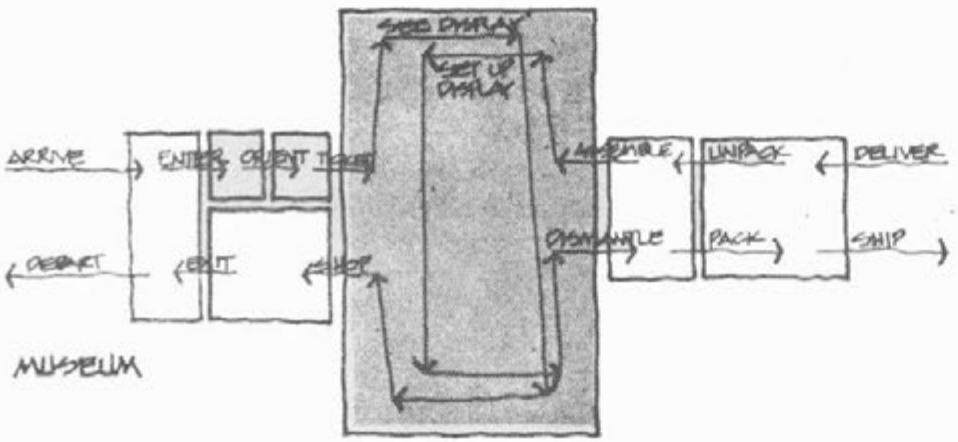
Sequence in Time



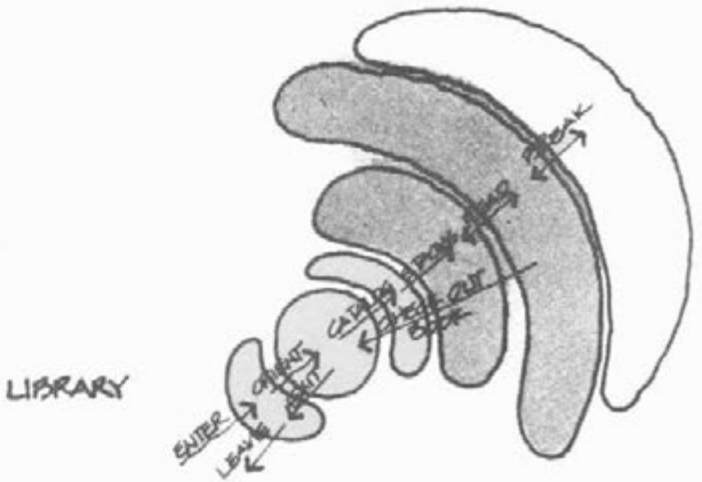
ARCHITECTURAL DISPLAY



GYMNASIUM



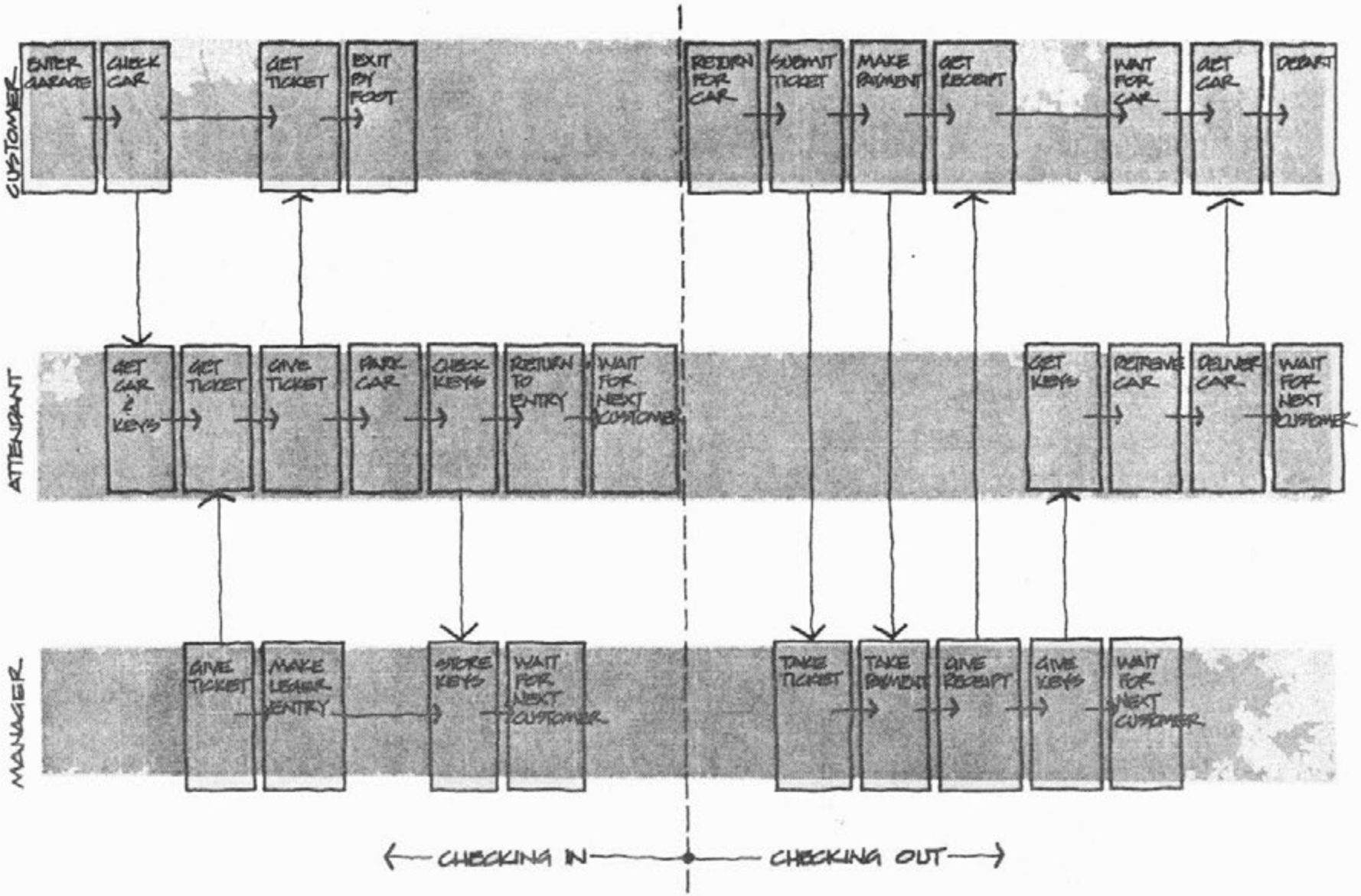
MUSEUM



LIBRARY

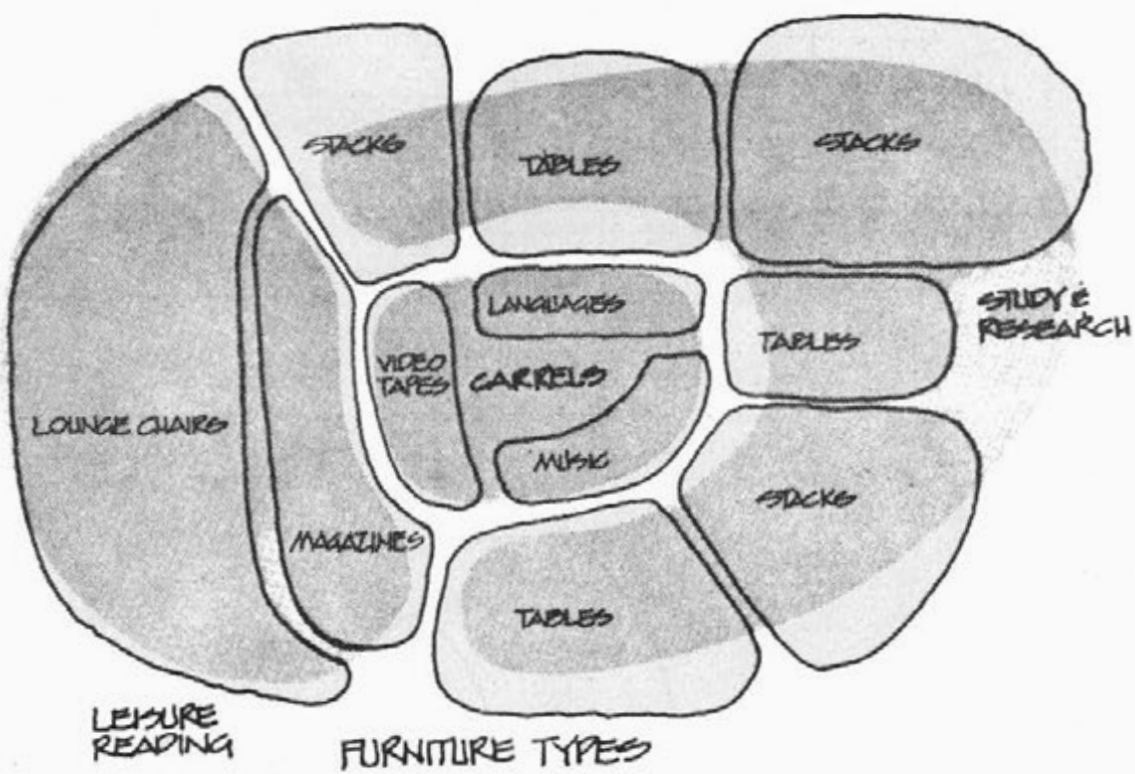
MOST BUILDINGS ARE A SYNTHESIS OF SYSTEMS THAT TOUCH AT CERTAIN POINTS.

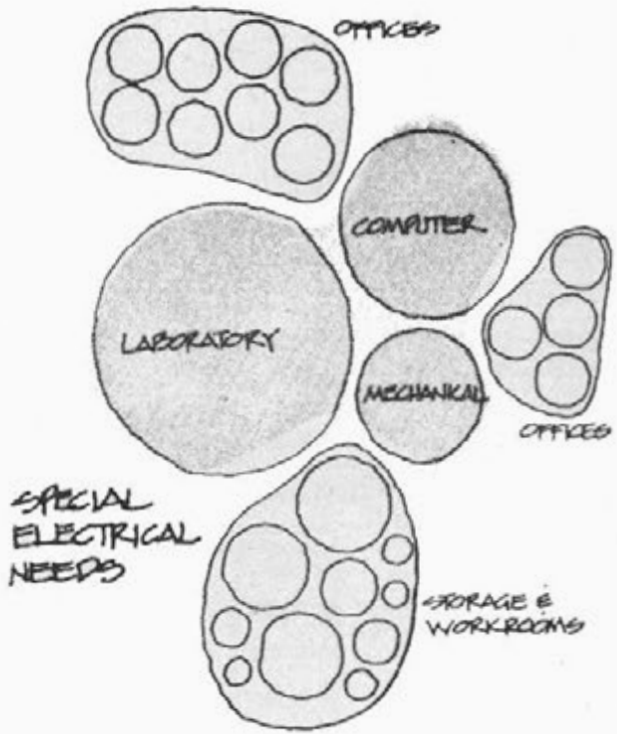
IN ANY BUILDING, THERE ARE USUALLY MAIN ACTIVITY SEQUENCES AND FEEDER OR SUPPORTING SEQUENCES.

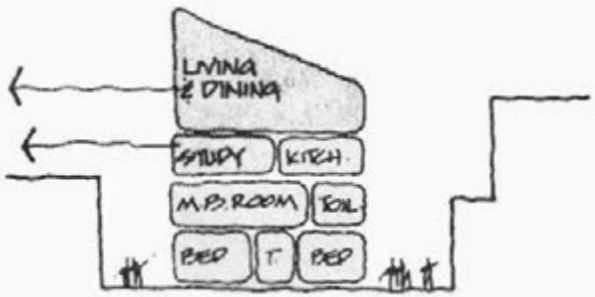


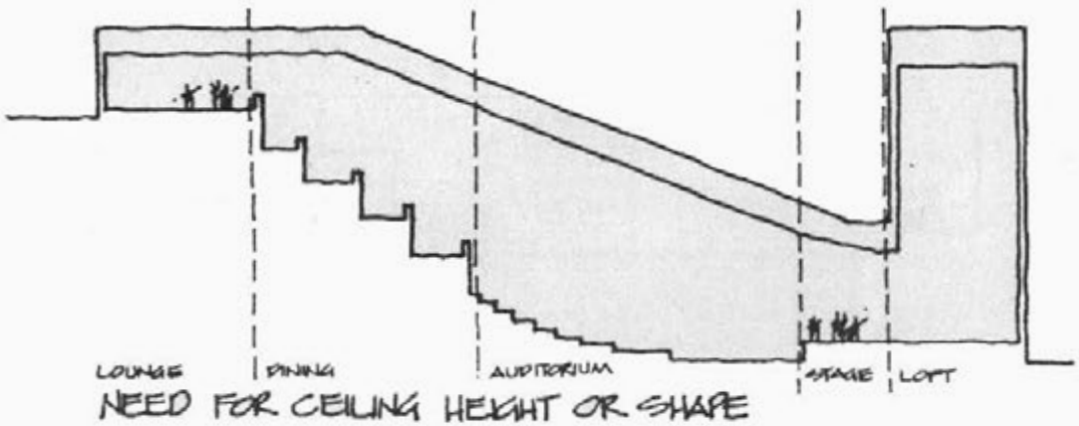
PARKING GARAGE

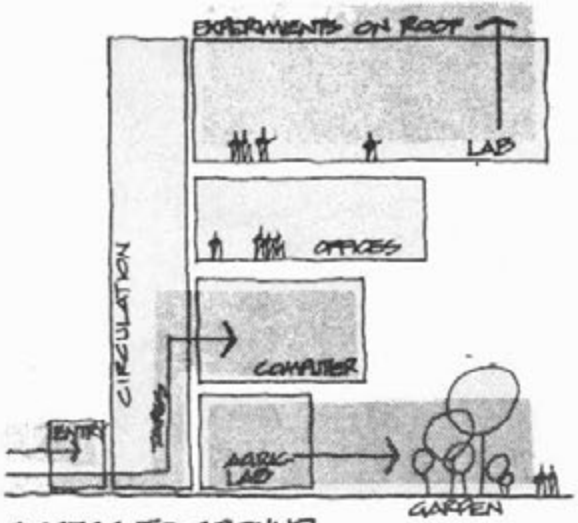
Required Environments



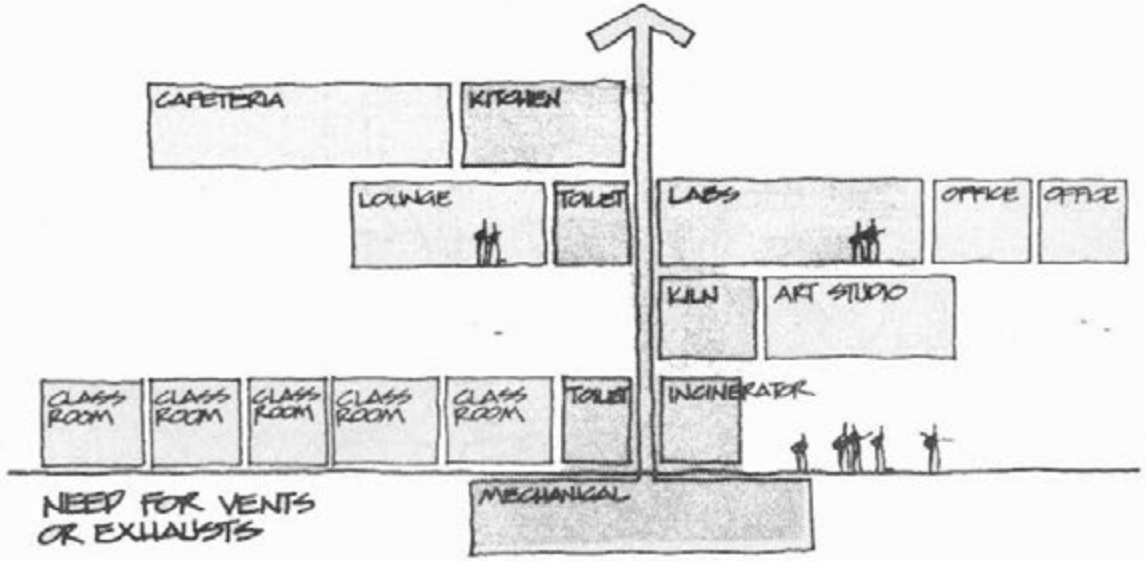




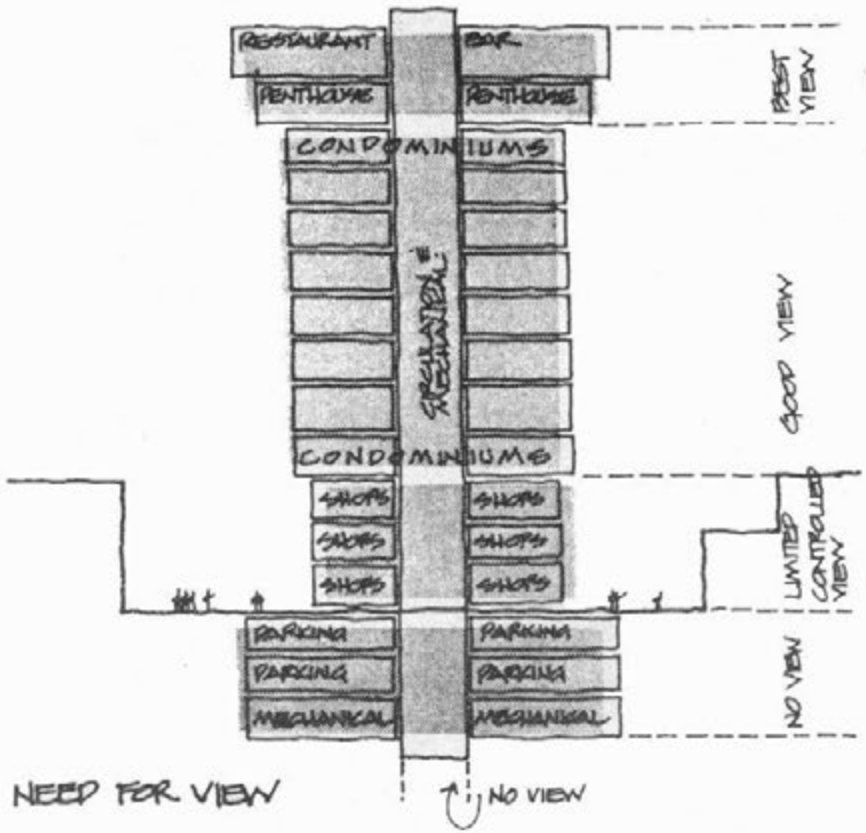




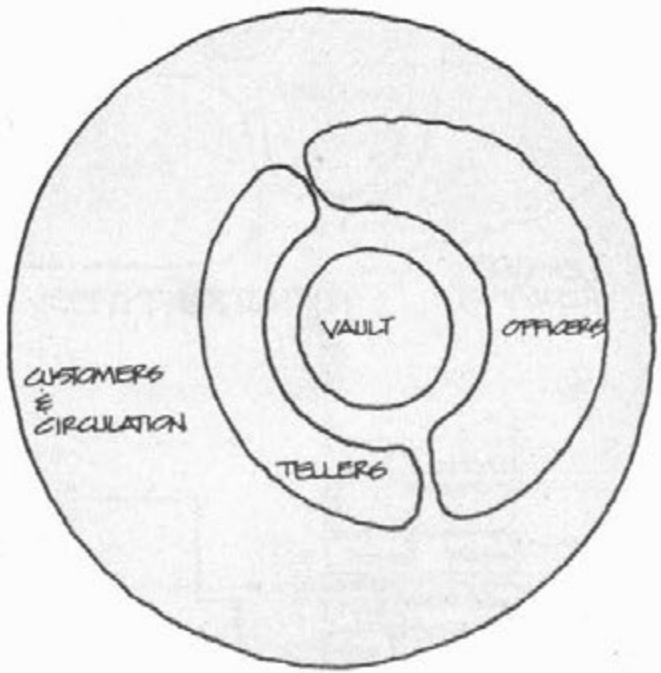
ACCESS TO GROUND OR ROOF



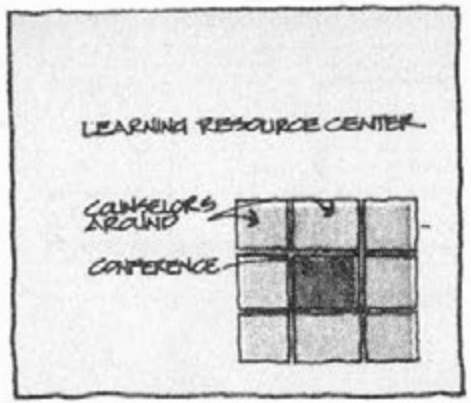
NEED FOR VENTS OR EXHAUSTS



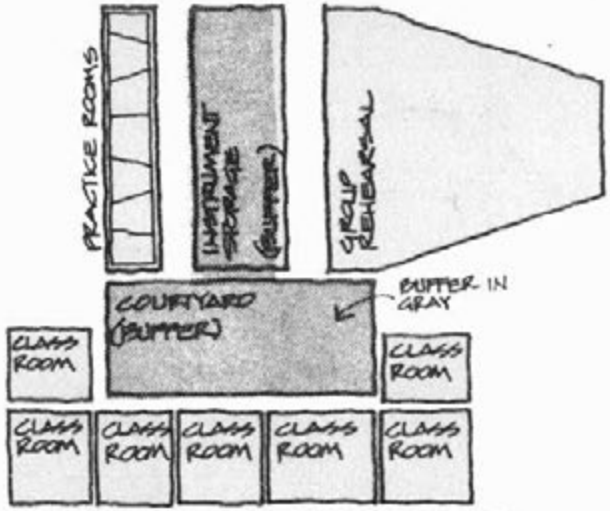
NEED FOR VIEW



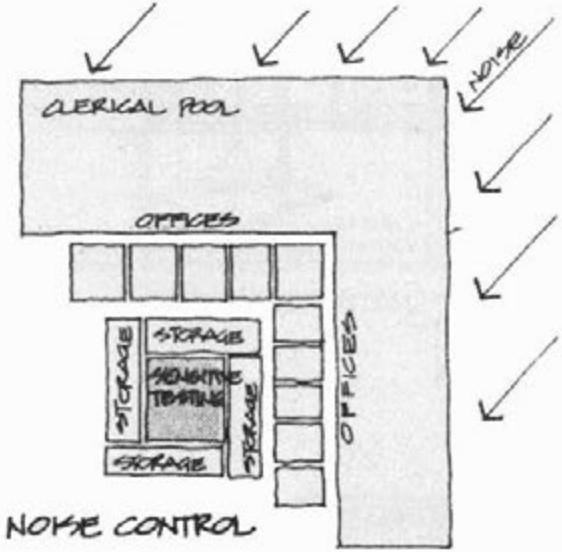
RELATIVE SECURITY



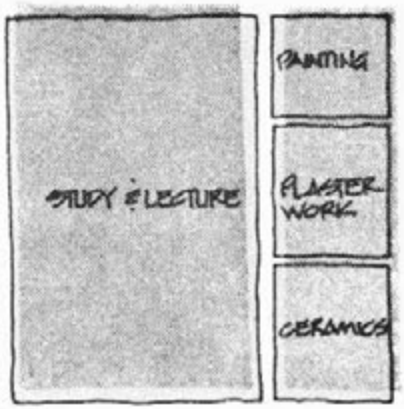
NEED FOR VISUAL & SOUND PRIVACY



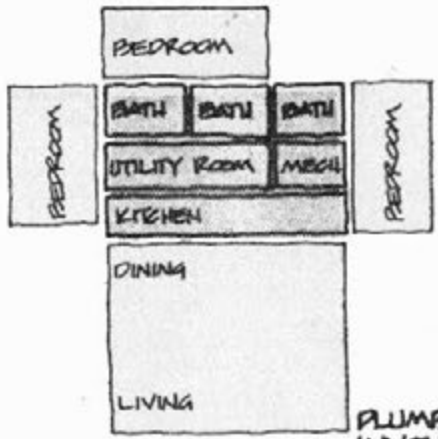
NEED FOR ACOUSTIC CONTROL



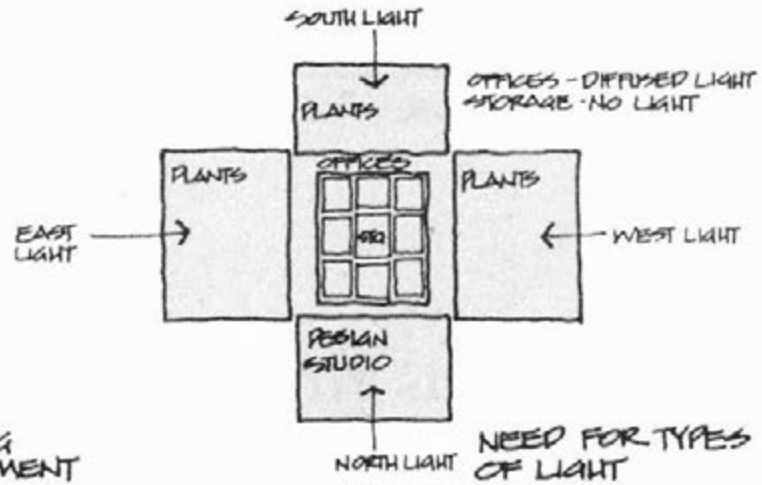
NOISE CONTROL



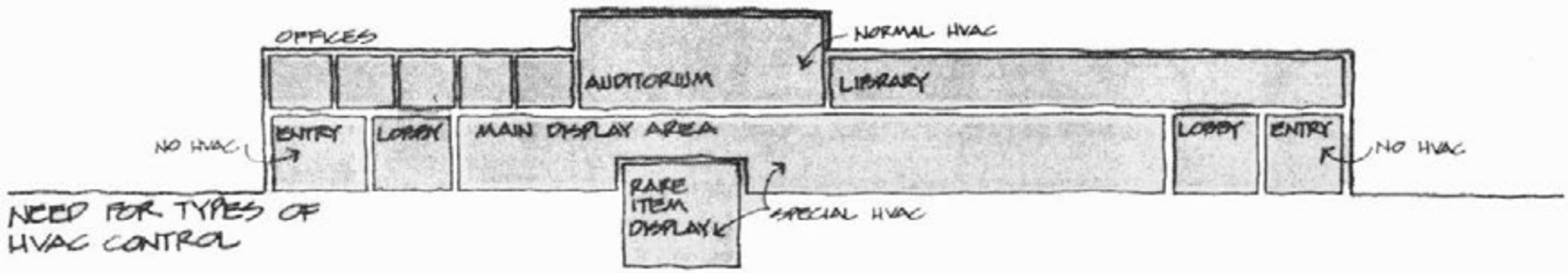
RELATIVE MAINTENENCE NEEDED



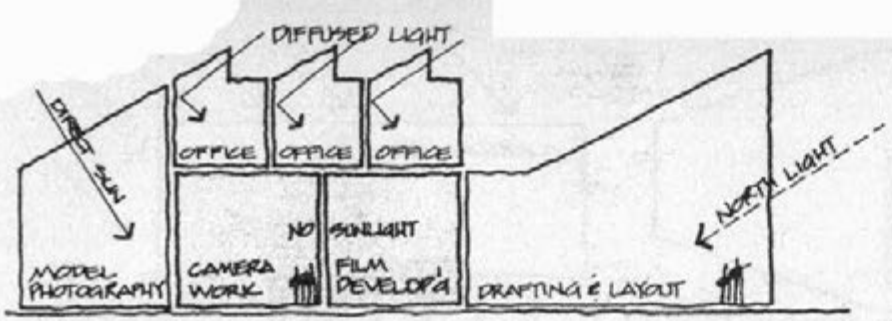
PLUMBING INVOLVEMENT



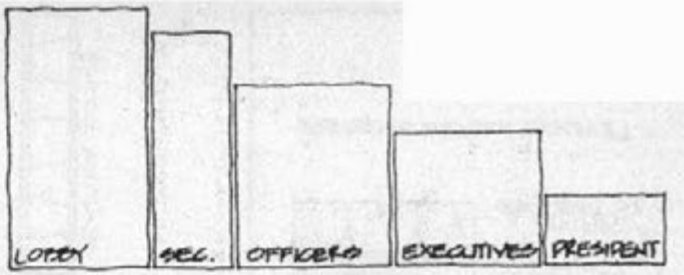
NEED FOR TYPES OF LIGHT



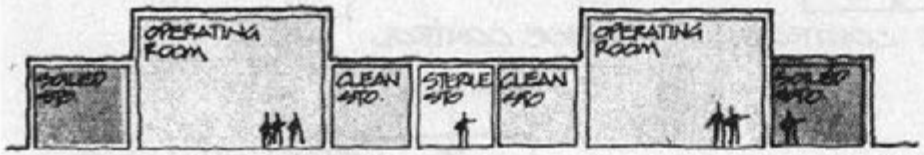
NEED FOR TYPES OF HVAC CONTROL



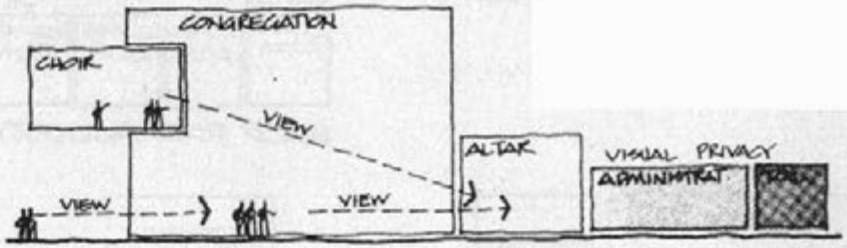
TYPES OF NATURAL LIGHT



DEGREES OF PRIVACY

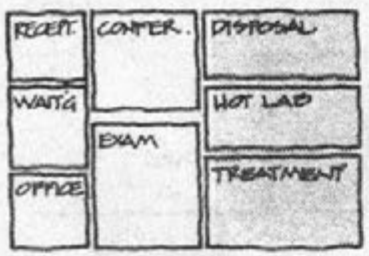


RELATIVE CONTAMINATION

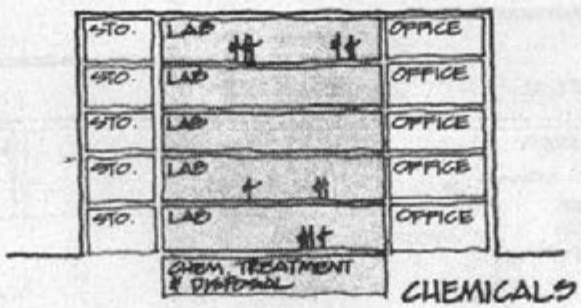


RELATIVE VISUAL ACCESS

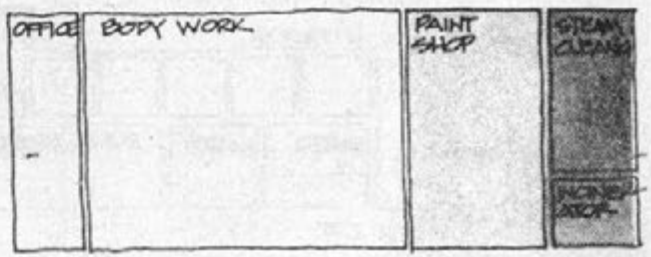
Types of Effects Produced



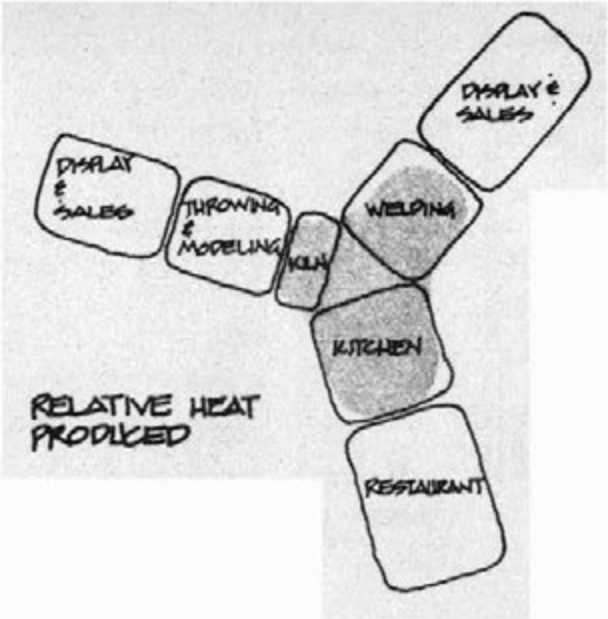
RADIATION PRODUCED

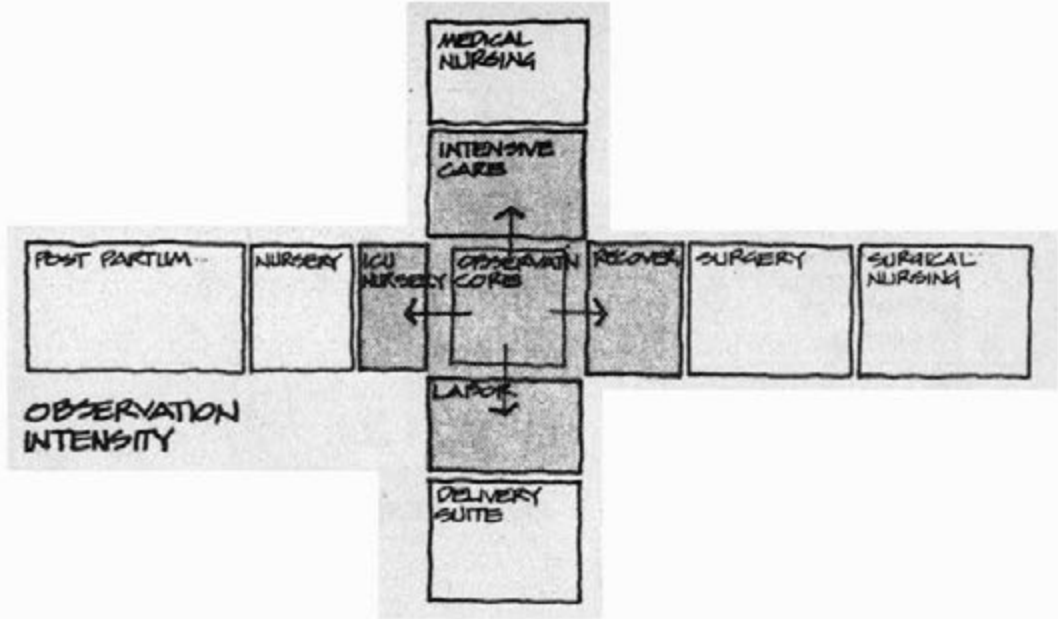


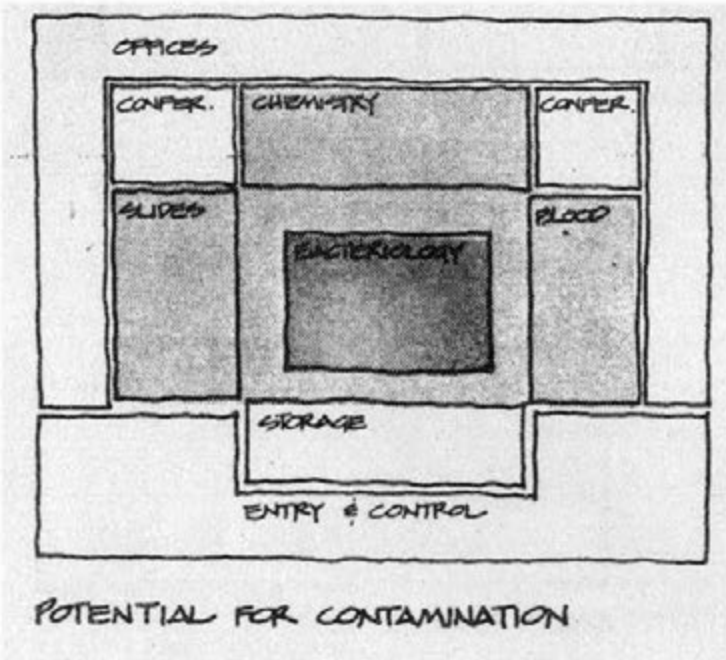
CHEMICALS

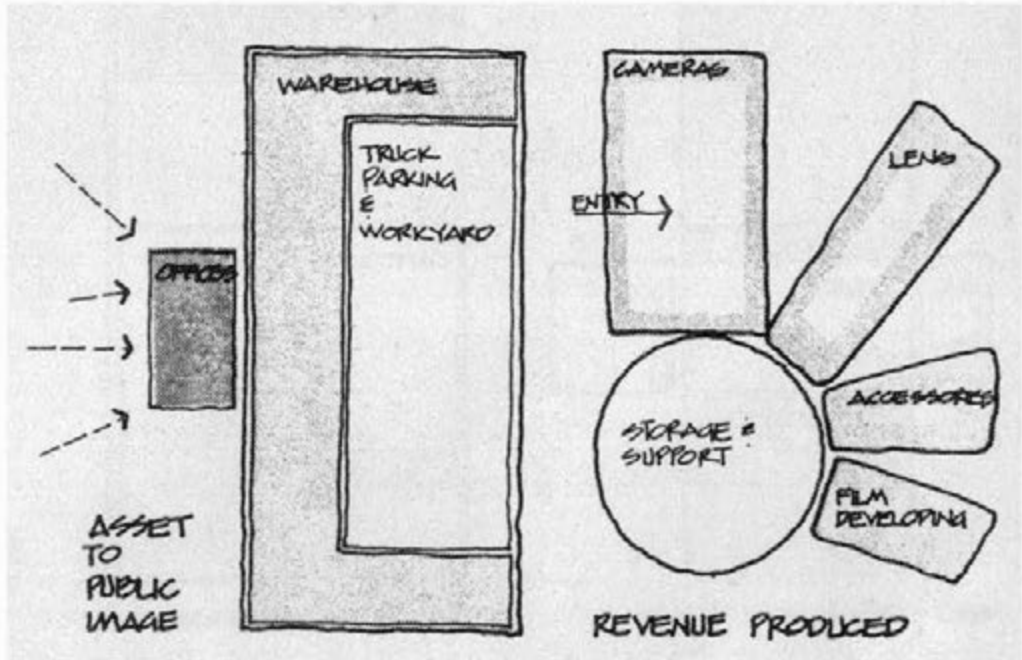


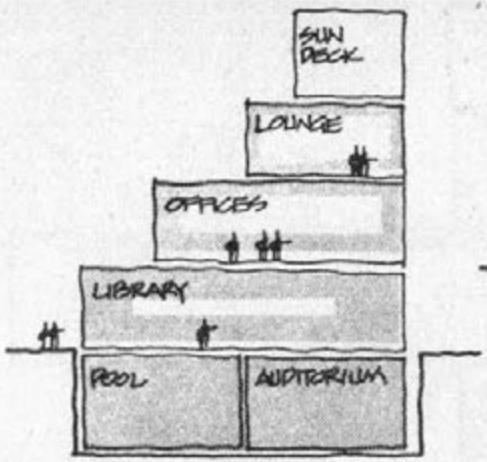
SMOKE & FUMES


DISPLAY & SALES
DISPLAY & SALES
THROWING & MODELING
KILN
WELDING
KITCHEN
RESTAURANT
RELATIVE HEAT PRODUCED

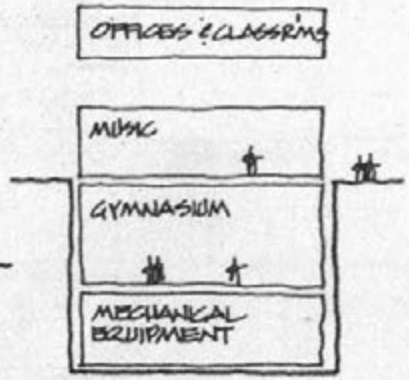

MEDICAL NURSING
INTENSIVE CARE
POST PARTUM
NURSERY
ICU NURSERY
OBSERVATION CORE
RECOVER
SURGERY
SURGICAL NURSING
LABOR
DELIVERY SUITES
OBSERVATION INTENSITY


OFFICES
CONFER.
CHEMISTRY
CONFER.
SLIDES
BACTERIOLOGY
BLOOD
STORAGE
ENTRY & CONTROL
POTENTIAL FOR CONTAMINATION

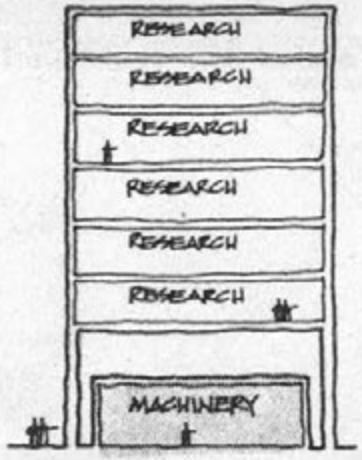

WAREHOUSE
TRUCK PARKING & WORKYARD
OFFICES
ASSET TO PUBLIC IMAGE
CAMERAS
ENTRY
LENS
ACCESSORIES
STORAGE & SUPPORT
FILM DEVELOPING
REVENUE PRODUCED



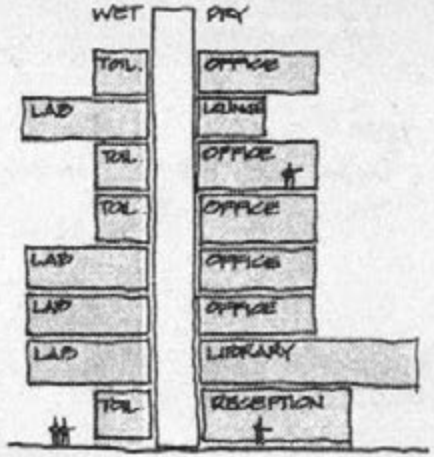
RELATIVE WEIGHT



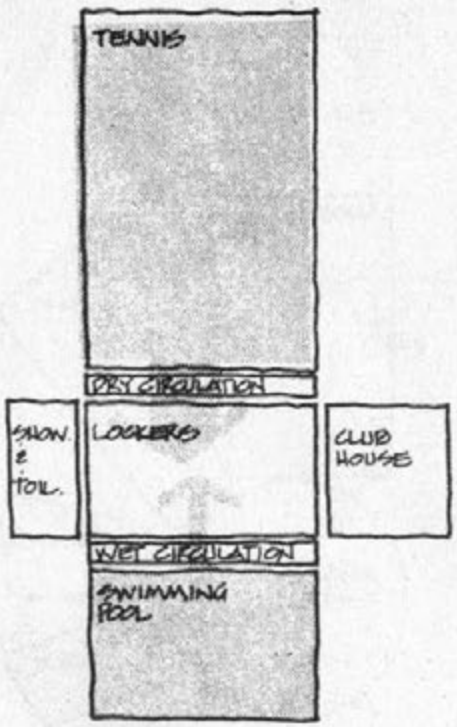
NOISE PRODUCED



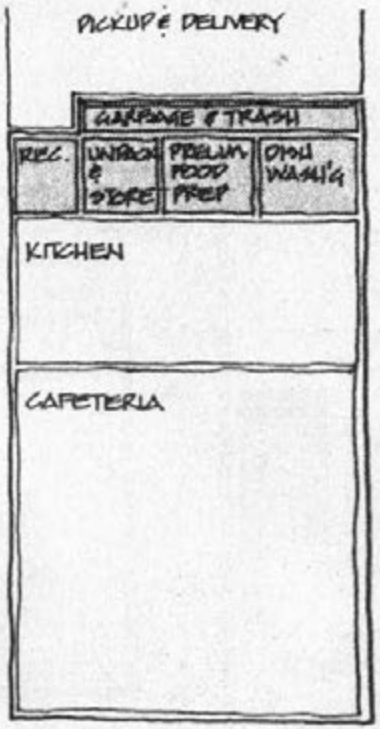
VIBRATION



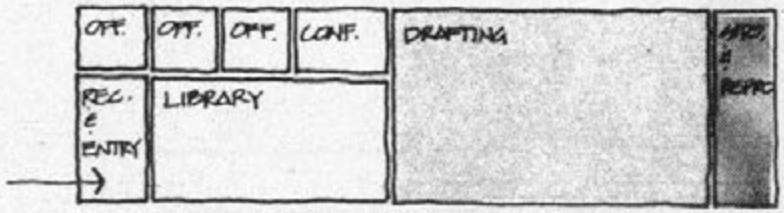
WET - DRY



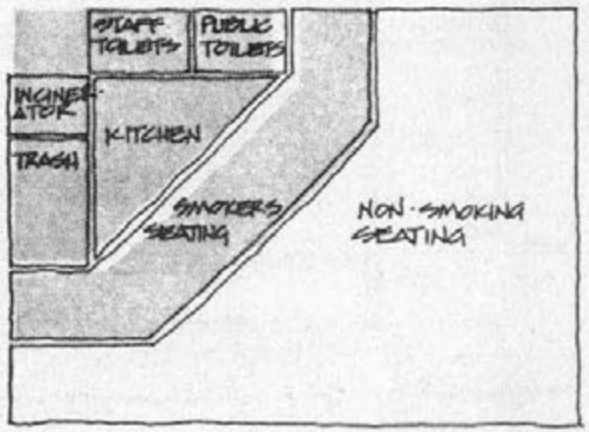
WET - DRY



TRASH PRODUCTION

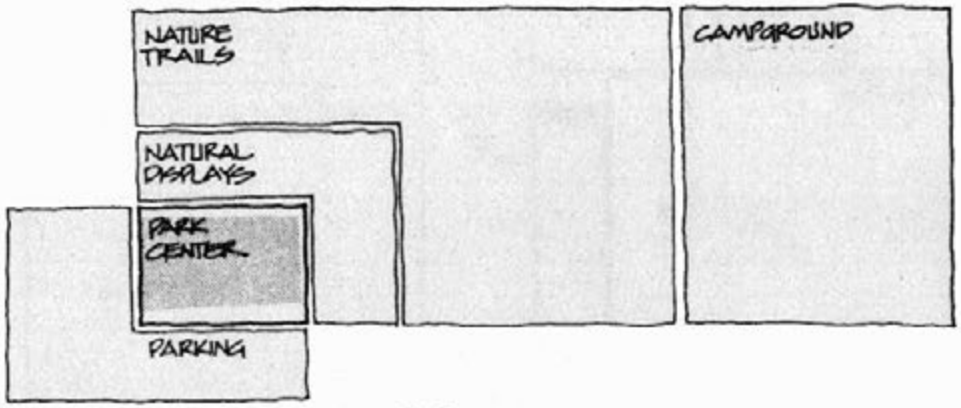


RELATIVE VISUAL CLUTTER

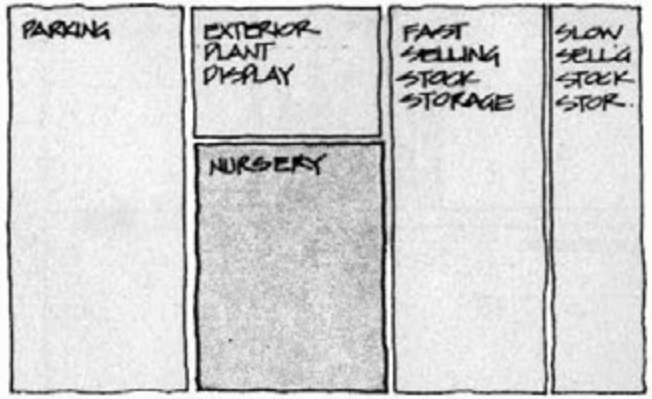


ODOR PRODUCTION

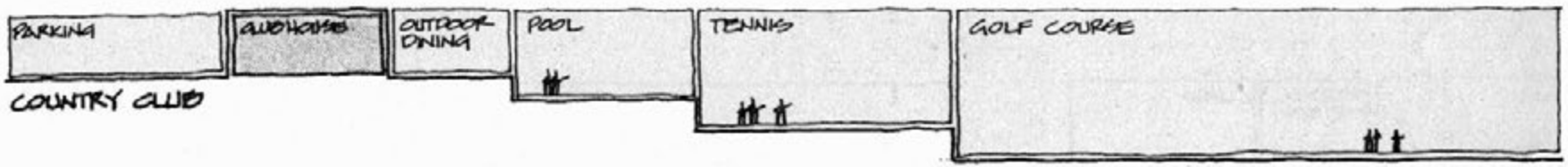
Relative Proximity to Building



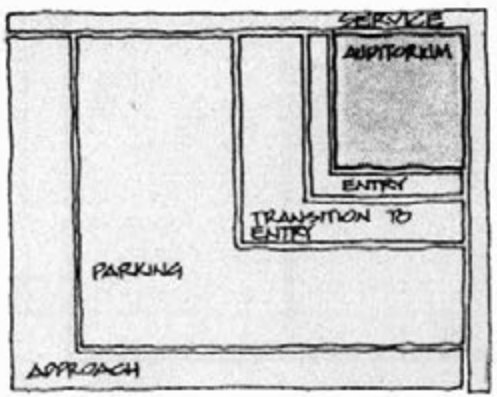
NATIONAL FORREST CENTER



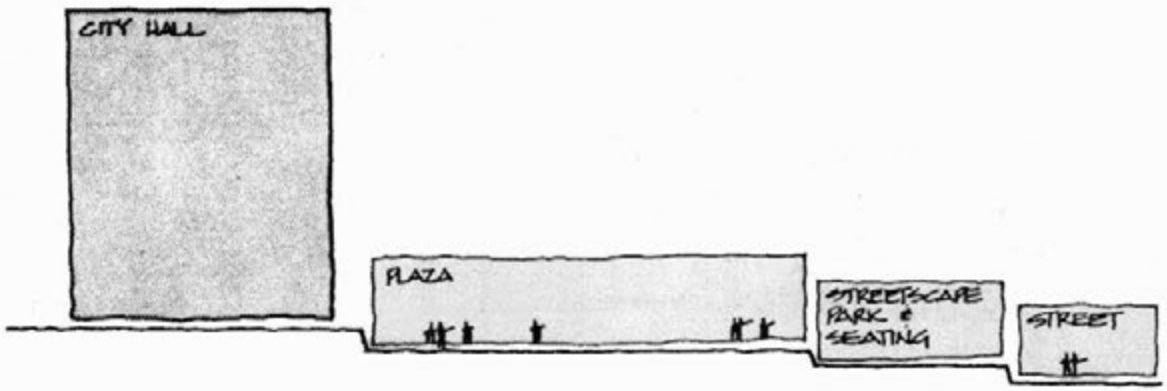
PLANT NURSERY



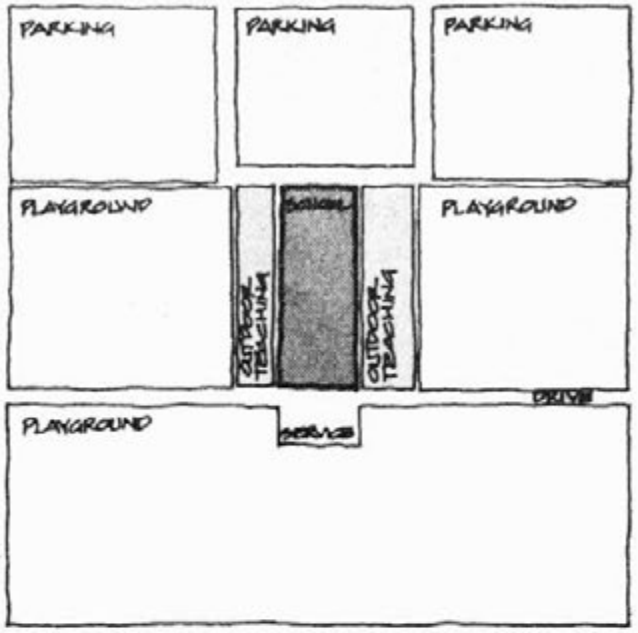
COUNTRY CLUB



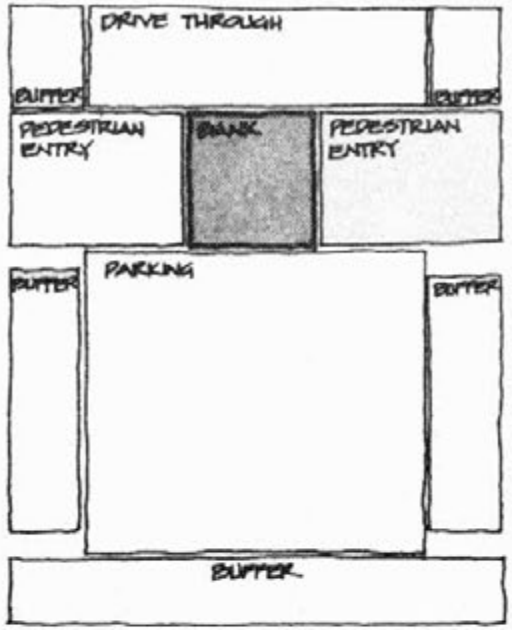
FIELDHOUSE



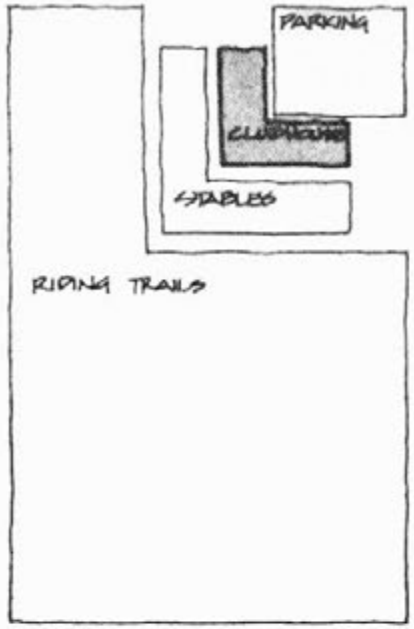
GOVERNMENT BUILDING



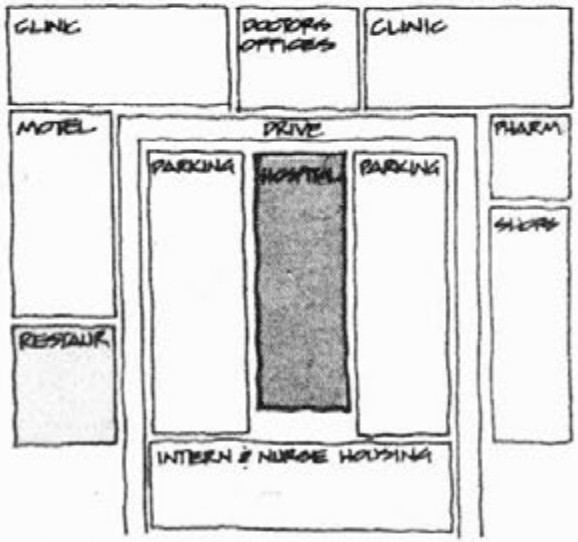
SCHOOL



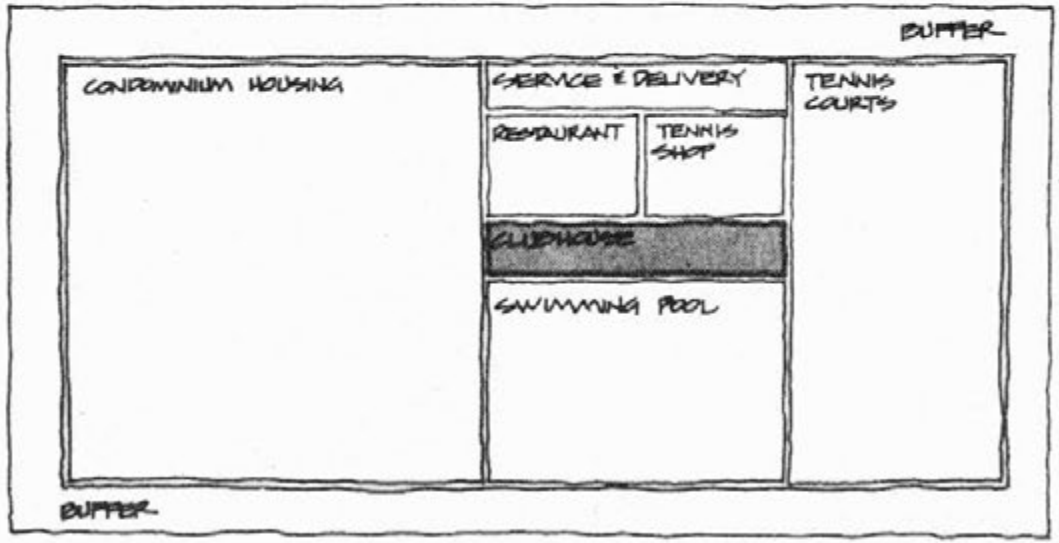
BANK



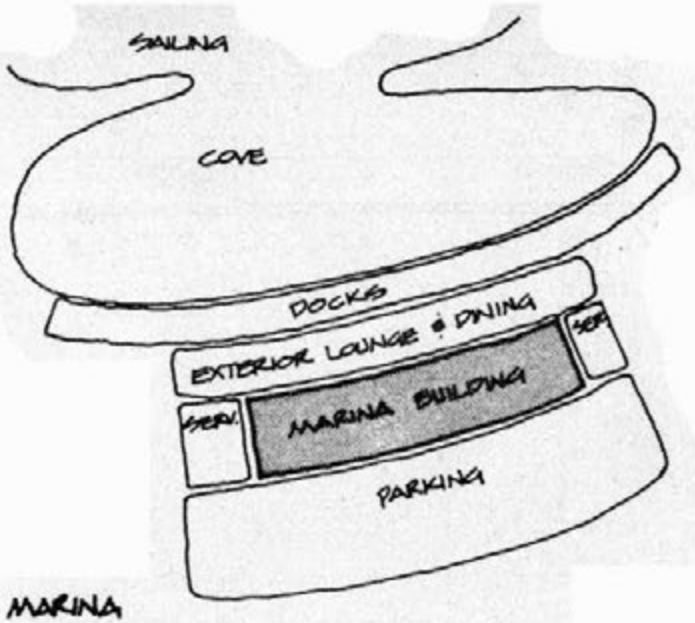
RIDING



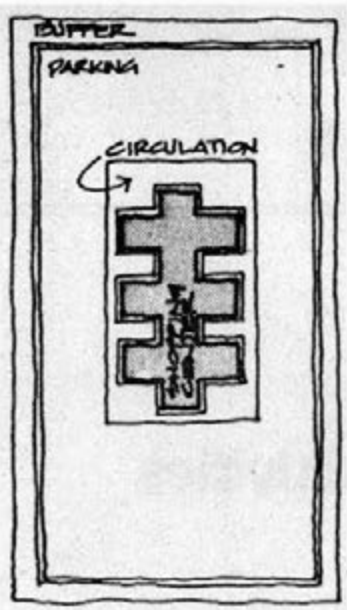
HEALTH COMPLEX



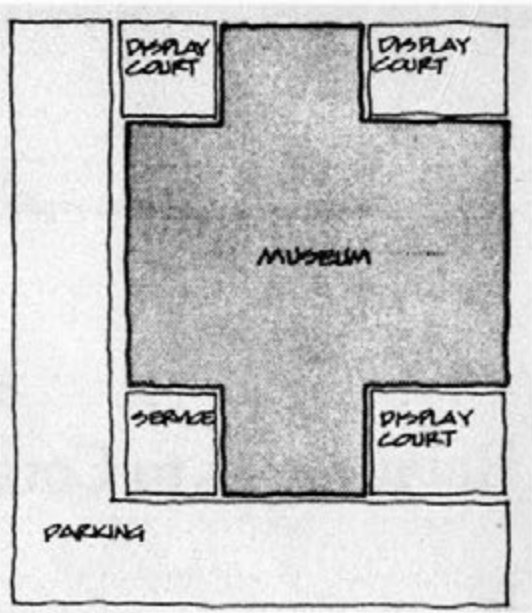
TENNIS RANCH



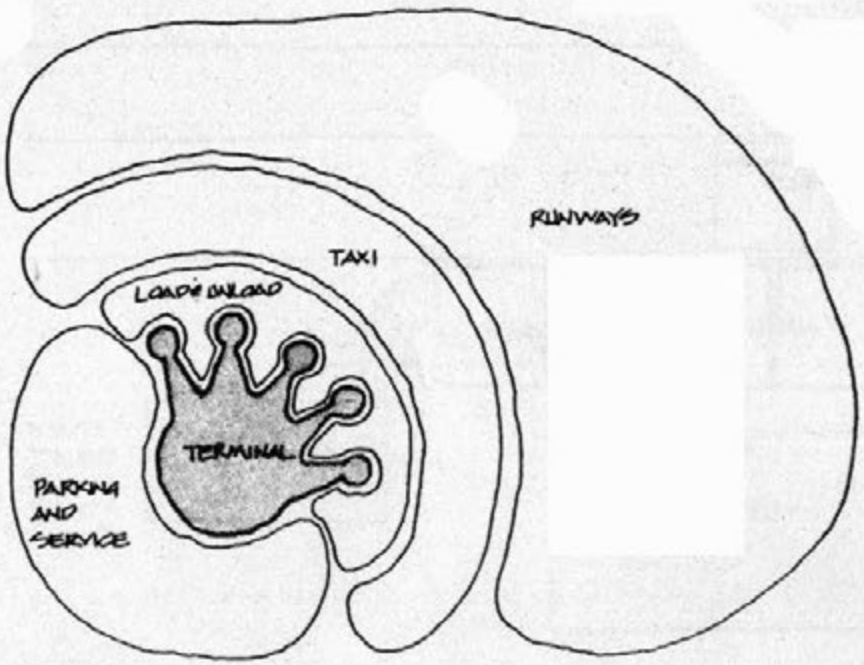
MARINA



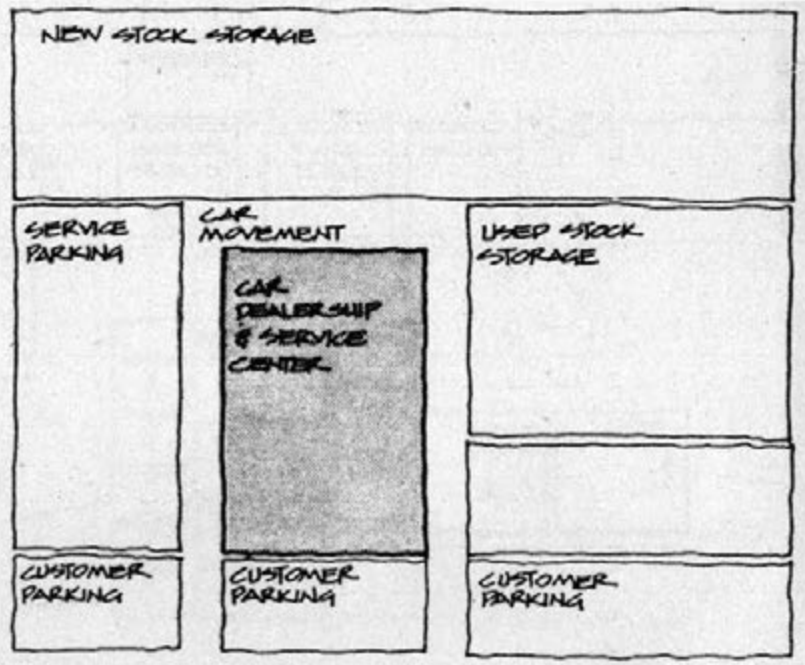
SHOPPING CENTER



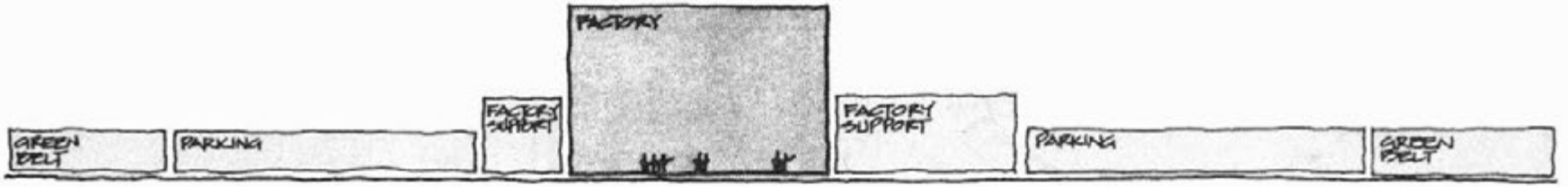
MUSEUM



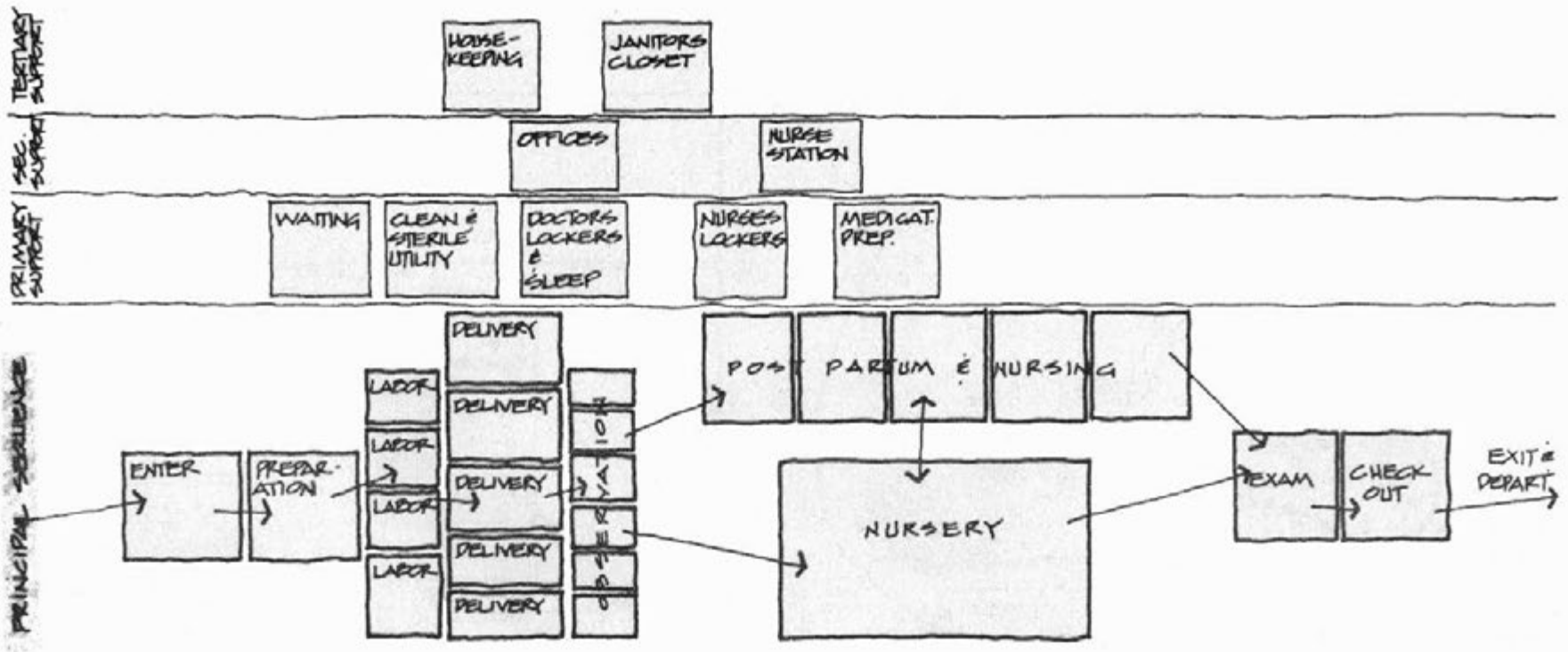
AIRPORT

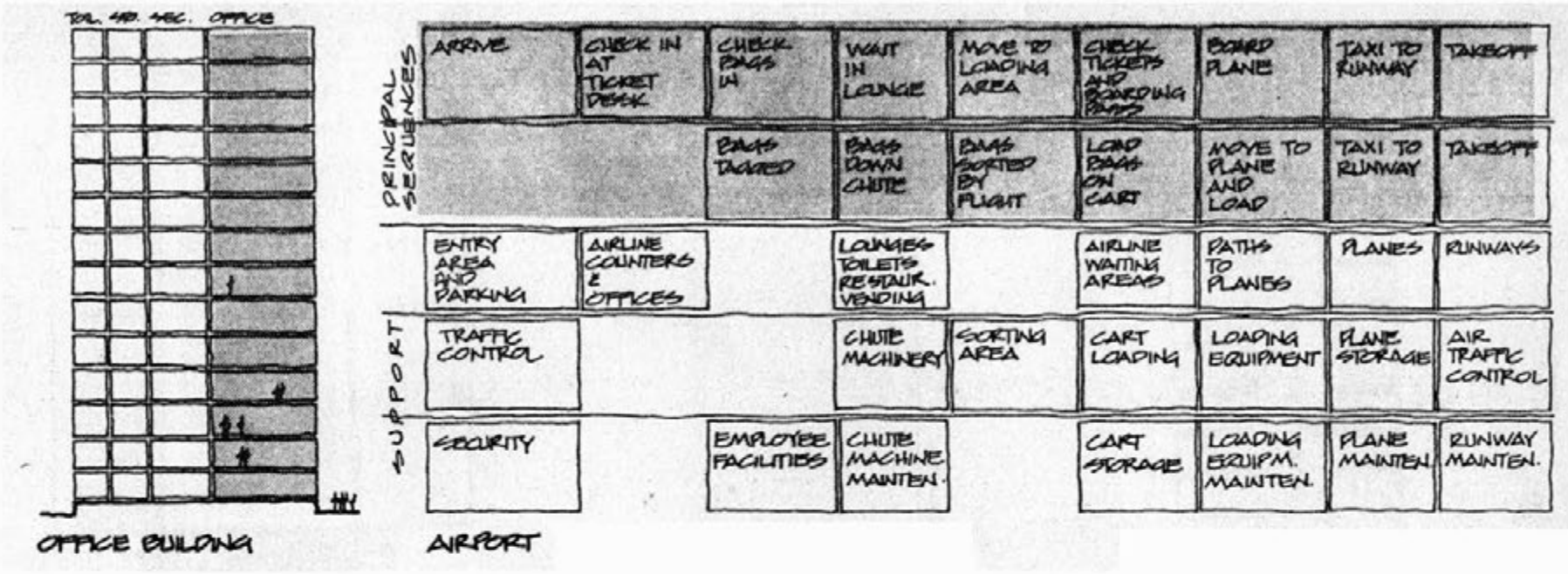


CAR DEALERSHIP

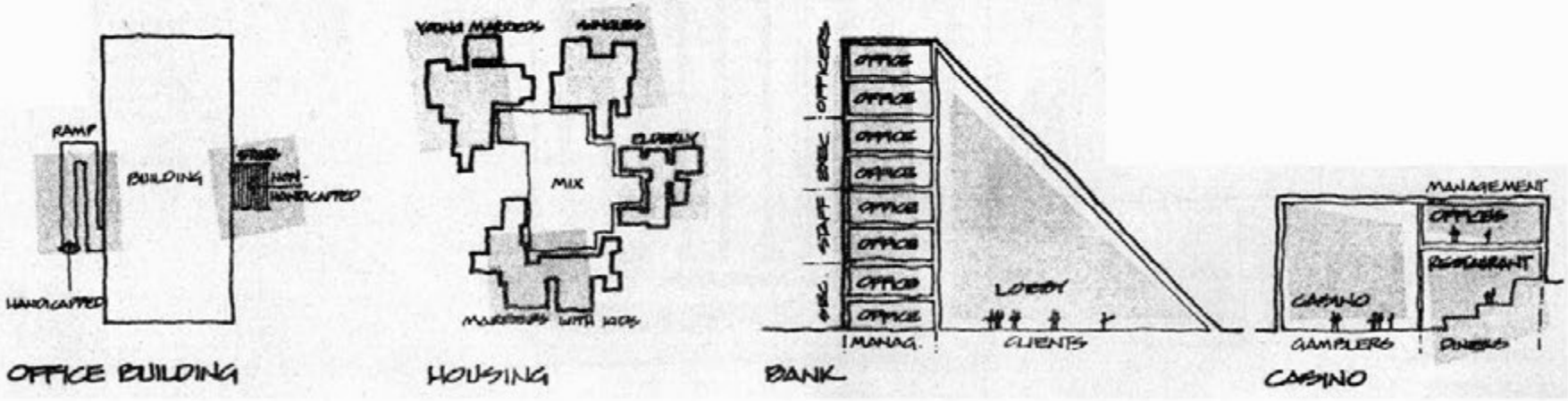


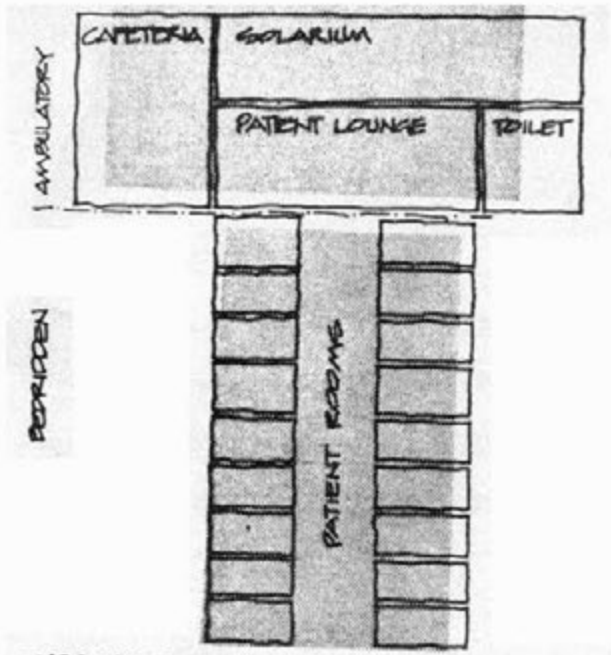
Relatedness to Core Activities



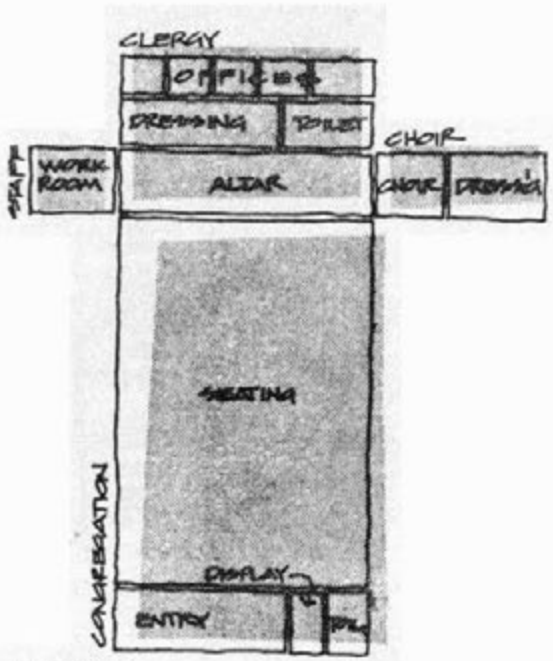


Characteristics of People Involved

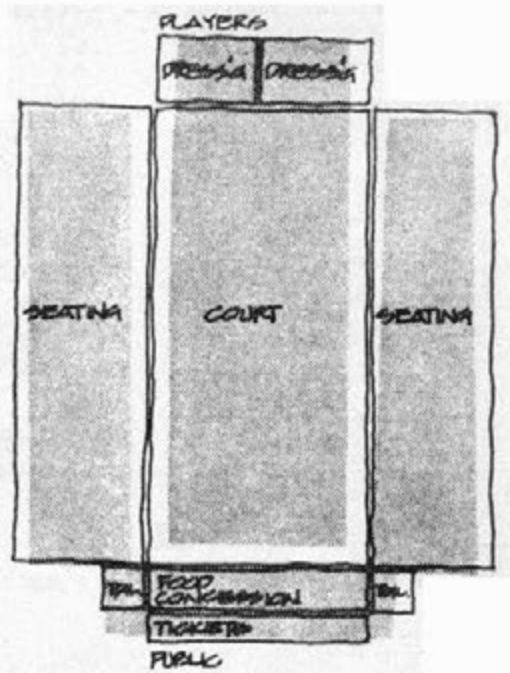




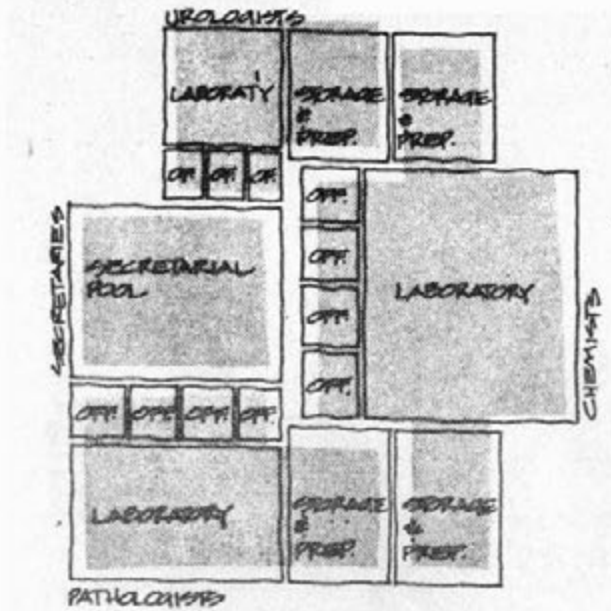
NURSING HOME



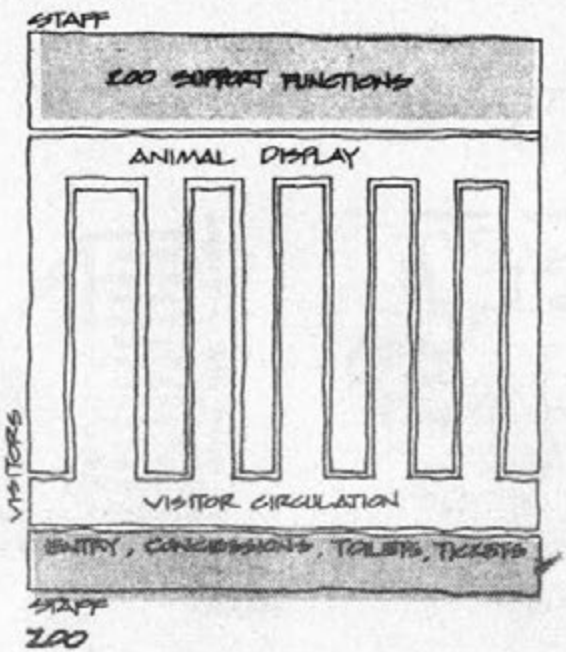
CHURCH



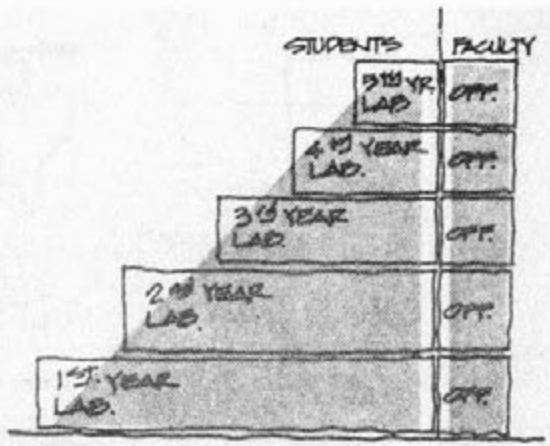
FIELDHOUSE



LABORATORY

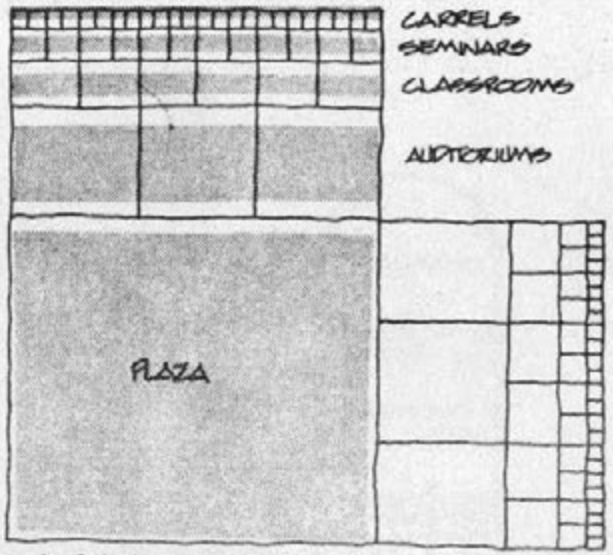


ZOO

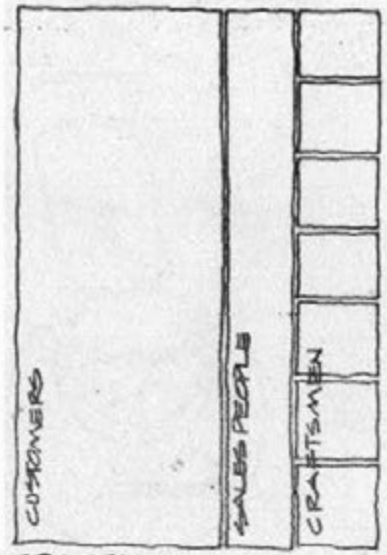


ARCHITECTURE SCHOOL

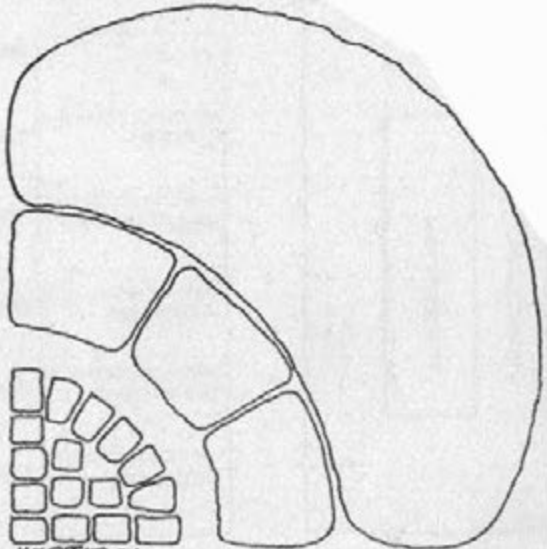
Volume of People Involved



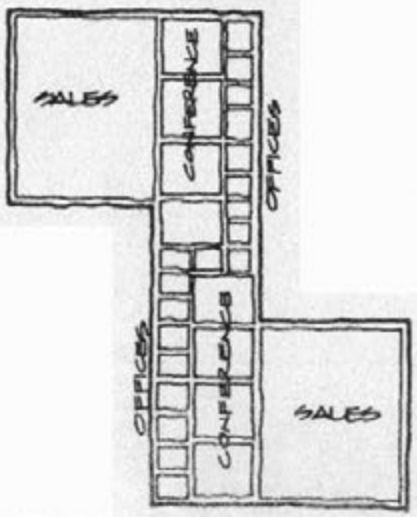
LEARNING COMPLEX



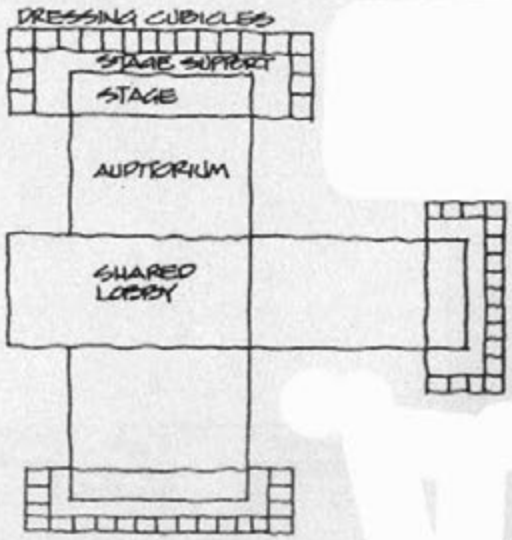
CRAFTS SHOP



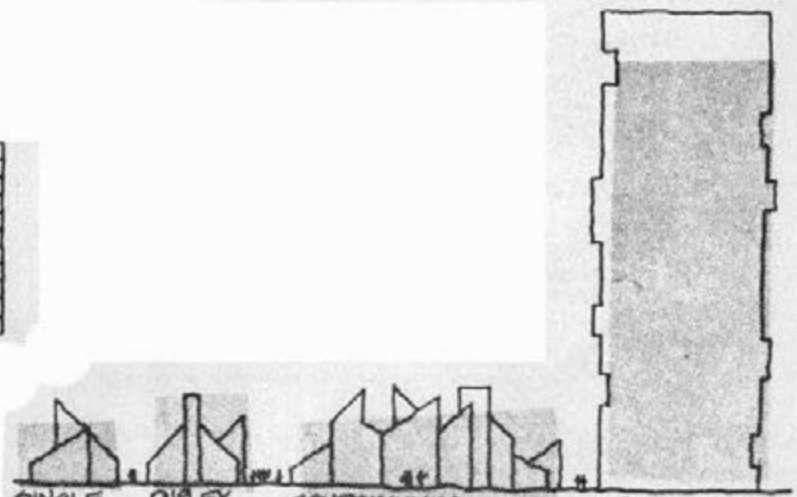
CHURCH - RETREAT



SALES COMPLEX

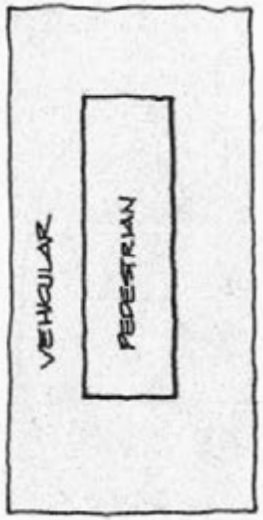


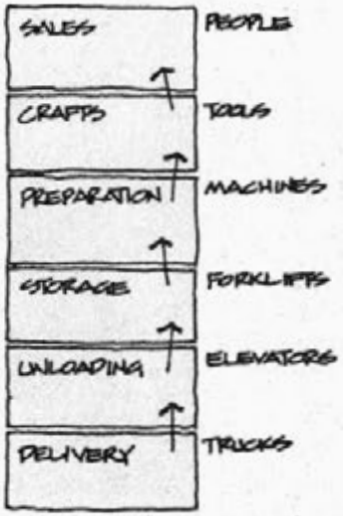
PERFORMANCE GROUP

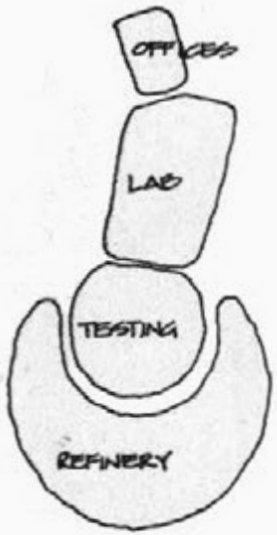


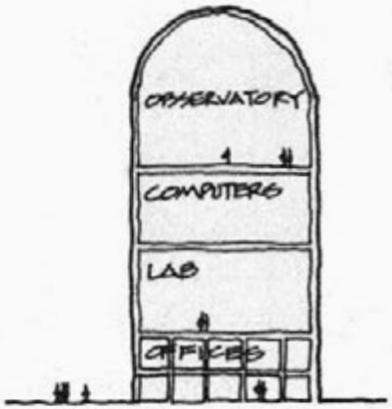
HOUSING

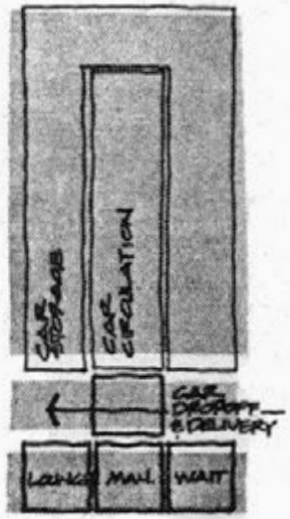
Extent of Man or Machine Involvement

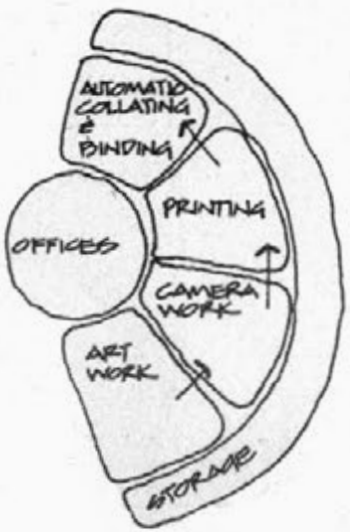


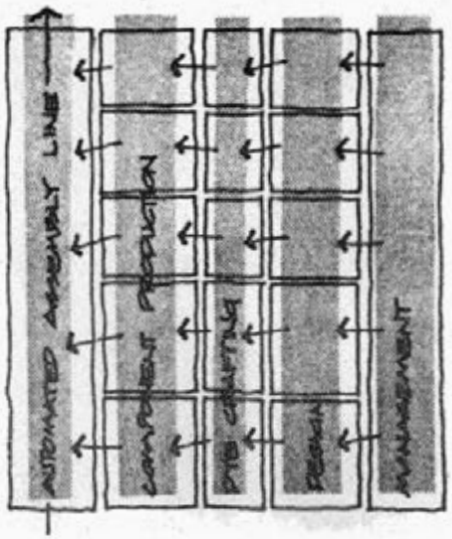


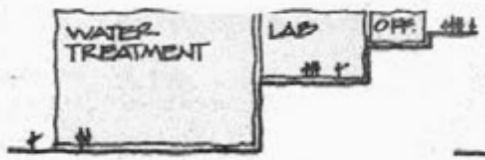


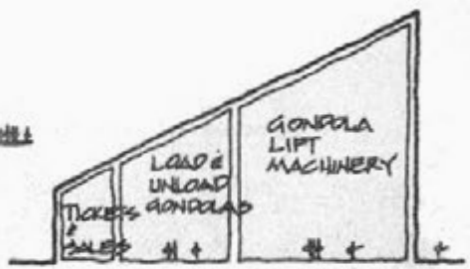




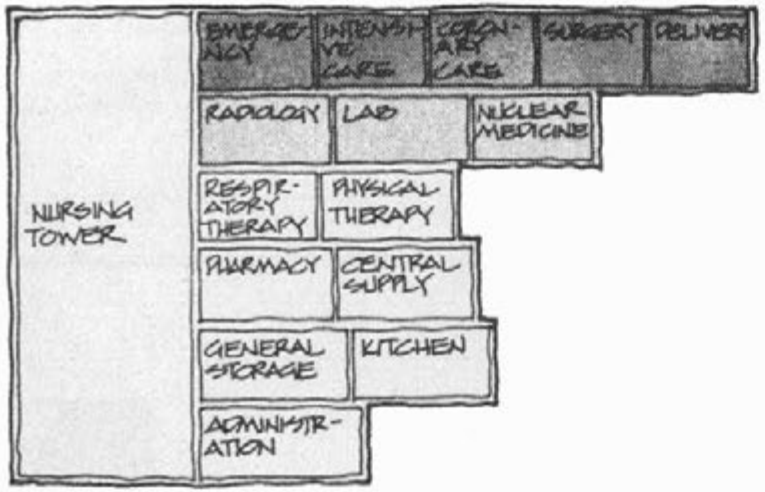




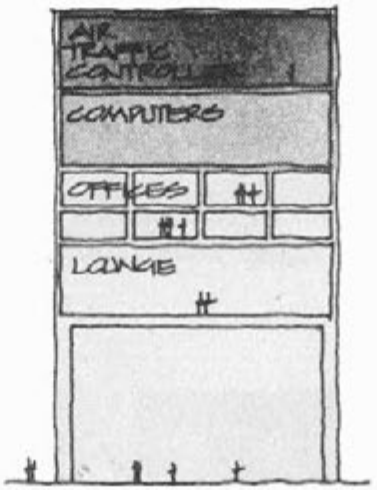




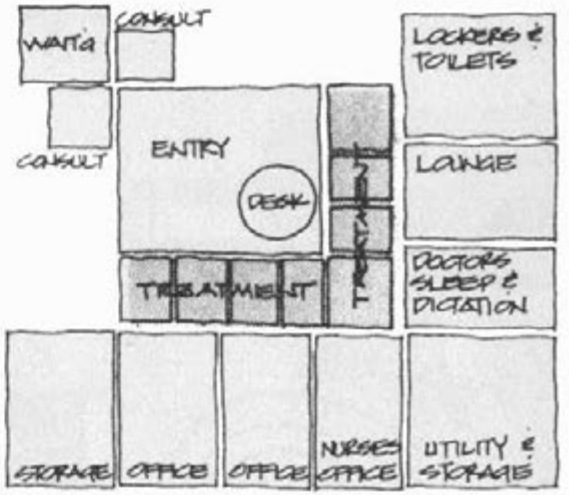
Degree of Emergency or Critical Situations



HOSPITAL



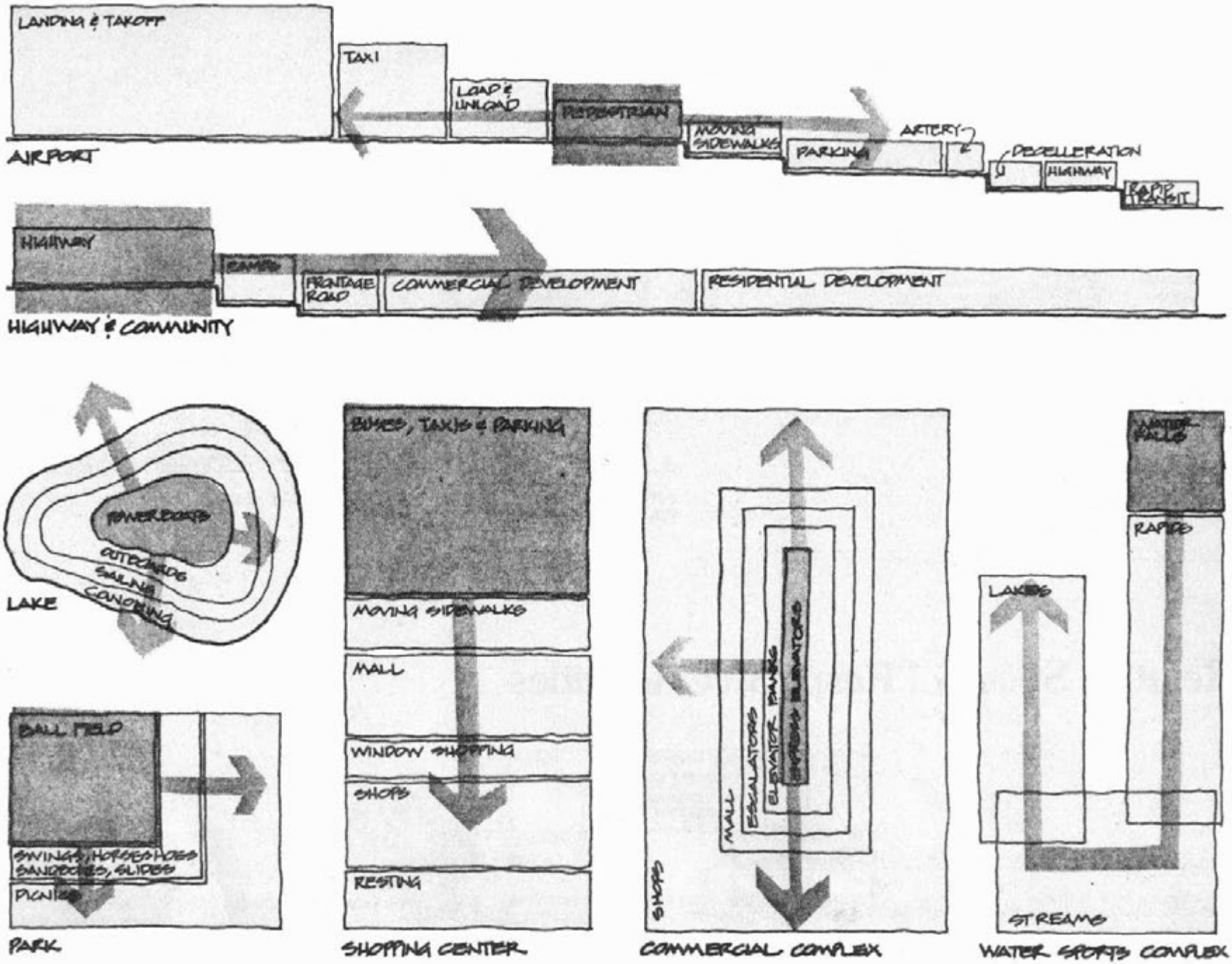
AIR TRAFFIC CONTROL TOWER



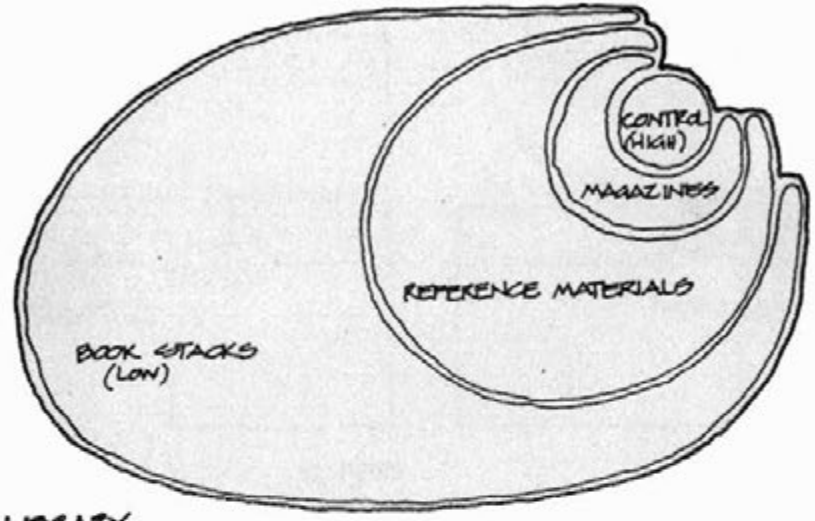
EMERGENCY SUITE

Relative Speed of Respective Activities

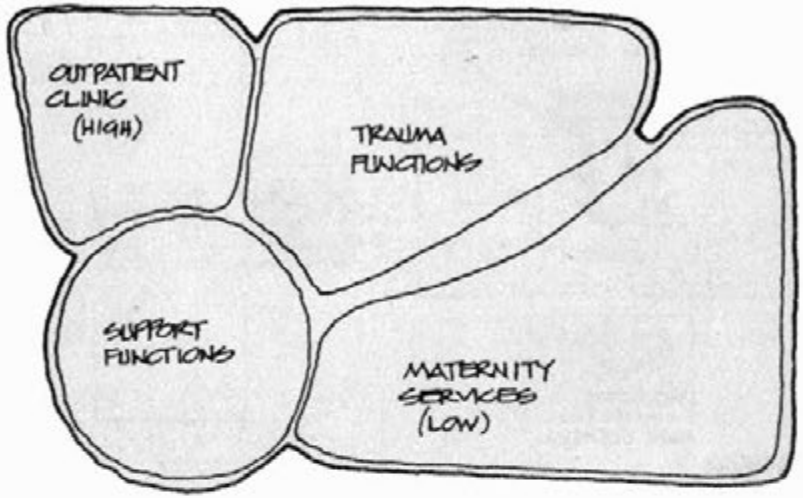
INTEGRATED HIGHWAY & SHOPPING COMPLEX


LANDING & TAKOFF
TAXI
LOAD & UNLOAD
PEDESTRIAN
MOVING SIDEWALKS
PARKING
ARTERY
DECELLERATION
HIGHWAY
AIRPORT
HIGHWAY
RAMPS
FRONTAGE ROAD
COMMERCIAL DEVELOPMENT
RESIDENTIAL DEVELOPMENT
HIGHWAY & COMMUNITY
POWERBOATS
OUTBOARDS
SAILING
CANOEING
LAKE
BALL FIELD
SWINGS, HORSESHOES
SANDBOXES, SLIDES
PICNICS
PARK
BUSES, TAXIS & PARKING
MOVING SIDEWALKS
MALL
WINDOW SHOPPING
SHOPS
RESTING
SHOPPING CENTER
SHOPS
MALL
ESCALATORS
ELEVATOR BANKS
EXPRESS ELEVATORS
COMMERCIAL COMPLEX
WATER FALLS
RAPIDS
LAKES
STREAMS
WATER SPORTS COMPLEX

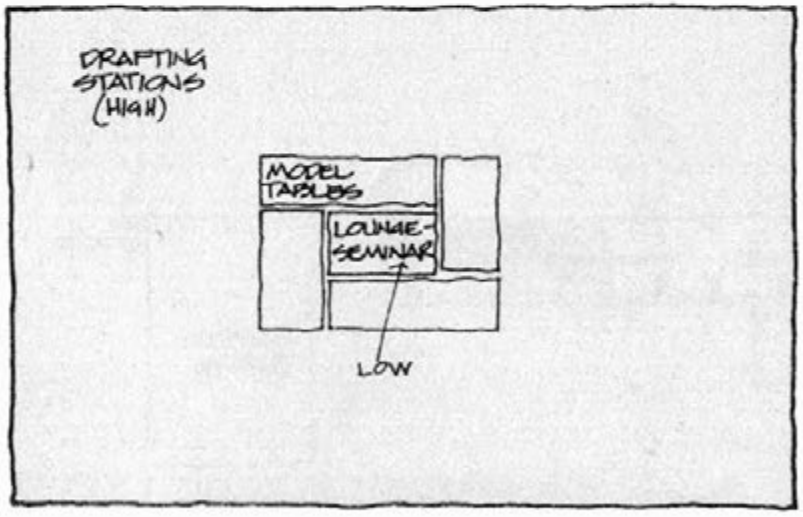
Frequency of Activity Occurrence



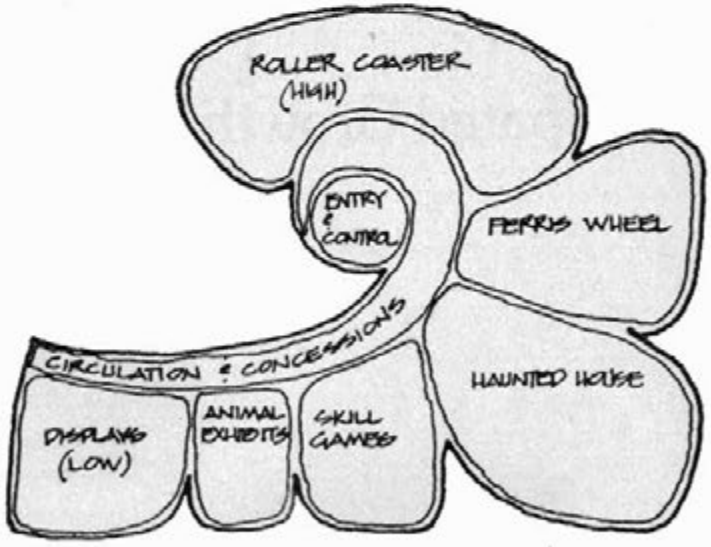
LIBRARY



MEDICAL COMPLEX

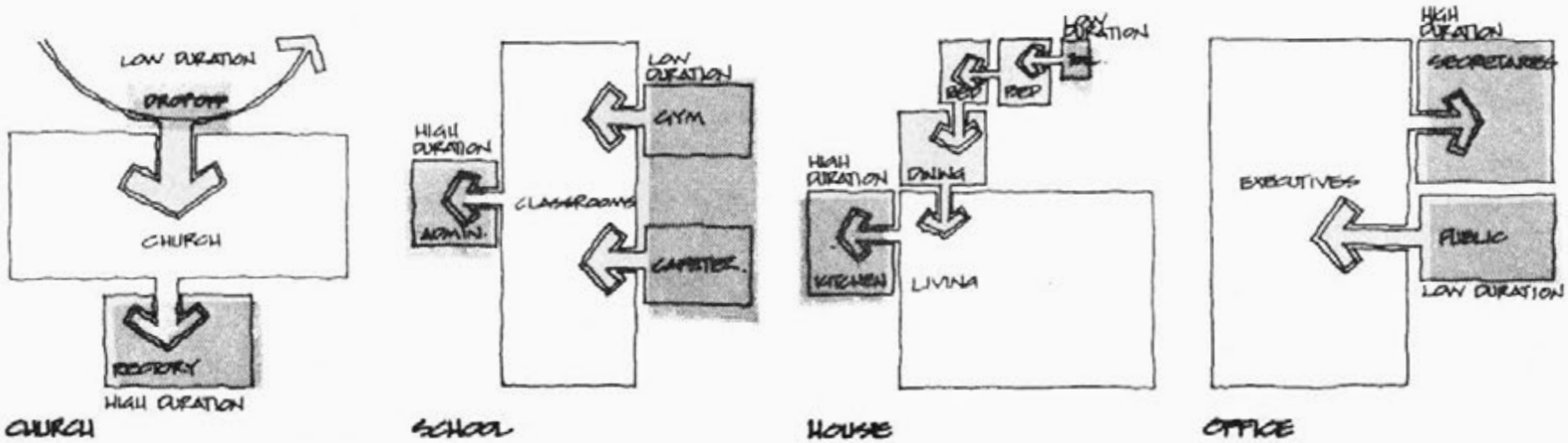


ARCHITECTURE STUDIO

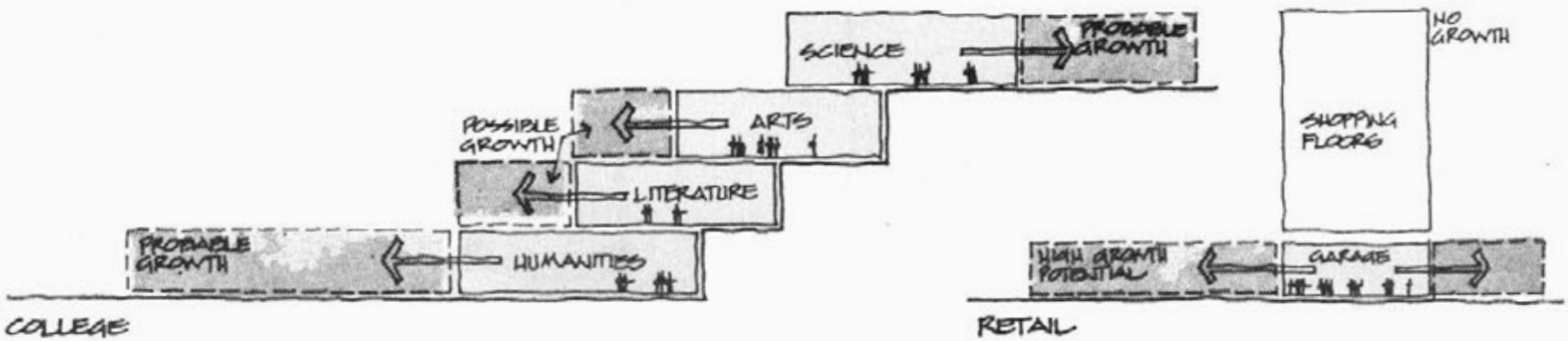


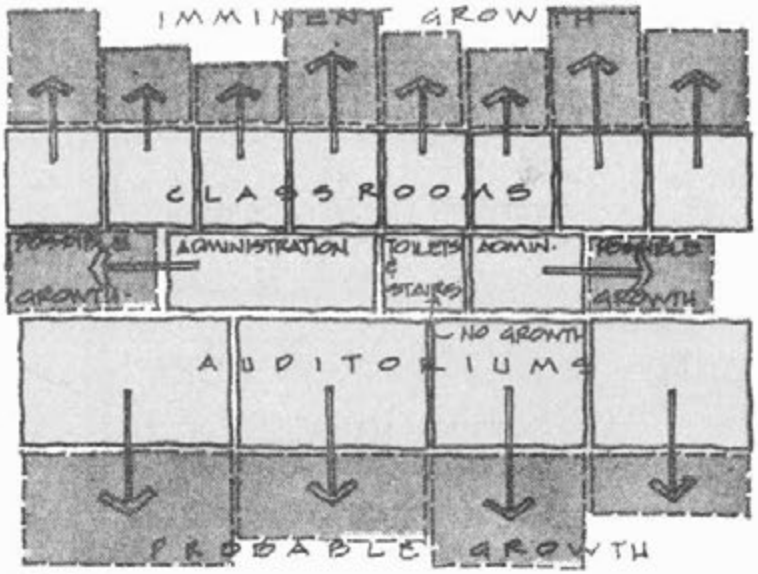
FAIRGROUNDS

Duration of Activities

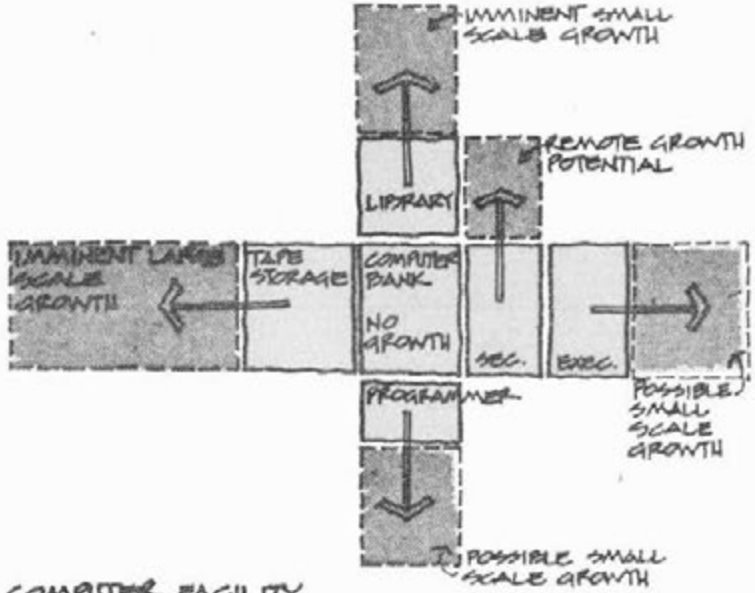


Anticipated Growth and Change

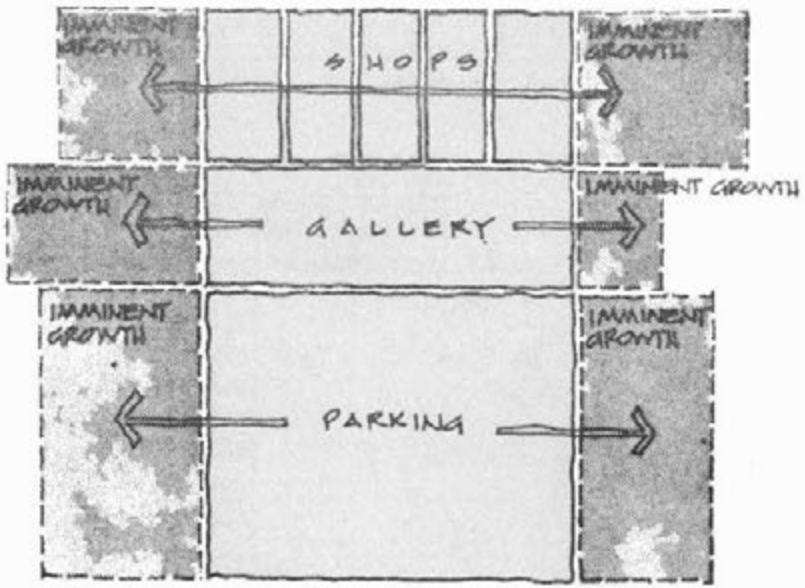




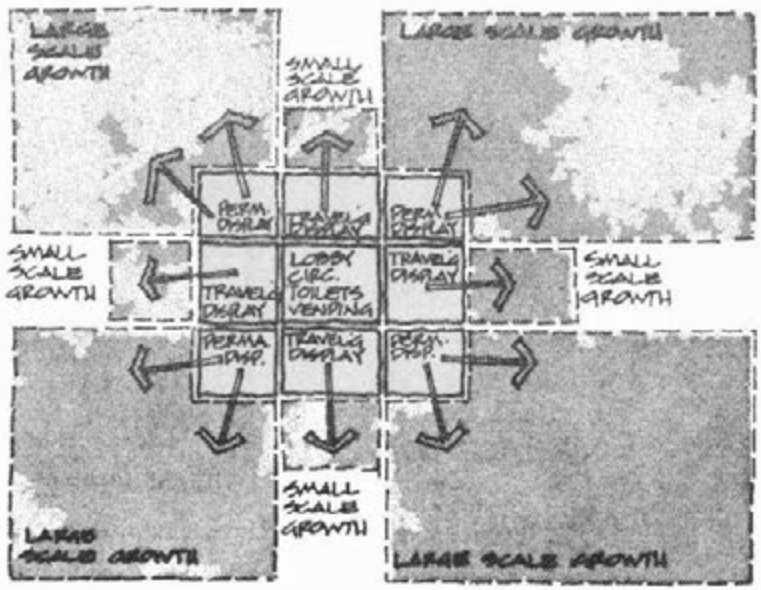
SCHOOL



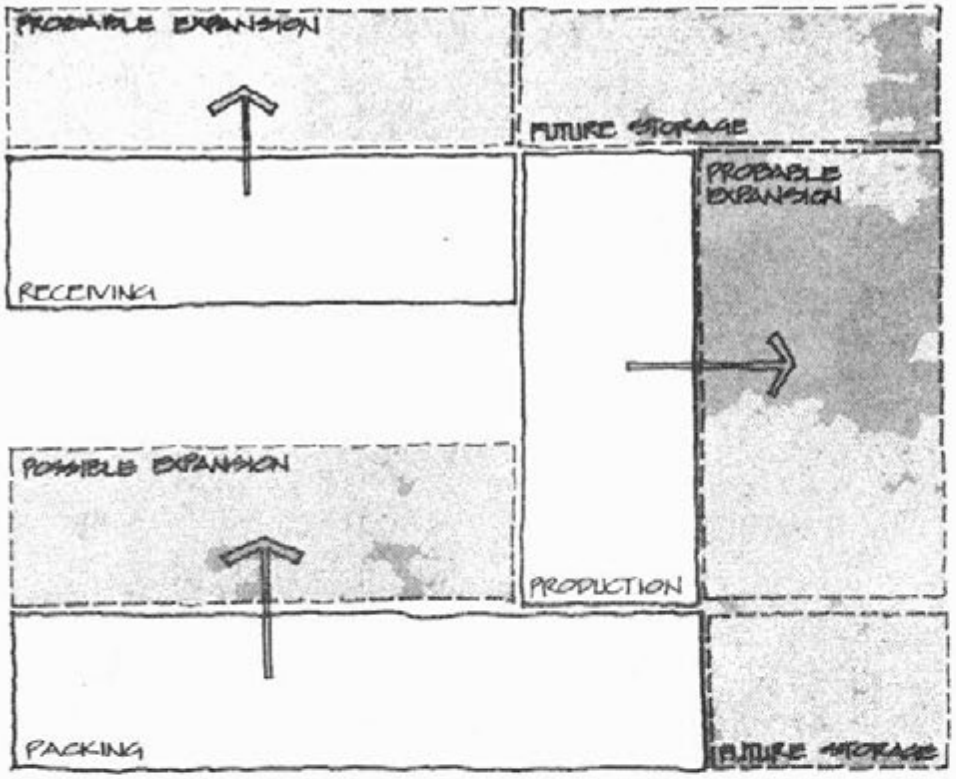
COMPUTER FACILITY



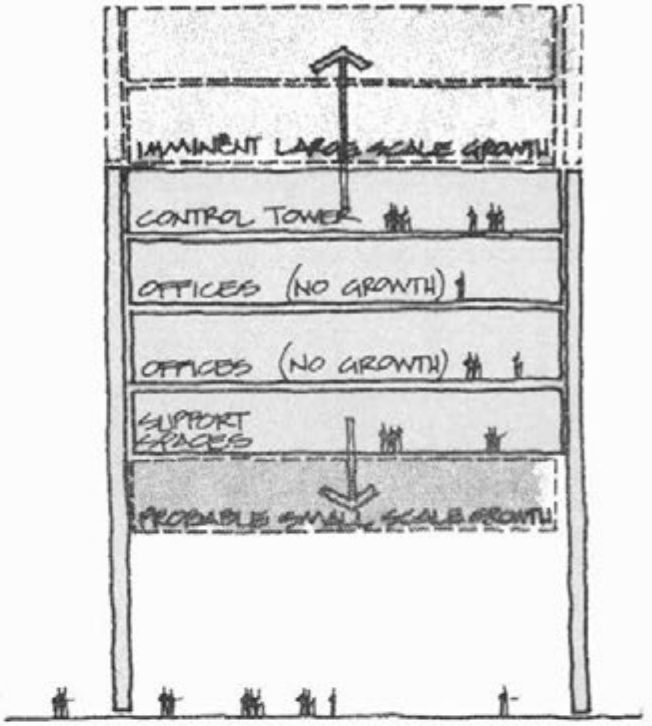
SHOPPING CENTER



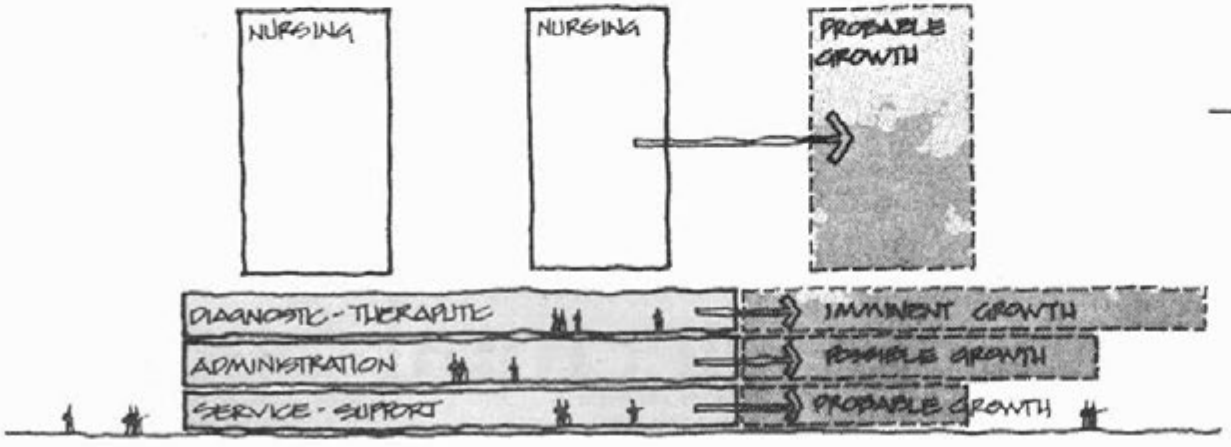
ART MUSEUM



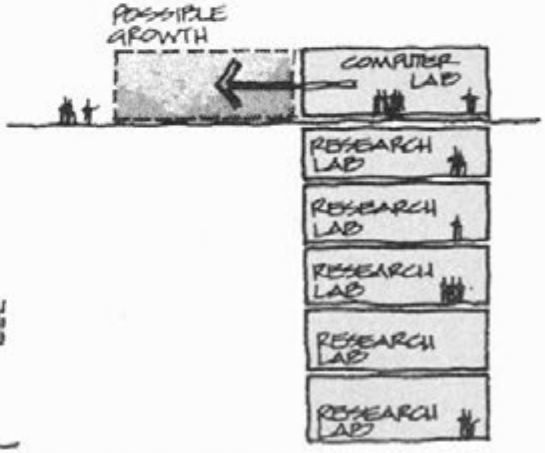
MANUFACTURER



AIR CONTROL TOWER



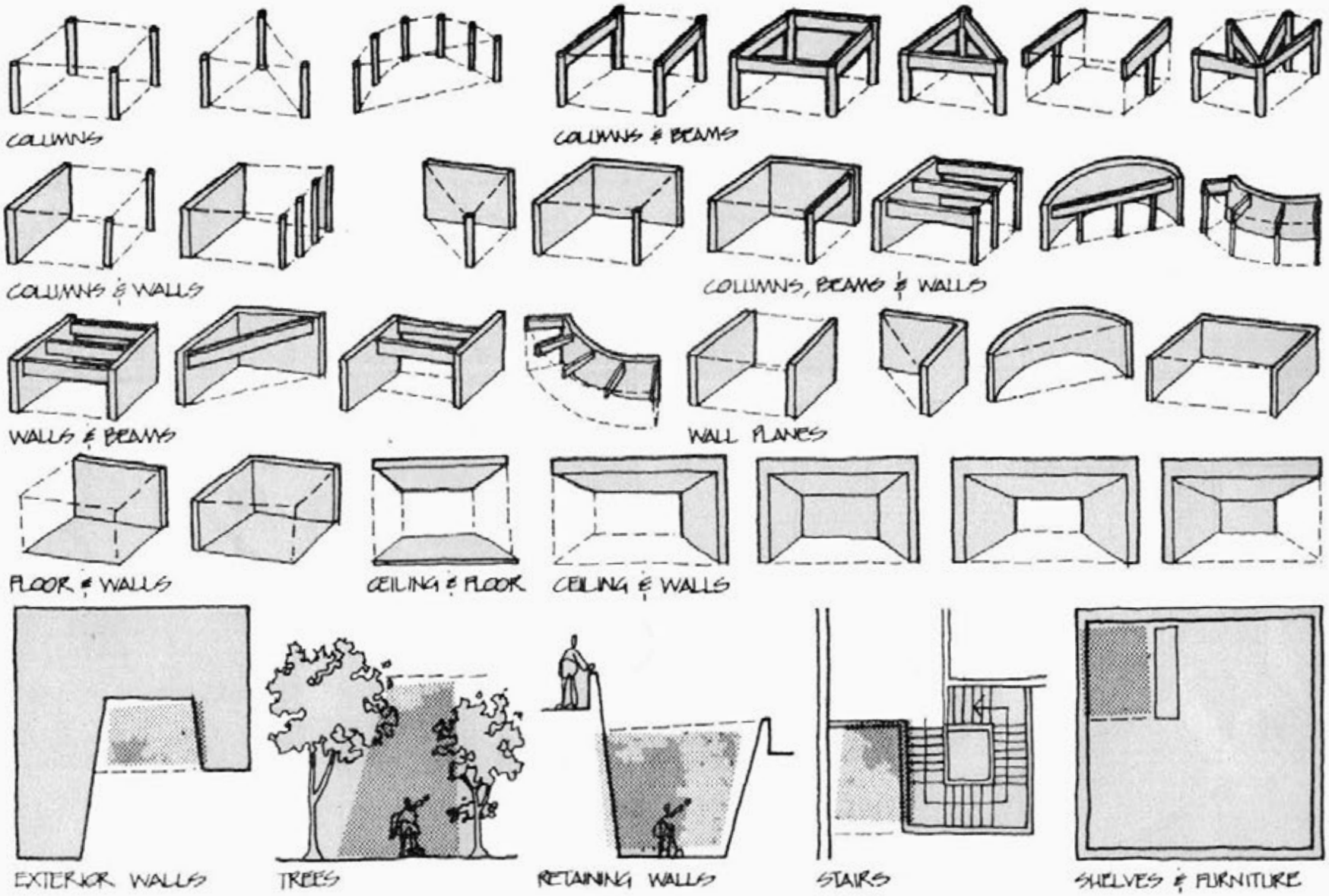
HEALTH CENTER



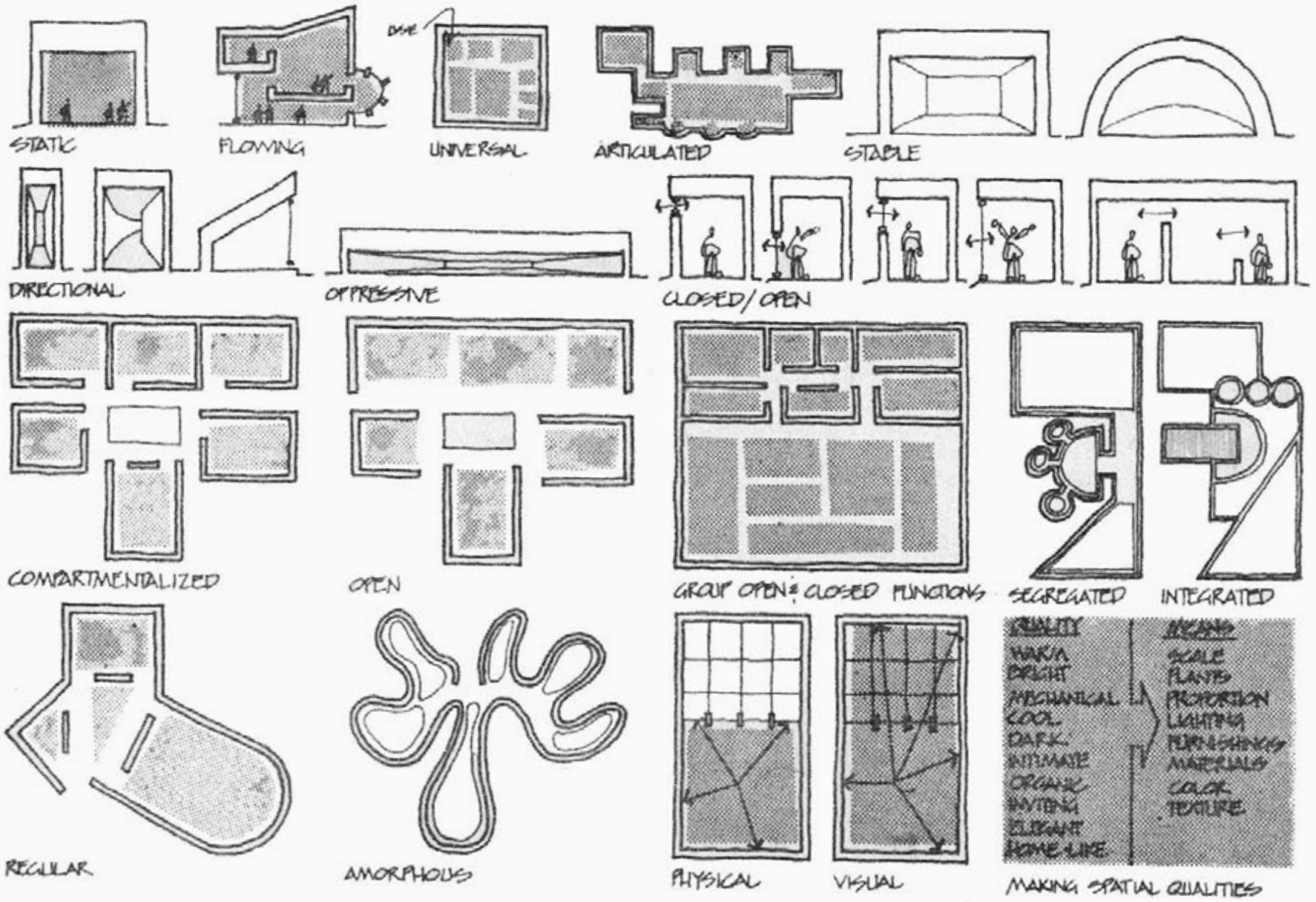
RESEARCH FACILITY

65 Architectural Space

Forming Space



Spatial Qualities

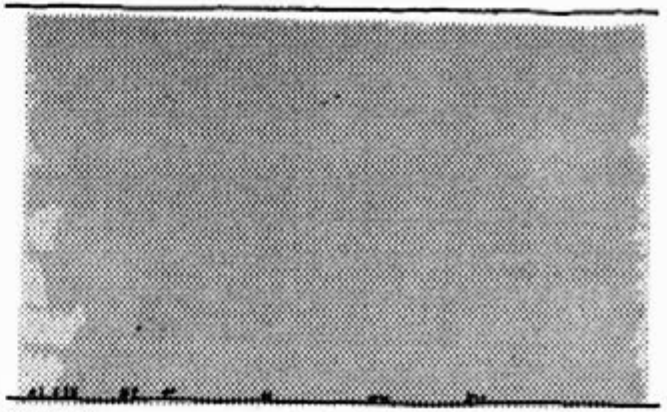


Scale Types

INTIMATE

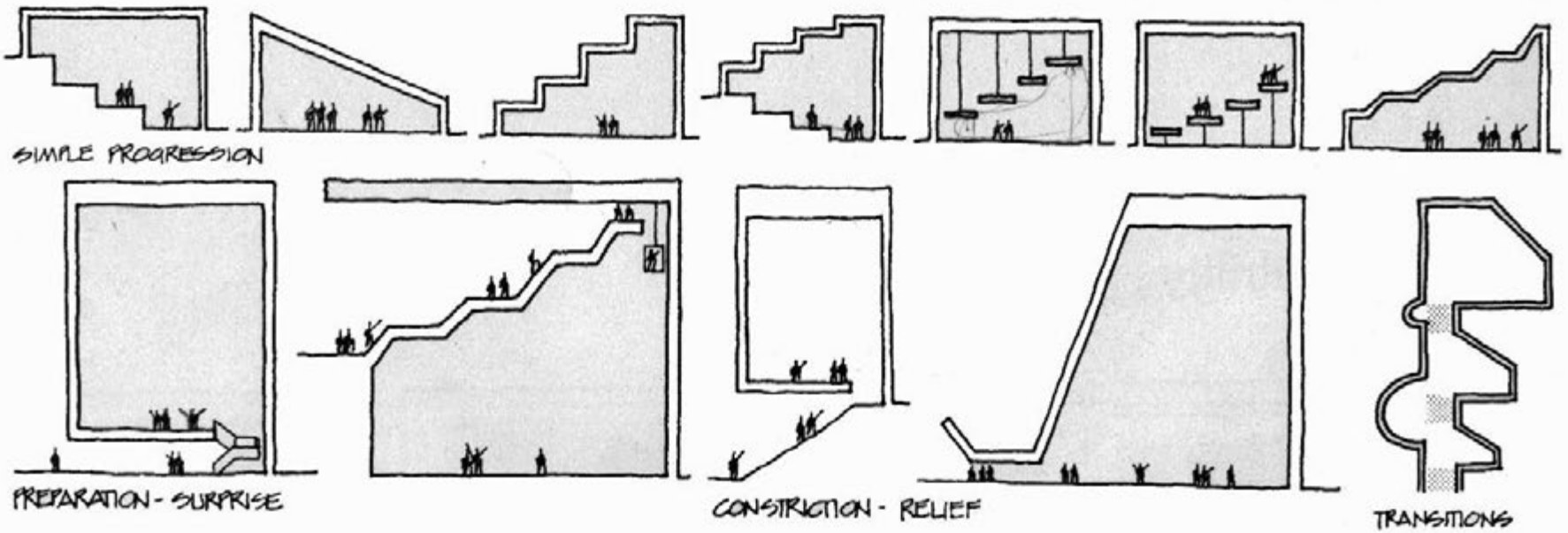
NORMAL

MONUMENTAL



SHOCK

Scalar Sequence

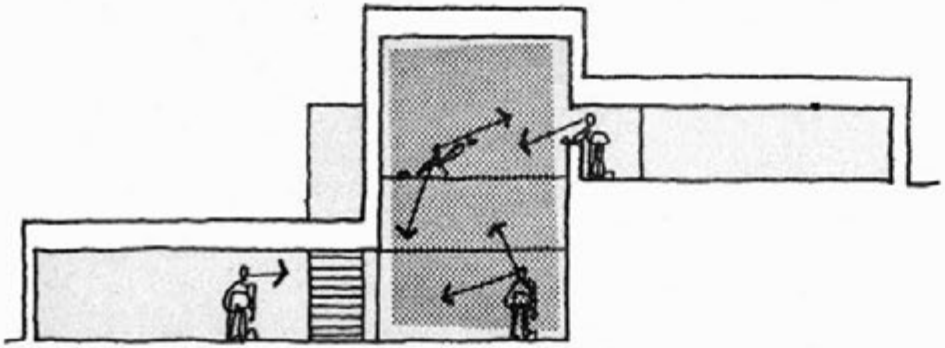


SIMPLE PROGRESSION

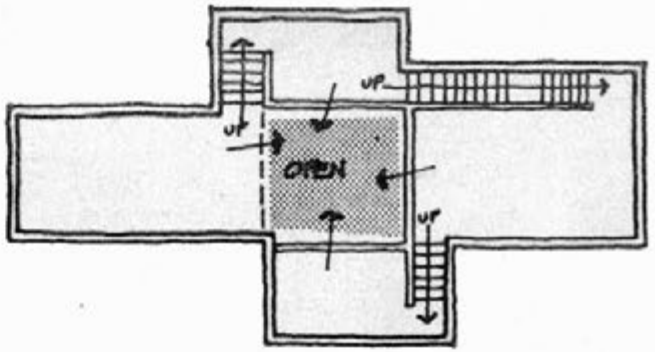
PREPARATION - SURPRISE

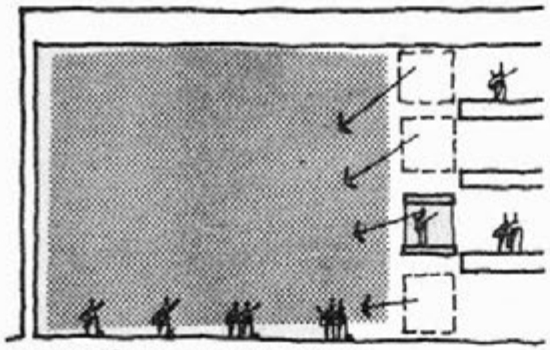
CONSTRICTION - RELIEF

TRANSITIONS

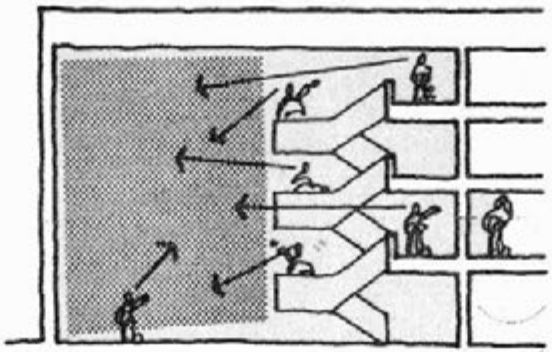


MULTIPLE VANTAGE POINTS OF SPACE PERCEPTION

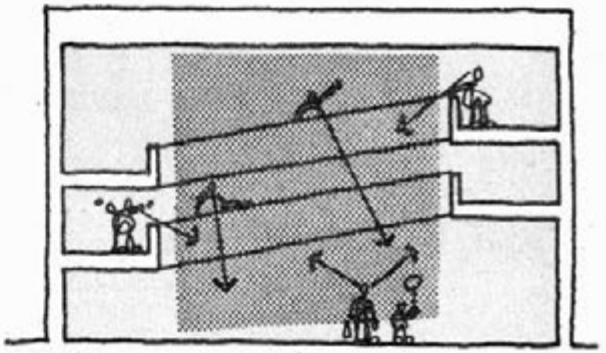




ELEVATOR AS VANTAGE POINT

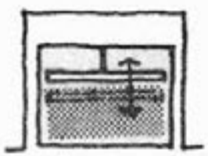


STAIRS

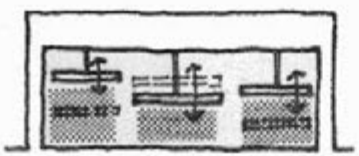


RAMP

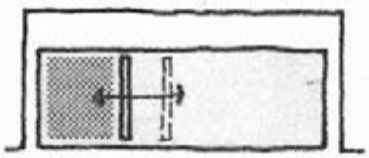
Scalar Flexibility



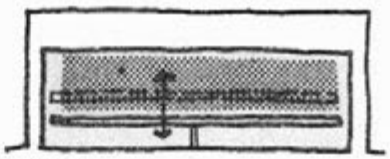
CEILING



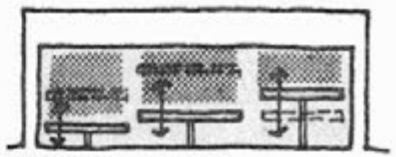
MULTIPLE CEILING



WALL

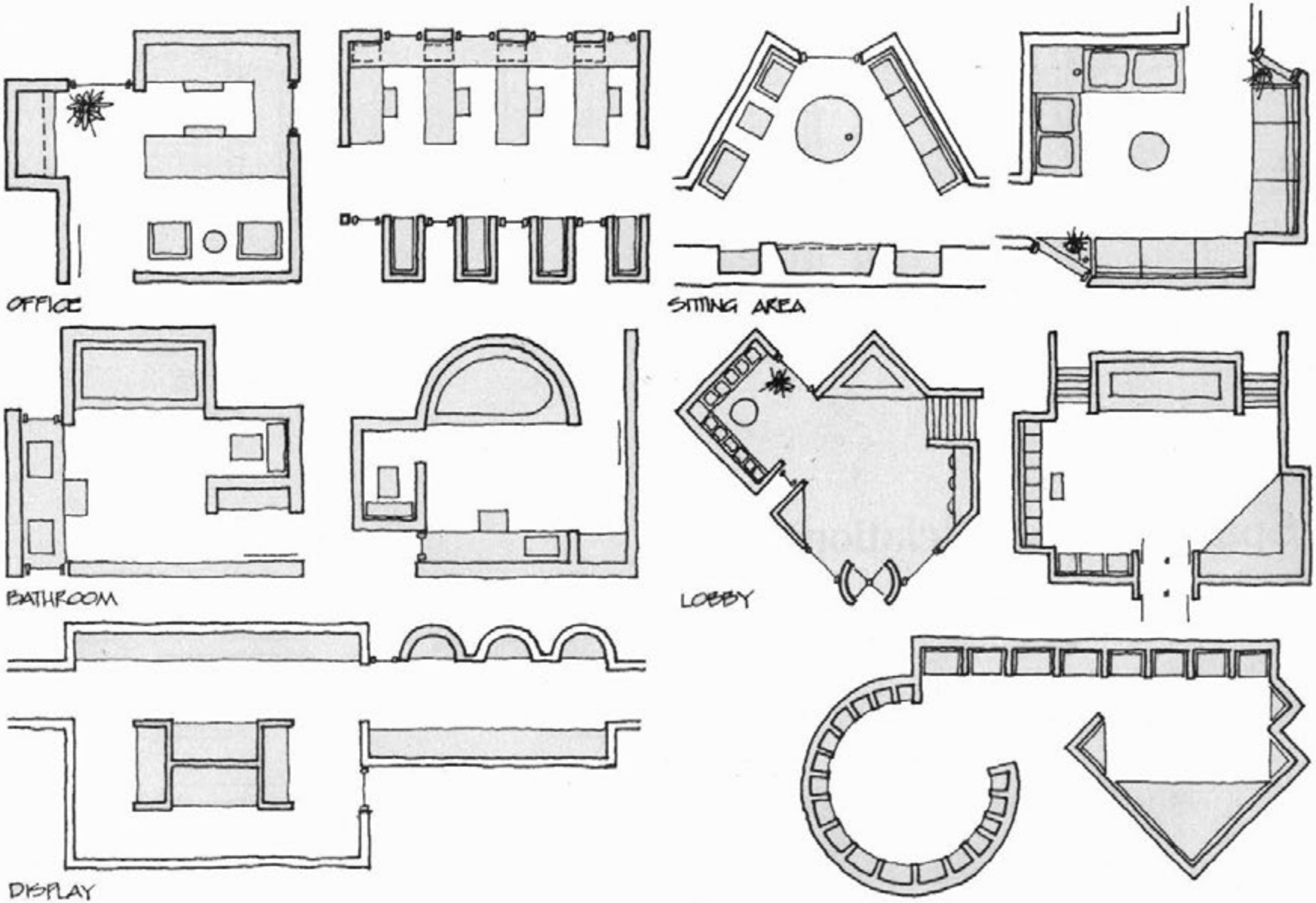


FLOOR

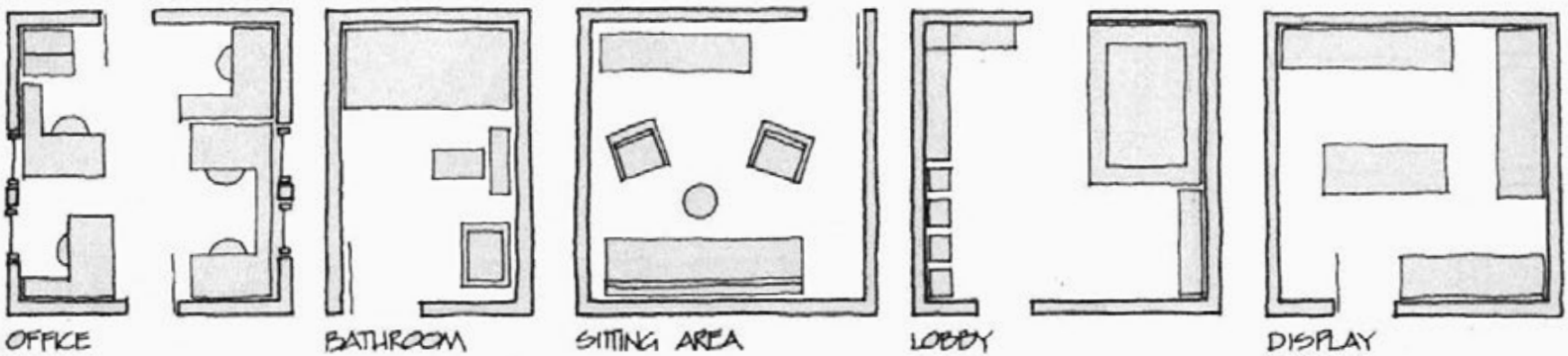


MULTIPLE FLOOR

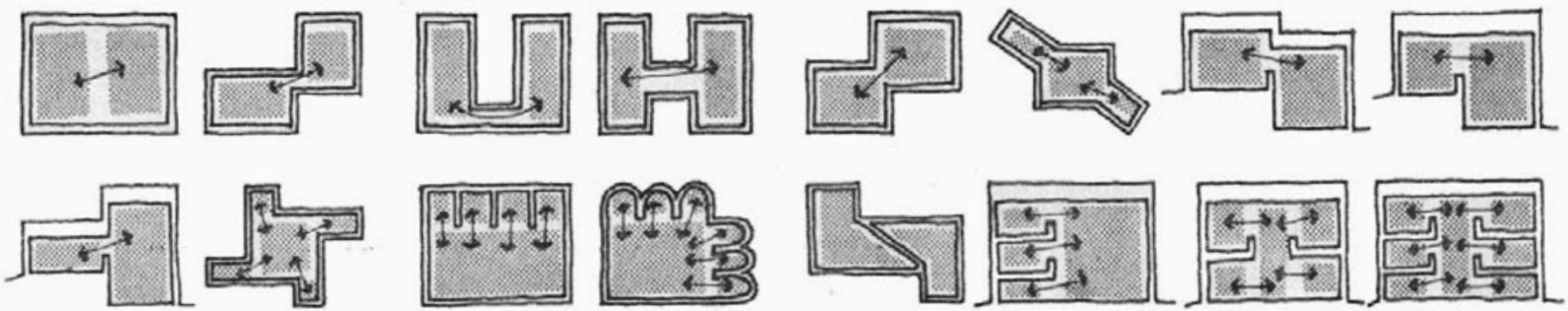
Tailored Space

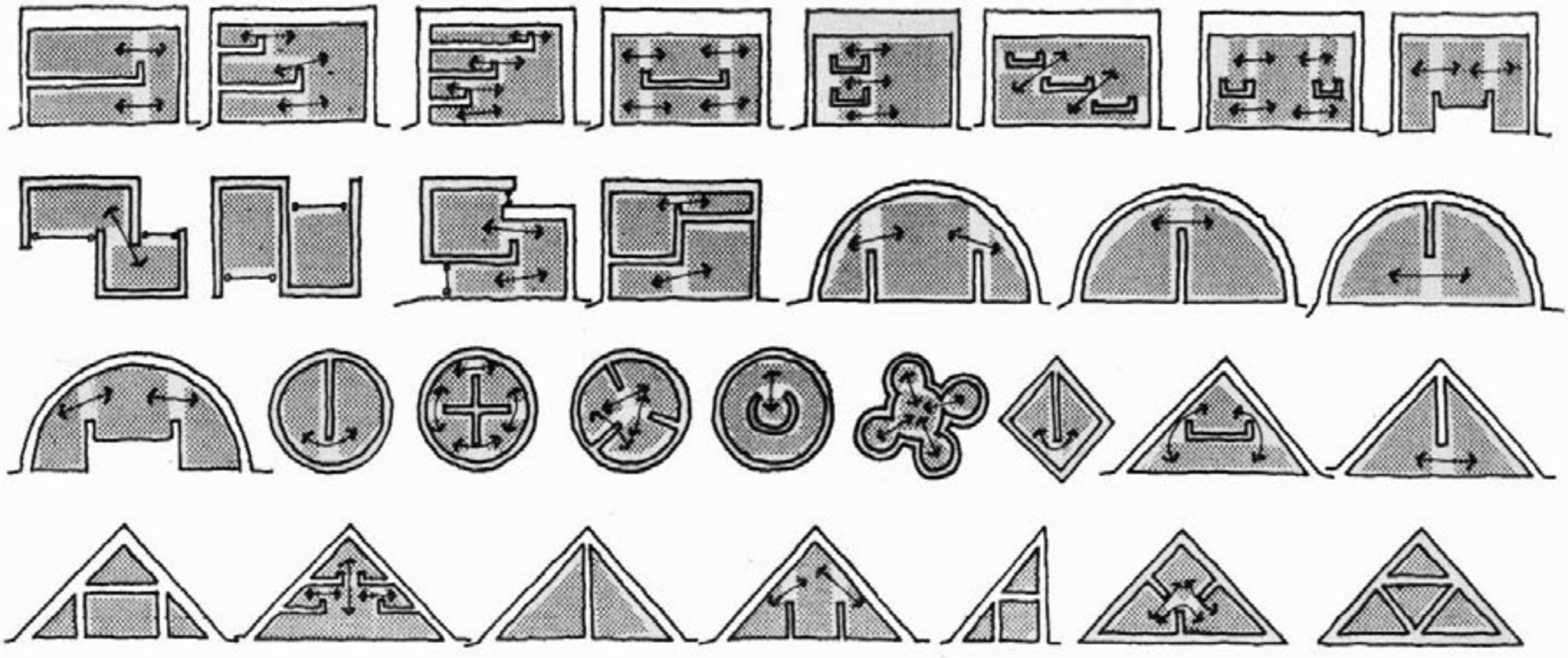


Anonymous Space

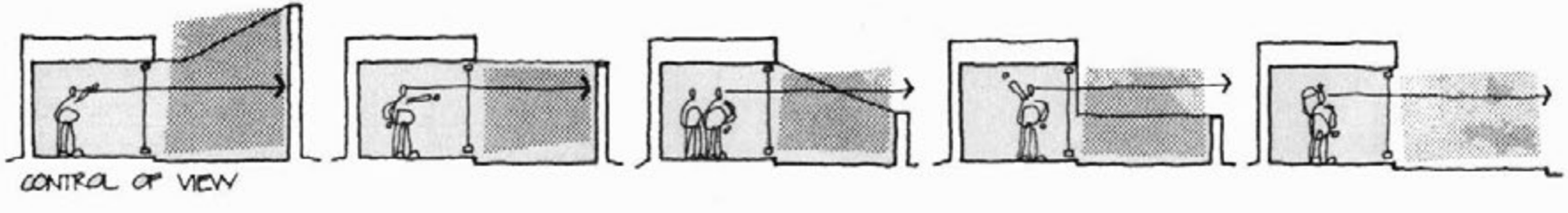


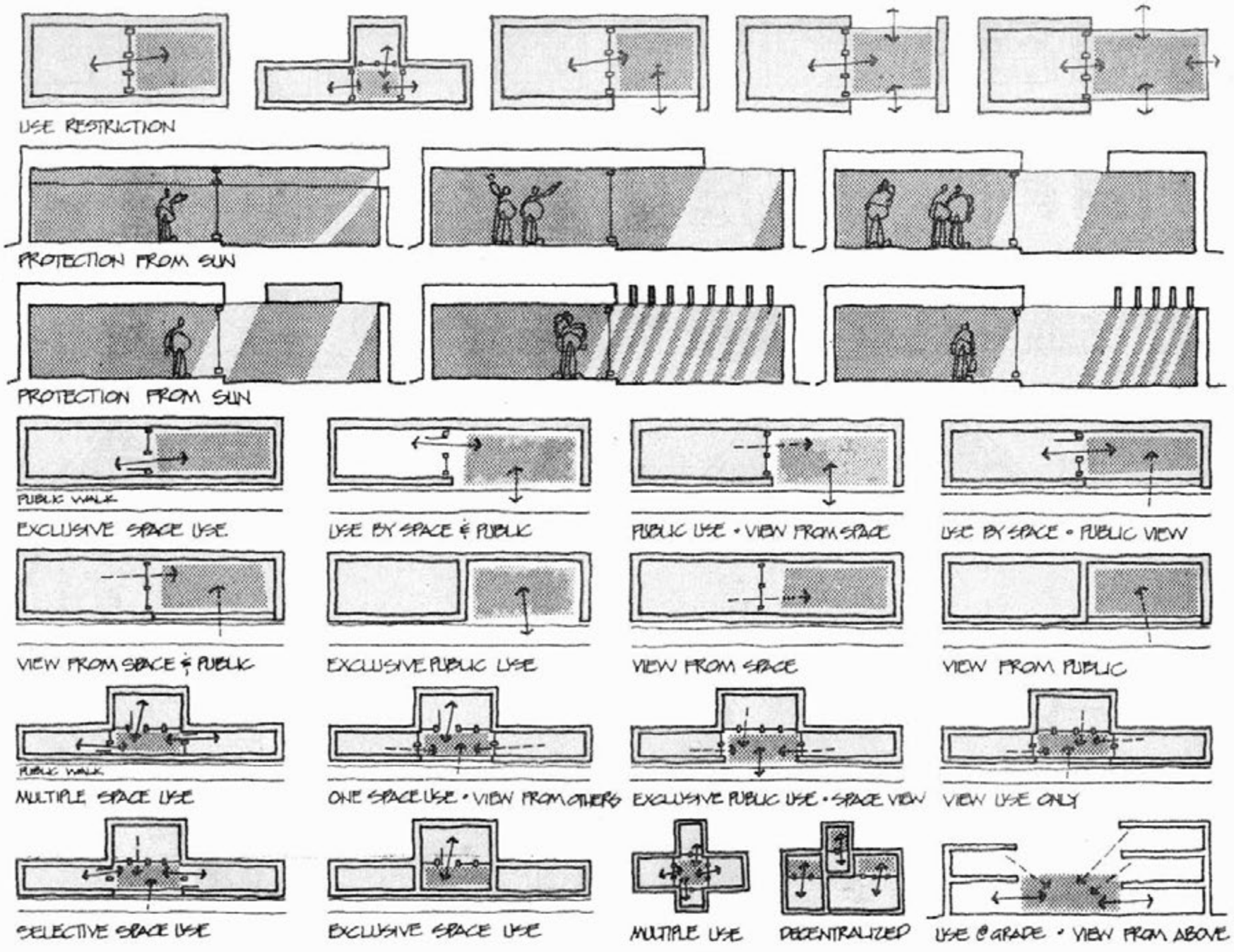
Space to Space Relationships



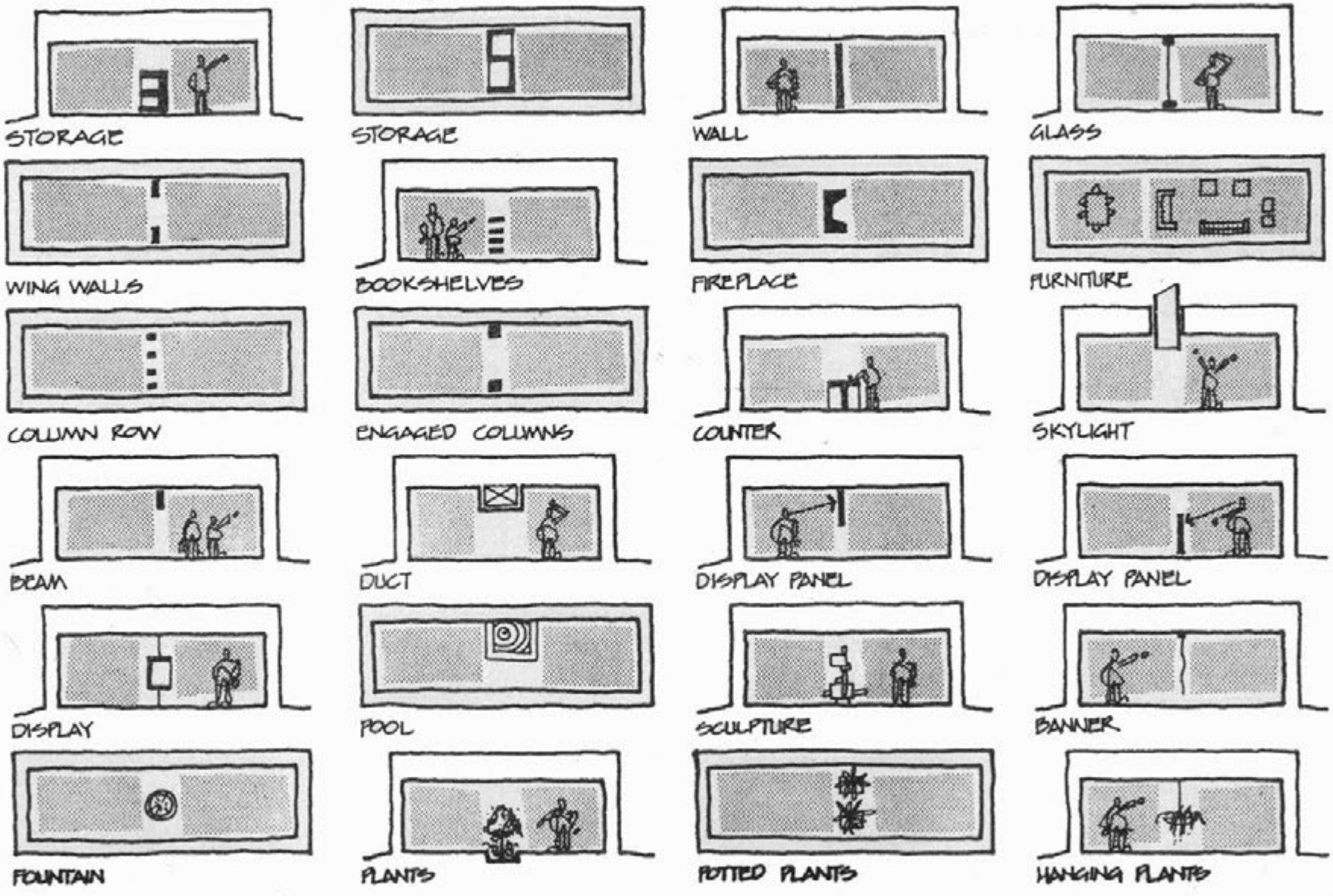


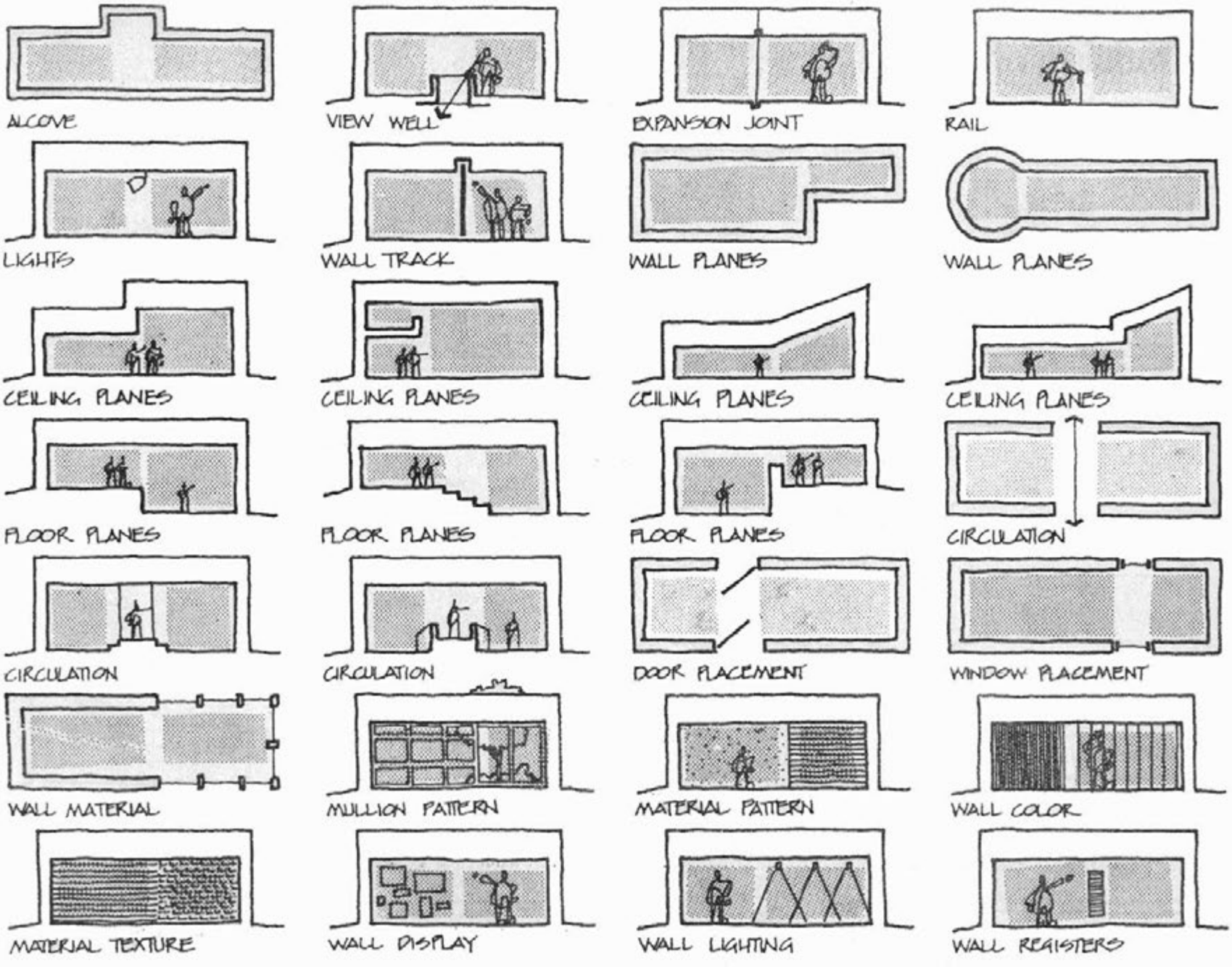
Inside—Outside Space

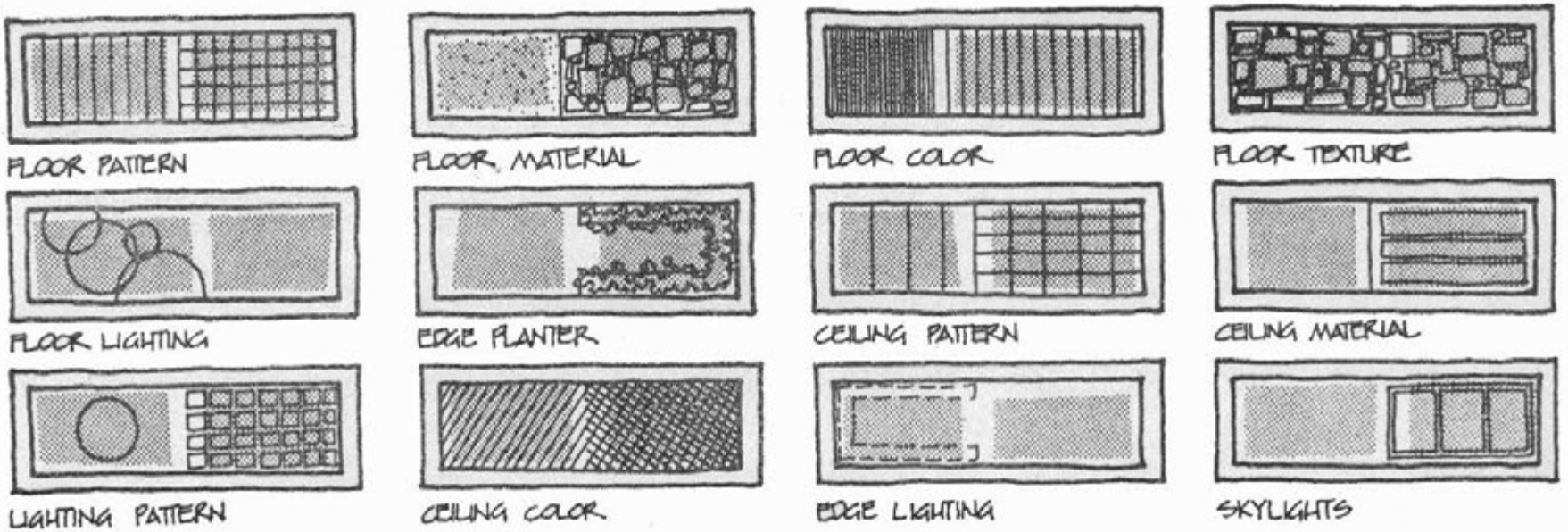



USE RESTRICTION
PROTECTION FROM SUN
PROTECTION FROM SUN
PUBLIC WALK
EXCLUSIVE SPACE USE
USE BY SPACE & PUBLIC
PUBLIC USE • VIEW FROM SPACE
USE BY SPACE • PUBLIC VIEW
VIEW FROM SPACE & PUBLIC
EXCLUSIVE PUBLIC USE
VIEW FROM SPACE
VIEW FROM PUBLIC
PUBLIC WALK
MULTIPLE SPACE USE
ONE SPACE USE • VIEW FROM OTHERS
EXCLUSIVE PUBLIC USE • SPACE VIEW
VIEW USE ONLY
SELECTIVE SPACE USE
EXCLUSIVE SPACE USE
MULTIPLE USE
DECENTRALIZED
USE @ GRADE • VIEW FROM ABOVE

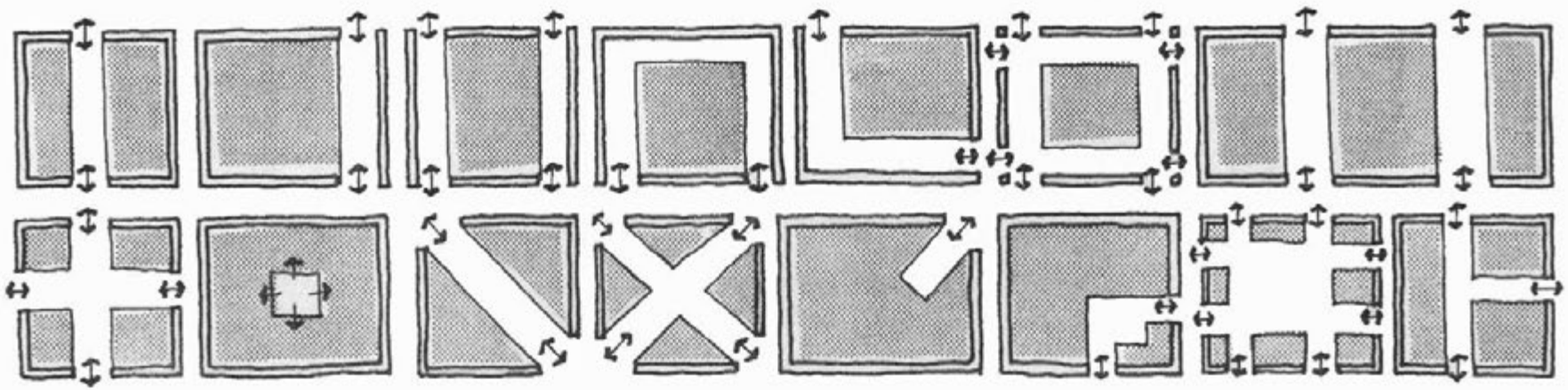
Division of Space

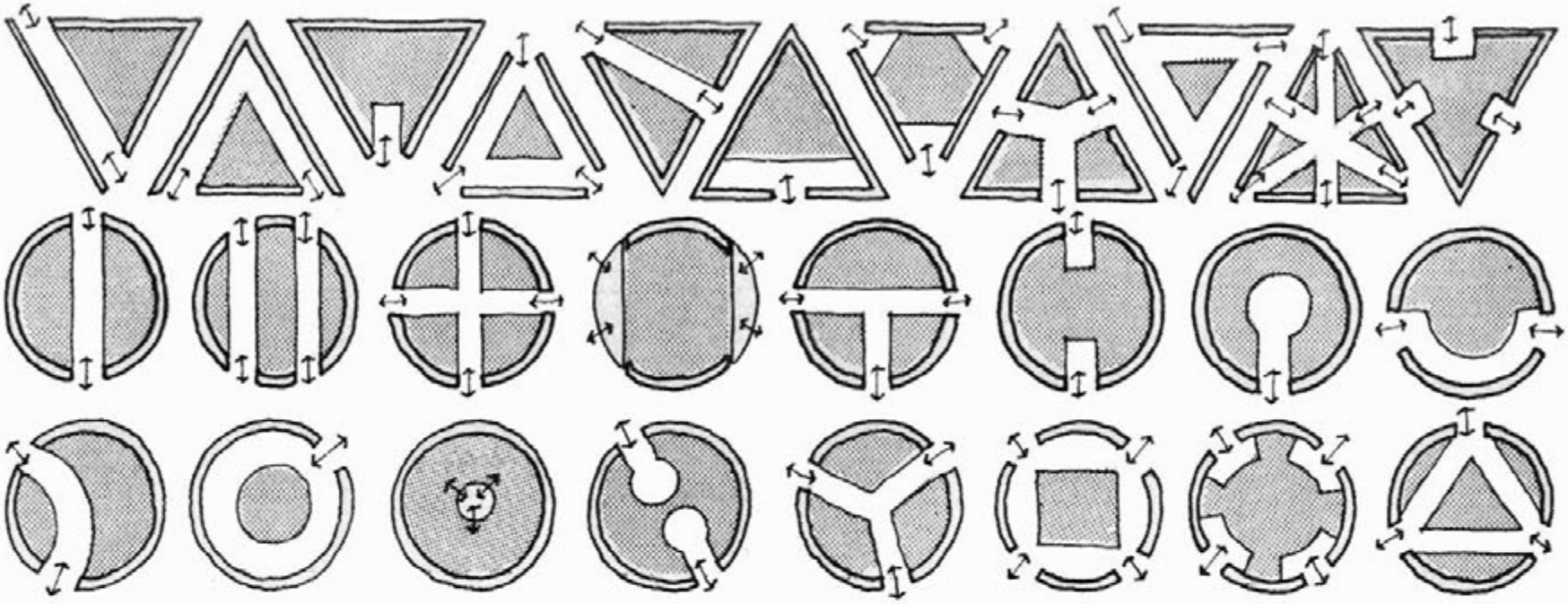



ALCOVE
VIEW WELL
EXPANSION JOINT
RAIL
LIGHTS
WALL TRACK
WALL PLANES
WALL PLANES
CEILING PLANES
CEILING PLANES
CEILING PLANES
CEILING PLANES
FLOOR PLANES
FLOOR PLANES
FLOOR PLANES
CIRCULATION
CIRCULATION
CIRCULATION
DOOR PLACEMENT
WINDOW PLACEMENT
WALL MATERIAL
MULLION PATTERN
MATERIAL PATTERN
WALL COLOR
MATERIAL TEXTURE
WALL DISPLAY
WALL LIGHTING
WALL REGISTERS

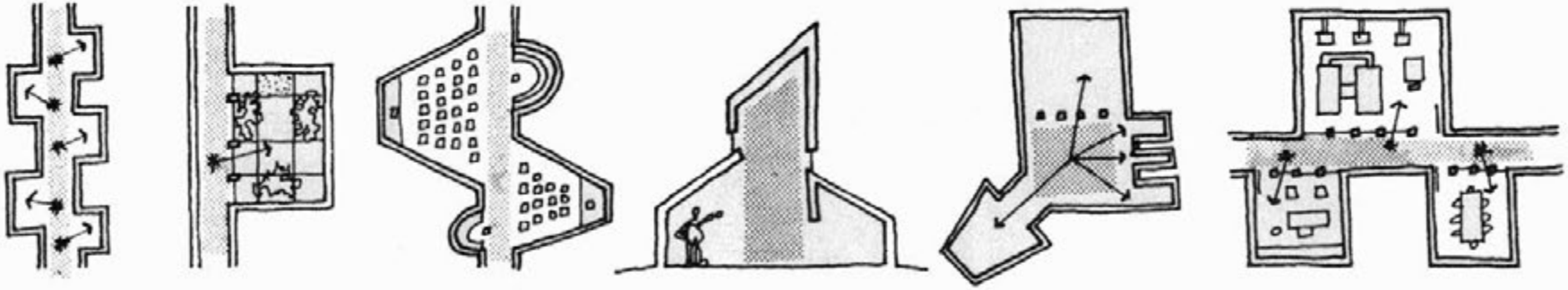


Door Placement, Circulation and Use Zones

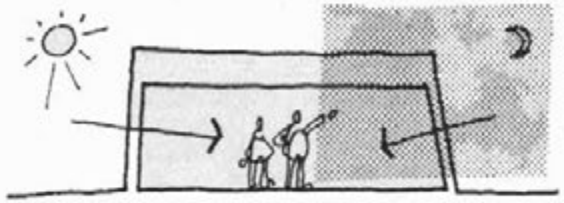




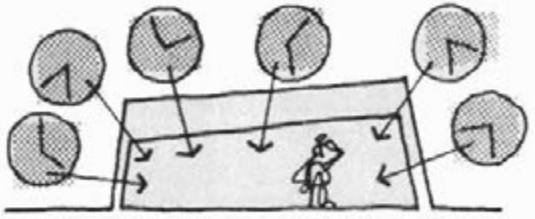
Circulation as a Space



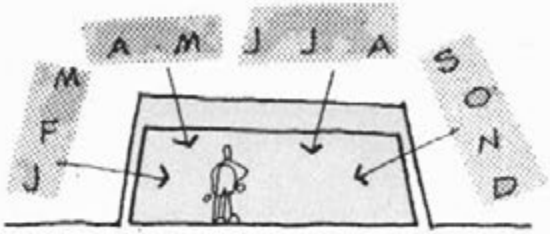
Multiuse of Space



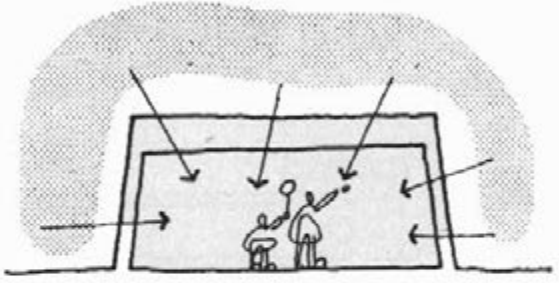
DAY - NIGHT USE



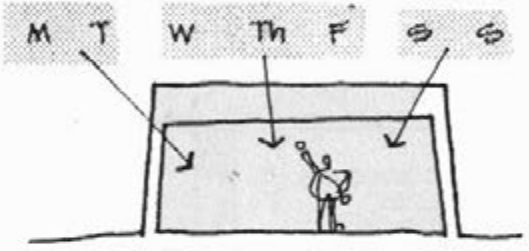
DIFFERENT TIMES OF DAY



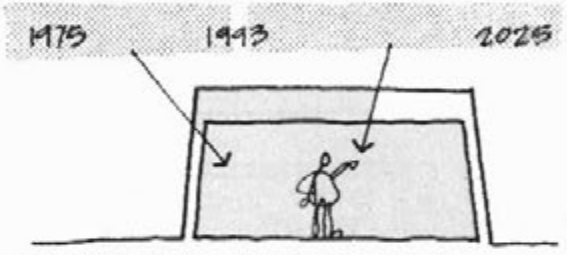
DIFFERENT TIMES OF YEAR



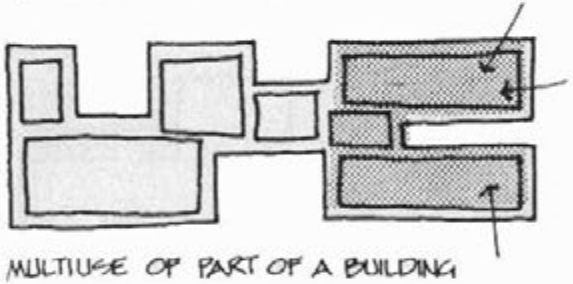
SIMULTANEOUS MULTIUSE



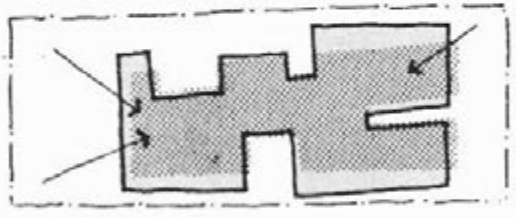
DIFFERENT DAYS OF THE WEEK



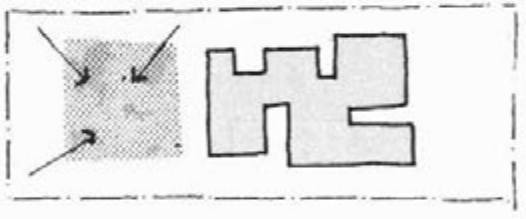
LONG TERM USE TRANSFER



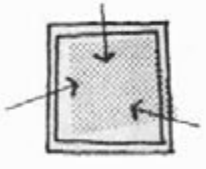
MULTIUSE OF PART OF A BUILDING



MULTIUSE OF ENTIRE BUILDING



MULTIUSE OF EXTERIOR AREAS

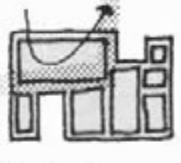


SIMILAR USES

DIFFERENT USES

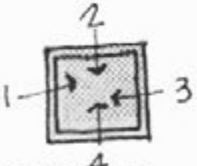
SIMILAR PEOPLE USING

DIFFERENT PEOPLE USING

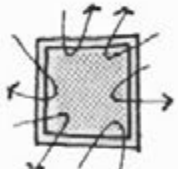


ZONE FOR SECURITY

ZONE FOR HVAC

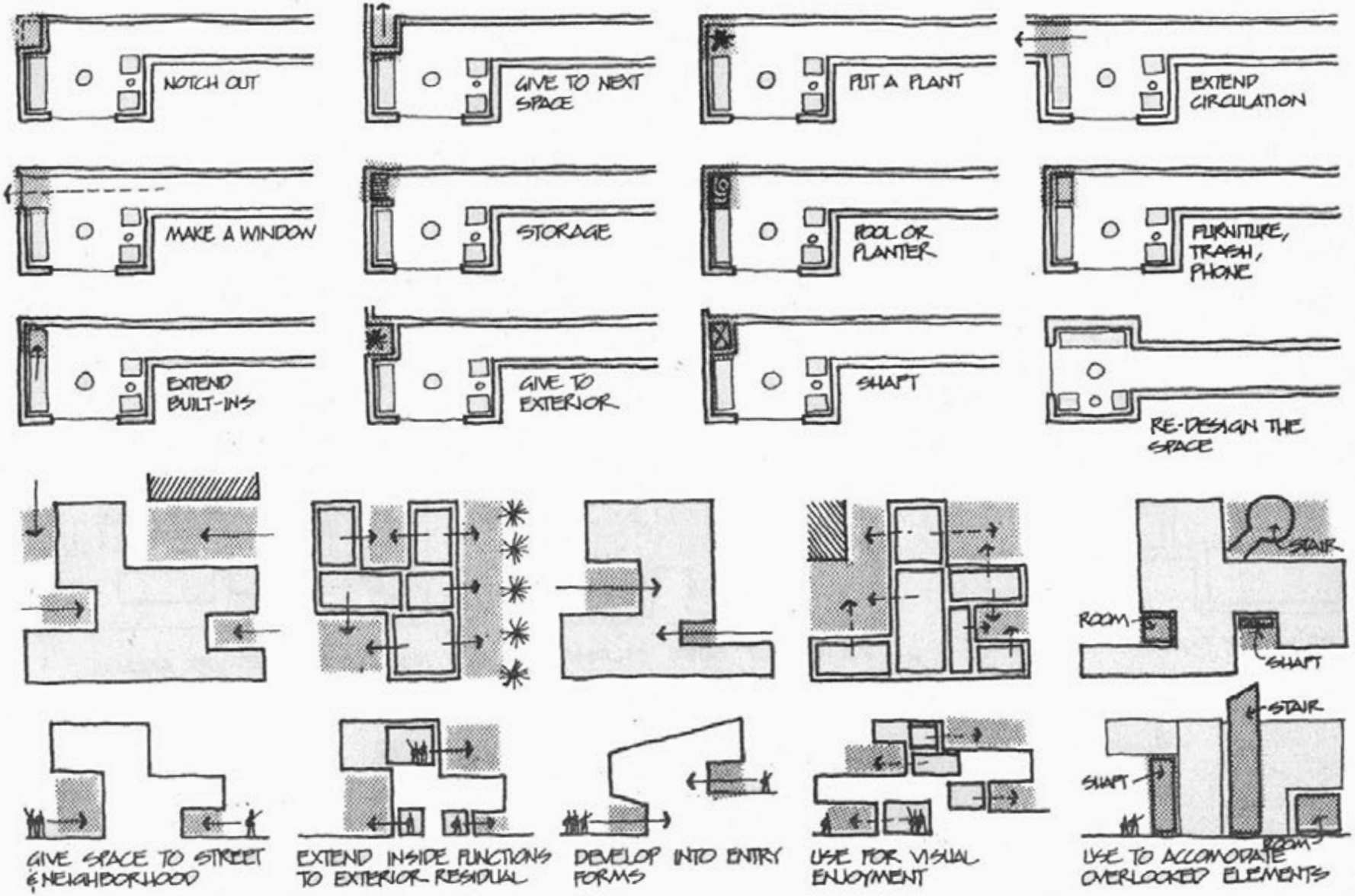


SCHEDULED USES

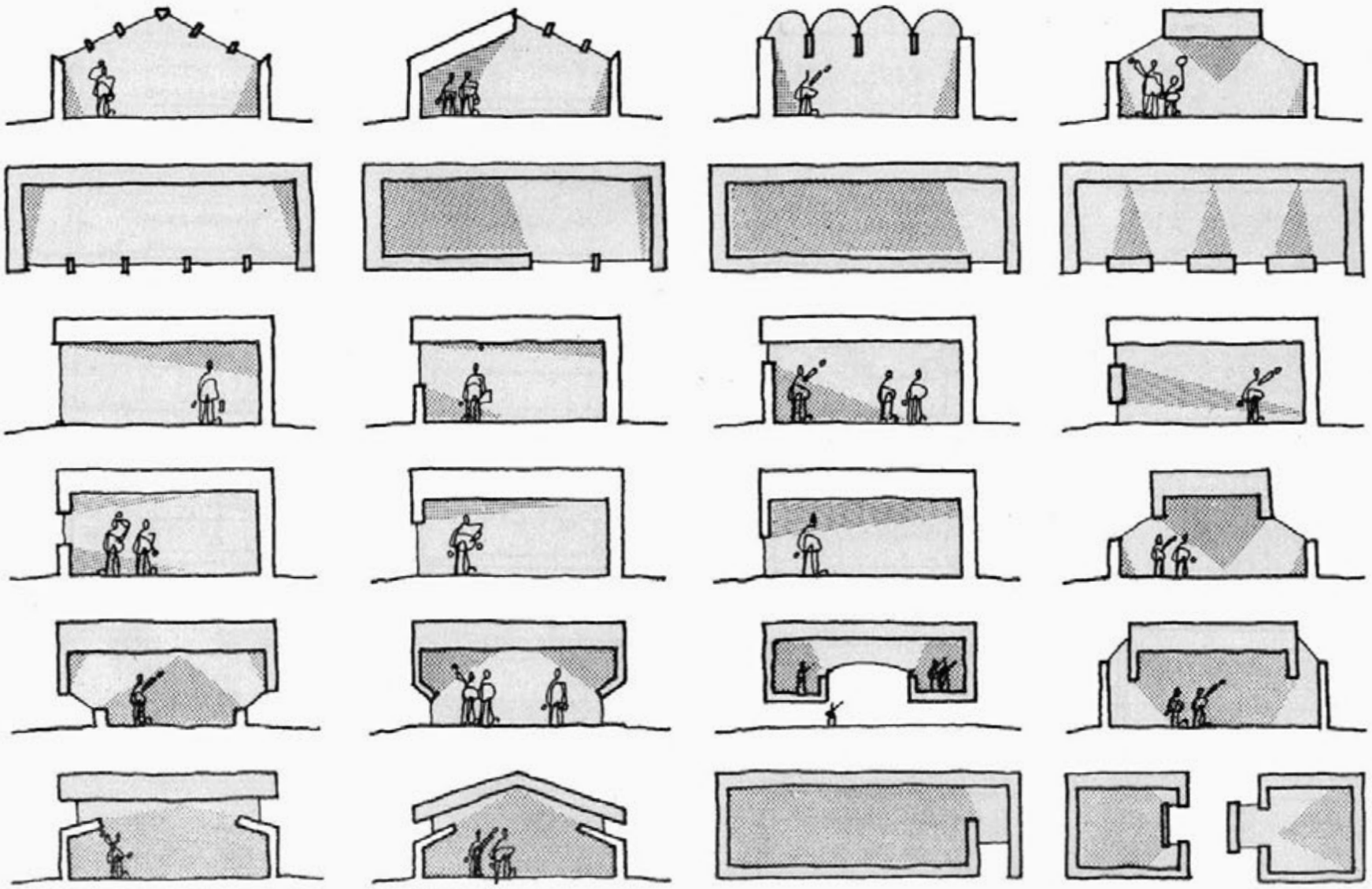


FREE USE

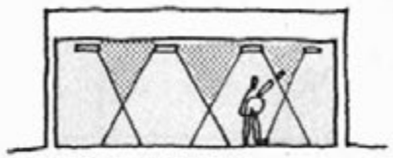
Dealing with Residual Space

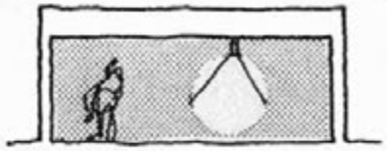


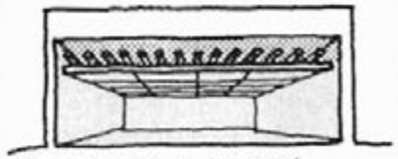
Natural Lighting

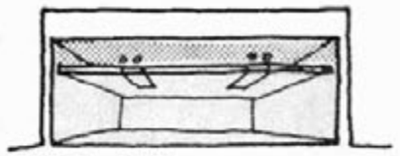


Artificial Lighting


GENERAL LIGHTING


SPOT LIGHT


CEILING AS A LIGHT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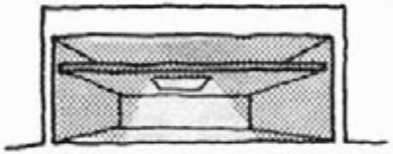
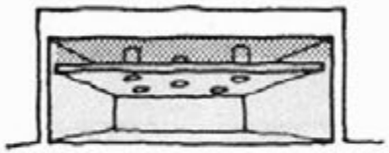
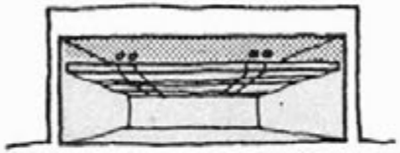
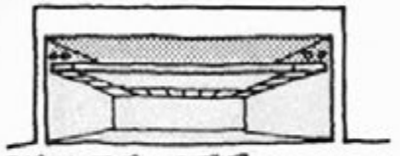
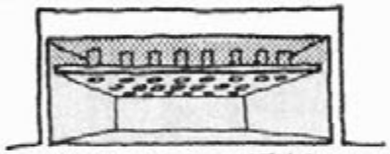
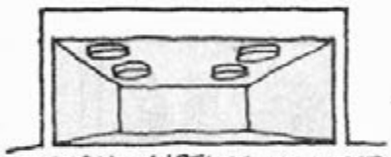

FOCUS

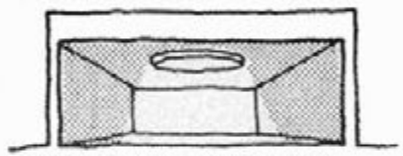

CANS

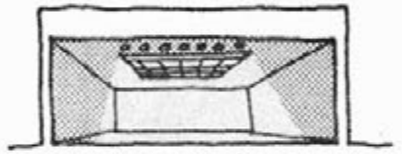

GRIDWORK OF STRIPS

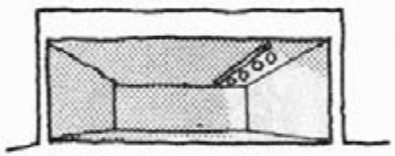

PERIMETER STRIP

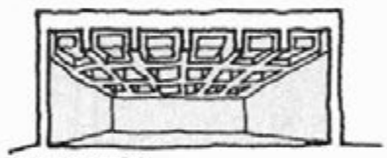

GENERAL CAN LIGHTING


GENERAL SURFACE MOUNTED


SURFACE MOUNT FOCUS


AREA DEFINITION


STRIP OF WALL SPOTS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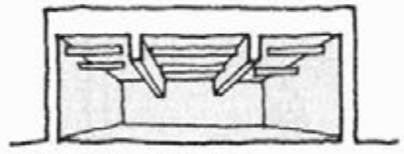
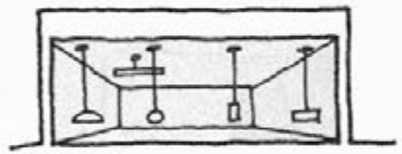
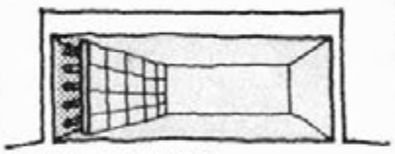
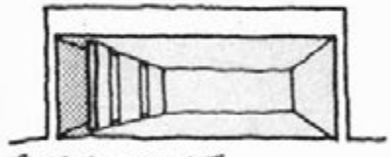
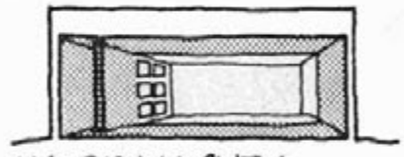
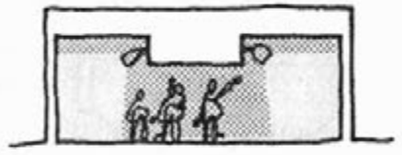

BETWEEN BEAMS

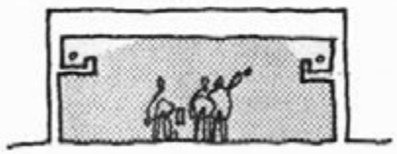

PENDANT

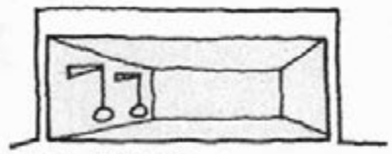

WALL OF LIGHT

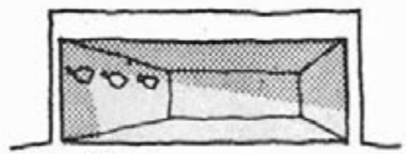

PANELS OF LIGHT

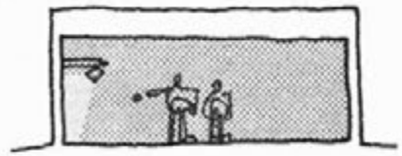

AREA DEFINING PANELS

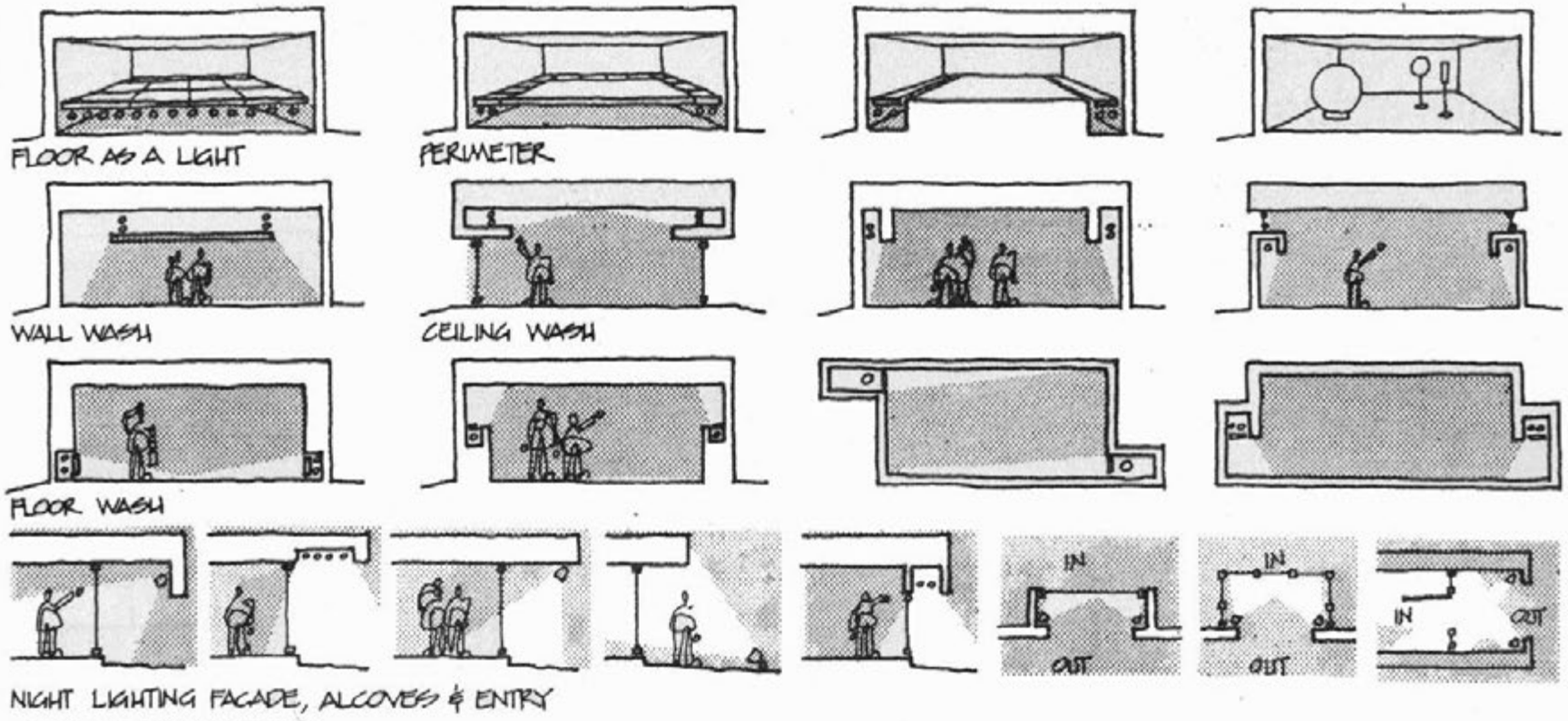




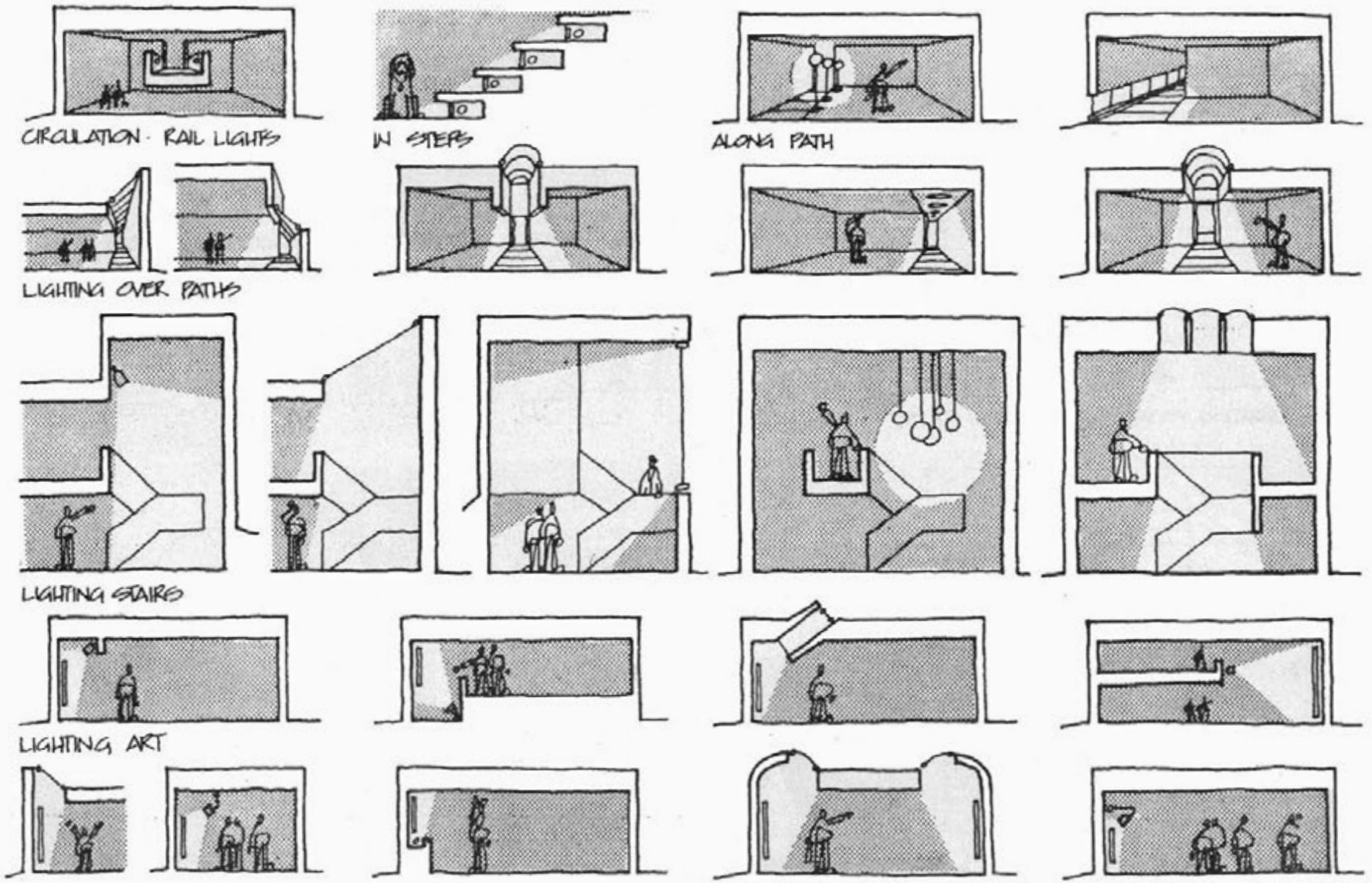

WALL PENDANT

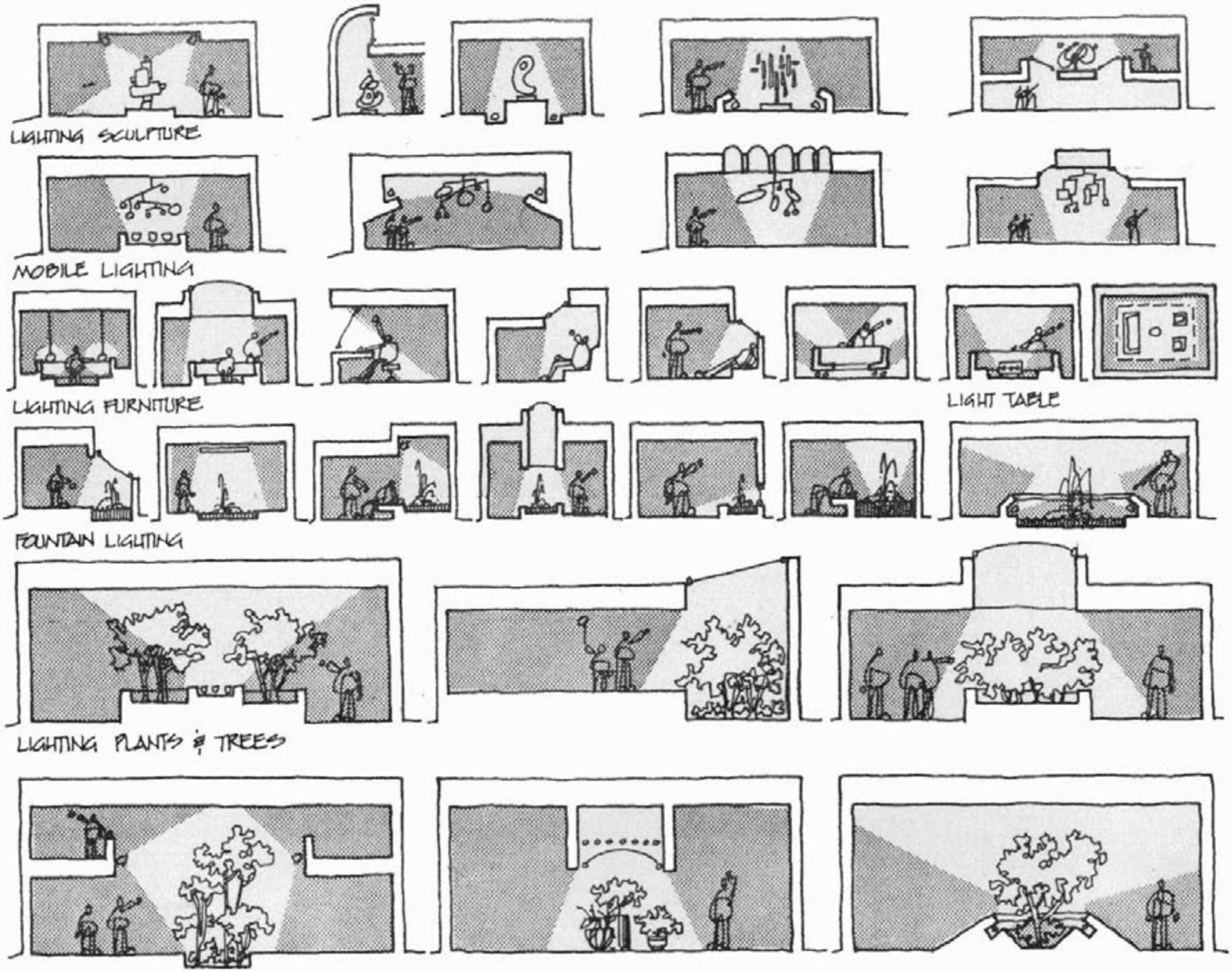

WALL SPOTS




FLOOR AS A LIGHT
PERIMETER
WALL WASH
CEILING WASH
FLOOR WASH
IN
OUT
IN
OUT
IN
OUT
NIGHT LIGHTING FACADE, ALCOVES & ENTRY
NIGHT LIGHT FROM INSIDE
NIGHT LIGHTING SKYLIGHTS
NIGHT LIGHTING WITHIN SKYLIGHT

Roles of Lighting

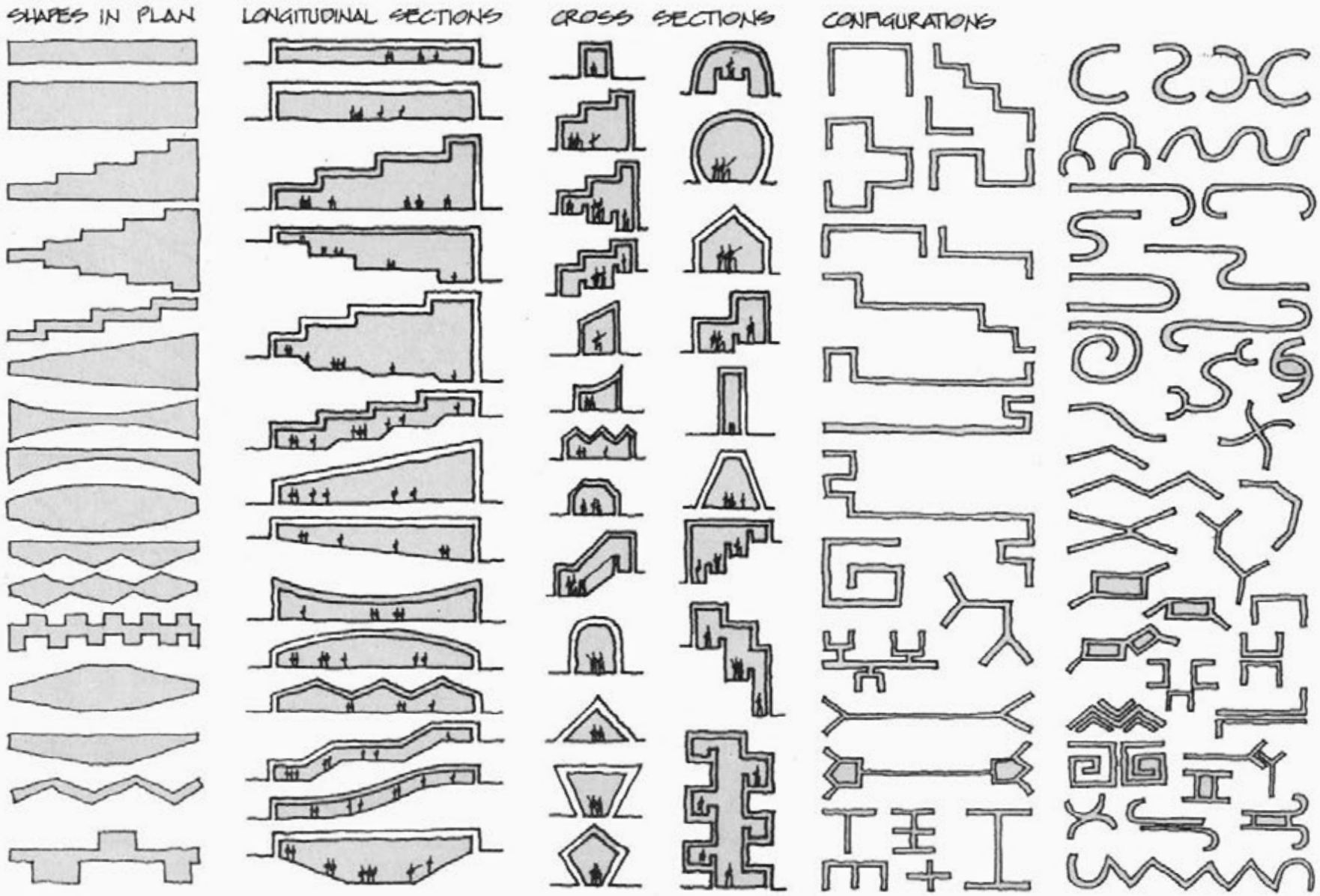



LIGHTING SCULPTURE
MOBILE LIGHTING
LIGHTING FURNITURE
LIGHT TABLE
FOUNTAIN LIGHTING
LIGHTING PLANTS & TREES

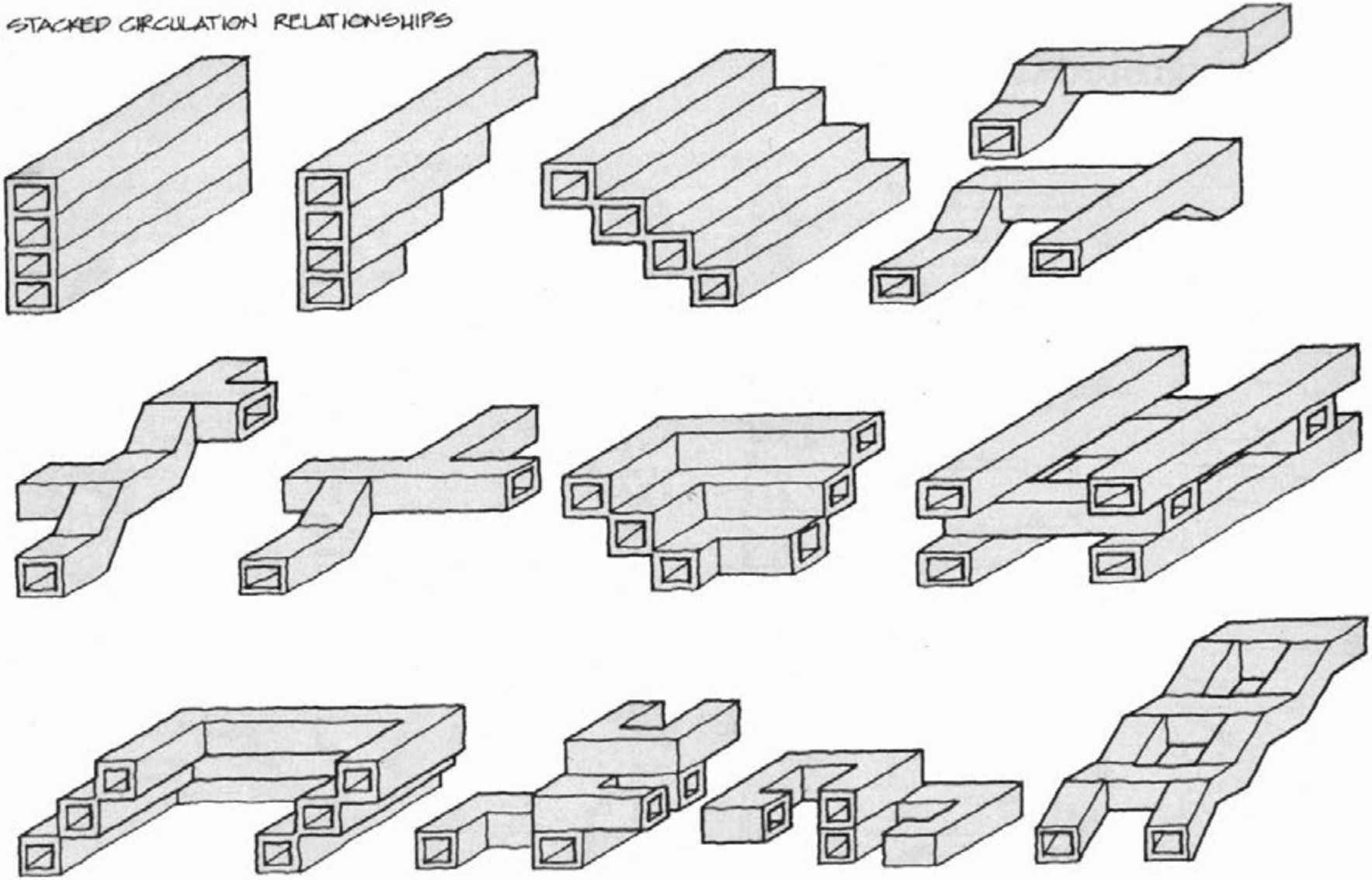
85

Circulation and Building Form

Line Generated Circulation

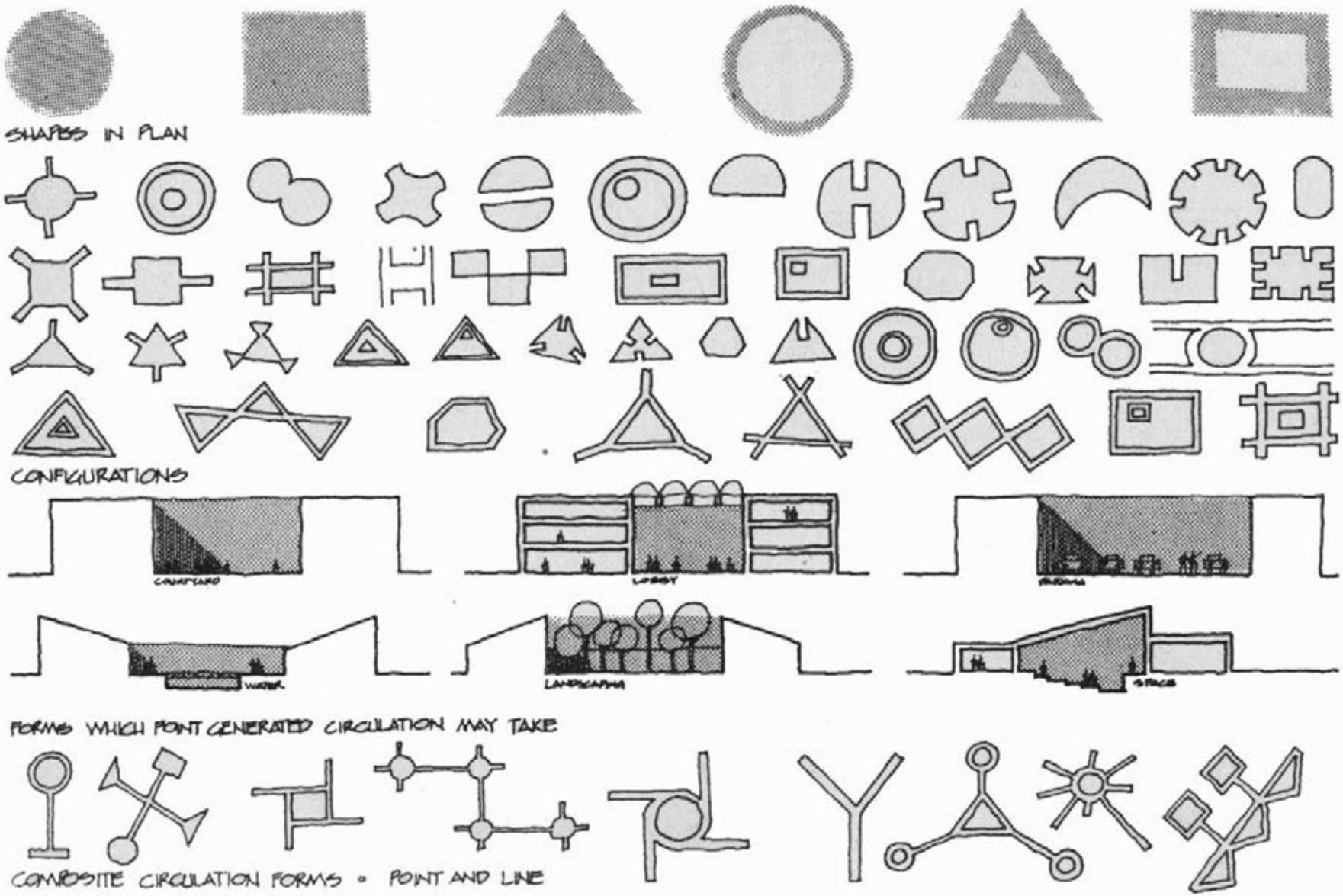


STACKED CIRCULATION RELATIONSHIPS

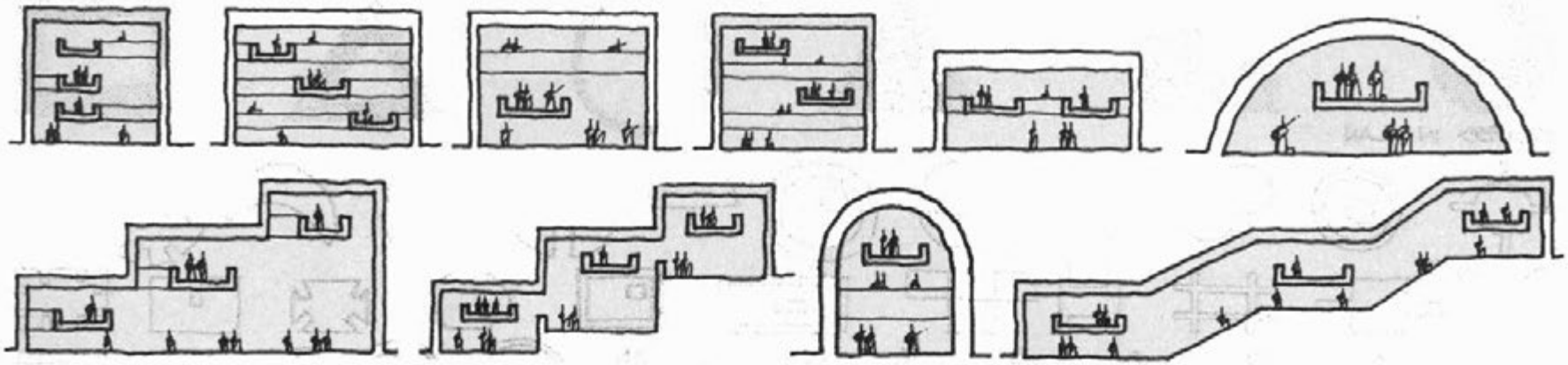


A LINIAR MOVEMENT SPACE MAY TAKE MANY FORMS:

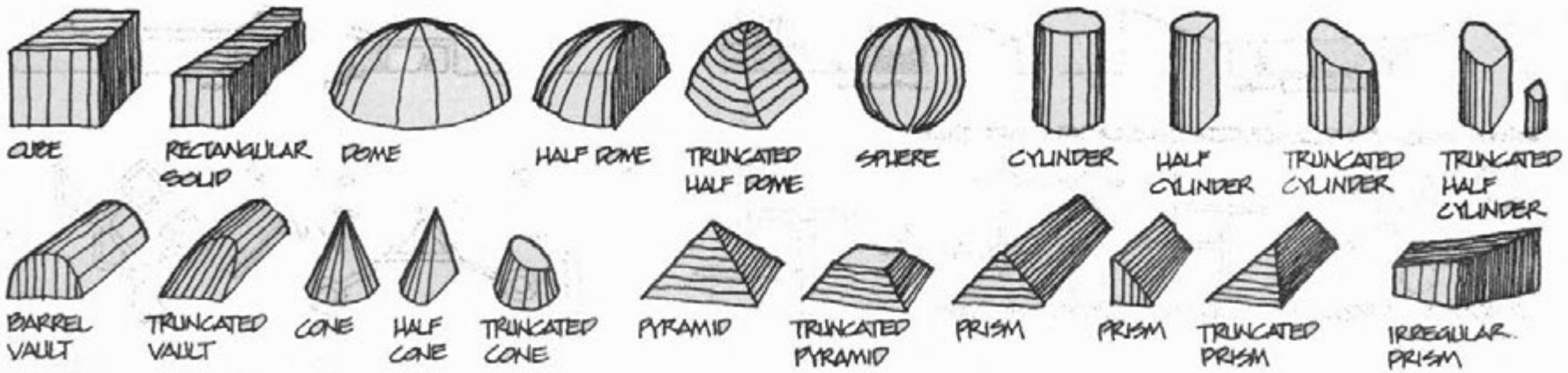
Point Generated Circulation



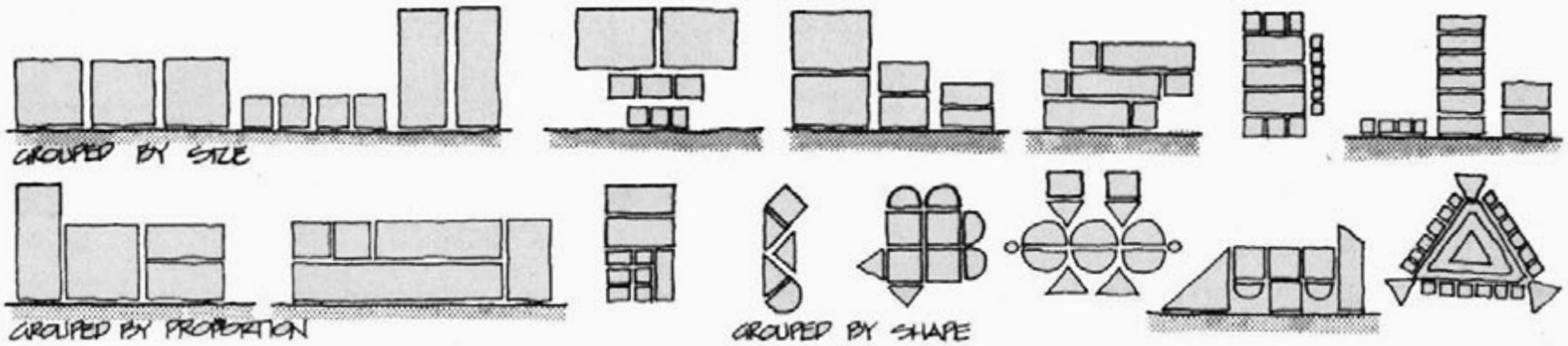
Circulation within Circulation



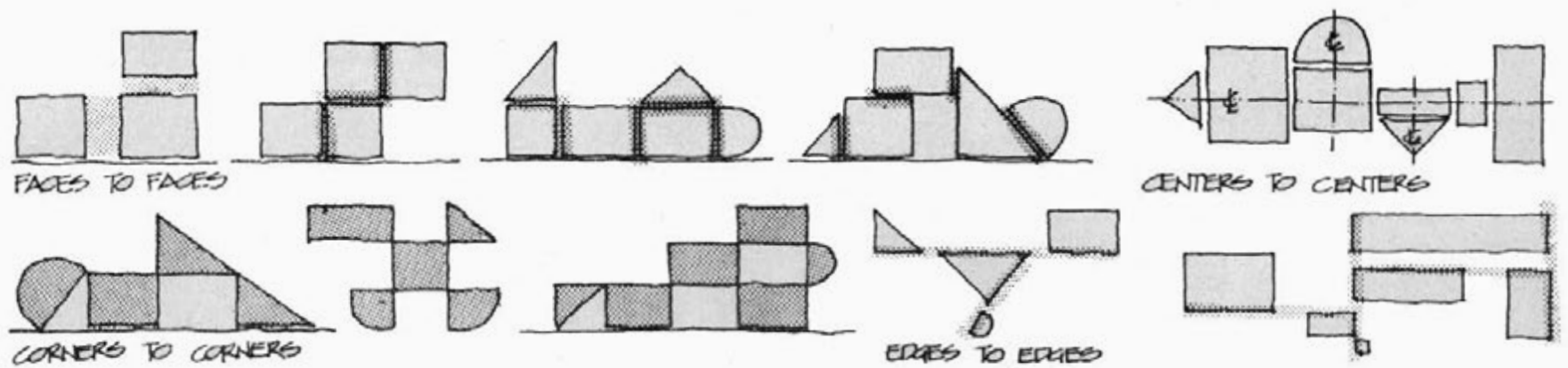
Basic Forms



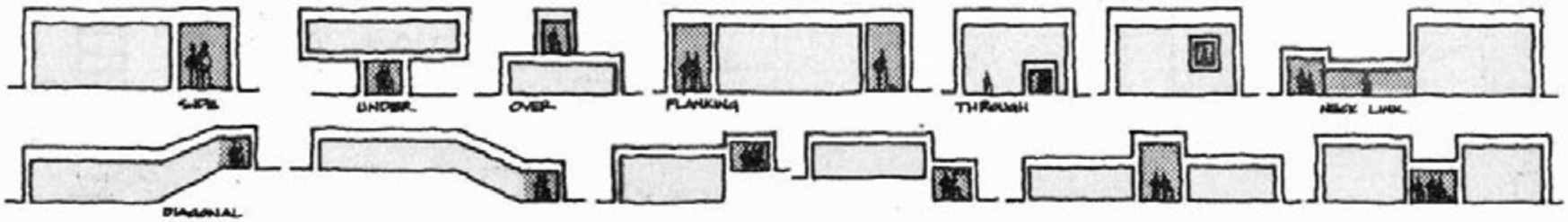
Grouping of Forms by Their Qualities



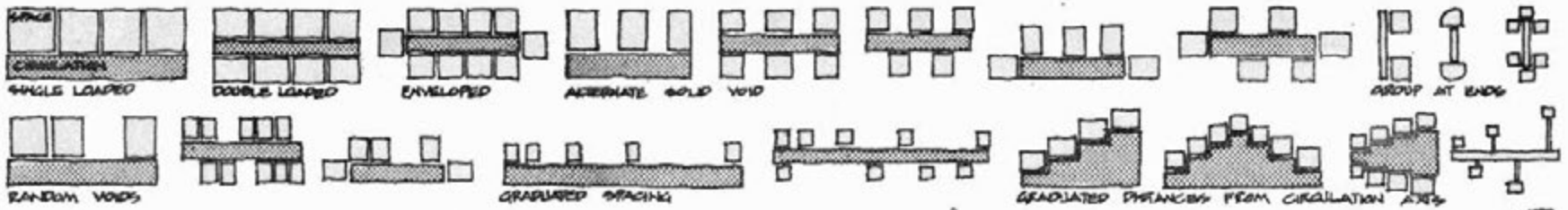
Specific Form to Form Relationships

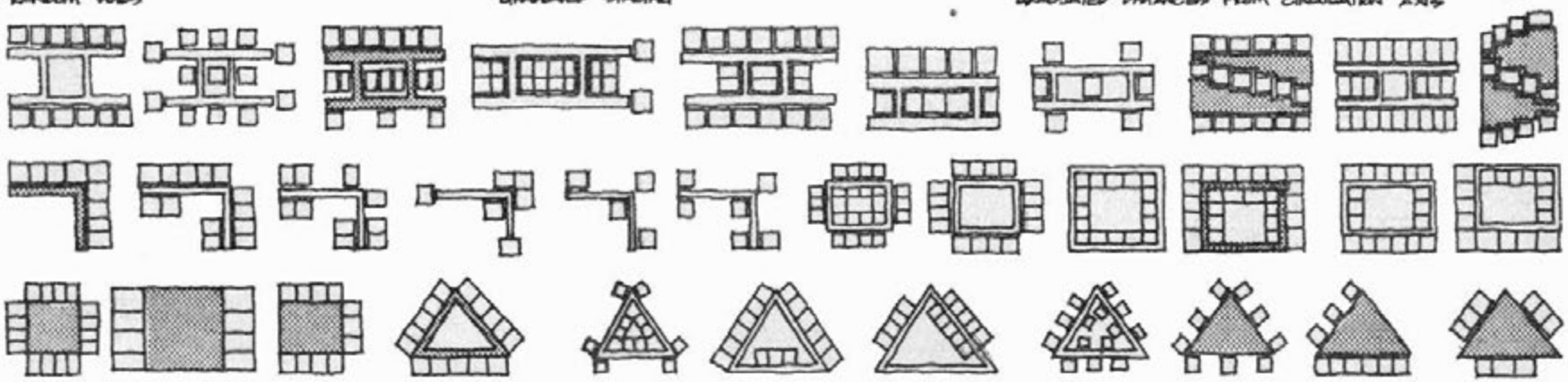


Space—Circulation Relationships

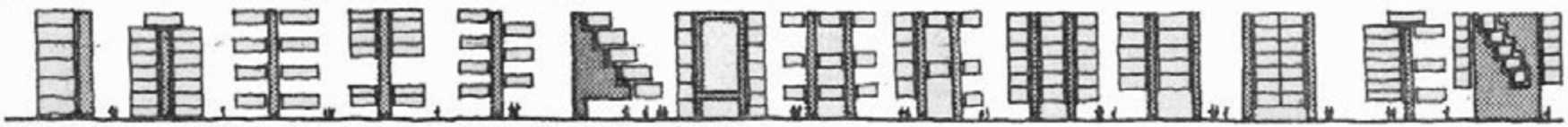


SPACE TO CIRCULATION LINKAGES

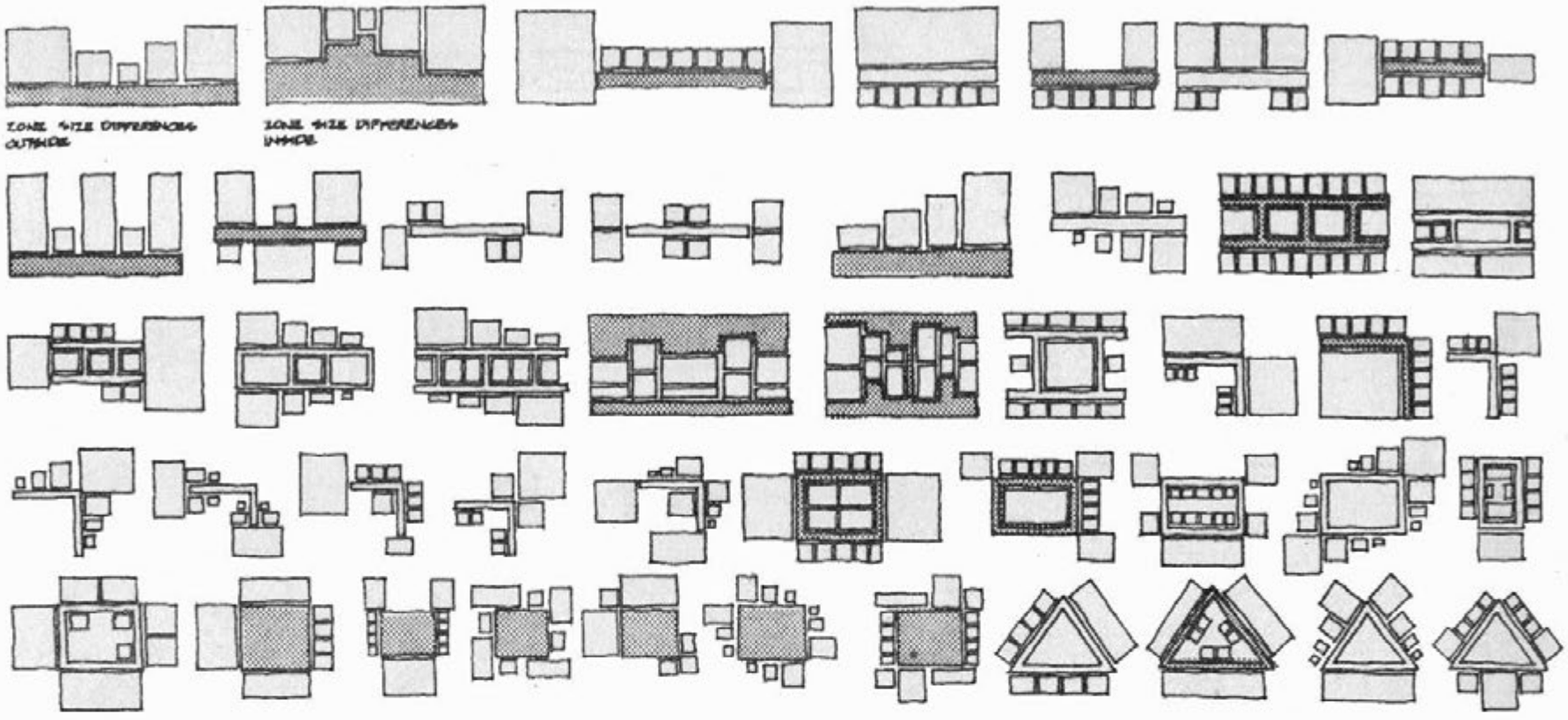




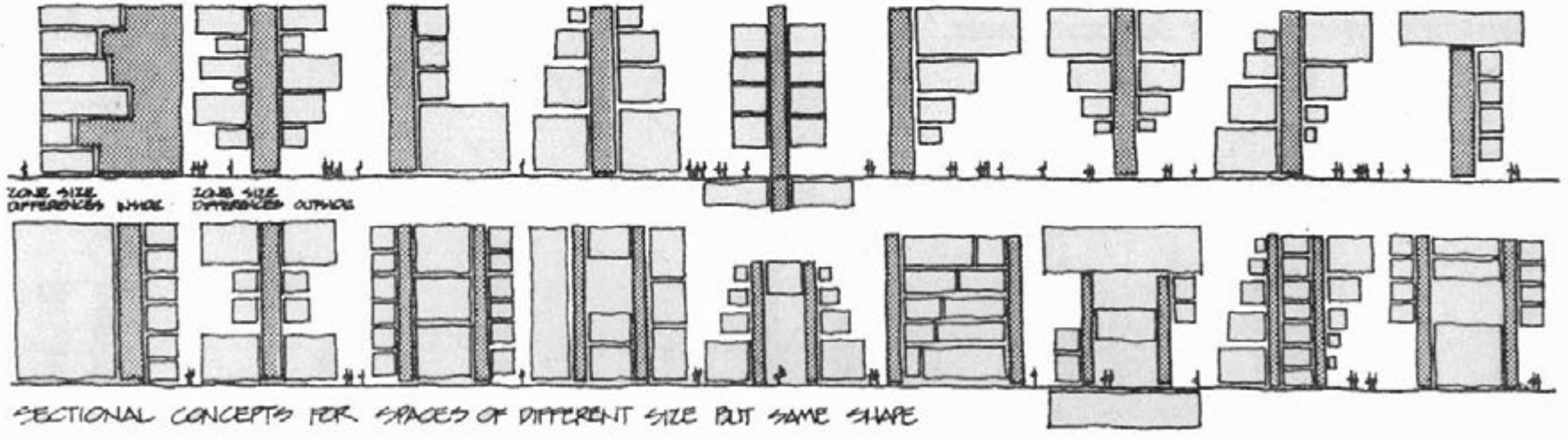
PLAN CONCEPTS FOR SPACES OF SIMILAR SIZE & SHAPE



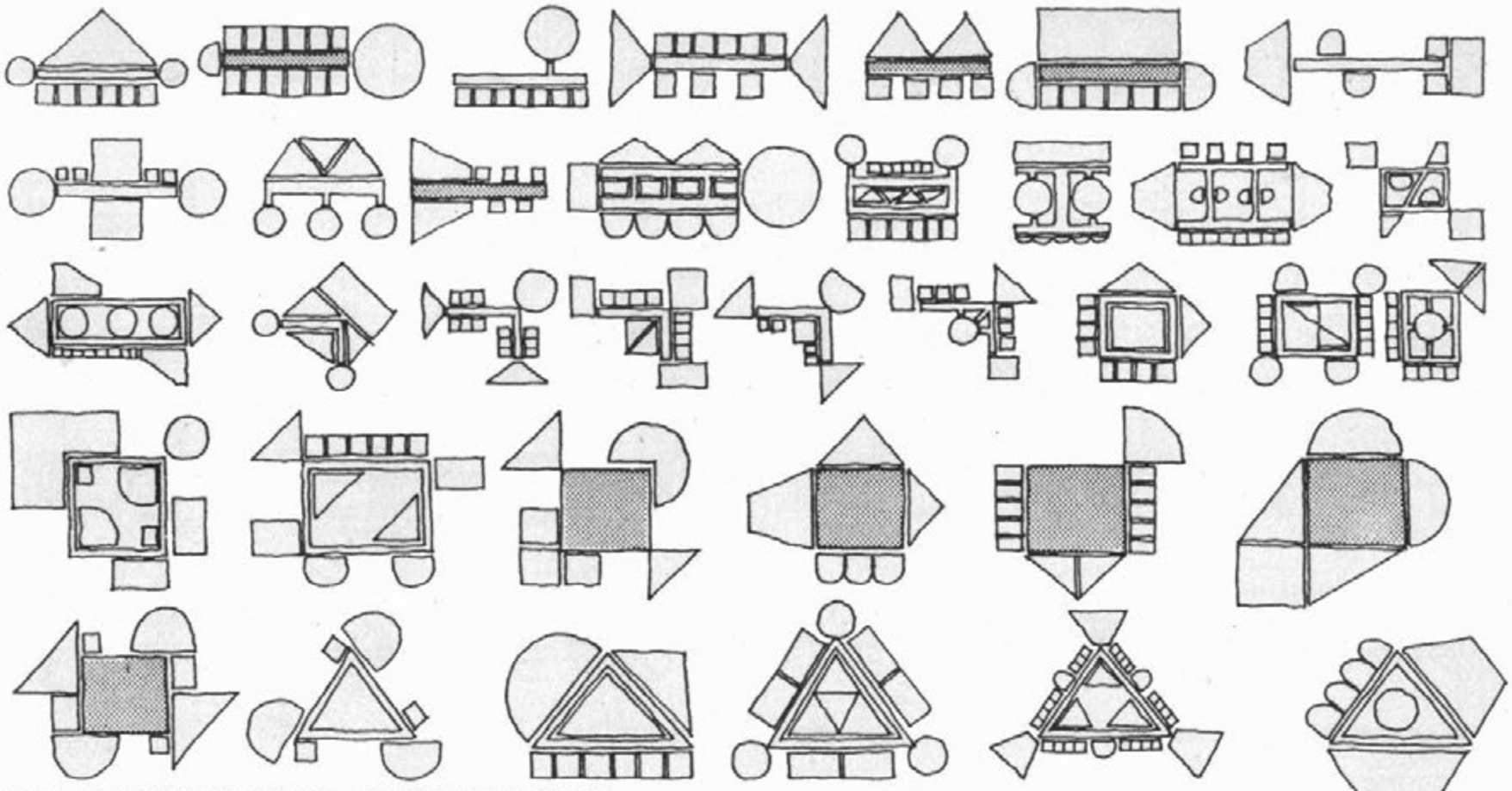
SECTIONAL CONCEPTS FOR SPACES OF SIMILAR SIZE & SHAPE



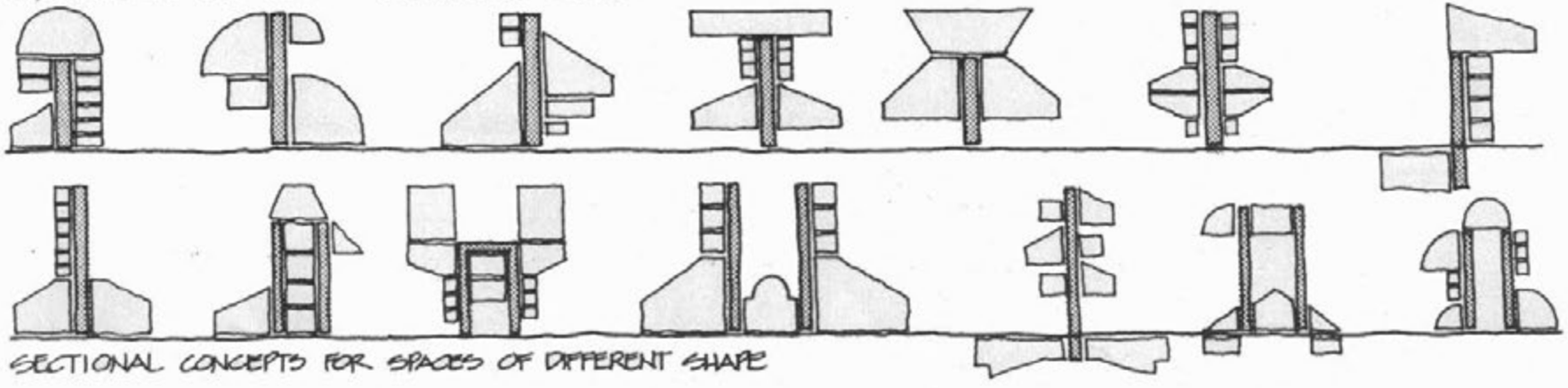
PLAN CONCEPTS FOR SPACES OF DIFFERENT SIZE BUT SAME SHAPE



SECTIONAL CONCEPTS FOR SPACES OF DIFFERENT SIZE BUT SAME SHAPE

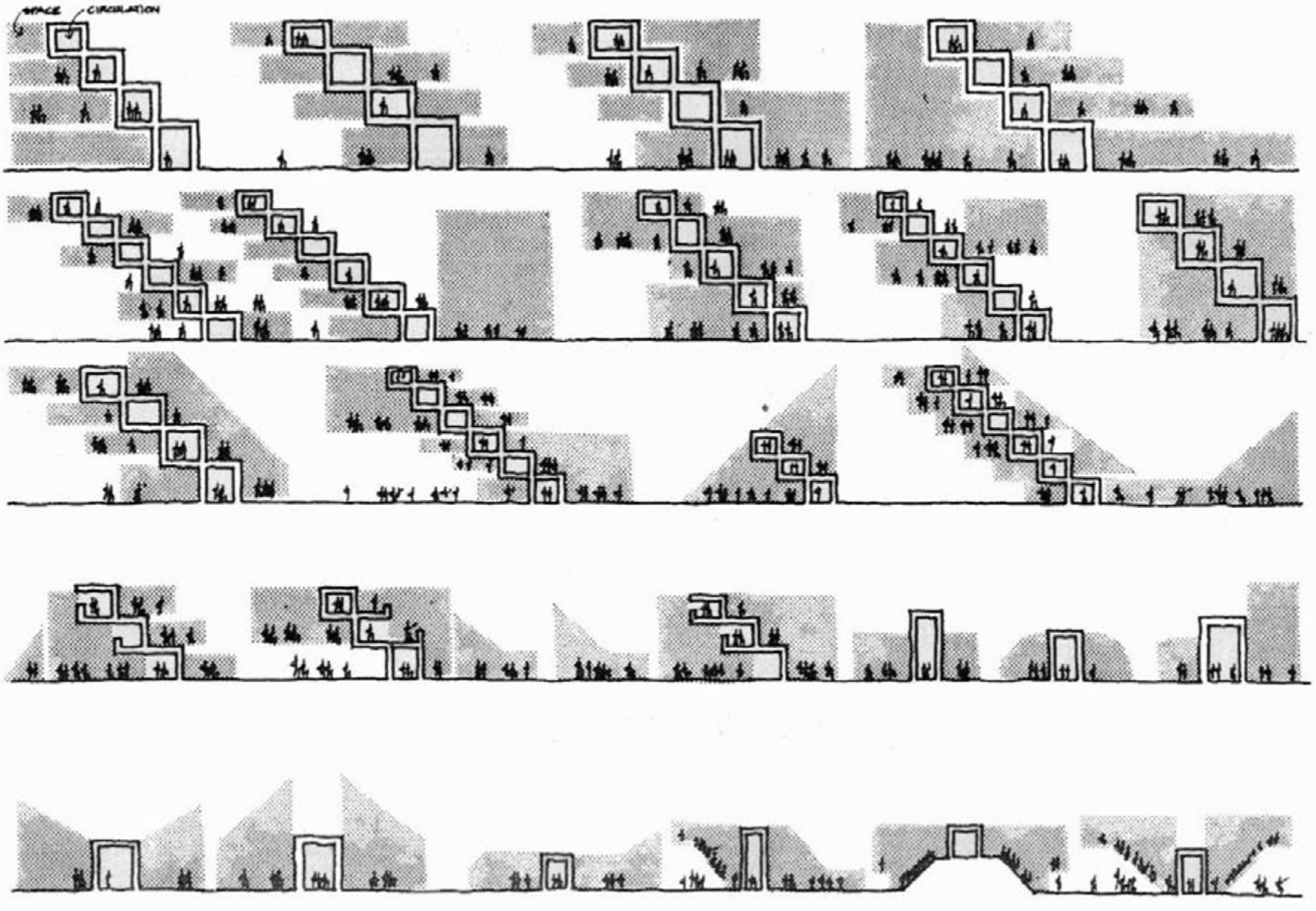


PLAN CONCEPTS FOR SPACES OF DIFFERENT SHAPE

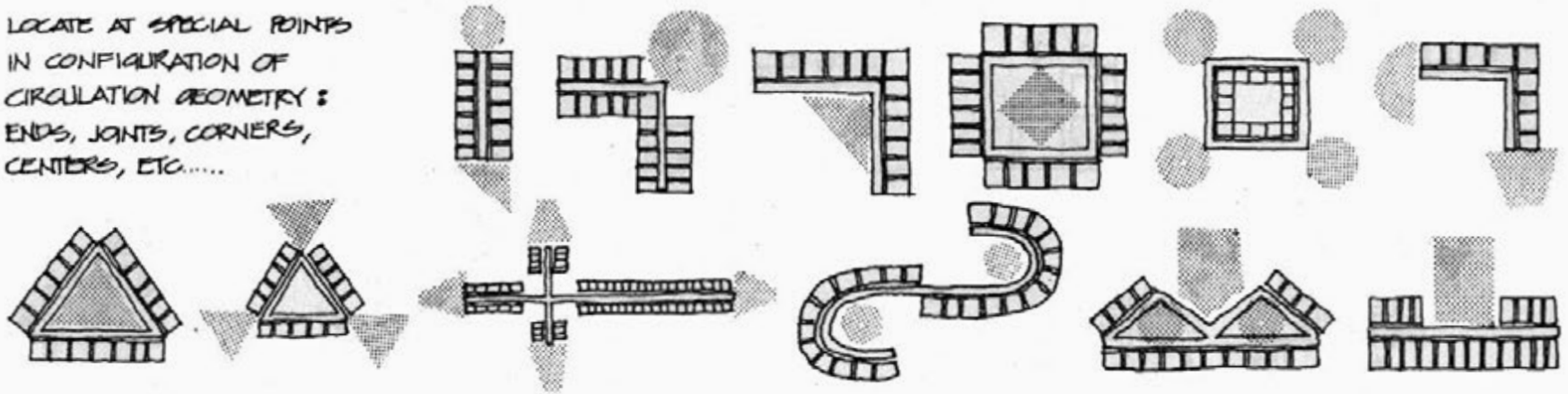


SECTIONAL CONCEPTS FOR SPACES OF DIFFERENT SHAPE

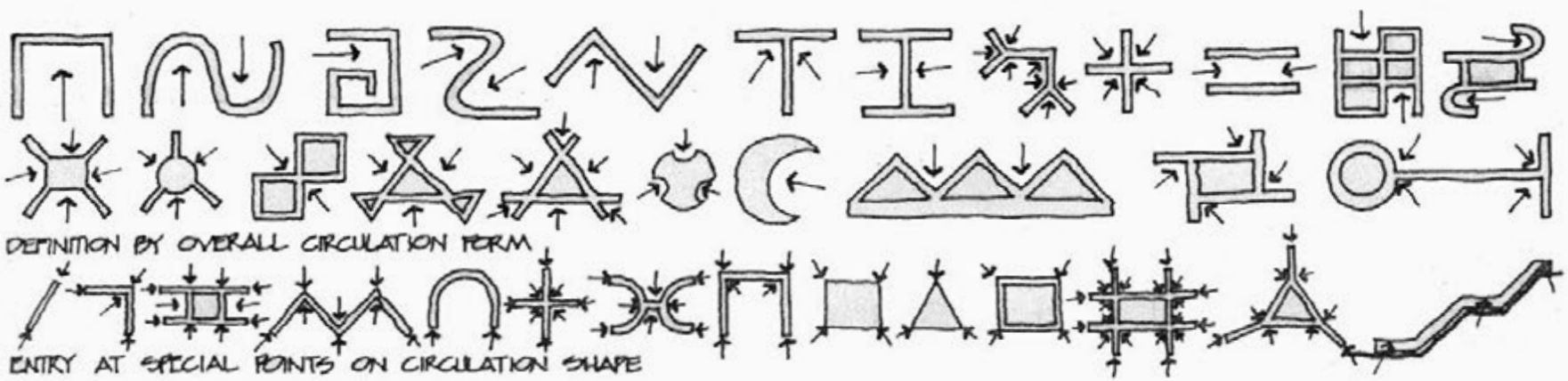
Space—Circulation Sections

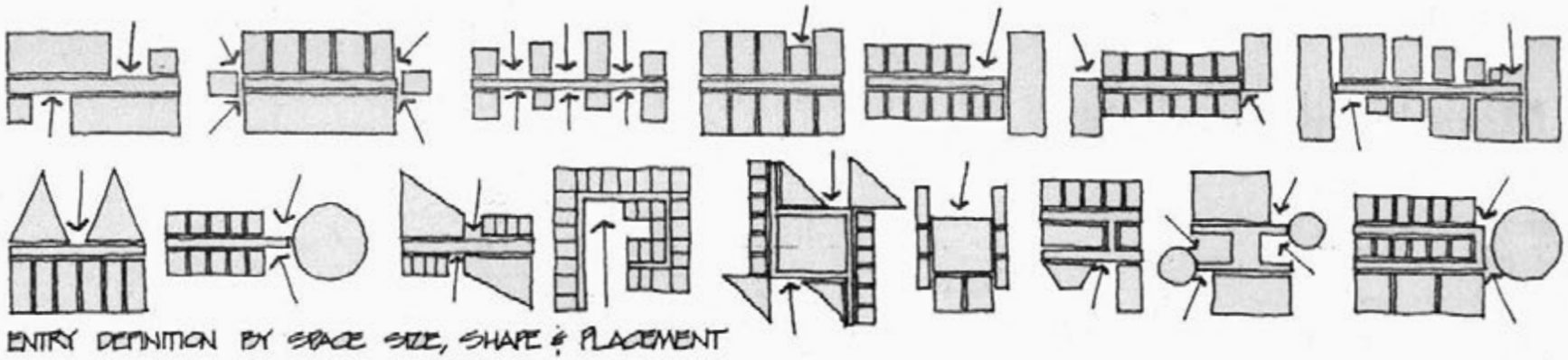


Placing Unique Space Shapes in Plan

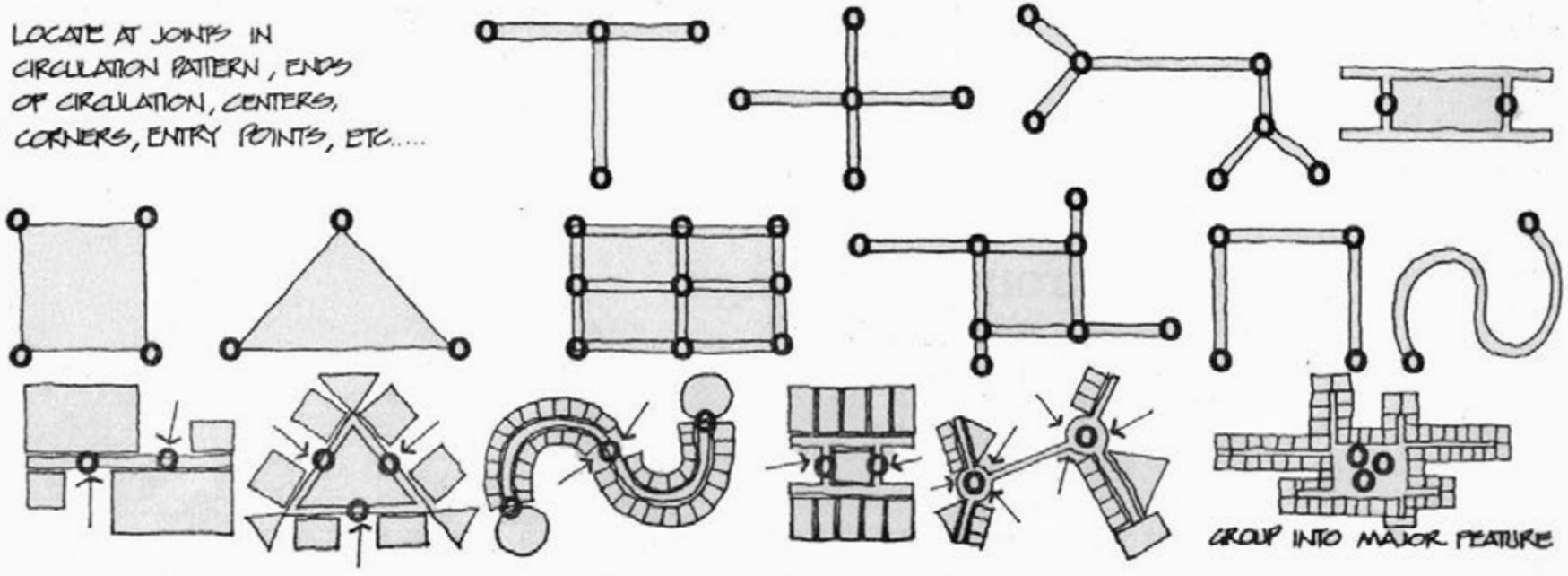


Entry Points for Circulation Concepts

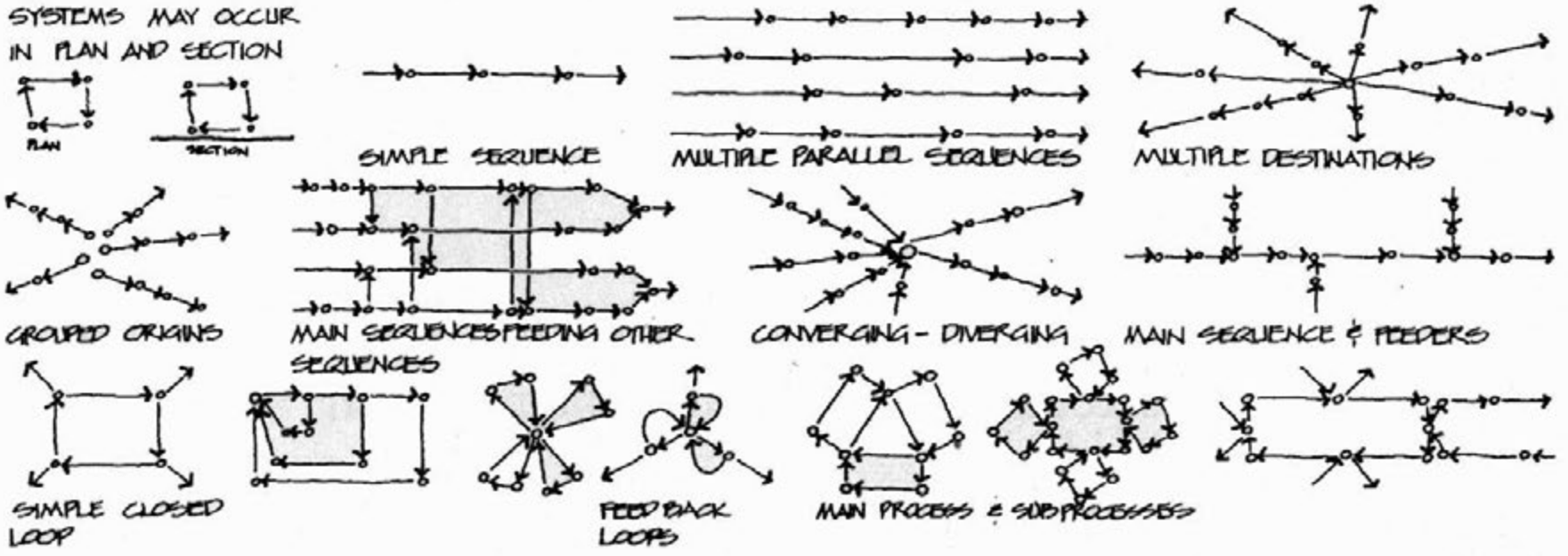




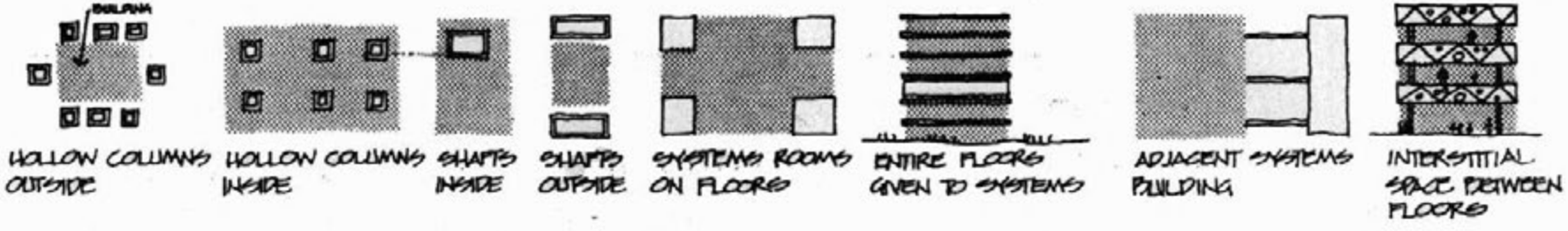
Placing Vertical Circulation at Unique Points in Plan

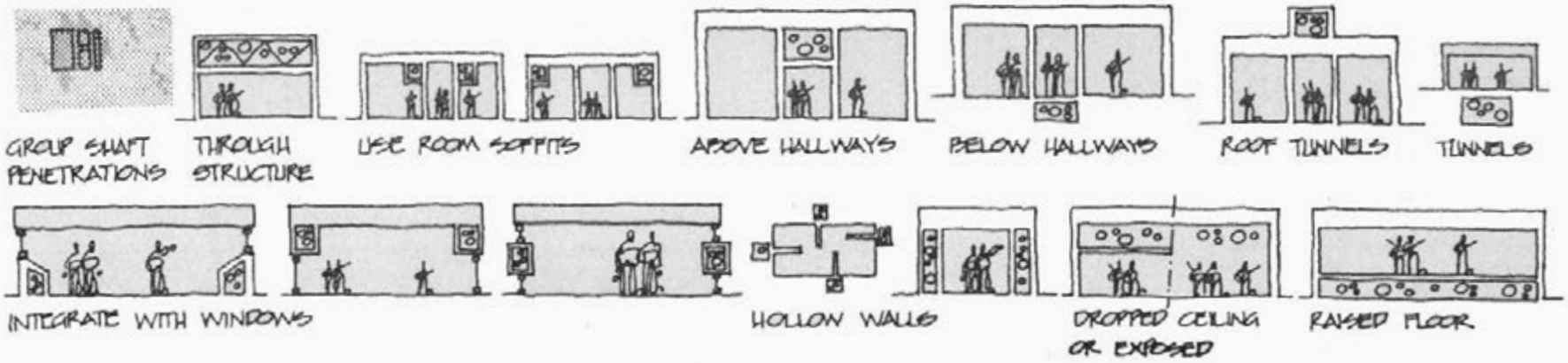


Movement Systems

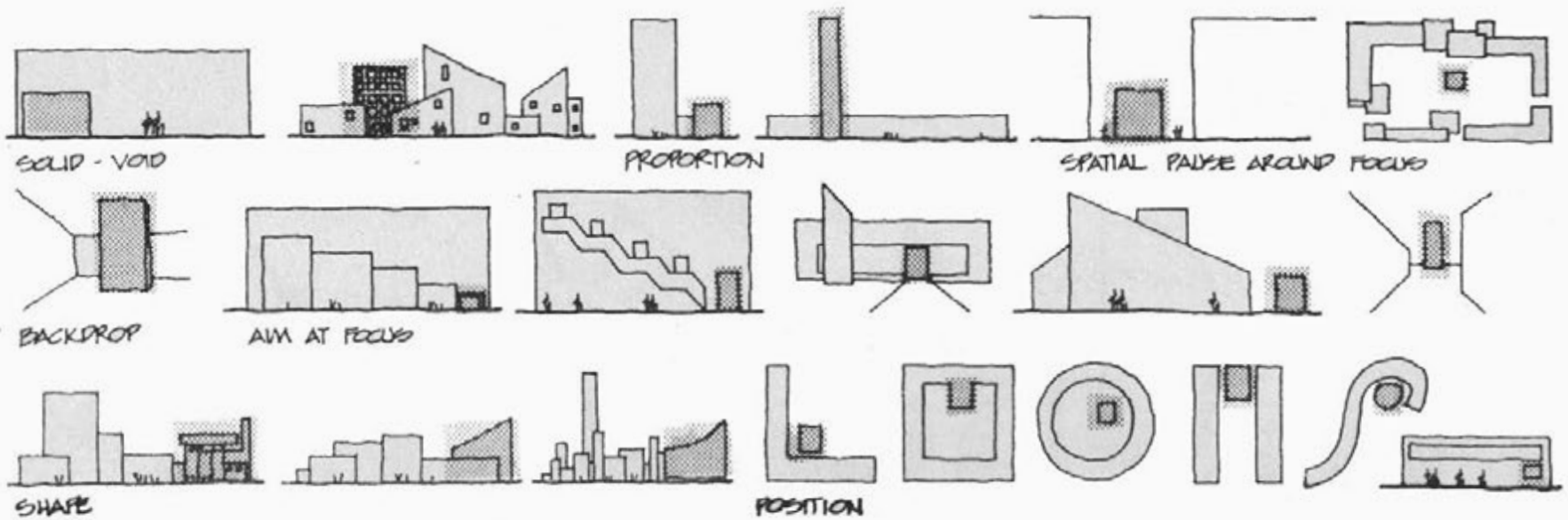


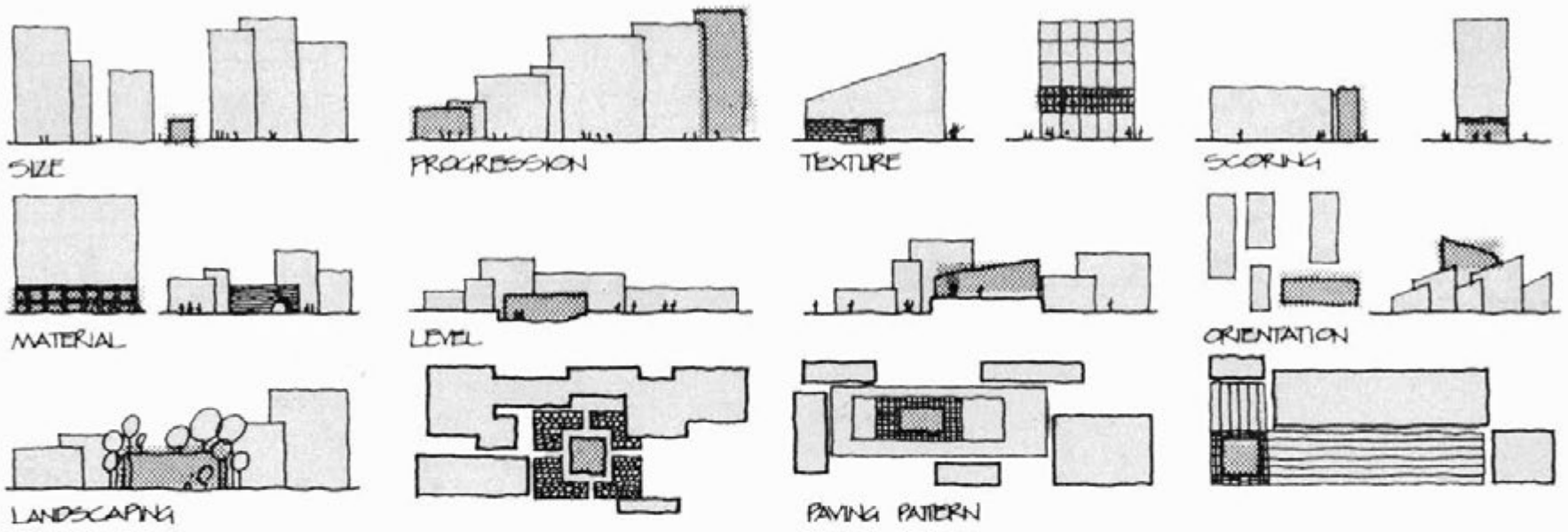
Routing Systems Through Buildings



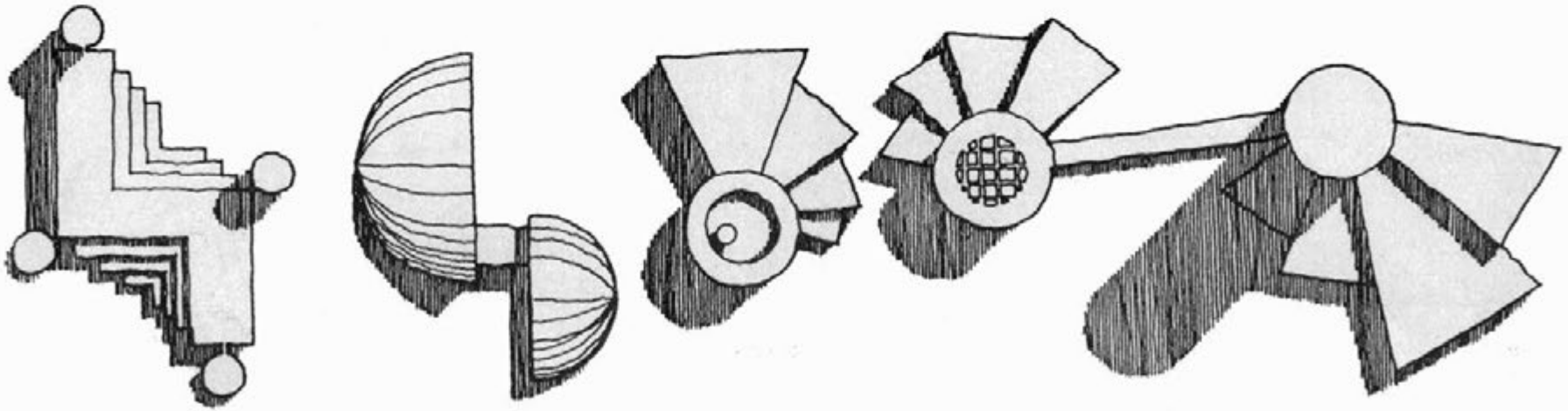


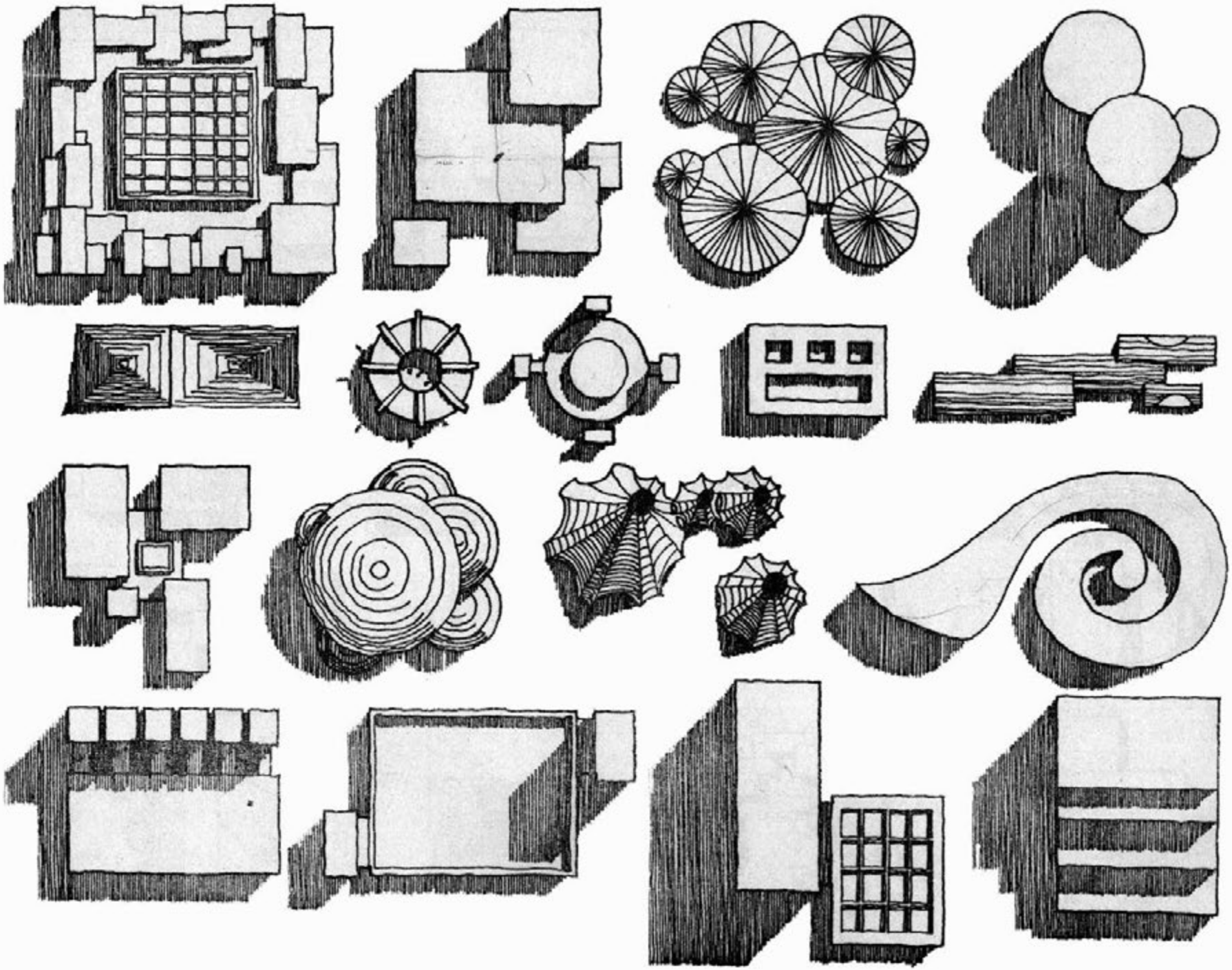
Achieving Visual Emphasis

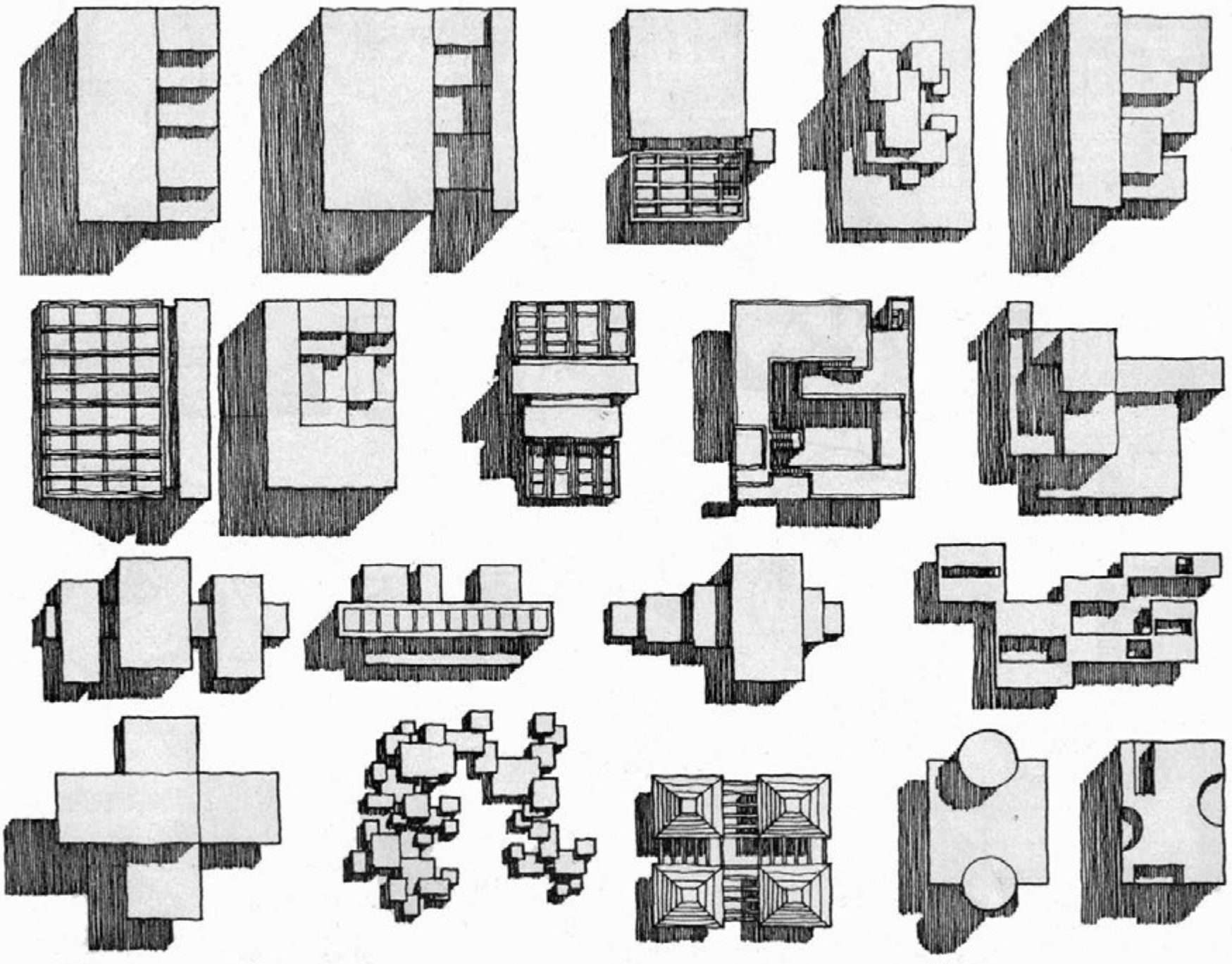


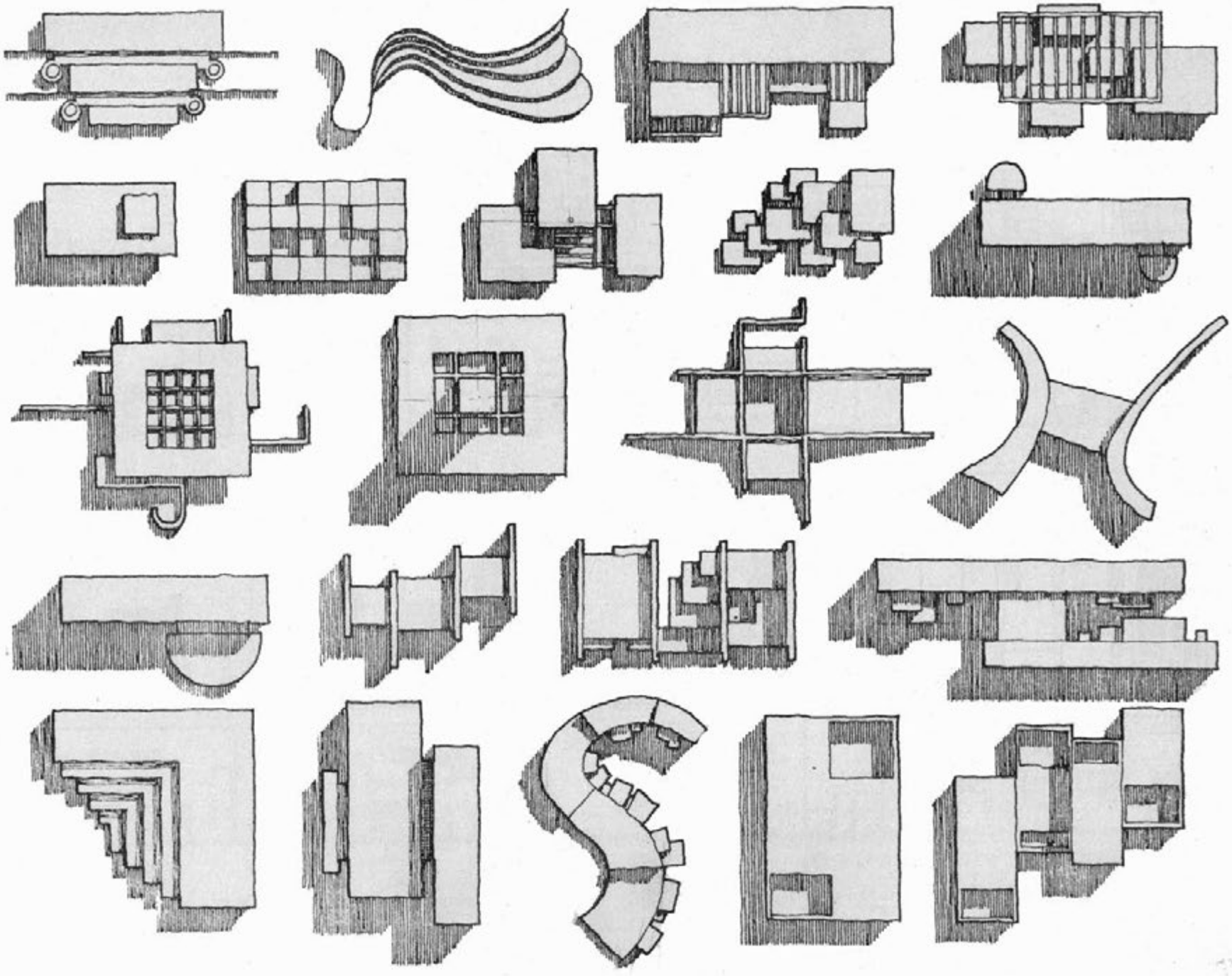


Building Images in Plan

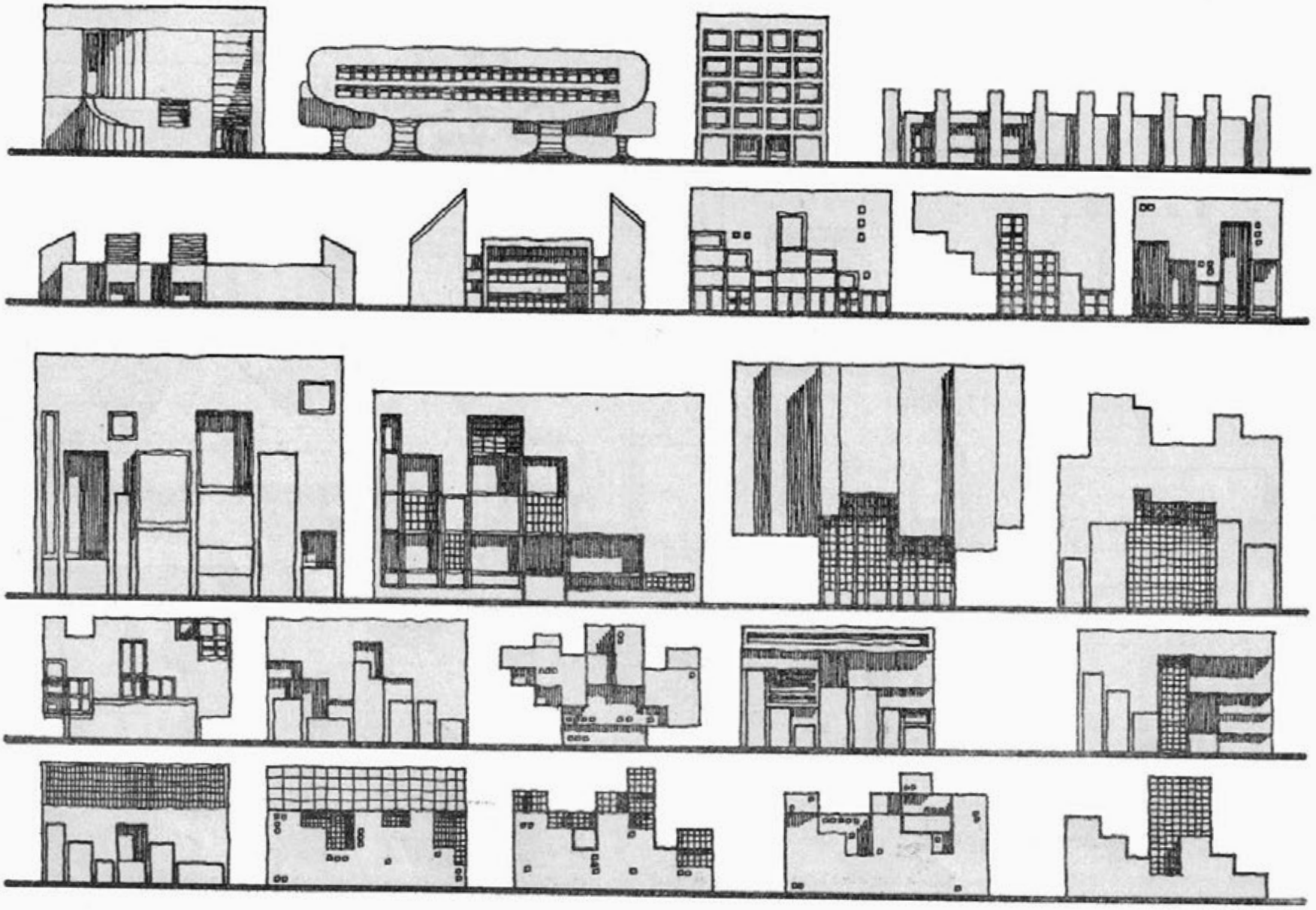


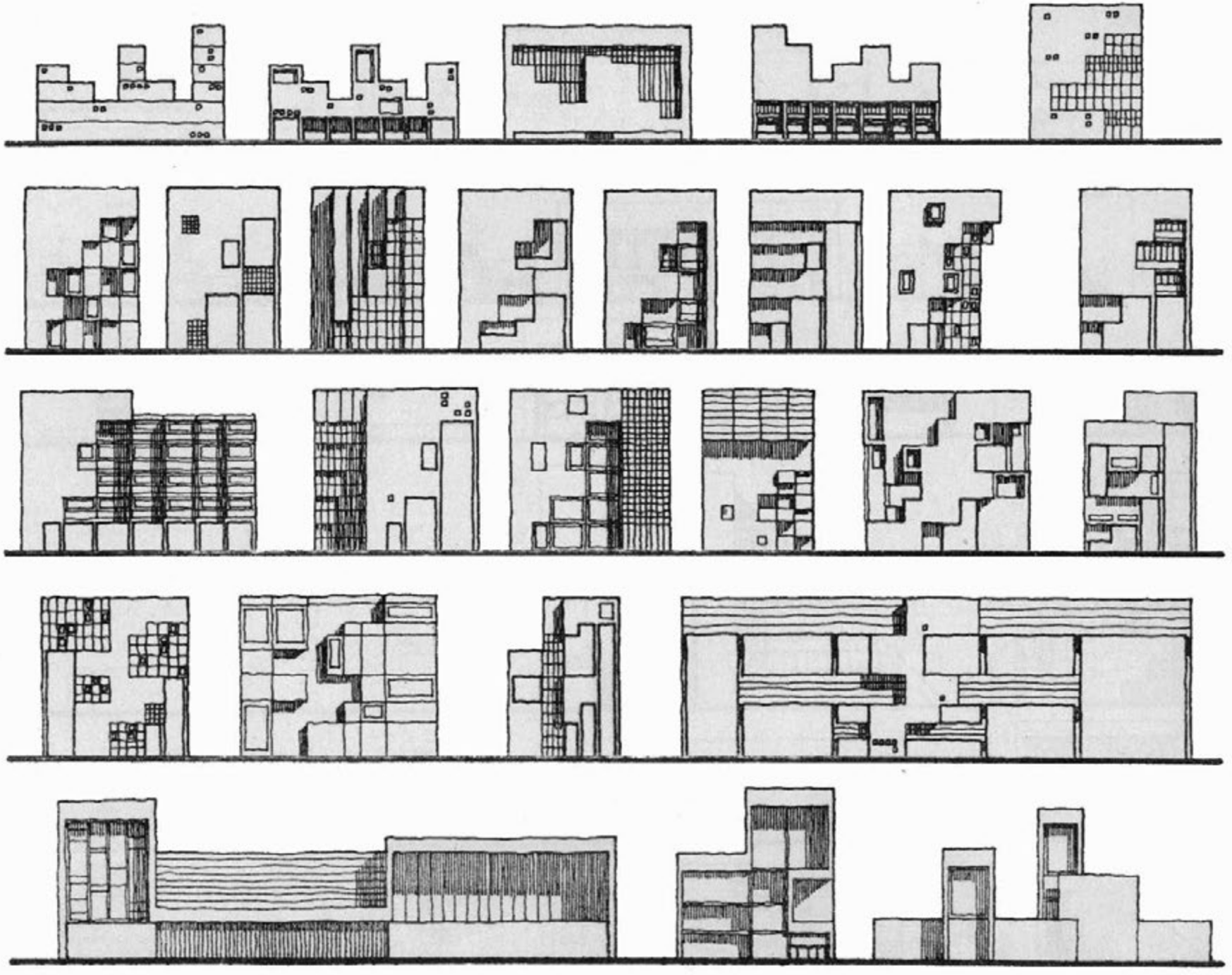


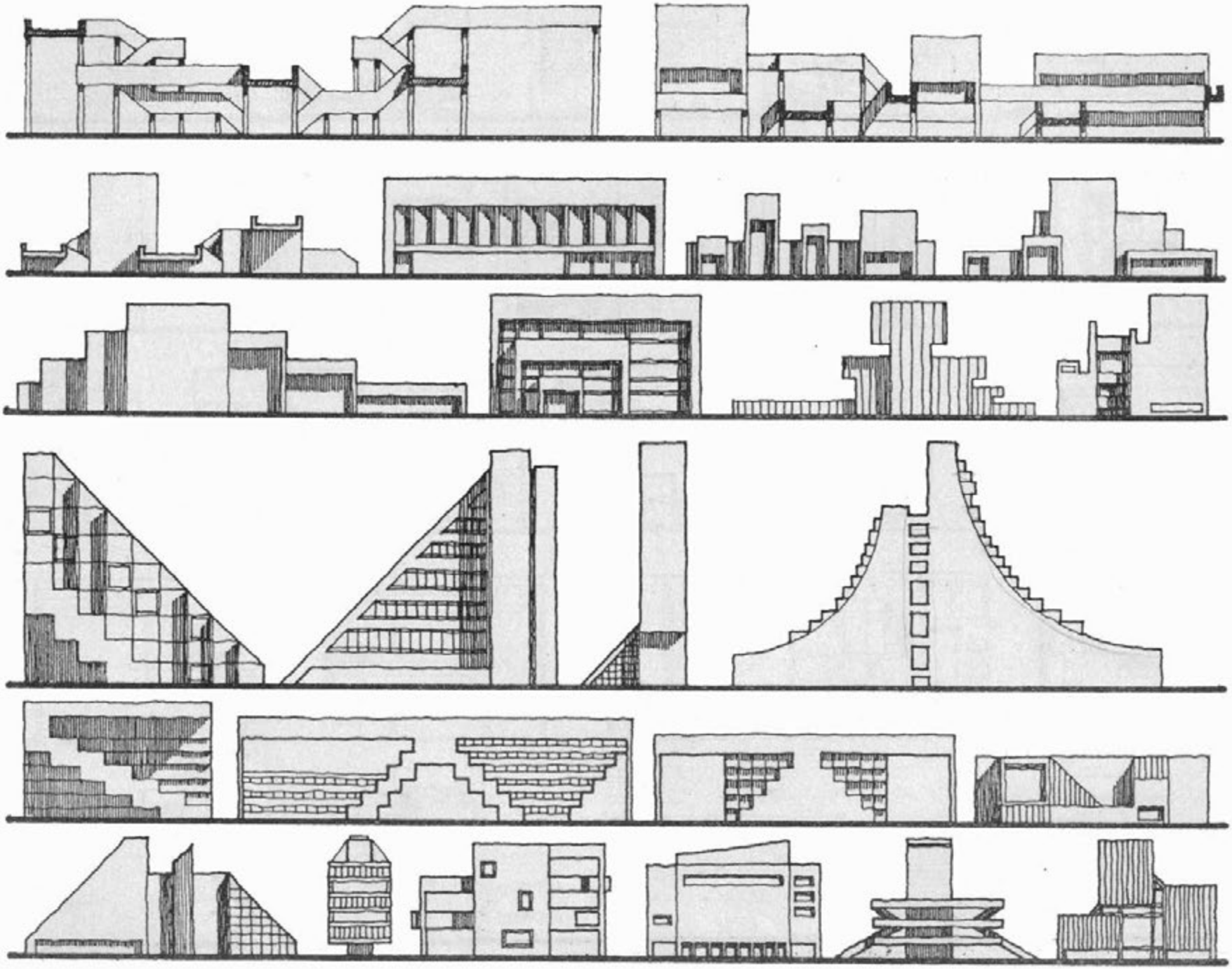


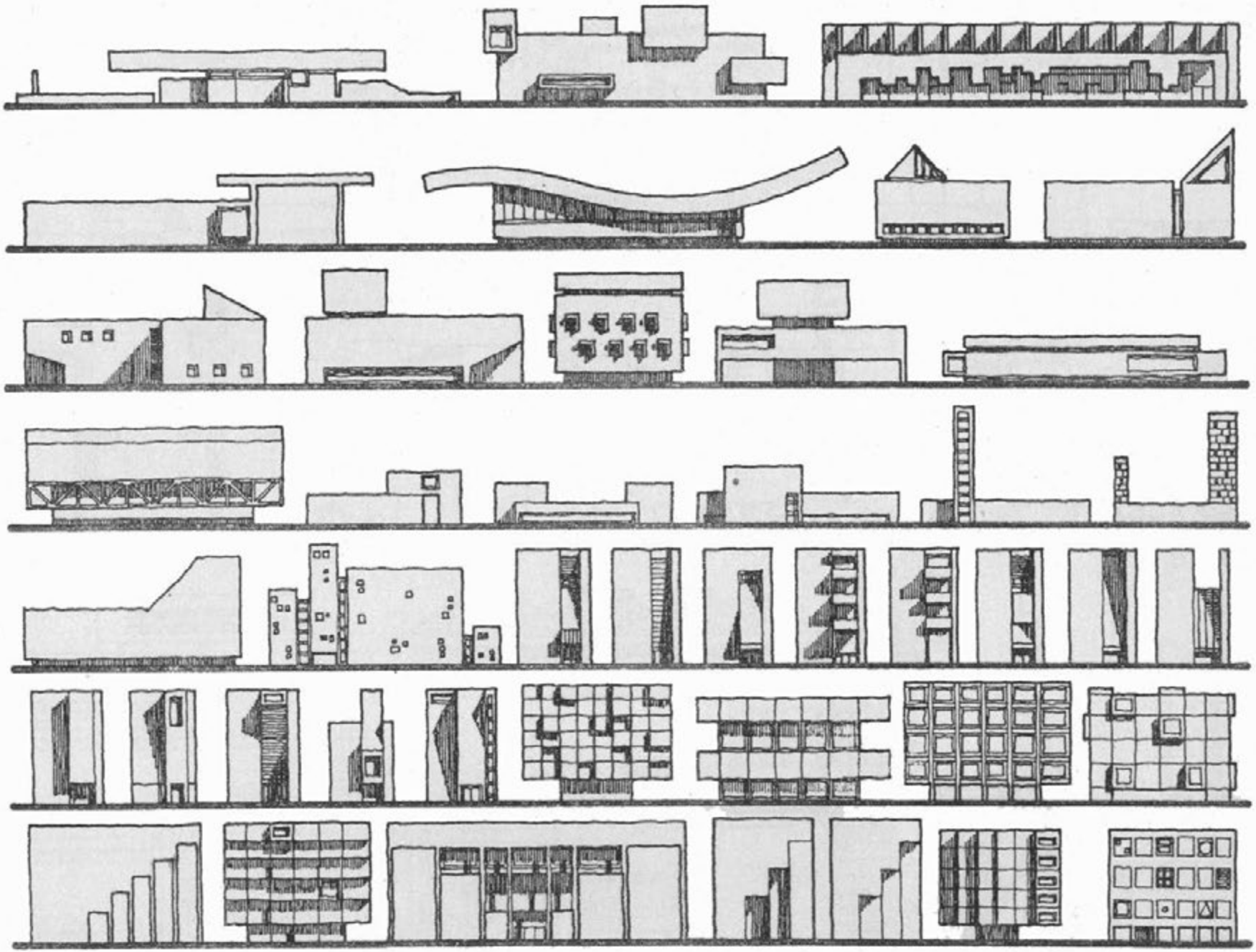


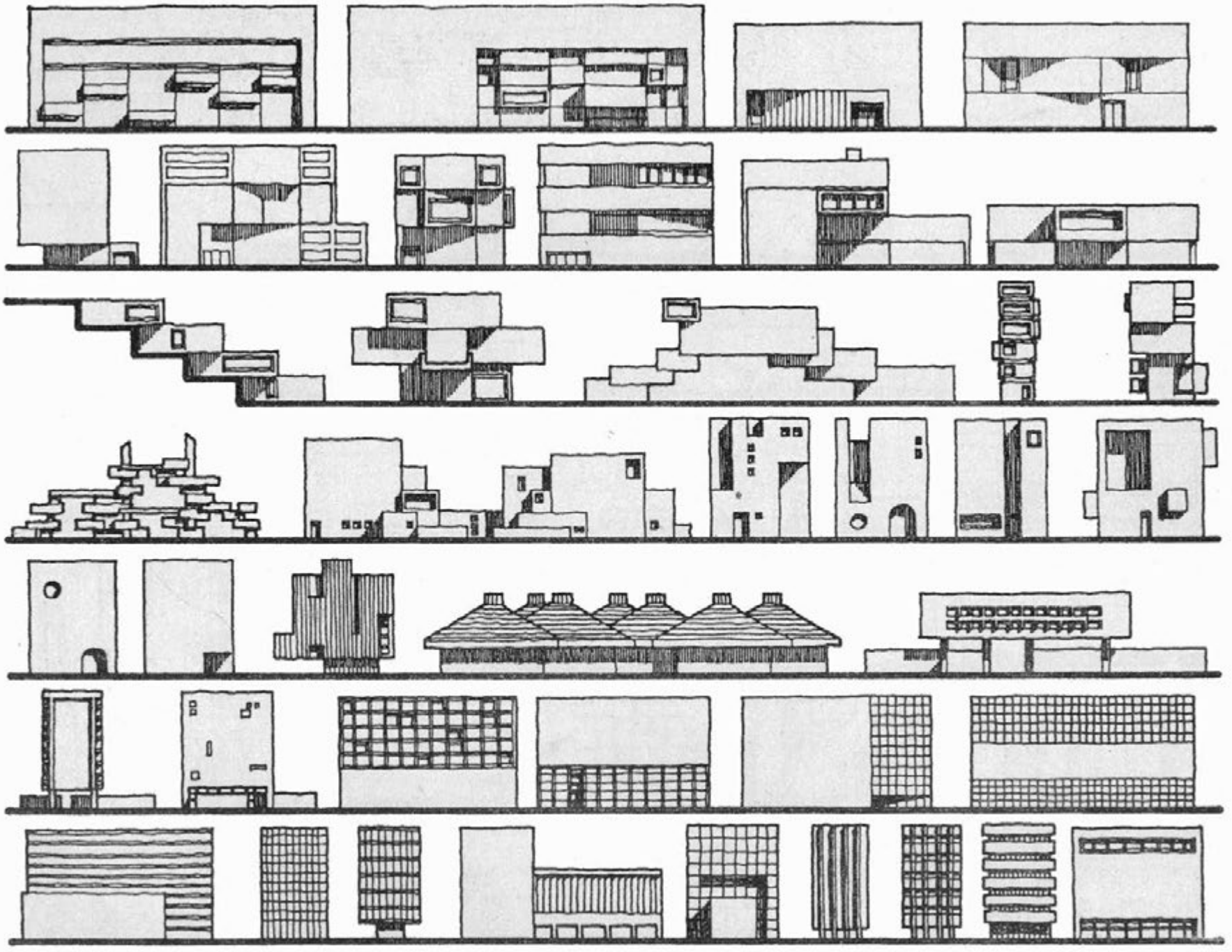
Building Images in Elevation

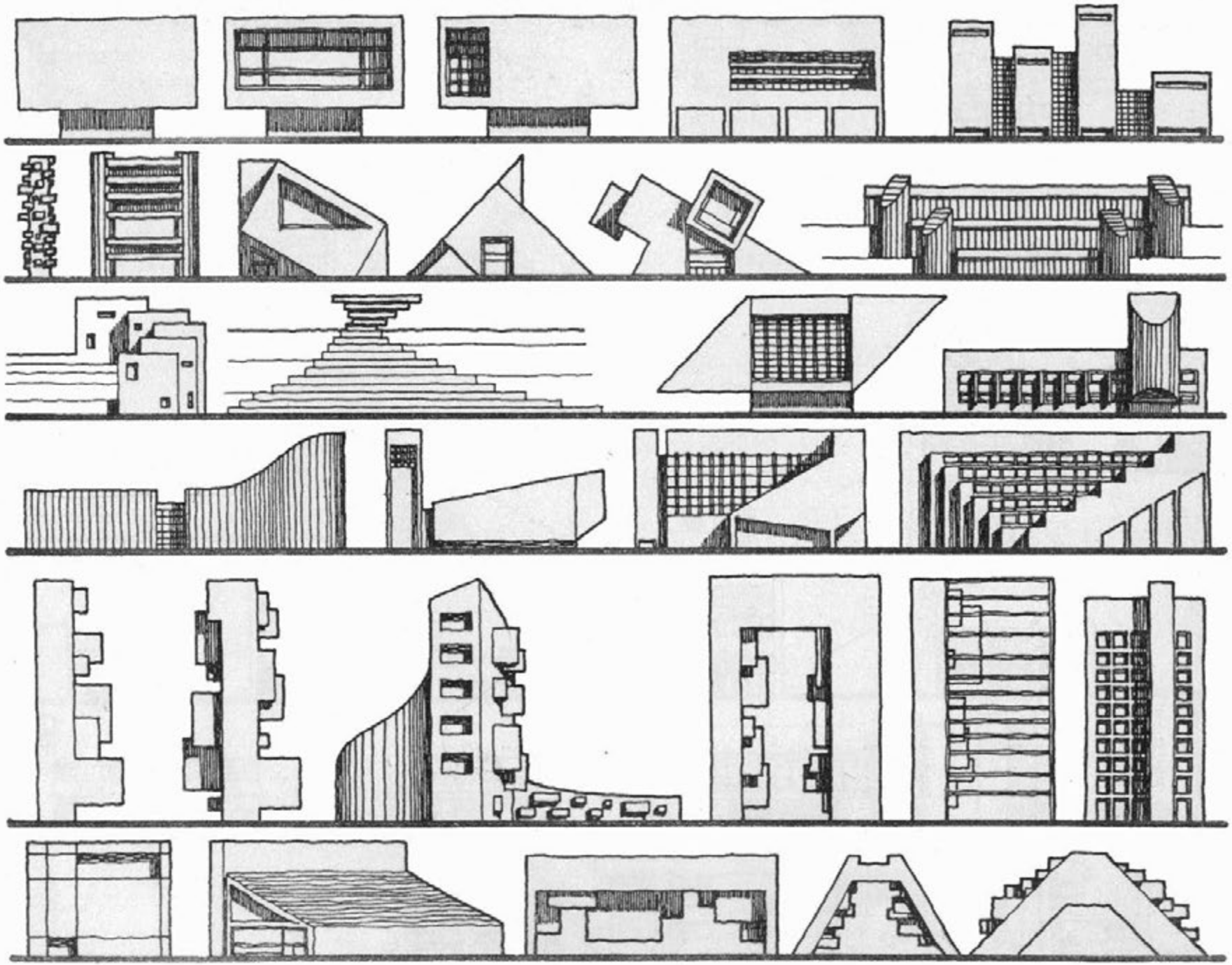


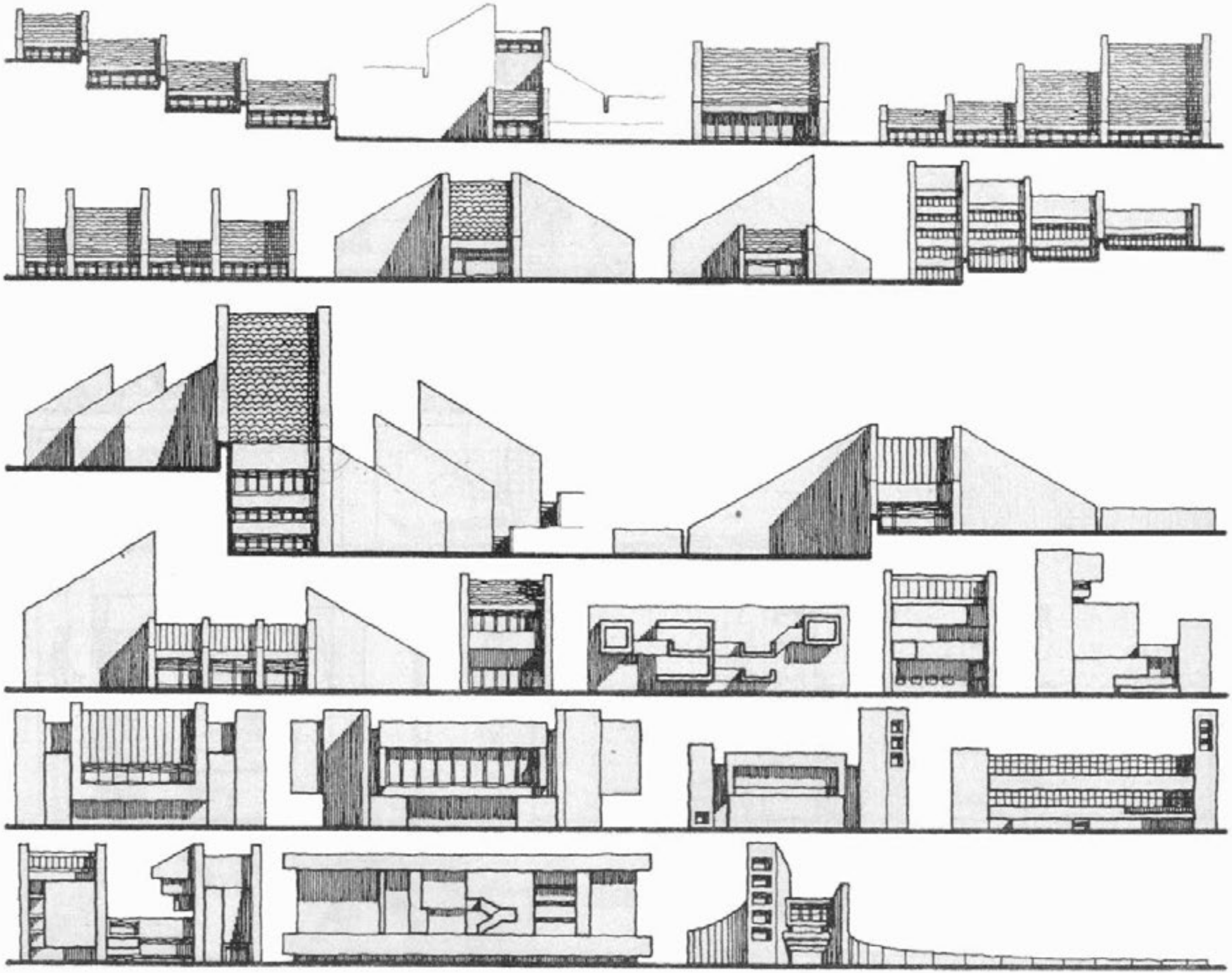


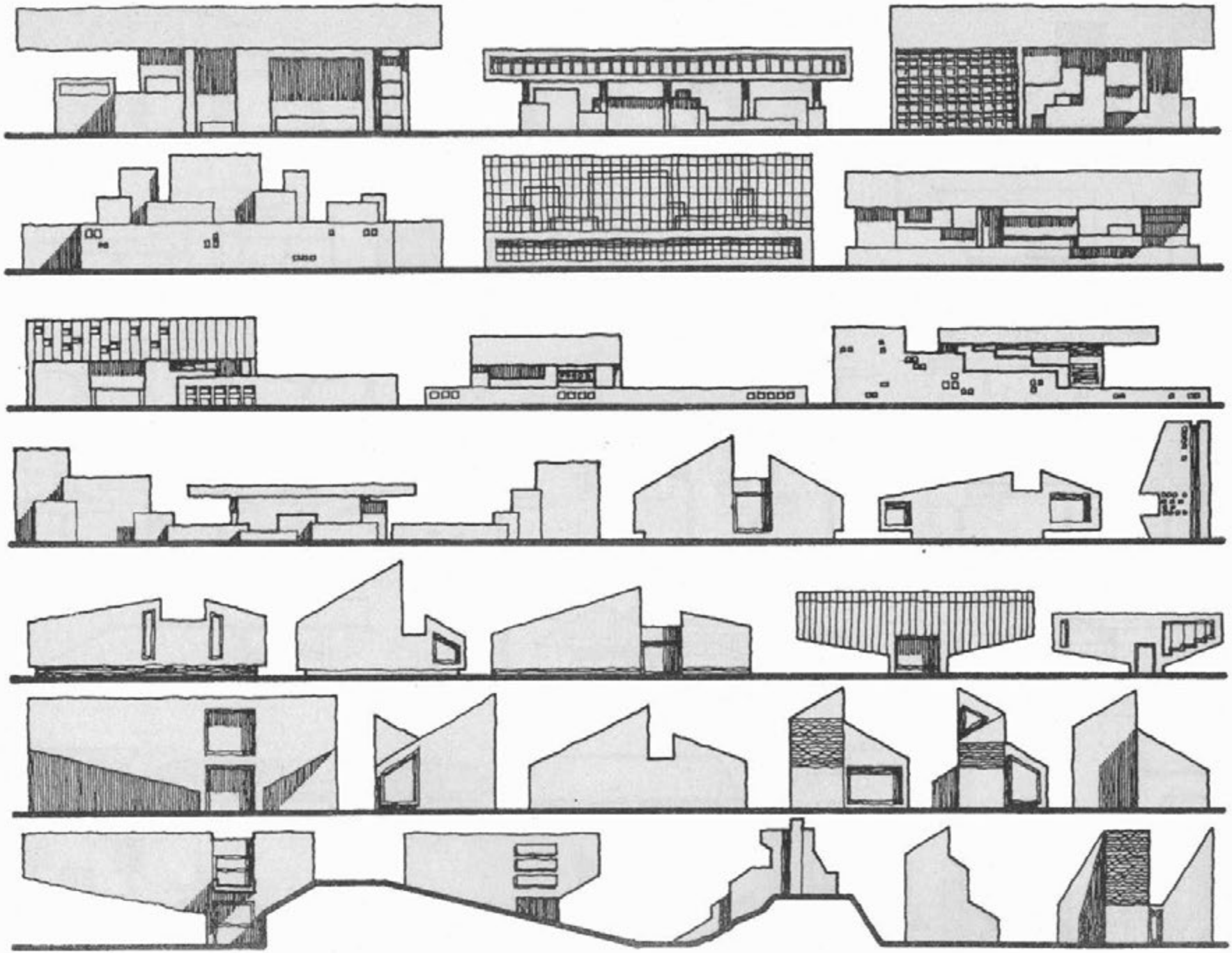


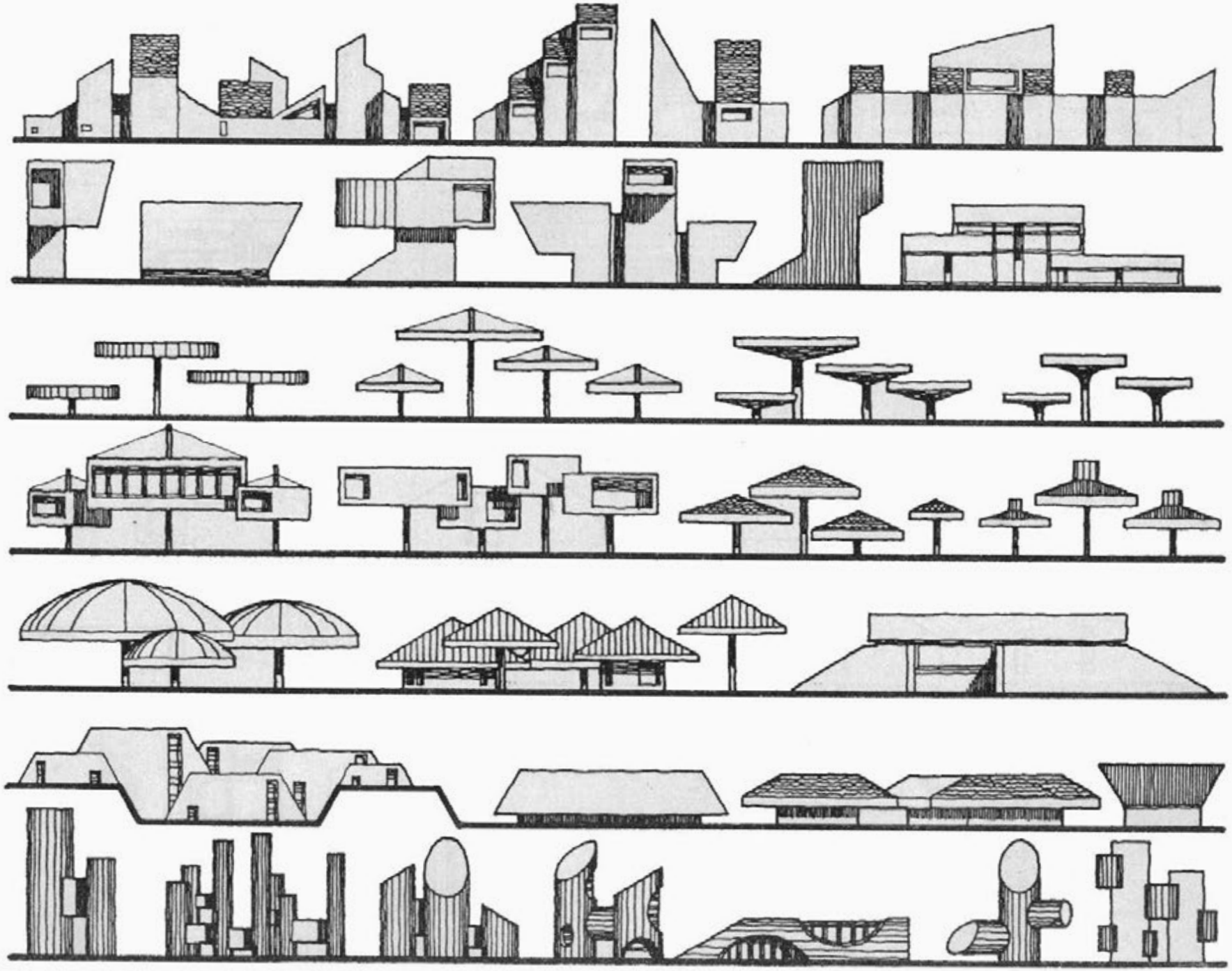


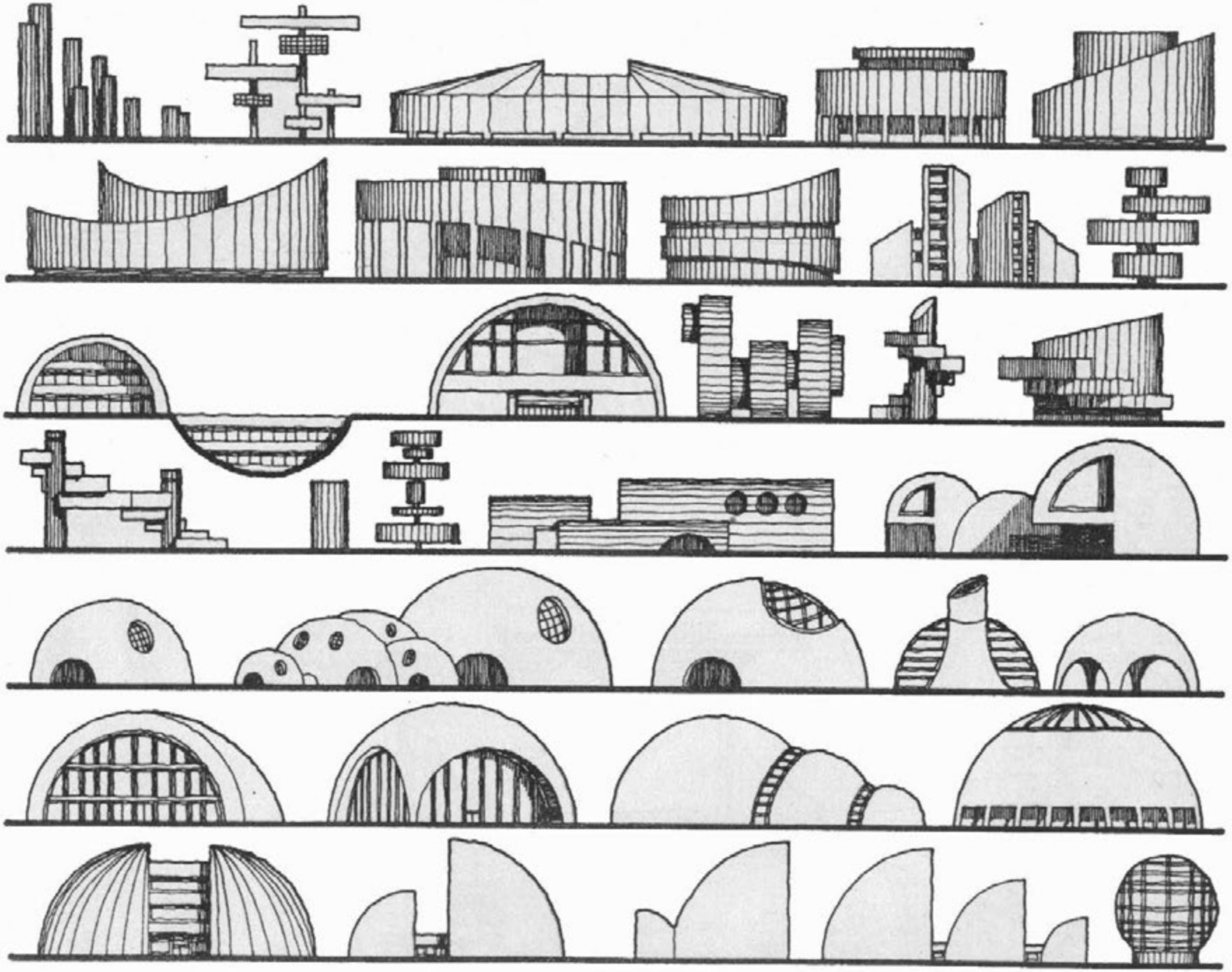


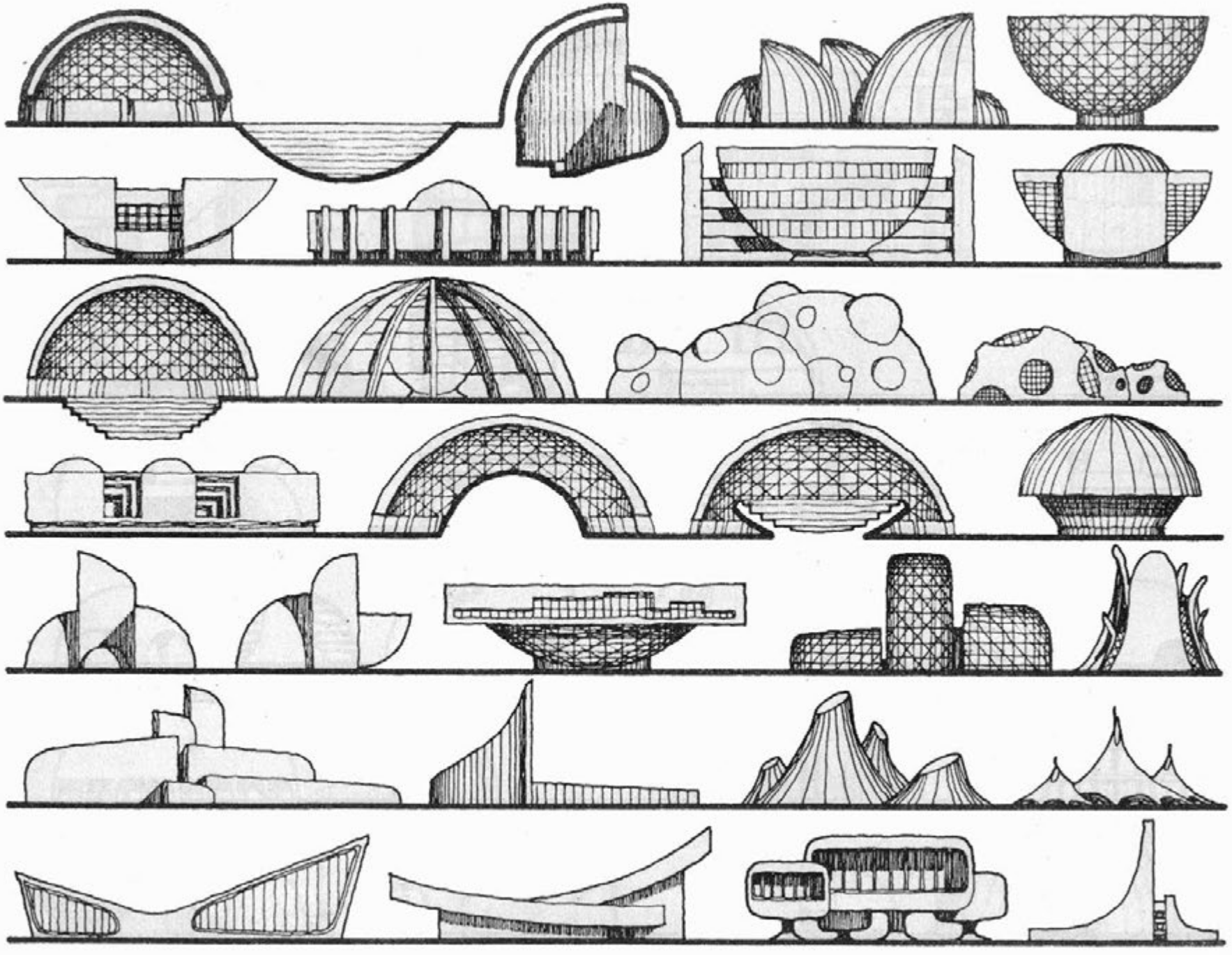


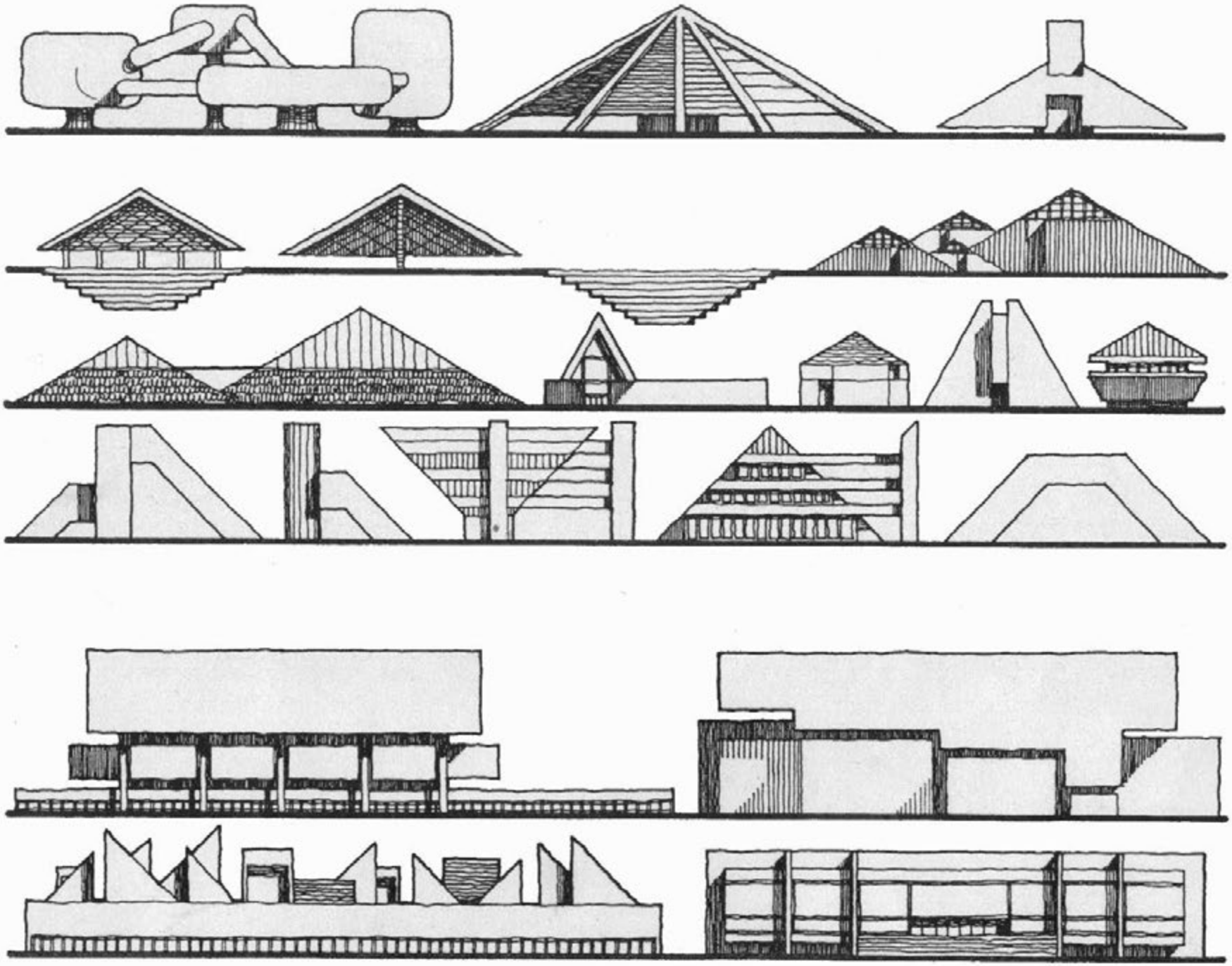






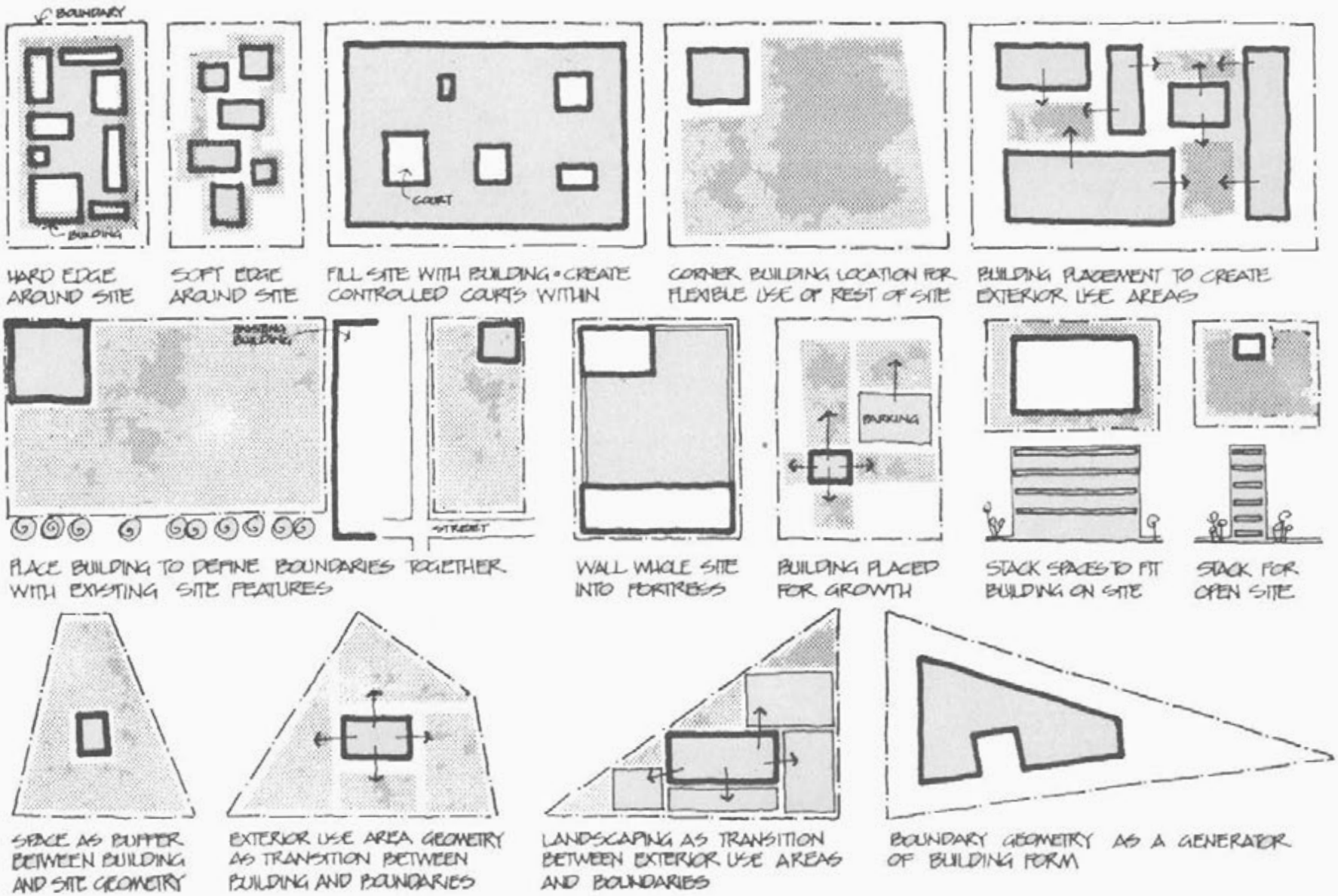


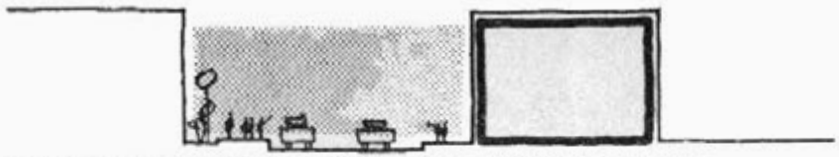




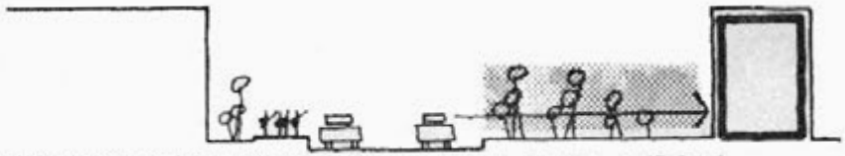
115 Response to Context

Property Boundaries



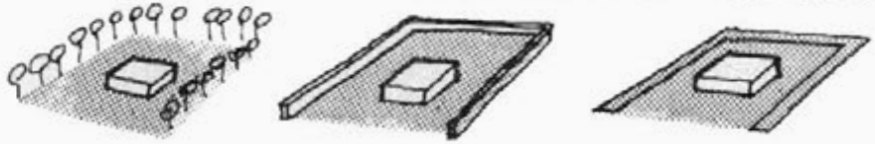


BUILDING AT BOUNDARY TO CONTRIBUTE TO STREET SCALE

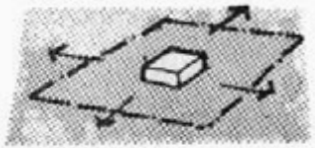


BUILDING SET BACK TO CREATE VISTA FROM STREET

BUILDING IMPORTANCE SHOWN BY AMOUNT OF LAND AROUND IT



EMPHASIZE BOUNDARIES WITH TREES, WALLS, WALKS



SITE CONTINUITY WITH ADJACENT LAND

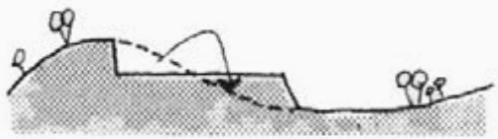
Land Contours

LEVEL SITE WITH CUT AND FILL

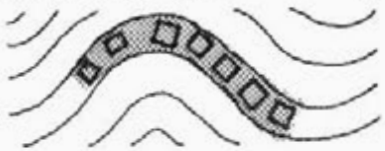
LEVEL WITH IMPORTED FILL

LEVEL WITH CUT AND REMOVE

CUT AND MAKE LAND FORMS



CUT = FILL FOR BUILDING PLATFORM

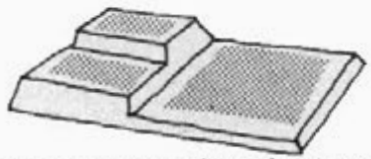


CONFORM BUILDING TO CONTOURS

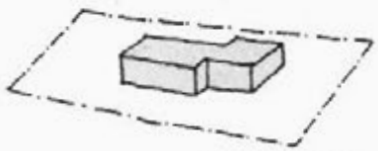
DIAGONAL RELATIONSHIP

PERPENDICULAR RELATIONSHIP

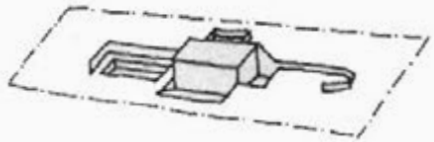
NOTCH FOR BUILDING PLATFORM



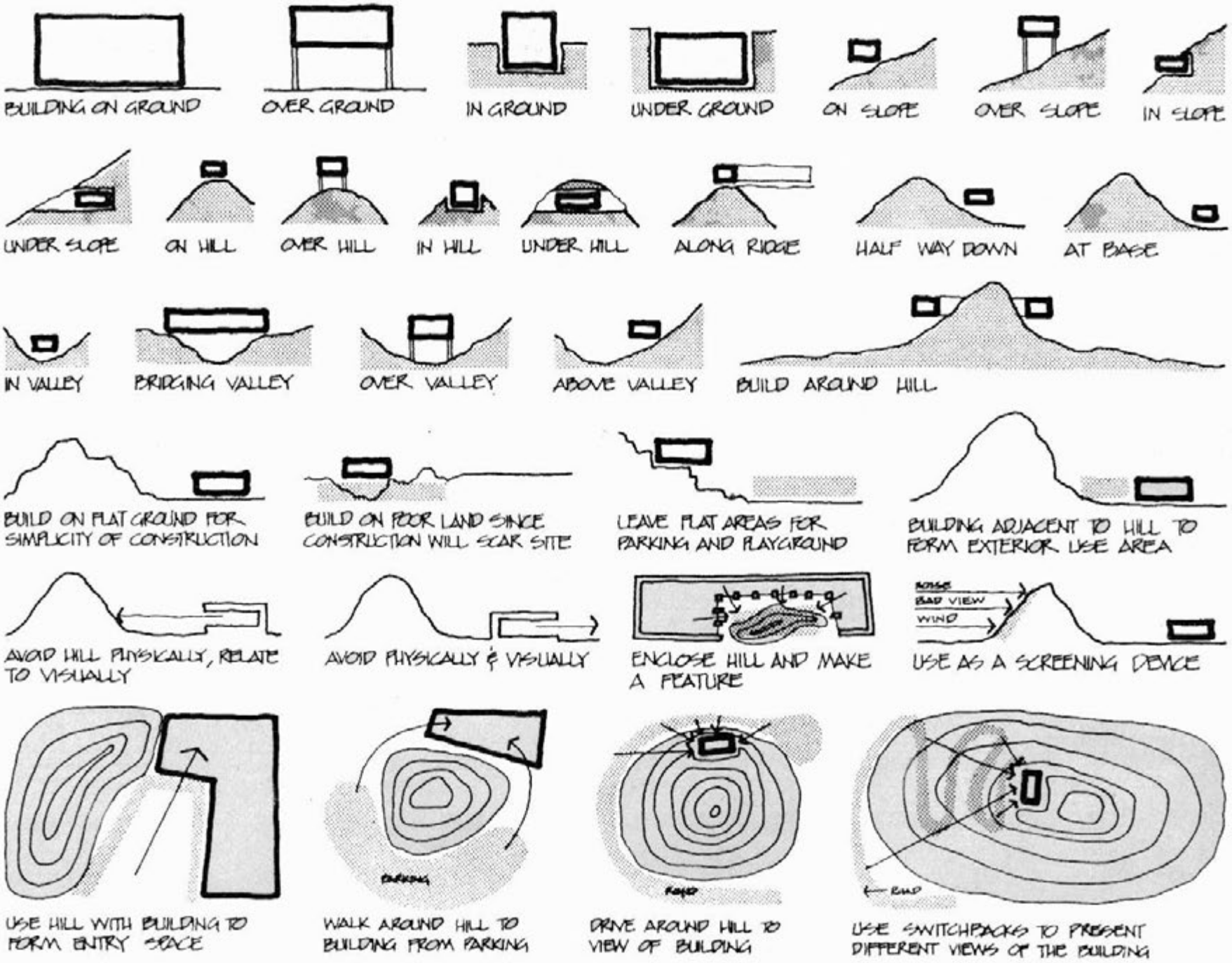
SCULPT LAND INTO USE ZONES

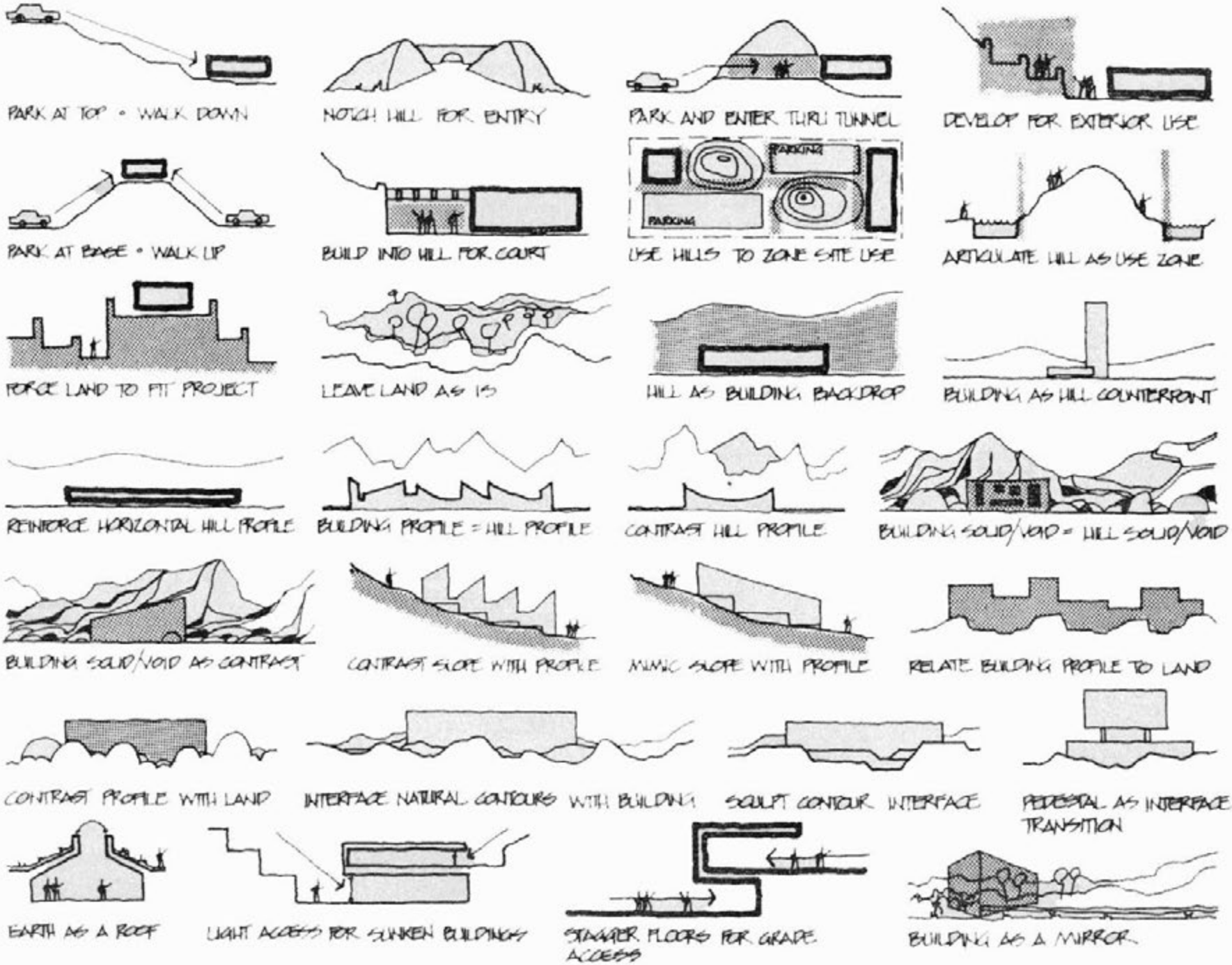


BUILDING AS OBJECT ON SITE

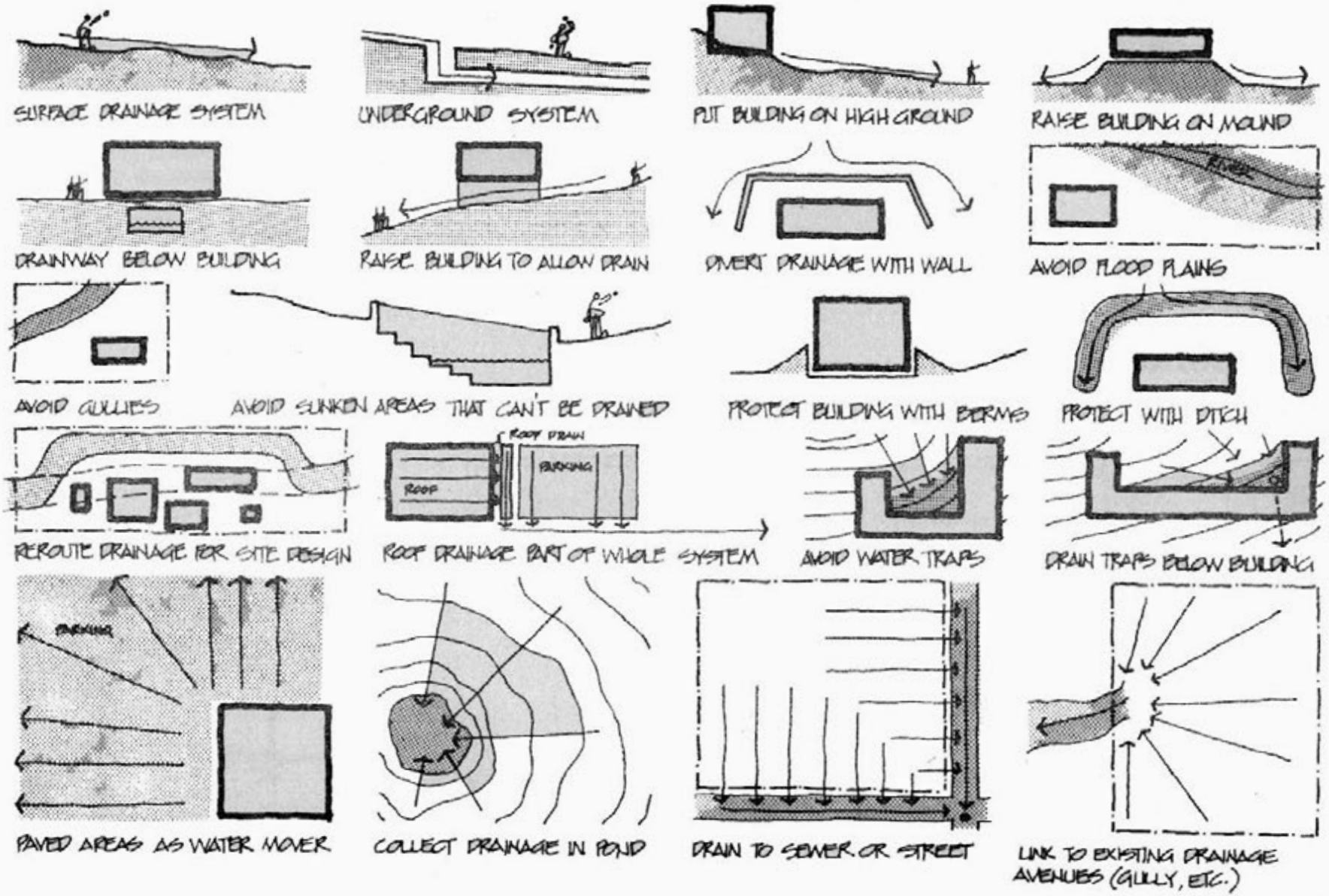


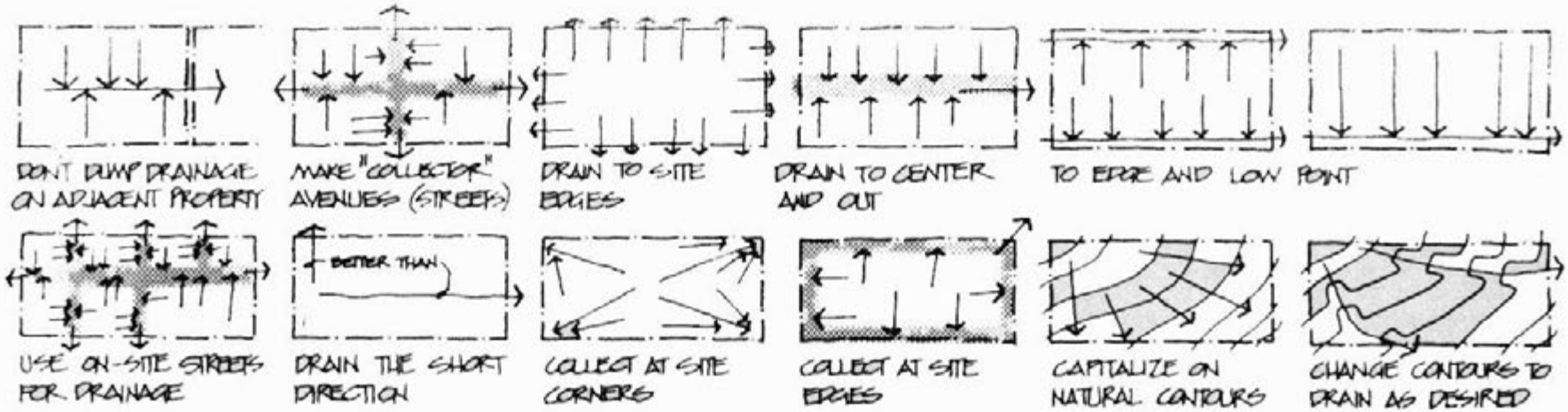
BUILDING AS INTEGRAL WITH SITE


BUILDING ON GROUND
OVER GROUND
IN GROUND
UNDER GROUND
ON SLOPE
OVER SLOPE
IN SLOPE
UNDER SLOPE
ON HILL
OVER HILL
IN HILL
UNDER HILL
ALONG RIDGE
HALF WAY DOWN
AT BASE
IN VALLEY
BRIDGING VALLEY
OVER VALLEY
ABOVE VALLEY
BUILD AROUND HILL
BUILD ON FLAT GROUND FOR SIMPLICITY OF CONSTRUCTION
BUILD ON POOR LAND SINCE CONSTRUCTION WILL SCAR SITE
LEAVE FLAT AREAS FOR PARKING AND PLAYGROUND
BUILDING ADJACENT TO HILL TO FORM EXTERIOR USE AREA
AVOID HILL PHYSICALLY, RELATE TO VISUALLY
AVOID PHYSICALLY & VISUALLY
ENCLOSE HILL AND MAKE A FEATURE
NOISE
BAD VIEW
WIND
USE AS A SCREENING DEVICE
USE HILL WITH BUILDING TO FORM ENTRY SPACE
PARKING
WALK AROUND HILL TO BUILDING FROM PARKING
ROAD
DRIVE AROUND HILL TO VIEW OF BUILDING
END
USE SWITCHBACKS TO PRESENT DIFFERENT VIEWS OF THE BUILDING

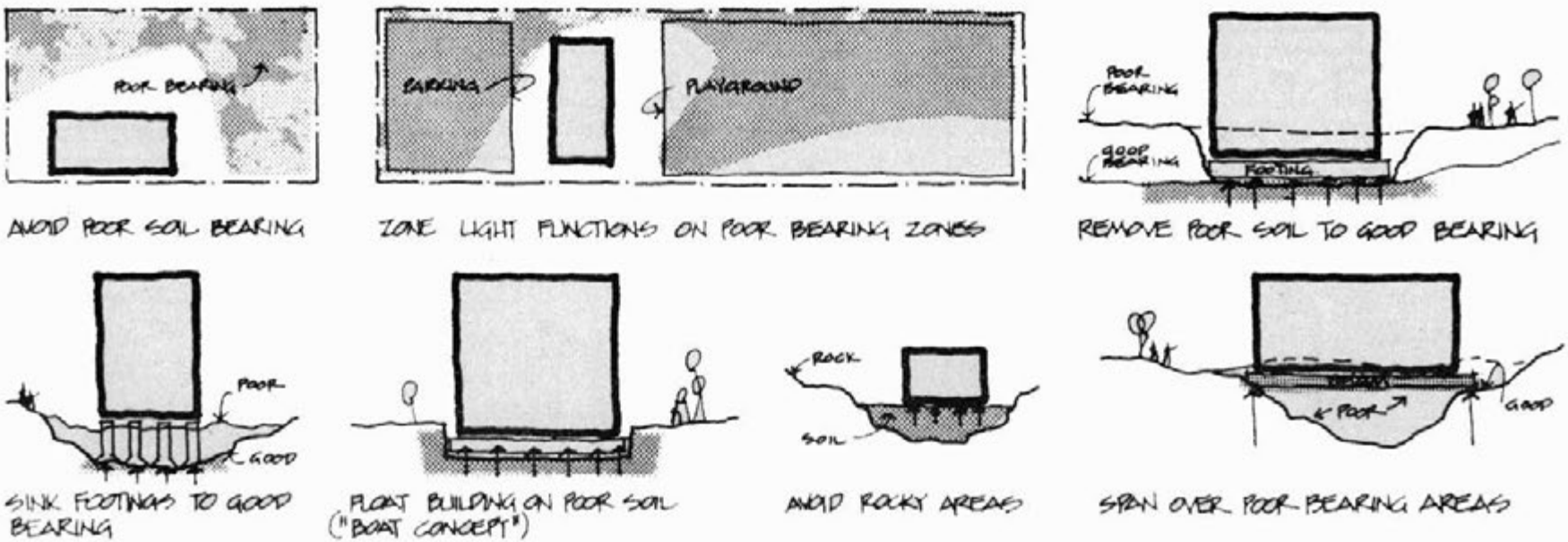

PARK AT TOP • WALK DOWN
NOTCH HILL FOR ENTRY
PARK AND ENTER THRU TUNNEL
DEVELOP FOR EXTERIOR USE
PARK AT BASE • WALK UP
BUILD INTO HILL FOR COURT
PARKING
PARKING
USE HILLS TO ZONE SITE USE
ARTICULATE HILL AS USE ZONE
FORCE LAND TO FIT PROJECT
LEAVE LAND AS IS
HILL AS BUILDING BACKDROP
BUILDING AS HILL COUNTERPOINT
REINFORCE HORIZONTAL HILL PROFILE
BUILDING PROFILE = HILL PROFILE
CONTRAST HILL PROFILE
BUILDING SOLID/VOID = HILL SOLID/VOID
BUILDING SOLID/VOID AS CONTRAST
CONTRAST SLOPE WITH PROFILE
MIMIC SLOPE WITH PROFILE
RELATE BUILDING PROFILE TO LAND
CONTRAST PROFILE WITH LAND
INTERFACE NATURAL CONTOURS WITH BUILDING
SCULPT CONTOUR INTERFACE
PEDESTAL AS INTERFACE TRANSITION
EARTH AS A ROOF
LIGHT ACCESS FOR SUNKEN BUILDINGS
STAGGER FLOORS FOR GRADE ACCESS
BUILDING AS A MIRROR

Surface Drainage

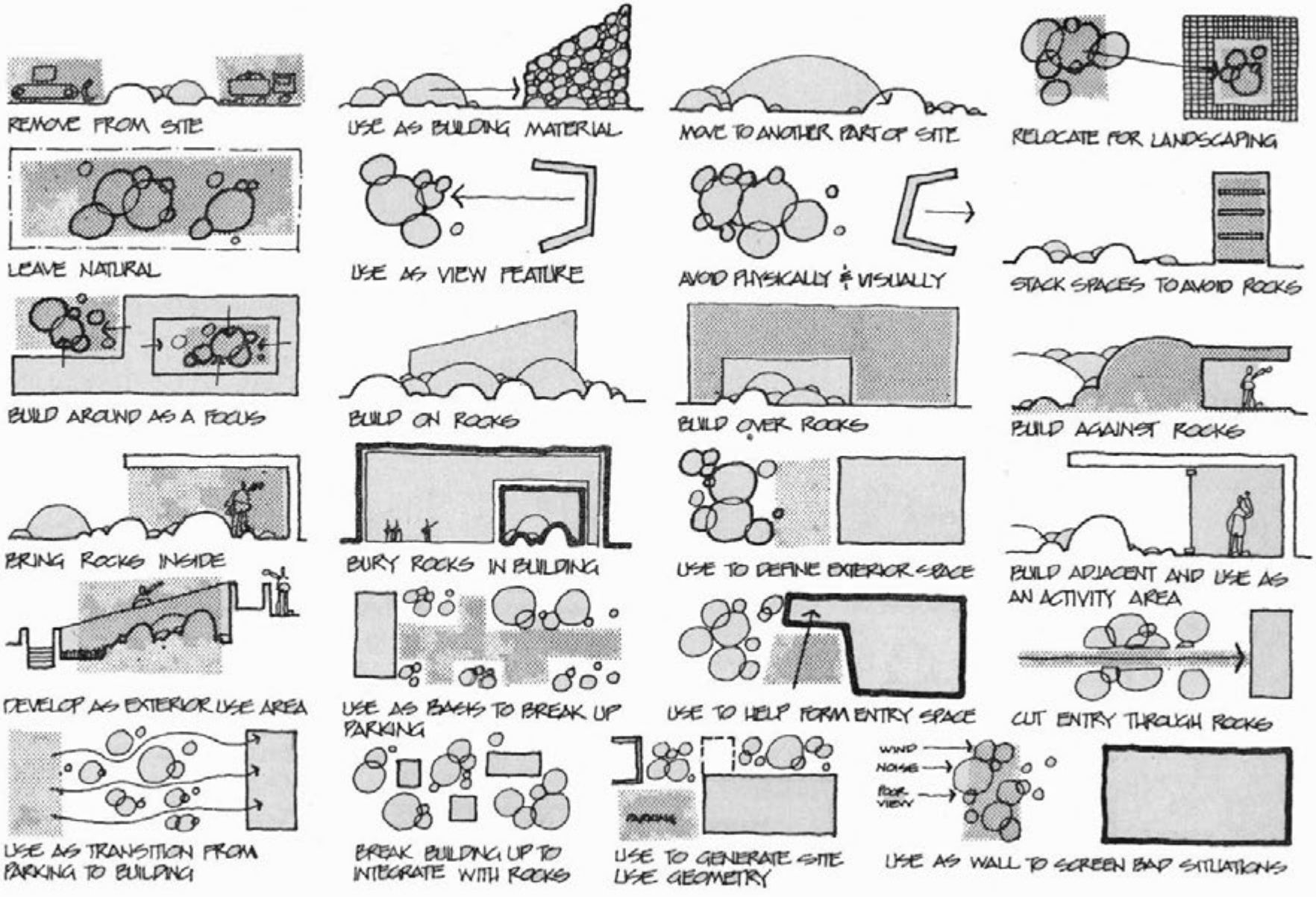


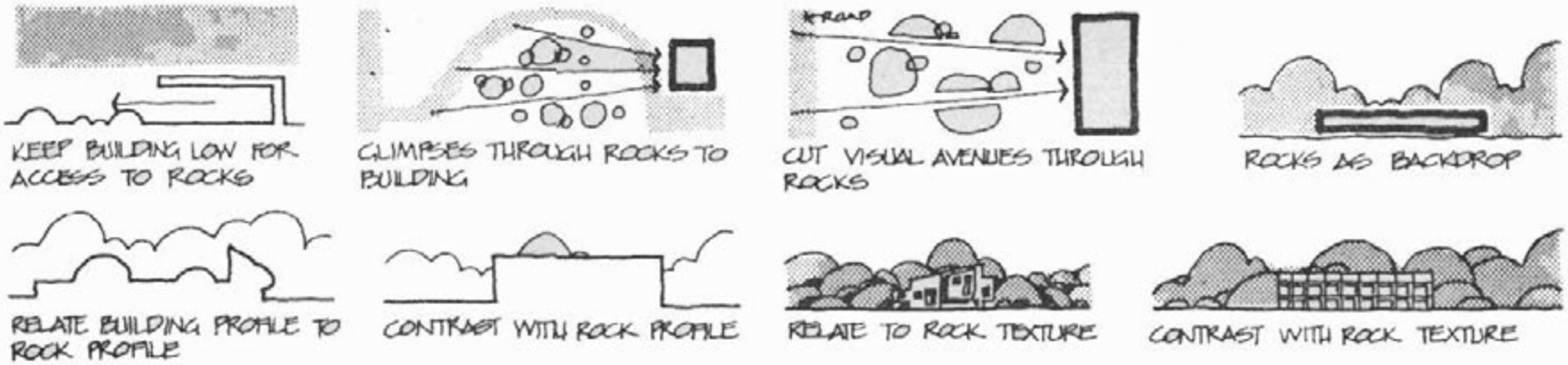


Soil Condition

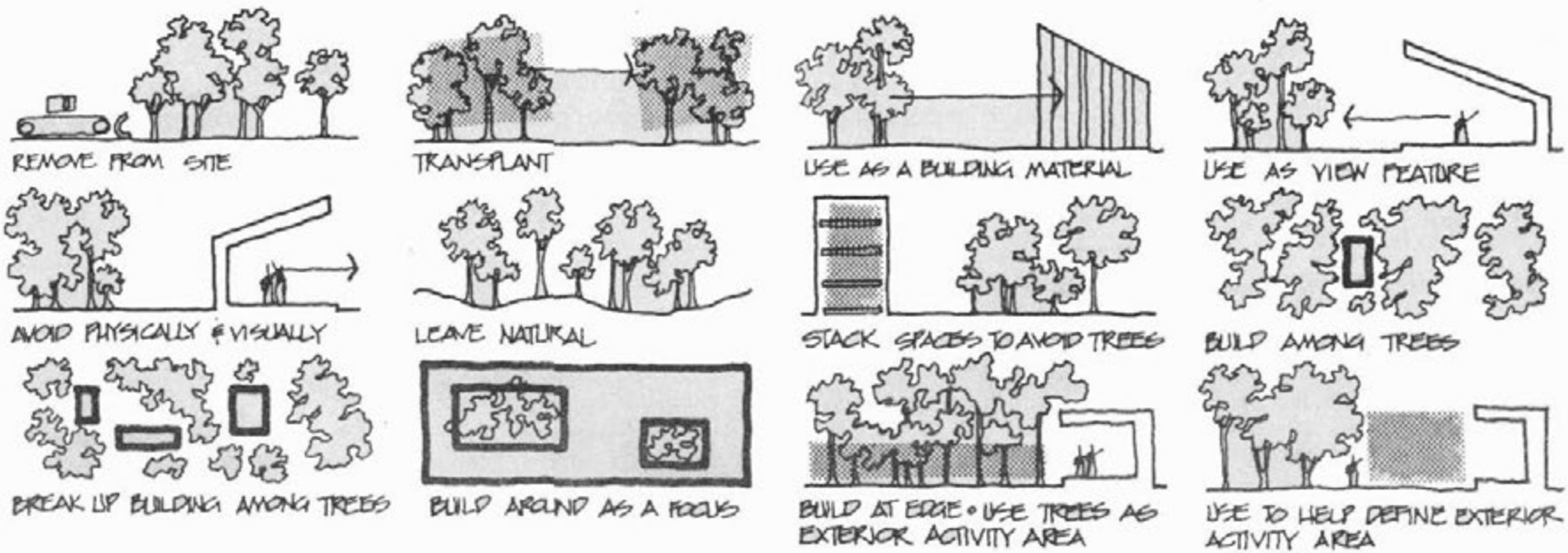


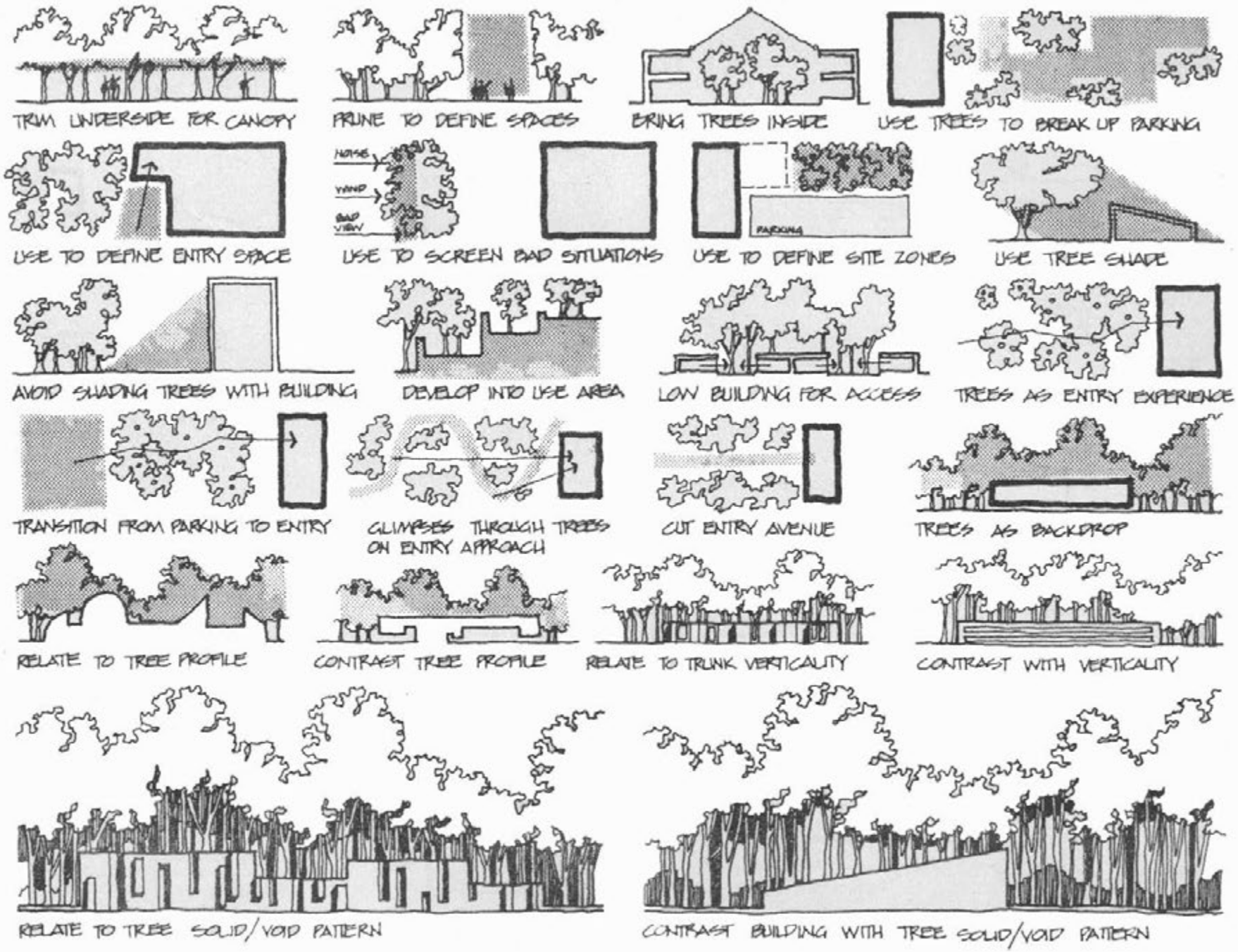
Rocks and Boulders



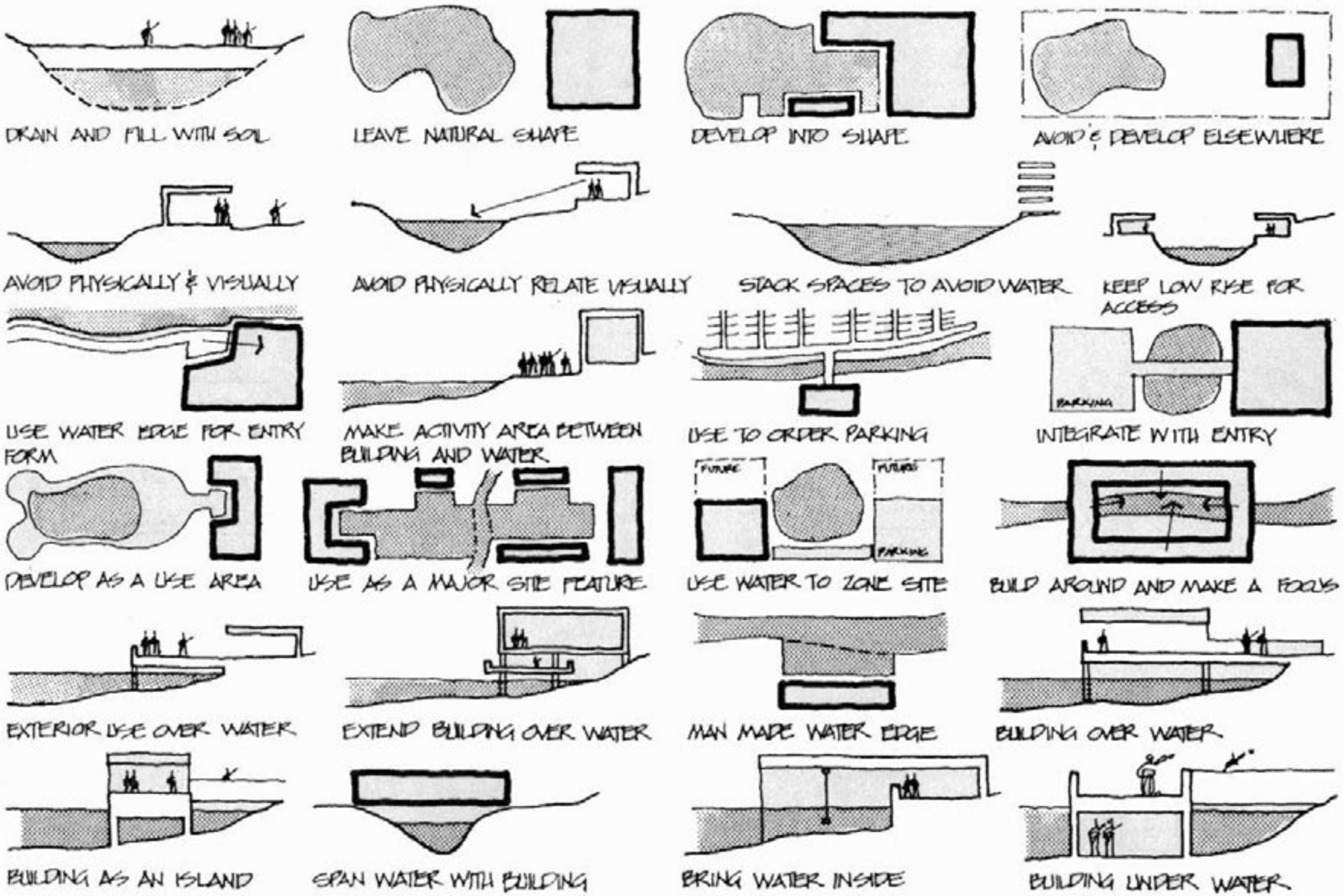

KEEP BUILDING LOW FOR ACCESS TO ROCKS
GLIMPSES THROUGH ROCKS TO BUILDING
CUT VISUAL AVENUES THROUGH ROCKS
ROCKS AS BACKDROP
RELATE BUILDING PROFILE TO ROCK PROFILE
CONTRAST WITH ROCK PROFILE
RELATE TO ROCK TEXTURE
CONTRAST WITH ROCK TEXTURE

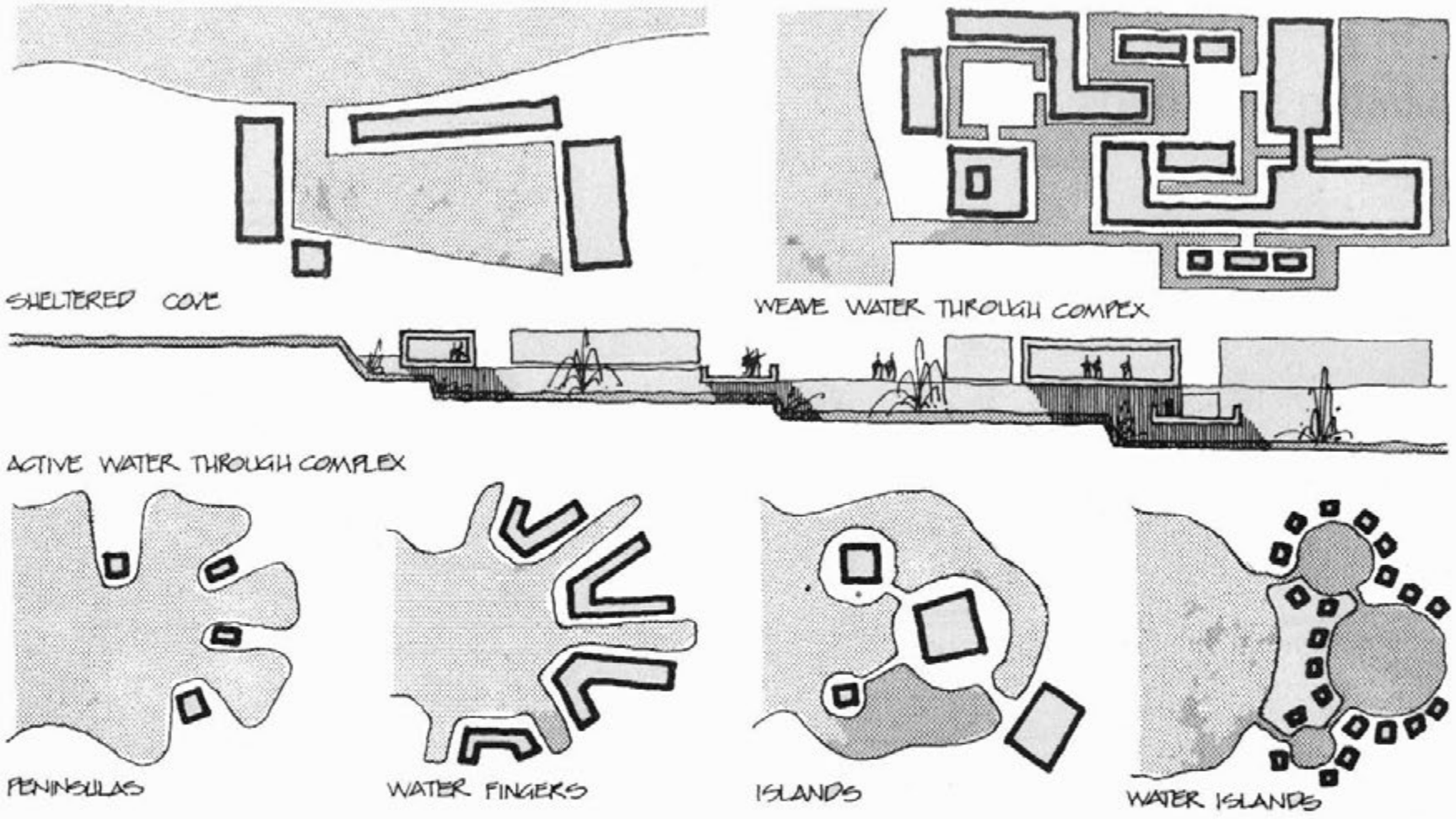
Trees


REMOVE FROM SITE
TRANSPLANT
USE AS A BUILDING MATERIAL
USE AS VIEW FEATURE
AVOID PHYSICALLY & VISUALLY
LEAVE NATURAL
STACK SPACES TO AVOID TREES
BUILD AMONG TREES
BREAK UP BUILDING AMONG TREES
BUILD AROUND AS A FOCUS
BUILD AT EDGE • USE TREES AS EXTERIOR ACTIVITY AREA
USE TO HELP DEFINE EXTERIOR ACTIVITY AREA

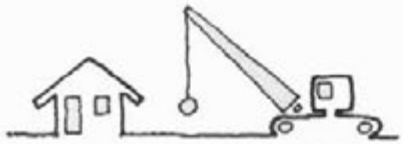

TRIM UNDERSIDE FOR CANOPY
PRUNE TO DEFINE SPACES
BRING TREES INSIDE
USE TREES TO BREAK UP PARKING
NOISE
WIND
BAD VIEW
PARKING
USE TO DEFINE ENTRY SPACE
USE TO SCREEN BAD SITUATIONS
USE TO DEFINE SITE ZONES
USE TREE SHADE
AVOID SHADING TREES WITH BUILDING
DEVELOP INTO USE AREA
LOW BUILDING FOR ACCESS
TREES AS ENTRY EXPERIENCE
TRANSITION FROM PARKING TO ENTRY
GLIMPSES THROUGH TREES ON ENTRY APPROACH
CUT ENTRY AVENUE
TREES AS BACKDROP
RELATE TO TREE PROFILE
CONTRAST TREE PROFILE
RELATE TO TRUNK VERTICALITY
CONTRAST WITH VERTICALITY
RELATE TO TREE SOLID/VOID PATTERN
CONTRAST BUILDING WITH TREE SOLID/VOID PATTERN

Water


DRAIN AND FILL WITH SOIL
LEAVE NATURAL SHAPE
DEVELOP INTO SHAPE
AVOID & DEVELOP ELSEWHERE
AVOID PHYSICALLY & VISUALLY
AVOID PHYSICALLY RELATE VISUALLY
STACK SPACES TO AVOID WATER
KEEP LOW RISE FOR ACCESS
USE WATER EDGE FOR ENTRY FORM
MAKE ACTIVITY AREA BETWEEN BUILDING AND WATER
USE TO ORDER PARKING
PARKING
INTEGRATE WITH ENTRY
DEVELOP AS A USE AREA
USE AS A MAJOR SITE FEATURE
FUTURE
FUTURE
PARKING
USE WATER TO ZONE SITE
BUILD AROUND AND MAKE A POOL
EXTERIOR USE OVER WATER
EXTEND BUILDING OVER WATER
MAN MADE WATER EDGE
BUILDING OVER WATER
BUILDING AS AN ISLAND
SPAN WATER WITH BUILDING
BRING WATER INSIDE
BUILDING UNDER WATER


SHELTERED COVE
WEAVE WATER THROUGH COMPEX
ACTIVE WATER THROUGH COMPLEX
PENINSULAS
WATER FINGERS
ISLANDS
WATER ISLANDS
WATER AS BACKDROP
RELATE TO HORIZON WITH PROFILE
CONTRAST HORIZON WITH PROFILE
WATER AS FOREGROUND
REFLECTIONS AS A WAY TO UNIFY BUILDING COMPEX

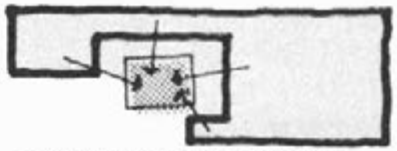
Existing Buildings



DEMOLISH ON-SITE BUILDING

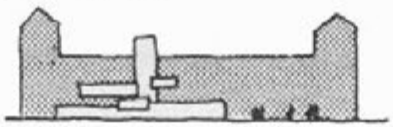
RELOCATE TO A DIFFERENT PART OF SITE

DEMOLISH AND REUSE MATERIALS



SURROUND AND FEATURE

NEW BUILDING AS BACKDROP FOR EXISTING ONE

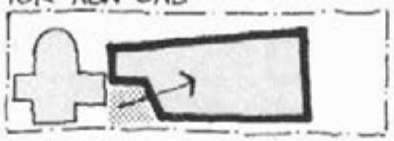


EXISTING BUILDING AS FOIL FOR NEW ONE

AVOID PHYSICALLY & VISUALLY

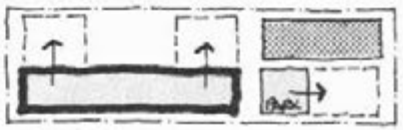
AVOID PHYSICALLY • RELATE TO VISUALLY

FORM SPACE BETWEEN OLD AND NEW



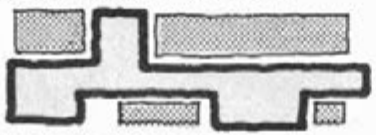
MAKE ENTRY SPACE BETWEEN NEW AND OLD

ABUT WITH TRANSITION JOINT TO PRESERVE INTEGRITY OF FORMS



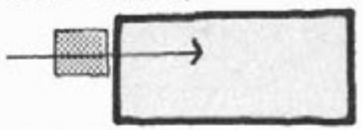
USE AS A BASIS FOR SITE ZONING

USE NEW AS UNIFYING ELEMENT BETWEEN EXISTING BUILDINGS

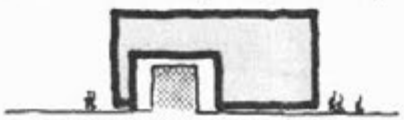


WEAVE NEW IN AMONG EXISTING

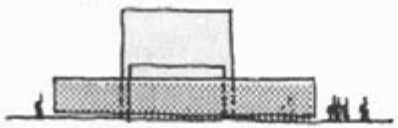
BREAK UP NEW TO INTEGRATE WITH EXISTING



USE EXISTING AS ENTRY EXPERIENCE TO NEW



SPAN OVER EXISTING WITH NEW



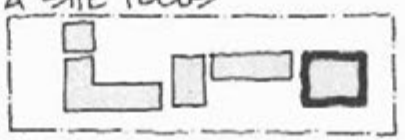
BUILD OVER BY SINKING COLUMNS INTO EXISTING

DEVELOP AROUND EXISTING AS A SITE FOCUS

PROTECT OLD WITH NEW

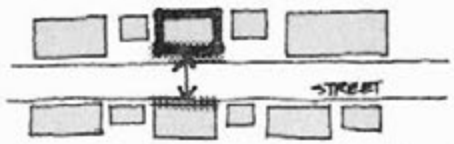
INTEGRATE SPACE & CIRCULATION BETWEEN OLD & NEW

FILL RESIDUAL OF OLD WITH NEW

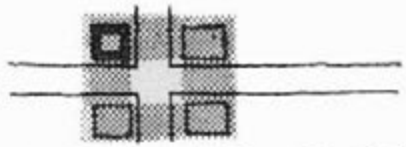


RELATE TO ON-SITE COMPOSITION

PUNCTUATE LONG EXISTING BUILDING WITH NEW

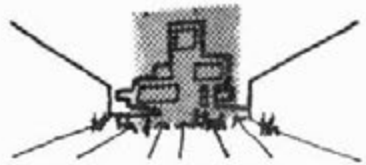


RELATE TO FACADE ACROSS STREET



RELATE TO CORNER COMPOSITION

NEW AS PAUSE BETWEEN STRONG EXISTING BUILDINGS

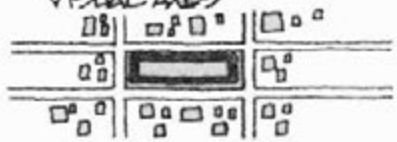


TERMINATE EXISTING VISUAL AXES

USE NEW BUILDING TO VISUALLY TURN CORNER

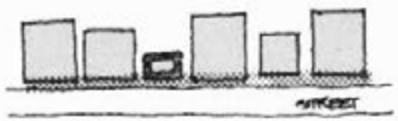
SUBORDINATE NEW TO EXISTING FORM ROLES

RELATE NEW TO EXISTING MASSING DENSITY

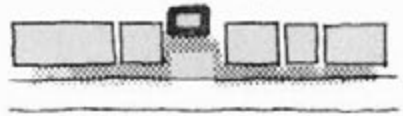


CONTRAST NEW WITH EXISTING MASSING DENSITY

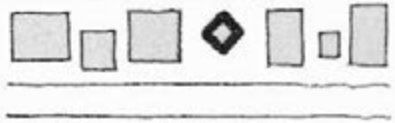
USE NEW AS SCALE TRANSITION



STRENGTHEN STREET FACADE CONTINUITY



ACCENT STREET FACADE CONTINUITY

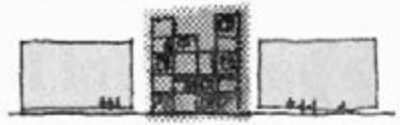


CREATE FOREGROUND BUILDING BY GEOMETRY CONTRAST

RELATE TO SURROUNDING SCALE

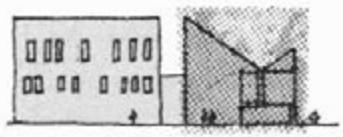
CONTRAST EXISTING SCALE

RELATE TO EXISTING MASS/ VOID PATTERN



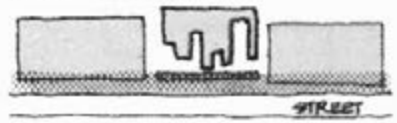
CONTRAST EXISTING MASS/ VOID PATTERN

RELATE TO EXISTING FENESTRATION PATTERN



CONTRAST EXISTING FENESTRATION PATTERN

WALK BETWEEN • ENTER FROM REAR



USE "FALSE" WALL TO RELATE TO EXISTING

BORROW FROM EXISTING PROFILES

CONTRAST WITH EXISTING PROFILES

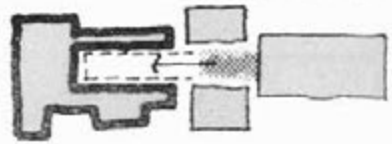
USE SURROUNDING MOTIF IN A CONTEMPORARY WAY

USE MOTIF IN NEW "VERBATIM"

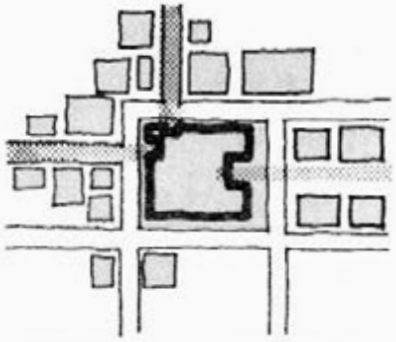
LET SURROUNDING BUILDINGS INFLUENCE SITE USE GEOMETRY

RELATE NEW BUILDING PLANES TO PLANES OF EXISTING BUILDINGS

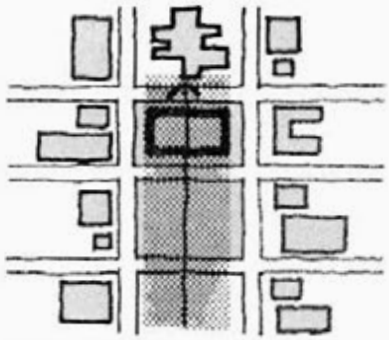
RELATE TO EXISTING BUILDING ENTRIES



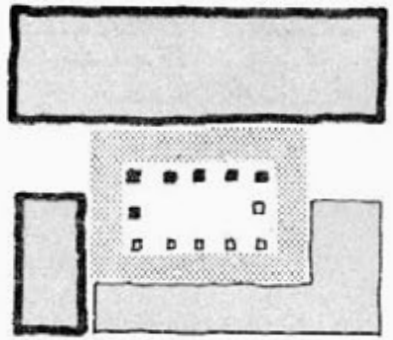
RELATE TO EXISTING EXTERIOR SPACES



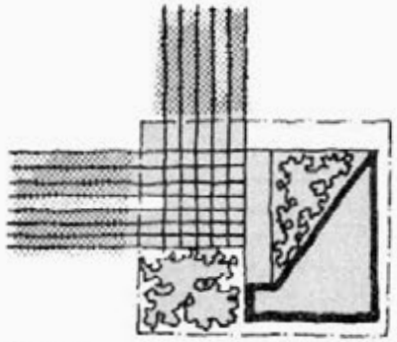
TERMINATE ALL IMPORTANT VISTAS TO THE SITE



BURY NEW BUILDING TO ALLOW VISTA TO CONTINUE

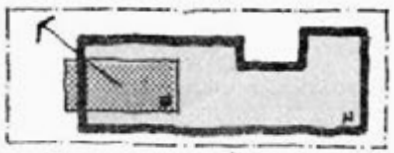


CONTINUE IMPORTANT SOLID/ VOID RELATIONSHIPS

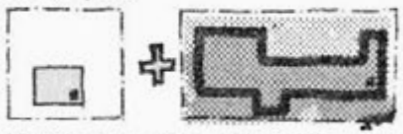


INTEGRATE SURROUNDING PAVING PATTERNS ONTO SITE

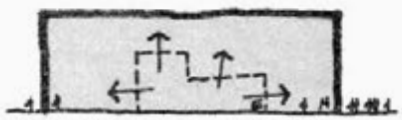
Expansion of Existing Building



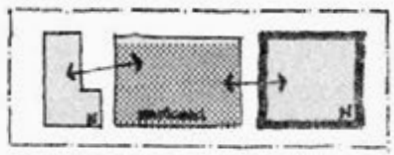
REMOVE EXISTING & REPLACE WITH NEW



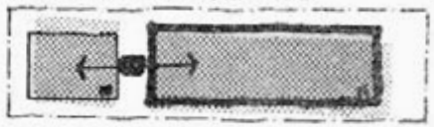
BUILD NEW ON A NEW SITE • USE OLD AS AN ADJUNCT FACILITY



BURY AND ABSORB OLD WITH NEW

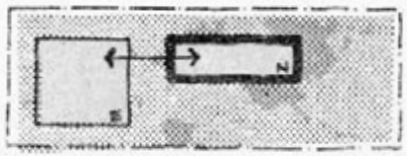


BUILD NEW TO AVOID EXISTING • USE COMMON PARKING

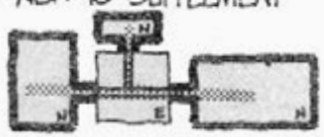


MINIMIZE NEW TO OLD PHYSICAL INTERFACE FOR PLANNING FLEXIBILITY

BUILD ADJACENT TO EXISTING



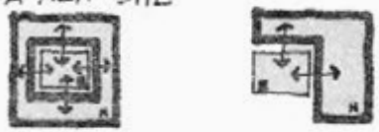
CONVERT EXISTING TO NEW USE BUILD NEW TO SUPPLEMENT



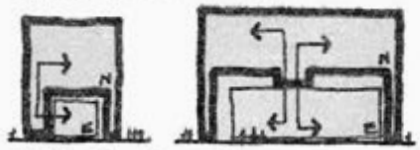
EXTEND EXISTING CIRCULATION

BUILD NEW UNDER EXISTING

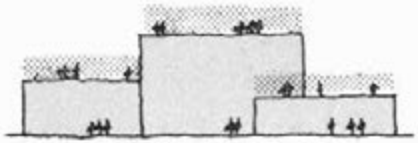
ABANDON OLD • BUILD NEW ON A NEW SITE



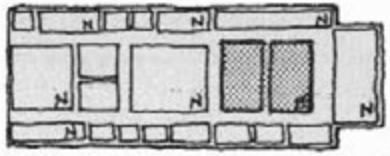
ENVELOP OLD WITH NEW



EXPAND UPWARD

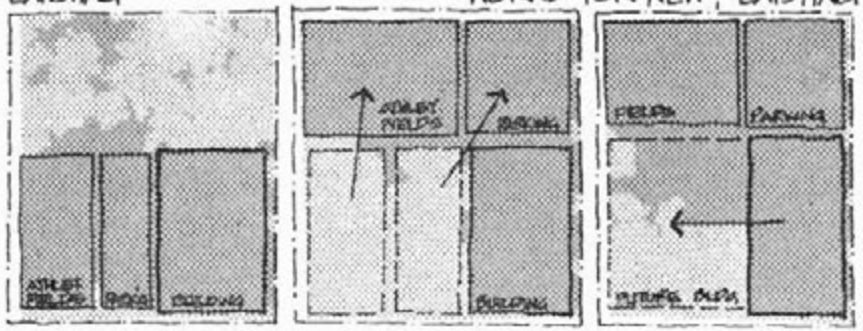


DEVELOP THE ROOF OF EXISTING

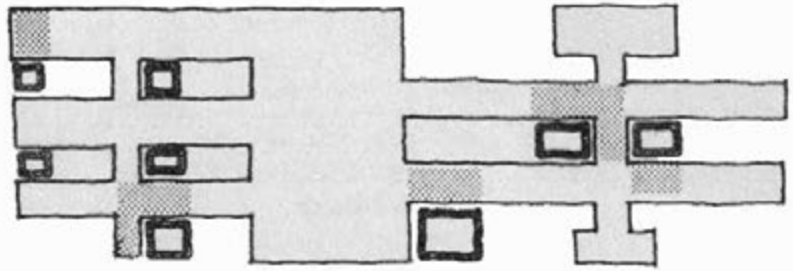


CREATE NEW CIRCULATION THAT WORKS FOR NEW & EXISTING

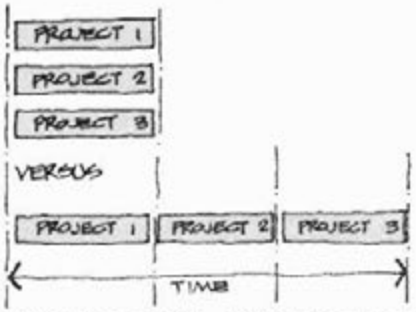
PHASE EVENTUAL REMOVAL OF EXISTING



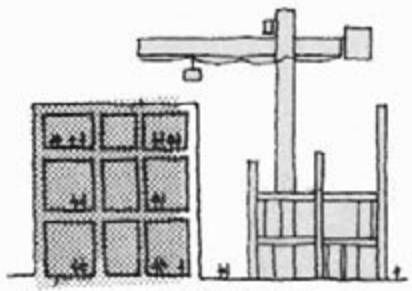
EXTERIOR USE AREAS ARE EASIEST TO RELOCATE FOR MASTER SITE ZONING FUTURE DEVELOPMENT



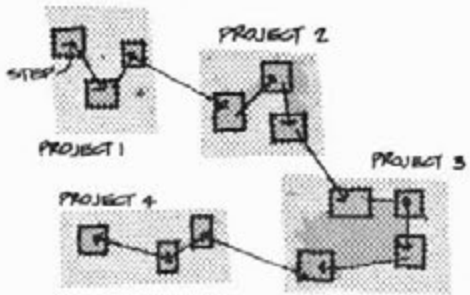
DENSIFY EXISTING WITH NEW • "HALO" AFFECT OF NEW TO IMPROVE ADJACENT EXISTING



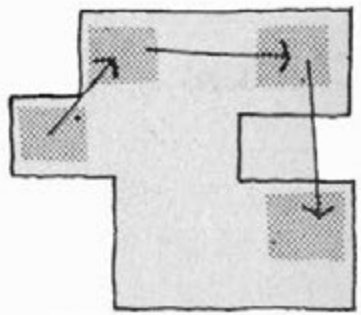
MINIMIZE TOTAL EXPANSION TIME BY SIMULTANEOUS PROJECTS



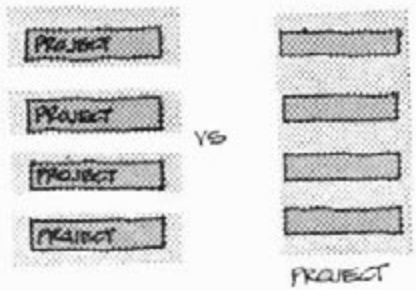
MINIMIZE INTERRUPTIONS OF ONGOING EXISTING FUNCTIONS



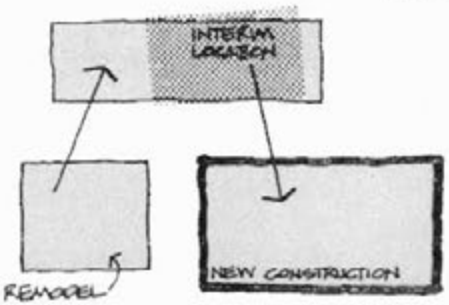
EXPANSION SEGMENTS SHOULD BE INDEPENDENT OF ONE ANOTHER



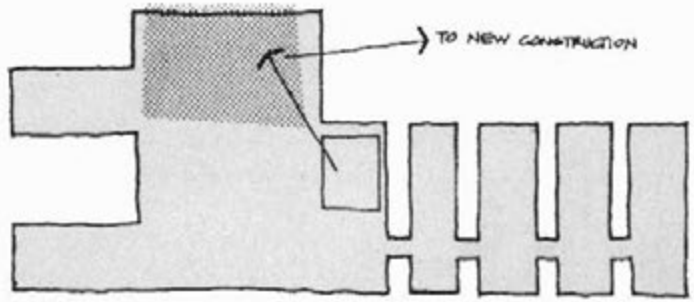
AVOID MULTIPLE FUNCTION RELOCATIONS



FEWER, LARGER PROJECTS RESULT IN CONSTRUCTION ECONOMY & EFFICIENCY

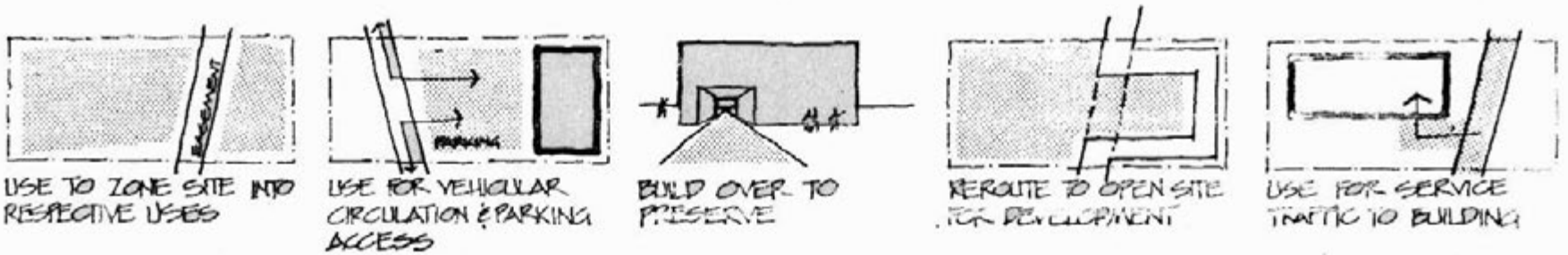


EXPANSION USUALLY INVOLVES TEMPORARY FUNCTION RELOCATION

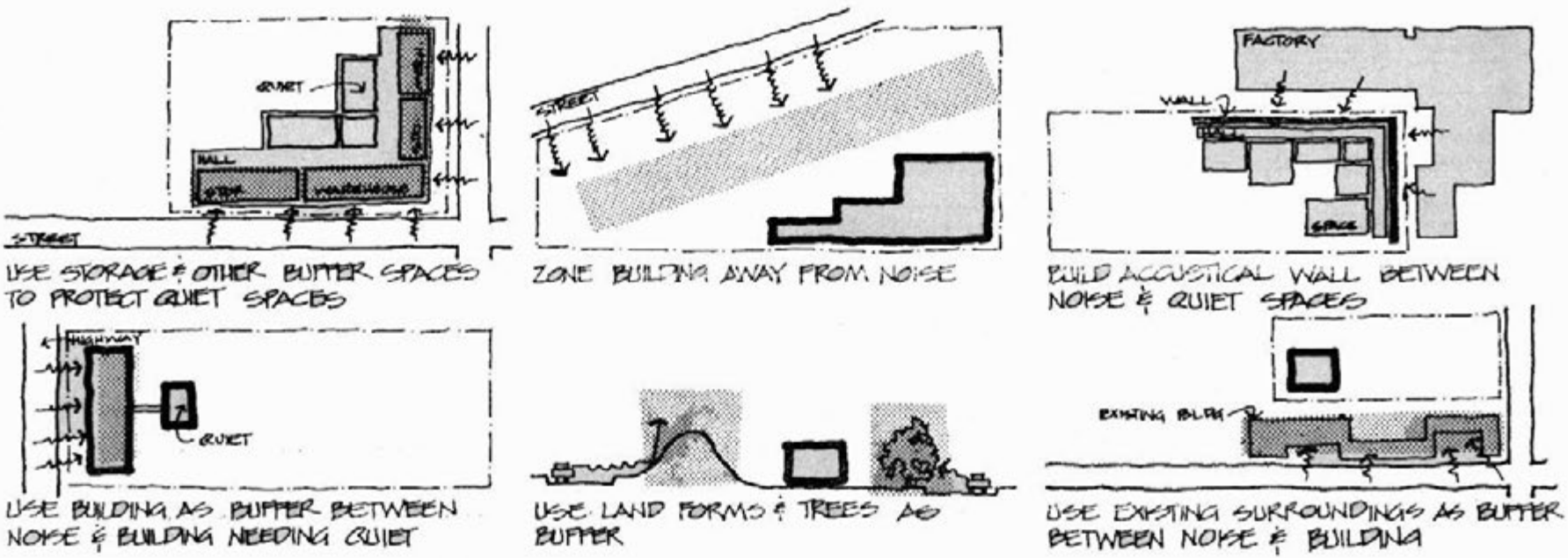


INTERIM LOCATIONS SHOULD ALSO BE AREAS MOST IN NEED OF RENOVATION

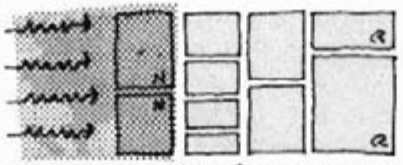
Easements



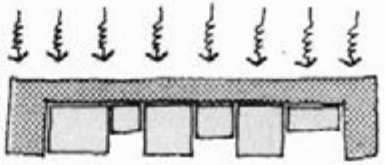
Noise



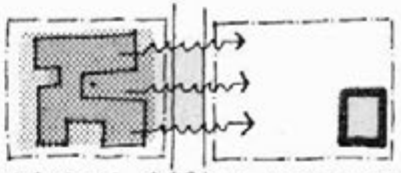
ZONE QUIET SPACES AWAY FROM NOISE



GROUP NOISY SPACES WITH OUTSIDE NOISE SOURCE

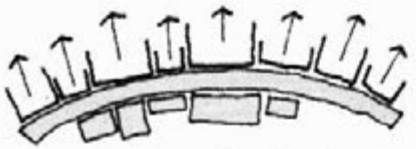


CIRCULATION AS A NOISE BUFFER

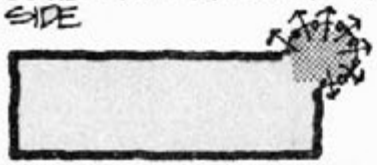


STOP OR REDUCE NOISE AT ITS SOURCE

Views from the Site

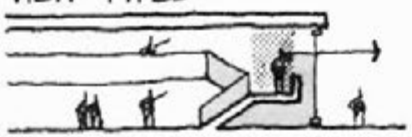


ZONE VIEW SPACES TO VIEW SIDE

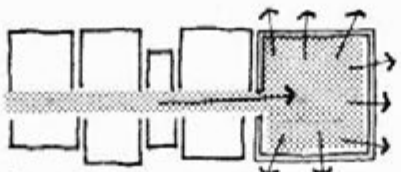


PROVIDE A VIEW BUBBLE ON THE BUILDING

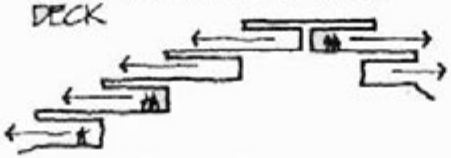
ZONE SPACES FOR APPROPRIATE VIEW TYPES



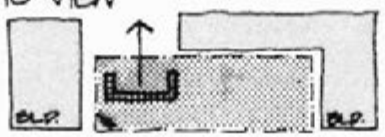
VIEW FROM STAIR LANDING



PROVIDE ACCESS TO VIEW DECK

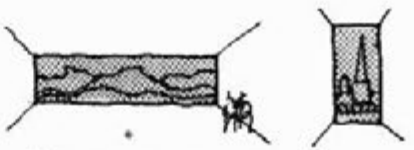


STEP SPACES FOR ACCESS TO VIEW

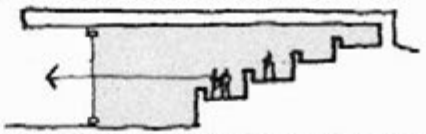


PLACE BUILDING TO AVOID SURROUNDING VIEW BARRIERS

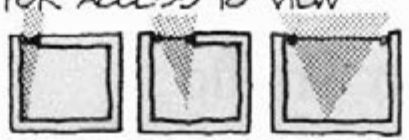
PRESENT VIEW ON ENTRY TO SPACE



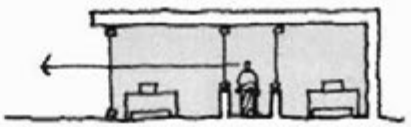
FRAME VIEWS WITH APPROPRIATE WINDOW SHAPES



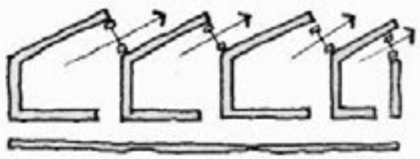
STEP USE ZONES IN SPACES FOR ACCESS TO VIEW



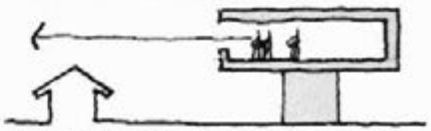
WINDOW PROPORTION BASED ON VIEW PROPORTION & SIZE



TRANSPARENT INTERIOR WALLS TO GIVE VIEW TO "BURIED" SPACES

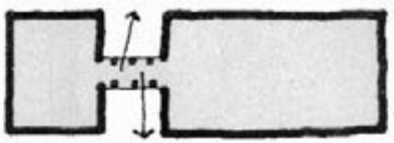


AIM FENESTRATION TOWARD VIEW DIRECTION

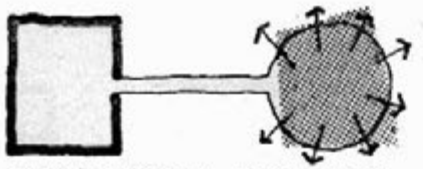


RAISE SPACES FOR VIEW ACCESS OVER OBSTRUCTIONS

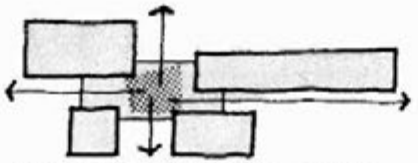
VIEW DECK ON ROOF



VIEW FROM TRANSPARENT LINK BETWEEN BUILDINGS

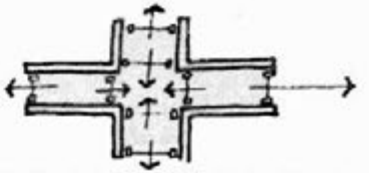


CREATE SPECIAL VIEW AREA



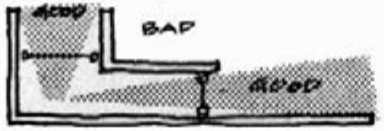
MAKE VIEW AVENUES FROM BUILDING 'CORE' AREAS

RESPECT VIEWS FROM OTHER BUILDINGS

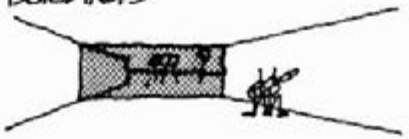


CREATE VARIETY OF VIEW SCALES

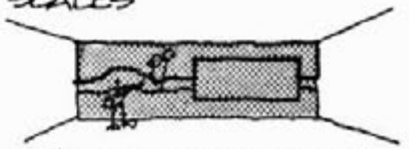
USE RAIL TO CUT OFF POOR VIEW BELOW



TRANSPARENT BUILDING TOWARD GOOD VIEW • OPAQUE TO BAD



USE WING WALLS TO SCREEN OFF BAD VIEWS FROM GOOD



USE DETACHED WALLS TO SCREEN BAD VIEWS FROM GOOD

USE BERMS TO SCREEN BAD VIEWS & CREATE GOOD ONES

USE WALLS TO CREATE CONTROLLED GOOD VIEWS

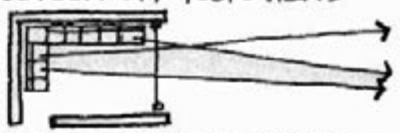
INTROVERT THE BUILDING TOWARD ITS OWN GOOD VIEW

USE EXISTING LAND FORMS TO SCREEN OFF POOR VIEWS

FRAME GOOD VIEWS WITH LANDSCAPING

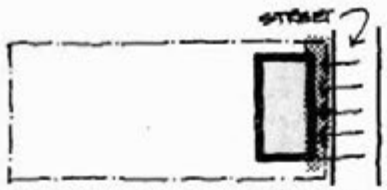
SCREEN POOR VIEWS WITH LANDSCAPING.

CREATE VIEW AVENUES WITH LANDSCAPING

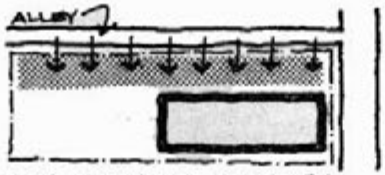


PLACE FURNITURE IN RESPONSE TO VIEWS

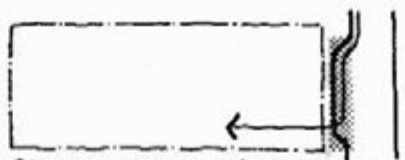
Off Site Vehicular Traffic



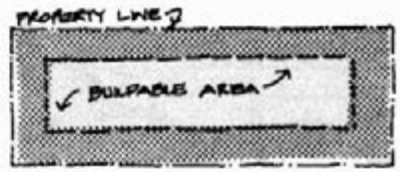
PRESENT IMAGE FACADE TO MAJOR TRAFFIC ARTERY



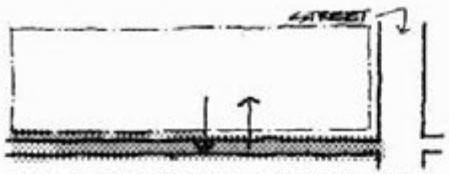
USE ALLEY FOR PERIPHERY SITE CIRCULATION & PARKING ACCESS



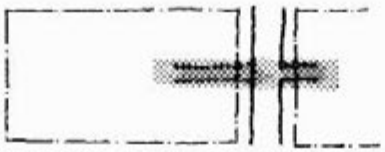
PROVIDE DECELERATION LANE FROM MAJOR ARTERY



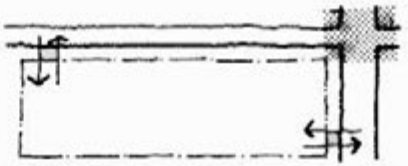
PUT PAVING & PARKING IN SET BACK AREAS



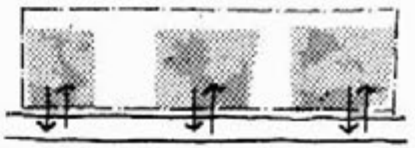
RECEIVE TRAFFIC FROM MINOR LOW SPEED STREETS



RELATE SITE ENTRY TO OTHERS ACROSS FROM SITE



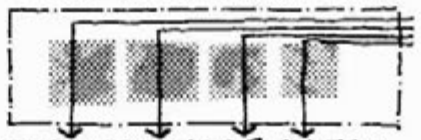
ENTER SITE AT FURTHEST POINTS FROM INTERSECTIONS



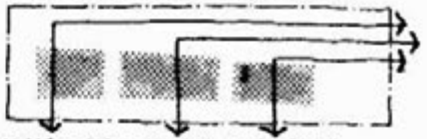
SPECIAL SITE ENTRIES FOR SPECIAL SITE FUNCTIONS

RECEIVE TRAFFIC AT ONE ENTRY, SORT OUT ON SITE LATER

SEPARATE PUBLIC FROM SERVICE TRAFFIC



USE ONE WAY LOOP SYSTEM FOR ENTRY • PARK • EXIT

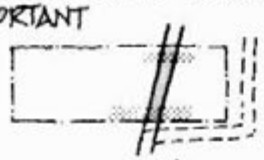


USE TWO-WAY SYSTEM

Existing On Site Vehicular Traffic

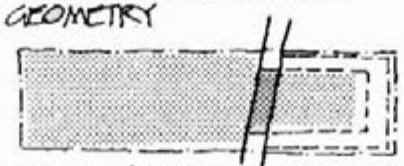
USE AS BASIS FOR SITE USE ZONING

MAKE LINKAGES WHERE IMPORTANT



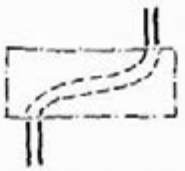
CLOSE STREET & DIVERT TRAFFIC

RESPOND WITH BUILDING GEOMETRY



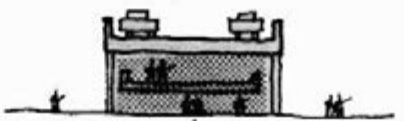
ALTER PATH TO MAKE SITE PLANNING MORE FLEXIBLE

SPLIT BUILDING & BRIDGE OVER



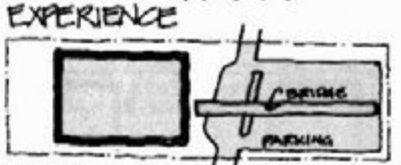
MAKE NEW PATTERN THROUGH SITE WHERE NEEDED

ACCOMODATE WITH A BUILDING TUNNEL

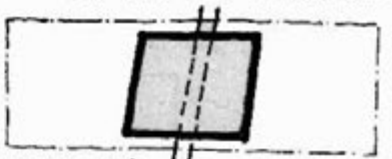


RAISE ROAD & DEVELOP BELOW

REINFORCE DRIVERS' EXPERIENCE

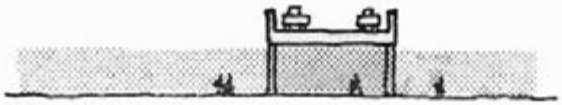


USE FOR ACCESS TO PARKING

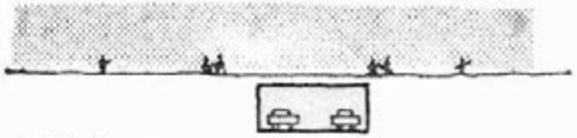


ENVELOP & HIDE ROAD WITH BUILDING

BERM TO SCREEN VISUALLY



RAISE TO FREE SITE FLOOR FOR DEVELOPMENT



BURY ROAD TO ELIMINATE AS A FACTOR

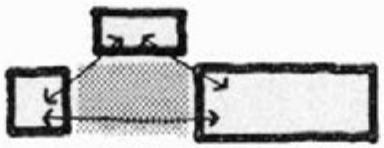
Existing On Site Pedestrian Traffic

RELOCATE FOR MORE FLEXIBLE SITE ZONING

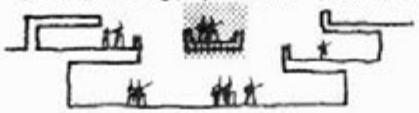
ALTER BUILDING GEOMETRY TO ACCOMODATE PATH

ACCOMODATE WITH AN ENLARGED PLAZA AREA

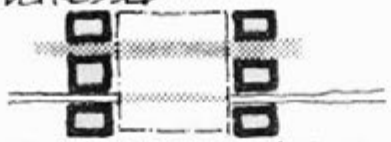
RAISE BUILDING TO ALLOW MULTIDIRECTIONAL PATHS



ALLOW LINKS BETWEEN FUNCTIONALLY RELATED BUILDINGS

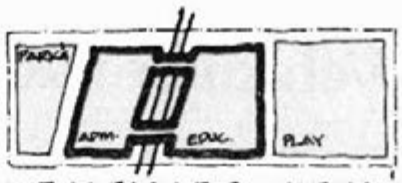


PROVIDE A BRIDGE IF SITE IS DEPRESSED

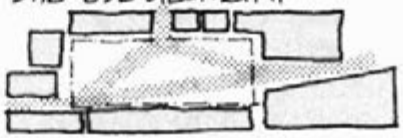


PROVIDE NEW LINKS & PATHS WHERE NEEDED

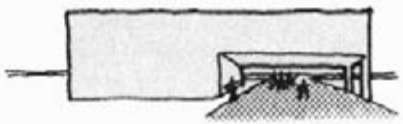
CONTRIBUTE TO PATH WITH EXTERIOR SPACE DEVELOPMENT



USE AS BASIS FOR BUILDING & SITE USE GEOMETRY



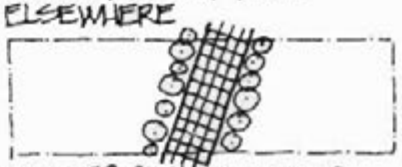
LINK DISCONNECTED PEDESTRIAN PATHS



BUILD OVER

USE THE TOP OF A DEPRESSED BUILDING FOR A PATH

CLOSE & DIVERT PATH ELSEWHERE

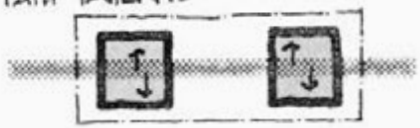


DEVELOP PATH AS MAJOR SITE FEATURE

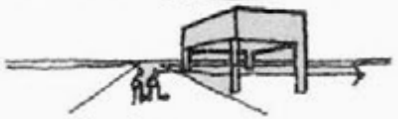
CHANGE PATH TO ACCOMODATE BUILDING FORM

SINK THE PATH & BUILD OVER.

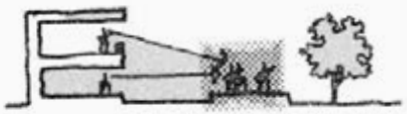
COLLECT & SIMPLIFY MULTIPLE PATH PATTERNS



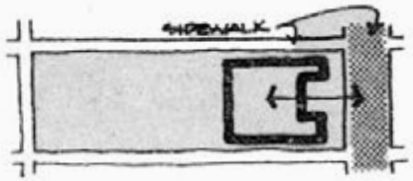
GROUP PATHS TO BUILDINGS WITH PATHS THROUGH SITE



RAISE BUILDING TO ALLOW VIEW FROM PATH

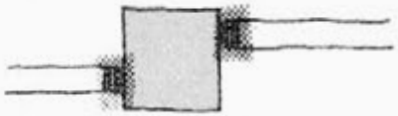


MAKE PATH A VIEW FEATURE FROM BUILDING SPACES

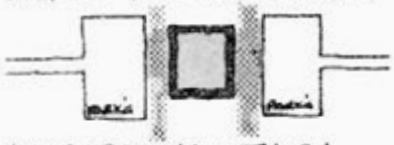


ZONE PUBLIC ENTRY TO MAJOR PEDESTRIAN PATHS

CHANGE PATHS SO NODES ARE AT IMPORTANT LOCATIONS



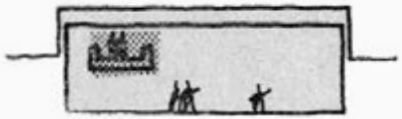
MAKE LEVEL CHANGES AT ENTRIES TO EXTERIOR SPACES



AVOID CROSSING WITH ON SITE VEHICULAR

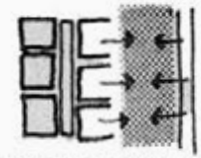
RELATE "EXPOSURE" FUNCTIONS TO PEDESTRIAN PATH

DEVELOP AREAS WHERE NODES OCCUR

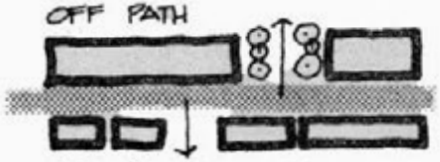


BRING PATH THROUGH BUILDING

AVOID MEANINGLESS LEVEL CHANGES ALONG PATH



EXTEND EXTERIOR USE AREAS OFF PATH



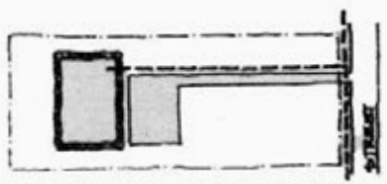
CREATE VIEW VISTAS FROM PATHS

CREATE CONTROLLED EXPERIENCES ALONG PATH

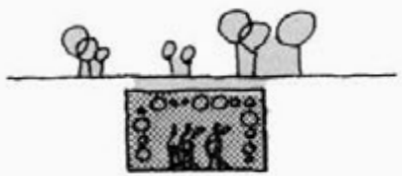
BRIDGE OVER DRAINAGE PATHS

Utilities

BRING UTILITIES IN WITH TUNNEL • USE TOP FOR SIDEWALK

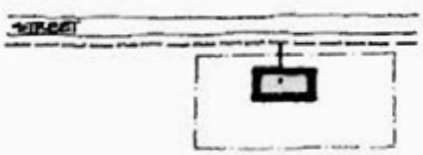


RUN UTILITIES WITH ROAD TO GROUP SITE SCARS



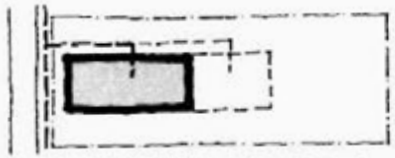
RUN UTILITIES IN UNDERGROUND CIRCULATION WAYS

ZONE UTILITIES TO SITE EDGES FOR FLEXIBLE SITE DEVELOPMENT



ZONE BUILDING NEAR UTILITIES FOR SHORT ON-SITE RUNS

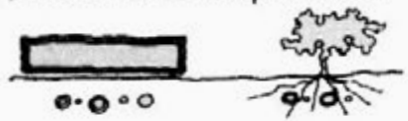
AVOID SITE ASSETS WITH UTILITY RUNS



SET UP UTILITIES TO GROW WITH BUILDINGS

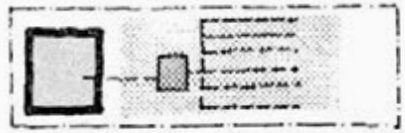
USE GRAVITY FOR UTILITIES WHERE POSSIBLE

DONT PUT CRITICAL SITE FEATURES BETWEEN BUILDING & UTILITIES



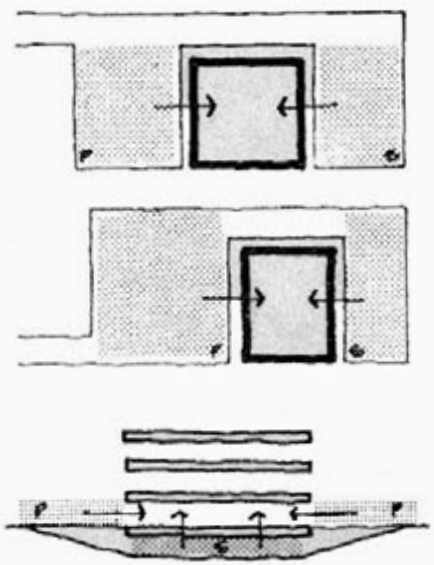
DONT PLANT TREES OR BUILD OVER UTILITY RUNS

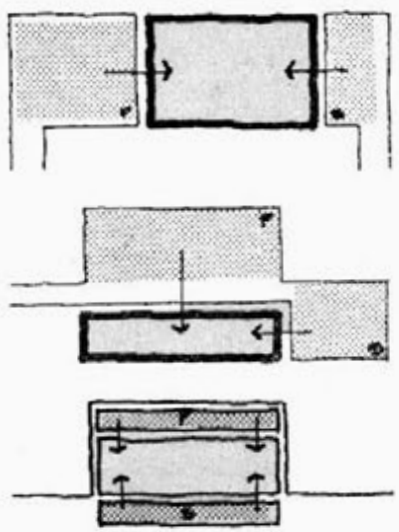
BURY UTILITIES IN SITE AREAS ALREADY SCARRED

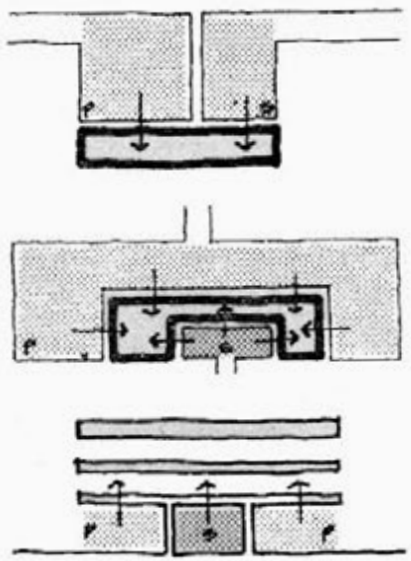


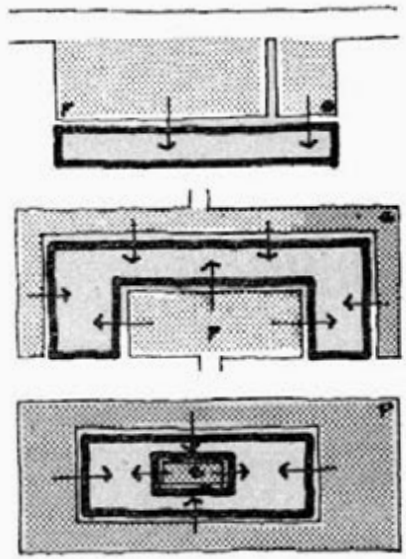
NO DEVELOPMENT OVER LEACHING FIELDS

Building—Parking—Service—Relationships



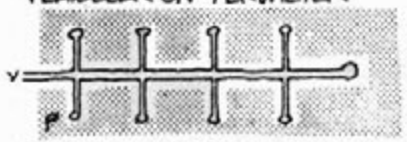




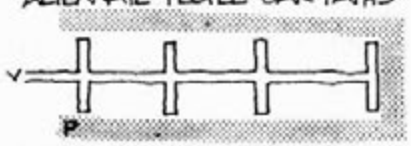


Vehicular—Pedestrian Traffic Systems

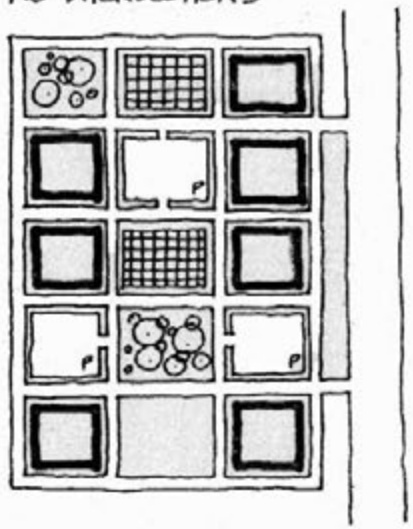
ZONE PEDESTRIAN INSIDE • VEHICULAR ON PERIMETER



CENTRAL CUL DE SAC WITH ALTERNATE PEOPLE-CAR PATHS

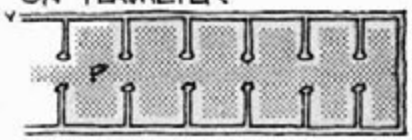


TWO SEPARATE SYSTEMS WITH NO INTERSECTIONS

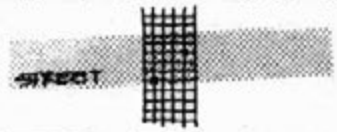


GRID CIRCULATION WITH CHECKERED PARKING & BUILDING

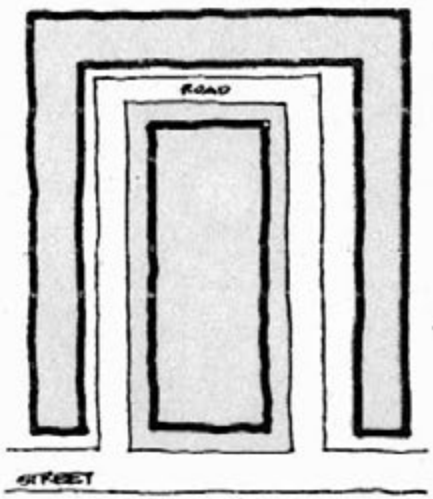
VEHICULAR IN CORE • PEDESTRIAN ON PERIMETER



PERIMETER CUL DE SAC SYSTEM WITH CENTRAL PEDESTRIAN PATH

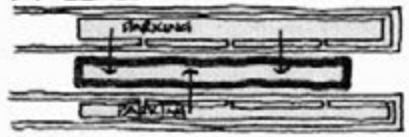


PEDESTRIAN SURFACE ACROSS VEHICULAR AT INTERSECTIONS



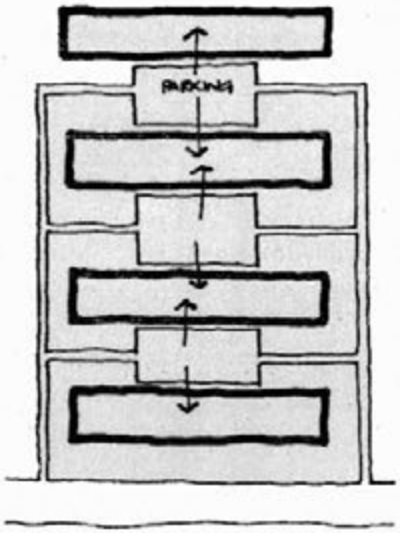
LOOP ROAD BETWEEN PERIMETER SUPPORT & CENTRAL BUILDING

SEPARATE THE TWO SYSTEMS BY LEVEL

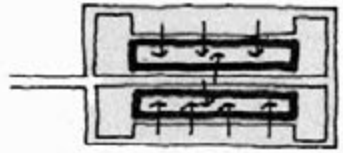


TYPES OF TRAFFIC INTO LOOPS • PEDESTRIANS CROSS TO BUILDING

LEVEL CHANGES WHERE TWO SYSTEMS CROSS

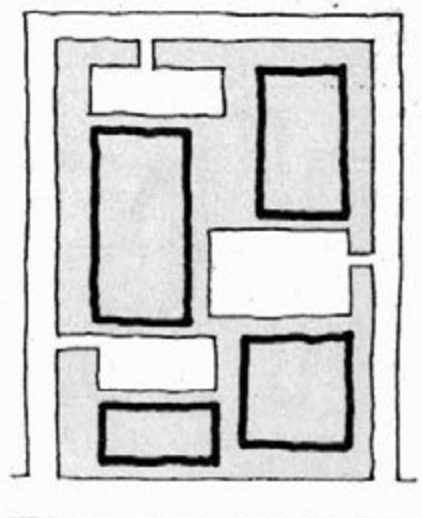


ONE WAY LOOPS WITH DOUBLE SERVING PARKING



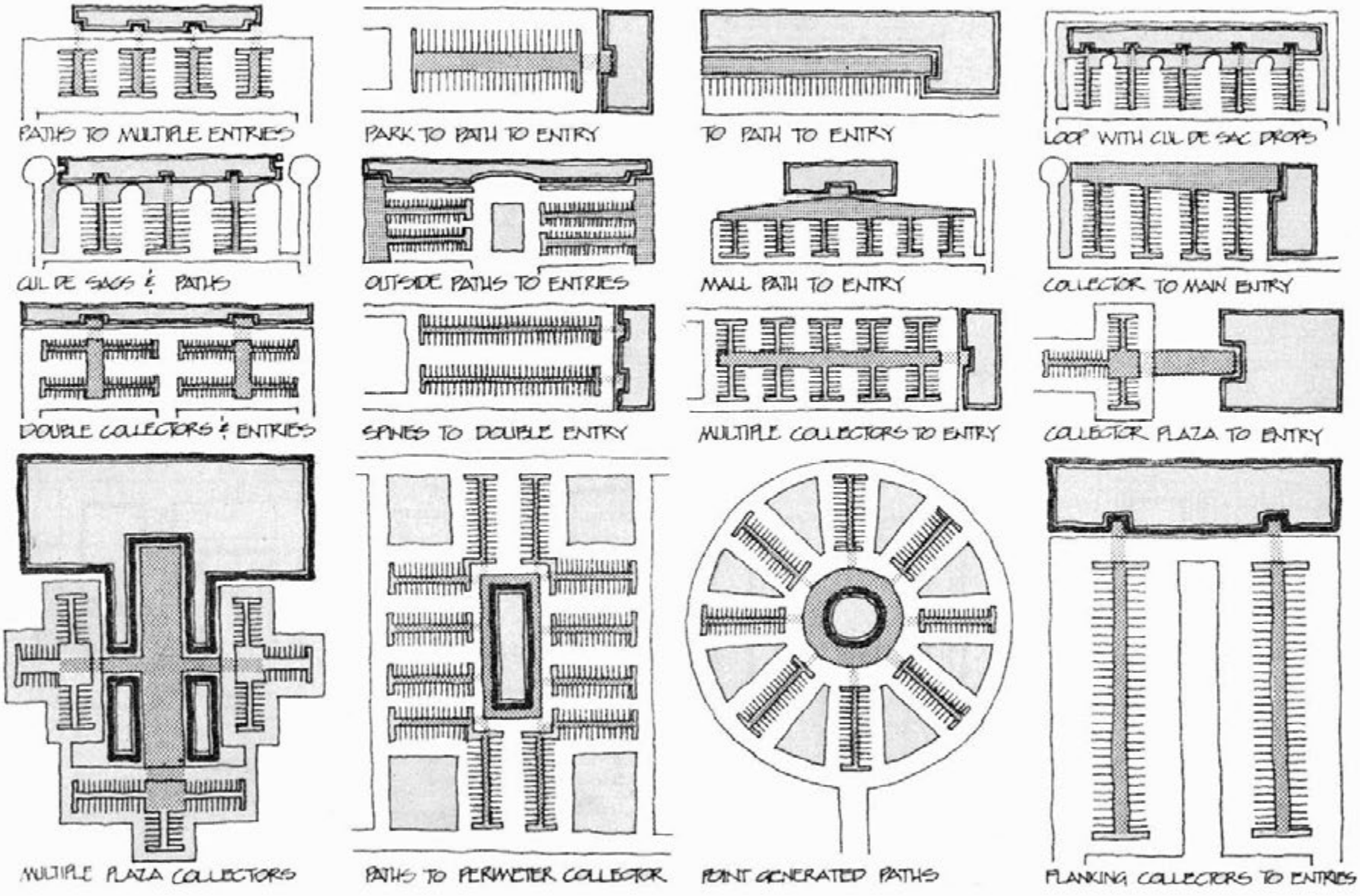
MAIN DROP OFF AVENUE WITH PARKING & APPROACH FROM OTHER SIDE

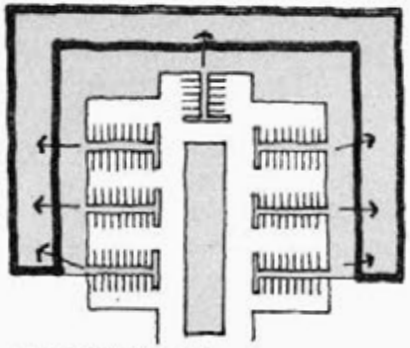
PEDESTRIAN SYSTEM INTEGRATED WITH VEHICULAR SYSTEM



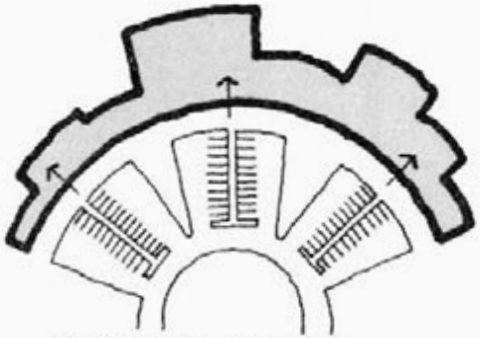
PERIMETER ORIENTATION ROAD • SUB ACCESS TO BUILDINGS

Parking Systems

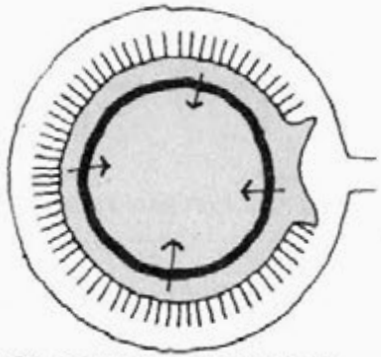




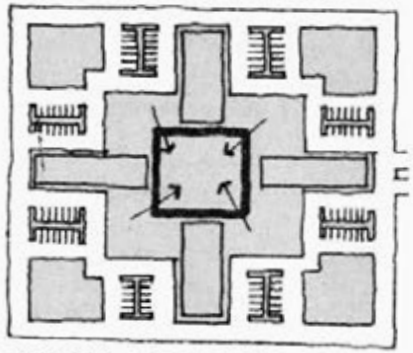
COLLECTORS TO DECENTRALIZED ENTRIES



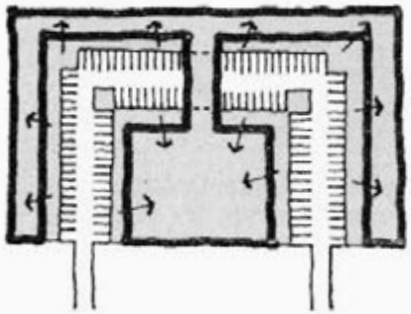
HALF RADIAL SCHEME



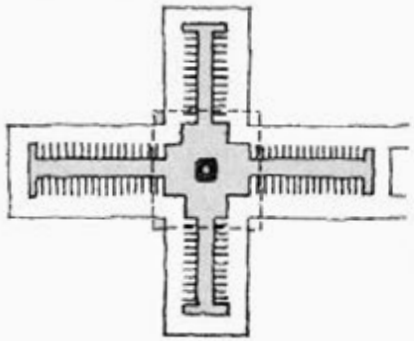
PARK AGAINST ENTRY PLAZA



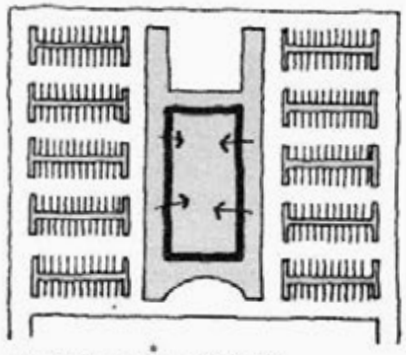
CORNER COLLECTORS



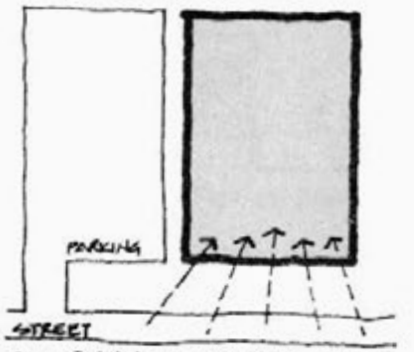
ACCESS TO SPECIFIC BUILDING AREAS



PARK • TO ELEVATORS • UP INTO BUILDING



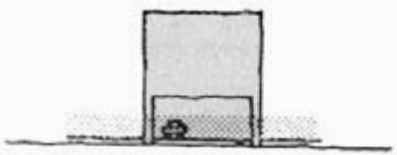
DOUBLE COLLECTORS



PULL PARKING AWAY FROM MAJOR VIEWS TO BUILDING

Car Storage

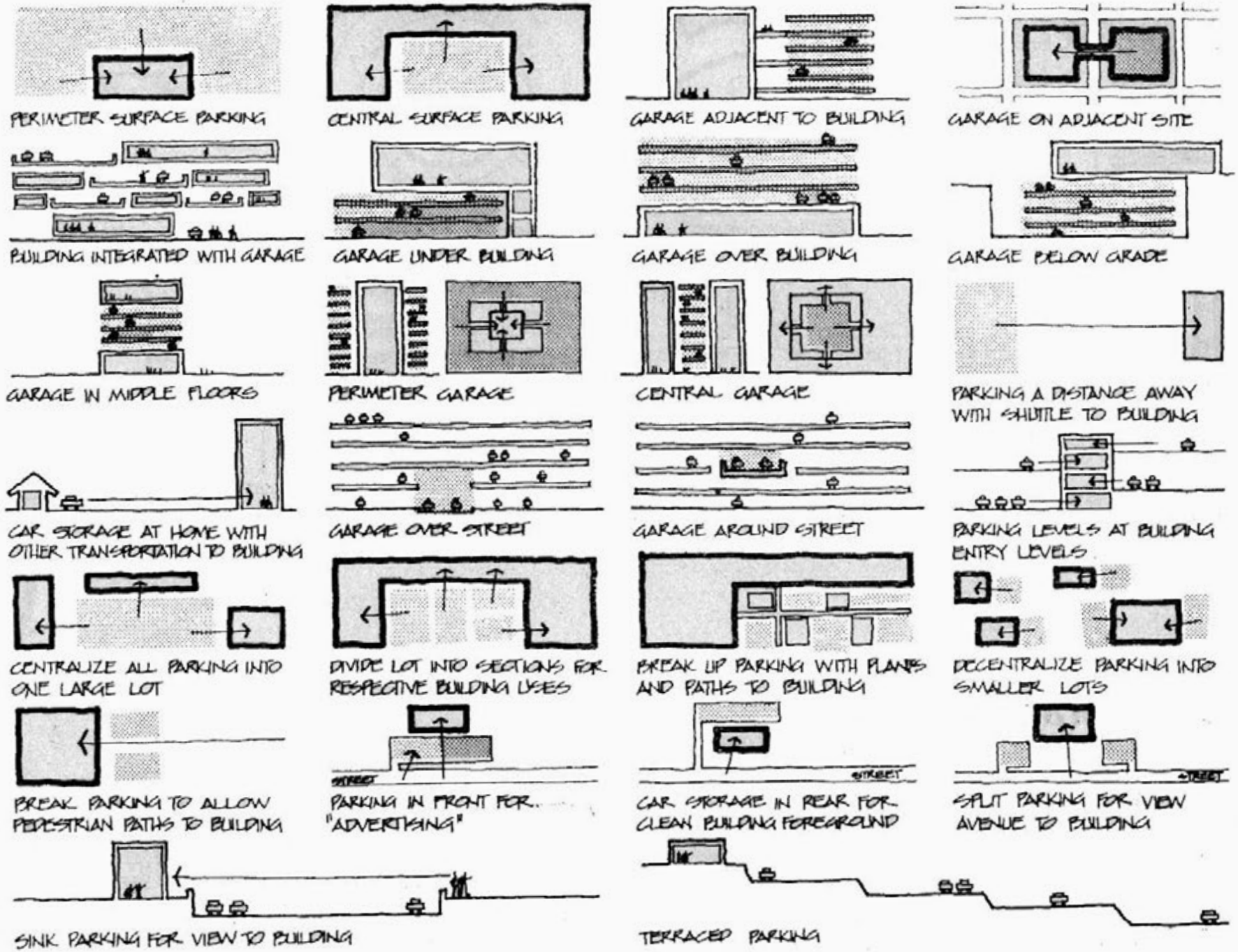
SURFACE PARKING NEXT TO BUILDING



SURFACE PARKING UNDER BUILDING

SUNKEN PARKING

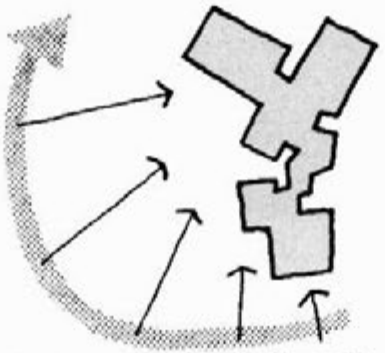
RAISED PARKING


PERIMETER SURFACE PARKING
CENTRAL SURFACE PARKING
GARAGE ADJACENT TO BUILDING
GARAGE ON ADJACENT SITE
BUILDING INTEGRATED WITH GARAGE
GARAGE UNDER BUILDING
GARAGE OVER BUILDING
GARAGE BELOW GRADE
GARAGE IN MIDDLE FLOORS
PERIMETER GARAGE
CENTRAL GARAGE
PARKING A DISTANCE AWAY WITH SHUTTLE TO BUILDING
CAR STORAGE AT HOME WITH OTHER TRANSPORTATION TO BUILDING
GARAGE OVER STREET
GARAGE AROUND STREET
PARKING LEVELS AT BUILDING ENTRY LEVELS
CENTRALIZE ALL PARKING INTO ONE LARGE LOT
DIVIDE LOT INTO SECTIONS FOR RESPECTIVE BUILDING USES
BREAK UP PARKING WITH PLANTS AND PATHS TO BUILDING
DECENTRALIZE PARKING INTO SMALLER LOTS
BREAK PARKING TO ALLOW PEDESTRIAN PATHS TO BUILDING
STREET
PARKING IN FRONT FOR "ADVERTISING"
STREET
CAR STORAGE IN REAR FOR CLEAN BUILDING FOREGROUND
STREET
SPLIT PARKING FOR VIEW AVENUE TO BUILDING
SINK PARKING FOR VIEW TO BUILDING
TERRACED PARKING

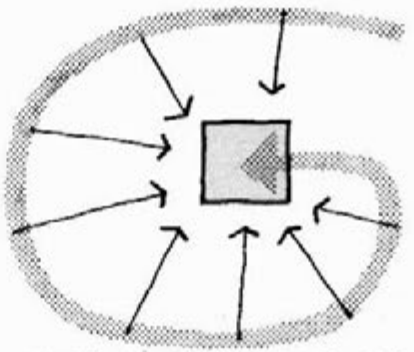
Approach to Building

* VICINITY ENVIRONMENT AS PREPARATION
* FIRST VIEW OF BUILDING
* APPROACH & ORIENTATION
* PARKING SEQUENCE
* MOVEMENT FROM PARKING TO ENTRY
* ENTRY TRANSITION
* ENTRY

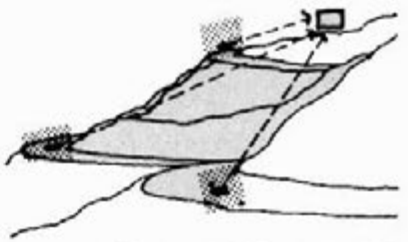
ENTRY & APPROACH AS A TOTAL EXPERIENCE SEQUENCE



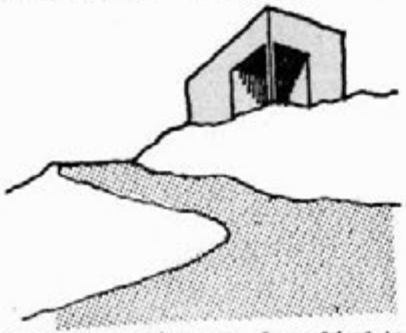
REVEAL MORE AND MORE PARTS OF BUILDING ON APPROACH



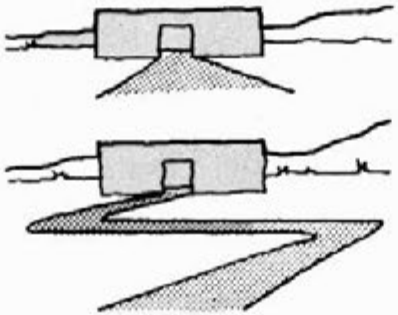
ORIENT TO WHOLE BUILDING ON APPROACH BEFORE ENTRY



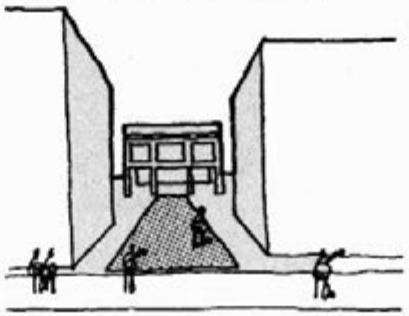
VIEWS FROM VARIED DISTANCES ON APPROACH



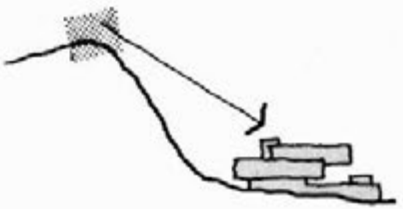
PRESENT DYNAMIC PERSPECTIVE TO APPROACH DIRECTION



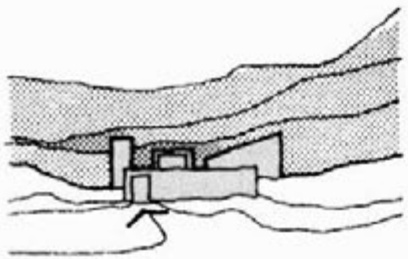
DIRECT APPROACH AND RAMBLING APPROACH



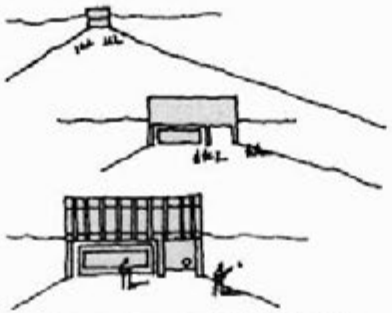
SURPRISE VIEW OF BUILDING AND ENTRY INVITATION



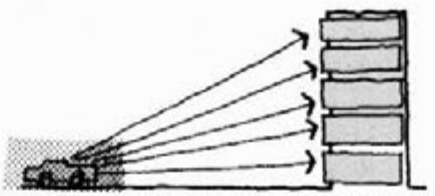
TOP VIEW OF WHOLE COMPLEX BEFORE ENTRY APPROACH



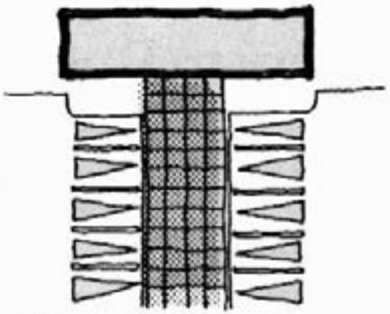
APPROACH FROM DIRECTION OFFERING BEST BUILDING BACKDROP



MORE DETAIL REVEALED ON CLOSER APPROACH

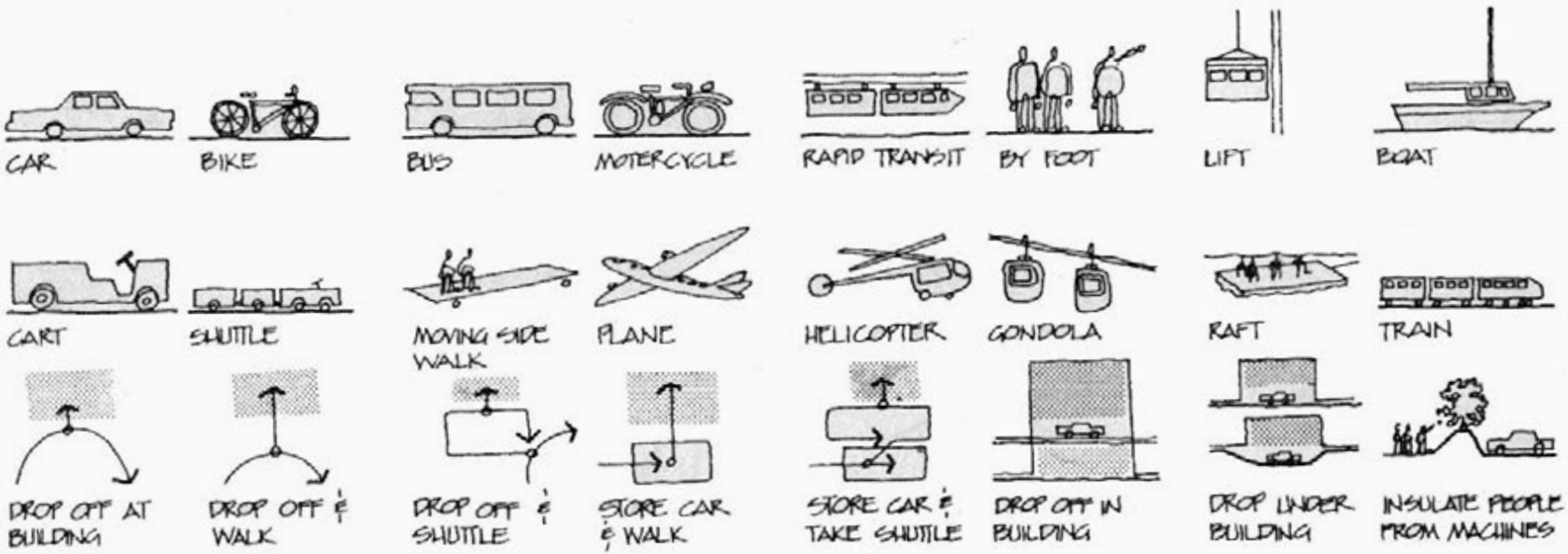


REVEAL ALL POTENTIAL DESTINATIONS TO PARKING FOR ORIENTATION

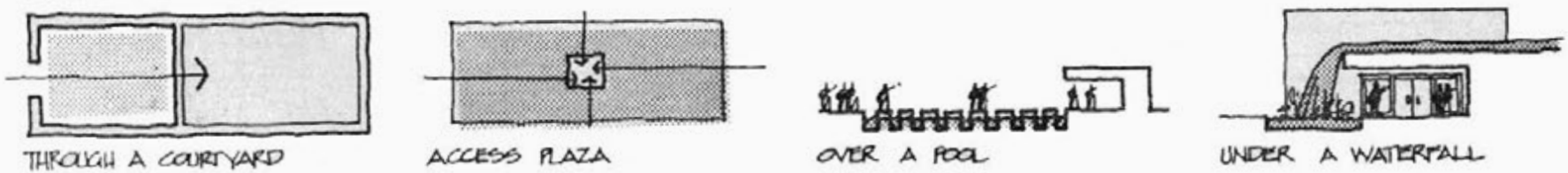


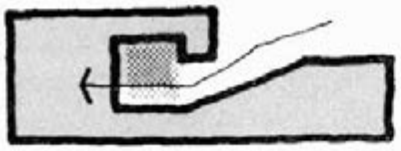
CREATE PEOPLE AVENUES THROUGH PARKING LOTS

Arrival Modes



Entry to Building

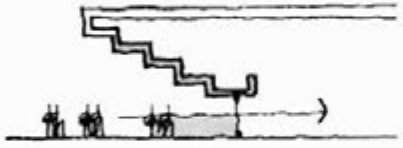




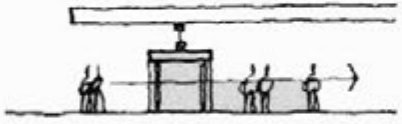
TRANSITION THROUGH COURT

UNDER CANOPY

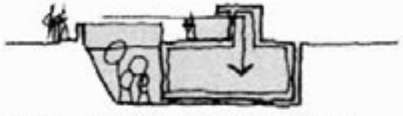
THROUGH TUNNEL



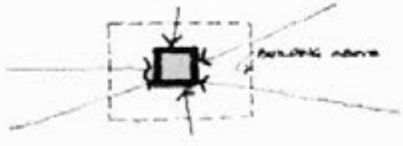
UNDER SLOPED FLOOR ABOVE



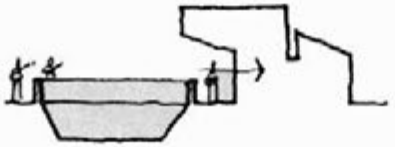
THROUGH TRANSITION CHAMBER



OVER ROOF, DOWN AND IN

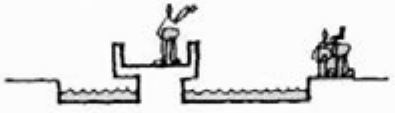


MULTIDIRECTIONAL ENTRY

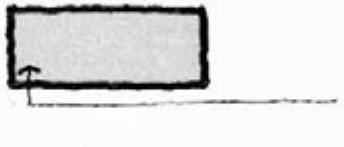


ACROSS MOAT

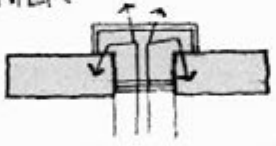
DOWN THROUGH SUNKEN GARDEN



ALONG WATERWAY

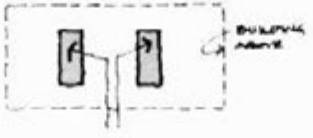


WALK BY FACADE, THEN ENTER



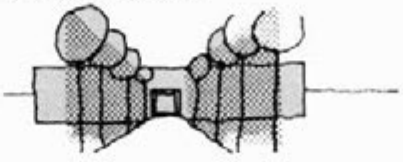
BETWEEN BUILDINGS, PRESENT VIEW, THEN TURN & ENTER

DOWN AND IN

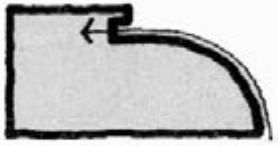


UNDER BUILDING, TO SIDE AND UP INTO BUILDING

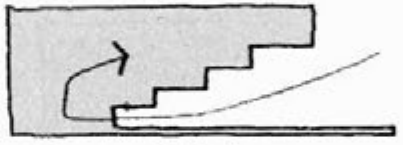
ALONG WALL



ALONG TREE LINED AXIS



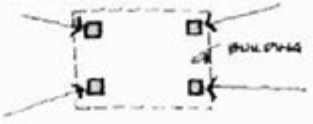
AROUND BUILDING AND IN



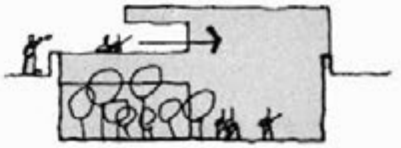
ENTRY PENETRATION FOR ORIENTATION, THEN SWITCHBACK

DIRECTLY IN

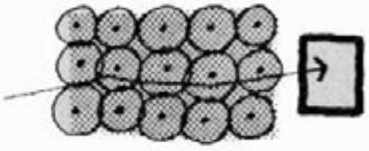
UP AND IN



MULTI-ENTRY POINTS o UNDER OR ON TOP OF BUILDING

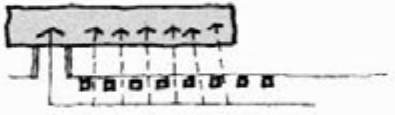


OVER SUNKEN GARDEN

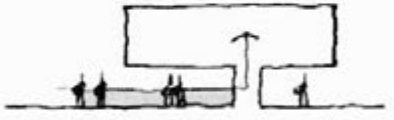


THROUGH GROVE OF TREES

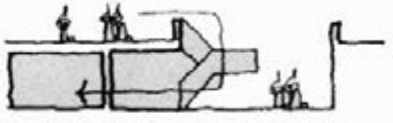
ENTRY WITH NO AWARENESS OF BUILDING FACADE



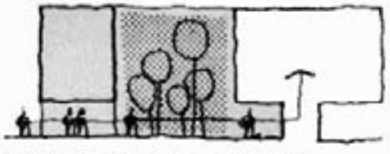
SHOW GLIMPSES OF DESTINATION BEFORE ENTRY



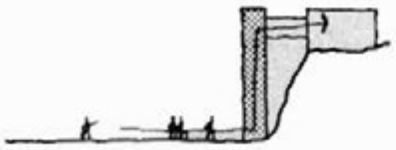
UNDER AND UP



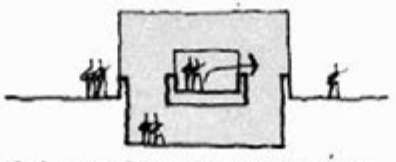
OVER ROOF DOWN AND IN



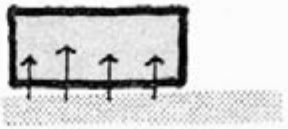
UNDER TO COURT AND UP



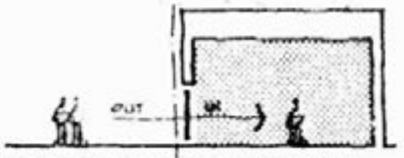
UP ELEVATOR AND IN



THROUGH BUILDING TUNNEL & IN

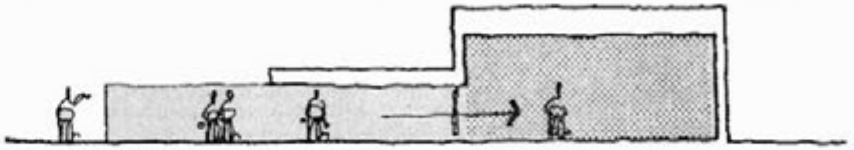


MULTIPLE ENTRIES ALONG EDGE

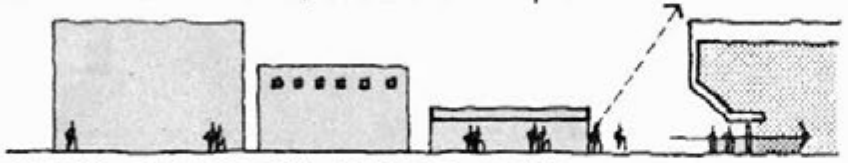


ABRUPT OUT-TO-IN TRANSITION

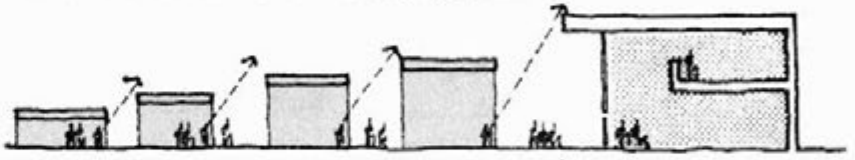
GRADUAL TRANSITION FROM OUT TO IN & VISE VERSA



ENTRY TRANSITION OUTSIDE THE BUILDING



GRADUAL ENVELOPMENT - RELEASE - ENTRY

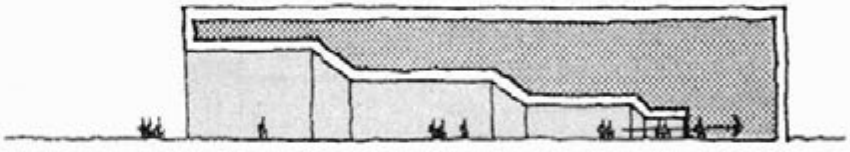


SEQUENCE OF DECREASING ENVELOPMENT & RELEASE

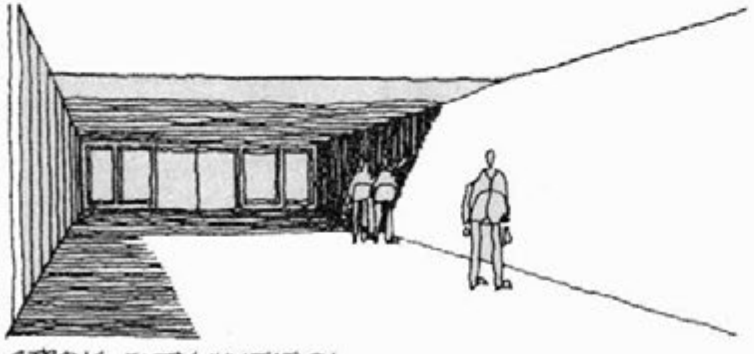
ABRUPT ENVELOPMENT - GRADUAL RELEASE TO ENTRY

SEQUENCE OF ENVELOPMENT AND RELEASE

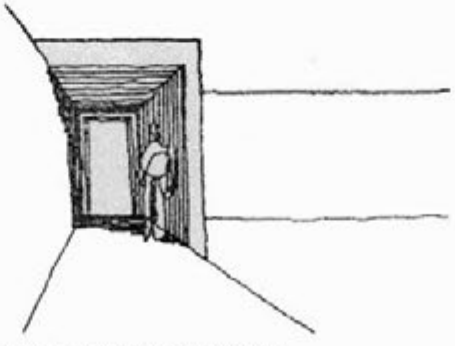
CONFINEMENT • RELEASE • ENTRY



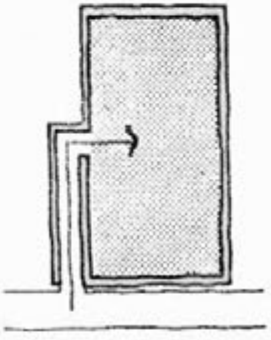
ENTRY TRANSITION INSIDE BUILDING



STRONG ENTRY INVITATION

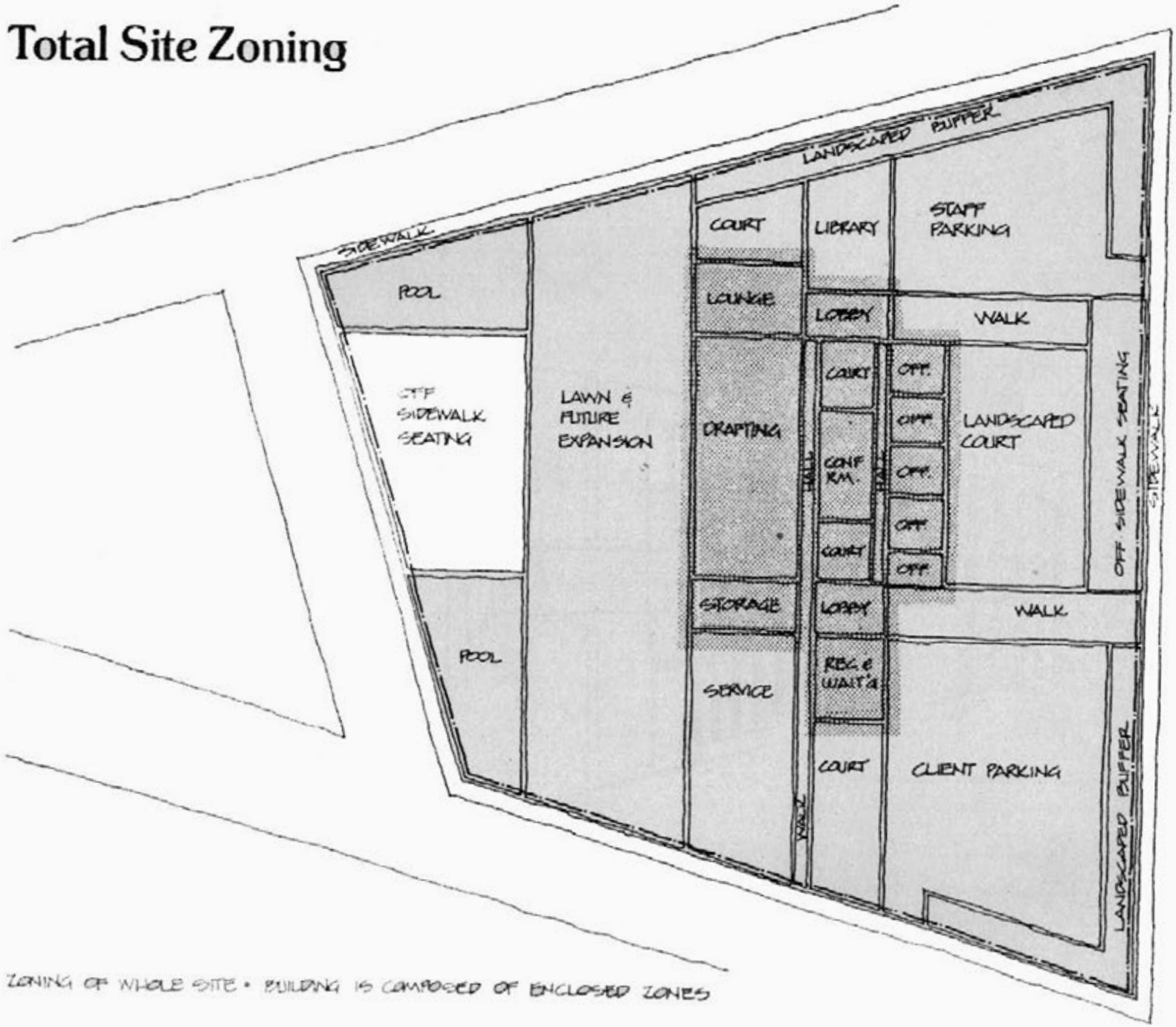


RESERVED INVITATION



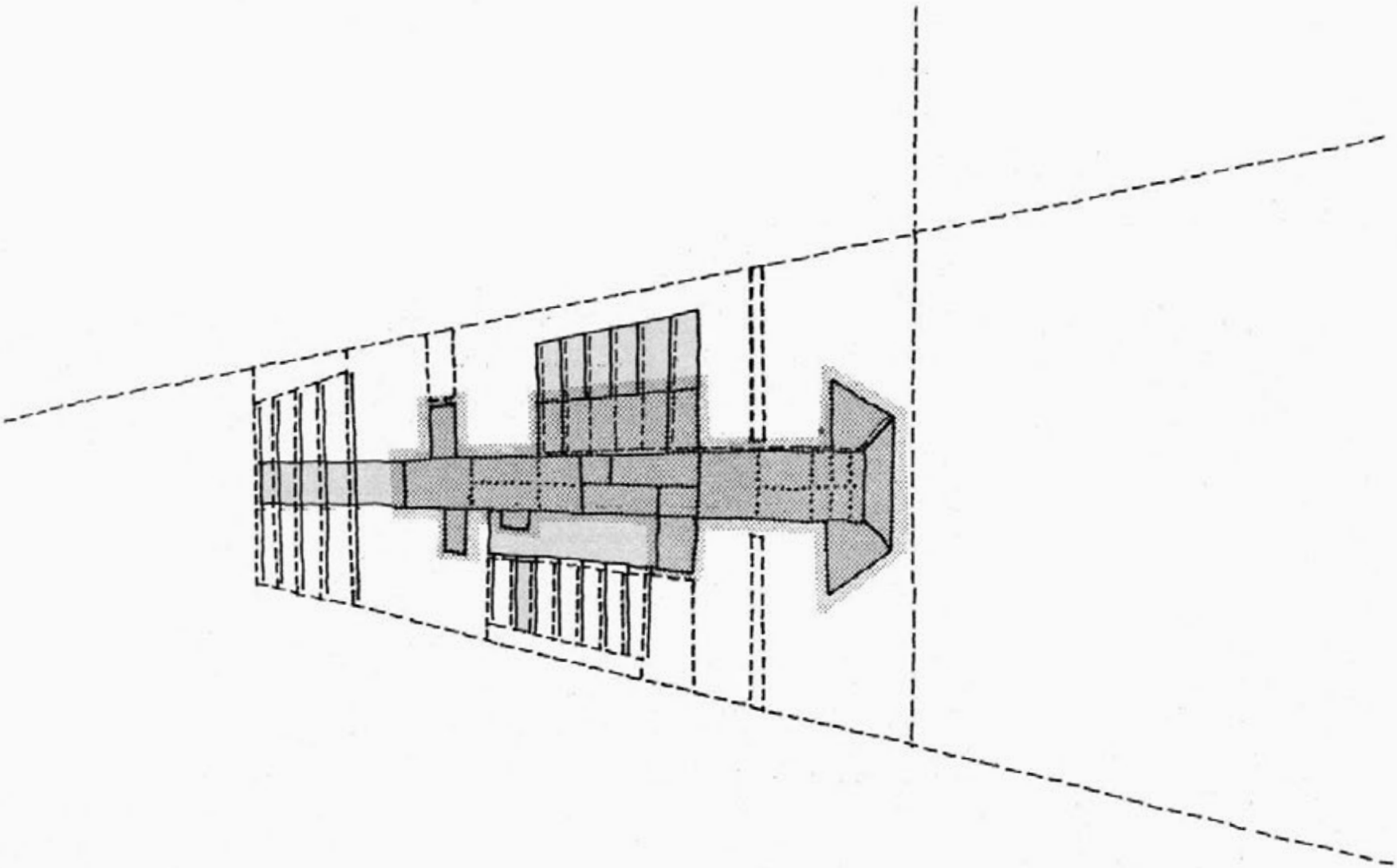
ACCESS BUT NO INVITATION

Total Site Zoning



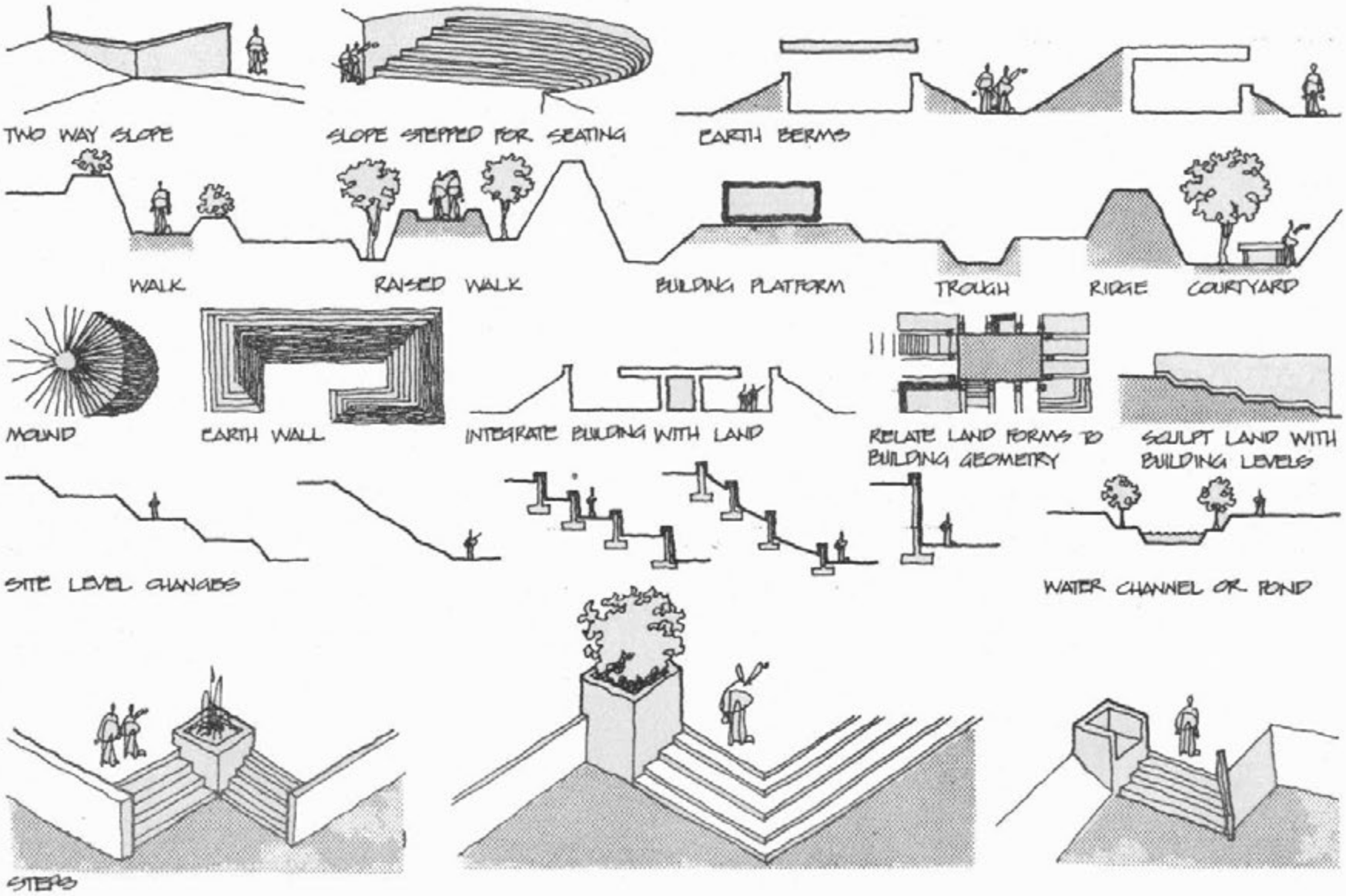
ZONING OF WHOLE SITE • BUILDING IS COMPOSED OF ENCLOSED ZONES

Total Site Systems

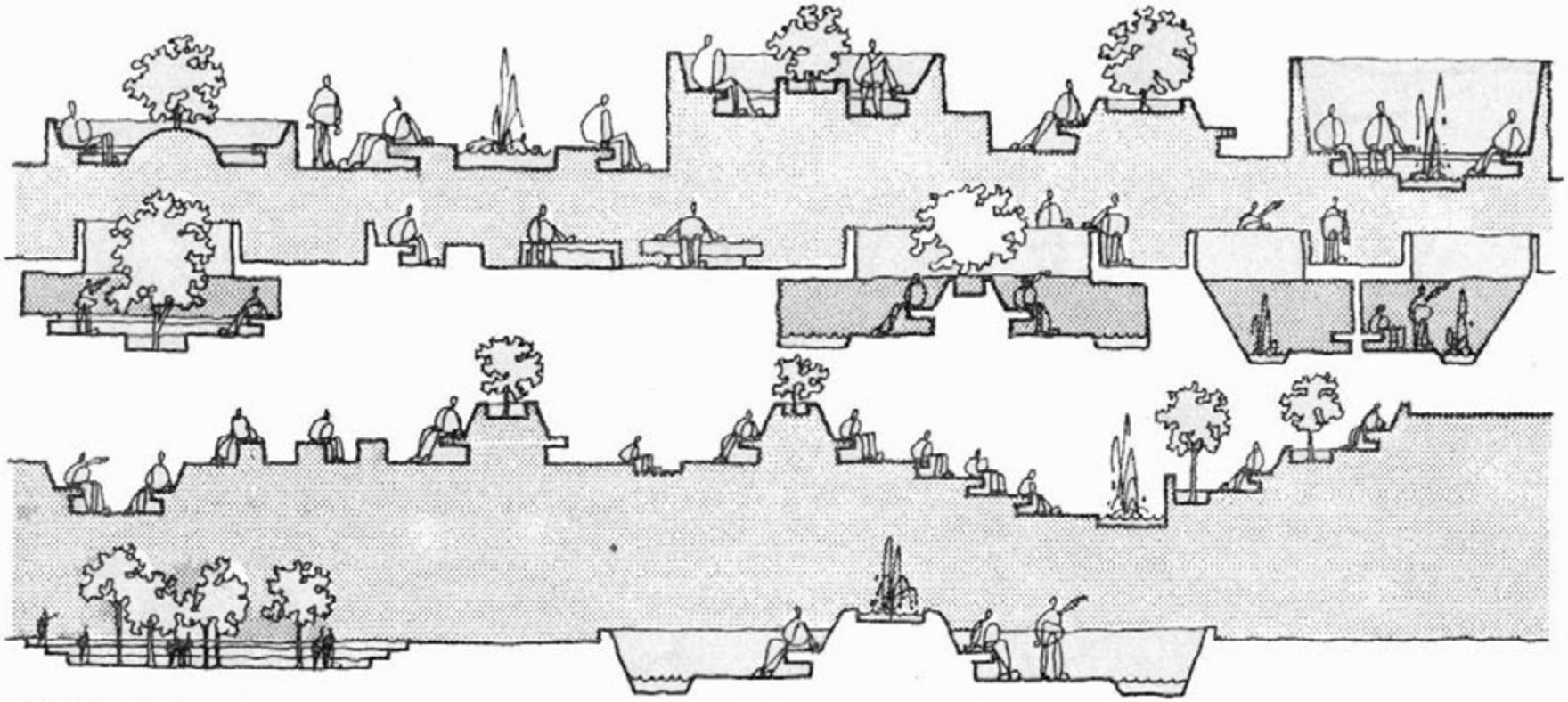


WHOLE SITE AS A SERIES OF MOVEMENT SYSTEMS • BUILDING IS COMPOSED OF THOSE SYSTEMS THAT ARE ENCLOSED

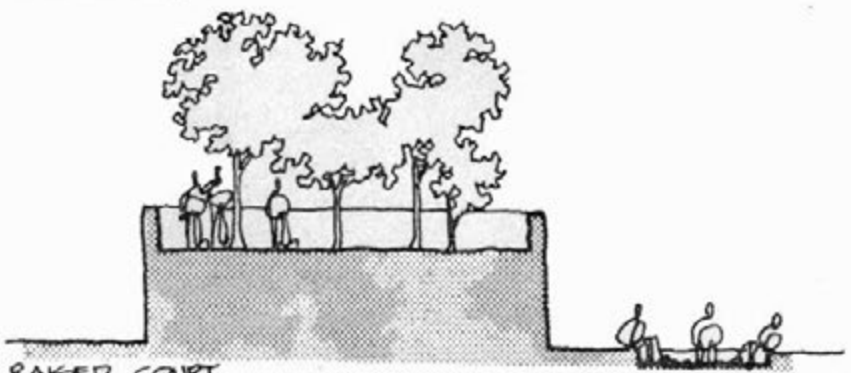
Land Forms


TWO WAY SLOPE
SLOPE STEPPED FOR SEATING
EARTH BERMS
WALK
RAISED WALK
BUILDING PLATFORM
TROUGH
RIDGE
COURTYARD
MOUND
EARTH WALL
INTEGRATE BUILDING WITH LAND
RELATE LAND FORMS TO BUILDING GEOMETRY
SCULPT LAND WITH BUILDING LEVELS
SITE LEVEL CHANGES
WATER CHANNEL OR POND
STEPS

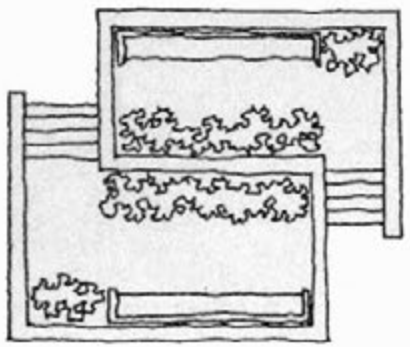
Seating Forms

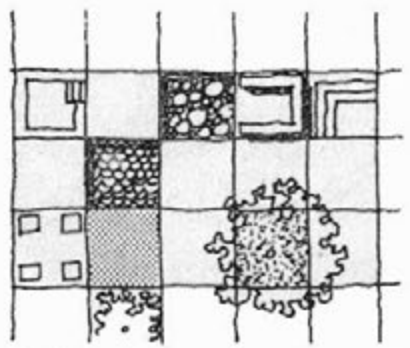


SUNKEN PLAZA



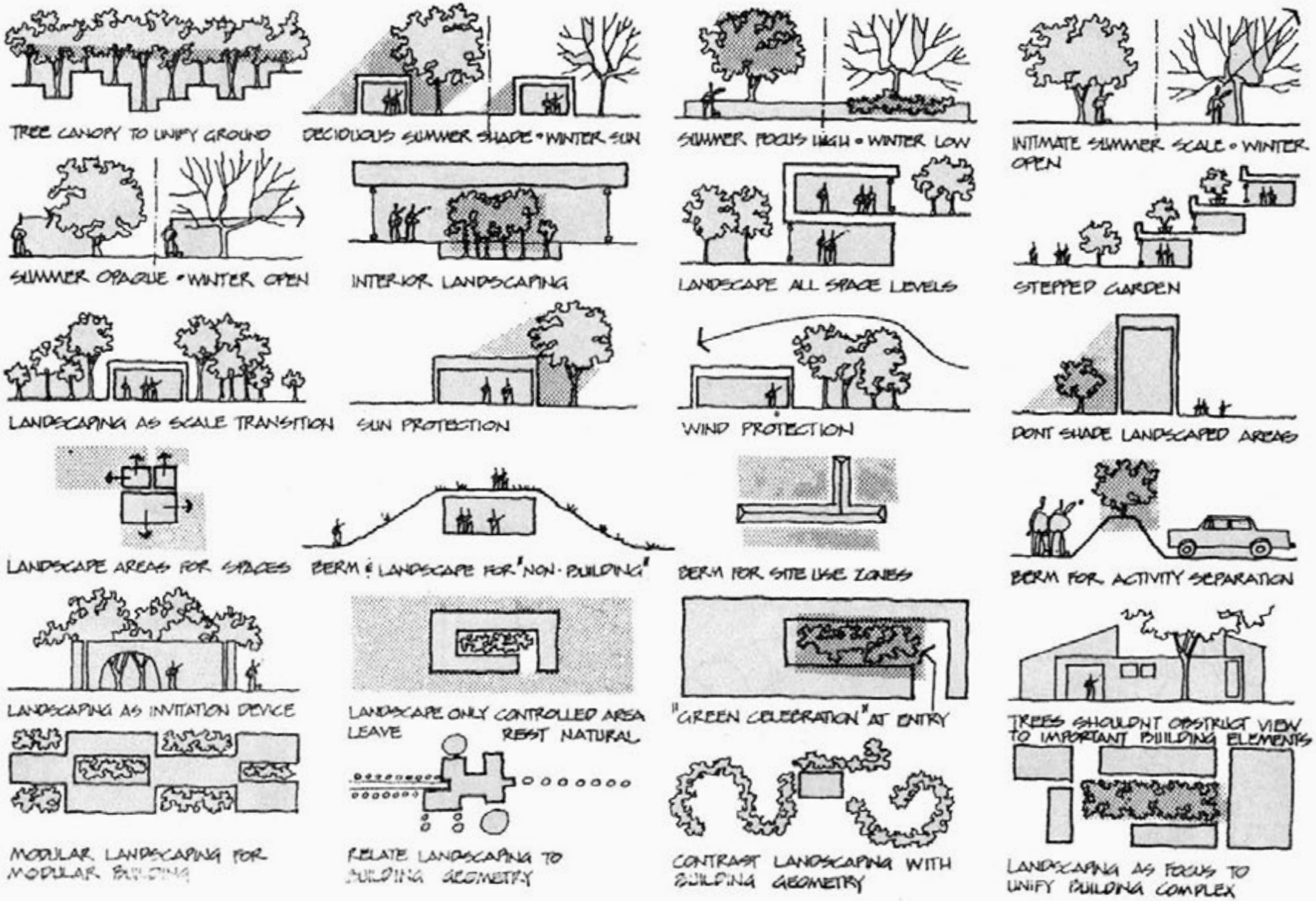
RAISED COURT

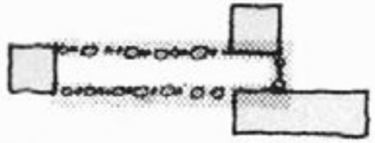




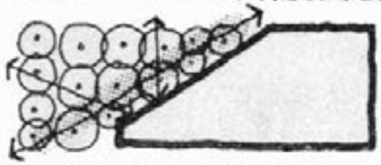
USE ZONES WITHIN A MODULAR FRAMEWORK

Landscaping with Plants



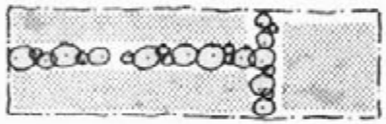


REINFORCE BUILDING-SITE GEOMETRY

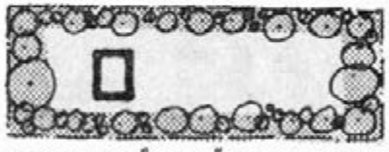


DEFINE PASSAGE • ALLOW MULTI-DIRECTIONAL TRAFFIC BENEATH

FEATHER MAN-MADE INTO NATURAL



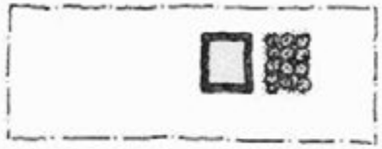
DIVIDE SITE INTO USE ZONES



LANDSCAPE "WALL" AROUND BUILDING

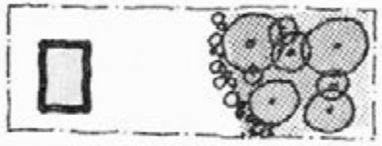
FORM EXTERIOR ACTIVITY AREAS

USE TO FORM ENTRY CANOPY



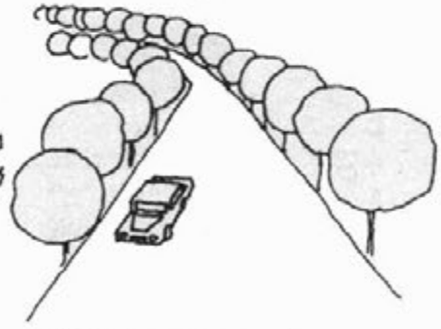
CLEAR DEFINITION BETWEEN NATURAL & MAN MADE

REMOVE EXISTING & RELANDSCAPE



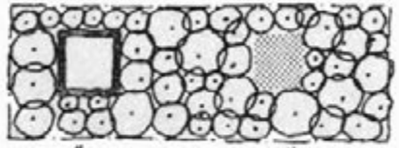
PLANT IN UGLY SITE AREAS

USE AS NOISE BUFFER

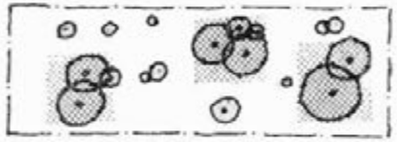


REINFORCE DRIVES & ROADS

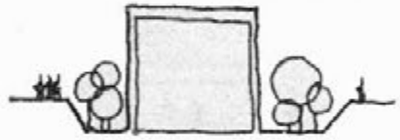
BRING LANDSCAPING INSIDE



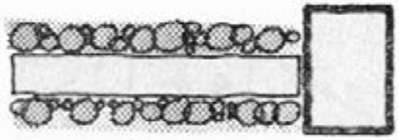
LEAVE "PATCH OF NATURAL" ON SITE



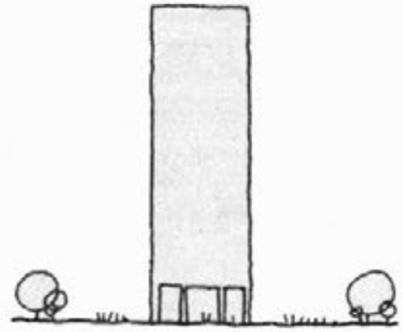
SAVE SOME • REMOVE OTHERS



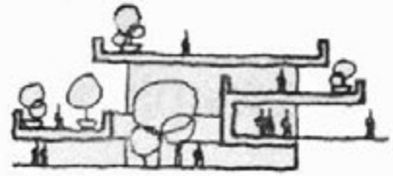
CREATE LANDSCAPED MOATS



REINFORCE WALKS



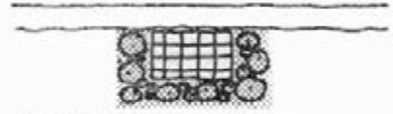
HOLD PLANTS AWAY FROM BUILDING FOR CLEAR BUILDING TO GROUND TRANSITION AT BASE.



DECK & ROOF LANDSCAPING

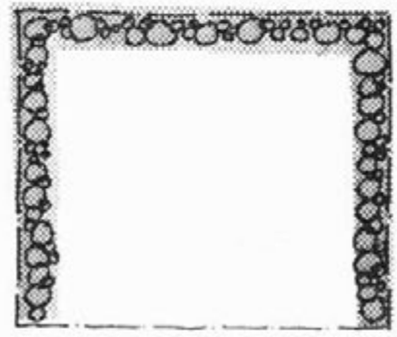
WITH BUILDING AS FOCUS, MAKE TRANSITION FROM NATURAL TO MAN-MADE

PLANT NEXT TO BUILDING WHERE THERE ARE CONSTRUCTION "SCARS".



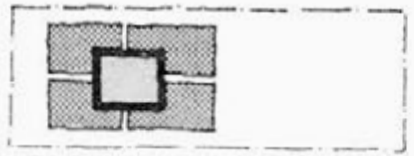
DEFINE SITE USE AREAS

USE AS VISUAL SCREEN

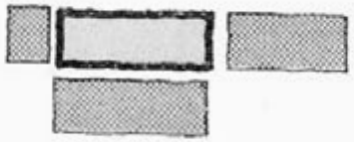


DEFINE SITE LIMITS

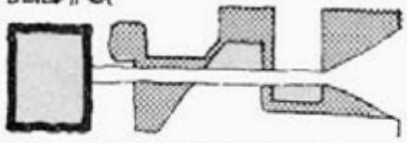
Landscaping with Water



CREATE MOAT AROUND BUILDING

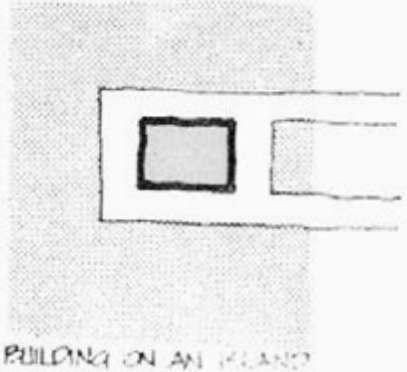


WATER GEOMETRY SAME AS BUILDING

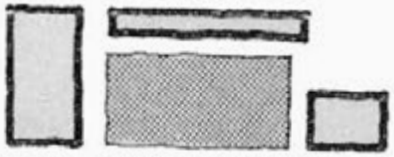


RAMBLING WATER THAT INTERSECTS PATHS

INTERIOR WATER



BUILDING ON AN ISLAND

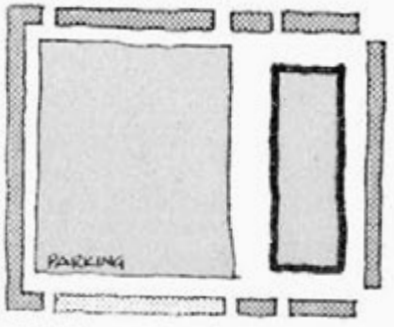


WATER AS UNIFYING FOCUS

CONTRAST WATER GEOMETRY WITH BUILDING

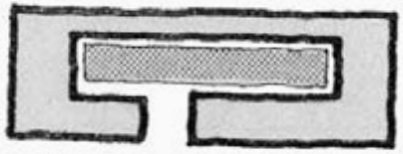
WATER GEOMETRY CONSISTENT WITH WALKS, ROADS & PARKING

FALLING WATER AS PART OF SITE CIRCULATION

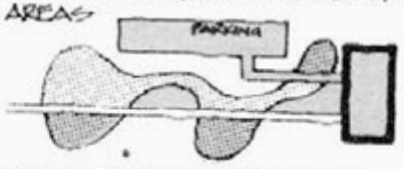


DEFINE BOUNDARY WITH WATER

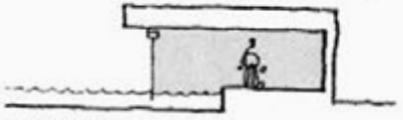
WATER TO COMPLETE COMPOSITION



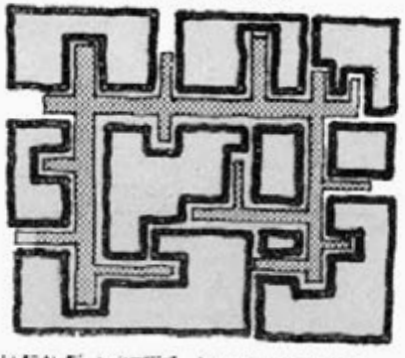
WATER IN CONTROLLED EXTERIOR AREAS



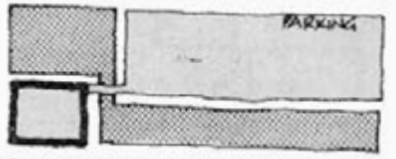
WATER GEOMETRY CONTRAST WITH WALKS, ROADS & PARKING



CARRY WATER INSIDE



WEAVE WATER AMONG OTHER SYSTEMS

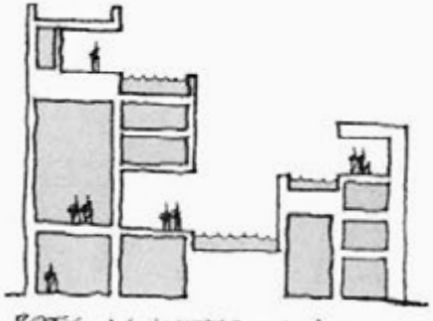


DEFINITION OF SITE USE AREAS

RUN WATER WITH SITE CIRCULATION

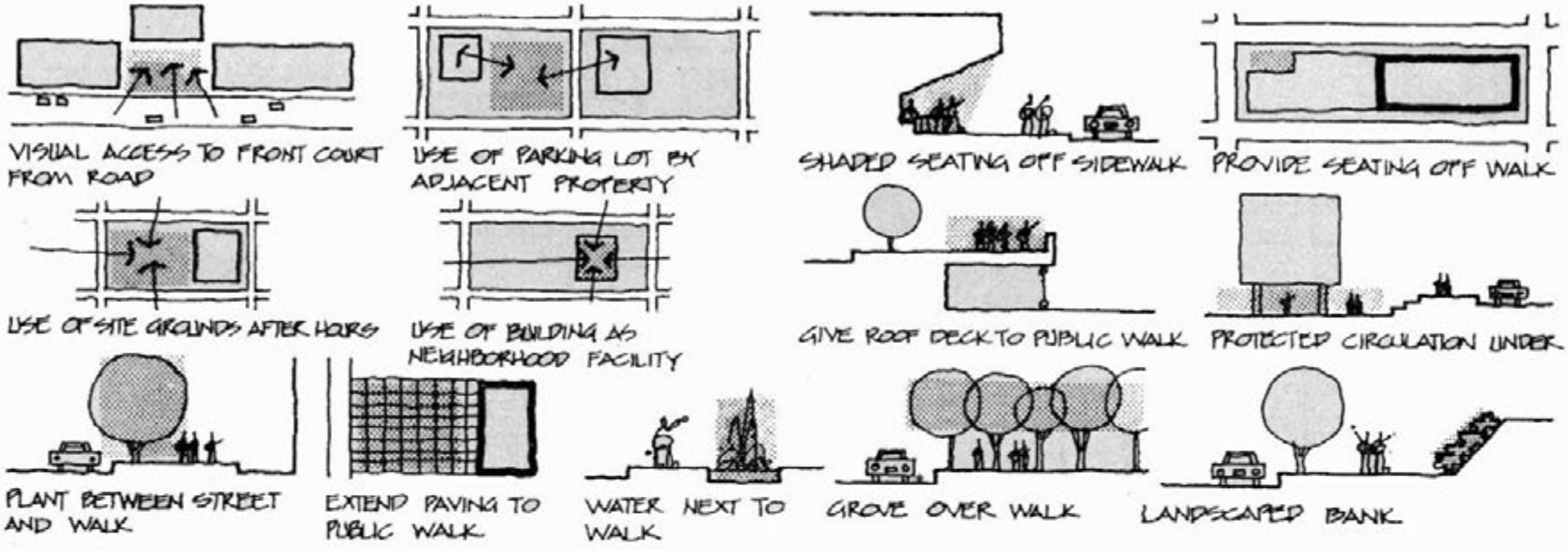
WATER AS REFLECTIVE SURFACE

WATER AS INVITATIONAL DEVICE

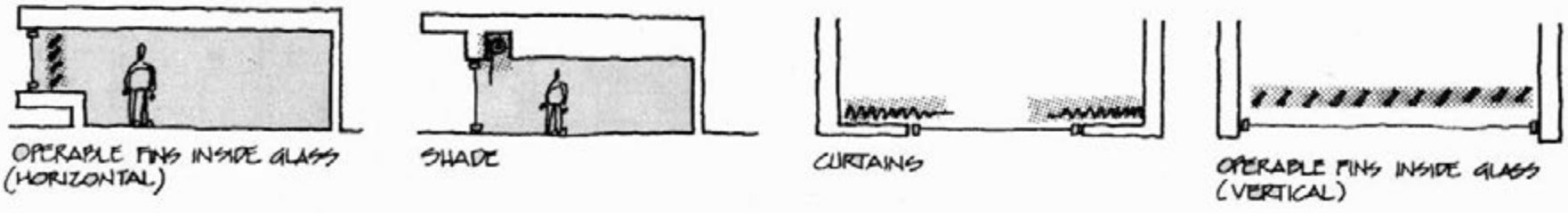


ROOFS AS WATER TRAPS

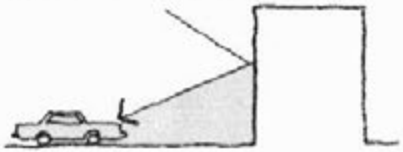
Contribution to Neighborhood



Sunlight



CONTINUOUS FIN & RAMADA

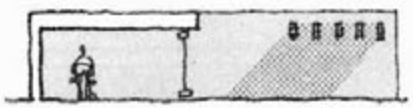


AVOID TRAFFIC HAZARDS WITH REFLECTIONS

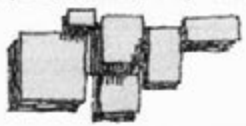
EARTH AS INSULATION

TAILOR SCREEN WALL TO SUN'S PATH & FOR SUN ACCESS

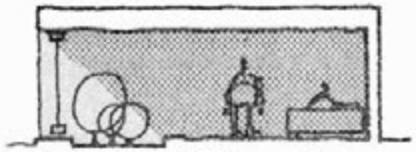
SMALL EXTERIOR SPACES FOR EASY SHADING



USE BUILDING EXTENSIONS TO PROTECT EXTERIOR USE AREAS



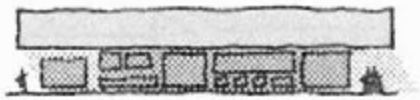
TIGHT CLUSTER WHICH CASTS SHADOWS ON ITSELF



ZONE ACTIVITIES AWAY FROM WINDOW

DON'T REFLECT INTO ADJACENT BUILDING

SECOND ROOF TO SHADE FIRST ROOF

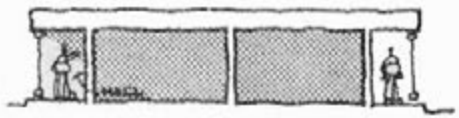


SPACE OR BUILDING CLUSTER UNDER PROTECTIVE CANOPY

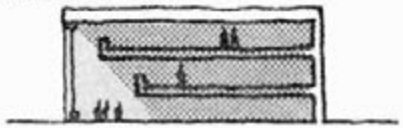
PRESENT MINIMAL SURFACE TO DIRECT SUN

ZONE "NON-SUN" SPACES AWAY FROM SUN

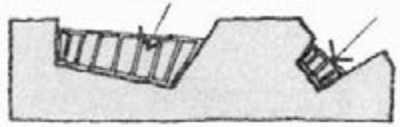
COMPACT SHAPE - MINIMAL SKIN - FREE SPACES INSIDE



LOW DURATION ACTIVITIES AGAINST WINDOW



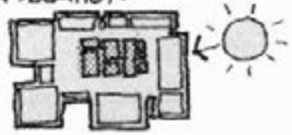
STEP FLOORS INSIDE TO AVOID DIRECT SUN



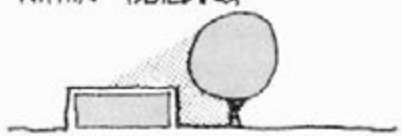
BUILDING FORM THAT PERMITS SUN ACCESS AT SPECIFIC TIME

HOLES IN SHADING WALLS TO ALLOW SUN WHERE DESIRED

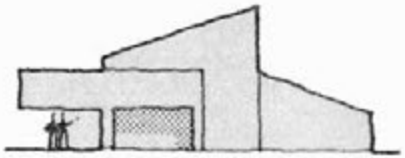
USE LOW OCCUPANCY SPACES AS INSULATION



BURY NON-SUN SPACES WITHIN BUILDING



TREES AS SUN PROTECTION

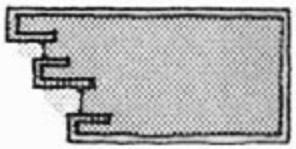


SHADE AS ENTRY INVITATION

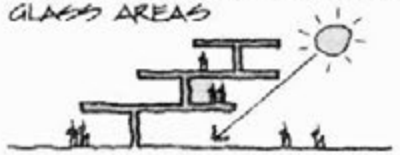
THICK WALLS & ROOF TO DELAY HEAT TRANSMISSION

DETACHED WALL AS SCREEN

CREATE OASES AS RELIEF



USE BUILDING FORM TO PROTECT GLASS AREAS



BUILDING FORM PARALLEL TO SUN RAYS

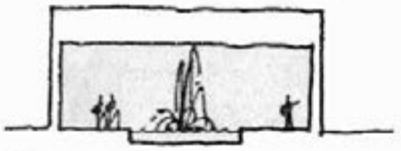
AVOID GLARE OF SUN REFLECTION

USE EXISTING SHADOW PATTERNS

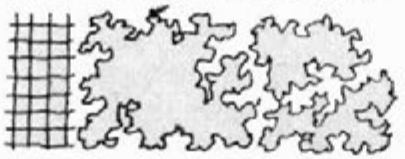
LAND FORMS AS PROTECTION

GLASS ANGLE SAME AS SUN

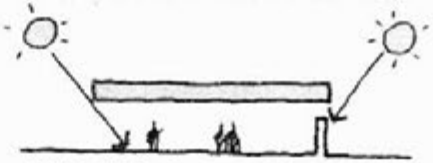
PROTECT FROM SUMMER SUN • ALLOW WINTER SUN



USE WATER FOR RELIEF

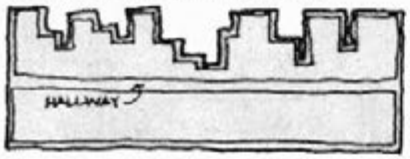


MINIMUM HEAT- BUILDING PAVED SURFACES - MAXIMUM GREENERY

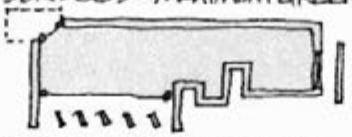


ALLOW MILD MORNING SUN • SHIELD FROM HARSH AFTERNOON SUN

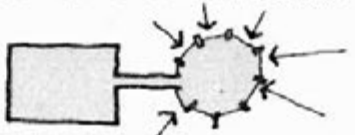
DIFFERENT HVAC ZONES FOR DIFFERENT EXPOSURES



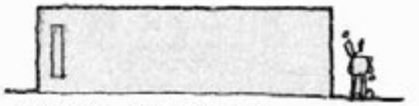
OPEN FACES TO ACCEPT SUN • ARTICULATED TO SHADE SUN



USE OF VARIOUS DEVICES AT POINTS NEEDED



BUBBLE OUT FOR MAXIMUM SUN EXPOSURE

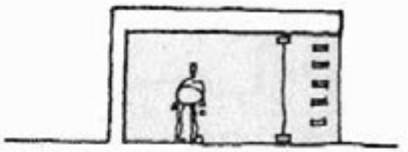


MINIMAL OPENINGS

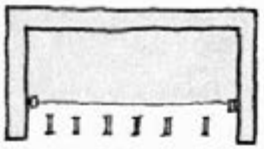
SMALL OPENINGS

USE SUN SCREENS IN FRONT OF VULNERABLE WINDOWS

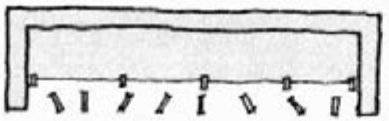
SKYLIGHT FOR SUN ON "BURIED" BACKWALL



FIXED HORIZONTAL FINS



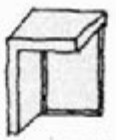
FIXED VERTICAL FINS



MULTIDIRECTIONAL FINS

CANOPY

WING WALL



WALL & CANOPY

AWNING

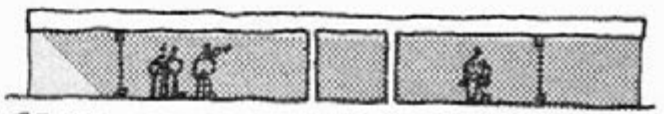
BALCONY FORM

HIGH WINDOWS

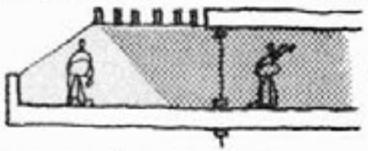
ROOF OVERHANG

DETACHED CANOPY

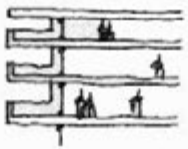
RAMADA AS ROOF EXTENSION



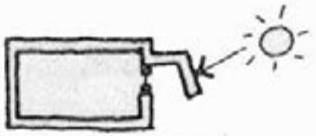
RECESSED WINDOWS



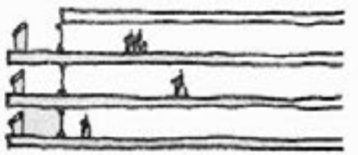
BALCONY AND RAMADA



BALCONIES AS PROTECTION

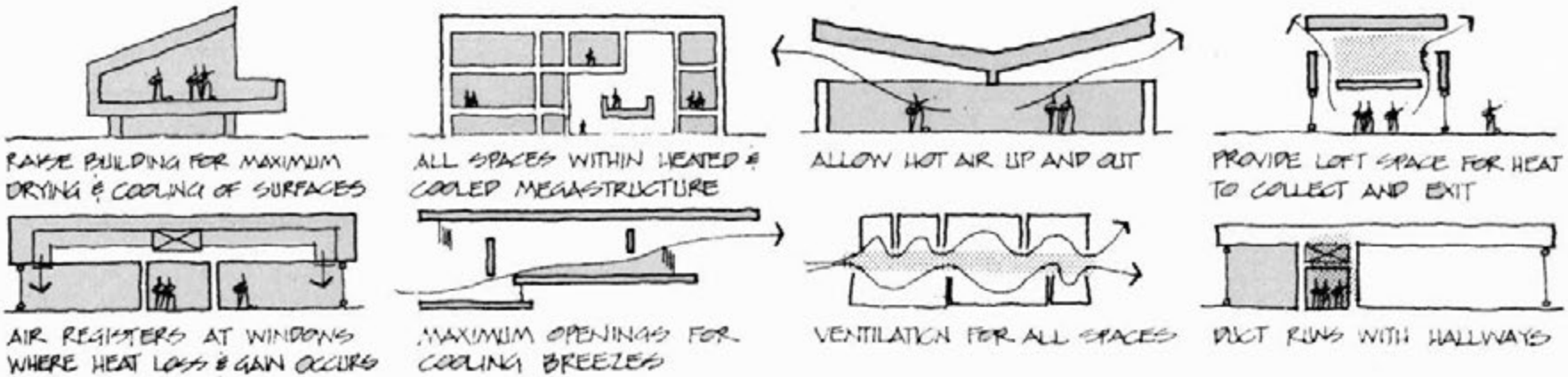


PROTECTIVE WINDOW FORMS

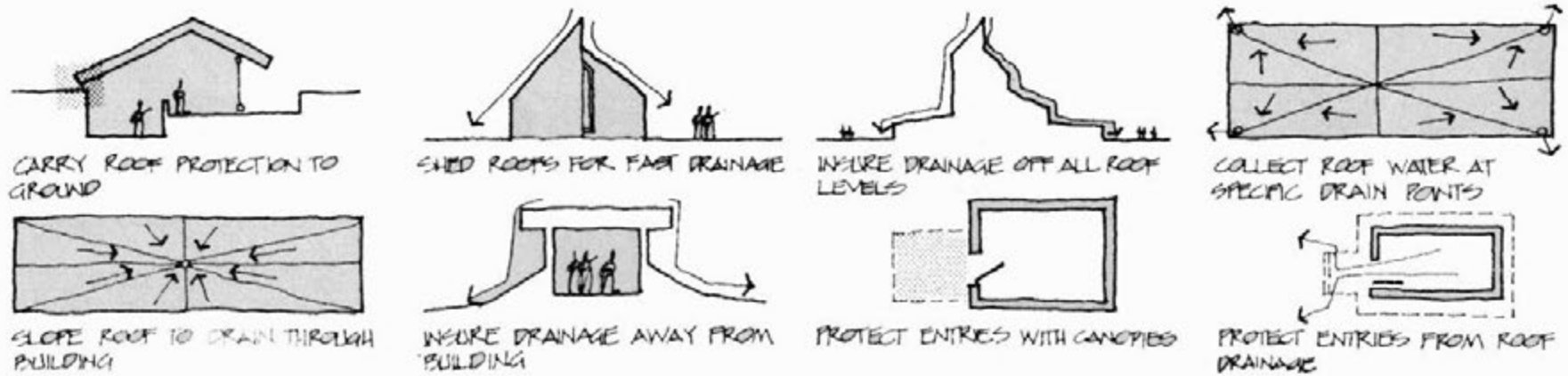


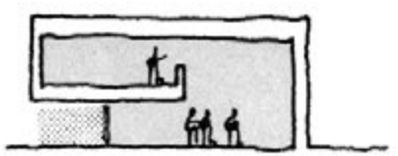
SIT PROTECTIVE DEVICE ON FLOOR EXTENSIONS

Temperature and Humidity



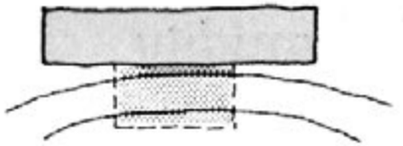
Rainfall



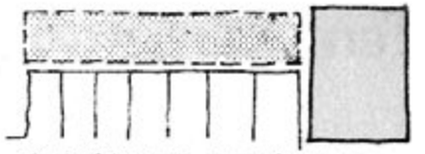


RECESS ENTRY FOR PROTECTION

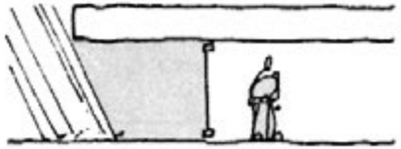
STEP UP TO ENTER



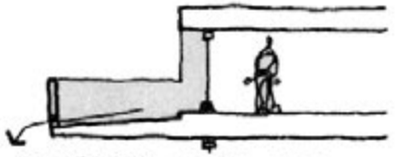
PROTECT DROP OFF AREA



CANOPY OVER ENTRY WALK FROM PARKING

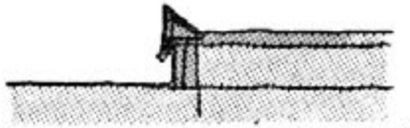


PROTECT OPENINGS, CONNECTIONS AND JOINTS



SLOPE BALCONIES FOR DRAINAGE

SLOPE EXTERIOR USE AREAS FOR POSITIVE DRAINAGE

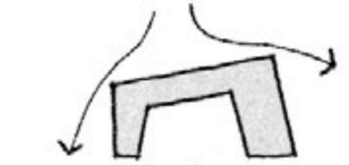


MINIMIZE NUMBER & COMPLEXITY OF FLASHING SITUATIONS

Wind

AVOID WIND TUNNEL FORMS

USE PREVAILING BREEZES AS COOLING DEVICE



TURN BUILDING'S BACK TO WIND

USE LANDSCAPING AS WIND PROTECTION

LANDSCAPING TO AVOID BLOWING DUST

PROTECT SMALL BUILDINGS WITH TALL ONES

PROTECT EXTERIOR AREAS WITH BUILDING FORM

USE ROOF FORMS TO MINIMIZE LIFTING WIND PRESSURE

USE LAND FORMS TO PROTECT AGAINST WIND

USE BREEZE & EVAPORATION FROM POOL AS COOLING DEVICE

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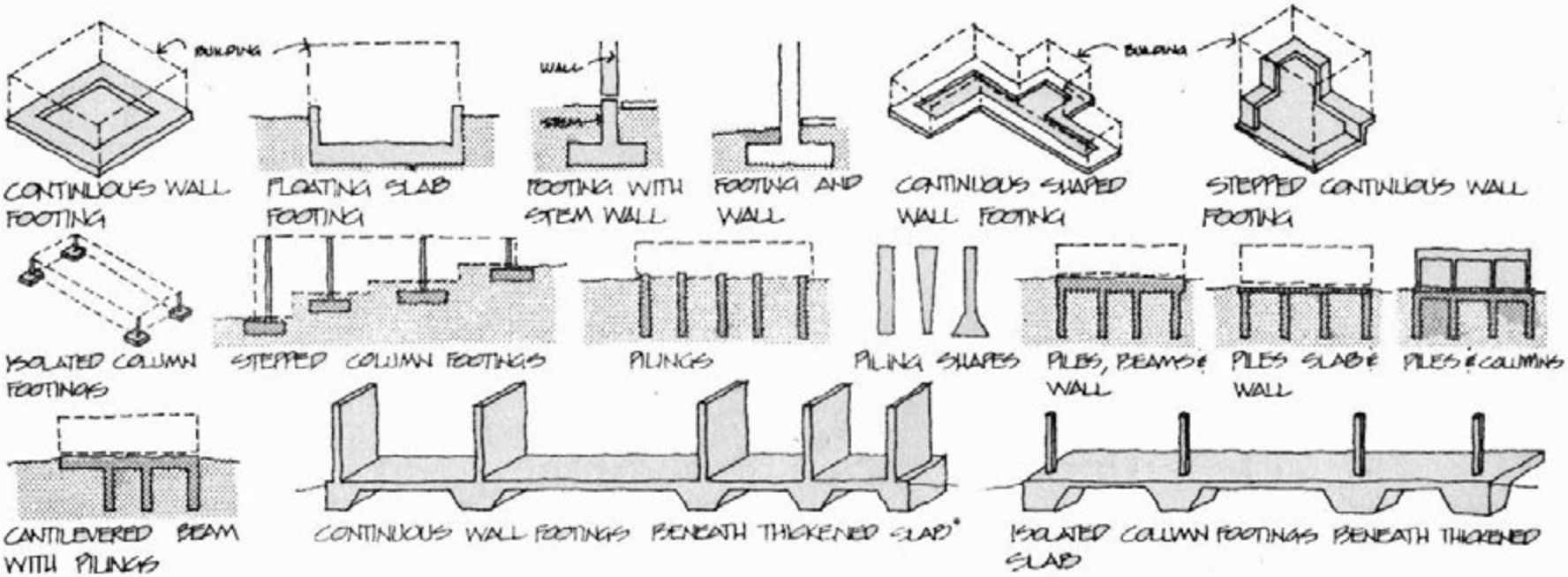
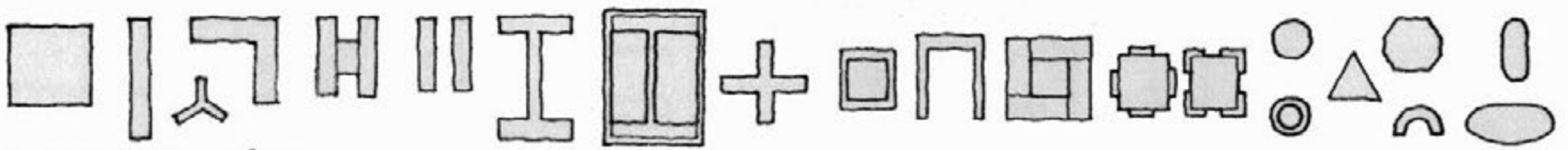
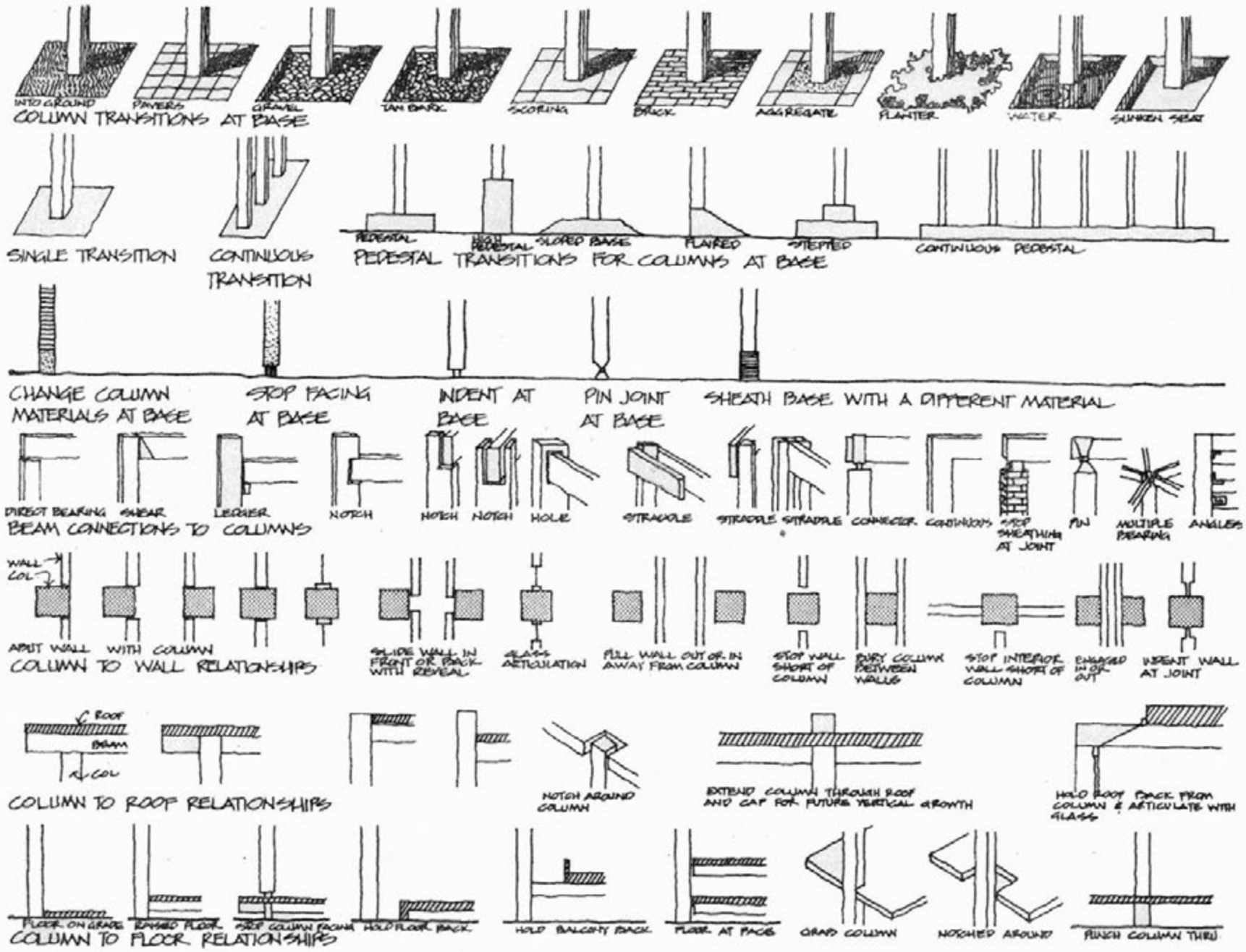
Building Envelope

Footings and Foundations

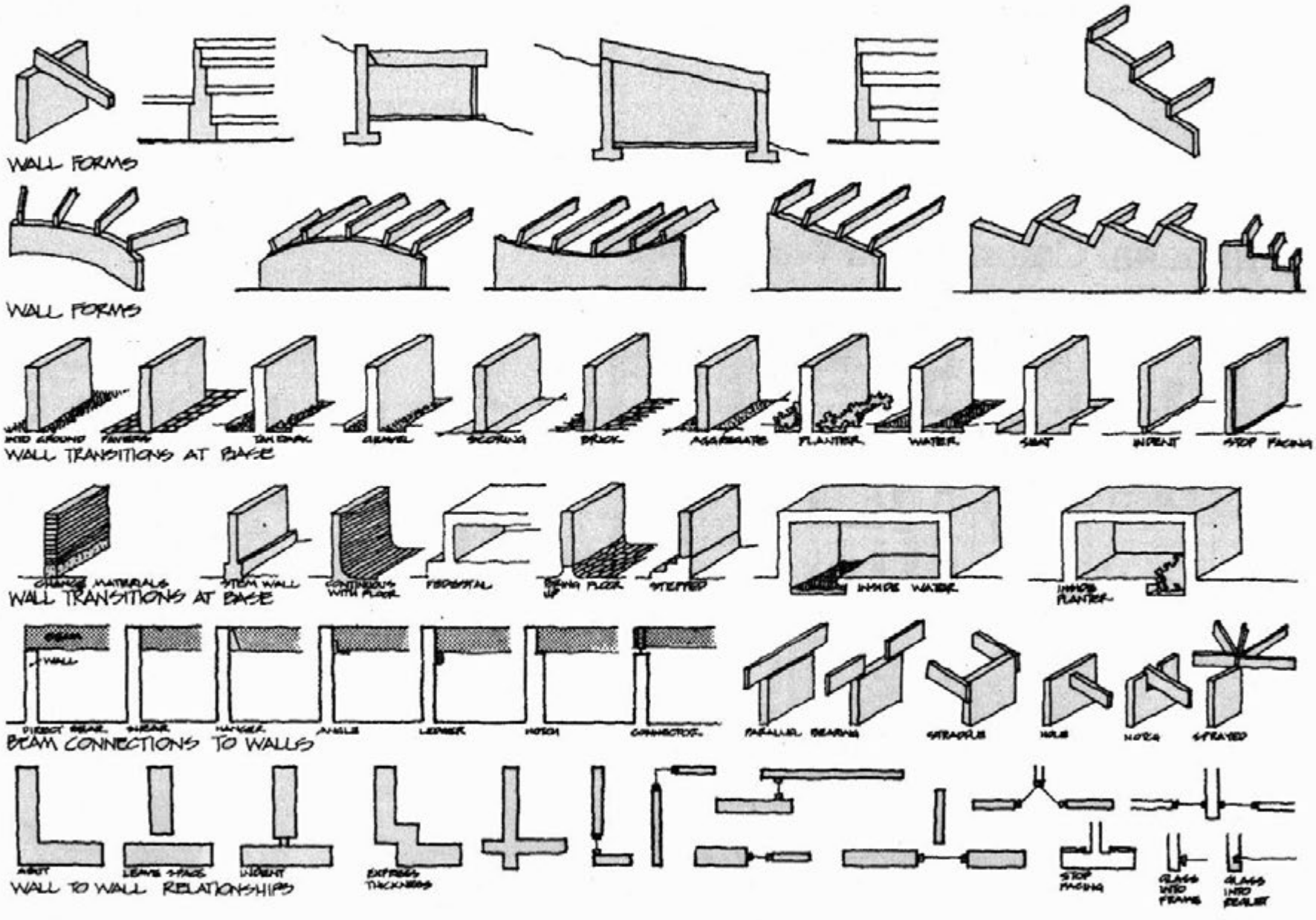


Columns

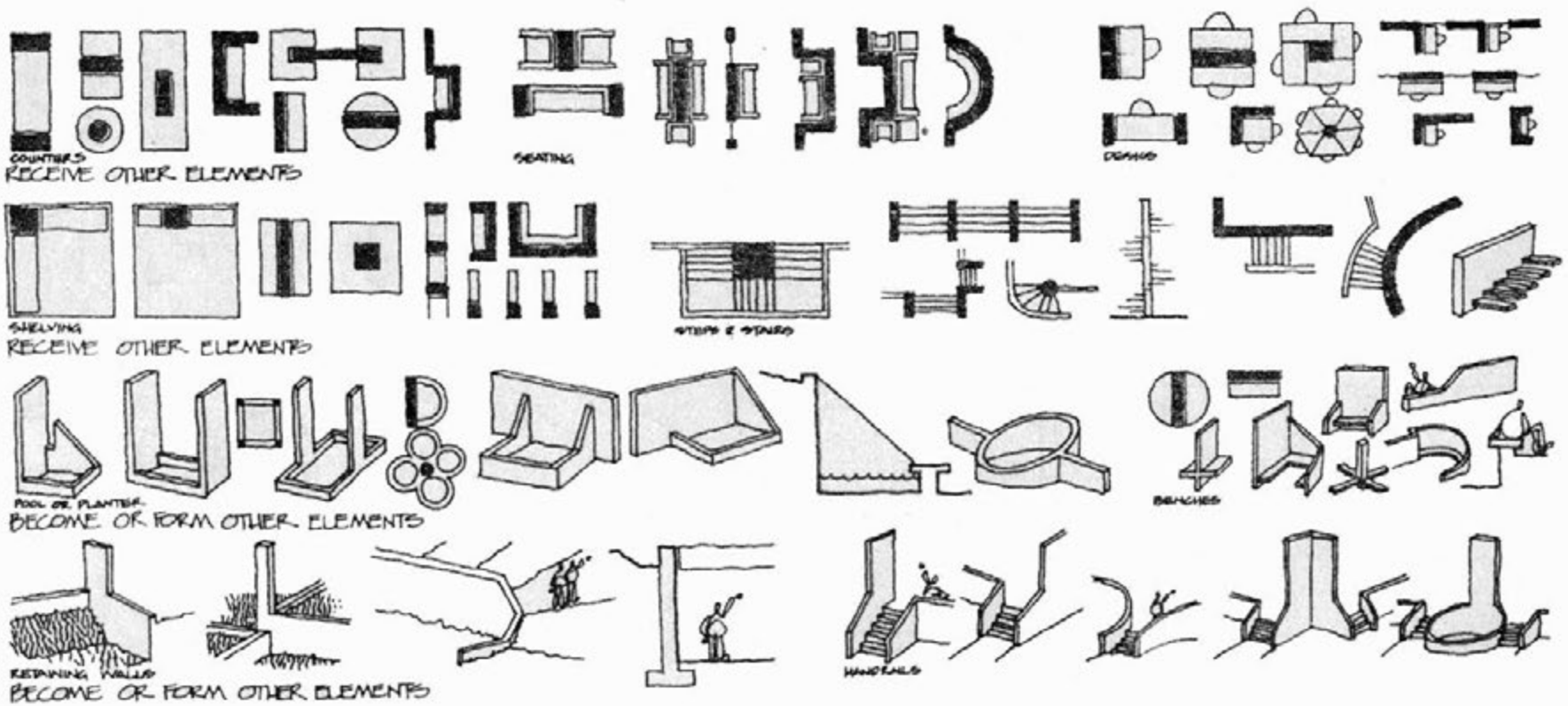


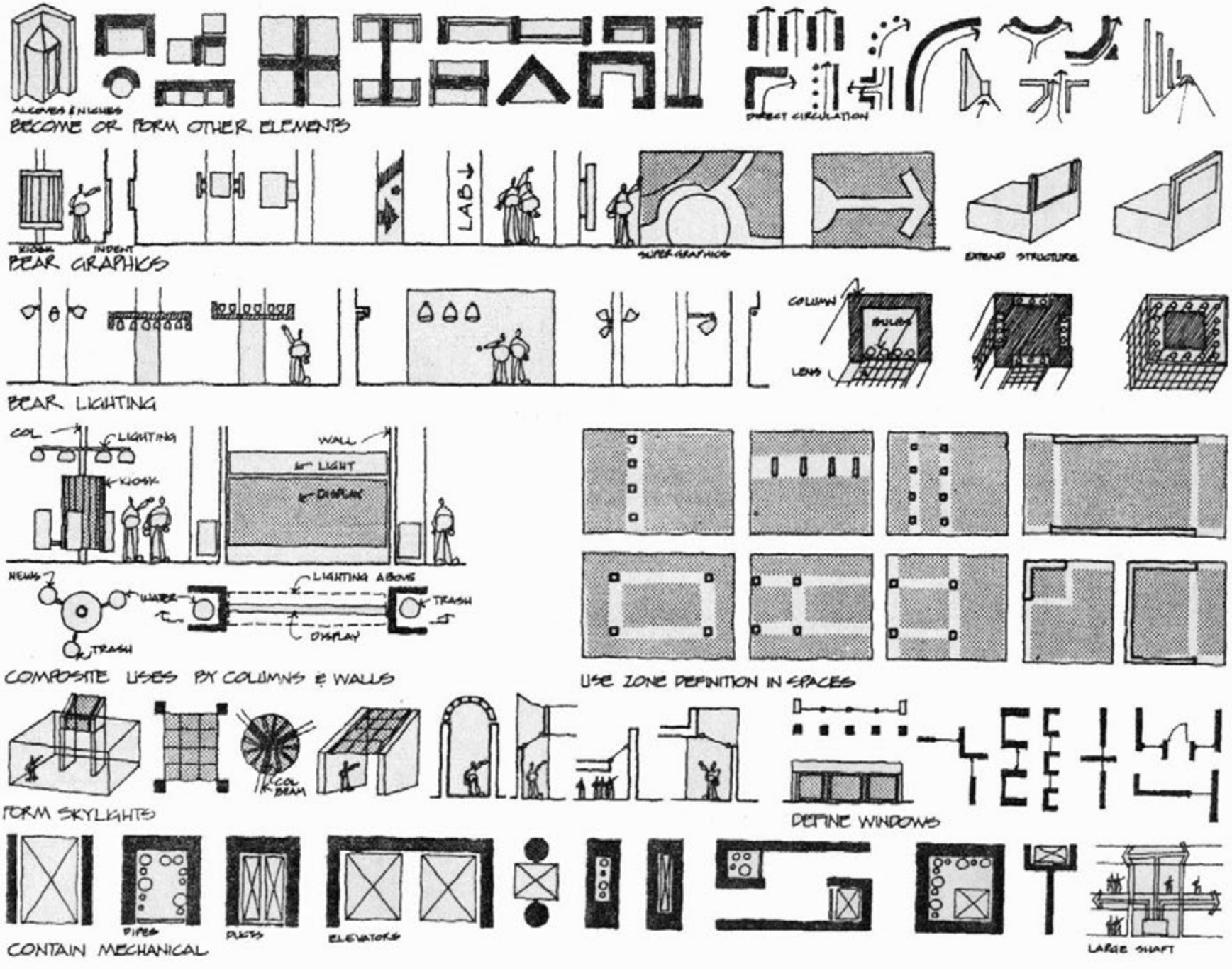

INTO GROUND
PAVERS
GRAVEL
TAN BARK
SCORING
BRICK
AGGREGATE
PLANTER
WATER
SUNKEN SLAB
COLUMN TRANSITIONS AT BASE
SINGLE TRANSITION
CONTINUOUS TRANSITION
PEDESTAL
HIGH PEDESTAL
SLOPED BASE
FLARED
STEPPED
CONTINUOUS PEDESTAL
PEDESTAL TRANSITIONS FOR COLUMNS AT BASE
CHANGE COLUMN MATERIALS AT BASE
STOP FACING AT BASE
INDENT AT BASE
PIN JOINT AT BASE
SHEATH BASE WITH A DIFFERENT MATERIAL
DIRECT BEARING
SHEAR
LEDGER
NOTCH
NOTCH
NOTCH
HOLE
STRADDLE
STRADDLE
STRADDLE
CONNECTOR
CONTINUOUS
STOP SHEATHING AT JOINT
PIN
MULTIPLE BEARING
ANGLES
BEAM CONNECTIONS TO COLUMNS
WALL
COL
ABUT WALL WITH COLUMN
SLIDE WALL IN FRONT OR BACK WITH REVEAL
GLASS ARTICULATION
FILL WALL OUT OR IN AWAY FROM COLUMN
STOP WALL SHORT OF COLUMN
BURY COLUMN BETWEEN WALLS
STOP INTERIOR WALL SHORT OF COLUMN
ENGAGED IN OR OUT
INSERT WALL AT JOINT
COLUMN TO WALL RELATIONSHIPS
ROOF
BEAM
COL
COLUMN TO ROOF RELATIONSHIPS
NOTCH AROUND COLUMN
EXTEND COLUMN THROUGH ROOF AND CAP FOR FUTURE VERTICAL GROWTH
HOLD ROOF BACK FROM COLUMN & ARTICULATE WITH GLASS
FLOOR ON GRADE
RAISED FLOOR
STEP COLUMN FROWN
HOLD FLOOR BACK
HOLD BALCONY BACK
FLOOR AT FACE
GRAB COLUMN
NOTCHED AROUND
PINCH COLUMN THRU
COLUMN TO FLOOR RELATIONSHIPS

Walls

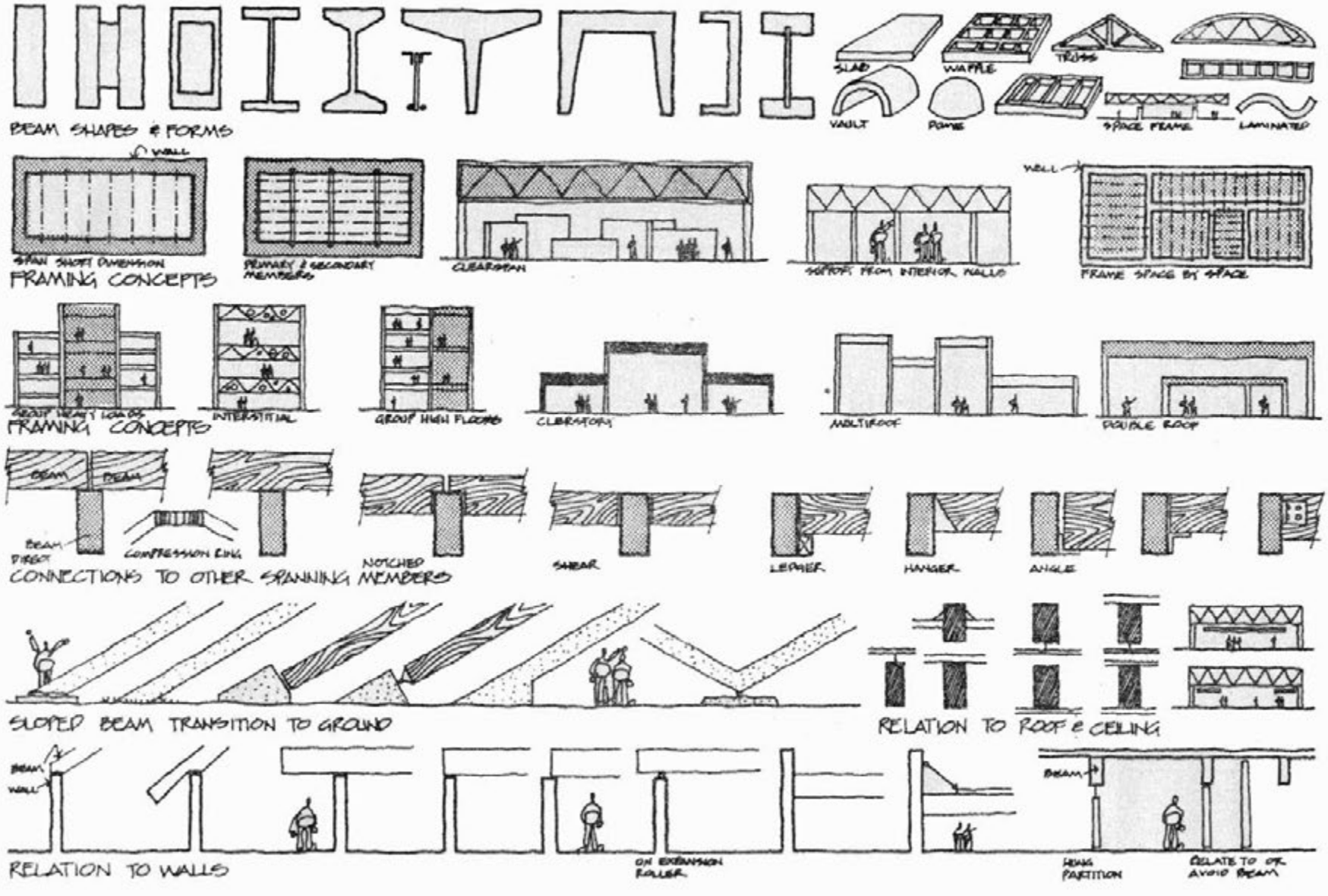

WALL FORMS
WALL FORMS
WALL TRANSITIONS AT BASE
WALL TRANSITIONS AT BASE
BEAM CONNECTIONS TO WALLS
WALL TO WALL RELATIONSHIPS

Additional Column and Wall Roles

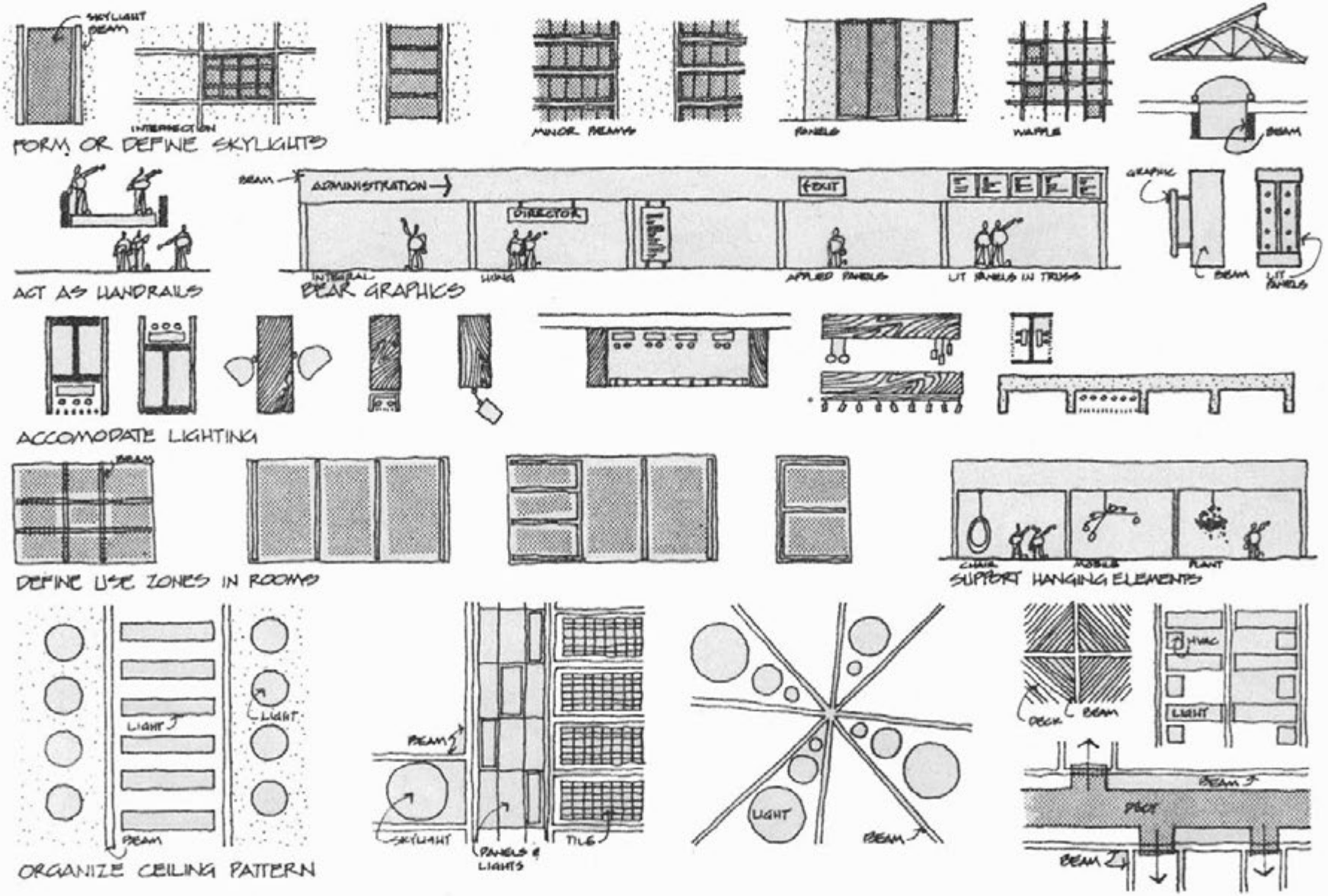



ALCOVES & NICHES
BECOME OR FORM OTHER ELEMENTS
DIRECT CIRCULATION
LAB
SUPER-GRAPHICS
EXTEND STRUCTURE
BEAR GRAPHICS
BEAR LIGHTING
COLUMN
BULBS
LENS
COL
LIGHTING
KIOSK
WALL
LIGHT
DISPLAY
NEWS
WATER
TRASH
LIGHTING ABOVE
DISPLAY
COMPOSITE USES BY COLUMNS & WALLS
USE ZONE DEFINITION IN SPACES
COL BEAM
FORM SKYLIGHTS
DEFINE WINDOWS
PIPES
DUCTS
ELEVATORS
CONTAIN MECHANICAL
LARGE SHAFT

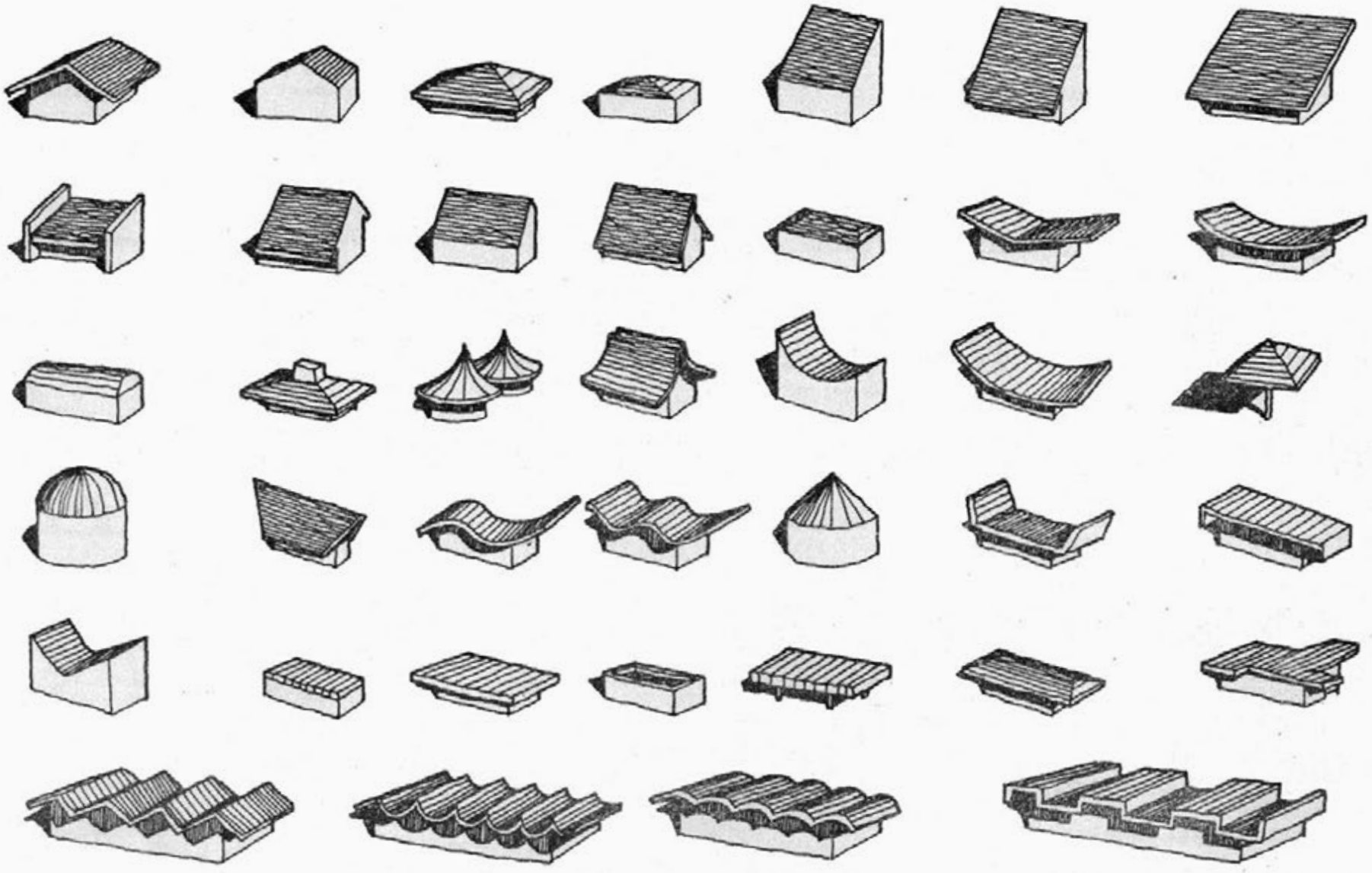
Beams


BEAM SHAPES & FORMS
SLAB
WAFFLE
TRUSS
VAULT
DOME
SPACE FRAME
LAMINATED
WALL
FRAMING CONCEPTS
PRIMARY & SECONDARY MEMBERS
CLERESTORY
SKYLIGHTS FROM INTERIOR WALLS
WALL
FRAME SPACE BY SPACE
FRAMING CONCEPTS
INTERSTITIAL
GROUP HIGH FLOORS
CLERESTORY
MULTIROOF
DOUBLE ROOF
BEAM
BEAM
BEAM DIRECT
COMPRESSION RING
CONNECTIONS TO OTHER SPANNING MEMBERS
NOTCHED
SHEAR
LEDGER
HANGER
ANGLE
SLOPED BEAM TRANSITION TO GROUND
RELATION TO ROOF & CEILING
BEAM
WALL
RELATION TO WALLS
ON EXPANSION ROLLER
BEAM
HUNG PARTITION
RELATE TO OR AVOID BEAM

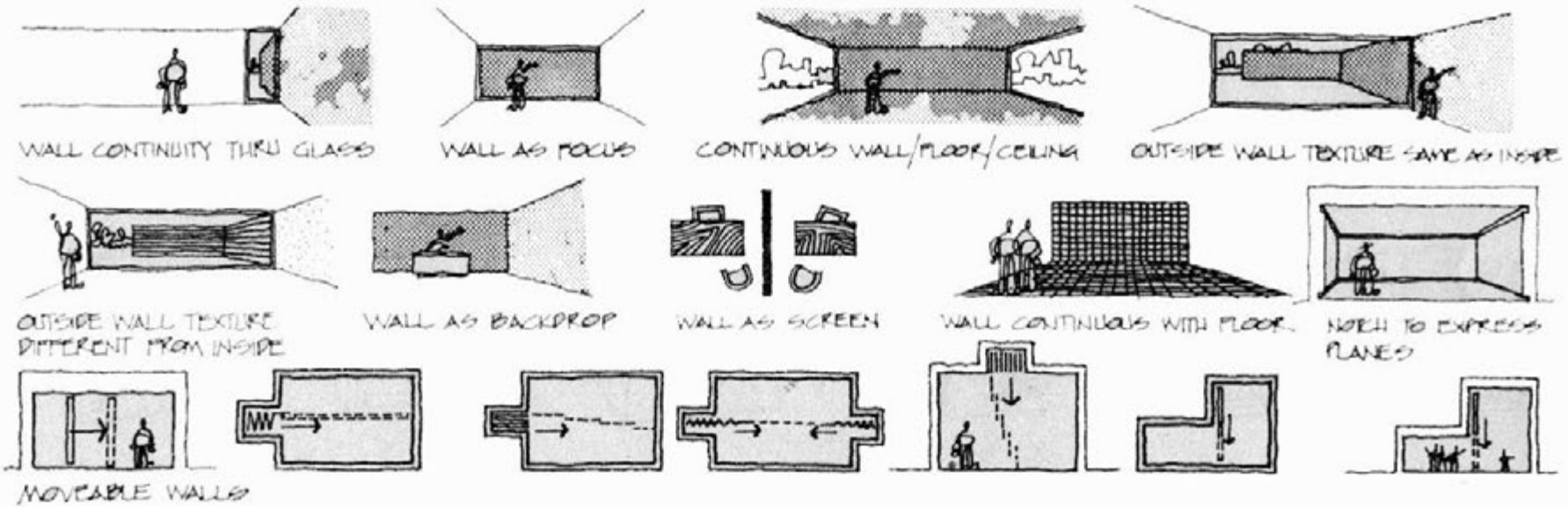
Additional Beam Roles



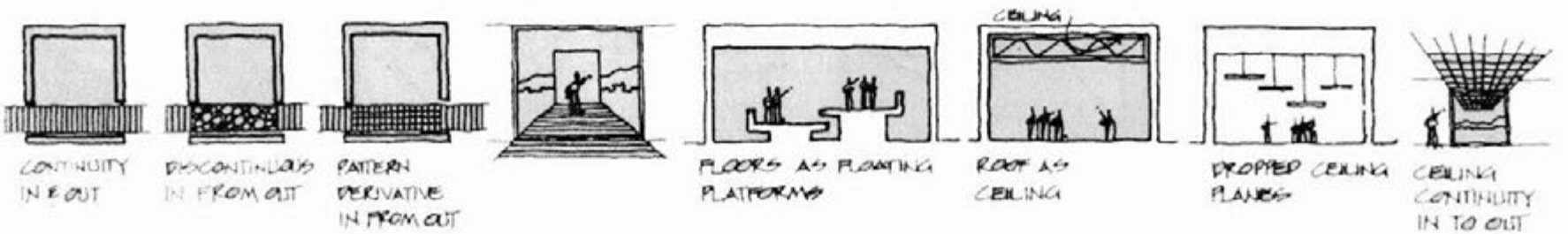
Roof Forms



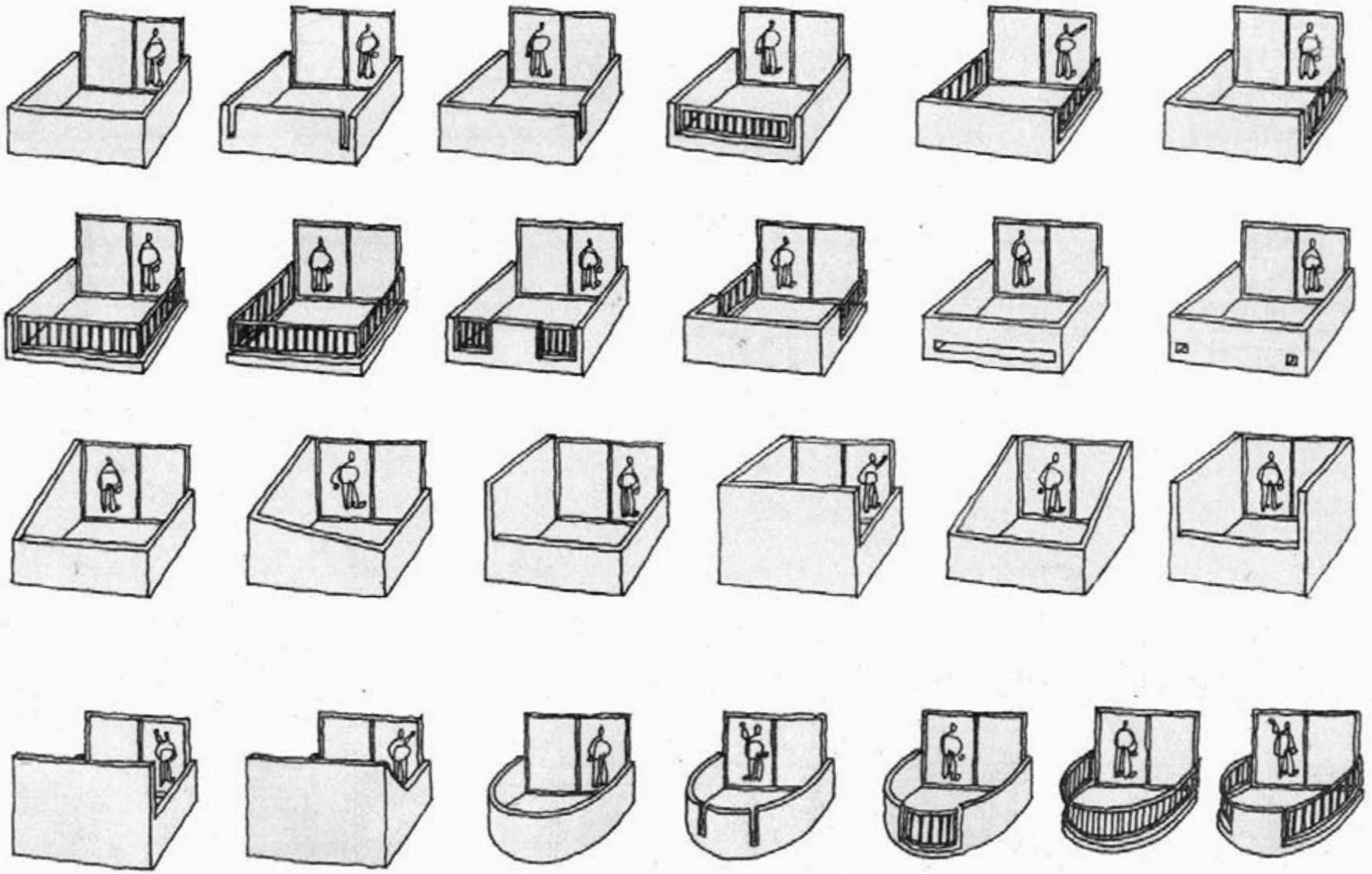
Wall Concepts

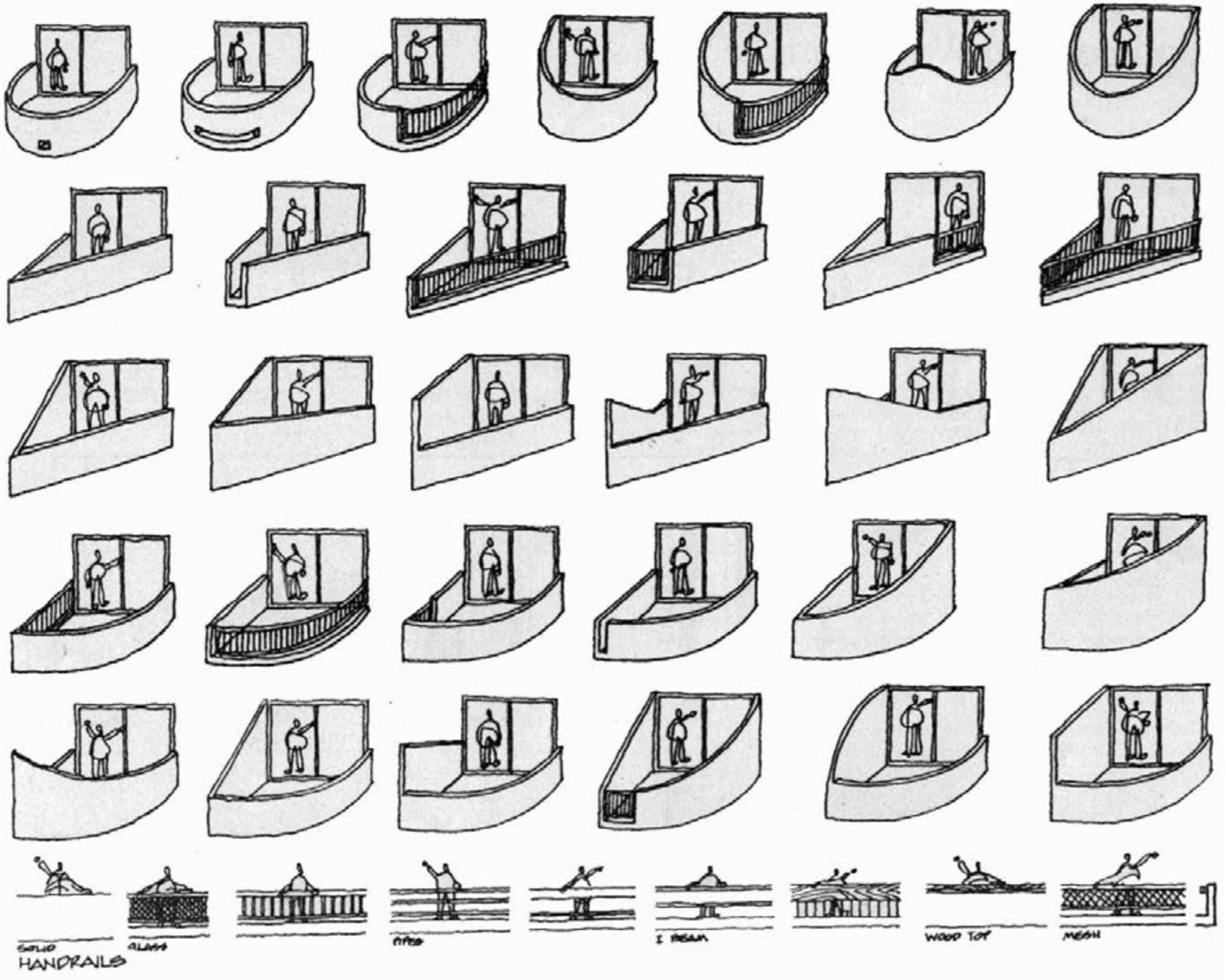


Floor and Ceiling Concepts

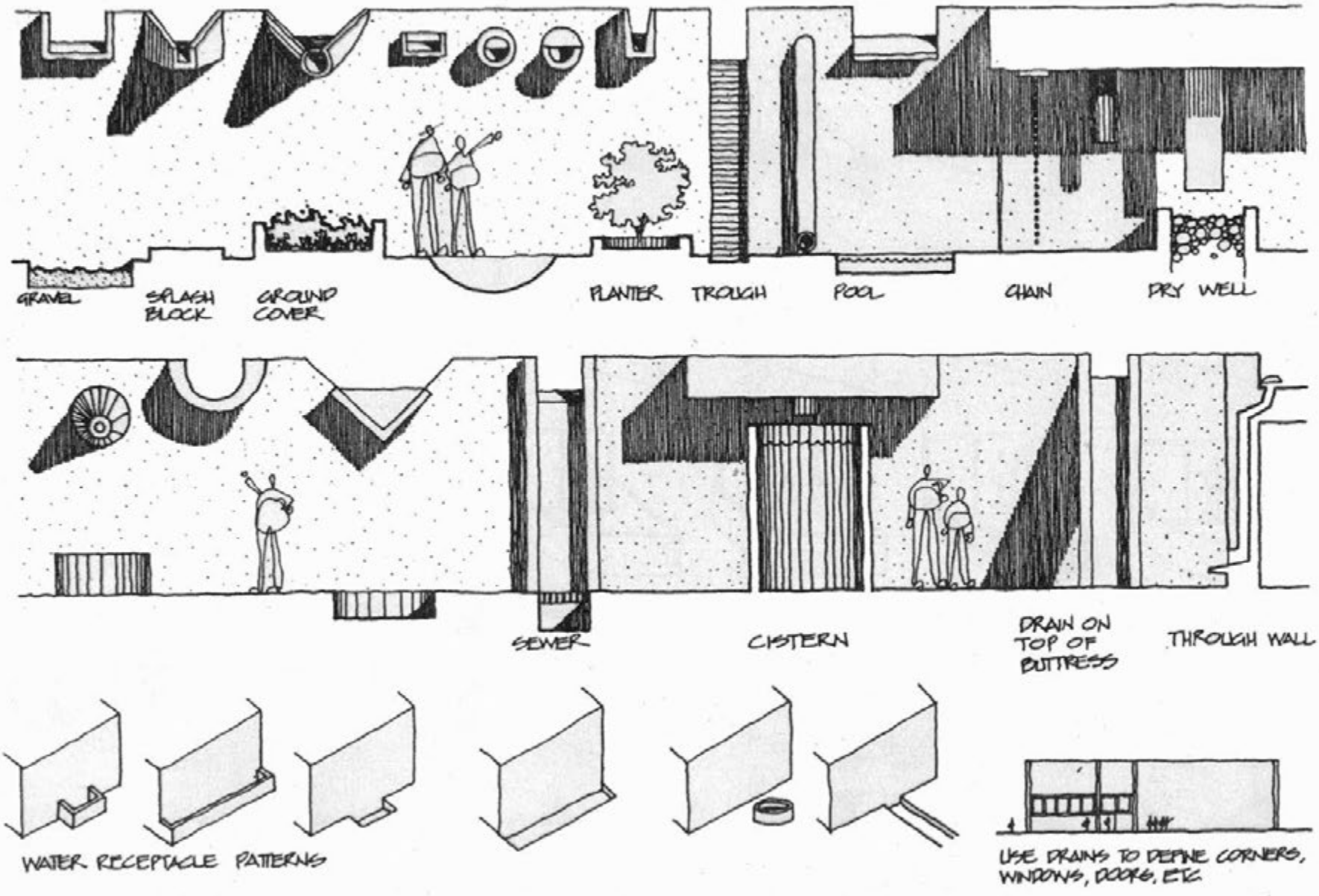


Balconies

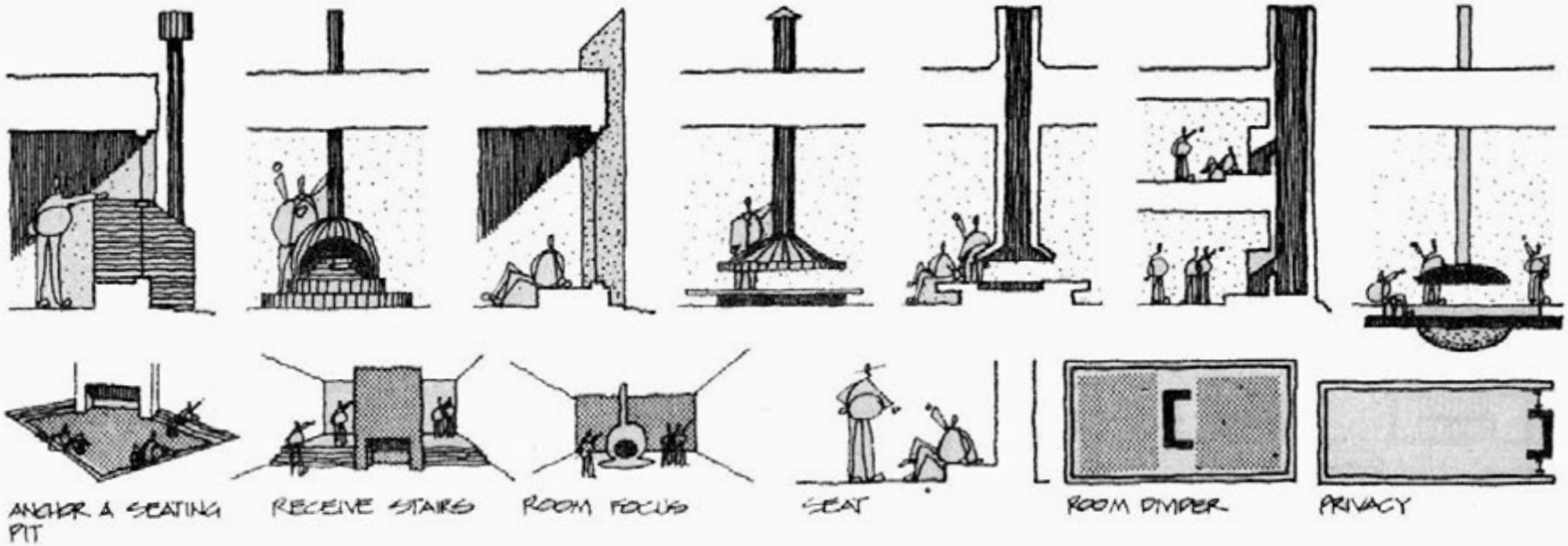



SOLID
HANDRAILS
GLASS
PIPES
I BEAM
WOOD TOP
MESH

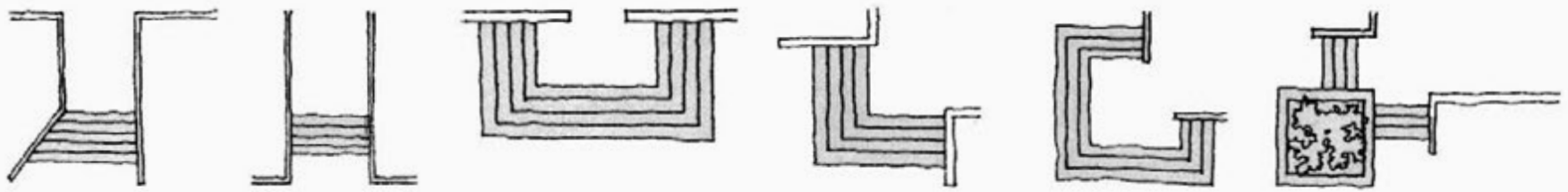
Canales and Water Bins

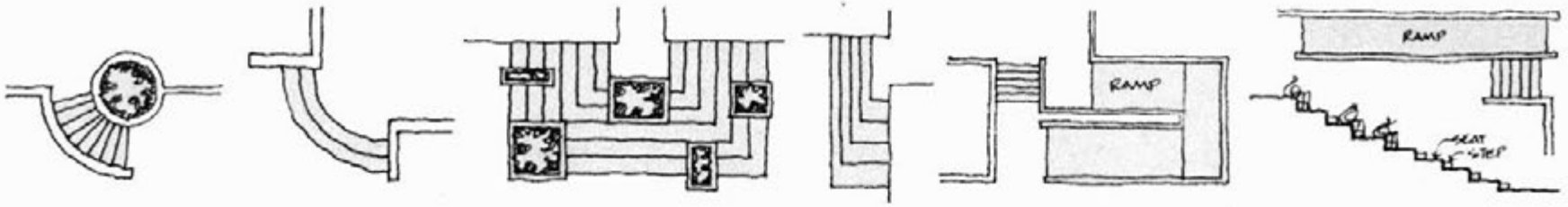


Fireplaces

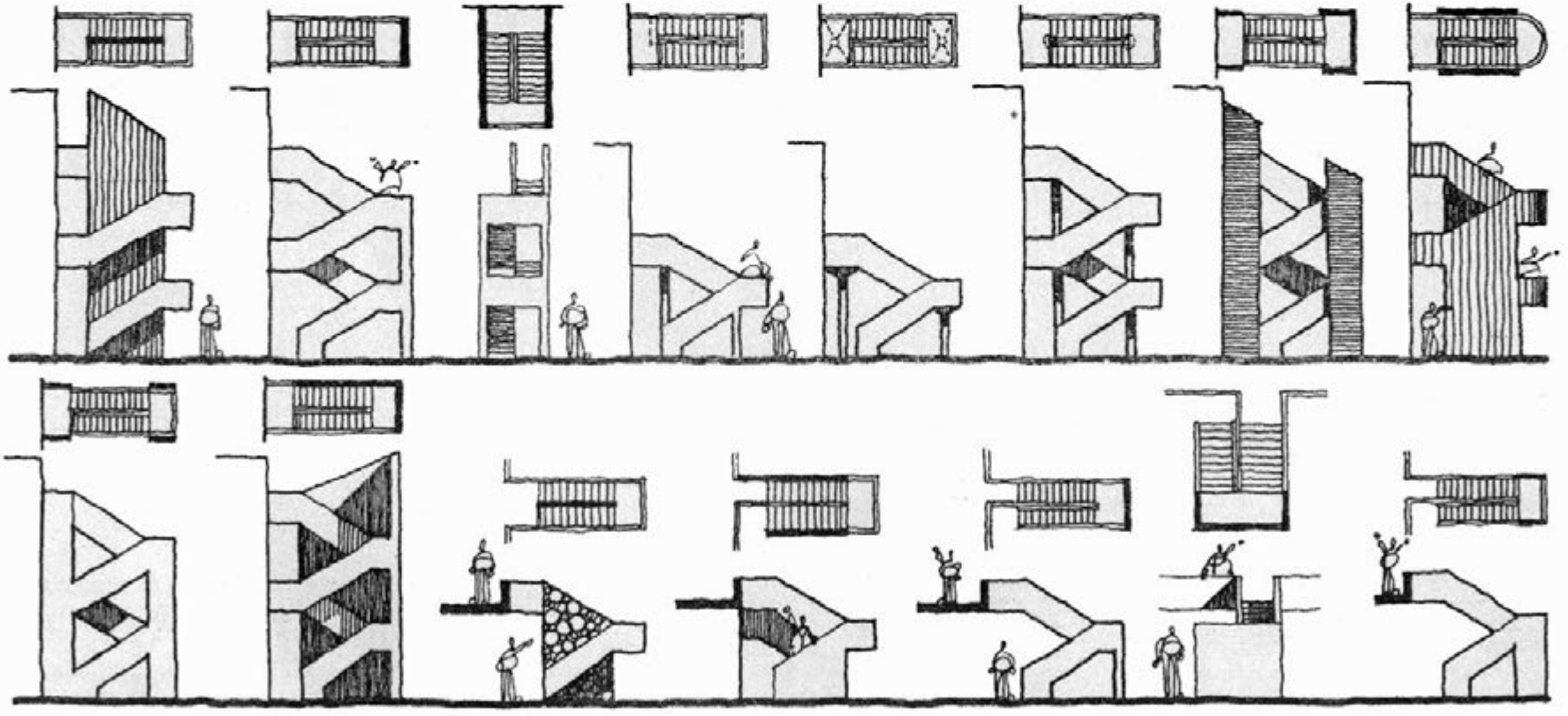


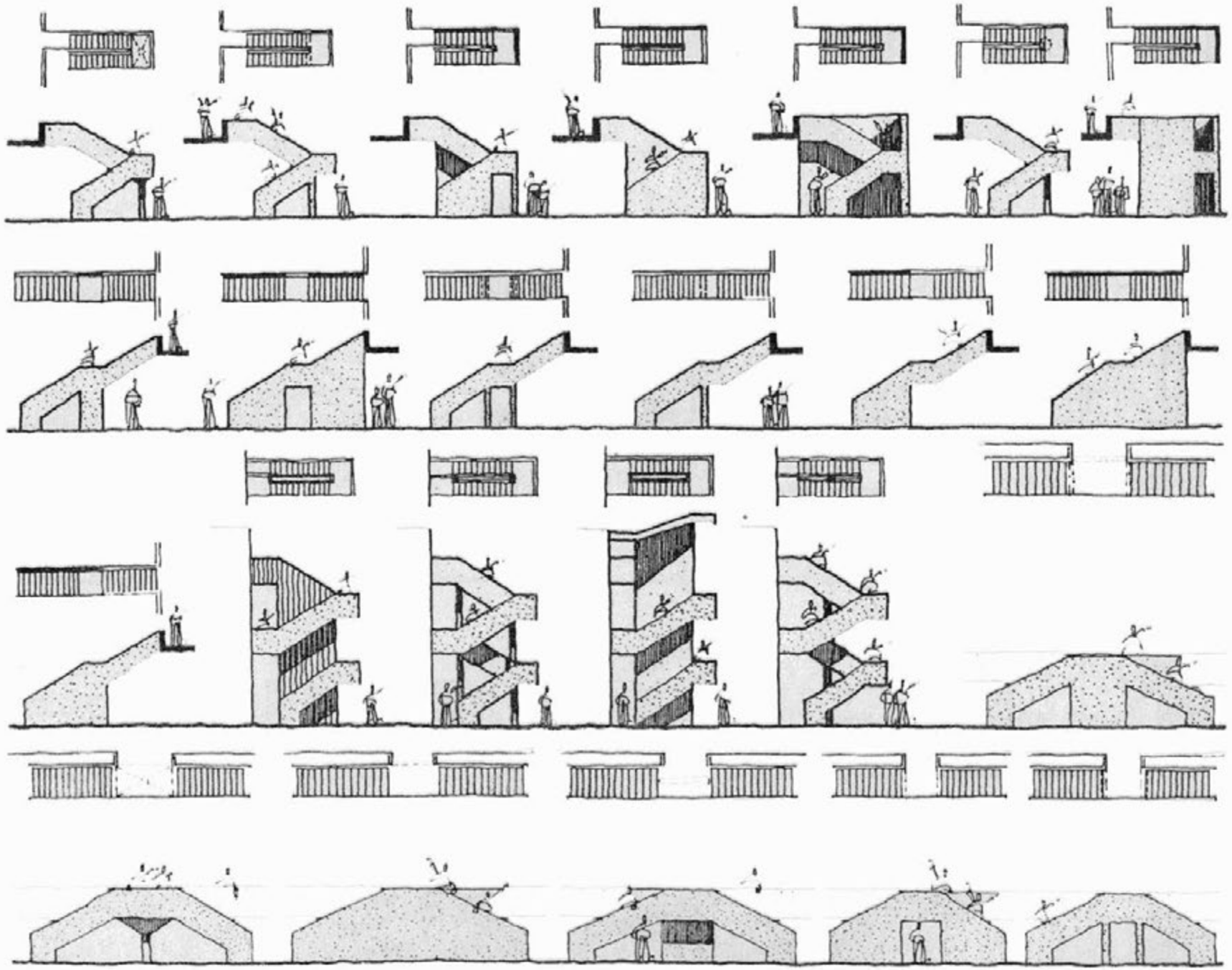
Steps

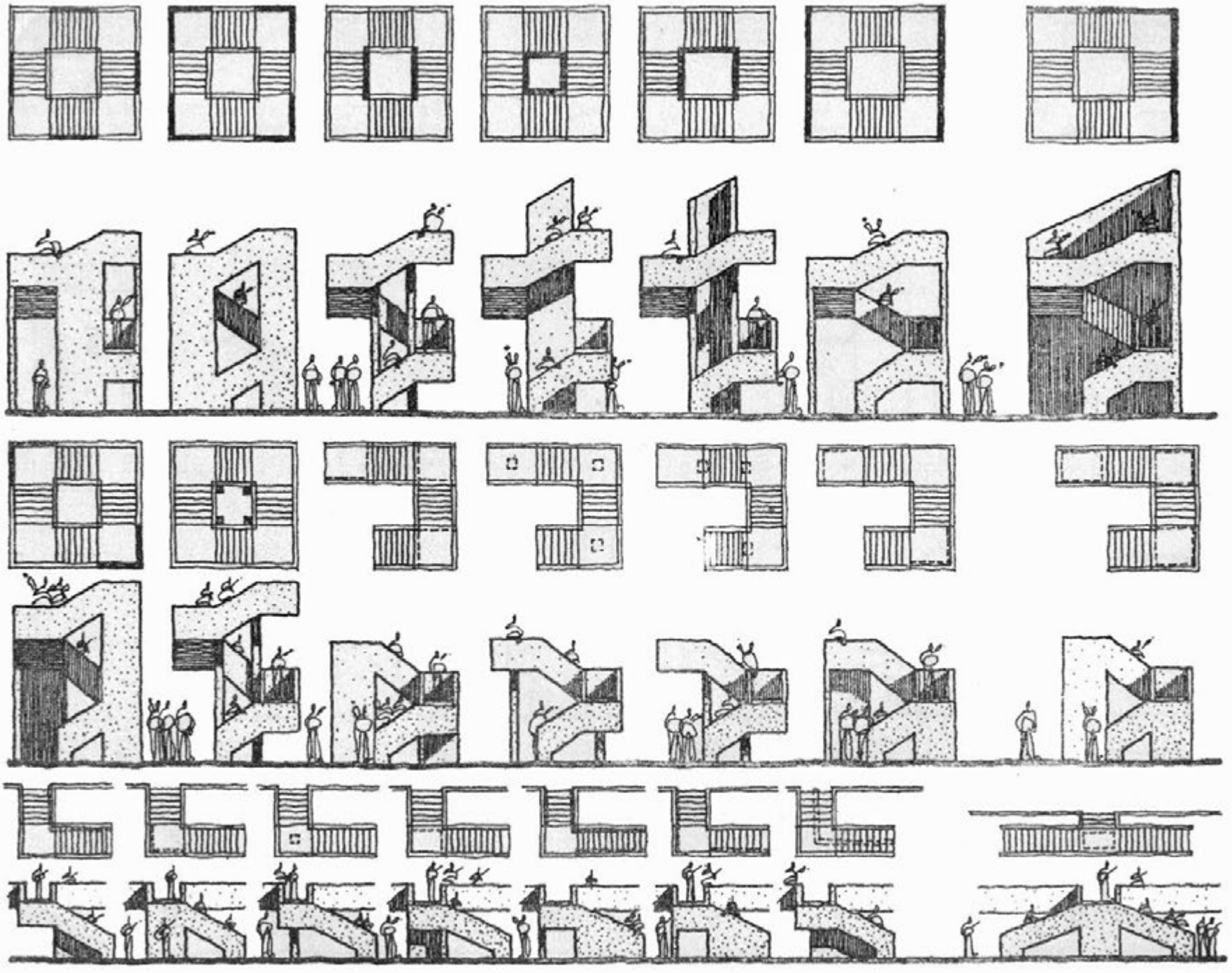


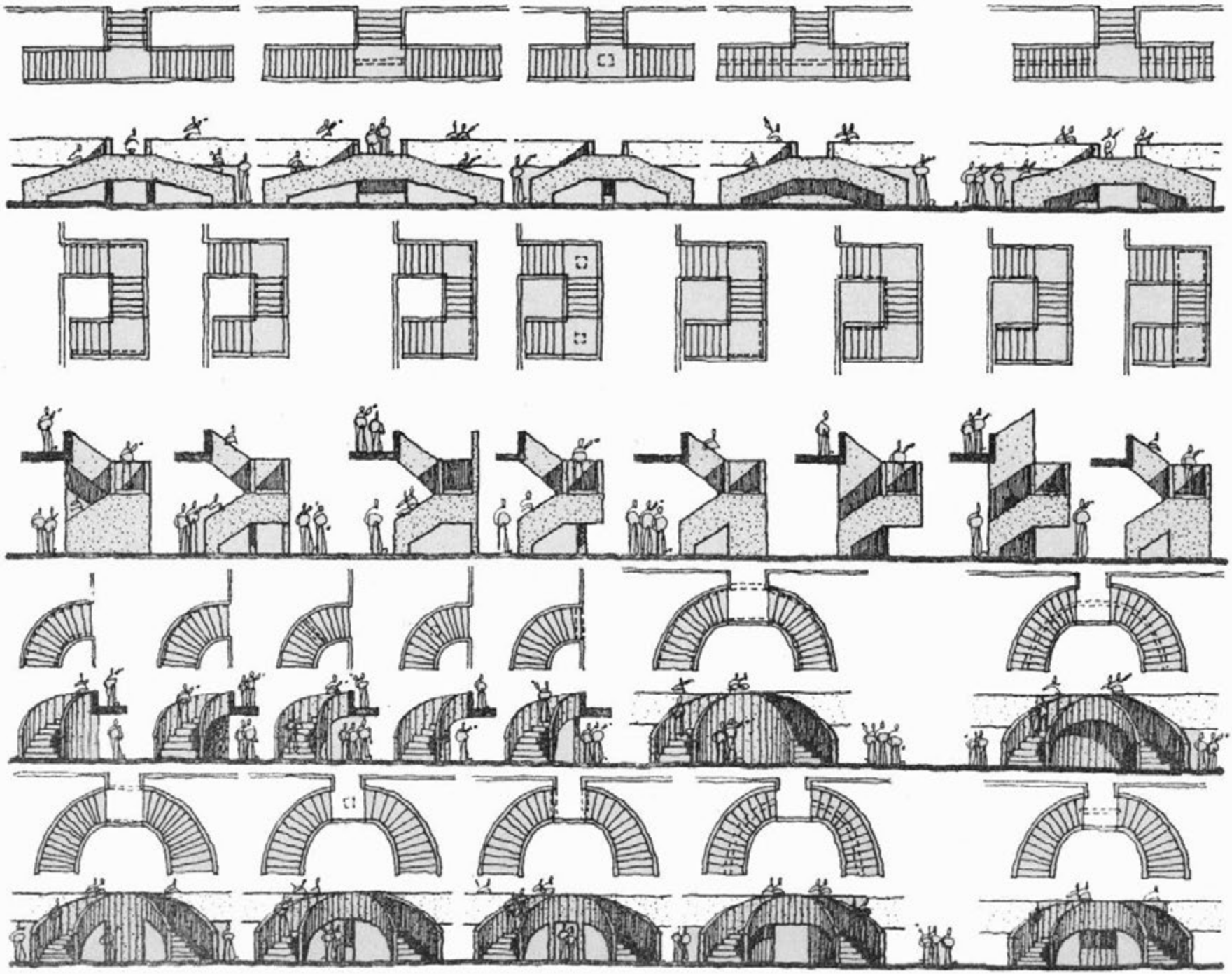


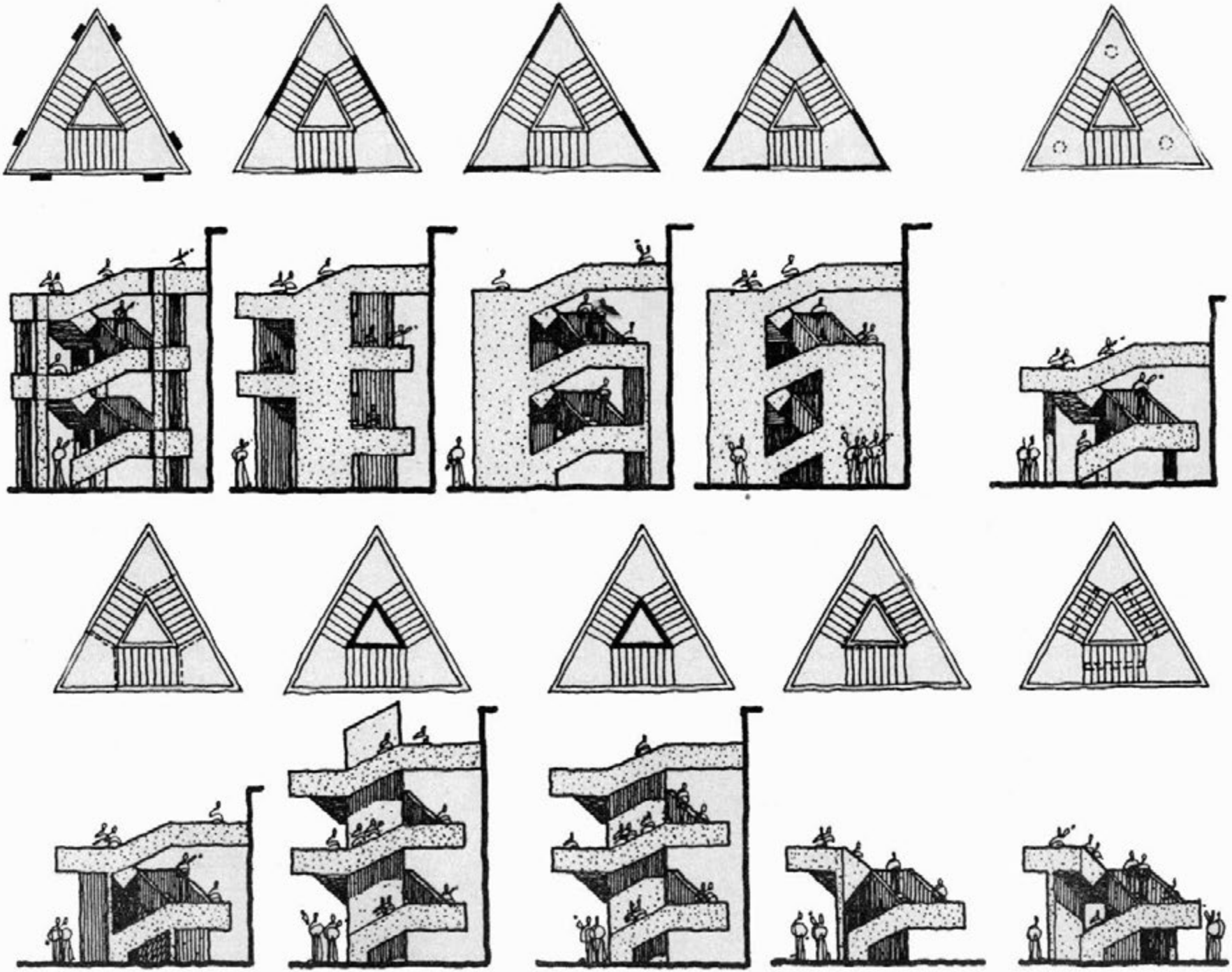
Stairs

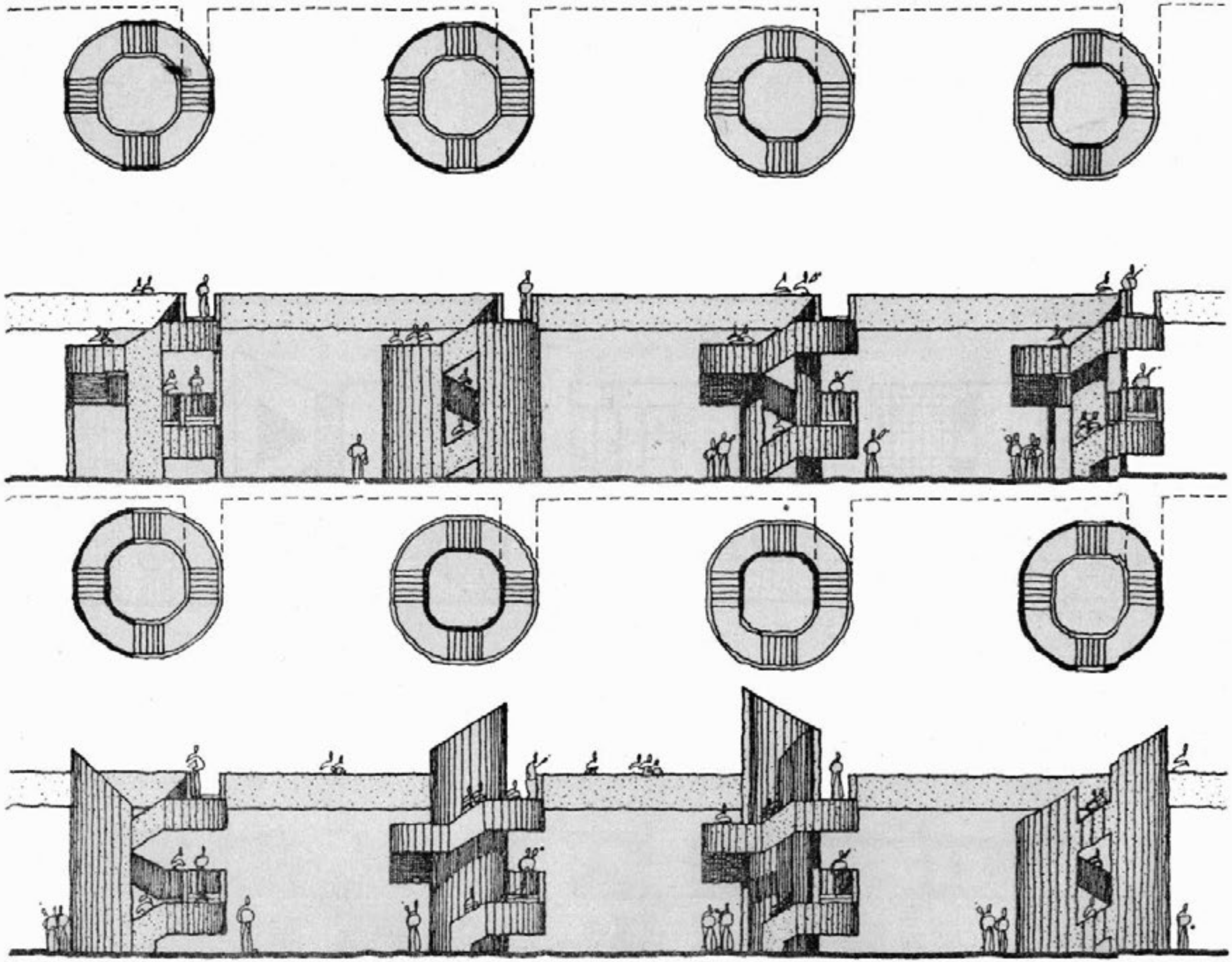


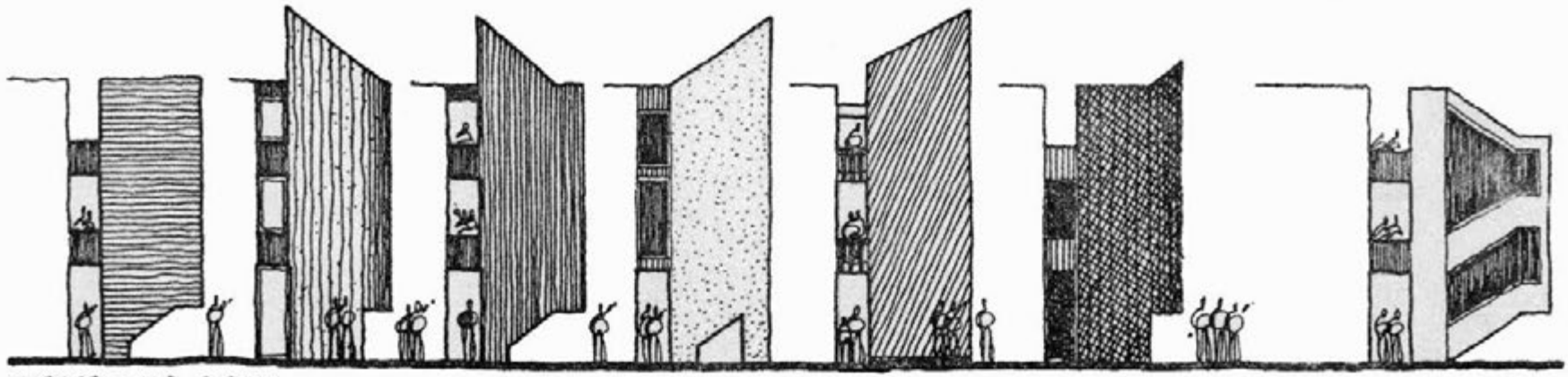




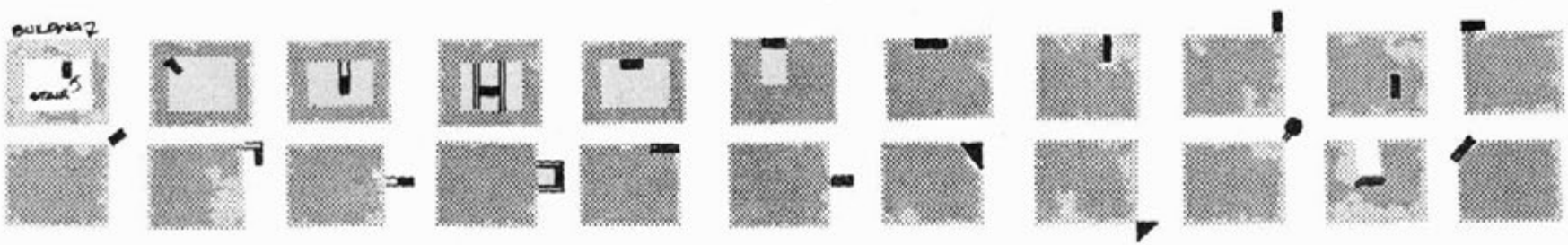




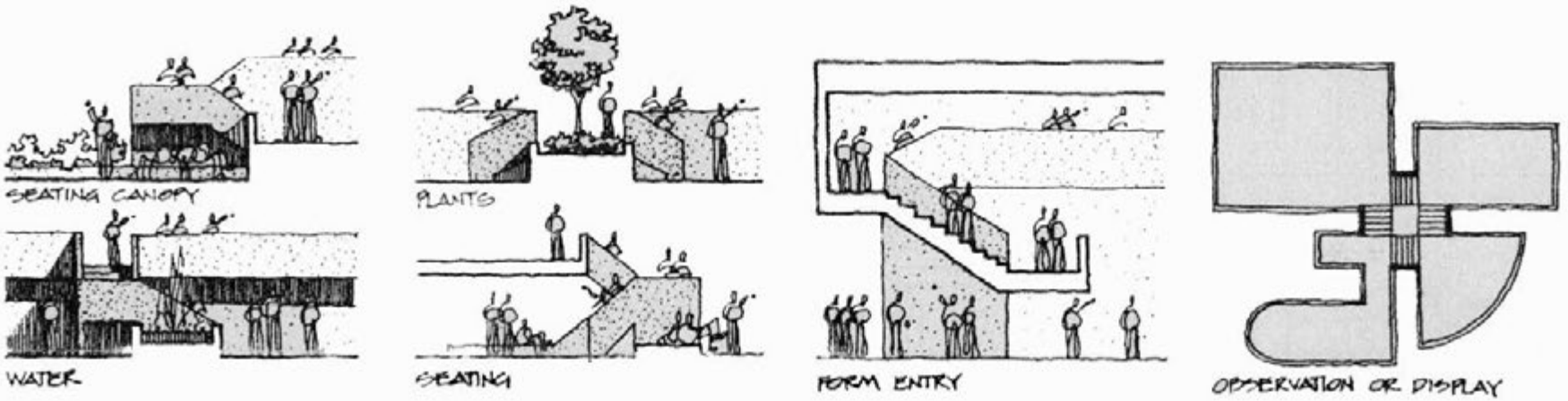




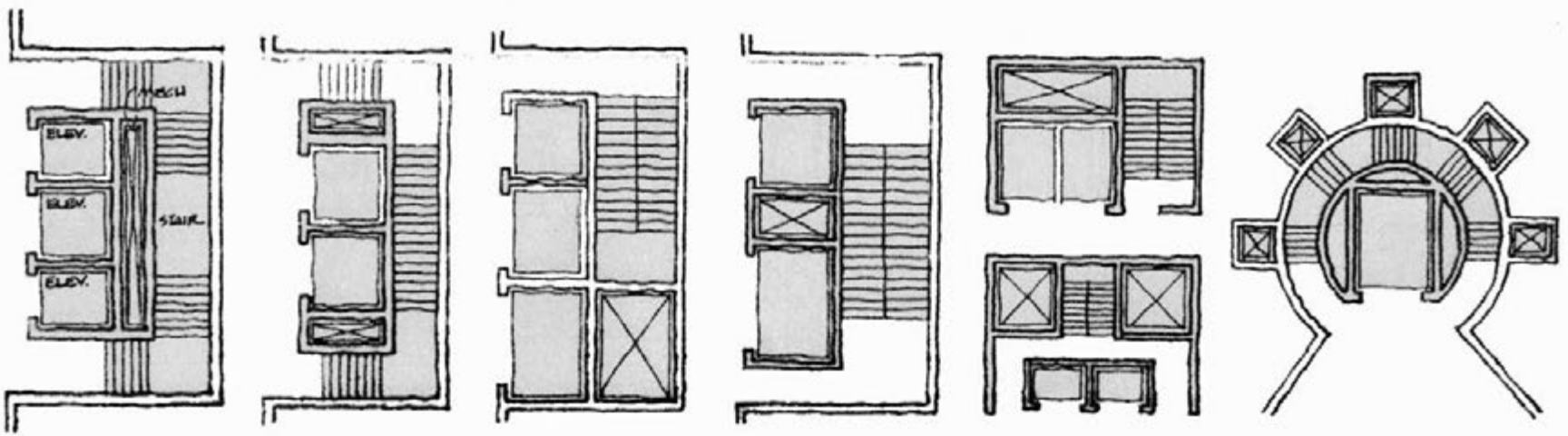
Stair Placement in Relation to Building



Additional Stair Roles

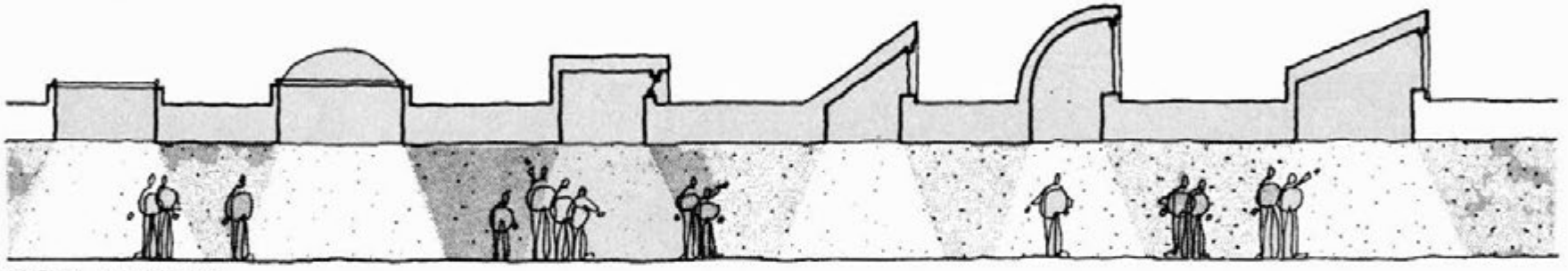


Shafts

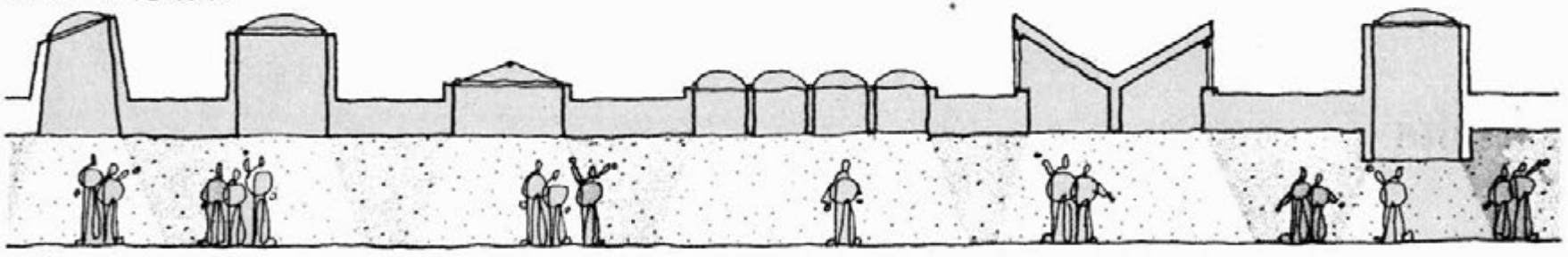


Skylights

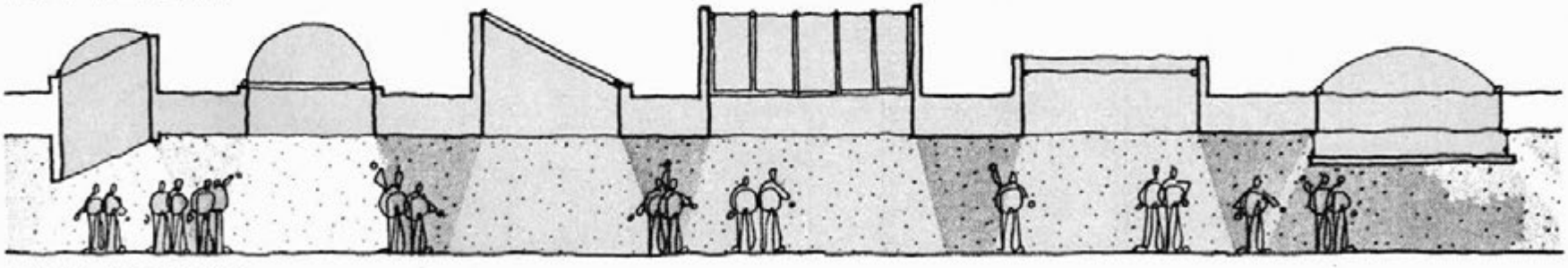
FORMS IN PLAN



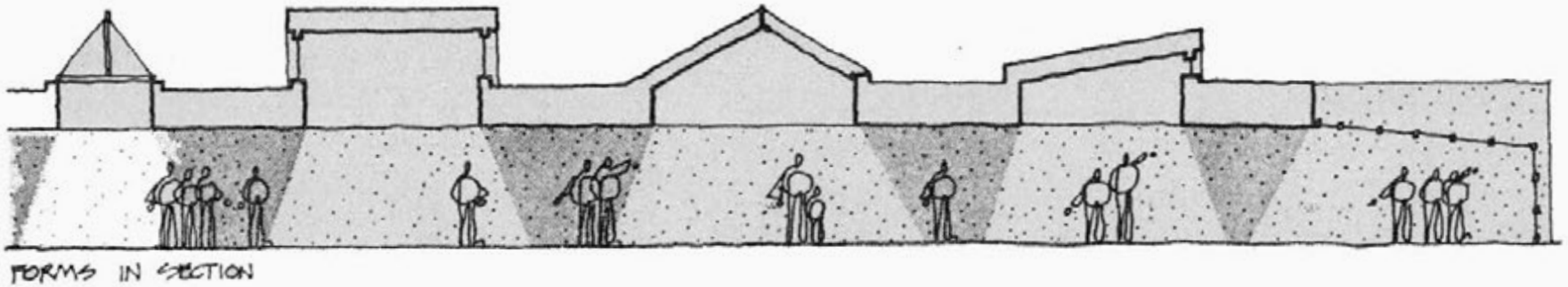
FORMS IN SECTION

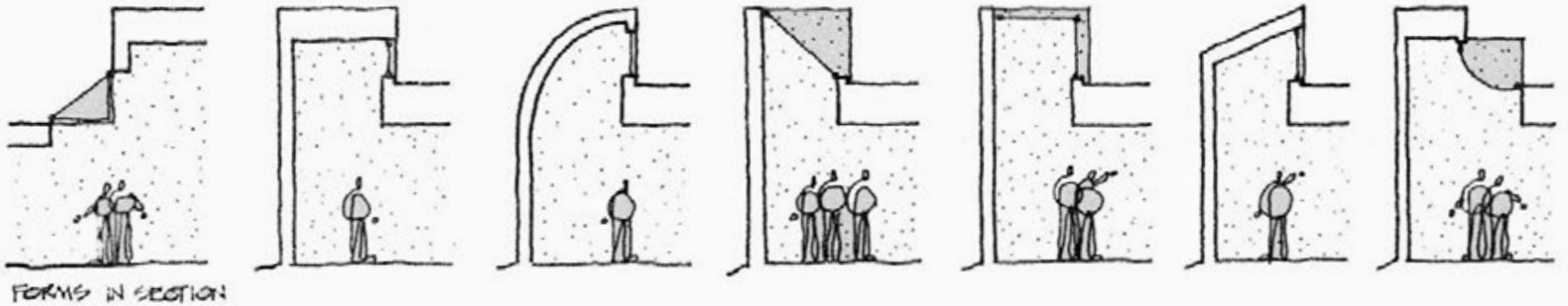


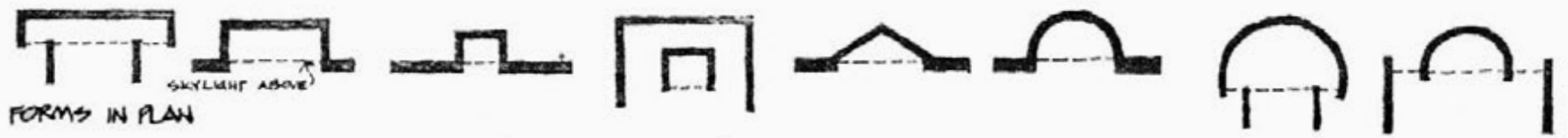
FORMS IN SECTION



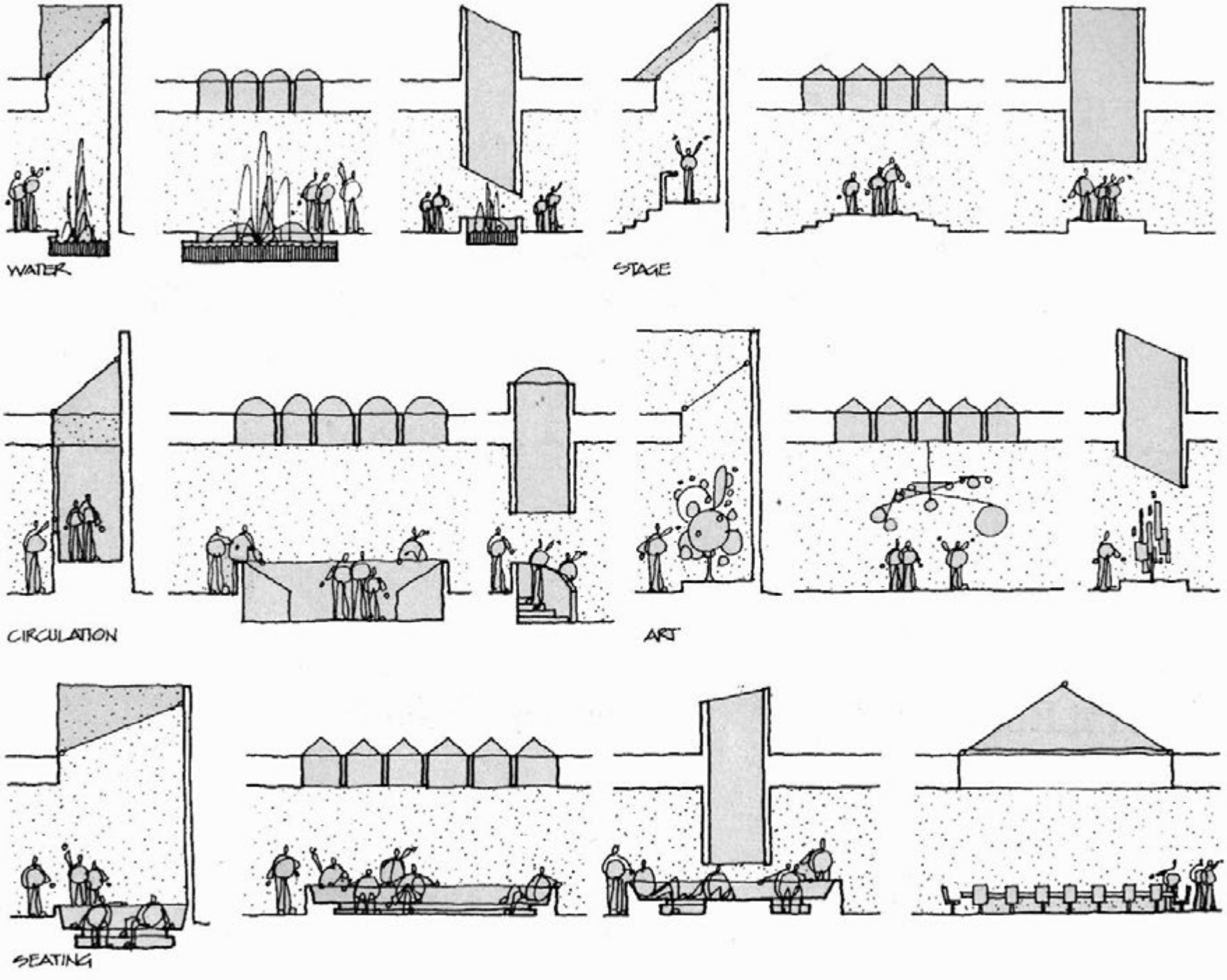
FORMS IN SECTION

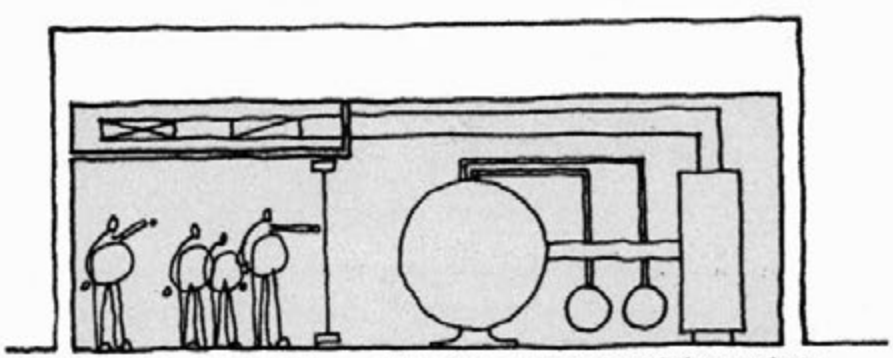




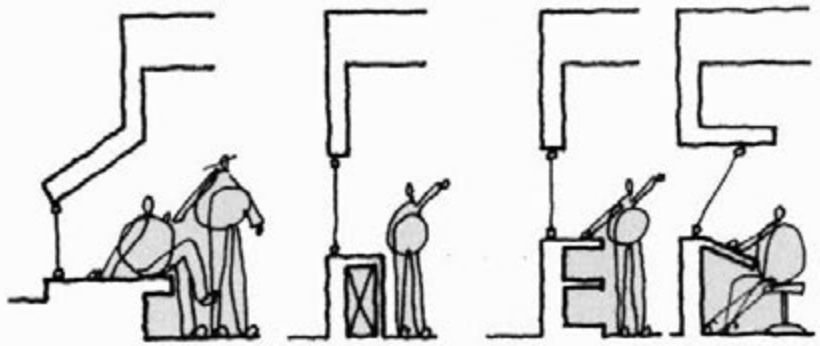


Skylight Roles

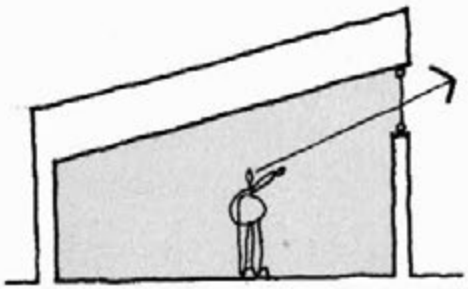

WATER
STAGE
CIRCULATION
ART
SEATING



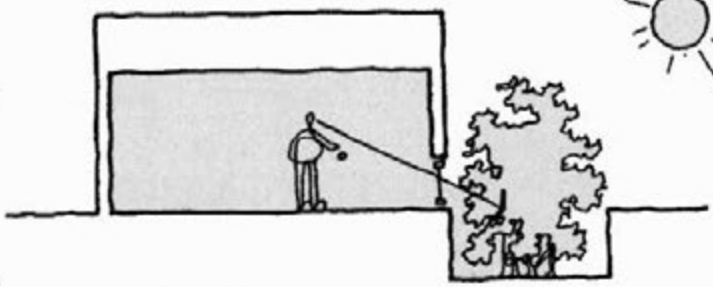
STOREFRONT CONCEPT • SHOW HOW THE BUILDING WORKS



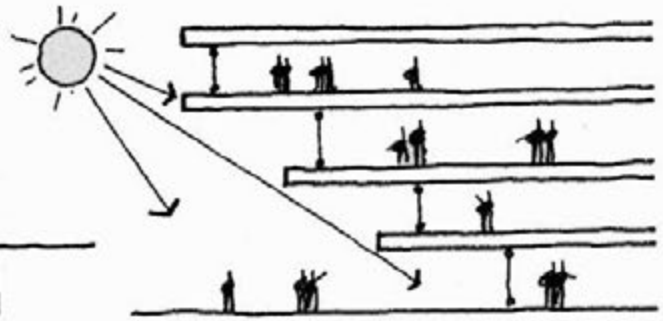
SEAT DUCT SHELVES DESK



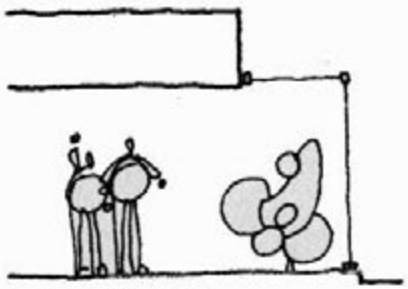
HIGH GOOD VIEW • LOW BAD VIEW



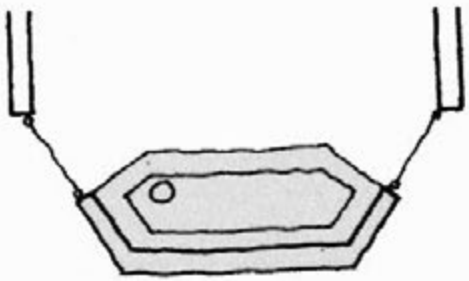
BAD HIGH VIEW • GOOD LOW VIEW



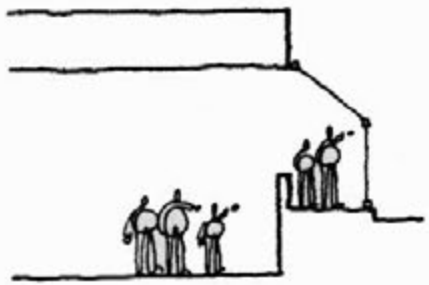
WINDOWS SHADE THEMSELVES



FEATURE ART



FRONT DESK

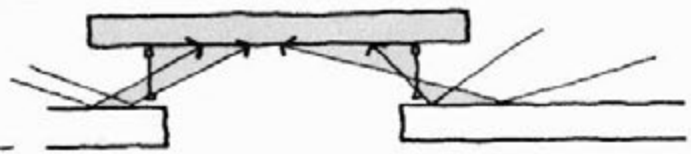


DEFINE CIRCULATION

FURNITURE

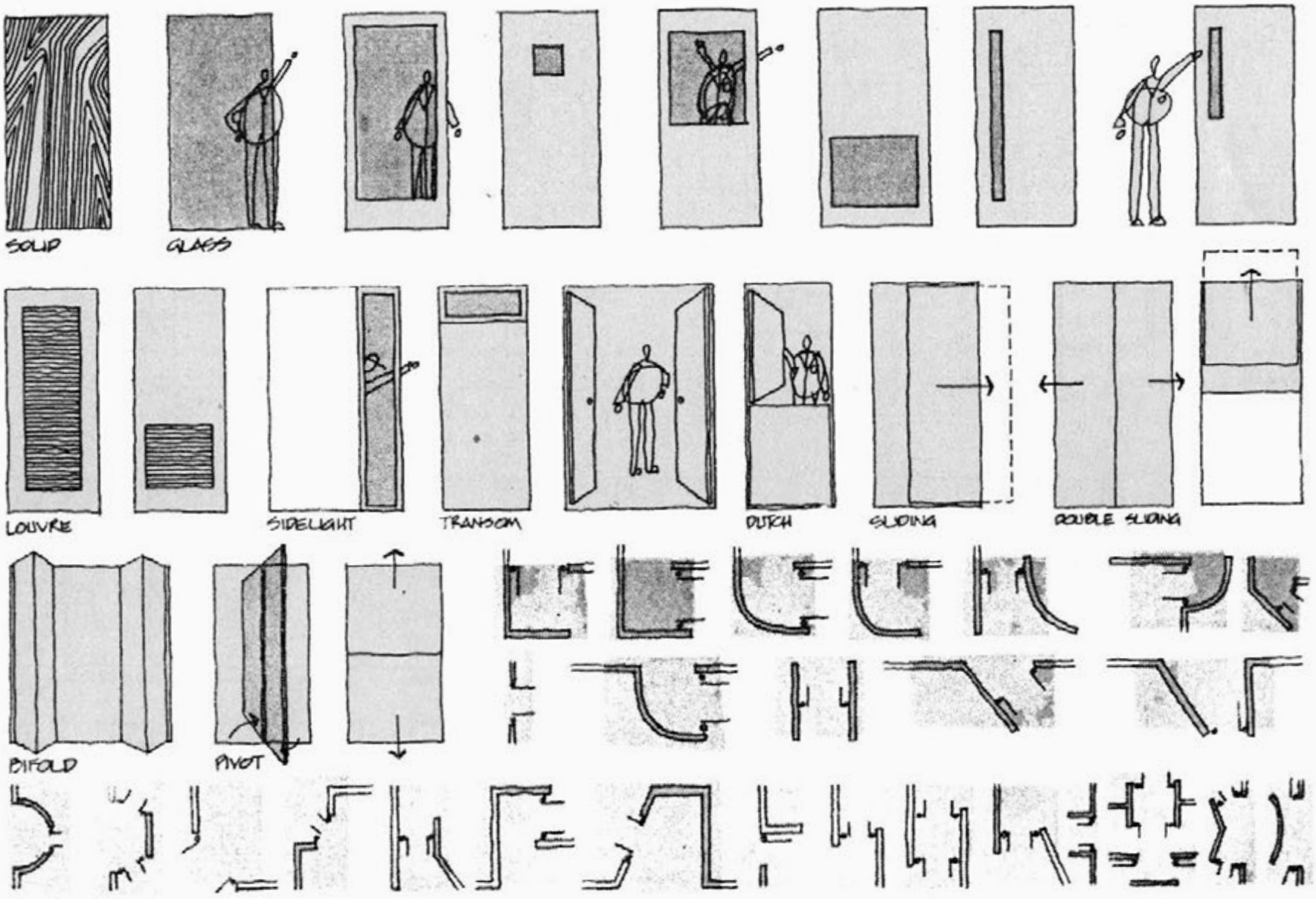
PLANTS

ALTAR

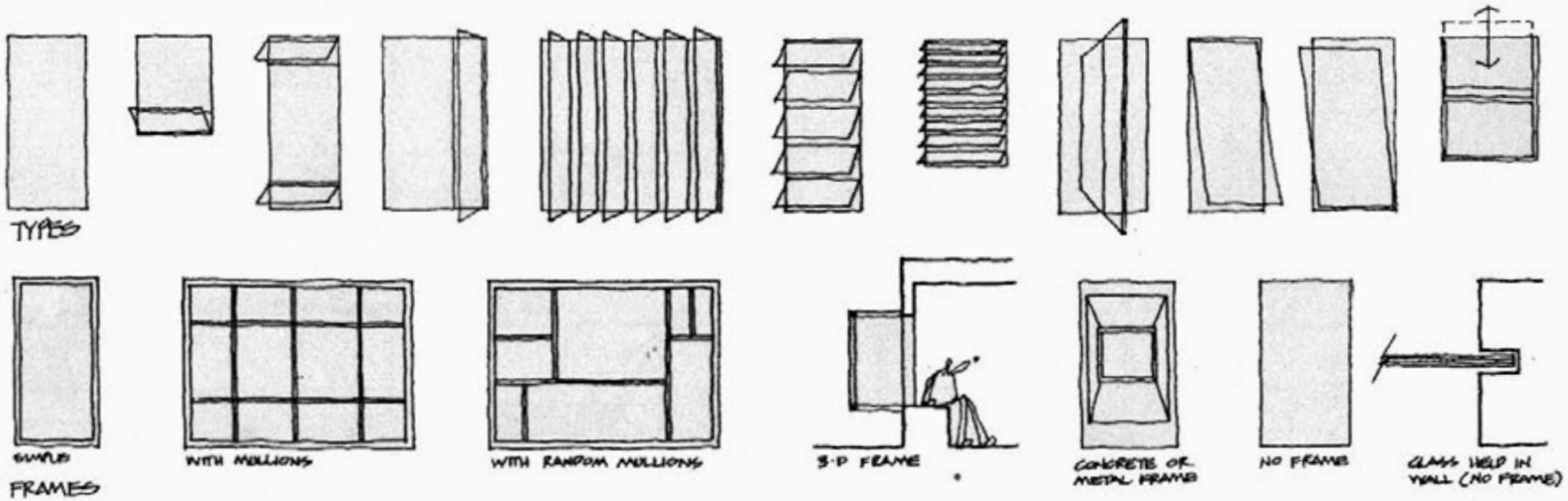


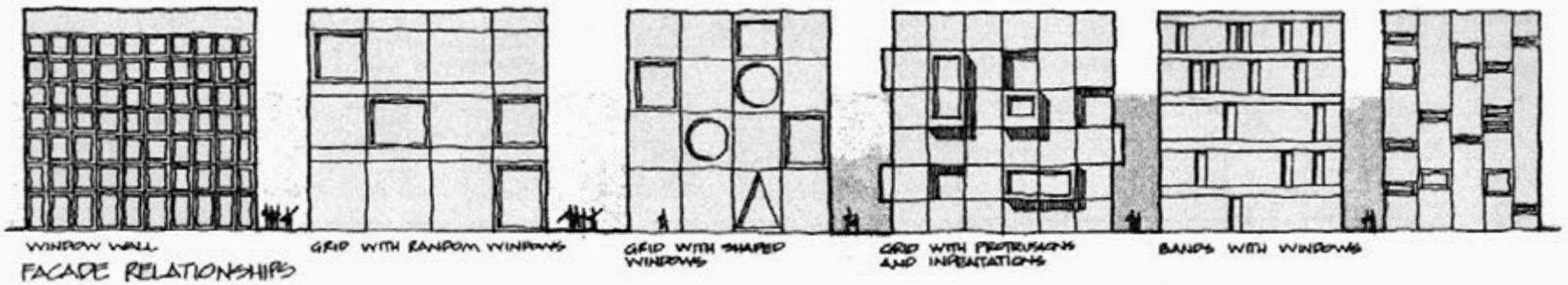
WASH WALL WITH LIGHT

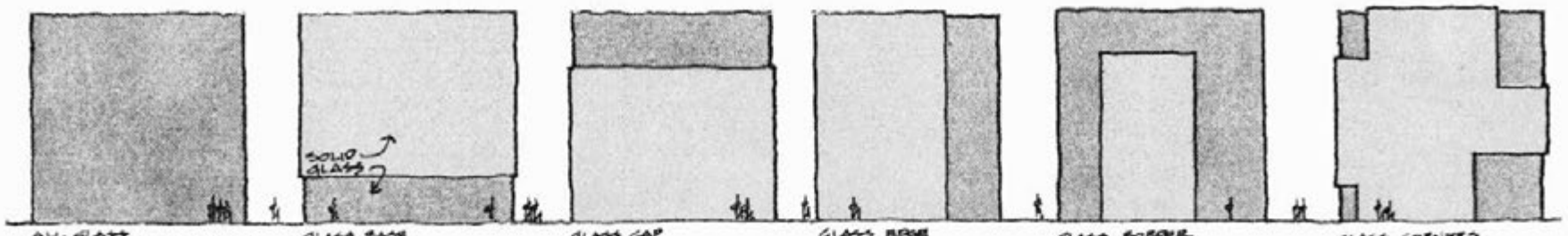
Doors


SOLID
GLASS
LOUVRE
SIDELIGHT
TRANSOM
DUTCH
SLIDING
DOUBLE SLIDING
BIFOLD
PIVOT

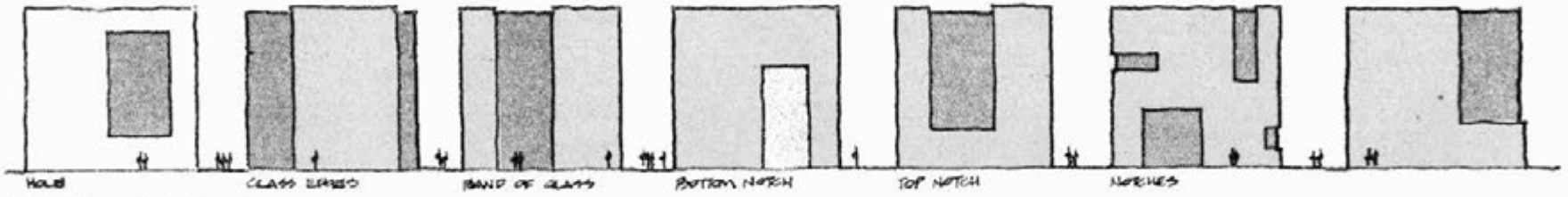
Window Forms



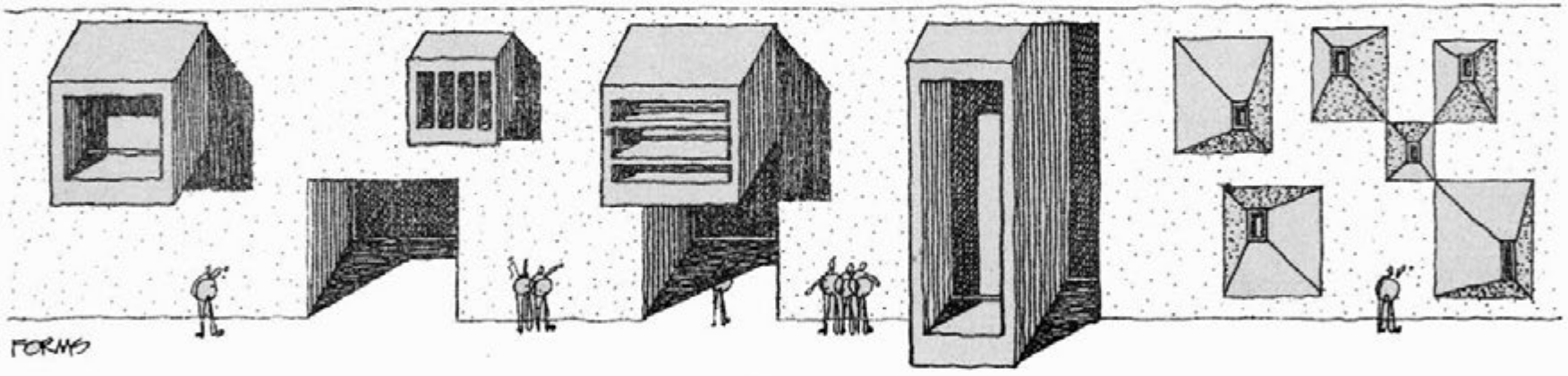




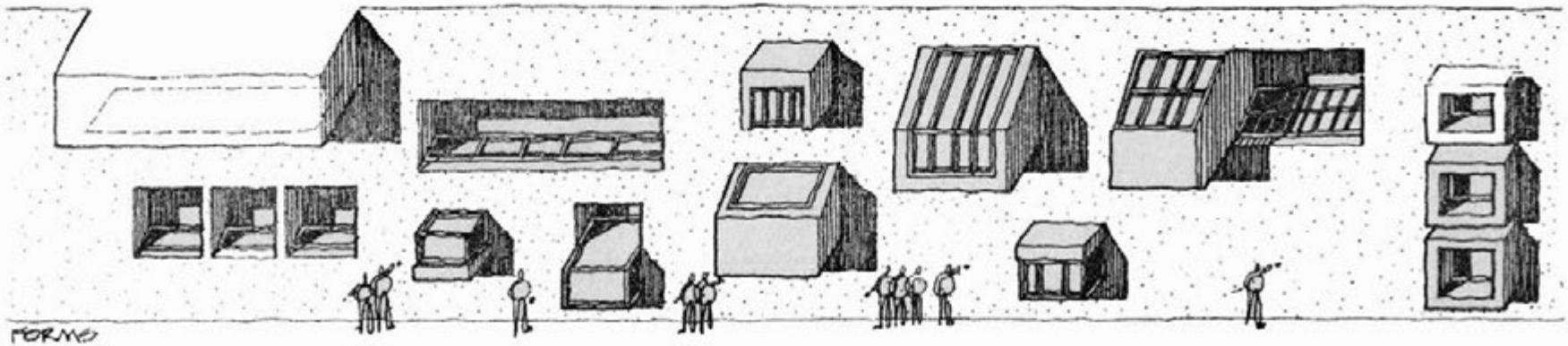
FACADE RELATIONSHIPS



FACADE RELATIONSHIPS



FORMS



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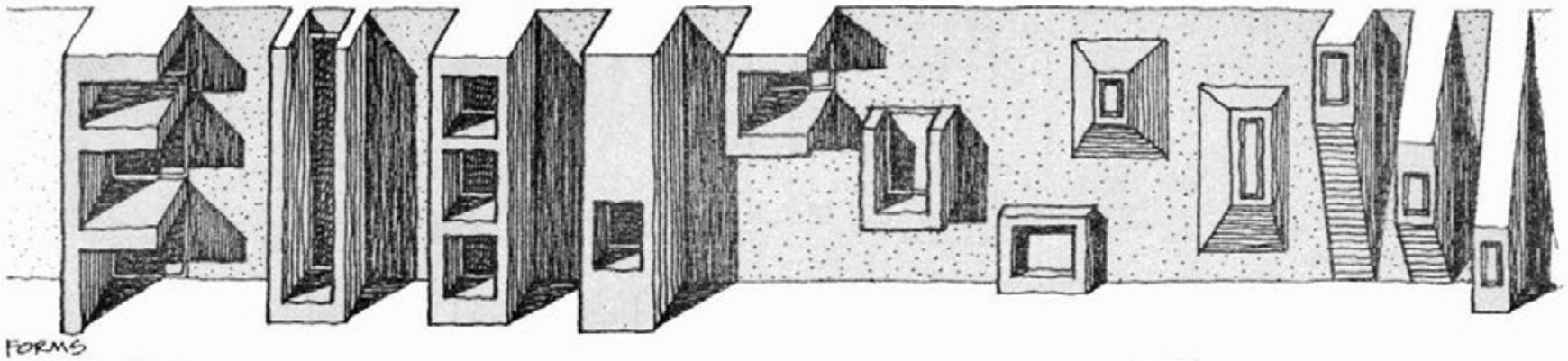

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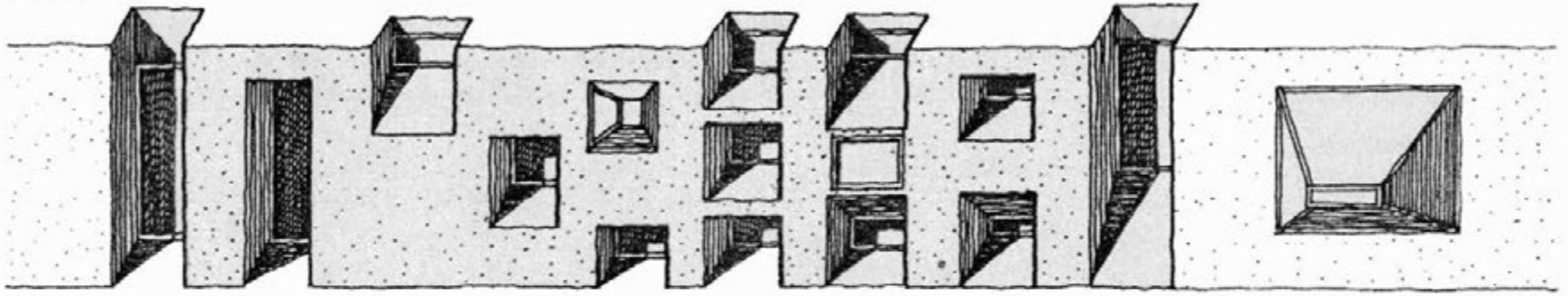

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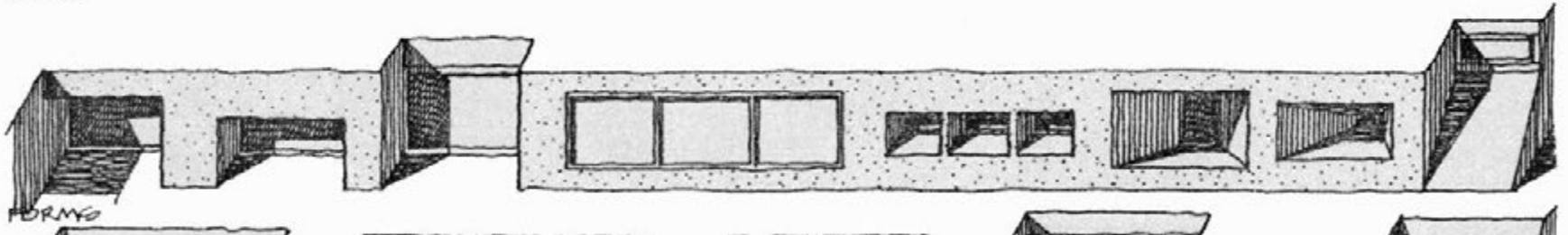

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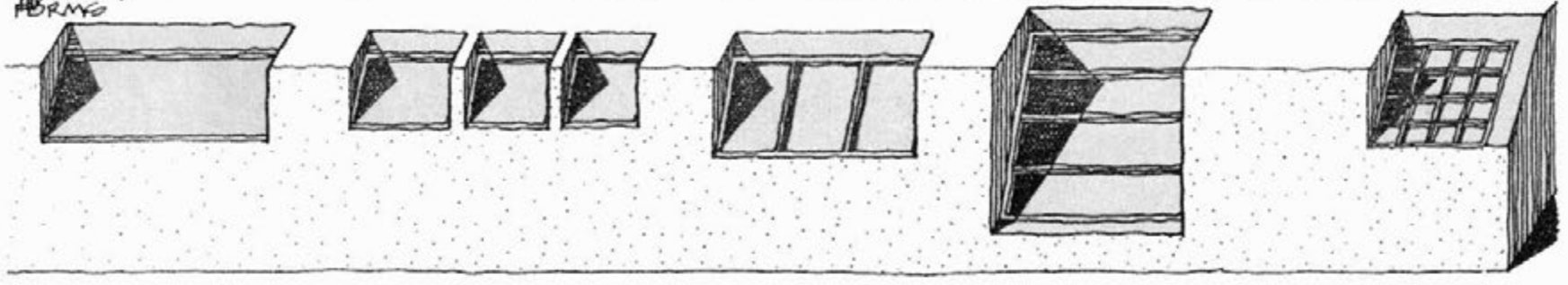

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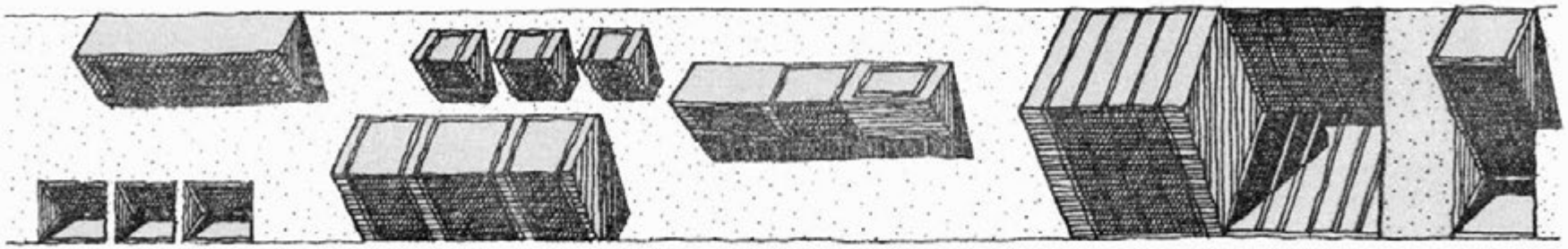

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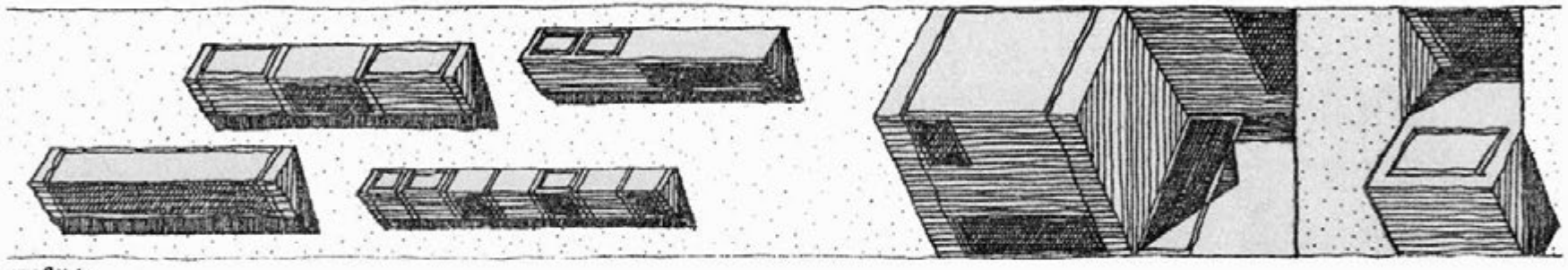

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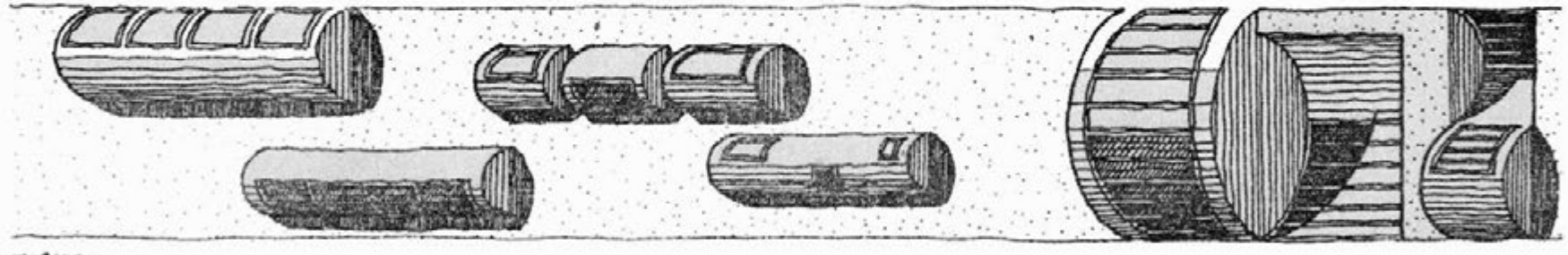

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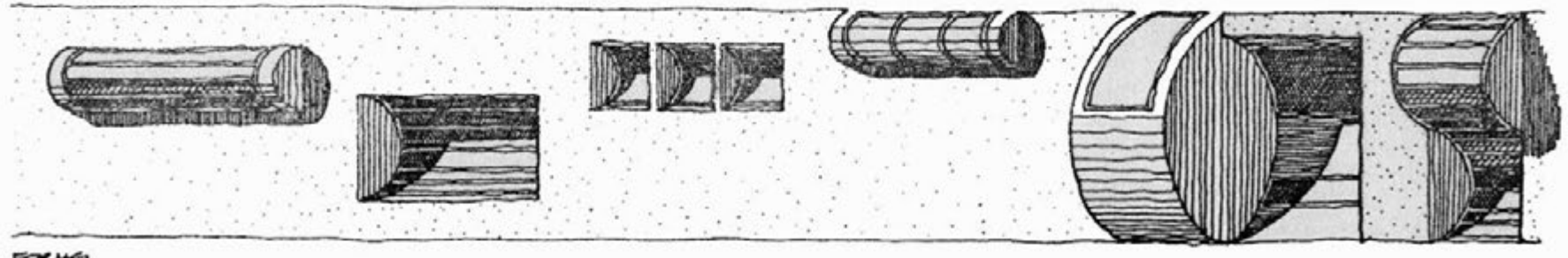

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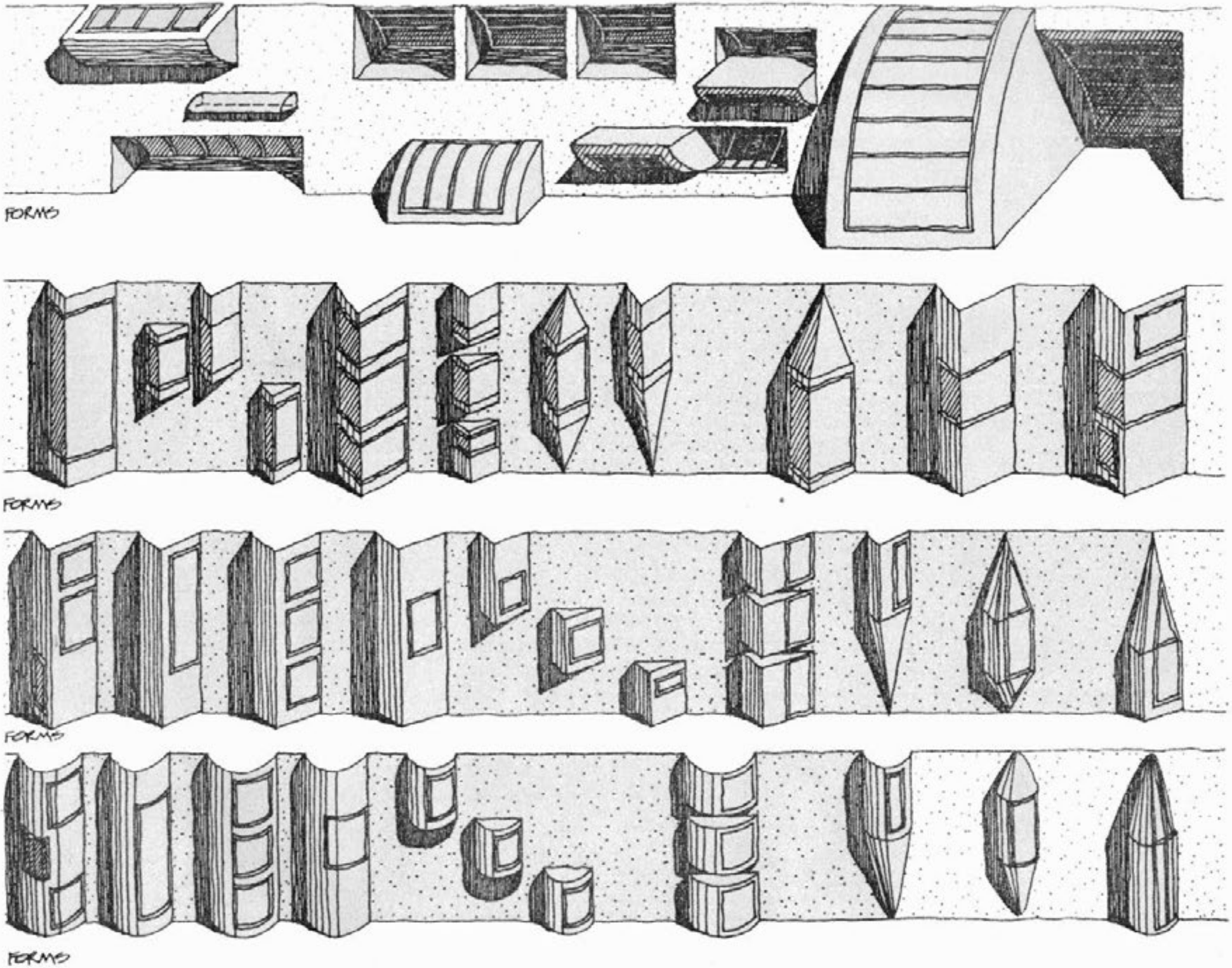
FORMS
FORMS
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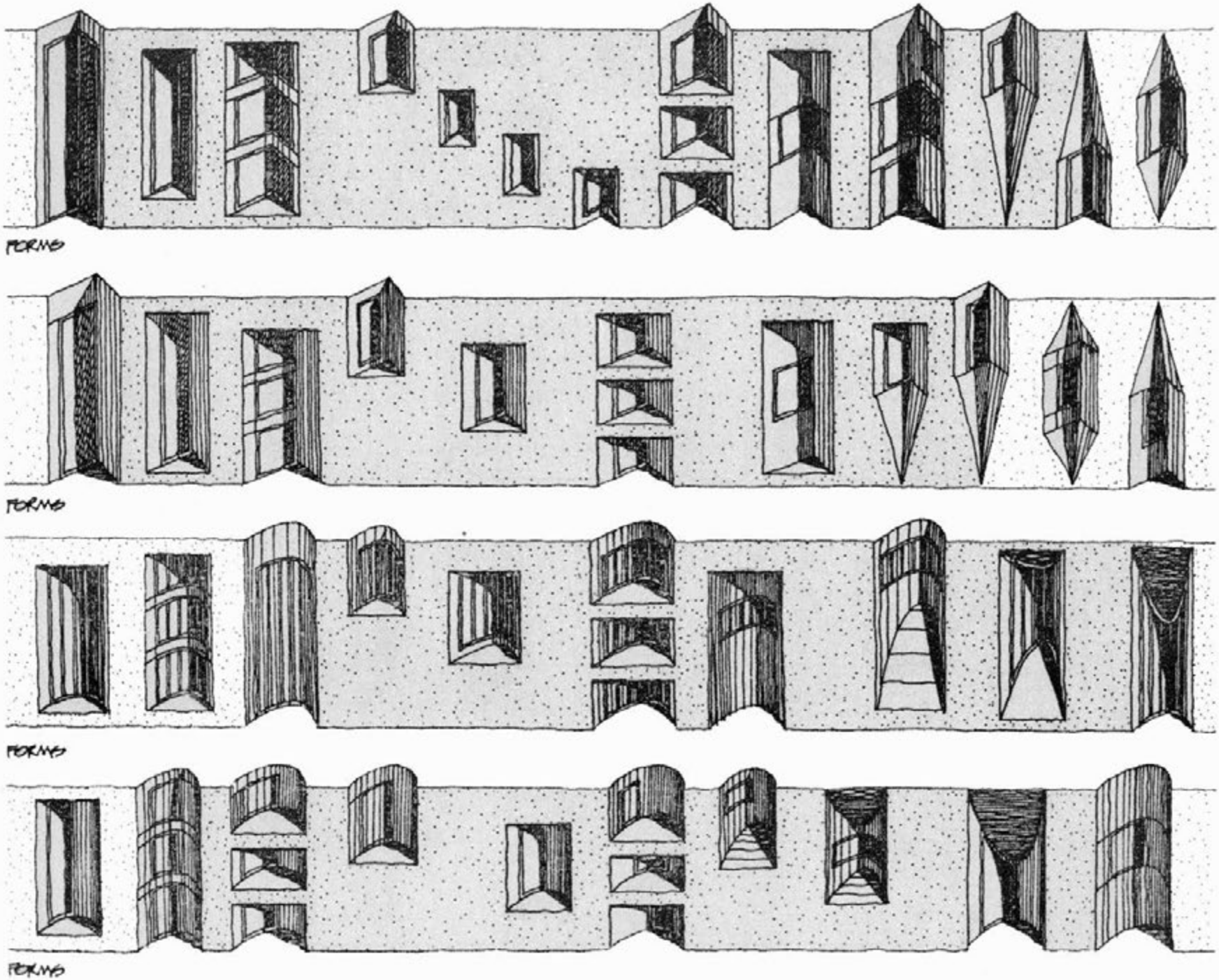
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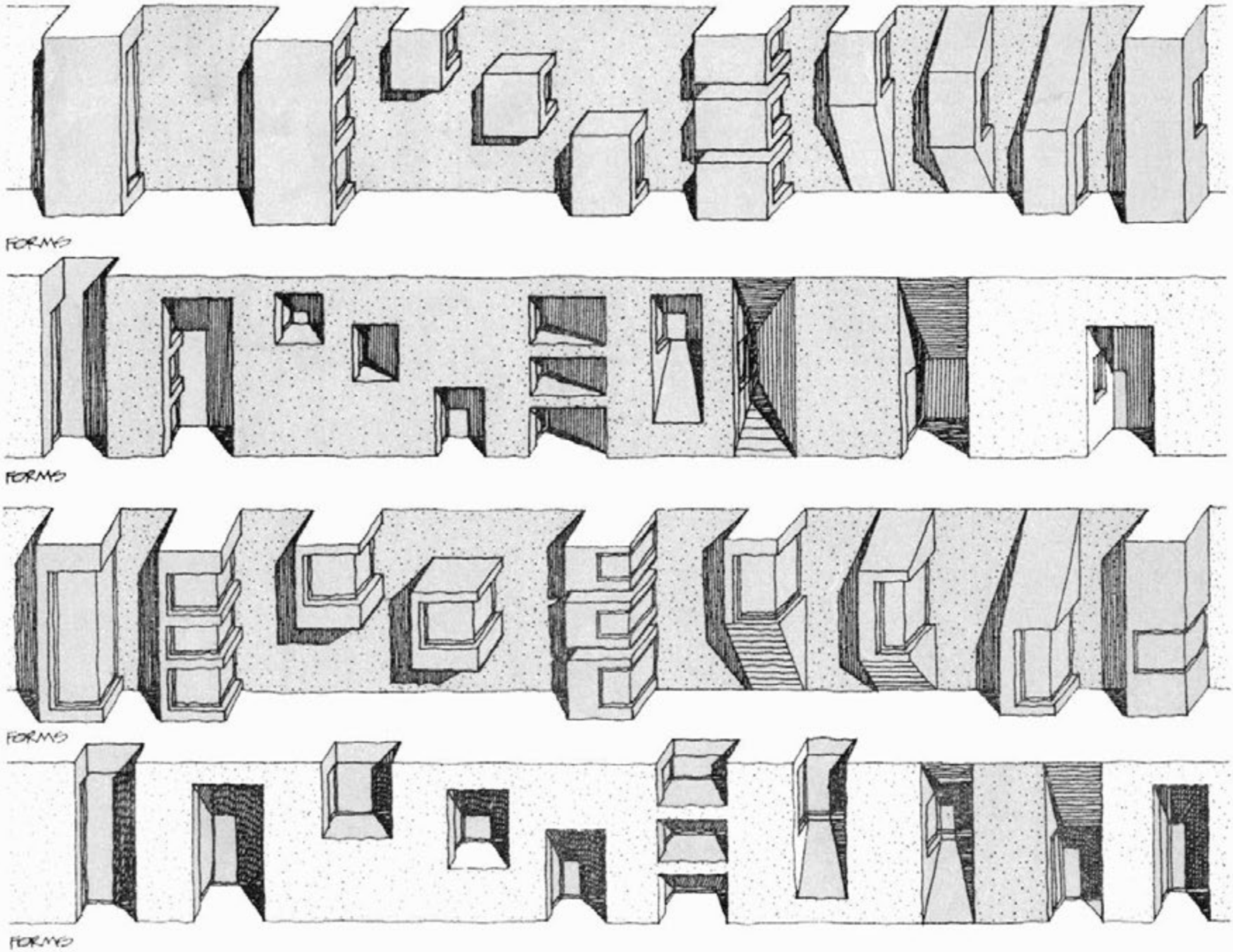
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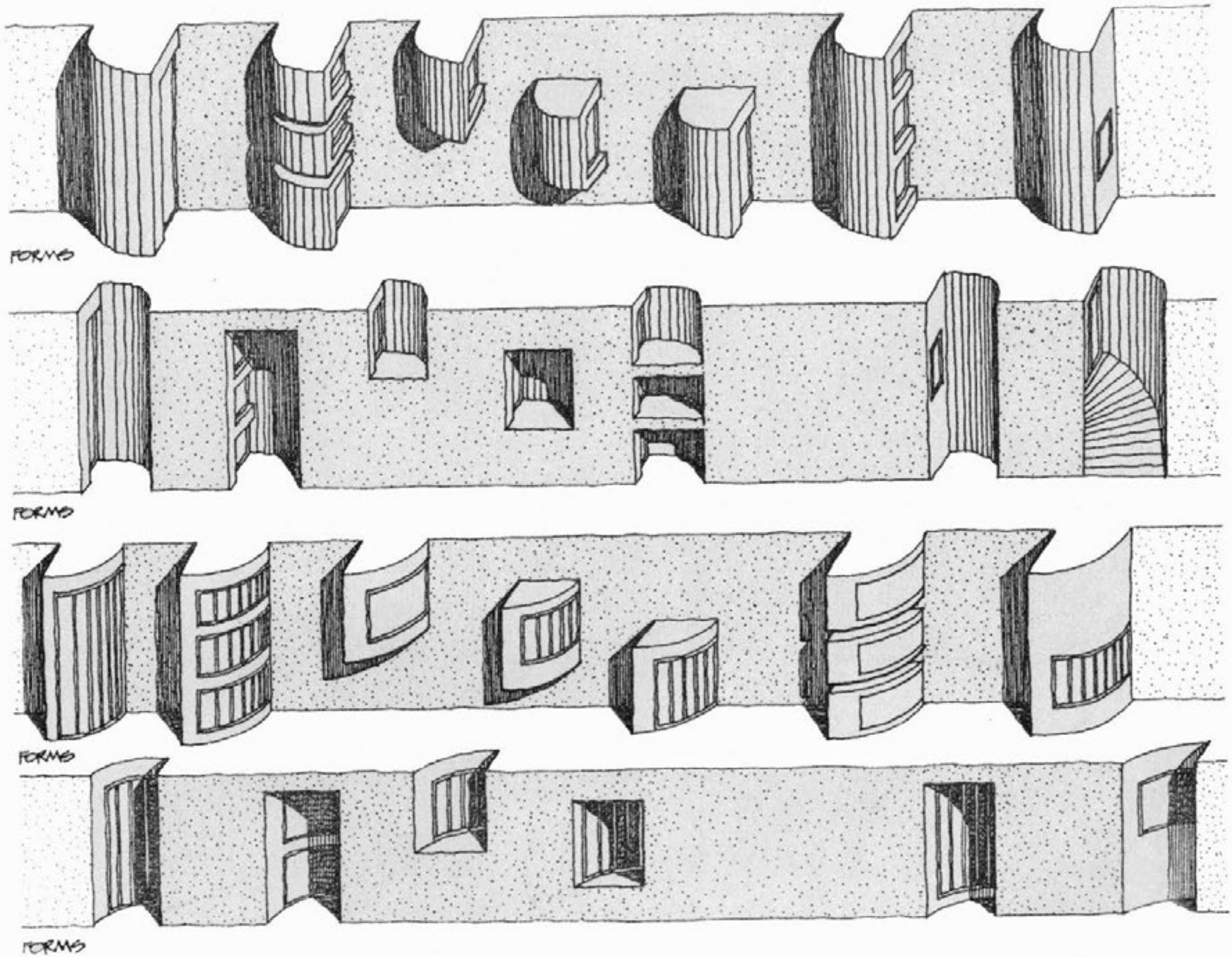
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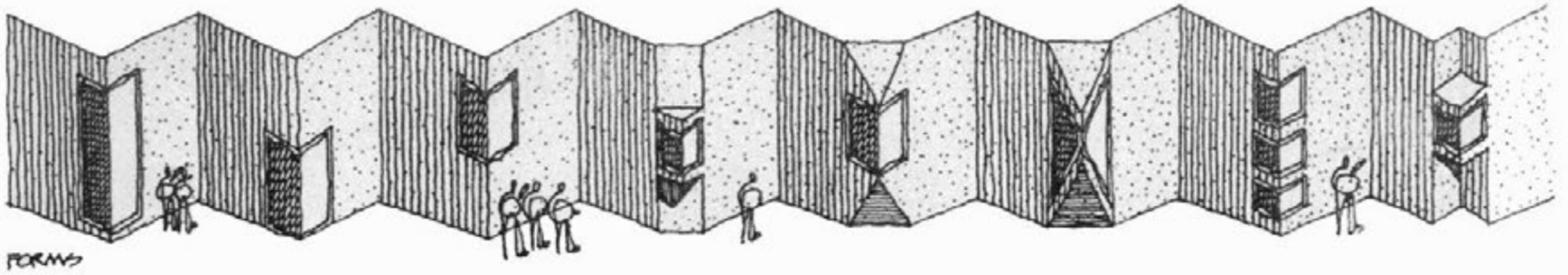
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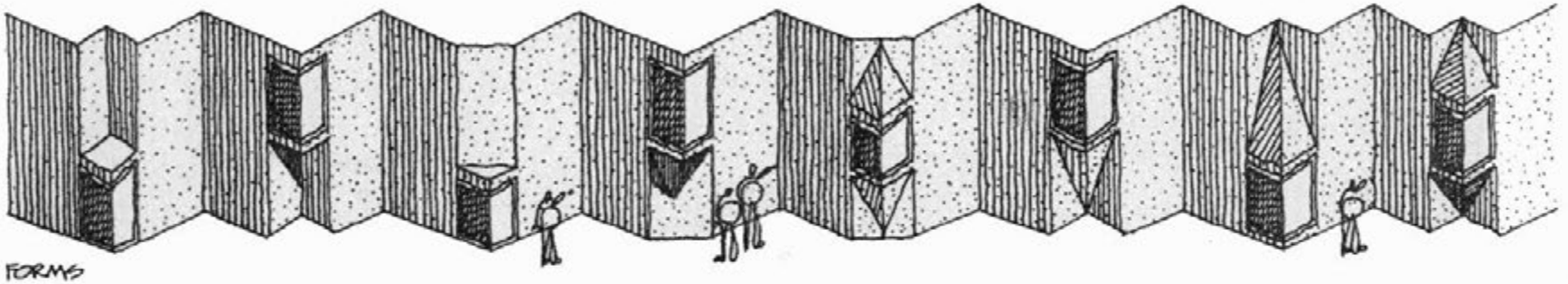
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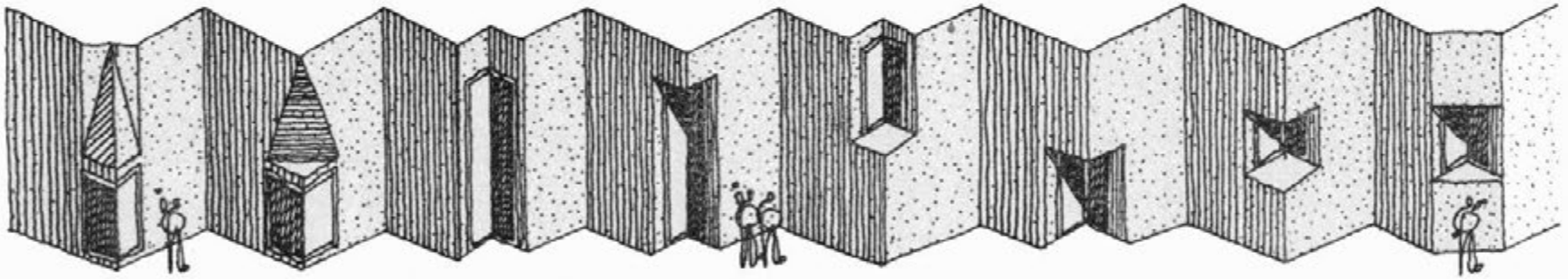
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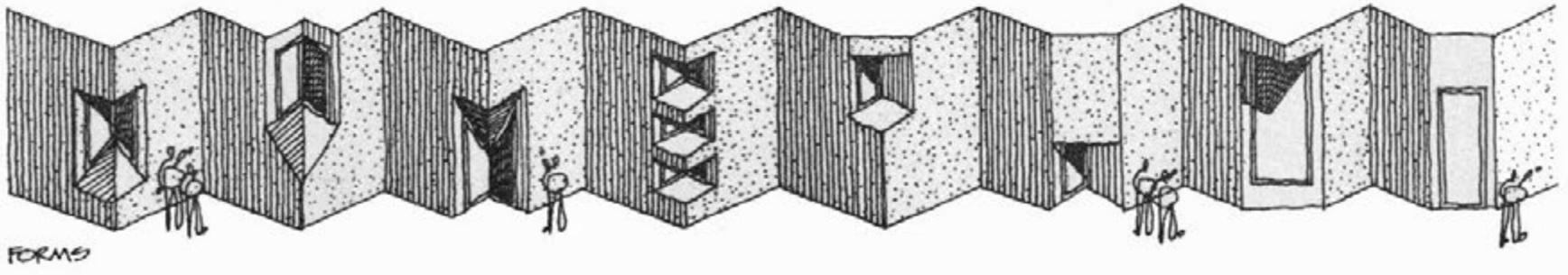
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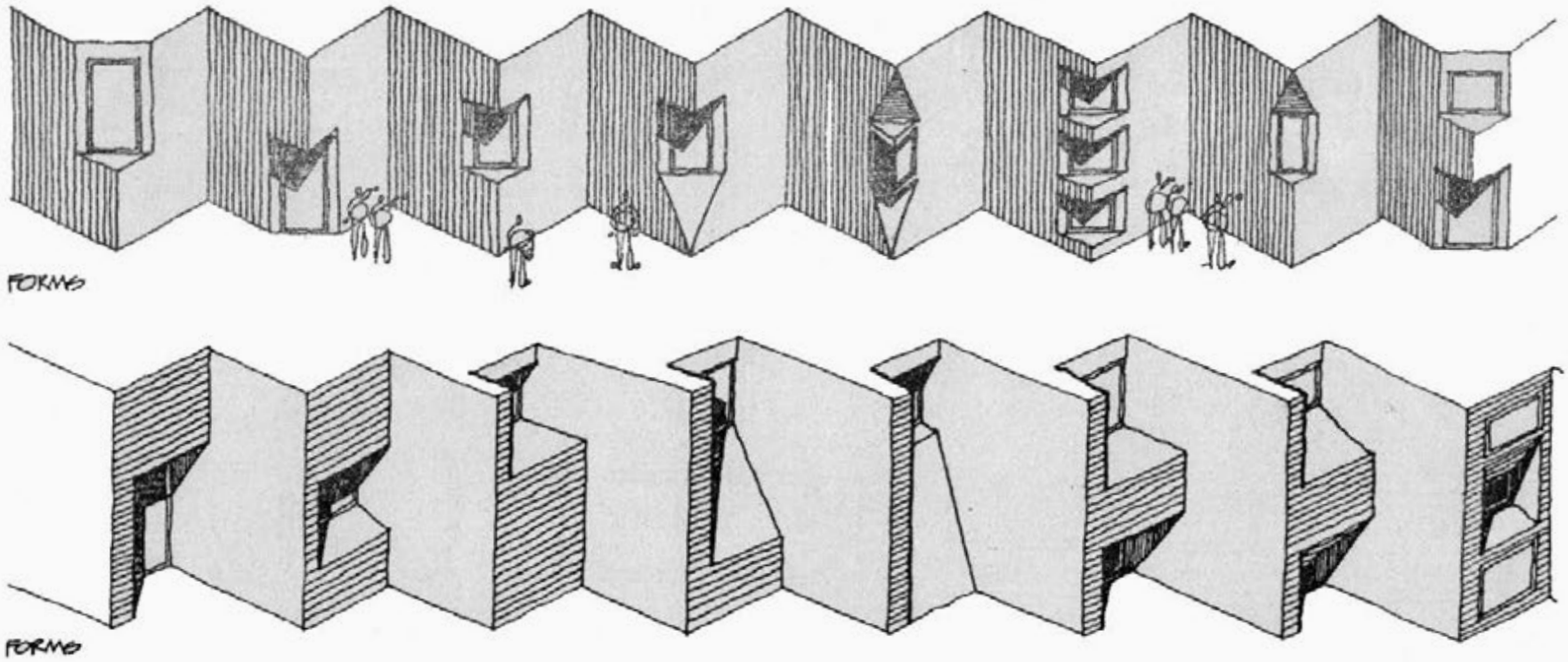
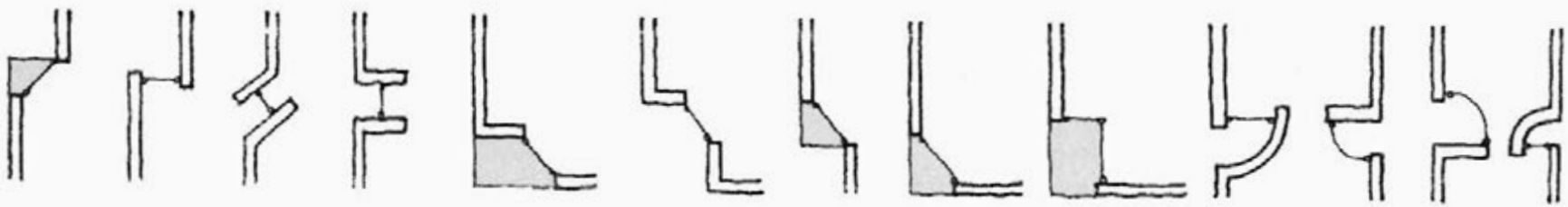
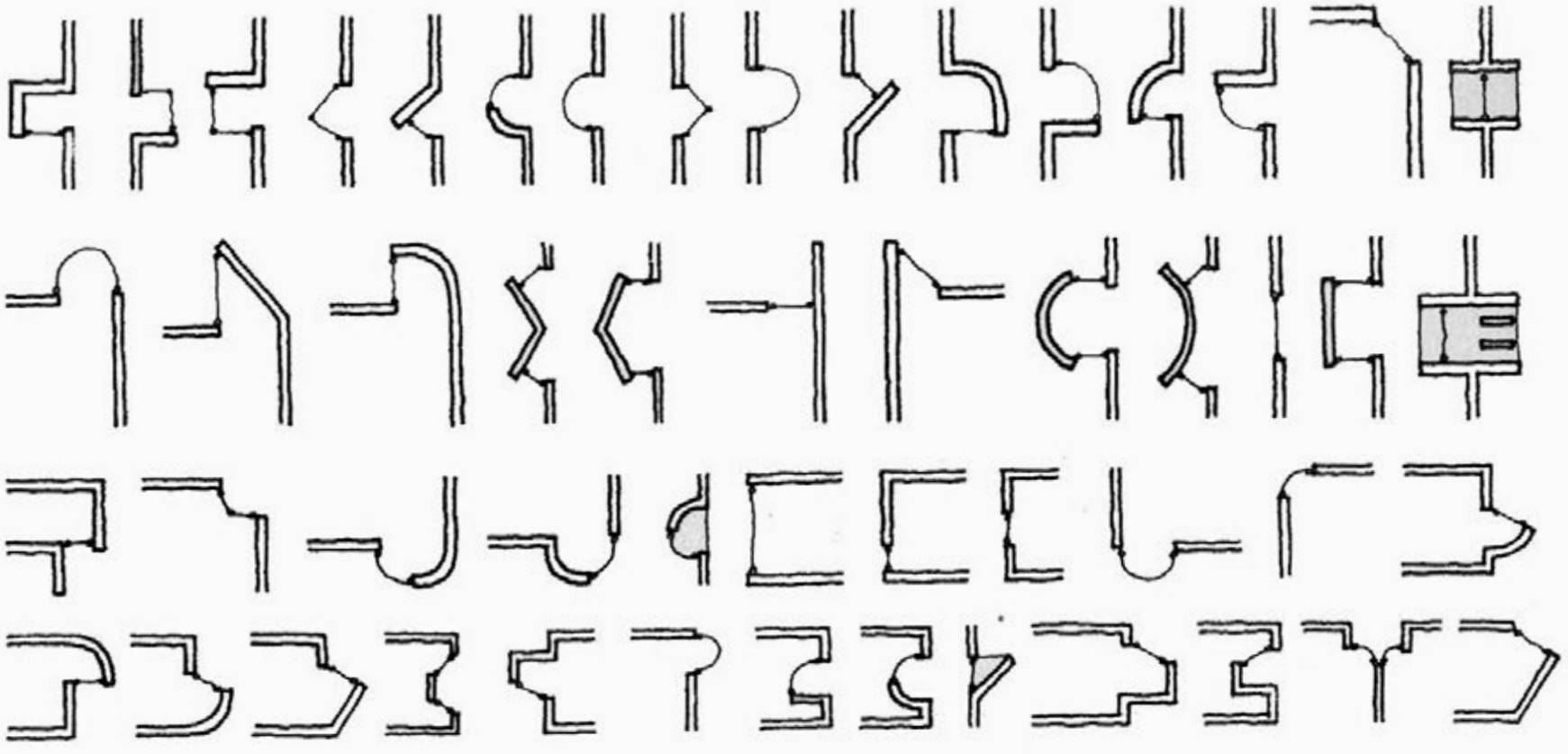


Windows in Plan and Section





Additional Window Roles