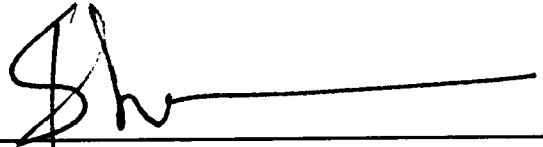


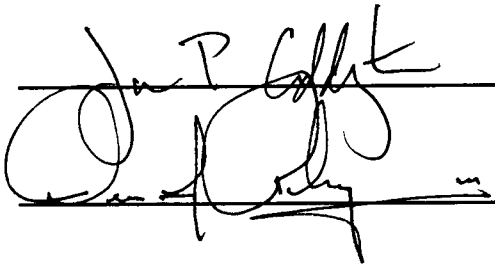
To the Graduate Council:

I am submitting herewith a thesis written by Jennifer Mauss entitled "An Exploration of Constancy and Change as a Means of Creating Continuity in Architecture." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Architecture, with a major in Architecture.

A handwritten signature in black ink, appearing to be "J. Stroud Watson", written over a horizontal line.

J. Stroud Watson, Major Professor

We have read this thesis
and recommend its acceptance:

Two handwritten signatures in black ink, written over two horizontal lines. The top signature is more legible, possibly "J. P. Galt", while the bottom signature is more stylized.

Accepted for the Council:

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Associate Vice Chancellor and
Dean of The Graduate School

An Exploration of Constancy and Change
as a Means of Creating
Continuity in Architecture

A Thesis
Presented for the
Master of Architecture
Degree
The University of Tennessee, Knoxville

Jennifer Danner Mauss
December 1997

DEDICATION

This thesis is dedicated to the people who have helped me find continuity, especially Naomi, Dorothy, and Mark.

ACKNOWLEDGMENTS

This thesis is one among the second batch of theses produced in the University of Tennessee Master of Architecture Program. While developing a precedent for thesis work in this new program has created special challenges, I am grateful to the administration, the faculty, and my peers for shouldering these challenges for the sake of all involved in the program, including me.

I would like to thank my thesis committee, Dean Almy, Jon Coddington, Vefik Soyeren (consultant), and J. Stroud Watson for the enormous amount of energy and time that they have contributed to the development of the thesis project. All of them came to long, biweekly meetings, and each of them generously contributed one-on-one critiques. Each brought passion, integrity, insight, and clarity of the sort that sometimes led to moments of disagreement and frustration but ultimately to the exhilaration that comes from an increasingly sophisticated design solution. I consider myself fortunate to have had the opportunity to work with each of these people.

In particular I would like to thank Stroud Watson, who spent countless hours helping me produce solid architecture for this thesis project. His candor and encouragement as well as his piercing critical eye have supported me and taught me a great deal about architecture. I hope that someday I am as wise as he.

The director of the Graduate School of Architecture, Jon Coddington, has worked zealously and seemingly tirelessly for the creation of a successful program and has devoted himself to the development of a strong thesis tradition. I am grateful to him for offering each of us the same care and integrity that he brings to his architecture and for suggesting to us that care for the one necessarily means care for the other.

Special thanks go to Dede Christopher who gradu-

ated last year in the first class and who served as a peer mentor by relating her experiences and by coaching me through the preparation of the drawings.

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Lastly, I must thank my husband, Mark, who has shared his time and sanity with me and who has done more than his share of dishes.

ABSTRACT

This study explores the notion that an architecture appropriate for humanity offers continuity in the built environment and that the creation of continuity requires provisions for the stability of constancy without precluding or neglecting the necessary dynamic of change.

The ideologies regarding the need for both constancy and change are explored in the development of a theater complex.

Nothing endures but change.

--Heraclitus

Diogenes Laertius

PREFACE

This past summer as a part of my studies in architecture I visited Europe for the first time. I had long been seduced by the mystery and romance of visiting the settings of the great stories in Western literature, the cities of the great artists, the sites of famous events, and—of course—the great monuments in Western architecture, but it was not until I stood in the Roman ruins at Conimbriga, Portugal and realized that I was standing where another human being—a Roman—had stood over a thousand years ago that it occurred to me that essentially what had drawn me across the ocean was a need to connect with humanity. I became very aware of the ghosts around me—the Roman ones, the Moorish ones, the Romanesque ones, the Baroque ones, and the ones on the train that were just a few hours old.

I sometimes wondered if my ultimate mission were really to connect with humanity, if I could not have done as well in the States, at least in terms of connection. Perhaps, but I doubt it. I suppose that part of the sensation was the excitement of being able to survive in a foreign environment, sometimes based on a verbal connection consisting of a mere handful of words (which were not always helpful but at least kept the conversation going). I think, however, that the greatest sense of connection came from the continual presence of artifact in the built environment, the sign of an ancient human hand—not removed to a museum or the pages of a book but working and living on the very spot where I was standing.

Although the New World (specifically the United States) has some very old ruins, the Serpent Mound of the Adena in the Ohio Valley for example, these are relatively few. Even buildings a hundred years old are rare, and the built environment is generally very young. Un-

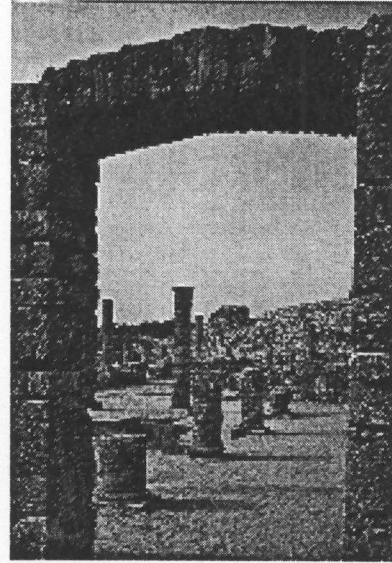


Fig. P.1: Roman ruins at Conimbriga, Portugal.
Source: Delfim Ferreira.

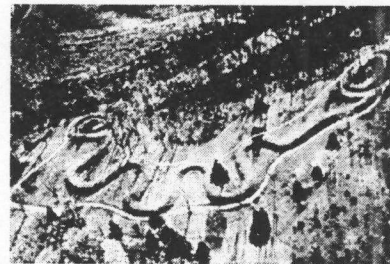


Fig. P.2: Serpent Mound.
Source: Kostof (238).

fortunately there are some who believe—and I suspect they are right—that patience is not all that is required for a sense of continuity in the built environment of the United States, for it seems that buildings in the United States are increasingly built as disposable buildings, that is, as buildings meant to last only a few decades—certainly not long enough to impress someone a hundred years from now (much less a thousand) of our existence.

This is very disturbing, because although I doubt that continuity requires that we build to last for a thousand years (perhaps not even a couple decades), we do not seem interested in adopting other means of creating continuity. Fortunately, however, alternatives for creating continuity exist, such as relating to the buildings which precede ours or relating to the ancient elements of nature or referring to ideas or images important in our cultural history. This study is dedicated to analyzing the need for continuity and the potential for creating continuity in the built environment.

Part I discusses the human need for continuity in the built environment as well as specific ways we might design architecture so as to provide that continuity. Parts II-IV explore the notions set forth in Part I by developing an architectural design which illustrates those notions. Specifically, Part II discusses an appropriate building type and program which might serve as a medium for presenting the ideas, while Part III treats the issues of the site chosen for the project. Part IV explores potential design strategies, presents the completed project, and offers a defense for the major design decisions. Part V is a presentation of the project drawings.

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PART I : CONTINUITY IN THE BUILT ENVIRONMENT

INTRODUCTION

How long should a building last? In the September 1996 issue of *Atlantic Monthly*, James Howard Kunstler's article "Home from Nowhere" discusses (among other issues) the life-expectancy of buildings. Specifically, Kunstler describes how that life-expectancy is shrinking, shrinking to the point that we no longer expect buildings to outlive their builders and, perhaps more importantly, to the point that continuity in the built environment is becoming compromised. We design and erect buildings with a life-expectancy of a few short decades, and in doing so we destroy the continuity that we enjoyed when we built buildings with the intention that they should outlive the generation that constructed them. Kunstler bemoans this new development in the treatment of the built environment and wishes we would emulate those who came before us:

The buildings our predecessors constructed paid homage to history in their design, including elegant solutions to age-old problems posed by the cycles of weather and light, and they paid respect to the future in the sheer expectation that they would endure through the lifetimes of the people who built them. They therefore embodied a sense of chronological connectivity, one of the fundamental patterns of the universe: an understanding that time is a defining dimension of existence—particularly the existence of living things, such as human beings, who miraculously pass into life and then inevitably pass out of it. (44)

Kunstler points out that the cities we love to visit when we are on vacation are those cities in which the buildings and the urban fabric are old and offer continuity with the

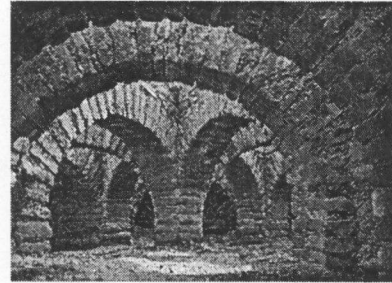


Fig. 1.1: Hypocaust in the Roman ruins at Conimbriga, Portugal.
Source: Delfim Ferreira.

past. Kunstler is not alone in his concerns; many others (Elizabeth Playter-Zyberg, Andres Duany, Leon Krier, etc.) have argued for an architecture that will provide continuity in the built environment.

Given that continuity is a desirable characteristic in the built environment, what can we do to create continuity? Kunstler's objections to cheap and disposable buildings which are replacing high-quality, durable buildings suggests that the way to create continuity is to build long-lived architecture. This seems to be a sensible and obvious answer: making the built environment relatively permanent or constant compared to the people who inhabit it will surely provide continuity.

This recommendation for a long-lived architecture has significant economic and ecological implications. Is it really financially better to build cheap—meaning both shoddy and inexpensive—buildings every twenty or thirty years? Kunstler hotly maintains our grandparents would not have wasted their money like that (44). Could we not prosper as much by building higher quality buildings that would last long enough to be reused? Would that not be better for our natural world? To build buildings—of the sort we currently build with gypsum, tar, plastic, and the like—that only last a few decades is to build disposable buildings; to think of throwing away all the buildings in the world every thirty or so years implies a huge waste and a huge landfill. It implies a rate of consumption of our resources which we can doubtfully sustain.

To advocate buildings which outlive their builders does raise a number of important and interesting economic and ecological questions, which the architect may not be able to leave to the consciences and sensibilities of his client; however, I am most interested in the architectural manifestations of continuity through constancy, which the long-lived building promises to supply.

The notion that long-lived buildings offer the means

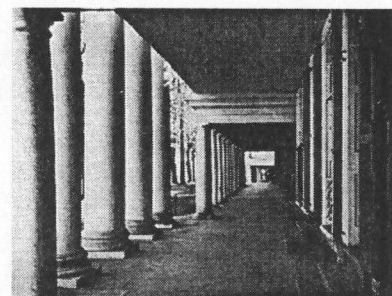


Fig.1.2: University of Virginia.
Colonnade along the Lawn.

Source: Wodehouse & Moffett
(362).

of creating continuity suggests that constancy is the only hope for providing continuity, and while constancy must have a part in what is continuous, to say that constancy is the answer to creating continuity—and thus is our goal for the built environment—is not only inadequate and misleading, it drifts toward the unattainable and the absurd. This is partly because the goal of continuity through relatively permanent architecture begs to know how often we should build something new. Presumably as often as we need to, but what does this mean? Such a question asks in turn what architecture is or should be.

If we return to the ancient standard put forward by Vitruvius and quoted by architects since that time, then architecture is *utilitas*, *firmitas*, and *venustas*. That is, architecture should supply utility, structural soundness, and beauty. Each of these elements is subject to the passage of time.

Consider structural soundness in terms of constancy. Human beings have managed to build some amazingly durable buildings. Take the pyramids, for example. Nevertheless structural soundness has a very clear dependence on time. Wood rots and is devoured by termites. Iron and steel must battle corrosives as mild as oxygen. Moss, ivy, common weeds crumble masonry. Earthquakes, fire, hurricanes, and tornadoes take their toll, as does the frost. Clearly human beings can only do so much against the ravages of time, and we will be obliged to rebuild in response to physical decay. Even so, physical considerations may not be the only considerations. Can we embrace a Puritanical stance that "makes do" until the roof caves in? Or is there more than structural integrity that is at stake in considerations of continuity?

How does utility fare with the goal of constancy? Human needs change. It follows that the buildings created need to offer changing utility to meet these needs. The utility of parlors, hitching posts, moats, public baths, pri-

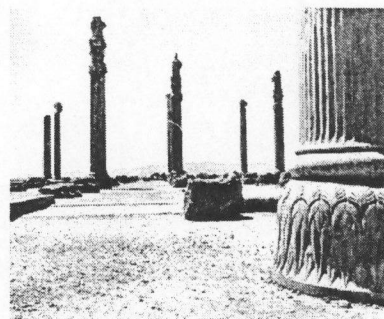


Fig. 1.3: Palace of Persepolis.
Source: Kostof (115).



Fig. 1.4: Temple of Apollo.
Source: Kostof (121).

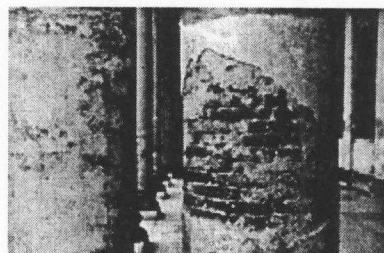


Fig. 1.5: Detail, Palazzo Chiericati.
Source: Mostofavi (9).

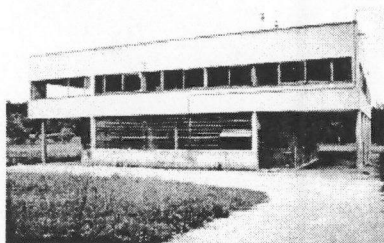


Fig. 1.6: Villa Savoye in disrepair.
Source: Mostofavi (8).

vate garages, train stations, and even churches is subject to historical development. If a monastery is built in the twelfth century, which is designed so as to provide exquisite utility for the order which needs it and that order disbands by the seventeenth century so that there is no individual or group which needs that sort of space, does the building cease to be architecture? A given space which may accommodate the owner of a small florist's business marvelously will not offer equal utility if the florist triples the size of his business or decides to pursue his dream of opening a brewery. Do we specify a new building every time we make a slight change in our routine? How much change justifies new construction?

If we could somehow arrange to satisfy the requirements of the first two parts of Vitruvius' definition of architecture and still create continuity through constancy, we would still have to contend with the part of the definition pertaining to beauty. To some extent it is true that *ars longa, vita brevis*. Is it not true, however, that beauty is a matter of preference or at least that scholars have not managed to agree on how to define beauty satisfactorily without returning to the taste of the individual? Thus beauty may differ from individual to individual, each of whom immerses himself in a personal and distinct world view. A multitude of distinctions may be cited; we refer to their existence as pluralism. Although we notice some agreement among groups of individuals, there are still multiple groups. Some become conservatives and others liberals; some prefer corsets, some hate them; some prefer avocado green, polyester bell-bottoms while others like skin-tight black leather and still others gabardine suits. At the greatest consensus, each generation seems to have a preference for its own ideologies, its own art, and—I would argue—its own aesthetic in its built environment.

These circumstances pose a somewhat frustrating

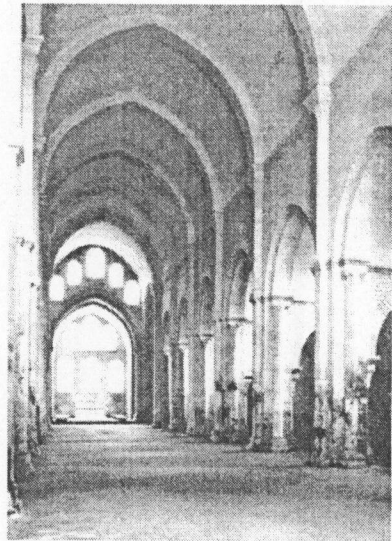


Fig. 1.7: Abbey church, Fontenay.
12th c.

Source: Kostof (328).

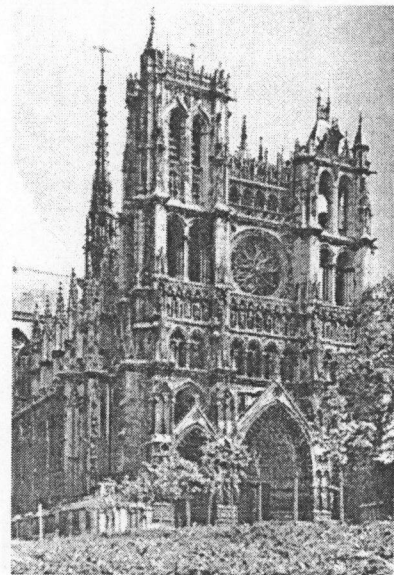


Fig. 1.8: Notre Dame, Amiens.

Source: Kostof (342).

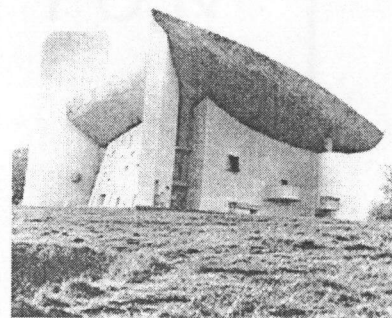


Fig. 1.9: Notre-Dame-du-Haut,
Ronchamp.

Source: Kostof (728).

paradox for the architect who wishes to build with integrity regarding human needs, including the need for continuity, for even if we construct a building which can physically withstand the passage of time, we may not have a building which most efficiently offers utility or which serves to satisfy the aesthetic need. On the other hand, if we continually rebuild, can we afford to offer much beauty, utility or structural soundness; can we contrive to develop a sense of place, a sense of continuity?

The trick is that as humans we seem to desire and very likely need continuity, but we are consumed with change, literally. Indeed we are mortal. To recognize humanity is to recognize mortality and the need for creating continuity, a need for connecting the changing to the constant. In "Time, Death and Building" Karsten Harries argues that in the process of creating "genuine dwelling" one of the architect's jobs is to confront people with their own humanity and consequently with their own mortality; this in turn, requires that we maintain some sort of continuity in the built environment (39). For Harries, this continuity exists in great part to help mitigate "the terror of time" (31) to "make peace" with time (39). Harries writes

[Genuine dwelling] presupposes that we not take ourselves too seriously, that we learn to affirm ourselves as part of an unfolding generational order that extends from a past that is present only in traces, to an unknown future that hopefully will someday preserve our own traces. To help assure the chain is not broken is one task of building. (40)

Such pronouncements as these—which consider the psychological and sociological needs of human beings—begin to fall outside the realm of the architect's expertise; however, it seems very sensible to suggest that the continuity implied by the connection of constant elements



Fig. 1.10: Stonehenge.
Source: Kostof (40).

to changing elements in the built environment can provide a way for human beings to connect to this world and find meaning in the experience of life.

ARCHITECTURAL STRATEGIES FOR CREATING CONTINUITY

There are a number of strategies for developing an architecture which offers both constancy and the option for change, which simultaneously addresses the needs of both the individual and the community.

Relationship to Nature

Perhaps the best way is to build in such a manner that we make ourselves aware of how well we can connect to those elements around us which exist for an infinite amount of time compared to a human life, namely earth, rocks, hills, canyons, streams, rivers, and heavenly bodies—especially the sun. There are a number of techniques that may be employed to create this connection. We may choose materials or patterns that blend with the surrounding environment; we may also allow the natural context to inform the structure and shapes of the architecture. The way we position architecture on a site and the way we attach the architecture to the site can be instrumental in making ourselves aware of how we can and cannot connect to the eternal. Another way to create connection is by permitting and directing visual connection.

The Theater at Epidaurus (Fig. 1.12) is a good precedent for establishing a strong connection to the site. The seating uses the hillside to support itself and thus makes the natural element a structural component of the architecture. Furthermore, the theater is positioned so as to direct the view of the audience toward the action of the performance—presumably regarding some trial of hu-



Fig. 1.11: Menhir.
Source: Kostof (29).

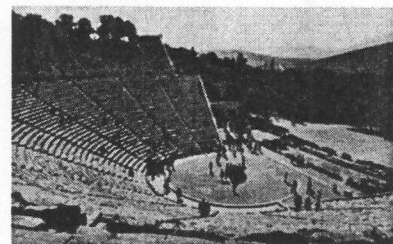


Fig. 1.12: Theater at Epidaurus.
Source: Wodehouse & Moffett (58).

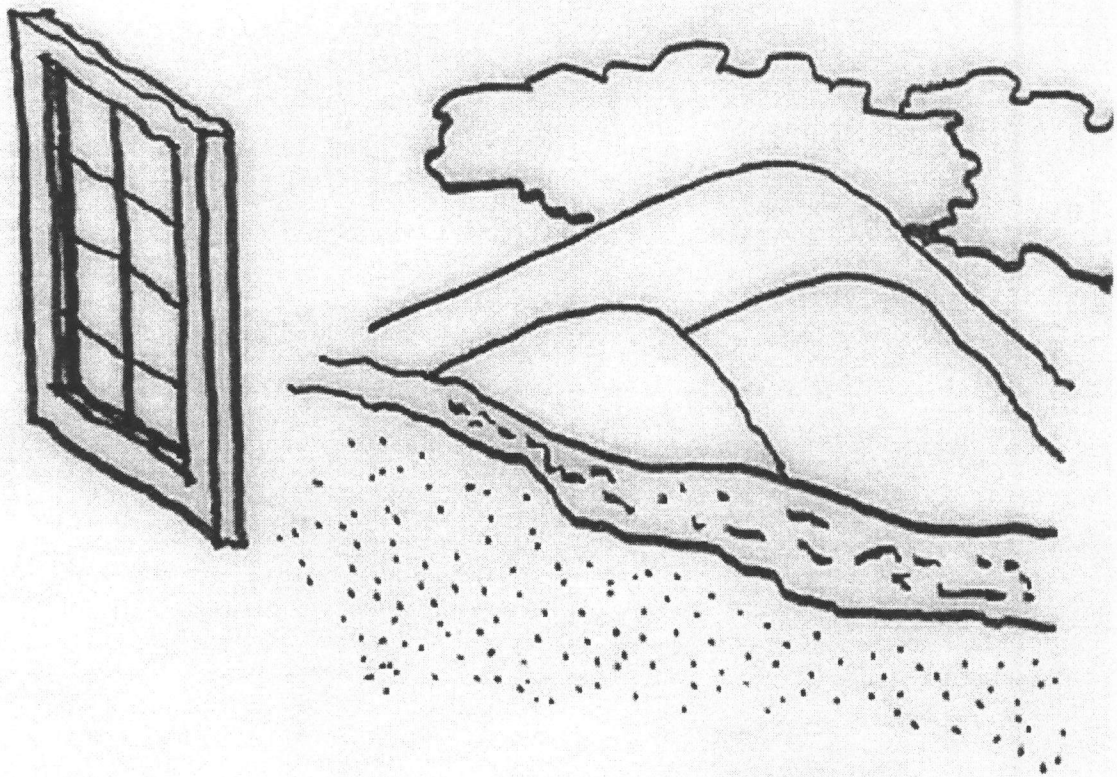


Fig. 1.13: Views. Permitting and directing views can help create connections with the environment.
Source: Author.

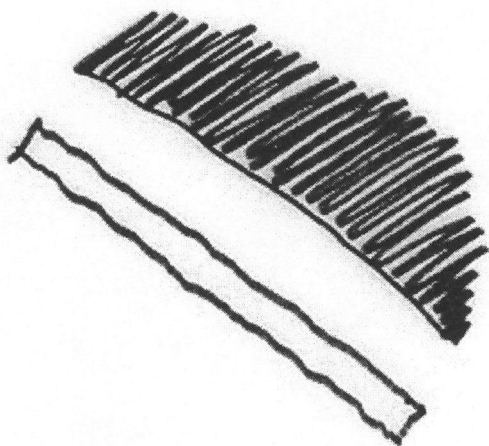


Fig. 1.14: A natural cliff wall may inform a built wall.
Source: Author.

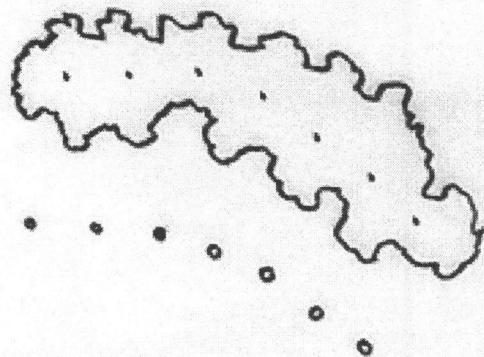


Fig. 1.15: A grove of trees may inform a series of columns.
Source: Author.

man life—and then to the serene hills which were there before the human struggle began and which will be there after the human struggle is over.

Relationship to Other Manmade Elements

Architecture may also create continuity by connecting to and contributing to the urban fabric. The techniques for connection to the urban fabric are similar to those used to connect to the natural environment. We relate to materiality and form; we direct views; and we observe the established regulating lines (found in such elements as setbacks, axes, edges, and pathways).

Consider Gordon Wu Hall by Venturi, Rauch, Scott Brown at Princeton University (Fig. 1.16). Macrae-Gibson analyzes the way this building relates to the preexisting campus. Macrae-Gibson argues that the design is a “microcosm” of the campus, which relates to the campus in two very different ways expressed primarily in two very different elevations along two different axes (168). The elevation of Wu Hall which faces one of the university’s main axes, harmonizes with the older campus architecture along the axis and adopts the “collegiate Gothic” style of those older buildings (148). The other main elevation, however, runs along a minor, college axis and makes a more symbolic connection to the built environment. This second elevation uses a more abstract treatment of the stylistic traditions established on campus (148).

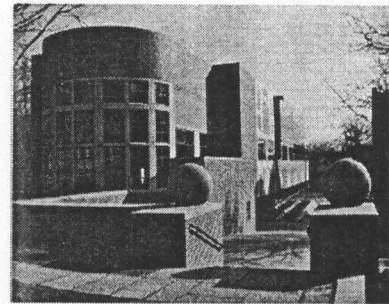


Fig. 1.16: University of Princeton. Gordon Wu Hall by Venturi, Rauch, Scott Brown.

Source: Macrae-Gibson (147).

Creation of Pattern

Repetition or stylized repetition is one of the ways architecture can relate to the built environment around it; however, simple repetition of a basic element can also create a sense of continuity by virtue of the changing position of a constant element. The implication is that the individual is a part of a whole, usually an ordered whole that is greater than the individual but that exists because

of many individuals. The development of such a pattern also implies the existence of time by means of the way it reminds us of space. Karsten Harries suggests that such elements create a sense of movement and a sense of time by making the user wonder (instinctively) how long it would take to arrive at the end of the sequence ("Time, Death and Building" 27). Repetition is abundant in architecture. One of the most pronounced treatments of repetition is the colonnade, such as the one Tadao Ando uses in his Theater on the Water (Fig. 1.17). In a colonnade, columns are repeated with equal spacing between so that repetition has a rhythm. Not only does the constant presence of similar but separate elements create a sense of continuity, the colonnade helps establish a vanishing point and reminds the observer of the presence of time.

Materiality

Materiality is another issue which can be treated in a way which explores continuity. Materials show age differently: they stain, they mold, they crumble, they pit, they crack, they rust, they rot, and they slide to the ground. Furthermore, certain materials are more fragile than others and are more likely to suffer from accidental destruction, such as glass which shatters and thatch which burns. Projects may use comparatively permanent materials (stone, concrete, brick) or comparatively impermanent materials (metals, wood, thatch, glass, canvas, ice). I think the most meaningful way of creating continuity with materials is by juxtaposing the relatively constant materials with those which are more subject to change. Consider the log cabin by Bohlin Cywinski Jackson (Fig. 1.18-1.20) reviewed in the May 1996 issue of *Architecture*, which contrasts rock with wood and glass. The design uses the rock of an outcropping found on the site to serve as part of the foundation as well as part of the floor and

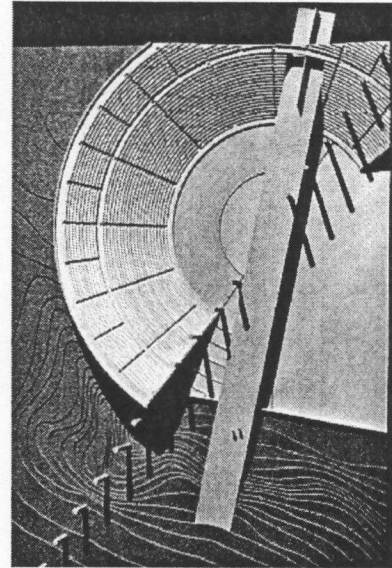


Fig. 1.17: Theater on the Water, Tadao Ando (105).

Source: Ando.



Fig. 1.18: Wood v. rock and wood v. glass.
Source: Kroloff (246).

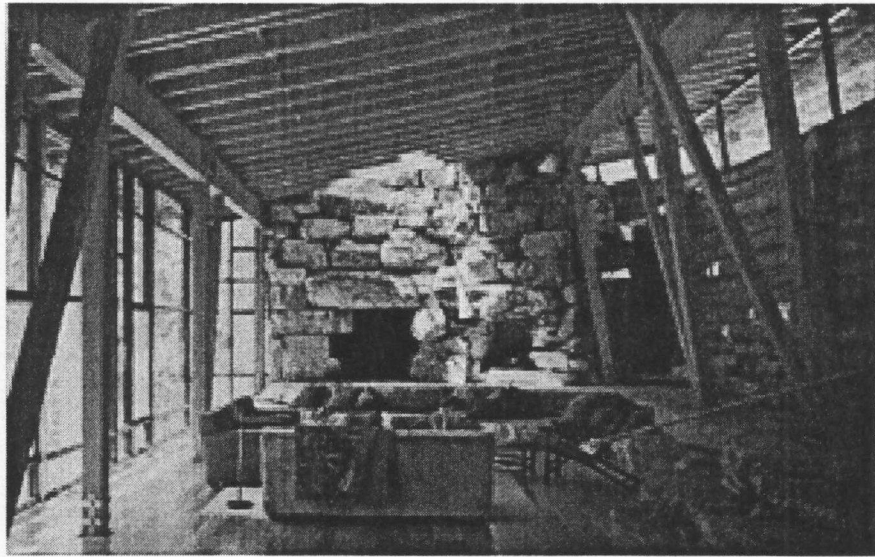


Fig. 1.19: Interior of log cabin by Bohlin Cywinski Jackson. Note the glass at the left, the rock in the center proceeding to the lower right, and the wooden framing.
Source: Kroloff (243).

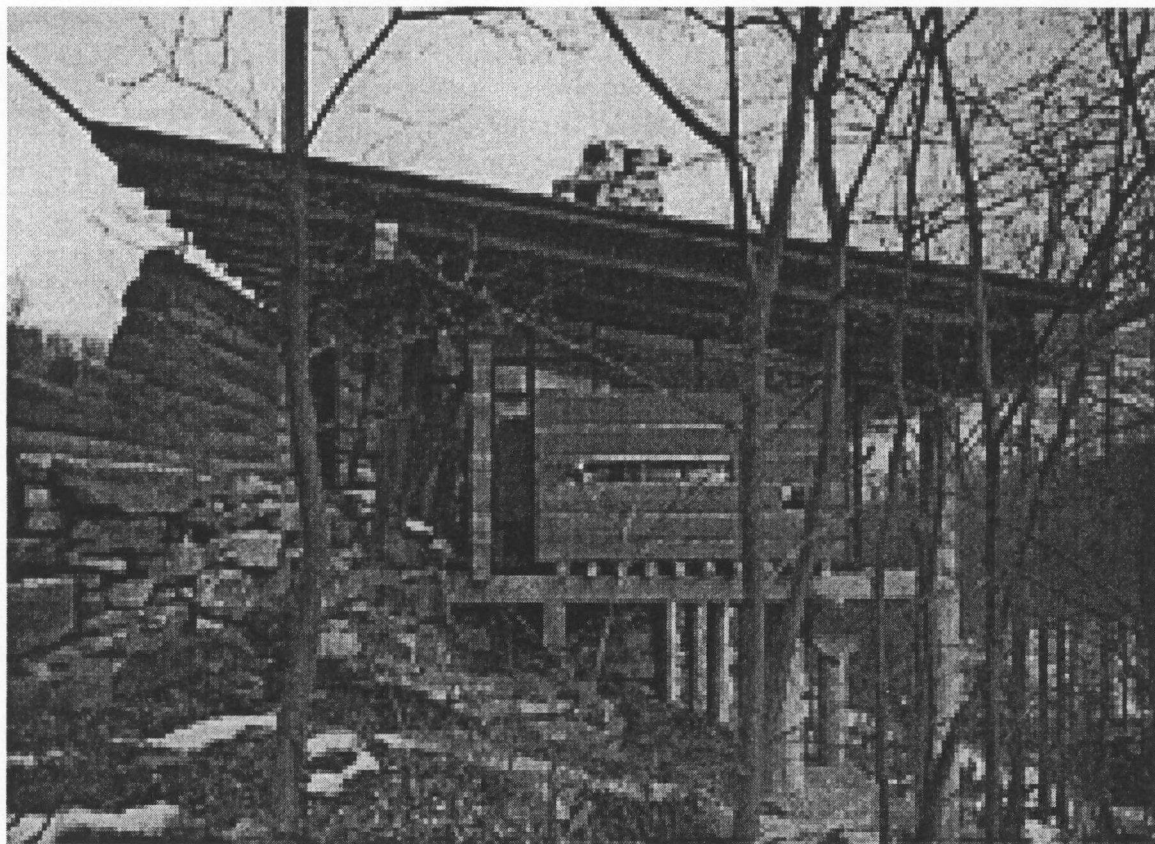


Fig. 1.20: Log cabin. This project creates continuity by means of its materiality and its connection to site. Note how the cabin uses the natural foundation of the rocky hillside for its base. The designers allow that solidity to inform the placement of the cabin's solid log wall. The other side of the cabin, however, is the open side. It sits on log columns almost as if it had ambitions to be a treehouse, and it offers generous glazed views of the forest which offers it refuge.
Source: Kroloff (241).

built-in seating. The use of rock—especially rock as found object—suggests strength and permanence. Wood is used in two primary ways, which imply two other levels of constancy beyond that suggested by the rock. The designers place a substantial log wall along the side of the cabin that is anchored to the rocky outcropping, and they use wooden frame-like members to support the roof almost as a waiter supports a tray of food. Compared to the rock, the log wall is both young and short-lived, but the planed, lightweight wooden supports are flighty next to the stack of massive, naturally-round logs. Then there is glass, which in many ways is the least permanent of materials. Although glass will not rot, it slides with age and breaks easily, but most importantly glass has so little presence that we hardly notice it is there—which is exactly why we bother to build with it at all.

The discussion above treats materiality in a relatively literal manner; however, materiality may also carry symbolic content. According to Gaelle Breton, Louis Kahn uses materiality in his Fort Wayne Theater to distinguish the outside of the building from the inside of the auditorium (103). Specifically Kahn uses thick brick walls to create rigid planes which define the exterior of the building (Fig. 1.21). Breton suggests this is an appropriate treatment for the public realm, which is rigid with protocol and conventions. On the inside of the auditorium, however, Kahn has used concrete in such a way as to celebrate its plasticity and to create a wall that escapes the plane (Fig. 1.22). This, Breton argues, is appropriate for the experimental and other-worldly quality of the stage (105). Although Breton couches her interpretation of the materiality in terms of public and performance, the implications of the difference in material include a comparison of static and constant solidity to dynamic and changing plasticity.

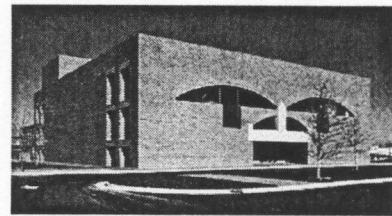


Fig.1.21: Formal exterior.
Source: Breton (103).

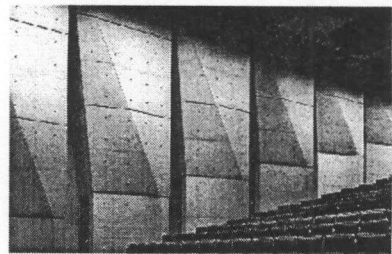


Fig. 1.22: Free-form interior.
Source: Breton (105).

Structure

Structure, which is very closely related to materiality by virtue of the structural potential particular to a given material, also offers an opportunity to discuss constancy and change. Both Kenneth Frampton and Karsten Harries suggest that massive, "telluric" construction which connects strongly with the ground and which uses the earth and materials closely related to the earth (such as brick and stone) implies (and offers) longevity and relative permanence. On the other hand, framed, "stereotomic" construction, which suggests a greater contrivance by the builder, implies impermanence and flexibility (Frampton's terminology, *Constancy and Change* 7). The log cabin described above juxtaposes the telluric and the stereotomic as do two Knoxville, Tennessee structures along Second Creek. The railroad bridge that crosses the Tennessee River just east of Second Creek (Fig. 1.24-1.25) is a series of lightweight steel trusses—which carry the track—supported in turn by massive limestone piers which rise out of the earth and then out of the water. Neyland Stadium has a similar sort of construction—at least on the southern and eastern sides (Fig. 1.26 and 1.28). This southern end of the stadium has spaces for classrooms and offices (formerly dormitories) which are constructed of brick or concrete block masonry. The masonry walls are made of units of baked earth and offer continuous connection with the ground from which they came; this connection implies constancy. The masonry layer is screened by a substantial web of steel framing, which rests on individual concrete bases and supports seating high above the ground; this system's dependence on such a high level of artifice suggests a temporality which implies change. Although the contrast of solid masonry to the visually ethereal framing would be adequate reassurance that continuity is possible, it is interesting to note that there are age differences between the two struc-

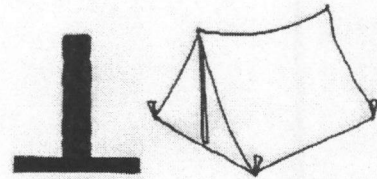


Fig. 1.23: Heavy/Light.
Source: Author.

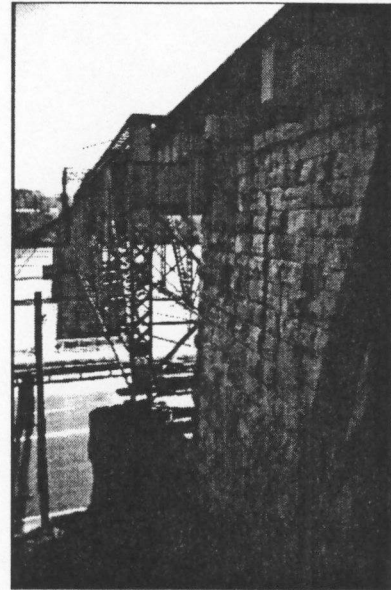


Fig. 1.24: Railroad bridge uses both heavy and light construction.
Source: Author.

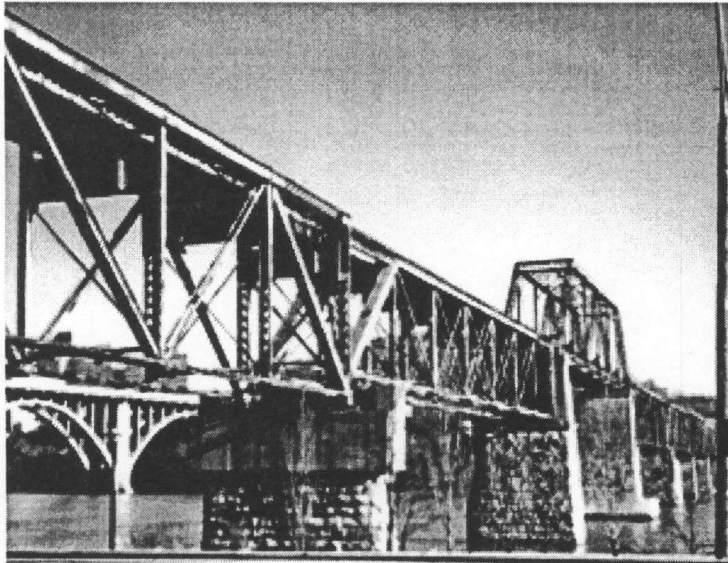


Fig. 1.25: Railroad bridge. The lightweight nature of trusses as seen in this Knoxville railroad bridge alludes to a flexibility and mobility that are a part of the bridge's history. The trusses were salvaged from other bridges across the United States, and they are being reused here to support the railroad tracks.
Source: Author.

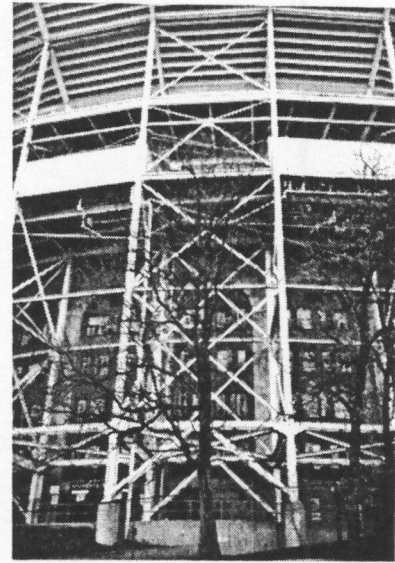


Fig. 1.26: Neyland Stadium. The tall, lightweight framing of the steel columns and bracing are juxtaposed to the heavy masonry walls of the supporting ring of classrooms and offices. The older portion of the stadium seems thick and static compared to the contemporary, thin soaring steel lace that encases it. It seems that as technology improves, construction becomes lighter and thinner. One wonders if we are proceeding toward an architecture of vanishing materiality as humanity turns toward an increasingly virtual technology.
Source: Author.



Fig. 1.27: Recycled trusses. The trusses in the railroad bridges found on the site are also being reused. The railroad structure—ties and all—currently support roads which seem to have been used for automobiles at one time but which are now used for pedestrians and cyclists.
Source: Author.

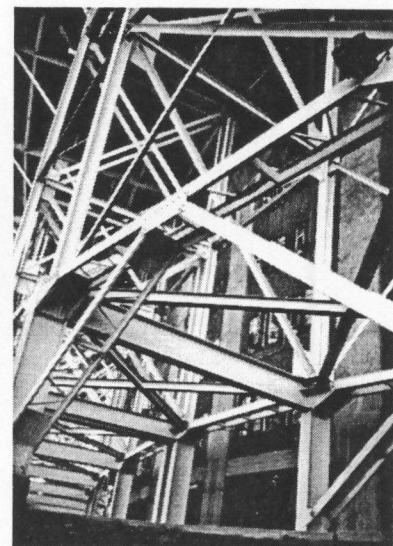


Fig. 1.28: Stadium structures.
Source: Author.

tural systems. The masonry portion of the stadium was constructed a number of years before the steel framing was added around it so that the masonry portion does not only seem more established than its framed counterpart, it is.

Formal Quality

Another strategy for addressing the duality of constancy versus change is to juxtapose differing formal qualities. Pure geometries—squares, circles, equilateral triangles, golden sections—imply static permanence; whereas, irregular forms—of which there are infinite manifestations—imply organic generation (Fig. 1.29). Consider the pyramid complex at Giza (Fig. 1.30) which contrasts the two. The pyramids with their stark, pure tetrahedral volumes create a formal, static presence which implies permanence—which was no doubt a design intention. The Sphinx, on the other hand, is relatively impermanent not only by virtue of its organic shape, which suggests mortality, but also in the way it has cantilevered parts and protrusions which time (with help from the French Foreign Legion) has shown do not age as well as a shape with a broad base and smooth ascent to a point.

Adaptability

Another significant way to provide continuity is to include adaptability in the design criteria (See Fig. 1.31). Such flexibility has traditionally been included in architecture through the use of furniture, curtains, and screens as well as through the use of operable windows and doors. Less common in the past, however, were mobile walls, ceilings, and floors. These elements are becoming more and more common in buildings. Designers have proposed solutions in which the exterior enclosure of the building is permanent for the life of that building whereas the interior system of walls, floors, and ceilings may be

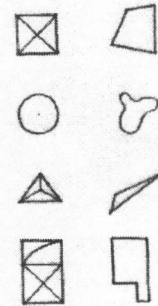


Fig. 1.29: Regular/Irregular geometries.

Source: Author.

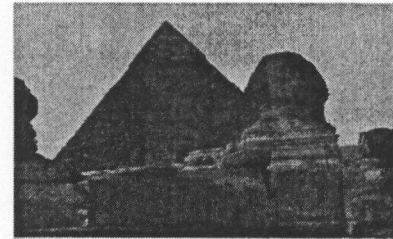


Fig. 1.30: Complex at Giza.

Source: Wodehouse & Moffett (17).

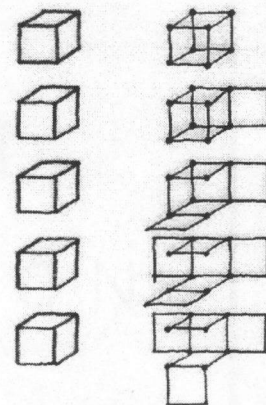


Fig. 1.31: Inflexible/Flexible.

Source: Author.

flexible. Designers have also proposed a few solutions in which the enclosing elements are also operable. Buildings that have a relatively permanent infrastructure but which also have changeable elements may be altered to suit the changing functional or aesthetic needs of the occupant. The Schaubuhne by Jurgen Sawade (Fig. 1.32, 1.33, and 1.35-1.38) provides such flexibility. The auditorium of the Schaubuhne is fitted with platforms that may be raised or lowered to various heights with the use of hydraulic lifts. This feature allows multiple arrangements of the auditorium so that the stage may be established virtually anywhere in the auditorium by appropriate manipulation of the platforms. Likewise, the platforms allow for seating to be tiered in any variation so that patrons farther from the stage may see over the heads in front of them. That the design has adaptability built into it will help ensure that the theater has a longer life.

Community

Perhaps the most interesting or important way that architecture can provide continuity is by designing powerful and provocative ways of linking the individual to the group, in either a public or a private setting (Fig. 1.34). I think this is very important because it is the human bond with other people, with the species, the grandparents, the parents, the children and the grandchildren—by blood or proxy—which provides the best hope for continuity to the individual. Typically, the group offers a way for individuals to experience constancy, for the circle of life is perpetual compared to a human lifetime. The participation of the individual in the group, however, simultaneously ensures that the group is perpetually changing and avoids becoming static and dead. This poses some problems, because human beings often have difficulty in finding a way to accept change, especially as a group. Thus, the group that genuinely accepts every individual is always

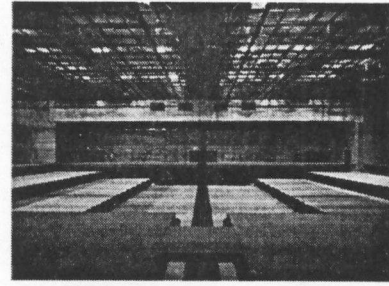


Fig. 1.32: The Schaubuhne.
Source: Breton (69).

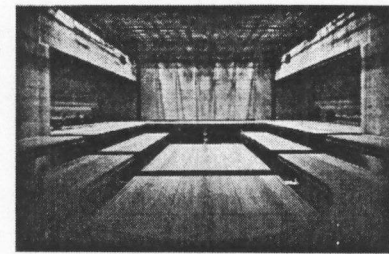


Fig. 1.33: A horseshoe, arena seating arrangement at the Schaubuhne.
Source: Breton (68).

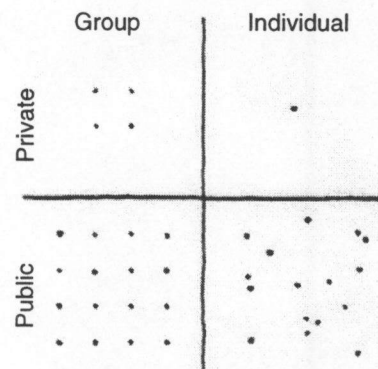


Fig. 1.34: Group/Individual and Public/Private.
Source: Author.

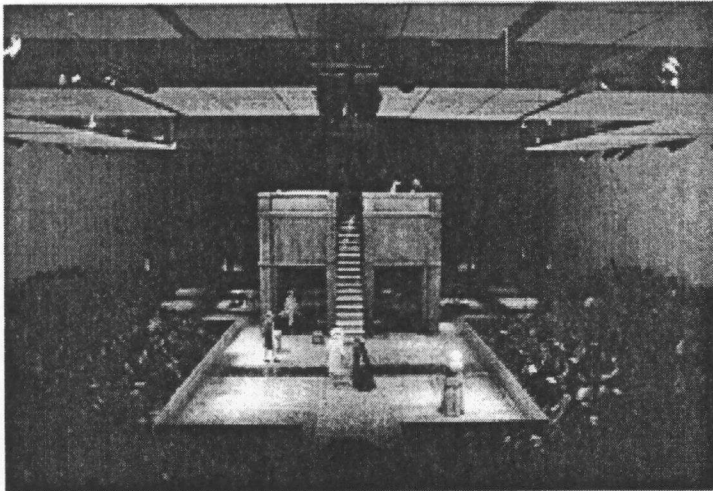


Fig. 1.35: A performance at the Schaubühne.
Source: Breton (68).

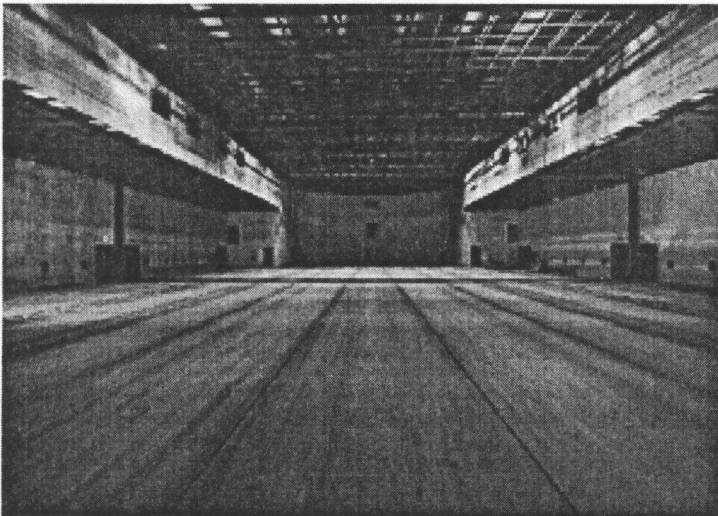


Fig. 1.36: Operable floors and ceilings. The Schaubühne uses a series of hydraulically-activated platforms to resolve the tension between spatial constraints and artistic needs.
Source: Breton (68).

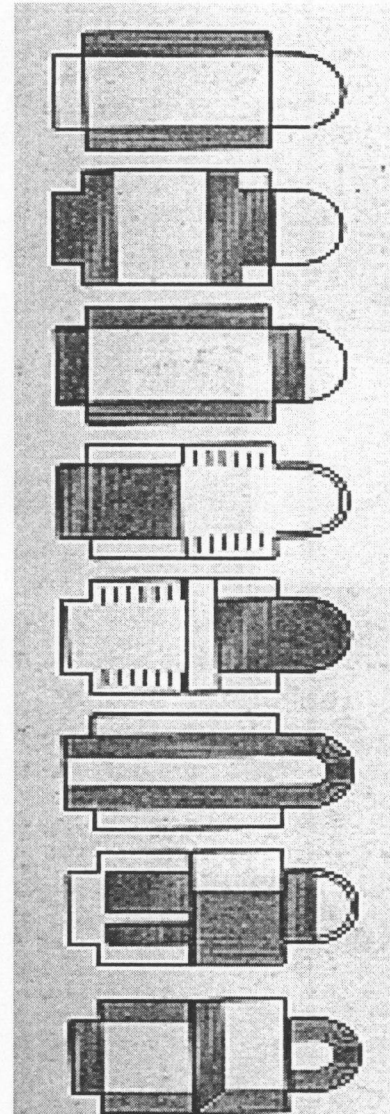


Fig. 1.37: Many arrangements are possible.
Source: Breton (67).

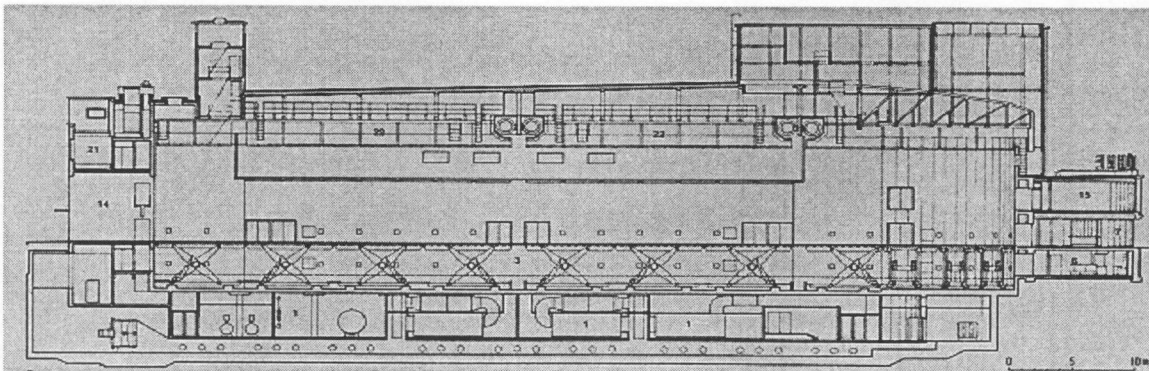


Fig. 1.38: Hydraulic lifts allow flexibility in the Schaubühne.
Source: Breton (69).

in danger of disintegrating into factional, less dynamic groups or anonymous individuals who for the sake of idealism will accept no other individual. I think that this sort of disintegration is more and more evident in our built environment as we build suburbs around suburbs and as we build and use public space less and less. Thus, elements in architecture which distinguish between the individual and the group yet celebrate each are welcome additions to our built environment.

In some ways all of the techniques for creating continuity which have been discussed here are ways of linking the individual to the group because the act of building shows the sign of the human hand and thus of human presence. However, although these signs may be meaningful to individuals and may create continuity, a stronger and more meaningful continuity is created in the regular convergence of individuals to form a group and in the regular divergence of those individuals as they leave the group for a while.

I think that a sense of continuity may be created in a special way through the design of public space and especially in the design of the entrance or entrances which the individual must use to join the group in the public space. Consider Charles Garnier's entrance into the Paris Opera House (Fig. 1.40). Garnier provides a grand staircase for the entry of individuals into the auditorium of the opera hall. This provision for entry makes a celebration of the union of individuals to the group for the purpose of cultural experience, and once again the architecture emphasizes the connection between the changing element and the constant element.

There is much that can be used to create continuity without requiring an entire building that will last thousands of years: a sense of space, the union of individual and group, flexibility of spatial arrangement, contrasting structure,

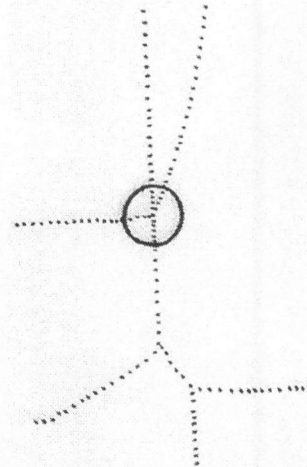


Fig. 1.39: Convergence/Divergence.

Source: Author.

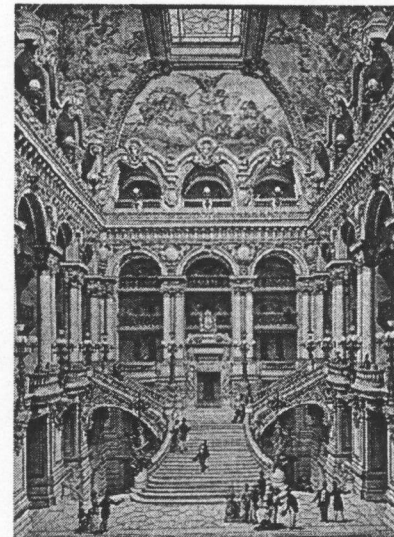


Fig. 1.40: L'Opera de Paris. Garnier's grand staircase celebrates the union of individual to group.

Source: Mead (126).

contrasting materiality, rhythmic repetition, connection to the urban environment, and connection to nature all offer exciting potential for continuity.

PART II: THE PROGRAM

A PERFORMING ARTS THEATER

DISCUSSION

My intention is to design a building which creates continuity by addressing the tensions which exist between the constant and the changing. This intention brings a substantial agenda. The project should be a civic or cultural one so that individuals are summoned for meaningful group activity. It would be best if the building housed an activity which clearly reflects tensions between the changing and the enduring; preferably the activity would relate to the cultural identity. Furthermore, the project should house an activity that unequivocally occurs in space. For several different reasons a performing arts center focusing on theater is appropriate.

The performing arts have peculiar dependence upon time. That is, for the performing arts to have meaning they must occur sequentially; rather, sequence has meaning in the performing arts. Tempo and rests have meaning. Memory is required for comprehension, and each performance has a lifetime with a distinct beginning and a distinct ending.

Of the performing arts, I think the theatrical ones are most appropriate, because theatrical arts (dance and drama) require a substantial amount of space as well as time to create meaning.

The performing arts are also appropriate because they are interested in connecting their innovation to the past. More than most, the theatrical arts return again and again to the same ideas—often even the same plays—and interpret them in a new way. Consider Shakespeare which is performed in one production with period costumes and period scenery and in another production with grass skirts on motorcycles.

*All the world's a stage,
And all the men and women merely
players:
They have their exits and their en-
trances;
And one man in his time plays many
parts, . . .*
--William Shakespeare
As You Like It, II, vii, 139



Fig. 2.1: Musical notation indicates both pitch and duration.
Source: Beethoven. Sonata Op. 27 No. 1.

Furthermore, the theater is a community art. It does not exist without the individual performer nor the individual observer, but it especially needs the group audience. In *All the World's a Stage*, a book about the nature of the theater, Ronald Harwood argues that "the cardinal point of theatrical experience" is the unity of the performers and the audience (42). He states

we are not dealing with works designed for individual contemplation, and plays are not and were not written for reading in studious individual silence . . . a play implies an audience, and *changes* with its audience. (38, emphasis mine)

That is, drama is not static. On the contrary it is very dynamic, and its dynamism arises from the group. The dynamic between performer and audience is explored in a curious way in Charles Garnier's L'Opera de Paris, which employs the famous grand staircase to imply that each observer is also performer, demanding that the group recognize the individual and that the individual recognize the group.

Perhaps the theater is a metaphor for all architecture in that the theater provides an infrastructure in which people may convene, act, and express ideas. Should any architecture aspire to supply more than such a space? In *The Ethical Function of Architecture* Karsten Harries writes

Above all we should not expect too much from architects: whether what they build turns out to be [real] . . . will depend on how their work is appropriated. This they cannot control. All they can hope to furnish is a suitable framework.

if this is so, then the notion that all the world's a stage is one that may be very important to architects, and the theater offers an excellent way to explore the notion that architecture should provide a suitable framework for living. I would argue that the framework should provide

constant and that offers the its users significant power to rearrange the space on a regular basis in such a way that allows them to act dynamically within a perpetual framework.

ISSUES

Theaters as a type require special design considerations in order to be successful. These stem from the theatrical tradition of creating a separate universe within the confines of the theater auditorium and from the physical accommodation of human bodies for group activity.

Front of House and Back of House

Because the theater takes upon itself the task of creating a separate world within the confines of the theater auditorium, there is a conventional distinction between the front of the house, where individuals convene before entering the auditorium, and the back of the house, where directors, performers, designers, and stage hands contrive to prepare a separate sense of reality (Fig. 2.2). Thus, there are certain spaces which must be placed in the front of the house and others which must be placed in the back of the house, and there must be a clear delineation between each.

Entry

Entry into the theater auditorium traditionally occurs at the front of the house—opposite the stage—or at the sides of the house so as to avoid traffic across the stage (Fig. 2.3).

Seating and Stage Arrangements

There are a number of different arrangements of the stage in relationship to the audience, each of which has certain attributes and certain needs (Fig. 2.4-2.6). The

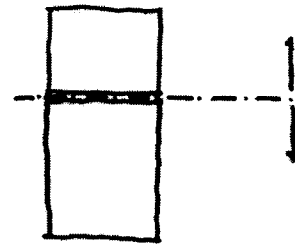


Fig. 2.2: Front and back of house.
Source: Author.

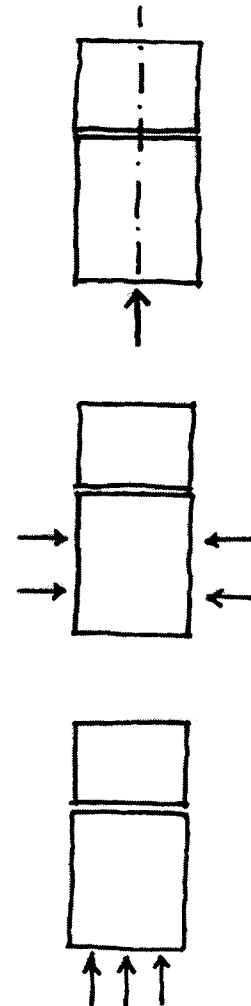


Fig. 2.3: Traditional ways of entering the theater.
Source: Author.

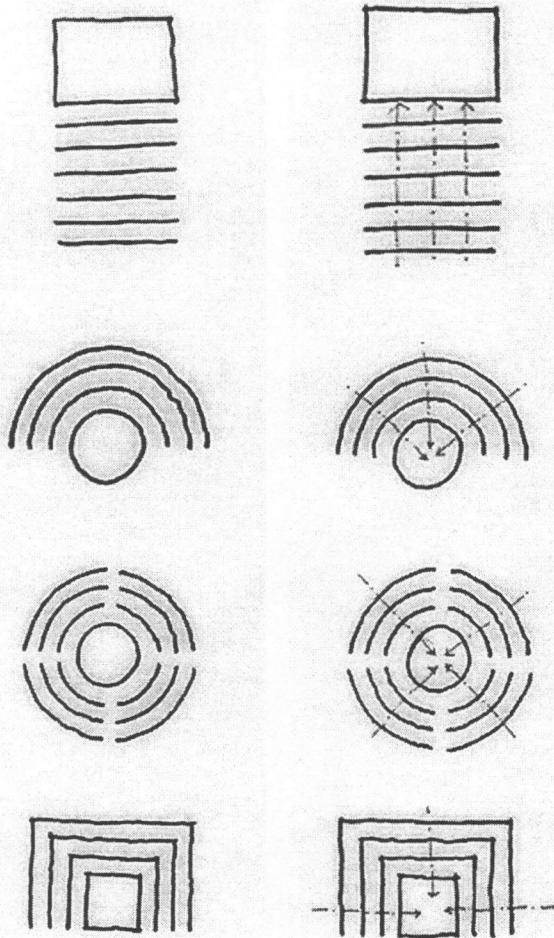


Fig. 2.4: Traditional stage/seating arrangements. Each arrangement has distinct lines of sight which have certain vertical requirements.
Source: Author.

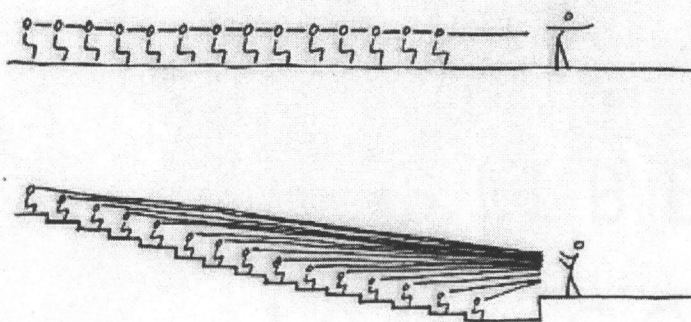


Fig. 2.5: Relationship between visual access and vertical level.
Source: Author.

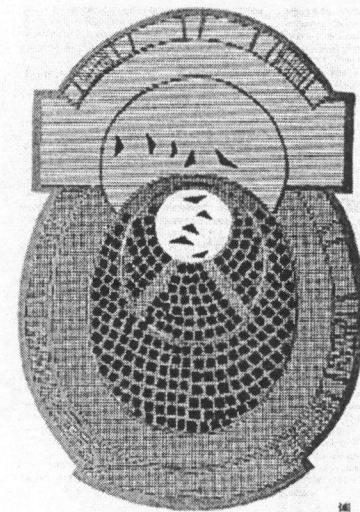
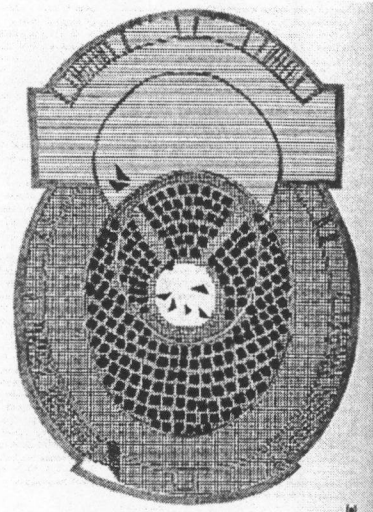
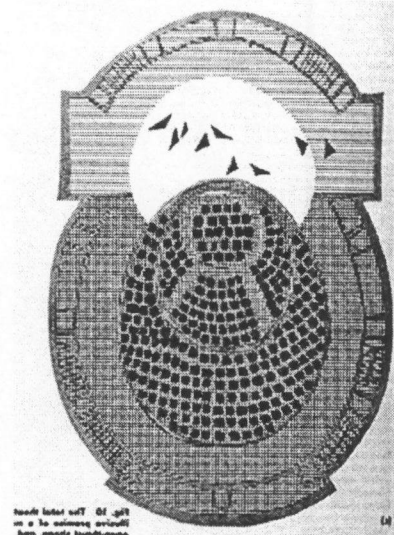


Fig. 2.6: Flexible theater proposed by Gropius.
Source: Mielziner (357).

proscenium arrangement, for example, is the most formal arrangement and makes a clear distinction between the audience and the world of illusion created within the box of the stage. On the other hand, the theater-in-the-round is a much more intimate arrangement, and because patrons can see the rest of the audience on the other side of the stage, it is not clear where the illusion begins nor where it ends. Thus, the audience feels more connected to the action of the performance.

PROGRAM

The following program for a performing arts theater based on auditorium capacity of 400 with roughly 30,000 square feet of built space (based on figures found in Jo Mielziner's "Theaters" chapter in *Time-Saver Standards*). There are four different types of spaces discussed: patron support spaces, performance spaces, performance support spaces, and building support spaces. (See Fig. 2.7 for the program summary.)

Patron Support Spaces

The lobby/gallery (7,000 sq. ft) should include the main entrance. Part of this space may be outdoors and serve as an observation deck (so that patrons, like Shakespeare, may observe the pageant of daily life); such a space would be especially desirable if the building is located in view of the river. Part of the space may be designated for gallery or museum space to hold local art work, an exhibition of the history of theater in Knoxville, or both. Very likely the lobby will have more than one level.

The ticket office/information desk (125 sq. ft) should be visibly accessible to the main entrance or lobby space.

The toilets (1300 sq. ft) should be readily accessible to the lobby on all levels of the theater.

The Program**A Performing Arts Theater**

Based on Auditorium Capacity of 400-600

Patron Support Spaces

Lobby/Gallery: 7200 sq. ft

Observation Deck: 700 sq.ft

Ticket Office/Information: 250 sq. ft

Toilets: 1300 sq. ft

Coffee Shop/Cafe: 1700 sq. ft

Kitchen: 600 sq. ft

Storage/Coats: 900 sq. ft

Performance Spaces

Auditorium and Stage: 7000 sq. ft

Box Seating: 3000 sq. ft

Small Outdoor Theater: 2000 sq. ft

Performance Preparation Spaces

Workshop and scene storage: 1000 sq. ft

Costume storage and workshop: 500 sq. ft

Two dressing rooms: 400 sq. ft

Greenroom: 500 sq. ft

Lounge/ Rehearsal: 325 sq. ft

Dance Rehearsal Studio: 1000 sq. ft

Private Dressing Rooms: 440 sq. ft (4 @ 110 sq. ft each)

Administrative: 400-600 sq. ft

Light Booth: 200 sq. ft

Sound Booth: 150-250 sq. ft

Building Support Spaces

Mechanical and Circulation Space: 15,000 sq. ft

TOTAL: 31,000 sq. ft

Fig. 2.7: A summary of the programmatic requirements.

The coffee shop/cafe (1,700 sq. ft) should have small tables suitable for intimate conversation. This space should be readily accessible to the lobby and may be directly accessible from the outside. Maybe has a Falstaffian quality.

The kitchen (600 sq. ft) should be capable of serving limited fare in the cafe and should have refrigerated or warmed storage space for reception foods.

Performance Spaces

The performance spaces include space for a stage and for seating and circulation (7,000 sq. ft). All of these elements should be treated as performance space. That is, the design should consider that theater depends on both the audience and the actor; thus, the seating should not be treated in such a way that the audience is relegated to an excessively passive role. The different elements—seating, stage, circulation—should be designed for flexibility to allow variations on the proscenium theater (cf. Jurgen Sawade's Schaubuhne).

There should also be an outdoor theater (roughly 2,000 sq. ft). Although all spaces should have a theatrical quality in order to emphasize the passing quality of life as well as the relationship of performer to audience, this outdoor theater should be established for formal outdoor performance. The theater should consider Epidaurus and take care to relate appropriately to the natural elements on the site and in the views.

Performance Preparation Spaces

The workshop and scene storage space (1,000 sq. ft) should offer ample room to create and store scenery for upcoming performances. At least a portion of the storage space must be located so that scenery is readily accessible to the stage.

The costume storage and workshop (500 sq. ft)

should offer room to store and alter costumes. Provisions for changing into and out of costumes should be made. A laundry is in order.

The two dressing rooms (400 sq. ft) should accommodate both male and female performers (separately). These should provide space to hang costumes as well as a separate toilet, mirrors, and counters with sinks. A full-length mirror should be provided.

The greenroom (500 sq. ft) should be readily accessible to the stage and should have seating. It should be intimate and yet suitable for small parties or receptions for the cast and their guests.

The lounge/ rehearsal space (325 sq. ft) should be somewhat accessible to the production workers' spaces and should offer the possibility for relaxation, informal reception, and informal rehearsal (such as readings and discussion).

The dance rehearsal studio (1000 sq. ft) should be reasonably accessible to the dressing rooms and should accommodate the rehearsal of dance productions. Space for a piano and sound system and a wall for mirrors and barre should be provided.

The private dressing rooms (440 sq. ft at 110 sq. ft each) should be accessible to the stage and greenroom but should offer privacy for leading performers and their close friends and family.

The administrative spaces (400-600 sq. ft) should accommodate secretarial staff and offices for an administrative director as well as for three production directors (namely a theater director, dance director, and stage manager).

The light booth (200 sq. ft) should be situated to allow skillful manipulation of light systems (i.e. in full view of the stage).

The sound booth (150-250 sq. ft) should be sound-proof and should offer visual contact with the stage.

Building Support Spaces

Roughly 2,000-3,000 sq. ft shall be designated for mechanical and circulation space.

PART III: THE SITE AT THE CONFLUENCE OF SECOND CREEK

As a major supporting focus, the project will exist within an urban (read "group") context while offering a meaningful, celebrated entry for the individual; this will allow the juxtaposition of a relatively constant human experience with a relatively temporal one. Likewise, the site should provide ample opportunity to relate to the relatively permanent aspects of the built and natural environment. The site should offer a sensible location for a theater within the context of the urban fabric. An appropriate site exists along Second Creek in Knoxville, Tennessee (Fig. 3.1-3.4).

The site has multiple opportunities to discuss the connection of individual to the collective. The site is a ribbon of land which connects the University of Tennessee (to the west) to the adjoining residential neighborhood and—ultimately—downtown Knoxville (to the east). This separation is accented by the connection the site has to the World's Fair Park to the north. The World's Fair Park is also a strip of land which connects two very different conditions: the Fort Sanders (campus residential) community to the west to the commercial and governmental district to the east. The dense commercial and governmental district represent the economic and political collective of Knoxville and to some extent of East Tennessee (See Fig. 3.5-3.7). The collective is further represented by the presence of the primary campus of the state university at the west of the site. In contrast, the residential districts imply (and provide) individual space; individuals from downtown, Maplehurst, and Fort Sanders may access the site on foot (See Fig. 3.8). Finally, the presence of the railroad means that individuals from neighboring counties (and possibly beyond) could also access the site easily. Thus, the site is decidedly urban and offers rich

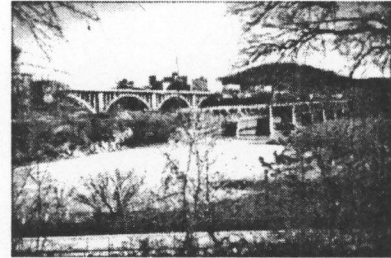


Fig. 3.1: View of the site and river from the UTK "Hill."

Source: Author.

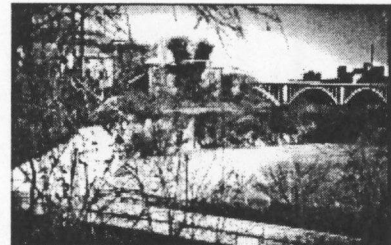


Fig. 3.2: Another view of the site from the "Hill."

Source: Author.



Fig. 3.3: View of the site and Neyland Stadium from the railroad tracks.

Source: Author.



Fig. 3.4: Southeast UTK.

Source: Author.

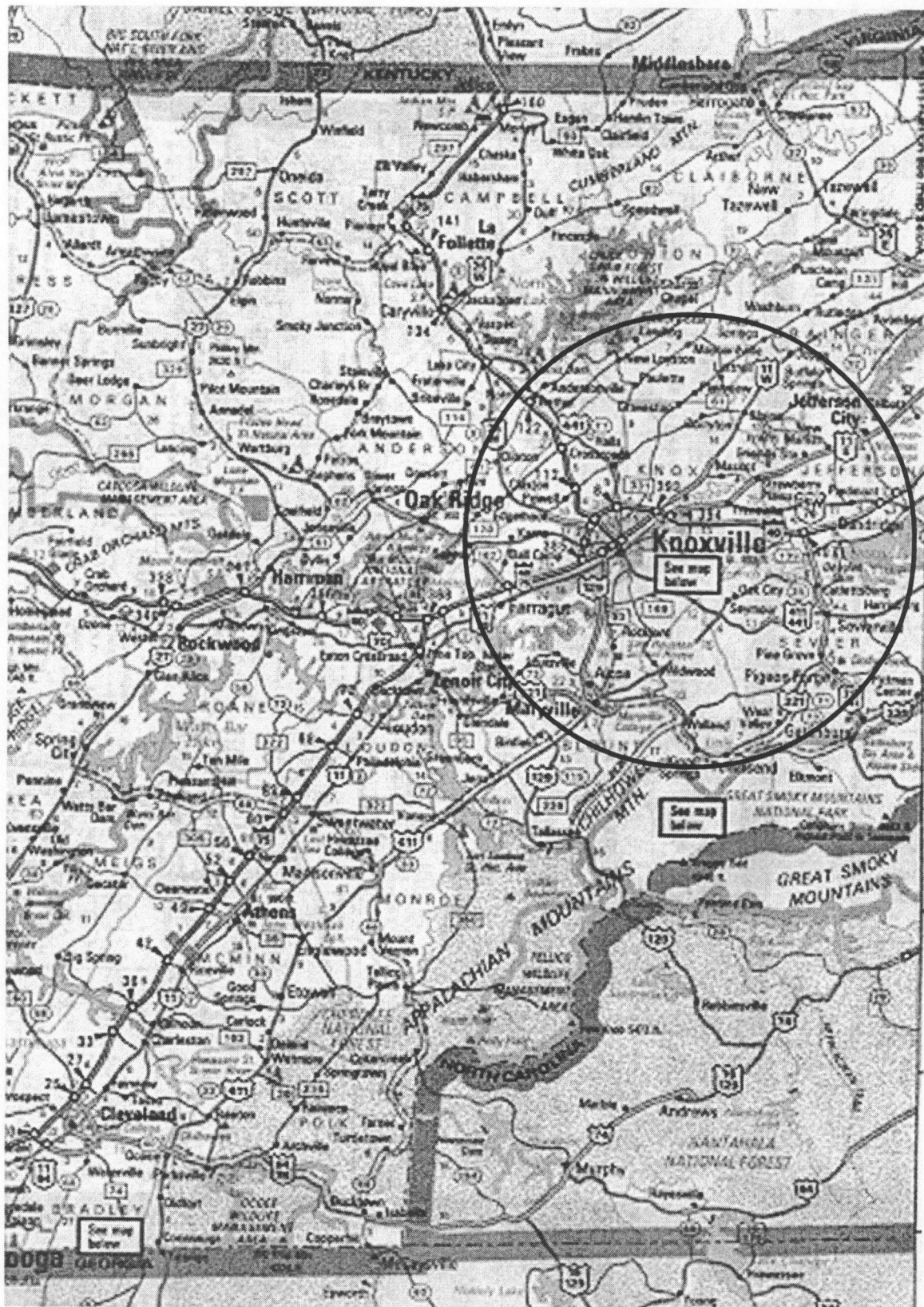


Fig. 3.5: Regional location. The site in Knoxville has a metropolitan setting of the magnitude that will draw patrons from surrounding counties.
Adapted from: Rand McNally (91).



Fig. 3.6: Figure-ground of area around the site.
Source: Author.



Fig. 3.7: Institutional fabric of the university (left) and the downtown (right). Both represent the collective.
Adapted from: Knoxville Geographic Information Survey, sheet #55980



Fig. 3.8: Residential fabric. Fort Sanders is to the northwest of the site, and Maplehurst is due east of the site.
Adapted from: Knoxville Geographic Information Survey, sheet # 55980.

opportunity for exploring the notions of constancy versus change by contrasting the group and the individual.

The site also has credibility and exciting potential as the location for a cultural project, especially one housing the performing arts. Second Creek and its accompanying valley links the site to the World's Fair Park to the north (See Fig. 3.11). The park, which extended through the site during the 1981 World's Fair, functions as a cultural center for the campus/downtown, for Knoxville, and for the region (See Fig. 3.9 and 3.12). The Knoxville Museum of Art and the Candy Factory offer exhibits which range in scope from local to international. The Candy Factory also houses working studios and a remnant of Knoxville's historic candy factory. Down the hill from the Candy Factory is the Tennessee Amphitheatre, which is the venue for a number of productions each year, including Shakespeare in the Park. Another "theater" is regularly created on the southwest corner of the site where popular music concerts are given in the summers. The site also hosts Knoxville's controversial and somewhat inappropriate architectural icon, the Sunsphere. The cultural attractions in the World's Fair Park begin to create a swath of cultural buildings along Second Creek; thus, placing a performing arts theater further south along the creek would continue a pattern which is appropriate because of the contribution and connection to the existing cultural and urban environment. (The presence of the Laurel Theater in the Fort Sanders community is also a strength, for it helps imply a cultural arts district bolstered by the presumed intellectual culture of the university.)

The link between the site and World's Fair Park offers what is the most compelling argument for choosing the site. Second Creek (Fig. 3.10 and 3.13), like First and Third Creeks which flank it, has a central role in the development of Knoxville and is usually central in histories of the city. By virtue of its place in Knoxville's history,

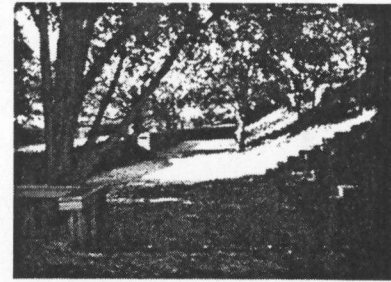


Fig. 3.9: A small theatre facing Second Creek. Vestige of the 1981 World's Fair.

Source: Author.



Fig. 3.10: Second Creek from a pedestrian bridge.

Source: Montesi.



Fig. 3.11: Creek. The site is linked to the World's Fair Park to the north by Second Creek, which reappears on the World's Fair Park site slightly east of where it submerges to go under Cumberland.
Source: Author.



Fig. 3.12: Buildings dedicated to culture. The strongest candidates--the KMA, Candy Factory, and Tennessee Amphitheater--cluster along Second Creek. Adapted from: Knoxville Geographic Information Survey, sheet # 55980.



Fig. 3.13: Second Creek and the Tennessee River.
Source: Author.

Second Creek offers continuity on the site: Knoxville grew up around this creek. It was there when Knoxville began, yet as a natural element—both ancient and always new—it endures for us to use to explain the history of our local culture and to anticipate its future.

Second Creek is not the only enduring natural element on the site. The site has an existing spatial quality to it by means of the creek with its steep hills and cliff (See Fig. 3.14 and 3.17). The little canyon is quite nice and implies that man is not the only one who can build (I think the site would feel that way even if the curves of the earth had not been significantly altered by man). Perhaps more importantly, that little canyon has existed for a very long time—certainly it predates Knoxville. Not only its form but also the visible rock faces of the cliff to the east, assure us of the very old age of the landscape.

The site occupies a very special position at the juncture of Second Creek with the Tennessee River (Fig. 3.15 and 3.18). This is a very fortunate position for creating continuity. Like the creek, the river speaks of constancy. It flows in the bottom of an ancient valley and precedes the presence of humans. The river, however, is grander and more stately than the creek which flows into it. The river represents the collective into which hundreds of creeks, streams, and smaller rivers flow. In turn, the Tennessee River flows at last into the Mississippi. Thus, the Tennessee River serves as a symbol for the creation of unity from many parts.

Beyond offering a relatively constant element to serve as a foil for the temporality of human intervention, the natural elements suggest the duality of continuity and of change in that they exist over an extended period of time, yet they are always changing. The stream continuously flows, but the water under the bridge is always different (Fig. 3.15). The same is true for the river. The trees (see Fig. 3.19) live for years, yet they lose their leaves each

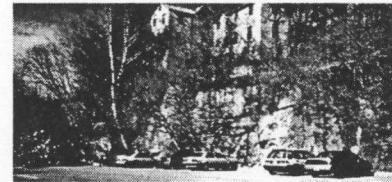


Fig. 3.14: The rocky cliff along the southeastern edge of the site.
Source: Author.

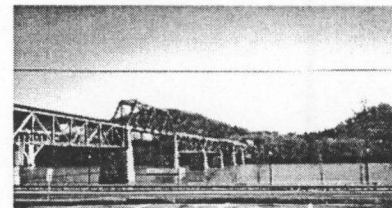


Fig. 3.15: The Tennessee River.
Source: Author.

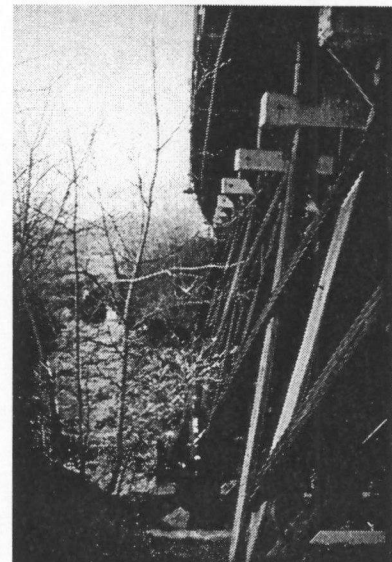


Fig. 3.16: Water under the southern pedestrian bridge.
Source: Author.

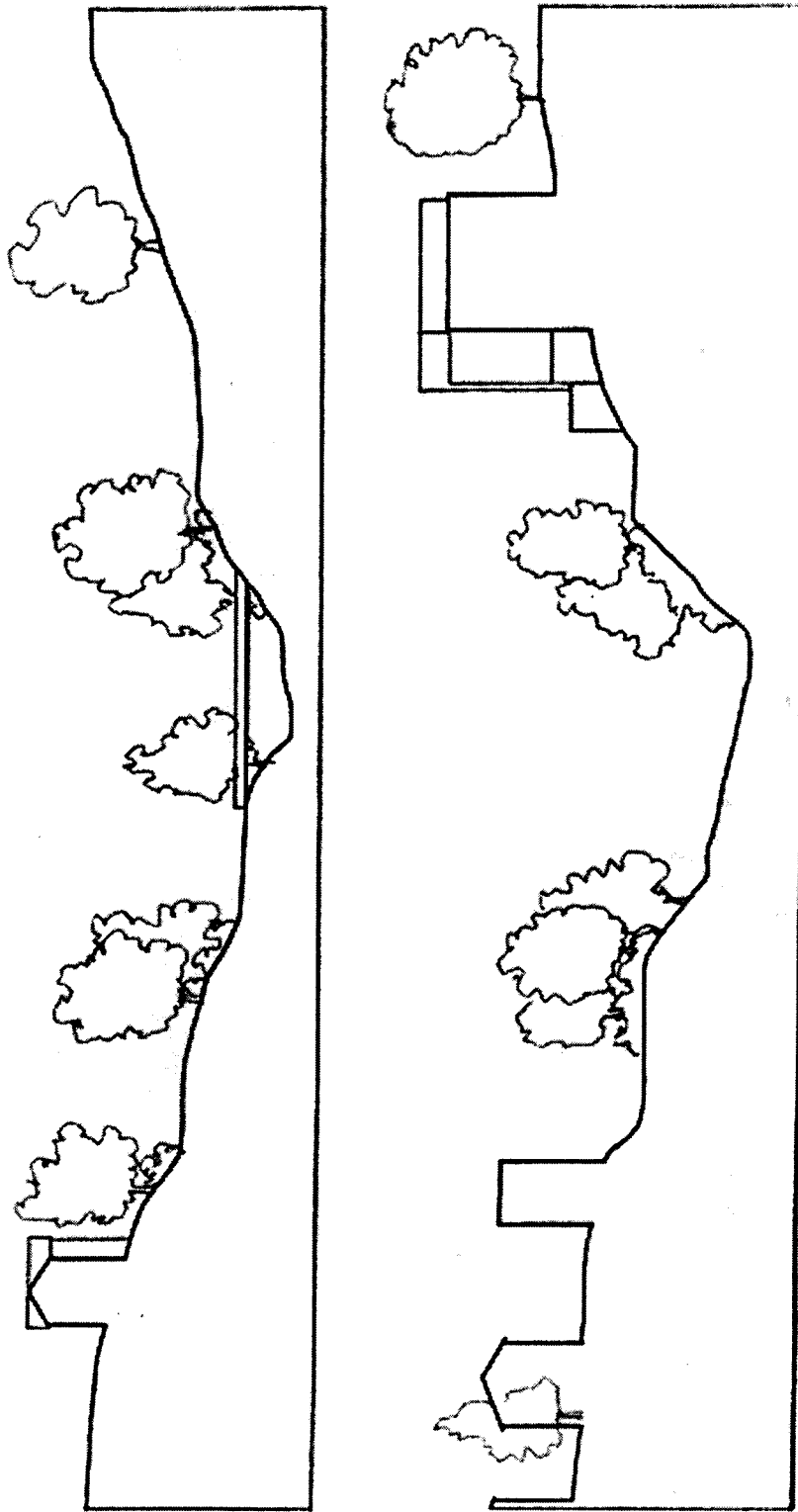


Fig. 3.17: Sectional studies of the site.
Source: Author.



Fig. 3.18: Confluence. The confluence of Second Creek and the Tennessee River is a union worth celebrating.

Source: Author.



Fig. 3.19: Trees. Trees in East Tennessee offer an exceptional reminder to people of the cycles of life that exist in time. They are constants (over a period of years), yet they change each season.

Source: Author.

fall and bud again each spring. The rocks have been in the cliff for ages and remind all of us how quickly we will pass compared to their long stillness.

Likewise, built structures on and around the site offer juxtaposition of the continuous and the changing. Part I of this document discusses the continuity offered by the railroad bridge and by Neyland Stadium, which flank the site. That is, based on the argument that solid, massive, stone elements suggest permanence whereas the comparatively fragile, open, lightweight, metal elements suggest temporality, one may argue that the railroad bridge demonstrates a way of building that embraces both continuity and change.

By virtue of many attributes, the site at the mouth of Second Creek is highly suitable (and arguably irreplaceable) as the site for a new performing arts theater and offers tremendous potential for the connection of the changing to the constant for the sake of creating continuity.

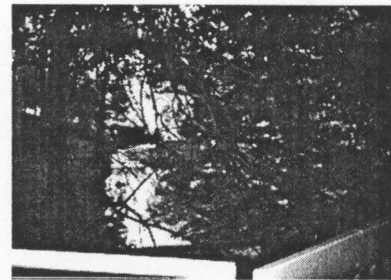


Fig. 3.20: Second Creek from a pedestrian bridge.

Source: Author.

PART IV: THE DESIGN

ONE PROPOSAL FOR CONTINUITY

A NOTE ABOUT VERBAL PRESENTATION

Critical analyses—verbal analyses—of projects which are offered up as cultural works are always interpretations. Such analyses create a way of explaining the work that involves imposing a separate order to the comprehension of the work, for verbal discourse is a very linear mode of communication, while most creative, artistic works are not. This is true regardless of the medium or genre that the creator chooses and constitutes one of the greatest limitations of verbal analysis. With the visual arts, however, especially the large three-dimensional ones which may be perceived and experienced from a multitude of perspectives, this is particularly true, for the visual arts are definitely not linear either in the way they are created or in the way they are experienced. Thus, the barest description that uses words necessarily imposes an order on the experience of the work that is particular to the author of the explanation and that is consequently artificial compared to the work it attempts to illuminate.

Given this, the reader should consider the following merely as a way to help explain the primary intentions introduced in the project, and the reader should return to the drawings as the primary representation of the work.

A DESIGN NARRATIVE

Intentions

The foremost intention for the project is that it be a proposal for the physical manifestation of the thesis. Thus, the design process was informed by a desire to create continuity through considerations of constancy and change, and this notion influenced the design process in

a number of ways. Sometimes the thesis concept was merely a goal offered to the intuitive, creative process. This was true in the placement of the first major strokes, such as the development of an outdoor theater along the river. More often the thesis was used as a perpetual set of criteria for judging the decisions that were made intuitively or the design suggestions that various critics offered. Thus, the validity of each comment was in turn criticized based on the extent to which it reinforced the thesis. Sometimes, especially with small moves which supported major decisions, the thesis served as a paradigm for marching through a series of choices. This was the case, for example, with the development of the wall sections. Occasionally, the thesis served as a great shield for defending certain decisions from criticisms brought against them for stylistic, financial, or personal reasons. For example, the thesis helped to justify the "excessive" mass of several important elements in the project as well as the "frivolity" of those few walls that curve. Nevertheless, the attempt to create a project that illustrates the thesis provoked a better understanding of the thesis and caused the ideas to be honed.

It is hoped that the project justly reflects a concern for continuity through constancy and change in all its facets—ranging from the decision to include a reference to Greek theater laid in earth to the decision to use a particular bolting system in support of the transparency of the lobby enclosure. At any rate, it is by its likeness to the thesis that the project must be judged.

The First Schemes

The very first architectural decisions were made in an attempt to respond to the site. This was non-negotiable, for an architecture which aspires to continuity must begin with what precedes it.

The first set of schematic sketches places a seg-

mented, semicircular theater on the southeastern corner of the site (Fig. 4.1). The eastern-most third of the seating is to be constructed by raking the small hill that protrudes beyond the rock wall that defines the rest of the eastern boundary. This segment is to serve as a reference to the Greek theater which also sat down on the earth; furthermore, it is to double as seating and as a grand staircase up the hill to Maplehurst (thus affirming the pathway currently used by students to make the trek from their apartments to the campus). The second segment is a concrete structure that would allow service elements (the scenery and costume shops) to fit underneath, and it is meant to refer to the Roman theater. The third segment is to be constructed out of steel framing in reference to nearby Neyland Stadium; this segment provides housing to a cafe and its kitchen and is meant to present a modern variation on ancient themes.

The three segments emphasize the way the land could be used and the way the land drops sharply on the east side of the site. The outdoor theater as a whole is intended to provide a stage that could serve as a porch on the river both for the theater complex and the park along the creek. This emphasizes the notion that architecture provides the framework that allows all the world to be a stage. Furthermore, the theater is positioned to capitalize on views of the river and the tree-covered hillside beyond it.

The division of the theater into three segments creates two short corridors. The easternmost corridor is semi-controlled and leads to an interstitial garden along the rock-face wall. The other corridor leads users past views into the scenery shop on one side and into the side of the cafe on the other.

In the first variation of this basic scheme the western corridor leads to a circular main auditorium which is at the center of a large circular complex (Fig. 4.2). This

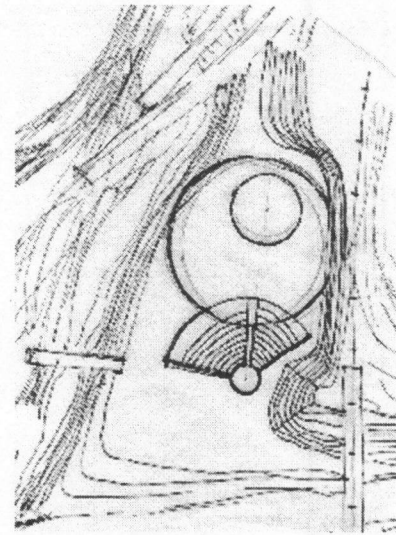


Fig. 4.1: The first basic scheme.
Source: Author.

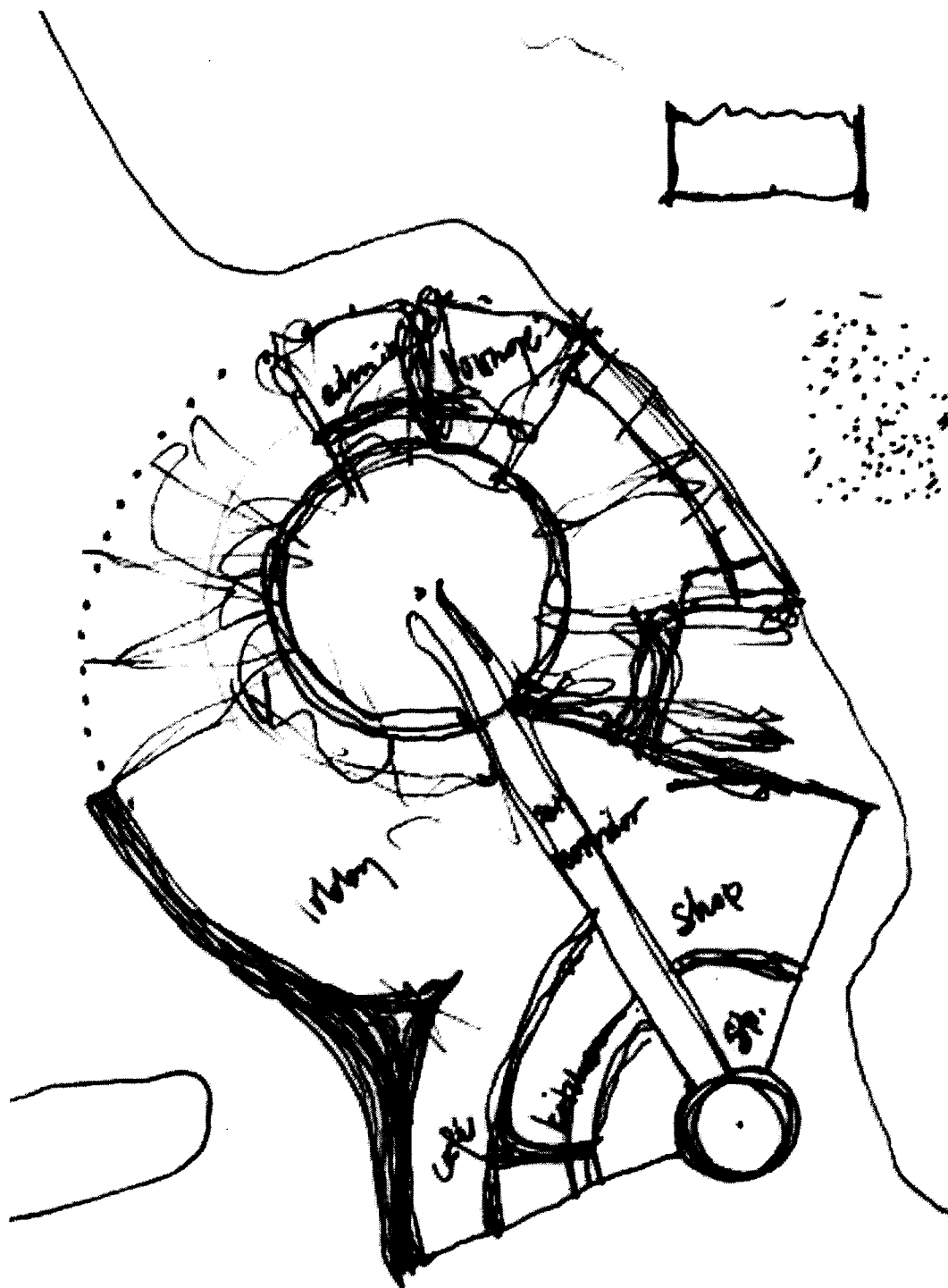


Fig. 4.2: The first variation on the first scheme poses some compositional difficulties.
Source: Author.

larger circle was to be developed into front of stage and back of stage spaces, but the double circle—though appealing in the geometrical formality it lends in plan—creates awkward spaces at its joints and (in this arrangement at least) depends too much on contrived entrances.

In the second variation of this scheme (Fig. 4.3-4.7), the western corridor opens into a courtyard which is bounded to the south by the curving, glazed wall of the cafe. This wall can be opened to allow seating to spill into the courtyard near the creek and pathway that bound the courtyard to the west. To the north of the courtyard lie the lobby and the side of the main auditorium of the theater. To the east lies a scenery assembly space that doubles as connection from the scenery shop to the side of the stage. The courtyard is to be an area of convergence reminiscent of Italian piazzas that uses the side of the theater as a stage set for human activity and has a more intimate setting along the creek than the stage/porch has on the river.

Specifically the first schemes attempt to capitalize upon the views and to affirm and to develop the pathways that exist on the site. They try to utilize the tectonic qualities of the site by raking the ground for seating and by using the rock face wall as a garden wall. The schemes anticipate later division of construction into heavy and light structure and of spaces into flexible and static arrangements. They try to develop public places of convergence in strategic locations, and they try to mark those group areas with suitably formal geometries. Each of these moves supports the intentions of the thesis for creating a project that offers continuity; however, the resulting schemes failed to address other issues important to the thesis.

Reflection

Scrutiny of these first schemes produced several revela-

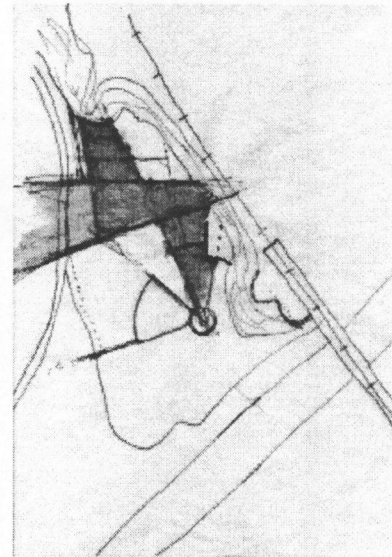


Fig. 4.3: The second basic variation of the first scheme.
Source: Author.

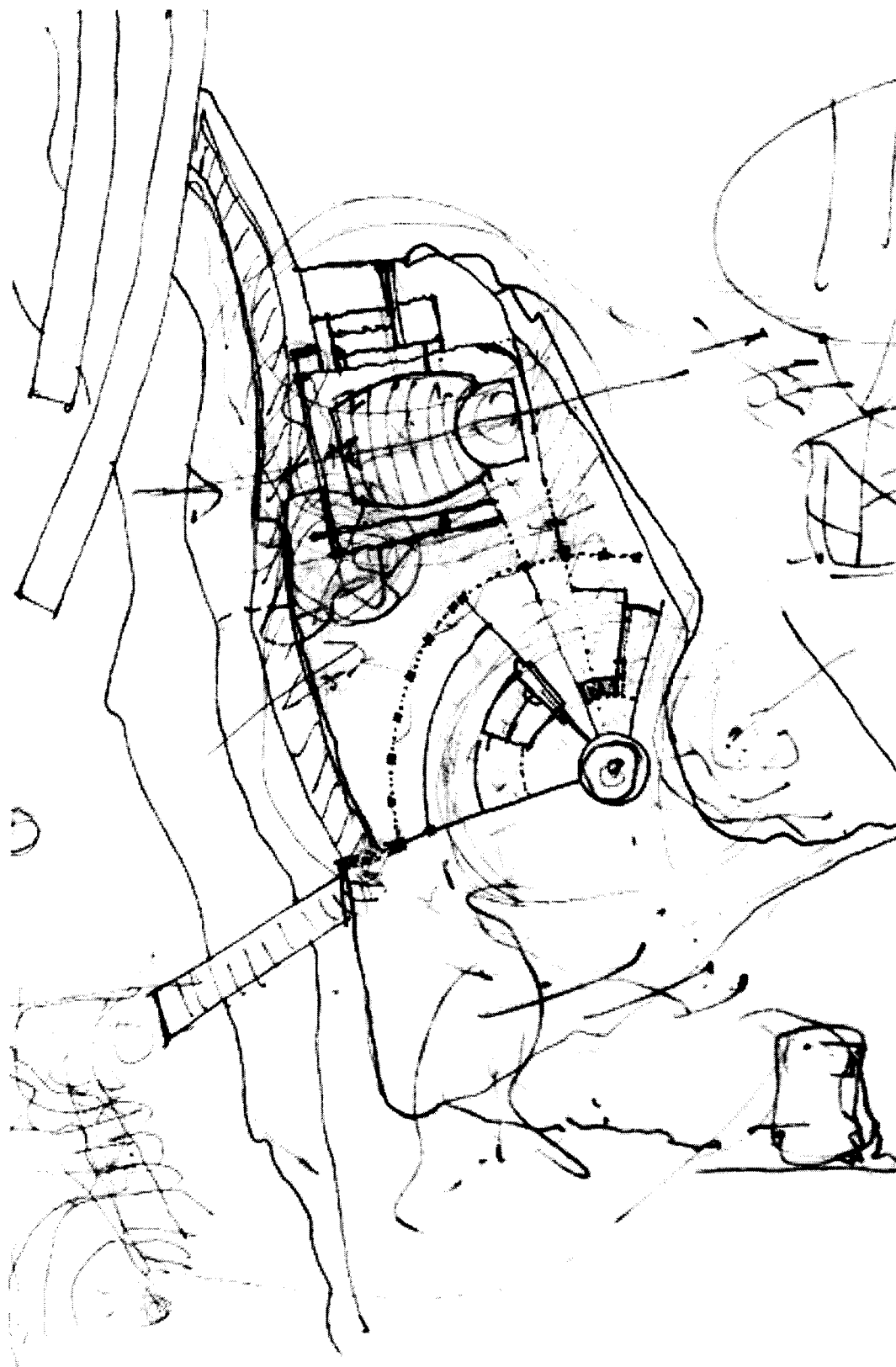
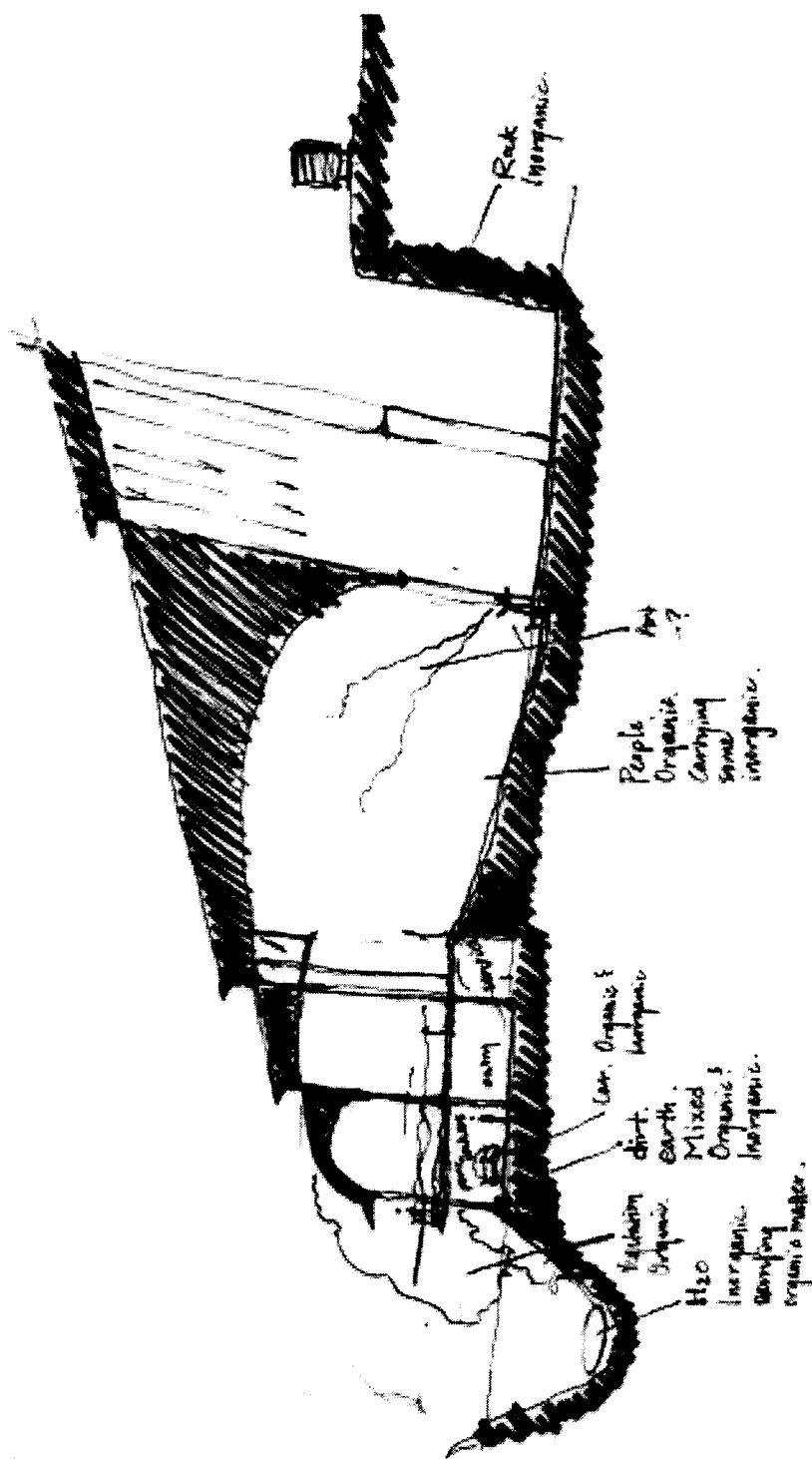


Fig. 4.4: Sketch showing an early variation of the first scheme.
Source: Author.



Question of the carbon ^{atom} ~~substance~~ - organic life

Fig. 4.5: Sectional diagram from the development of the first scheme.
Source: Author.

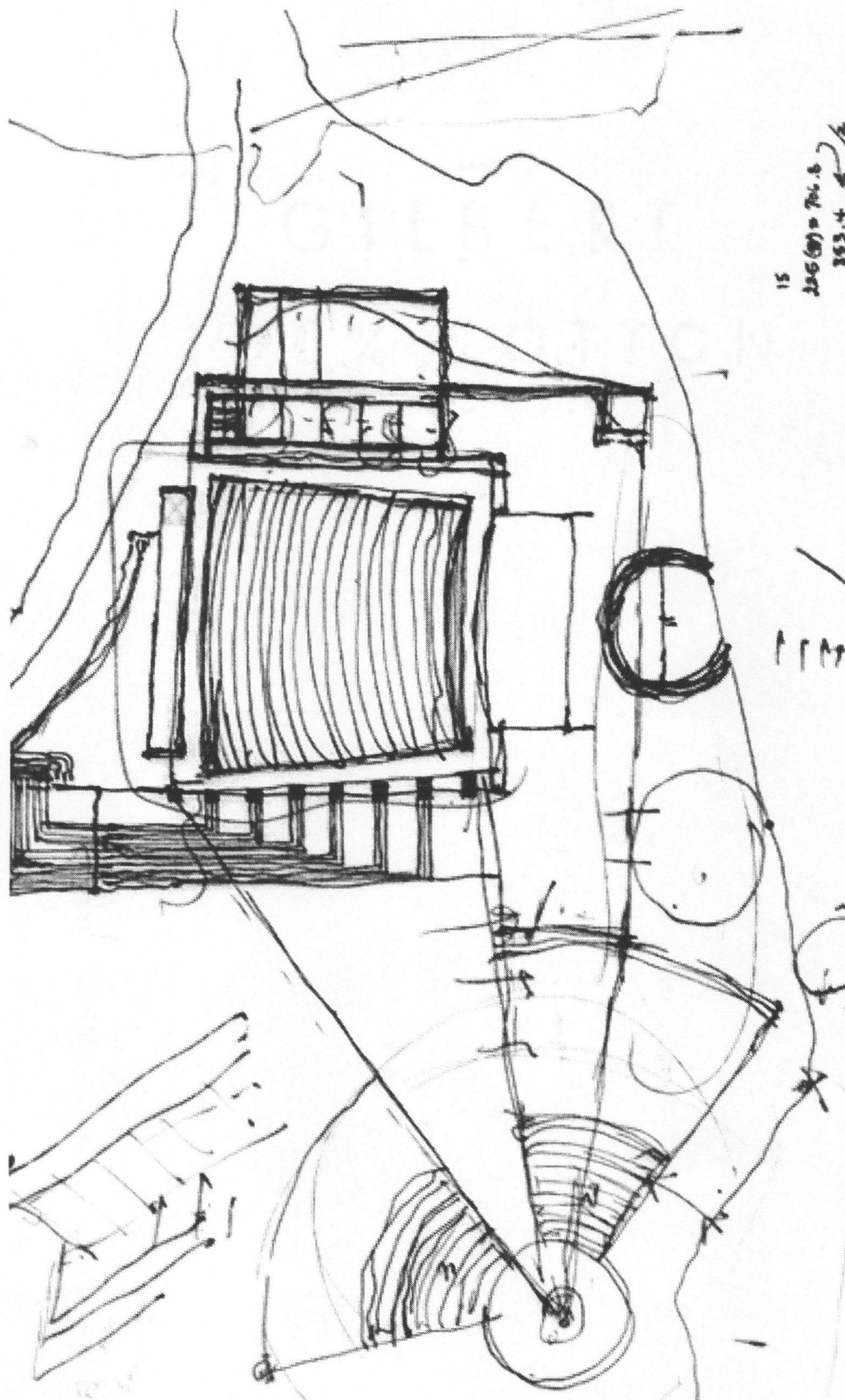


Fig. 4.6: Another sketch from the development of the first scheme.
Source: Author.

tions that suggested the next moves to make in developing the project. It seemed that attempts to create convergence and to emphasize pathway created more confusion than clarity and neglected to make a statement as to which side of the building should be recognized as the front. Also, a more successful approach would coherently and boldly mark the dominant pathway or pathways important in the scheme rather than trying to emphasize every known trail across the site. The scheme does not clearly identify what parts of it are constant and what parts of it are changing. Furthermore, while the scheme's forms are strong, they fight each other and fail to provide unity; this is disappointing, because one of the tenets of the thesis is that although such a task may be difficult, unity may be achieved from disparate parts.

These thoughts inspired a renewed study of the site (in its larger context) in search of a conviction as to what should be recognized as the major pathway and what should be recognized as the front of the site. This study failed to provide a single, unmistakable answer to either of these questions, but it did begin to establish a hierarchy that was useful. It seemed clear that since Second Creek is *the* thread that has the potential to unify the World's Fair Park with the site and thereby create the desired cultural arts park, the major, inviolable pathway must follow Second Creek all the way from the river to the north end of the World's Fair Park (Fig. 4.7). Despite this certainty, however, other pathways demanded to be recognized, specifically, the bridges. The two pedestrian bridges that sit atop old railroad trestles have significant presence on the site, especially since they resonate with the railroad bridge that crosses the river at the east of the site. Furthermore, although the automobile bridge to the south of the pedestrian bridges has a nondescript design, it seems to relate to the pedestrian bridges, and it is functionally necessary in the project if automobiles

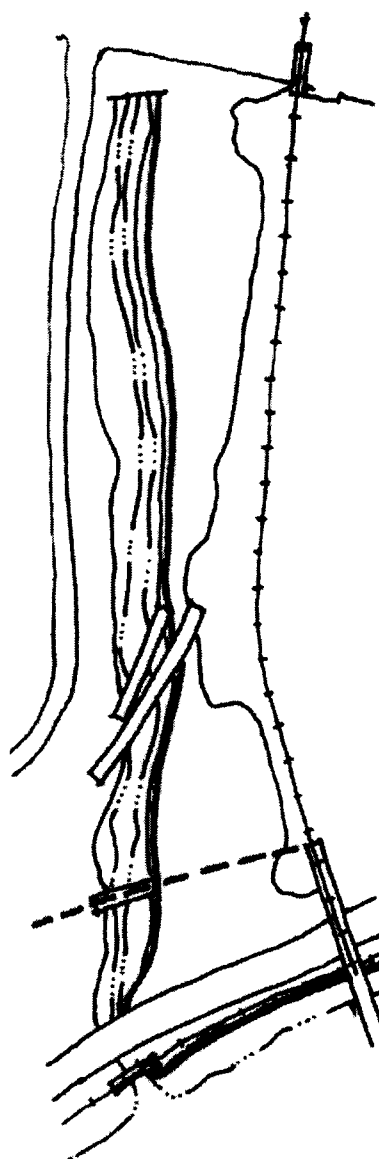


Fig. 4.7: Primary and secondary pathways.
Source: Author.

are to be able to maneuver around the site without having to resort to Neyland Drive. Given this, it seemed that all the bridges should be used and that the southern automobile bridge (which, unlike the other two, is on grade with the site) should define a secondary pathway—or, if it extended across the site and recognized the Maplehurst trail, a cross-axis.

A similar sort of hierarchy developed regarding the front of the site. The three major sides of the largely triangular site are the river side, the creek side, and the wall side (Fig. 4.8). The river side is clearly the most civic of the three, since the river connects the site not only to Knoxville but also to the rest of the country with the help of the Mississippi. This position is strengthened by the city's efforts to develop a river walk along it. Furthermore, the south, river side of the site, unlike the other sides, faces a major Knoxville thoroughfare, which also demands recognition. The creek side of the site, however, puts up a short but irrefutable argument for being the front side of the site, namely, the creek side is the side of the major pathway on the site. The railroad and rock face wall side, though undisputedly important, did not offer compelling reasons to be considered the front side of the site; on the contrary, this particular side posed more arguments for being the back side. For example, trains traditionally pass the backs, rather than the fronts of buildings. Likewise, the rock face wall, though significant to the project, seemed unsuited to hosting the front side of the building, based on the fact that one would necessarily have to walk around the back of the building to get to the front.

The Second Schemes

The second scheme, or set of schemes, developed in response to the preceding analysis.

The first variation on this scheme tries to hug the rock

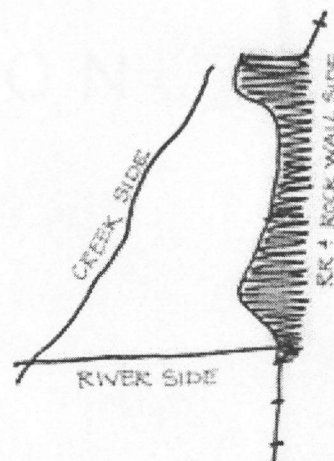


Fig. 4.8: The three major sides of the site.

Source: Author.

face wall in an attempt to leave ample space for a piazza that fronts both the creek and the river and for the pathway along which this piazza is a node. The theater auditorium is oriented with its long axis parallel to the rock face wall in another attempt to emphasize the pathway/piazza (Fig. 4.9). This scheme was not developed, however, because there did not seem to be a way of supporting such an auditorium without seriously infringing upon the piazza space, which defeated the intention behind the organization.

Rather, this organization evolves into the second variation, which orients the theater auditorium perpendicularly to the rock face wall, while the backstage service spaces remain lined up hugging the rock wall (Fig. 4.10-15). This variation also considers the secondary, cross-axis of the site and begins to develop a system of stacked bridges and paths that encrust the south side of the theater. These bridges create a series of connections on several different levels between the ground, the theater, the railroad (where there is a new platform), and the other side of the creek. On certain levels they read as loggias. The lowermost bridge is designed to allow service vehicles to pass under it and to reach the scenery production area that can double as stage space in certain arrangements of the theater, which has moving platform floors. The lowermost bridge connects to the ground by means of an enormous set of steps that also functions as seating for the small piazza/stage below. This set of steps placed against the bridges is meant to be reminiscent of the southern porch and of theater seating.

In this variation of the scheme, the lobby begins to wrap around the theater and curves along the western edge in sympathy with the creek (and out of functional necessity to use the most space without dumping anyone into the creek). The lobby walls are of the lightest construction—operable glass panels supported by col-

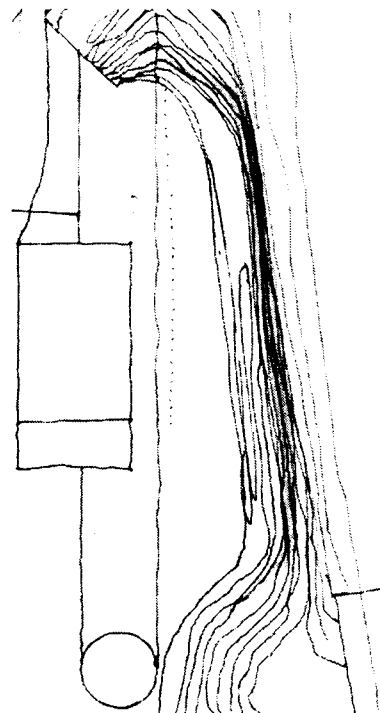


Fig. 4.9: The beginnings of the second scheme.

Source: Author.

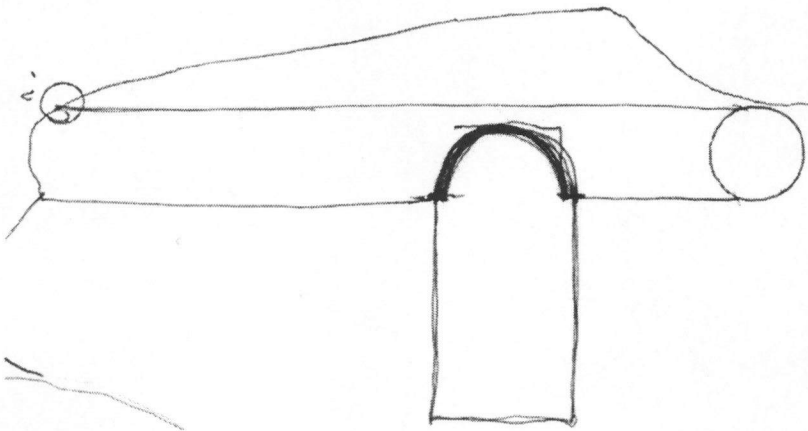


Fig. 4.10: A sketch demonstrating the evolution of the second scheme.
Source: Author.

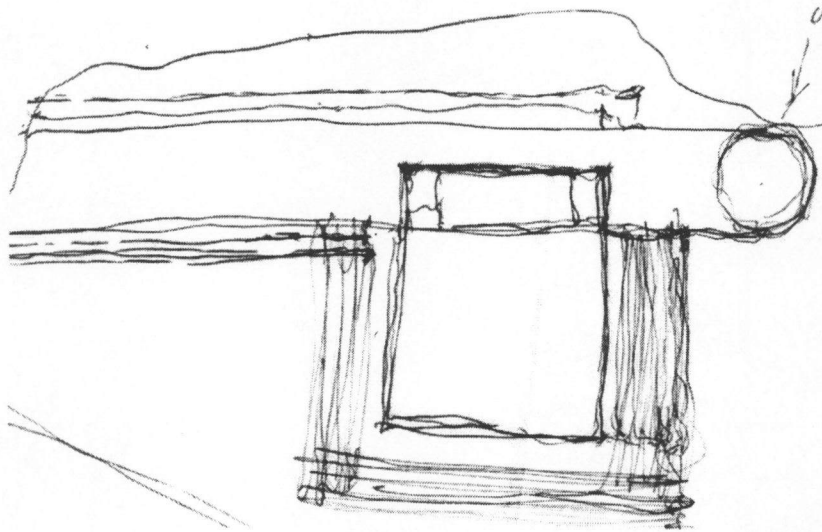


Fig. 4.11: A second sketch demonstrating the evolution of the second scheme.
Source: Author.

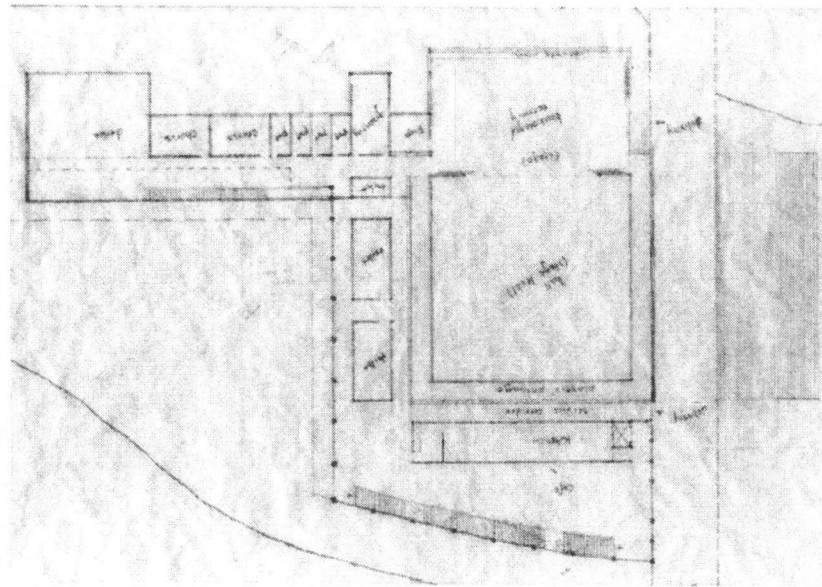


Fig. 4.12: One of the plans developed within the basic organization of the second scheme.
Source: Author.

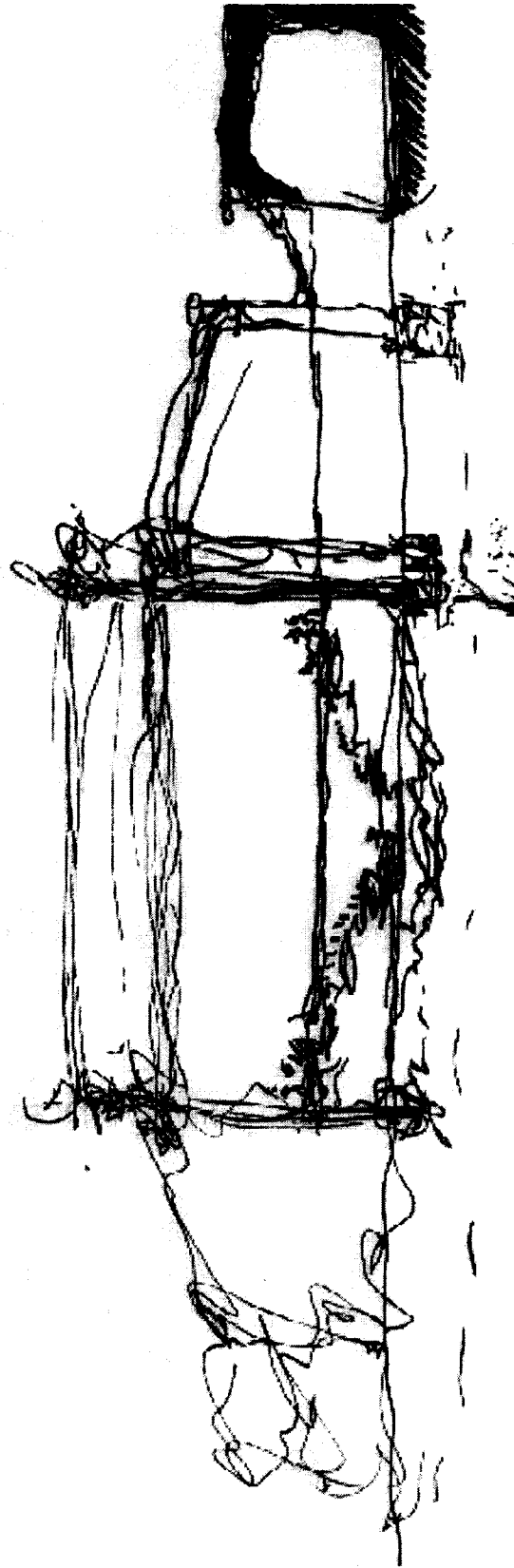


Fig. 4.13: A sectional study from the second scheme.
Source: Author.

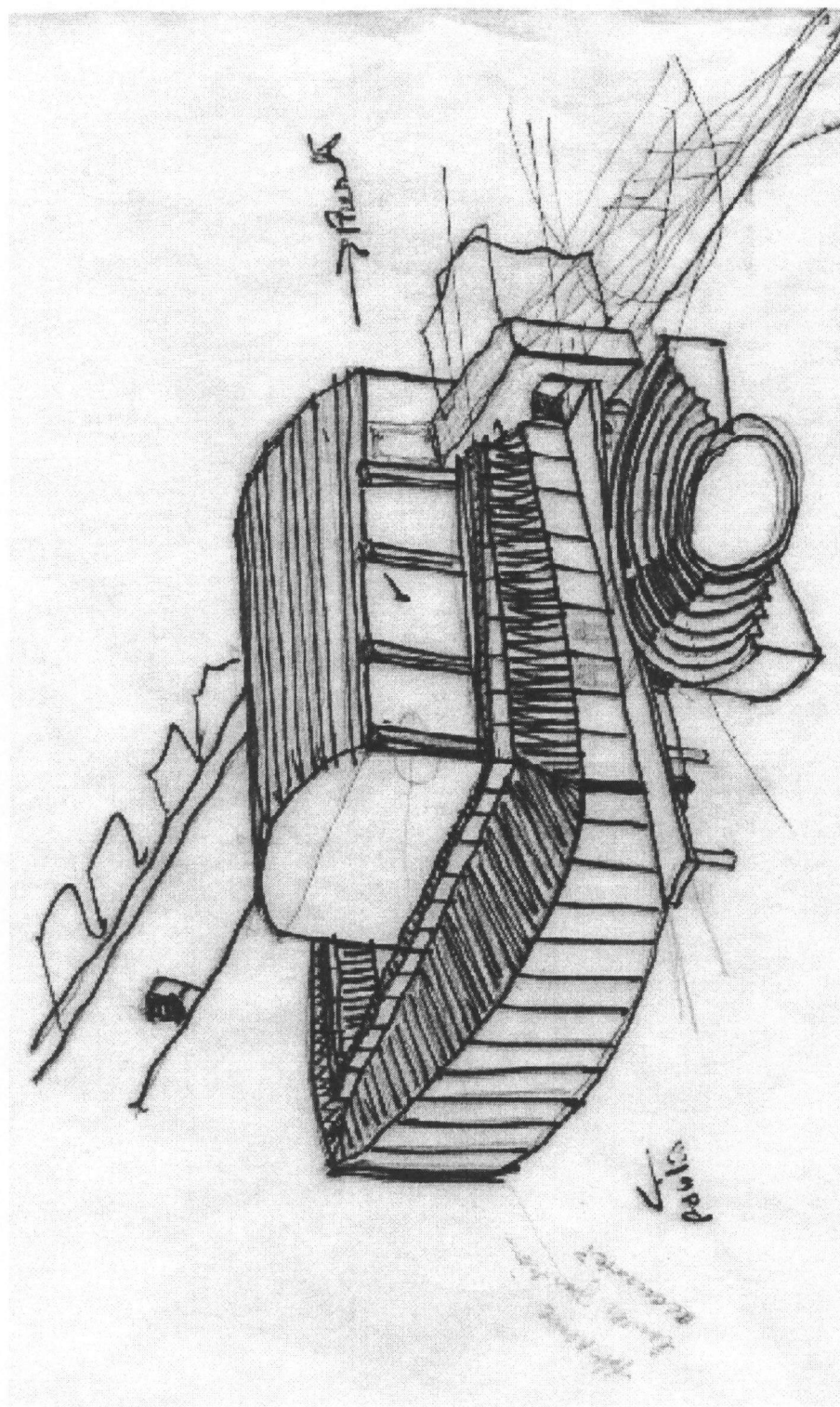


Fig. 4.14: An axonometric sketch of a late variation of the second scheme.
Source: Author.

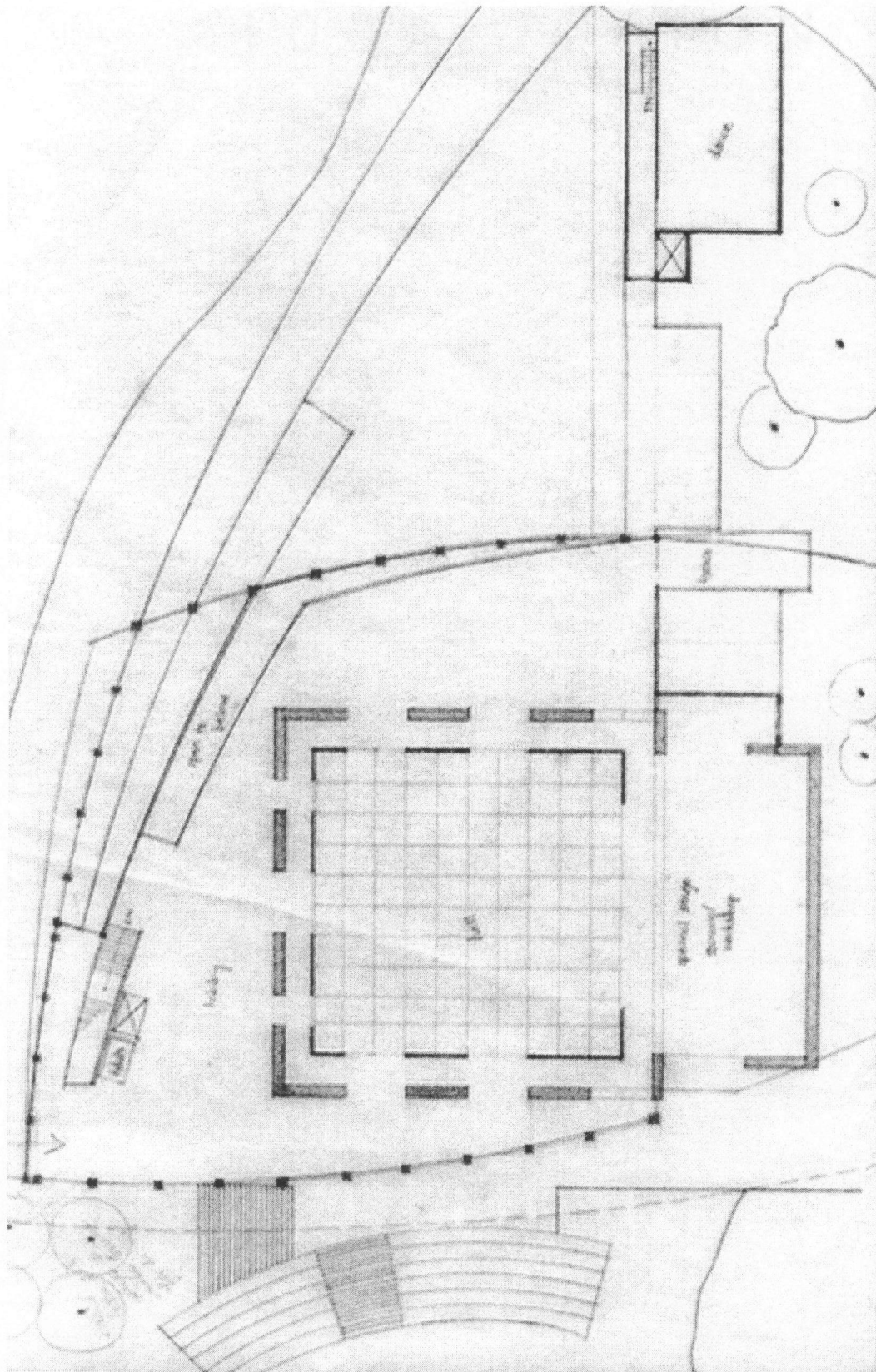


Fig. 4.15: A late variation of the second scheme.
Source: Author.

umns—so that the lobby space is open to the experience of the river, creek, and sheltered courtyard and so that the lobby is visually and physically accessible to the public. The front-of-the-house service spaces are set in the lobby space and begin to cluster around the walls of the auditorium. A stairway is placed against the glass wall on the creek side; it is long, though narrow, and is meant to be a prominent and therefore exceedingly public—but modest—way to move within the building.

Juxtaposed to the irregular form of the lobby space is the classically regular form of the theater auditorium, which takes the proportions of the golden section. The square portion of the rectangle is carefully positioned to the front (creek side) of the backstage support line, while the remainder of the rectangle, which may serve as stage, seating, or scenery assembly, penetrates the line created by the backstage spaces.

This scheme has a number of shortcomings: the series of bridges on the south side is overbearing and difficult to resolve; the service entry requires a floor-to-ceiling height which disregards the human scale; the fore-stage service blocks consume too much space for the mundane nature of their purpose; the main staircase is outside and distracts from the Second Creek pathway; the curved glass wall is awkward among the right angles pervading the rest of the scheme; and the line marking front-of-house from back-of-house spaces is confusing.

However, the variations on this second scheme retain the main ideas inherent in the first set of sketches, and, perhaps more importantly in the development of the project, this scheme suggests the parti for the project which reinforces notions of continuity through constancy and change (Fig.4.16-4.17).

The Parti and the Project

After a lengthy series of refinements, the final project

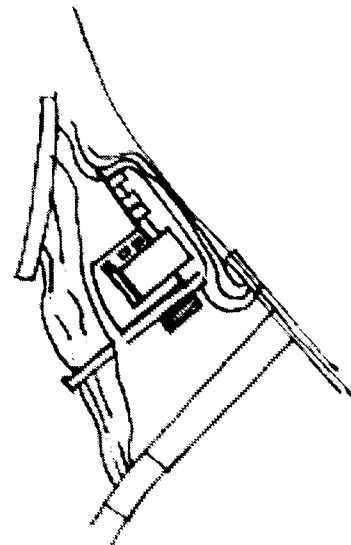


Fig. 4.16: Parti suggested by the second scheme.
Source: Author.

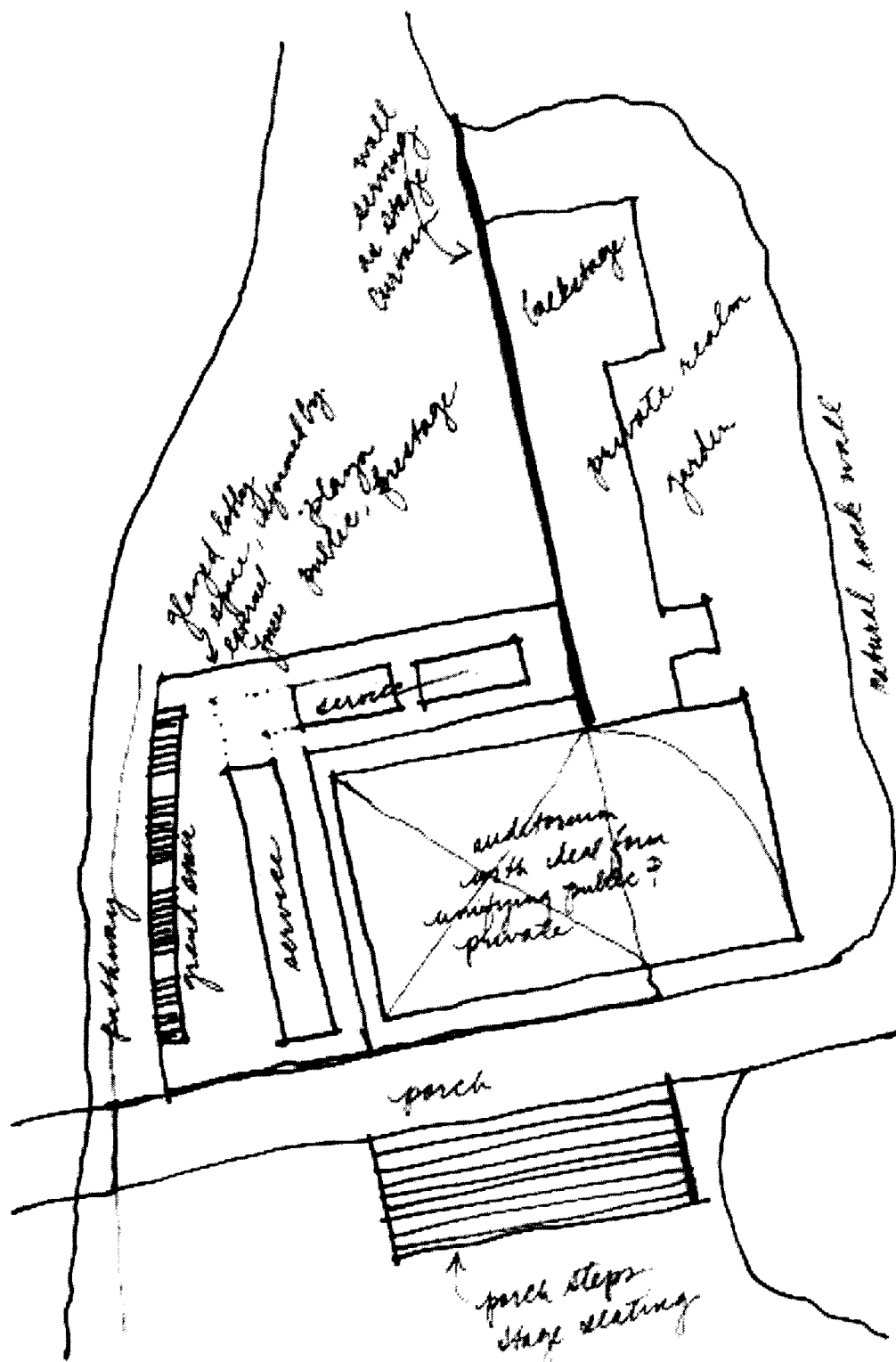


Fig. 4.17: A sketch showing the basic elements of the parti.
Source: Author.

emerges in a form very similar to the parti suggested in the schemes discussed above (Fig. 4.18, 4.21-4.20).

Perhaps the single most important decision revealed in the parti is the line that hugs the rock face wall and defines the front of the house from the back of the house. This line functions as a sort of curtain separating public activity from private activity (Fig. 4.19), and it simultaneously establishes the front of the theater, provides a backdrop for public activity, and serves as a public marker of the boundary between the realm of the campus and the realm of civic activity. This wall is absolutely integral to the conception of spatial organization on the site; thus, it is developed to be a massive, constant element which will outlast other elements of the project.

If not equal to the wall, the form and orientation of the theater auditorium is the second most important decision revealed in the parti. The combination of wall and theater is the sine qua non of the thesis and the project, and all other decisions serve to affirm the statement made by these two. The auditorium is the primary element that unites the space and activities on one side of the wall with the space and activities on the other side of the wall. It is a space designated for group activity and for the development of communion and consensus. As such a space the theater auditorium is given a geometrically ideal (constant) form: the golden section (Fig. 4.20). As mentioned, the purity of this geometry is emphasized by the intersection of the wall with the theater so that the square is implicitly defined on the public side of the wall.

Because of the integral nature the theater auditorium plays in the interconnections of the project, it is necessary to discuss some of the other elements of the project in order to best illuminate the significance of the wall and the theater auditorium. For example, in the final scheme considered in the development of the project, the fore-stage service block is treated as an occupiable wall that

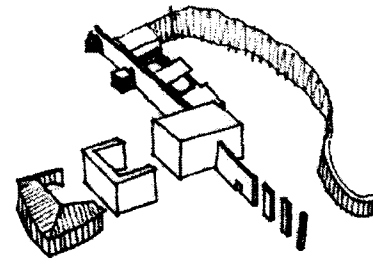


Fig. 4.18: Axonometric parti of the final project.
Source: Author.



Fig. 4.19: Public/Private.
Source: Author.

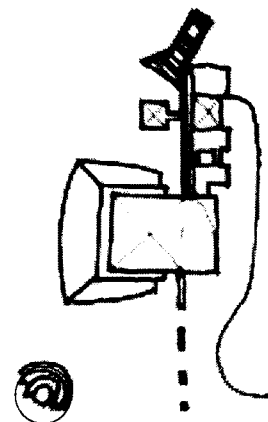


Fig. 4.20: Pure geometries.
Source: Author.

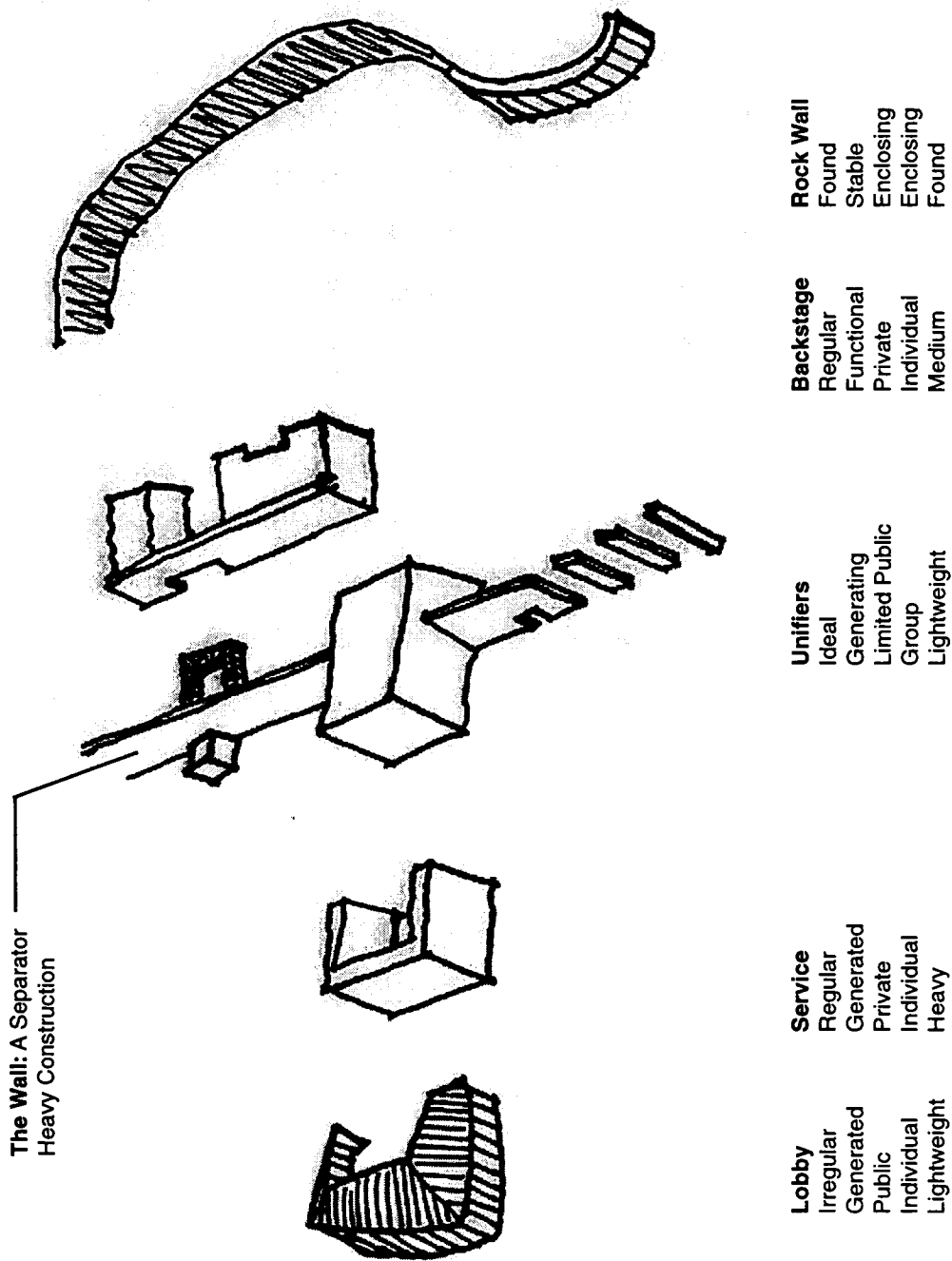


Fig. 4.21: A diagrammatic representation of the final project.
Source: Author.

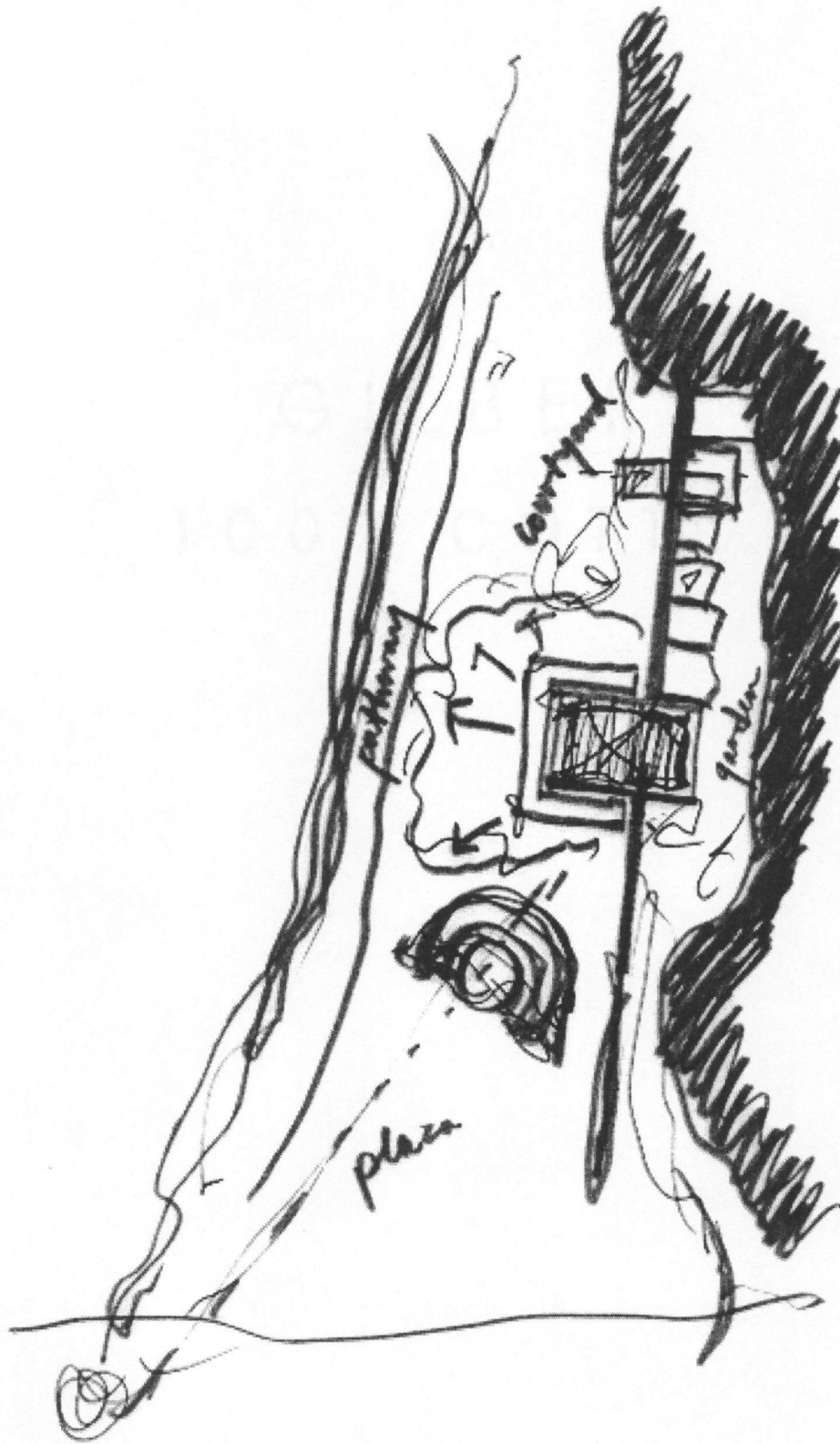


Fig. 4.22: An early diagrammatic sketch of the final parti.
Source: Author.

wraps around the theater block and serves as a filter and transition zone between the lobby and the auditorium. This service block consists of two substantially thick walls which may be considered to define the space of the theater, for within the space referred to as the auditorium virtually every surface can be manipulated to suit the aesthetic needs which the users select for any given performance (Fig. 4.23-4.25). The floor is divided into square panels that move up and down; the same is true of the ceiling. Furthermore, on the bottom two levels of the theater, two different systems of mobile wall panels are used to meet acoustical and circulation needs. However, it is not clear which element—the service block or the theater space—is the defining element and which is the defined element. The service block seems to encase the auditorium space and give it form, but the theater auditorium is the space that reads with pure geometrical form. That is, the form of the auditorium is not sullied by the service block. Thus, one might argue that it is the theater auditorium that dictates the form of the service block, somewhat like the way the hand defines the form of a glove.

This ambiguity is appropriate because one of the primary intentions of the project is to suggest that heavily constructed, long-lived infrastructure (for example, the wall and the service block) may serve to establish a constant framework in which the people of a community may reconsider their ideals, which may be diverse and may change rapidly. The abstract strength of the proportional system is meant to reflect the important and sacred nature of the ideals which a community creates to define the world around it just as the theater block may be said to define the service block; likewise, the physical strength of the service block's walls is meant to emphasize that in a dynamic culture only the notion of ideals and the framework which supports them is static and relatively perma-

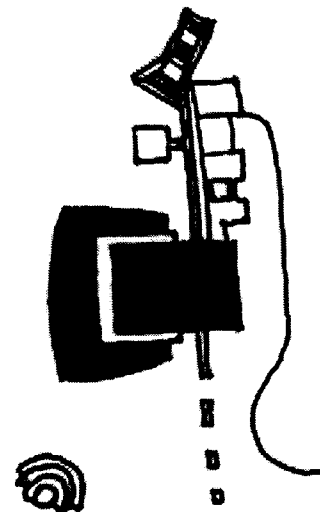


Fig. 4.23: Flexibly constructed elements.

Source: Author.

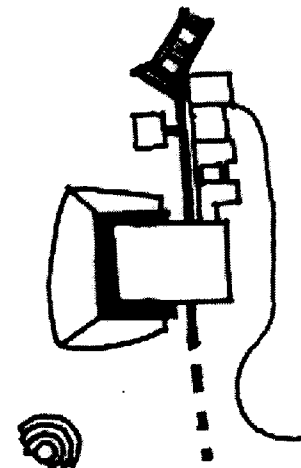


Fig. 4.24: Inflexibly constructed elements.

Source: Author.

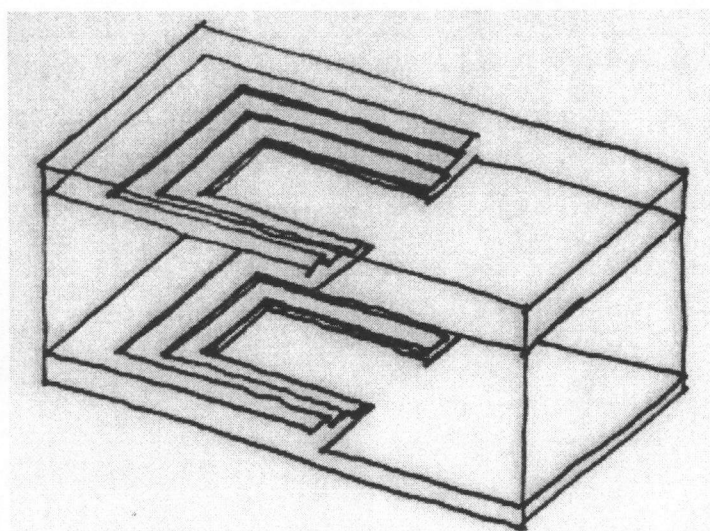
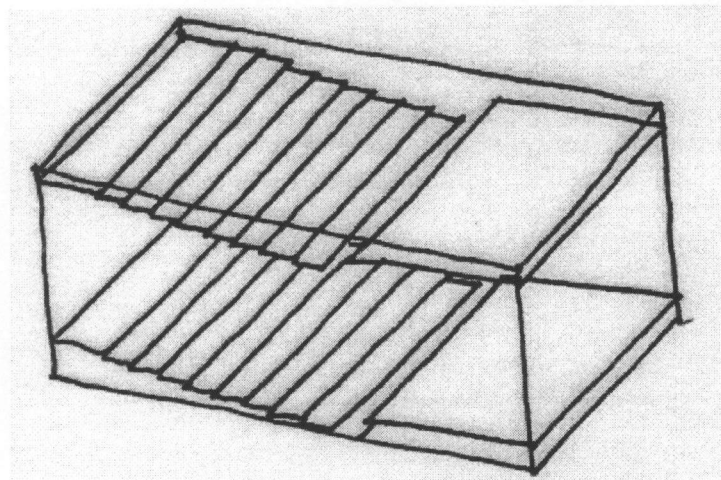
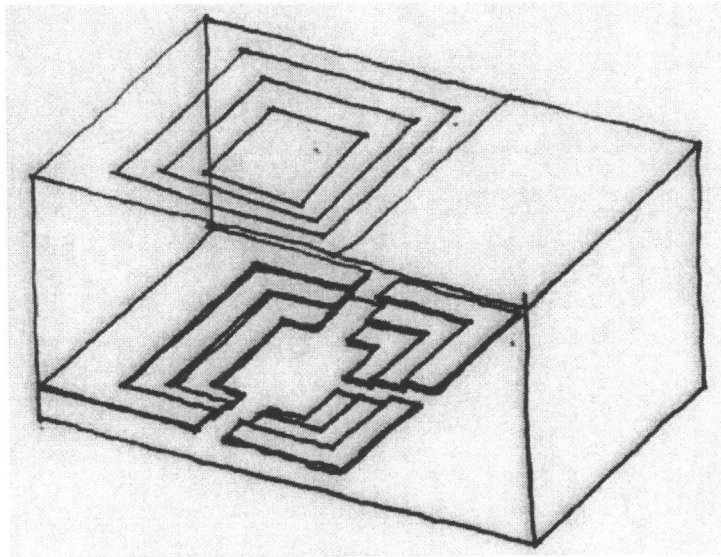


Fig. 4.25: Potential arrangements of auditorium floor and ceiling.
Source: Author.

nent (Fig. 4.29).

The abstract and physical strength established by the wall, the auditorium, and the service block are further defined by the lobby space, which serves as a foil to them. The lobby space is enclosed in the barest way possible in a curving structural glass wall supported by a forest of columns organized to resonate with the trees clustered along the creek bed (Fig. 4.26). On the ground level users may penetrate the envelope almost anywhere on the north or south side of the building, and on the main (second) level the floor extends through the envelope to create a loggia which has doors along its length and is intended to support the notion of a porch on the river.

This arrangement has several implications which support the primary intention directing the design of the lobby, namely that the lobby should relate to the world outside the theater and that the outside world should inform the design of the lobby. The curving walls of the lobby take their cues from the gentle winding of the creek, and they accurately signify that the lobby is informed by an organic, temporal existence rather than by an abstract, atemporal idea. The lightweight nature of the construction emphasizes the temporal nature of the lobby and implies a recognition of change. Furthermore, the generous visual and physical access into the lobby makes that space a very public and democratic one; individuals who wish to use the cafe, view the cultural exhibits, or simply watch others may do so without purchasing a ticket and without interfering in the commercial operation of the theater. Thus, it becomes a public stage, especially at night when lights illuminate the activity behind the glass. This is meant as an architecture of plurality, flexibility, and change. It is the realm of the diverse and dynamic public, of individuals acting as individuals rather than as a group (Fig. 4.27-4.28); as such it houses individuals as mortal creatures. It is an architecture which reflects upon

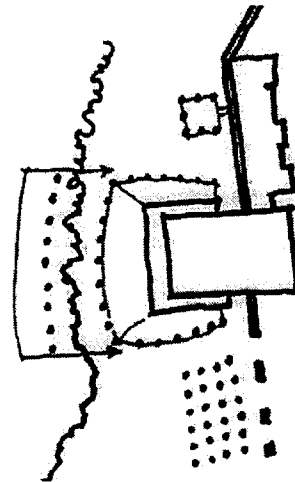


Fig. 4.26: Relationship of columnar elements to trees.

Source: Author.

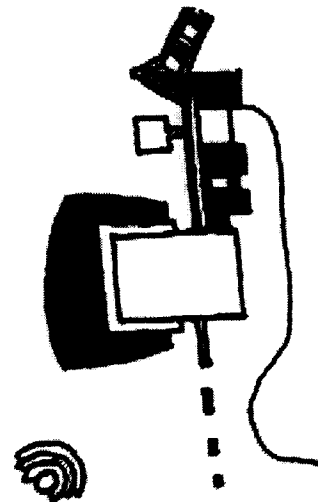


Fig. 4.27: Elements celebrating individual activity.

Source: Author.

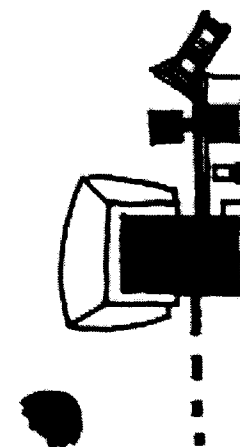


Fig. 4.28: Elements celebrating group activity.

Source: Author.

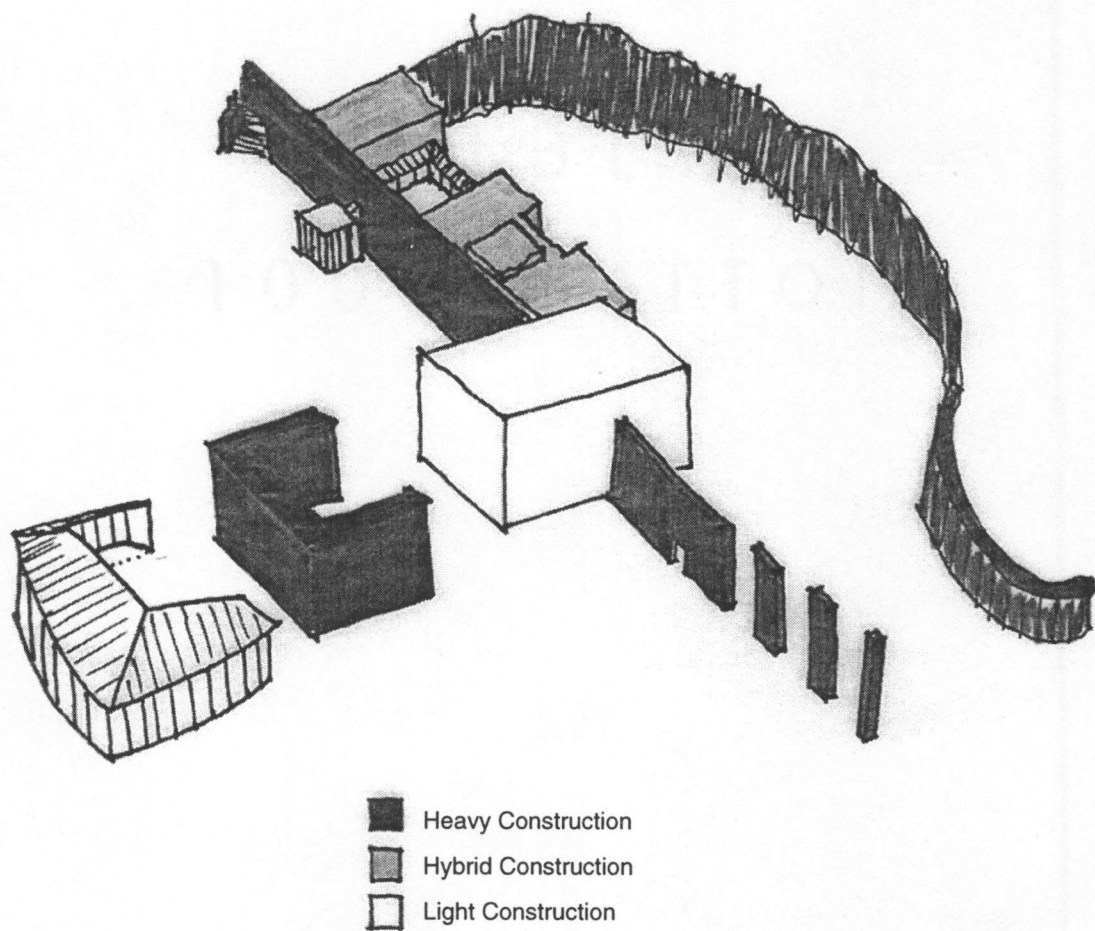


Fig. 4.29: Heavy vs. light construction in the project.
Source: Author.

the relationship of the natural to the built, and it is a portion of the project that each generation might wish to rebuild for itself in order to reflect its changing needs and tastes.

On the creek side of the lobby are two dramatic ways to rise to the main level of the theater: a long ramp and an extended staircase each having massive construction. These two elements celebrate the arrival of individuals to an increasingly group setting (culminating in the theater auditorium), and they help define the important pathways on the site (Fig. 4.30). Furthermore, they serve as transitional devices between the diverse public of the lobby and the unified public of the theater auditorium. The ramp creates a corridor along the creek thus emphasizing the pathway that unifies the cultural arts park; the ramp also emphasizes the main, ceremonial entry into the building which occurs at the intersection of the major pathway along the creek and the secondary pathway of the bridge. The stairway is oriented to support this emphasis of the main entrance; the stairway also causes traffic to converge to a focused stream as it approaches the main entry to the auditorium, which is on the second level and on the auditorium's longitudinal axis.

As stated earlier, the theater auditorium is one of the elements that penetrates the solid curtain that separates the front of the house from the back of the house (Fig. 4.31). This is appropriate because the auditorium is a space in which the individuals engaged in private activity behind stage join with the individuals engaged in public activity in the front of the stage. The other element that penetrates the wall is the slender, axial passage connecting a formal garden/courtyard space (semi-accessible to the public) to the greenroom which sits as a pavilion on the western side of the wall. This is also appropriate, because the greenroom is a space designated for unifying, group activity. In recognition of that fact the

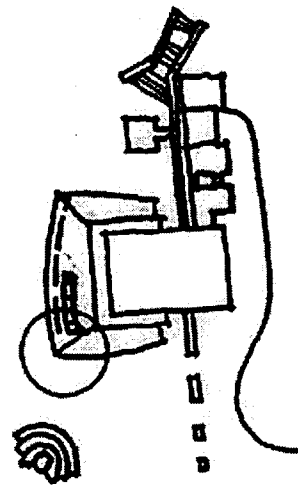


Fig. 4.30: Grand entry.
Source: Author.

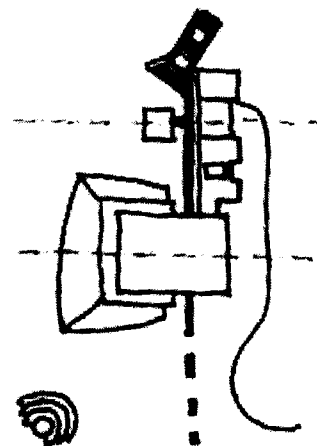


Fig. 4.31: Lines of penetration.
Source: Author.

greenroom takes the pure form of a cube. However, unlike the auditorium, the greenroom supplies its own envelope, which is a more rigid version of the lightweight construction of the lobby. This too is appropriate because, while the function of the greenroom is more formal and organized than that of the lobby, its function is less civic and less serious in nature than that of the auditorium, and although the garden and greenroom combination connects the public and private spaces of the complex, this connection is a lighter and more personal one.

Furthermore, it should be noted that the greenroom falls in a series of elements that speak to the nature of the cultural arts park (Fig. 4.32). A series of lines in the paving pattern echo the rock wall and the built wall and suggest a movement from the river through the site, along the creek. At the south of the site, a grove of trees, spaced according to the pattern established by the lines on the ground, begins at the river's edge, continues across the street, and ends at the south edge of the lobby. The lobby continues in sympathy with the grove from the river and with the trees along the creek by placing its columns so as to become an abstraction of the "forest" which surrounds it. The greenroom is the greatest abstraction in this series and places its columns in rigid deference to its cubic form which sits squarely on the lines of the pavement. Perhaps the series may be interpreted as a connection between the perpetually changing constants of nature (which are most compelling in the river) and the perpetually changing constant of civilization (which, though long-lived compared to a human lifetime, is relatively fleeting compared to the river and the earth).

Finally, or perhaps to begin, the project returns to the Greek theater, the first theater architecture that we know in the West and perhaps the best form for supporting the convergence of human life and ideals which we know as culture. The contours near the confluence of Second

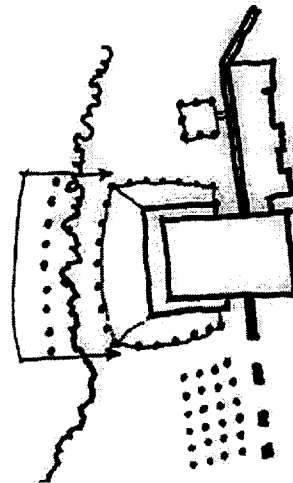


Fig. 4.32: Variations on a forest.
Source: Author.

Creek and the river, at the lower corner of the site, circle to allow a few rows of seating to rest in the land. These circles direct the attention of the individuals who have gathered to a single point at the center of the stage (Fig. 4.33). From that point the gaze of the individual will fall on any number of views—on the creek, on the river, or on the hills beyond it. At the center of the stage, however, or somewhere near it, the disparate individuals join their gazes and, to some extent, find community and constancy in their cultural experience.

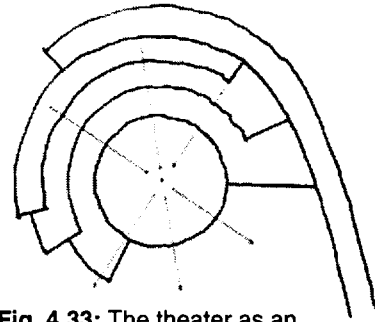


Fig. 4.33: The theater as an element which creates convergence.

Source: Author.

PART V: THE PROJECT

The following (Fig. 5.1-5.8) is a presentation of the drawings of the project. For a verbal explanation of the project, see Part IV.

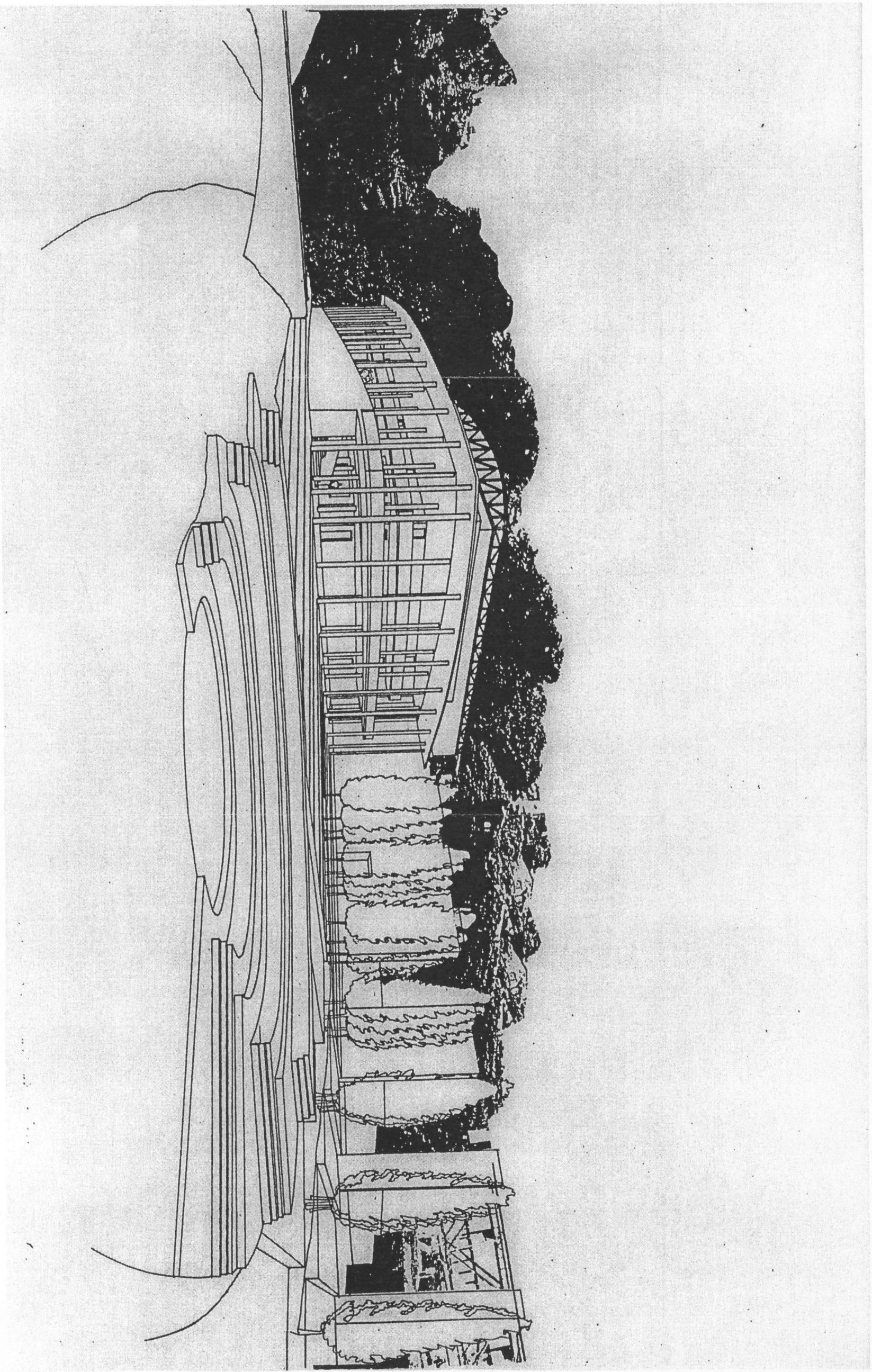


Fig. 5.1: Perspective.
Source: Author.

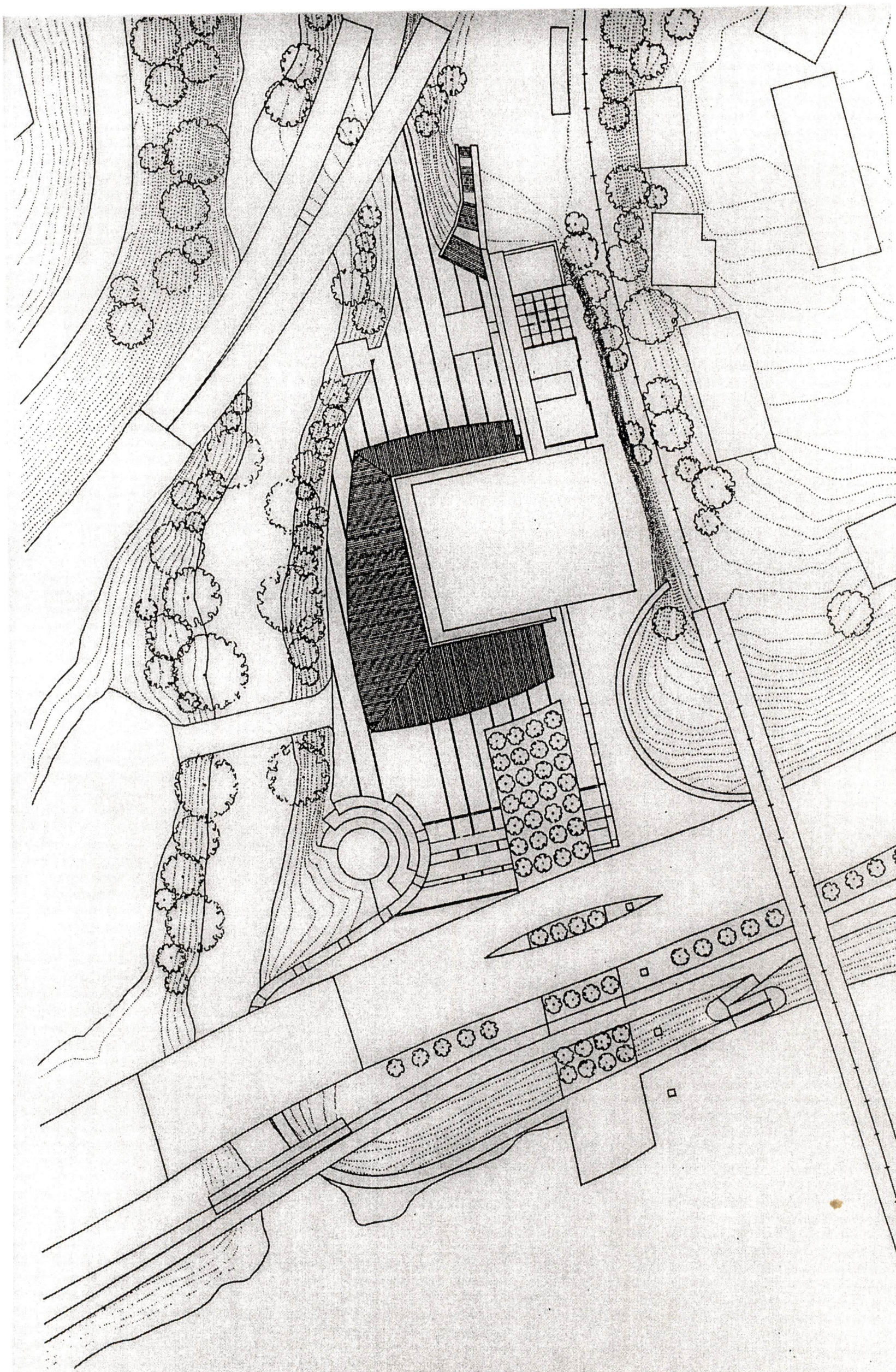


Fig. 5.2: Site plan.
Source: Author.

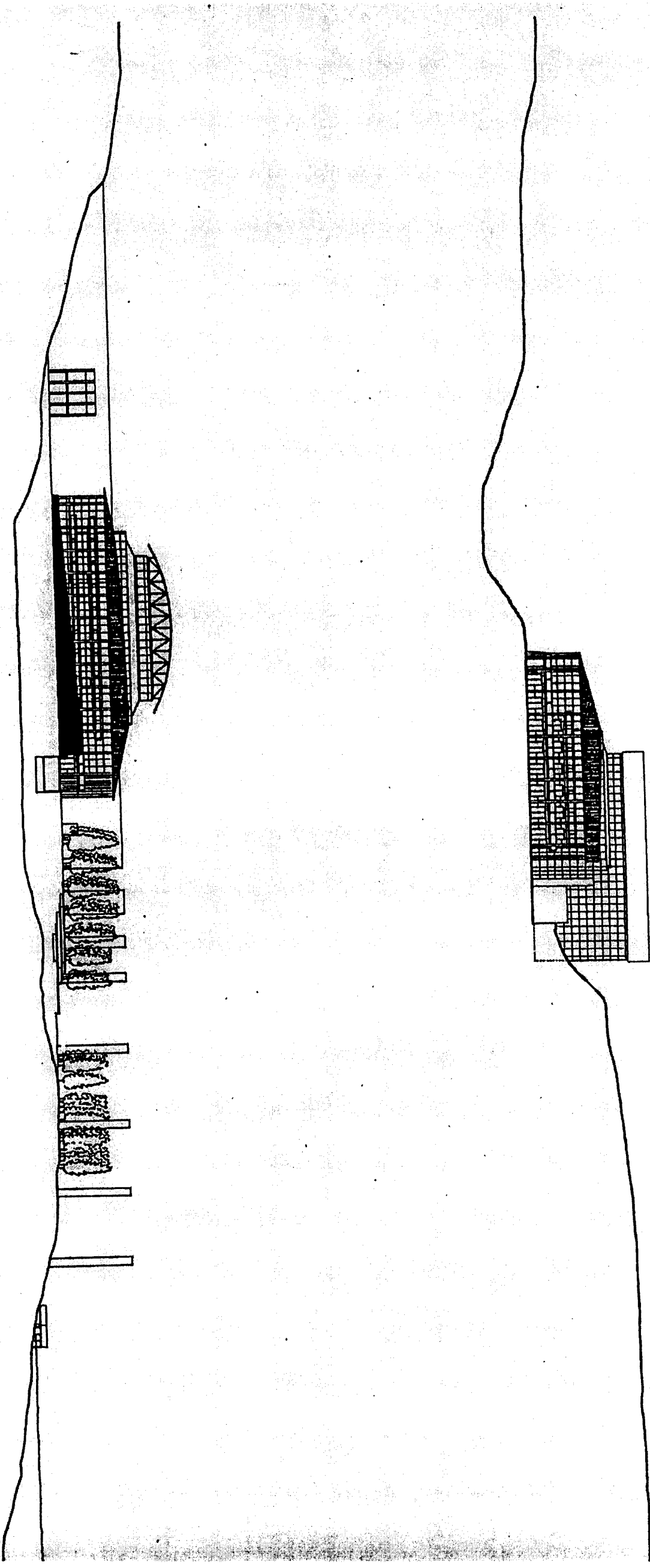


Fig. 5.3: Site sections.
Source: Author.

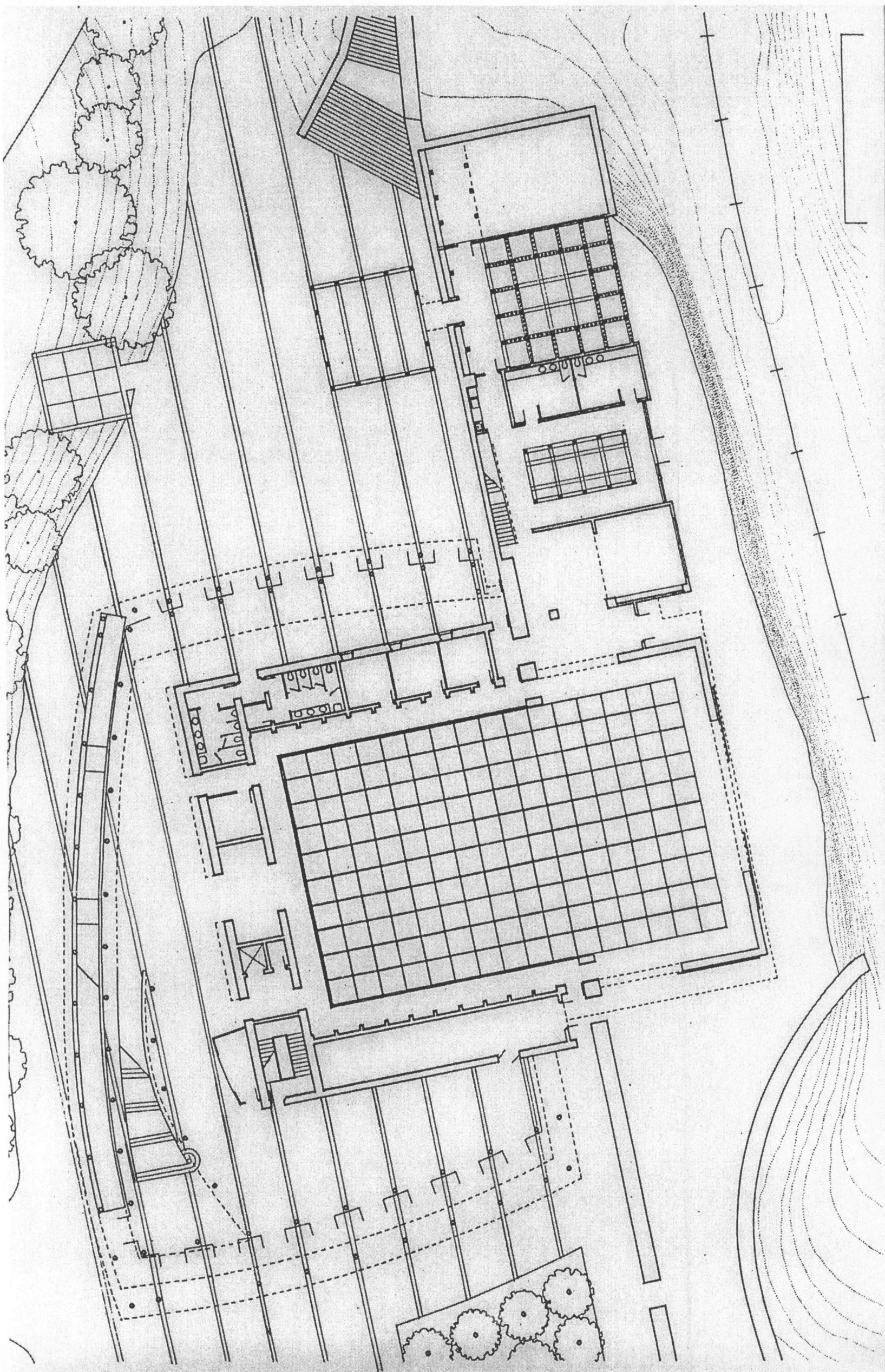


Fig. 5.4: Ground level plan.
Source: Author.

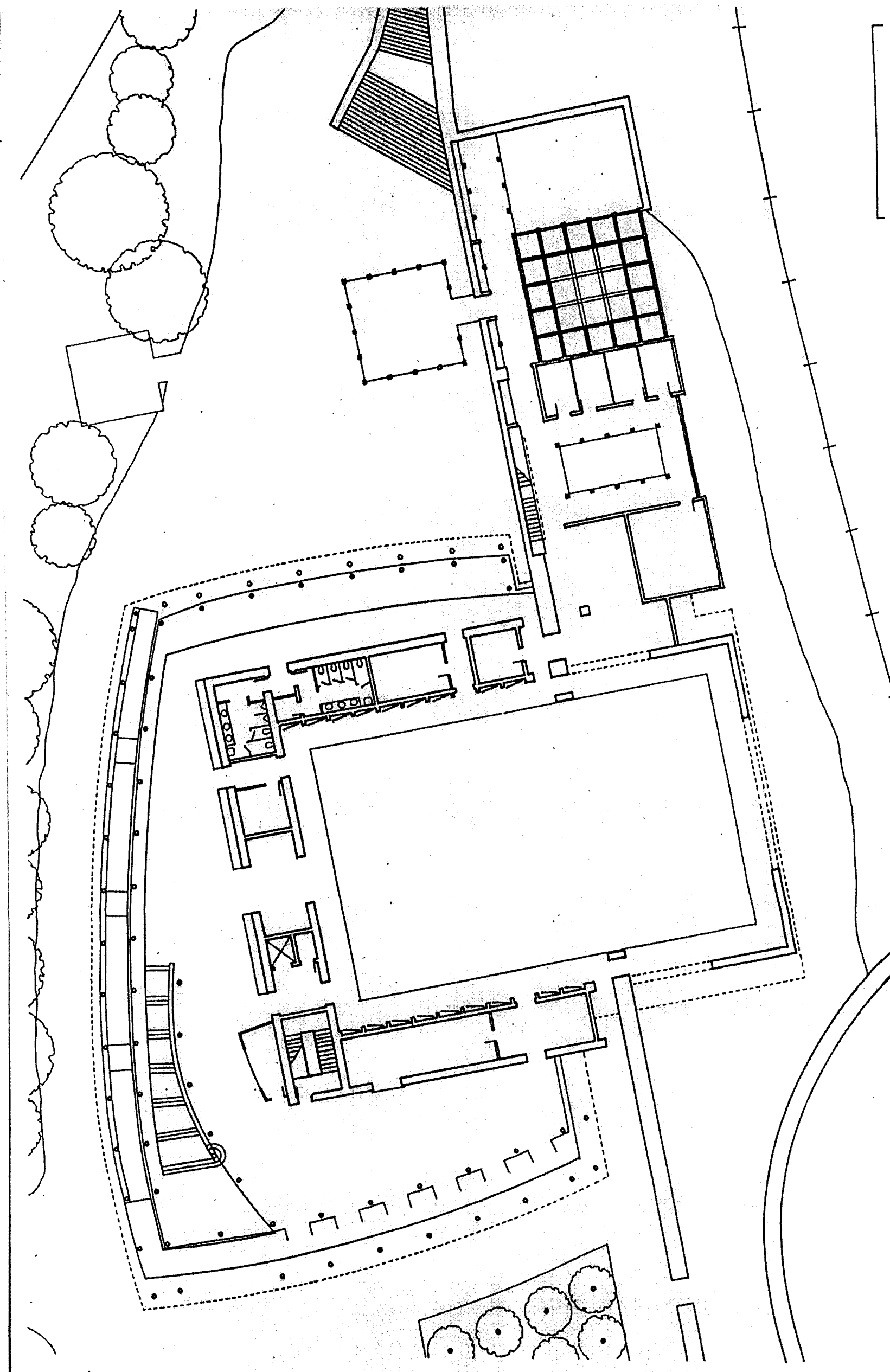


Fig. 5.5: Second level plan.
Source: Author.

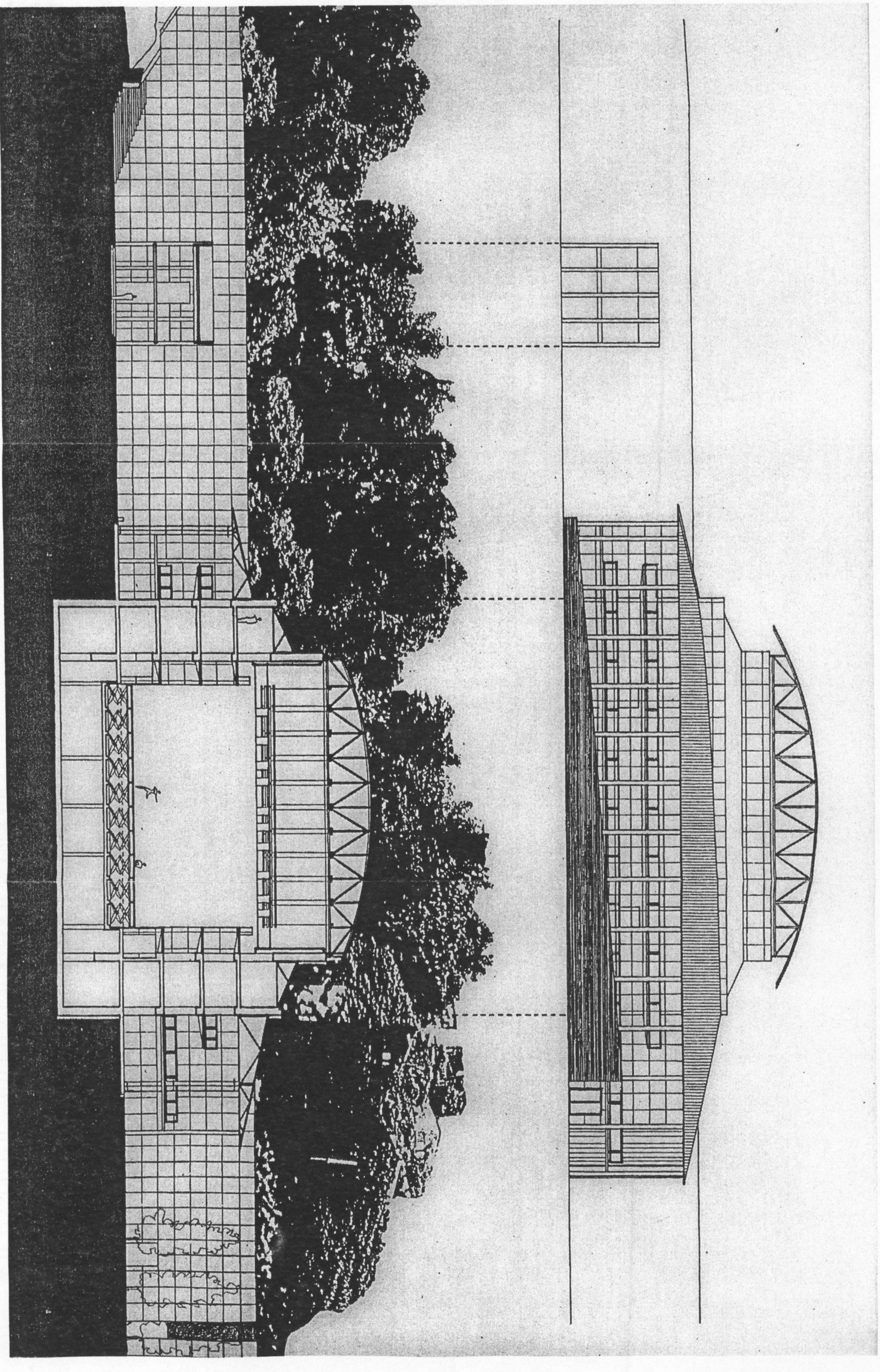


Fig. 5.6: Section and elevation facing creek.
Source: Author.

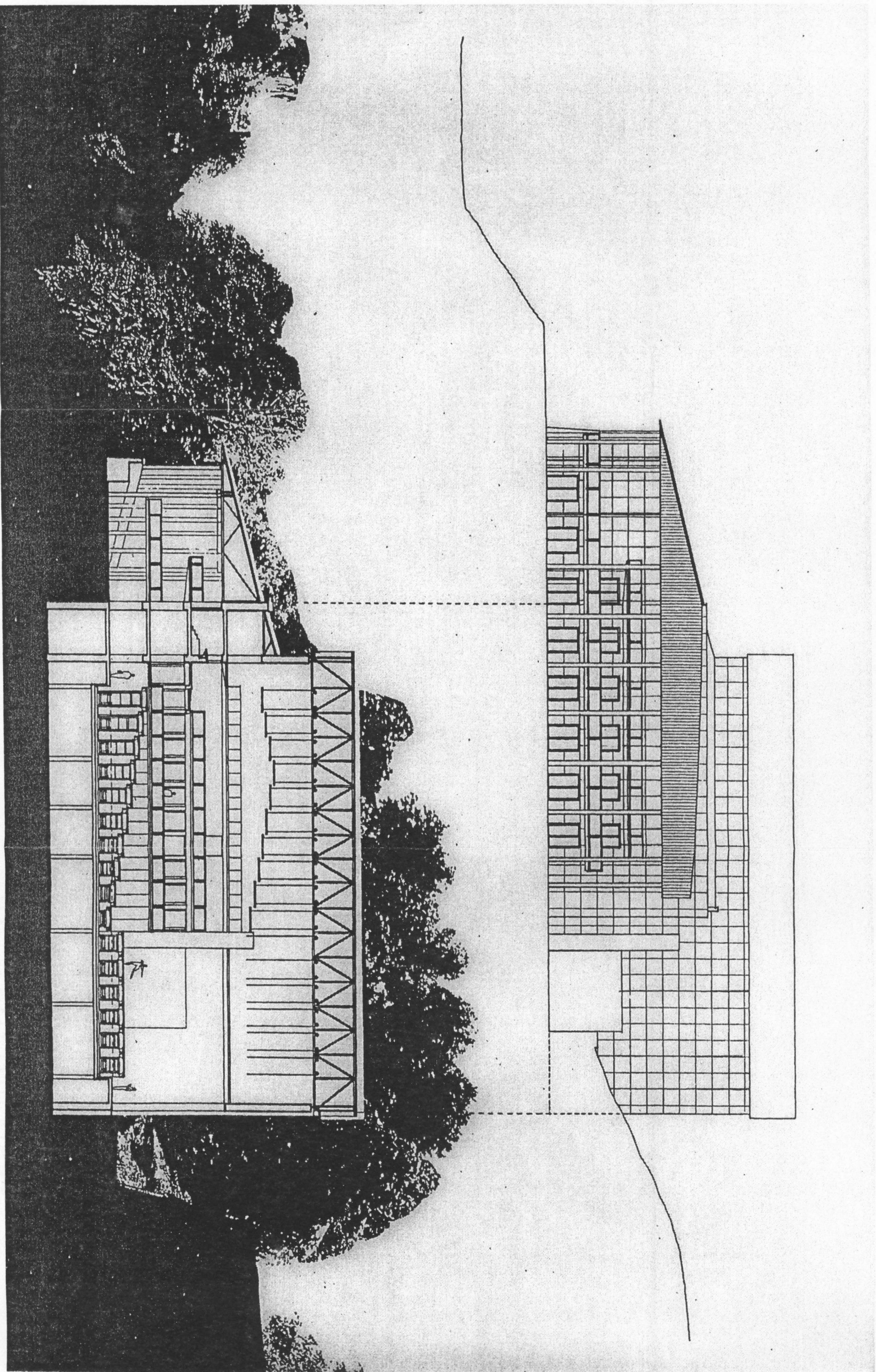


Fig. 5.7: Section and elevation facing river.
Source: Author.

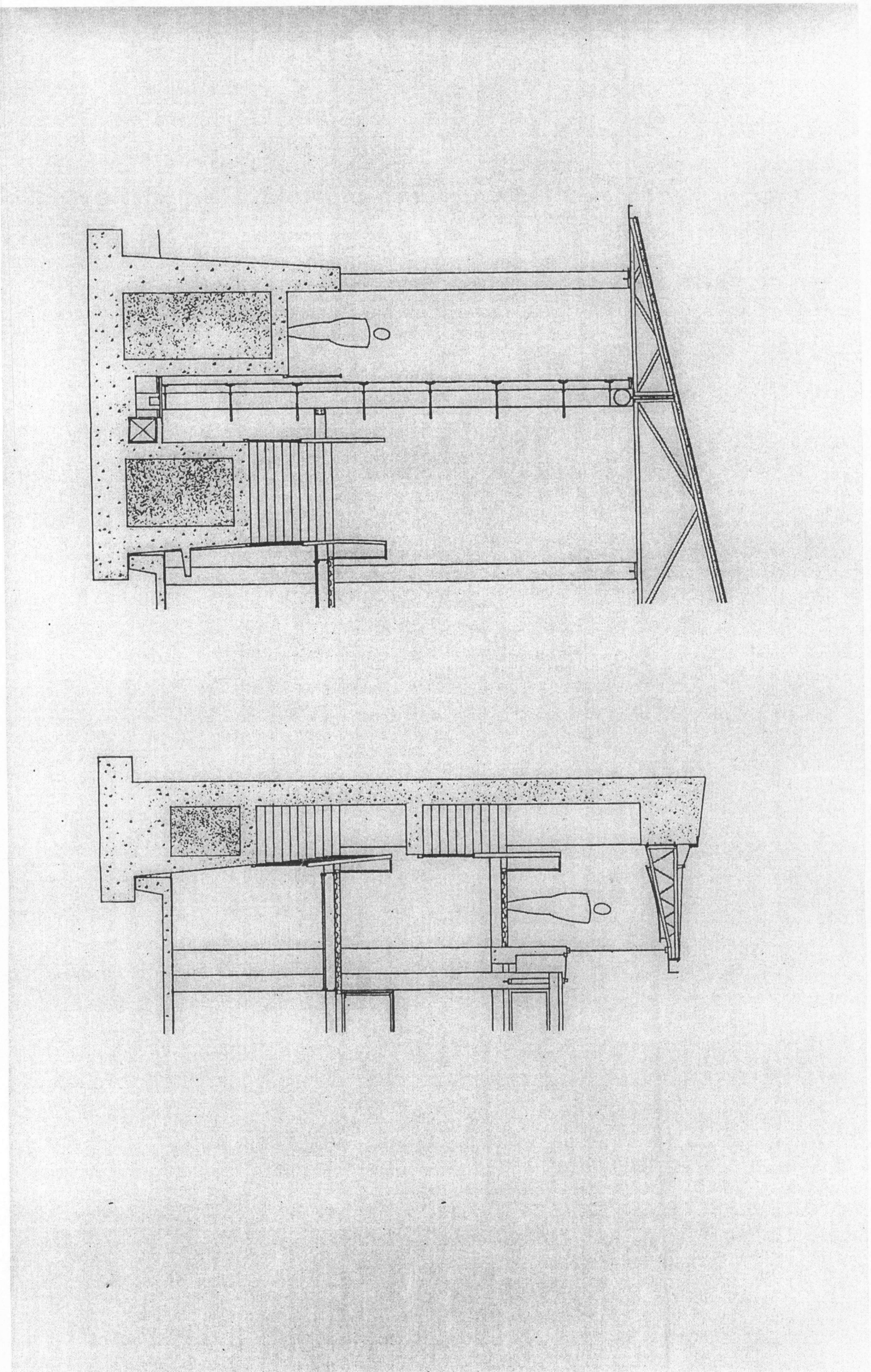


Fig. 5.8: Wall sections.
Source: Author.

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Fig. B.1: Andante in E-flat major.
Source: Beethoven.

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VITA

Jennifer Mauss studied the liberal arts at Maryville College and in 1993 received her Bachelor of Arts degree with a major in English literature and a minor in chemistry. She began graduate studies in literature but missed the diversity of her undergraduate endeavors. Consequently, she began a search for a way to contribute to the culture more broadly. This search led her to take up the study of architecture, which she began formally at the University of Tennessee in 1994. Upon graduating she plans to begin her architectural apprenticeship and hopes to continue her formal education in the humanities within which she aspires to teach as well as design.

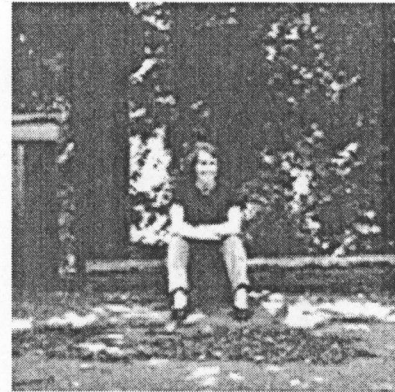


Fig. V.1: Jennifer Mauss sitting in front of Second Creek.

Source: Author.