

A C O M M U N I T Y O F P A R T S

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for the degree of

Master of Architecture

Approved :

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Heiner Schnöat

Frank Weiner

Blacksburg, Virginia February 1994

A C K N O W L E D G E M E N T S

In dedication to my grandmother, _____ our family's first architect.

With all my gratitude to Bill Brown, Heiner Schnödt and Frank Weiner for their wisdom, vision and un-ending support.

A very special thanks to _____, the women who have helped give me the courage and strength to keep all things in perspective.

Thank you _____ for your unyielding love, patience and commitment to helping me see the strength of my work.

To my family, for all of their prayers and love.

C O N T E N T S

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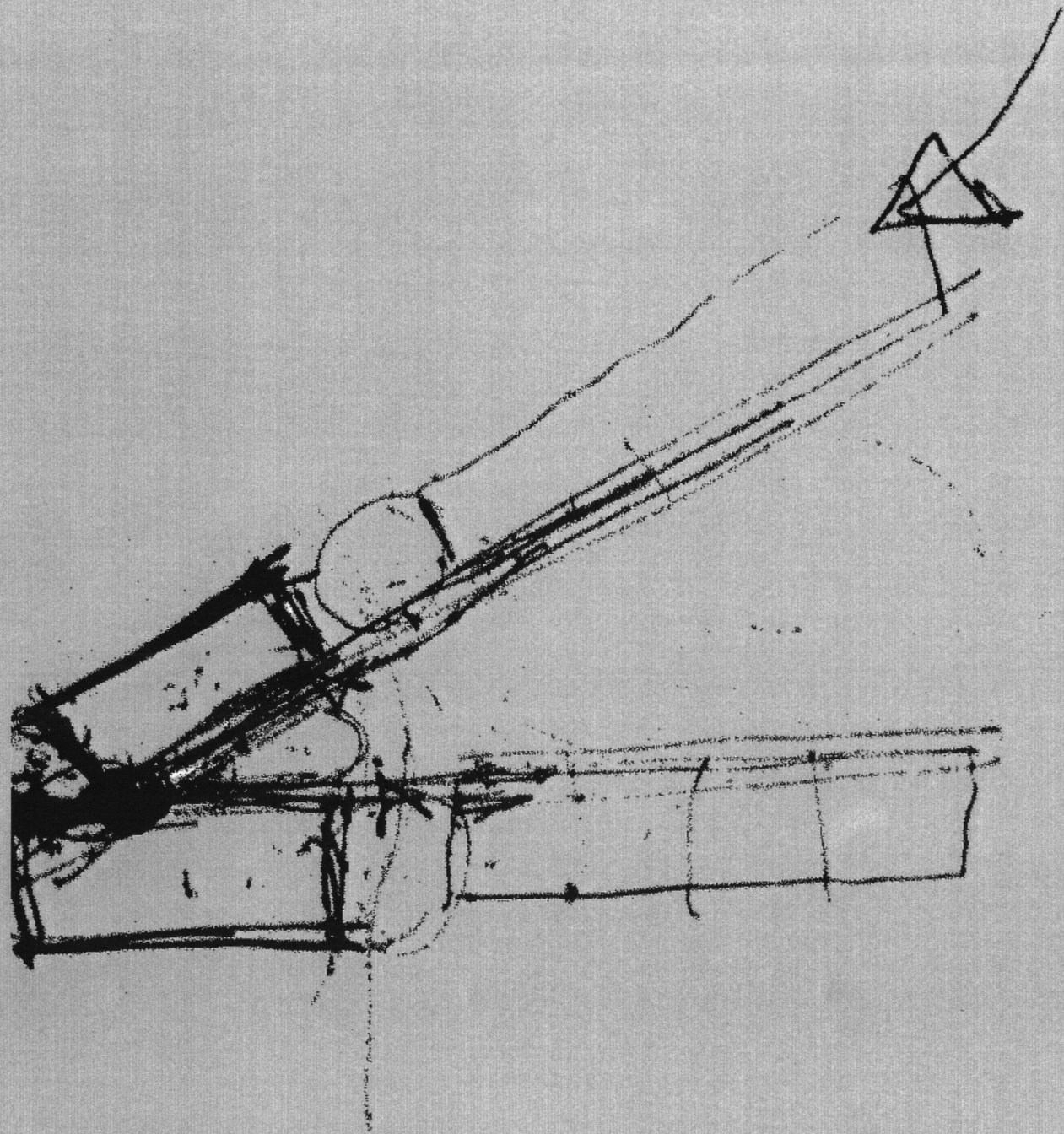
A B S T R A C T

iv

This thesis is about the making of places by proposing a community of parts. My vision is to celebrate individual elements while giving a sense of order and a sense of whole.

Connections are shaped by functional and structural concerns. The pieces form a place where the community of building parts is reflective of the community of school.

The search for an architecture whose order is not dominated by simplistic hierarchy, but through the act of layering spaces and the repetition of structure, has been my greatest challenge. I believe a building with structural harmony will help bring a sense of balance to those who use it.



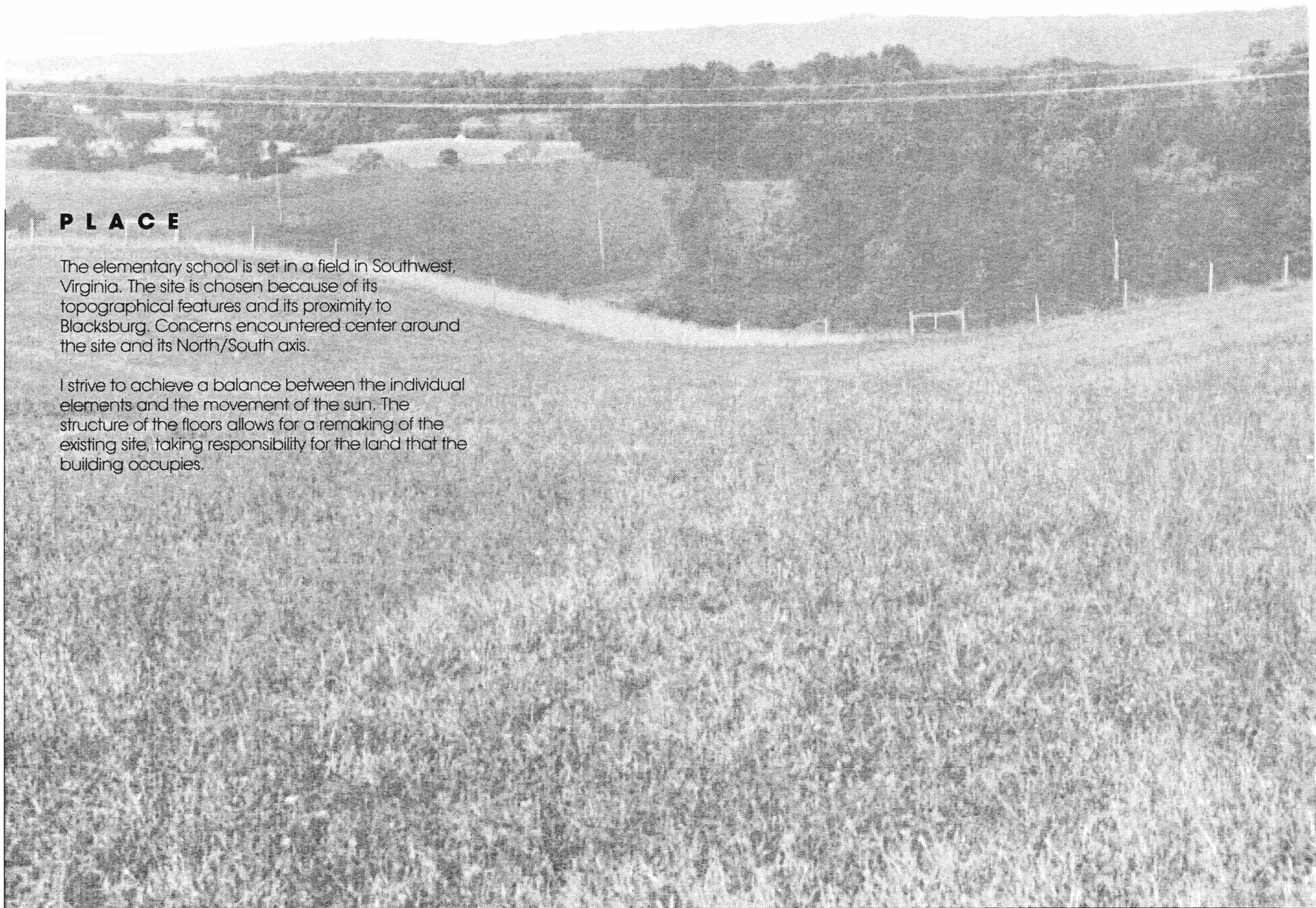
" Start with this; make a welcome of each door and a countenance of each window. Make of each place, a bunch of places of each house and each city, for a house is a tiny city, a city a huge house. Get closer to the shifting centre of human reality and build its counter form -for each man and all men, since they no longer do it themselves."

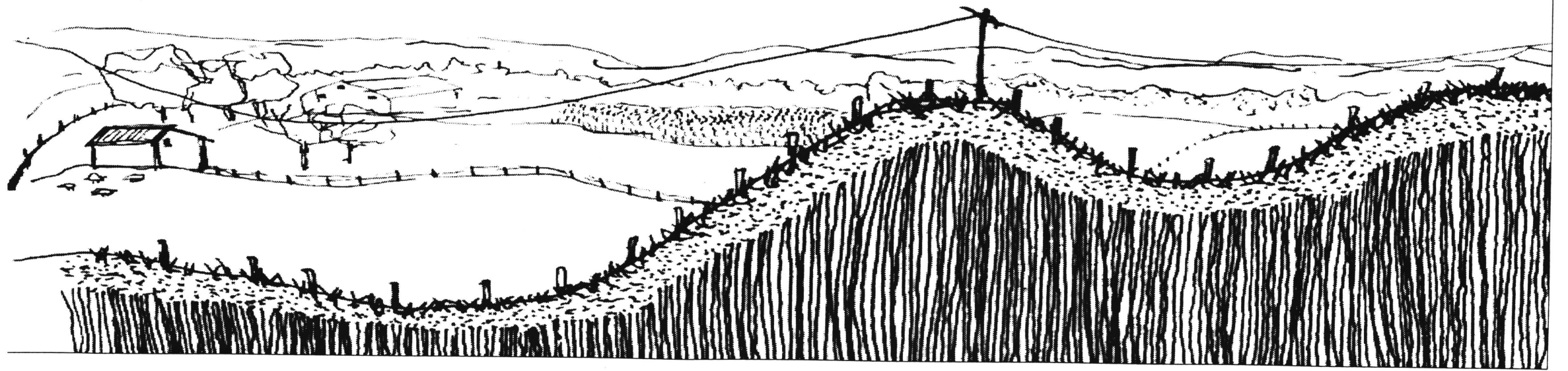
Aldo van Eyck, 1962

PLACE

The elementary school is set in a field in Southwest, Virginia. The site is chosen because of its topographical features and its proximity to Blacksburg. Concerns encountered center around the site and its North/South axis.

I strive to achieve a balance between the individual elements and the movement of the sun. The structure of the floors allows for a remaking of the existing site, taking responsibility for the land that the building occupies.

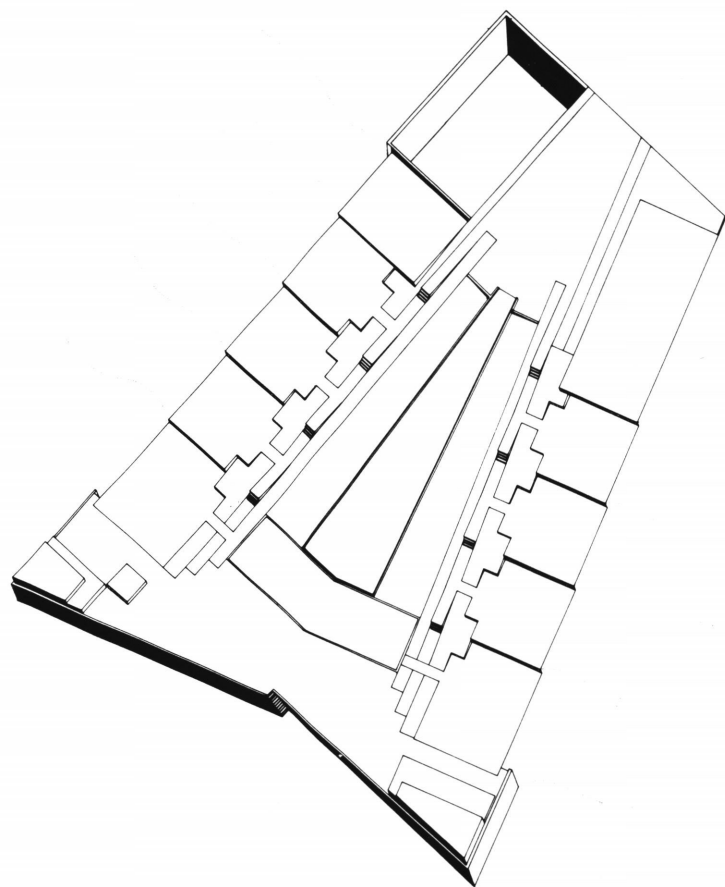
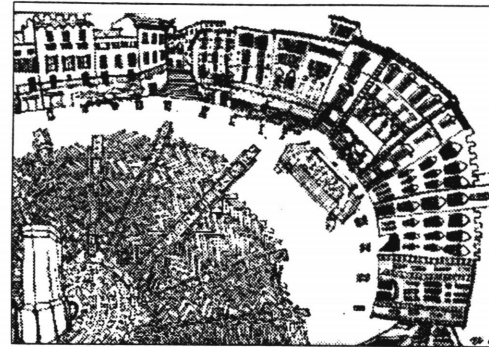
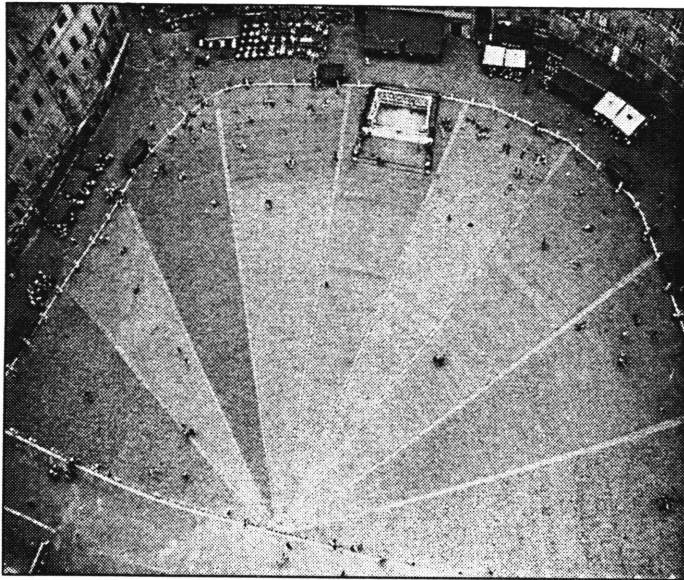




5 THE PARTS

"When the parts are lost, the whole is lost."

Aristotle



Floor Axonometric

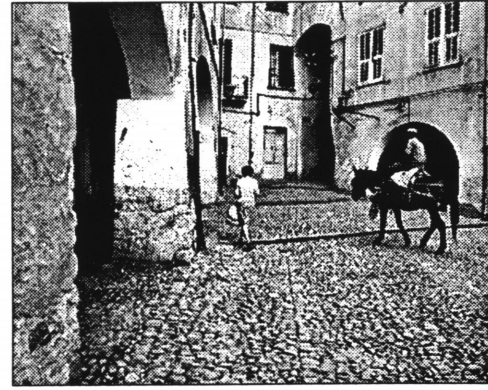
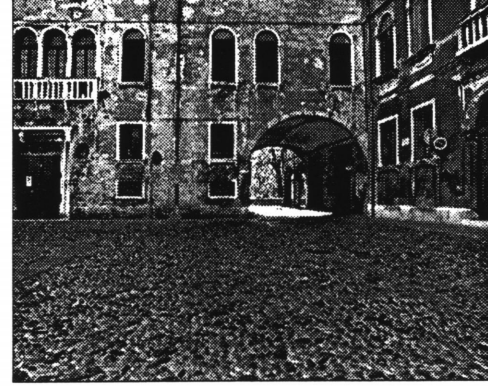
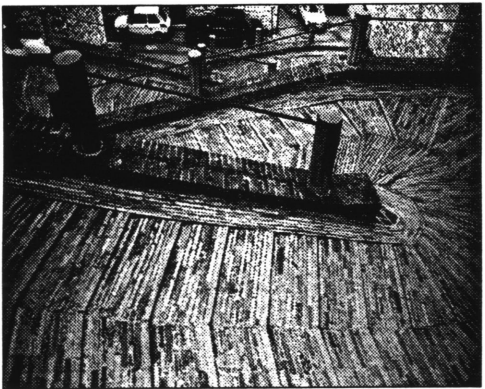
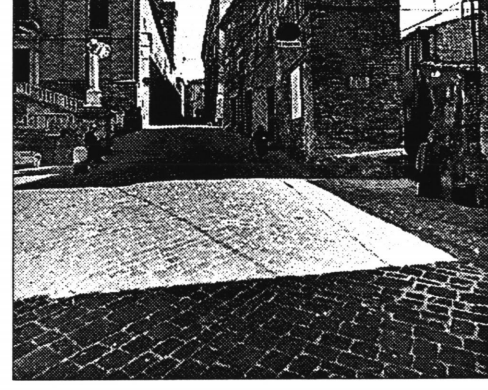
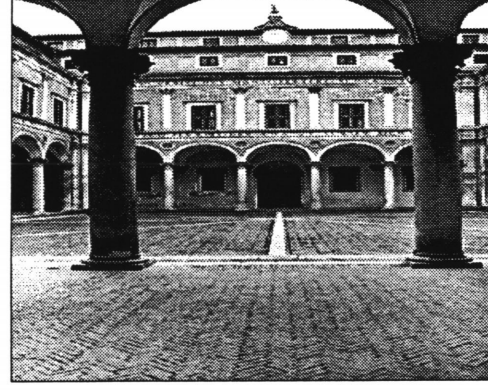
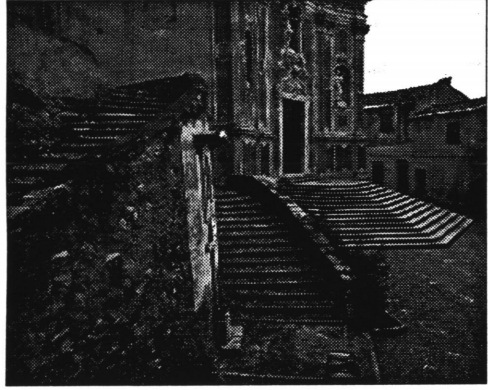
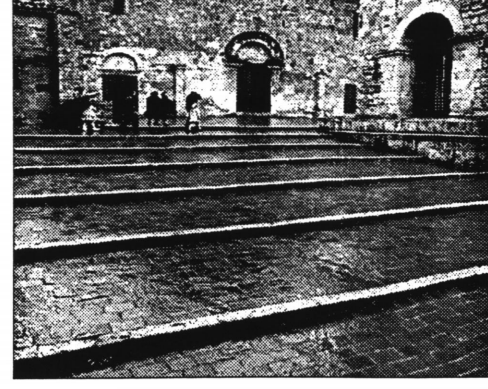
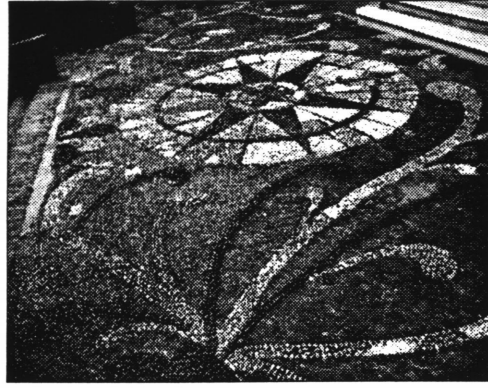
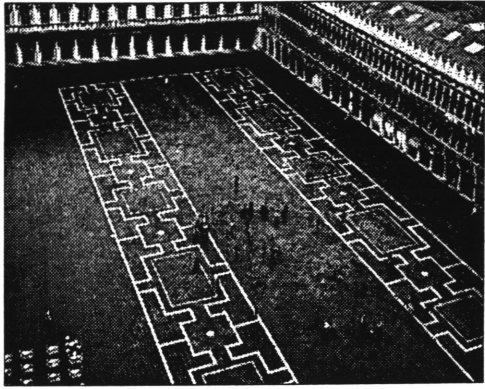
F L O O R

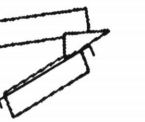
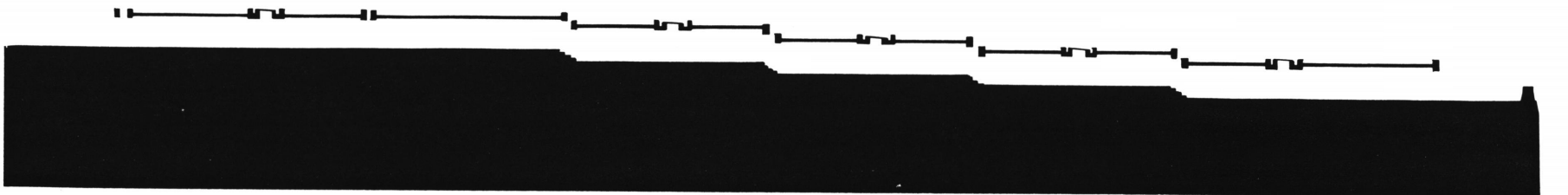
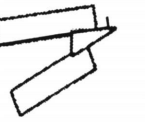
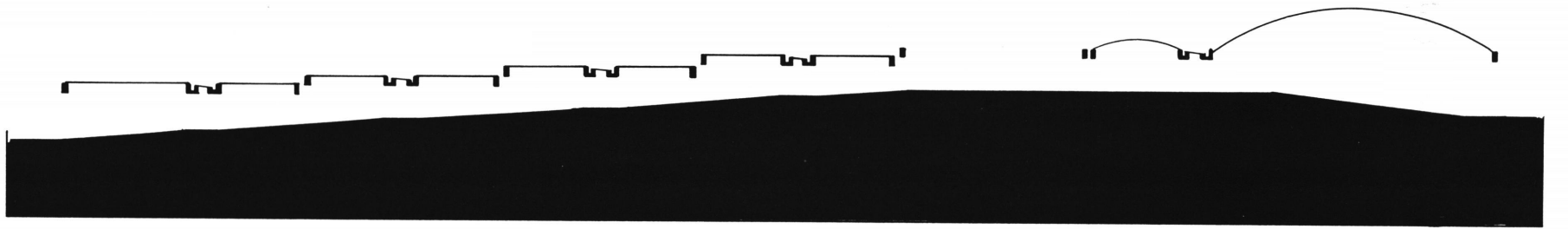
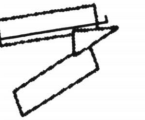
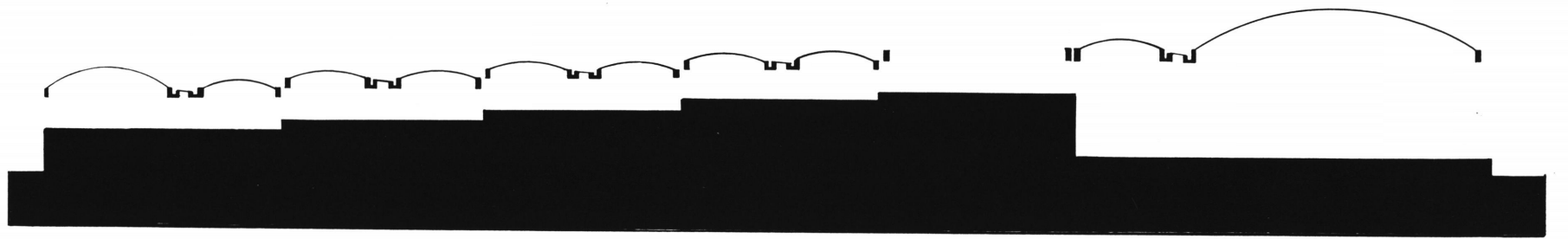
What does the floor mean to the landscape? Should the floor mimic the movement of the land? In this project the floor is an interpretation of the site. I wanted to find a harmony between the building and the surrounding landscape. The interior floors are constructed of concrete, the courtyard of grass and paving blocks. The floors follow the slope of the site, leveling out to allow one to enter the first layer of the building, an exterior walkway, then to enter the interior hall.

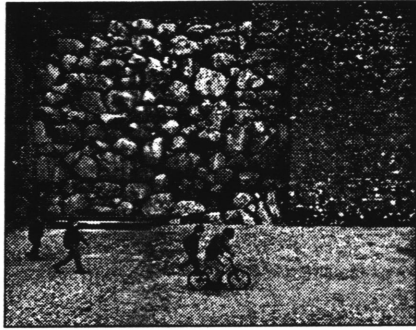
The exterior walkway runs parallel to the interior hall. The walkway is flat and covered and changes levels at each pair of classrooms. This shift is articulated by four steps which are open to the sky. This allows the sun and rain to enter and gives a view of the preceding vault. The exterior hall is closed on one side by the building and open to the courtyard on the other.

The interior hall floor slopes to accommodate the shifting of the grade. This allows for a freedom of movement through the hall which widens, narrows, and passes underneath the skylight.

The exterior floor (courtyard), separates one row of classrooms from the other. Trees and low walls provide places to sit and play. The trees are placed in rows along the hill with a single tree at each entrance. The majority of the trees are on the south side of the courtyard providing a barrier from the sun. Each end of the courtyard is bricked. These are the floors a child encounters when getting off the school bus and when playing at the base of the courtyard.







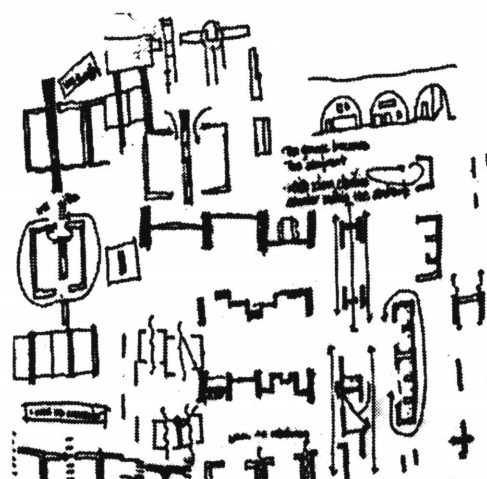
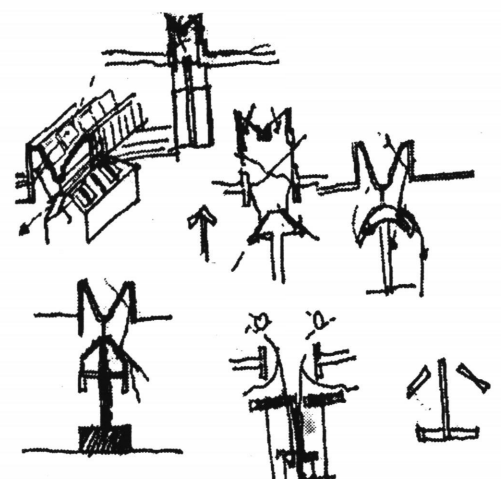
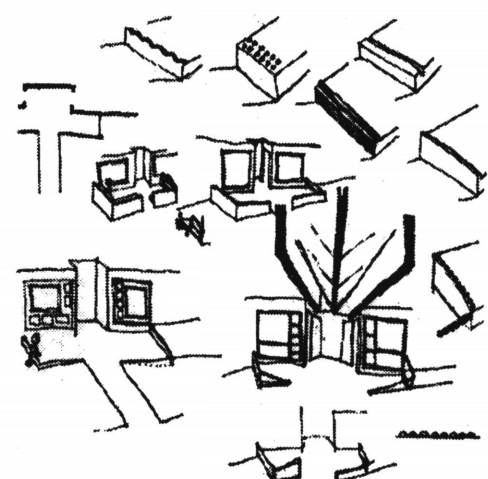
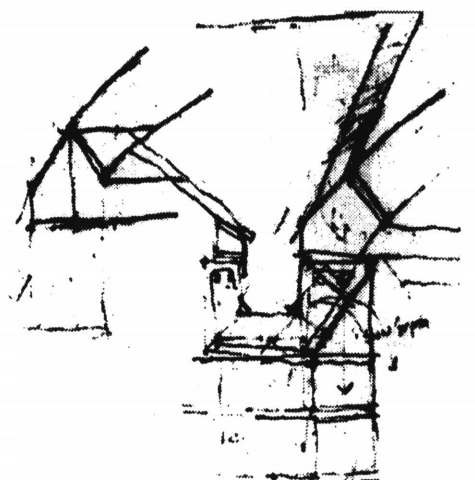
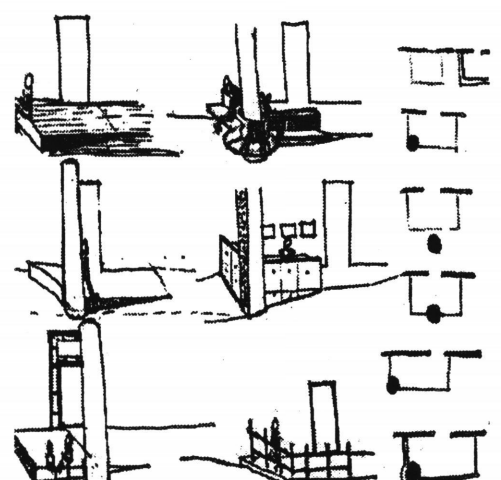
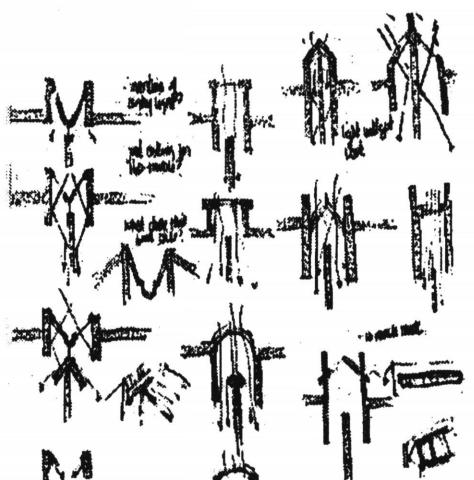
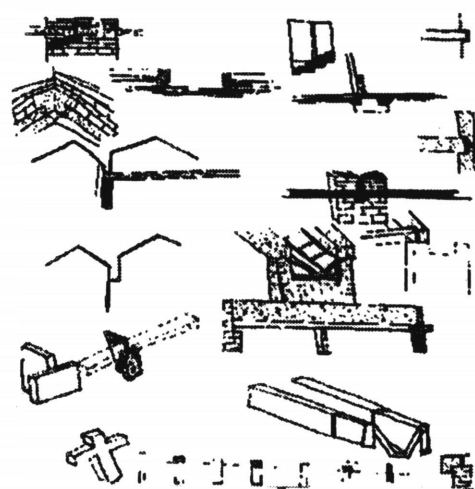
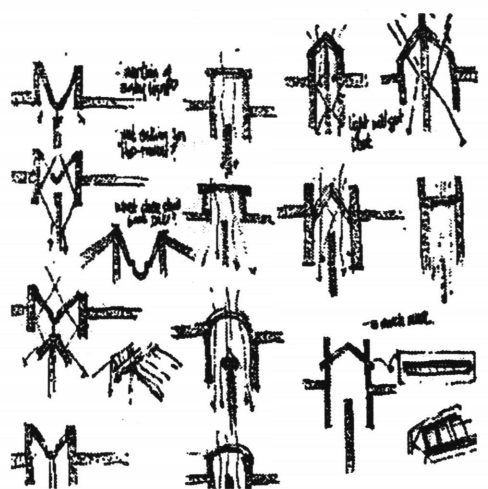
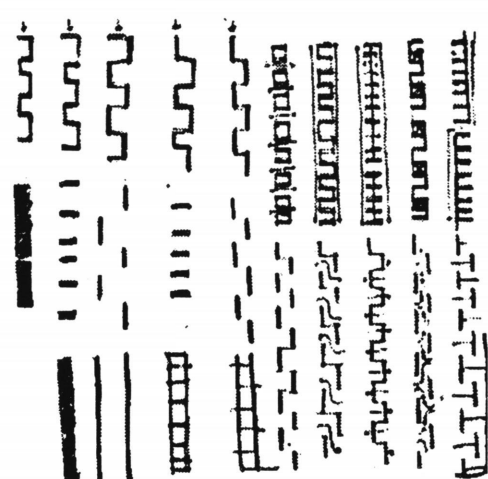
W A L L

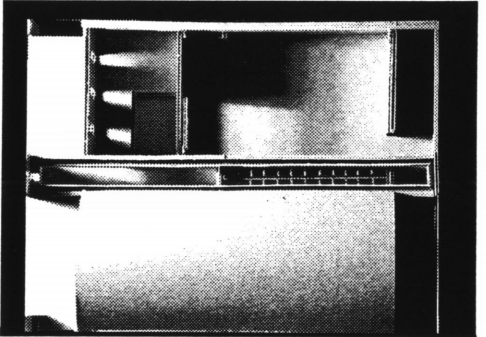
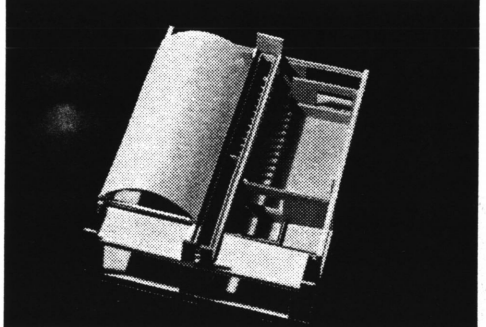
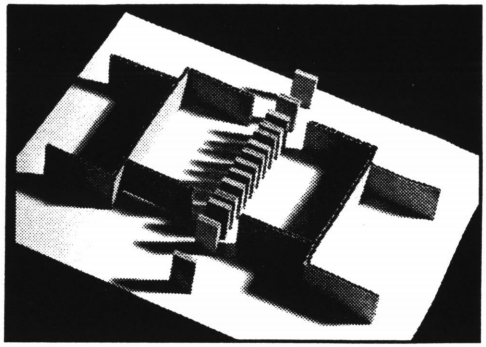
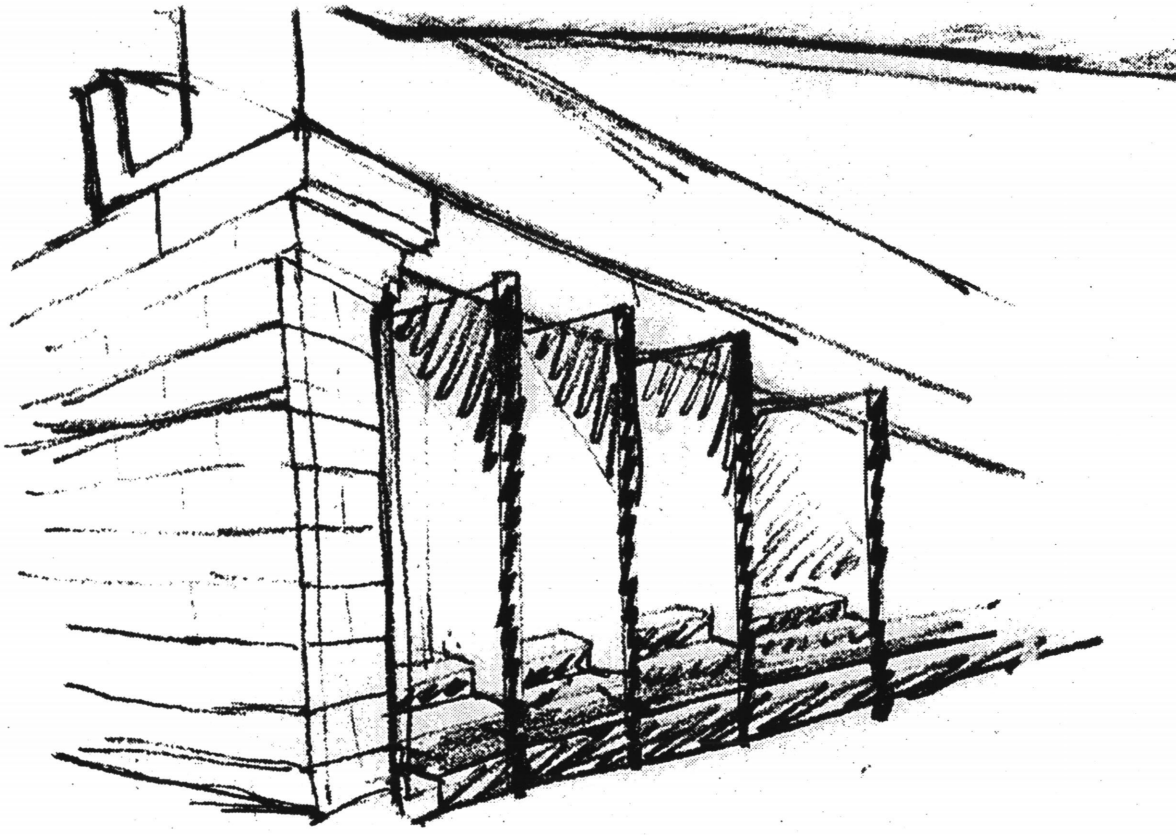
The wall in this project is a symbolic entity. With the advances of technology, the wall no longer structurally needs to be heavy or thick. Yet there is still a desire for solidity and permanence. My "wall" is an effort to embody the dual nature of the wall today.

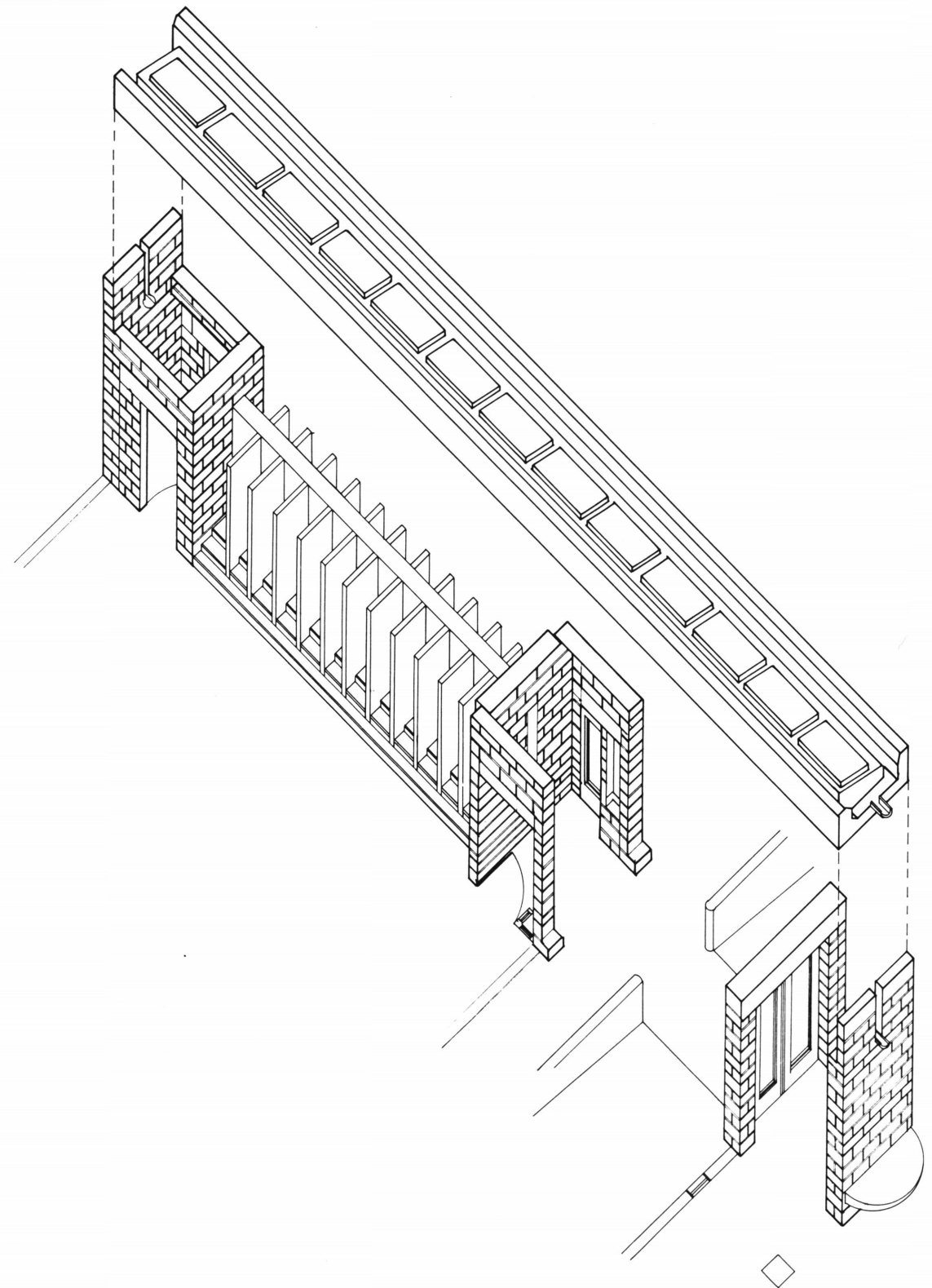
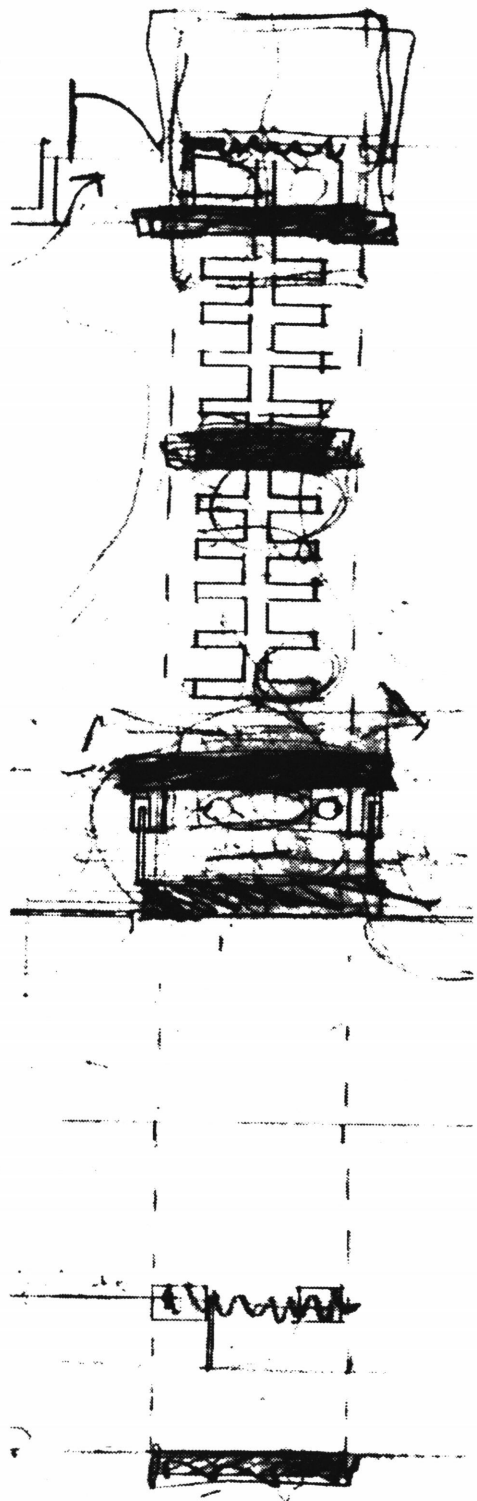
The wall is composed of five thick structural pieces, each built of two layers of 8"x16" block. These structural members allow the space between them to be open. Here, places are made within the wall. A child passes under a skylight as she moves through the wall. The wall divides a pair of classrooms and also allows them to be joined. The wall houses the cubbyholes which physically separate the classrooms and the water closets which are shared by both classrooms. It is not a traditional wall, rather it is an interpretation of one.

Light and water run along the top of the wall. The concrete beams contain gutters, with the inside edge supporting the skylight. The skylight moves above the cubbyholes and continues along the beams into the hallway. The concrete beams span between the five vertical supports and allow the tie beams of the vaulted roof to join the wall.

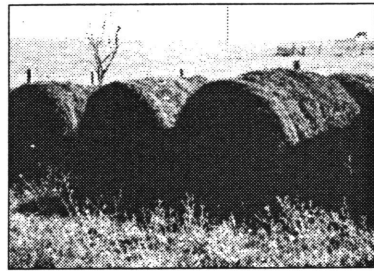








Wall Axonometric

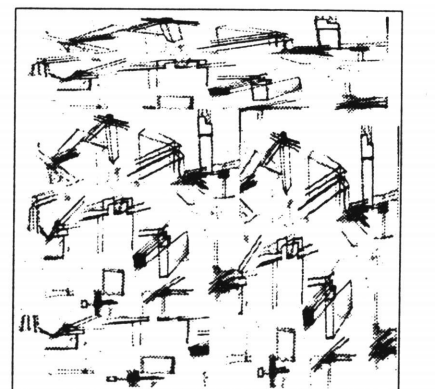
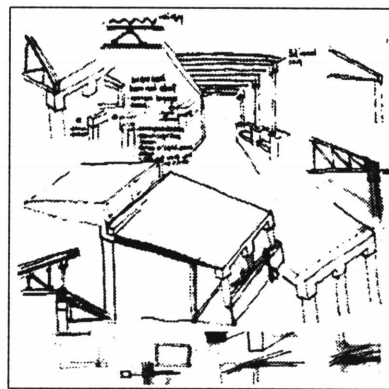
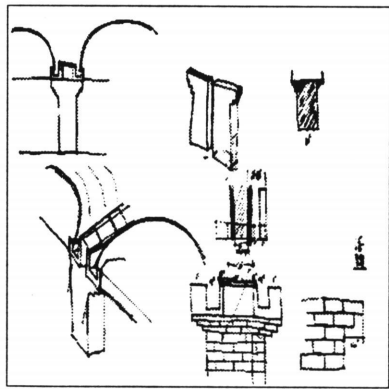
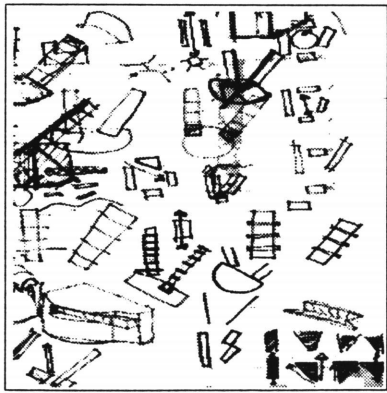
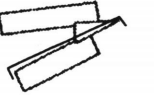
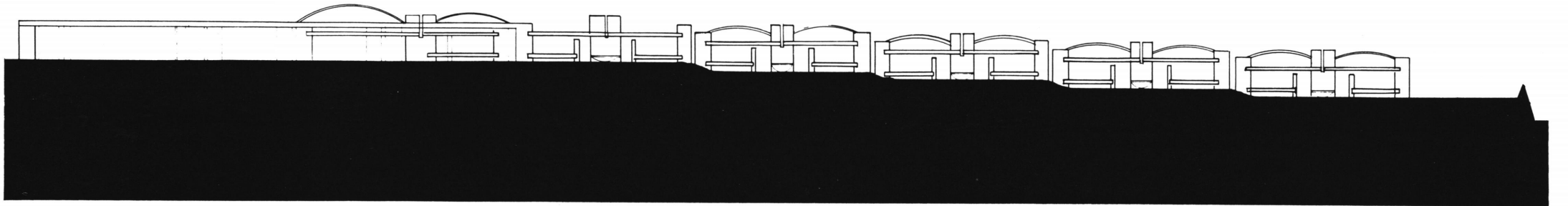


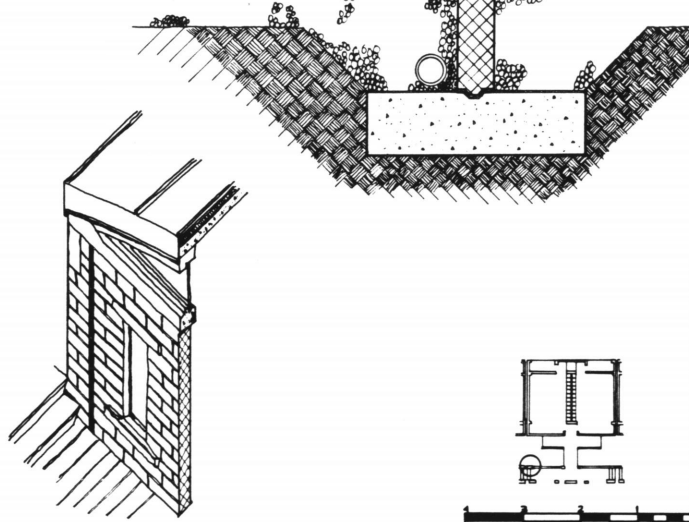
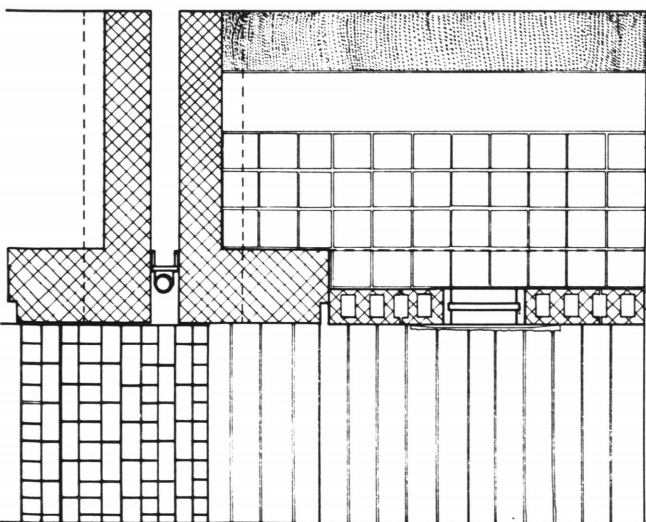
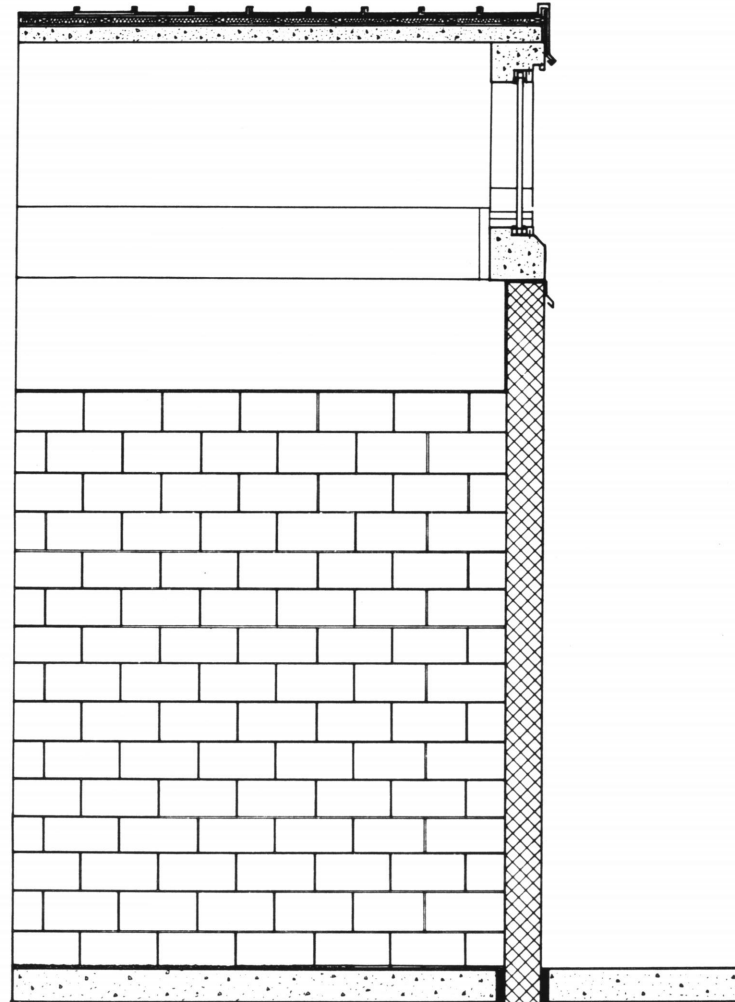
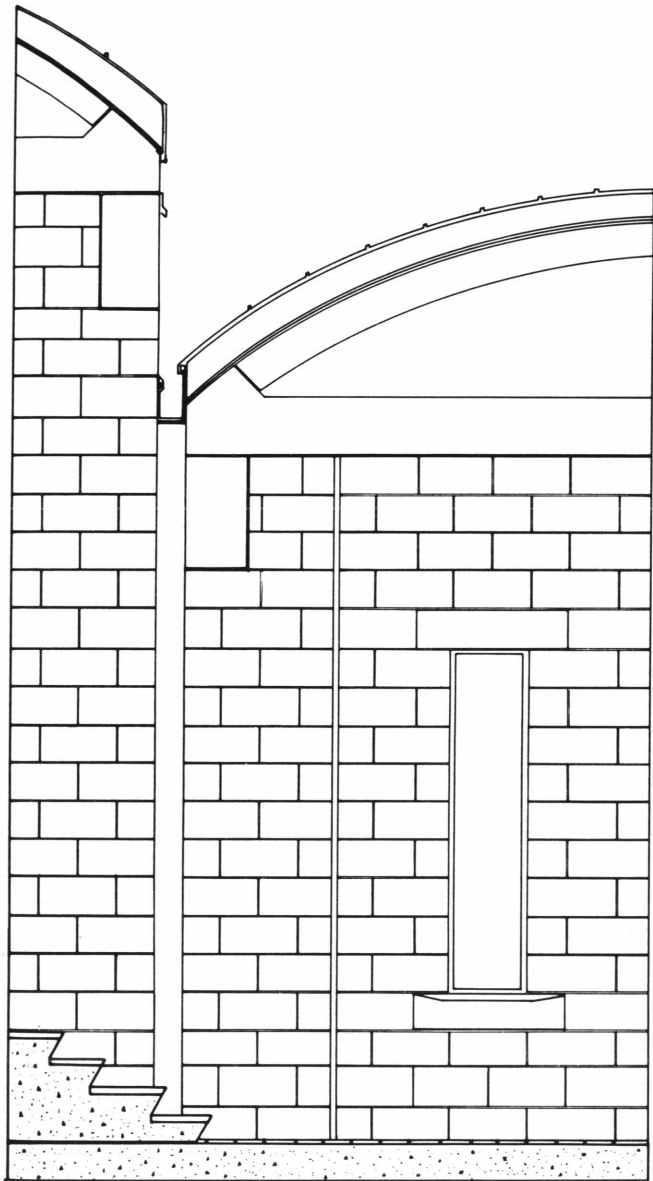
R O O F S

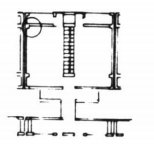
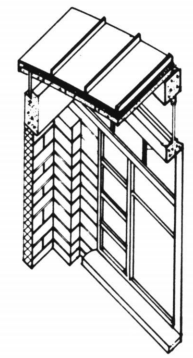
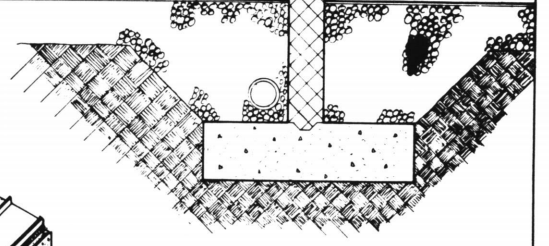
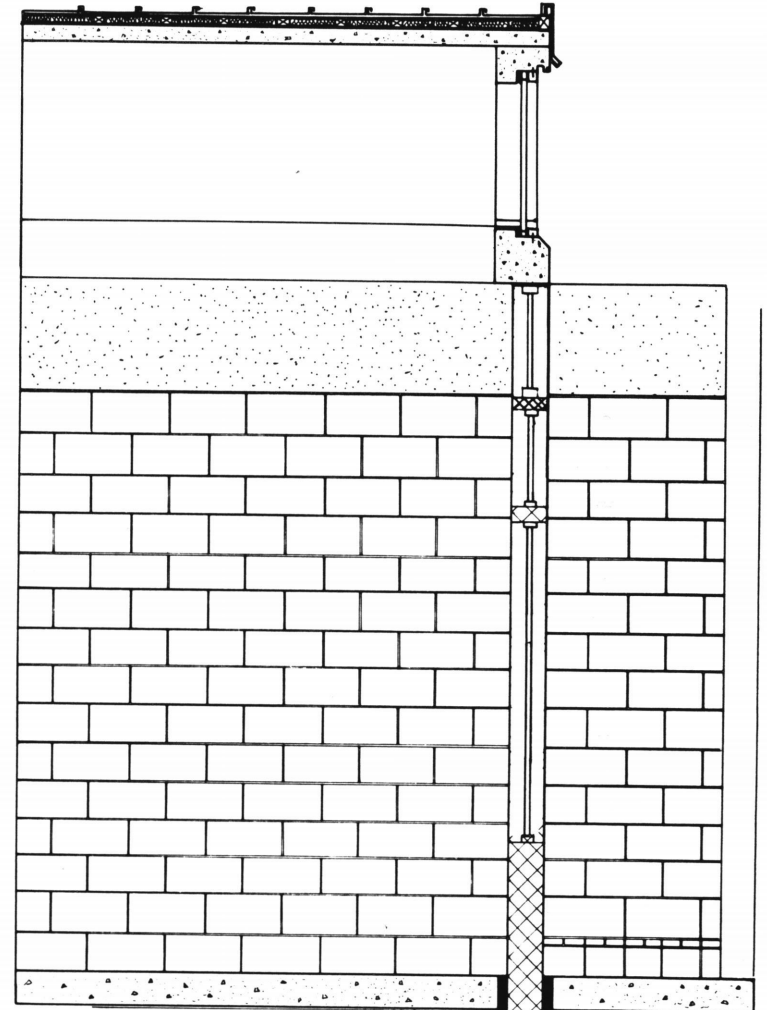
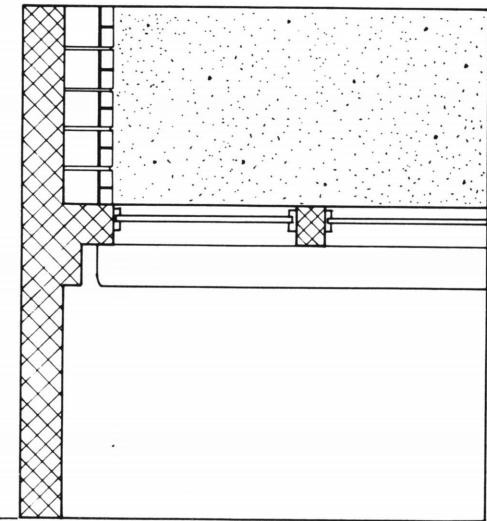
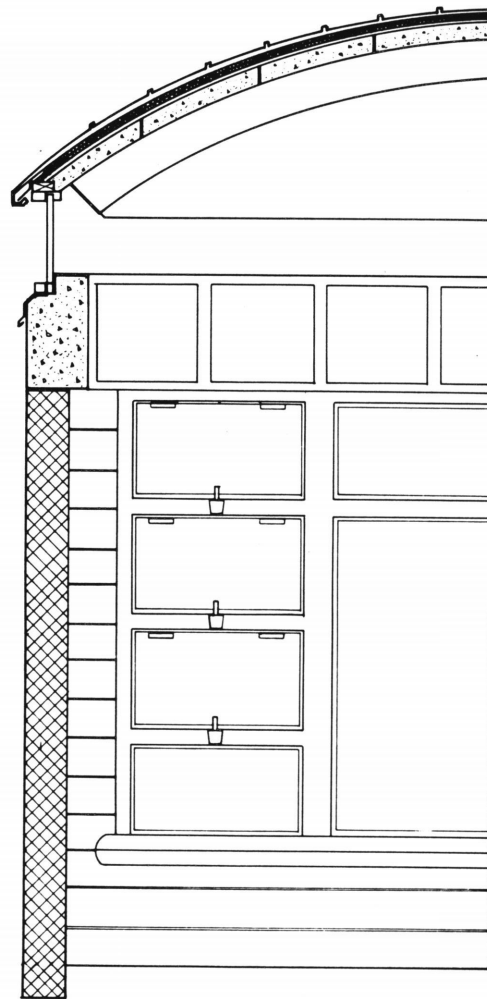
The development of a vaulted roof, at first, seemed extravagant. However, it supported my premise of wanting there to be a harmony between the building and the landscape. A vaulted form provided a balanced rhythm along the site that echoed the familiar image of rolled bales of hay common throughout the country side. The construction of the vault went through many phases. I strived to develop a concrete vaulted roof which worked within the language of the materials.

The roof is constructed of pretensioned, precast concrete planks. These planks span between the arched tie-beams, transferring the loads to the structural wall elements. Since the loads are transferred to points along the vault, the long sides of the roof are lifted off the beams to allow for a narrow strip of windows on each side. Depending on the time of day, a gentle light washes the underside of each vault. The exterior is covered in copper and left untreated so that it may age and blend into the surrounding landscape.



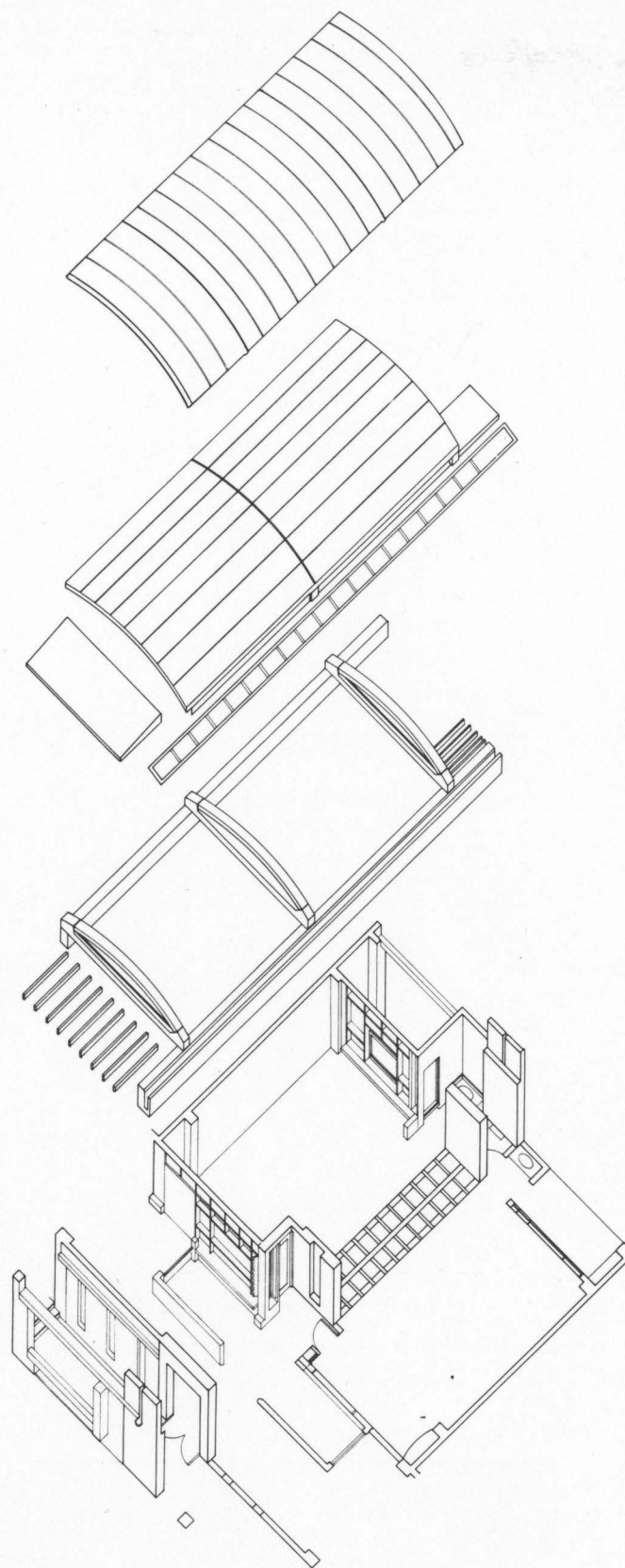


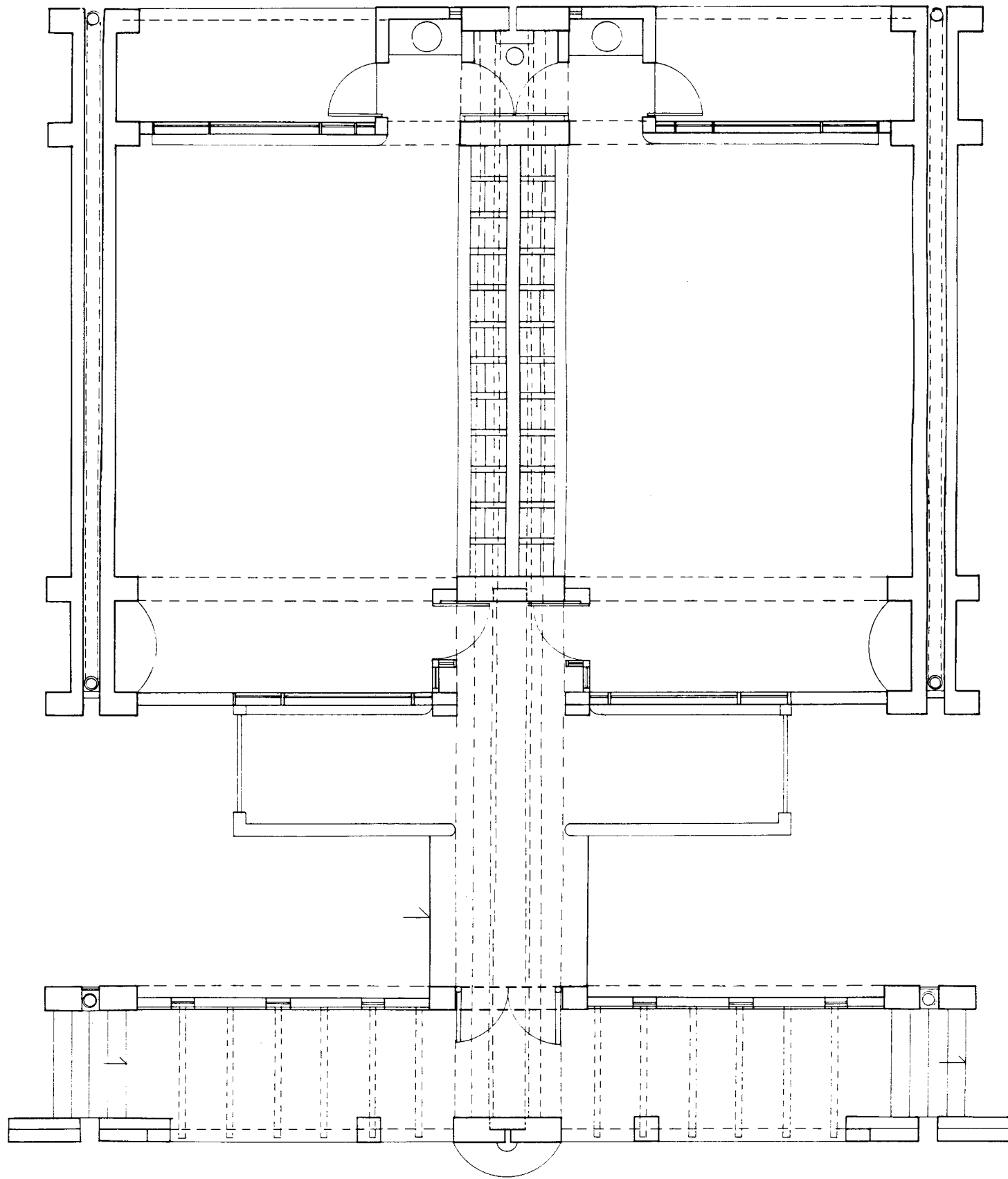




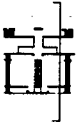
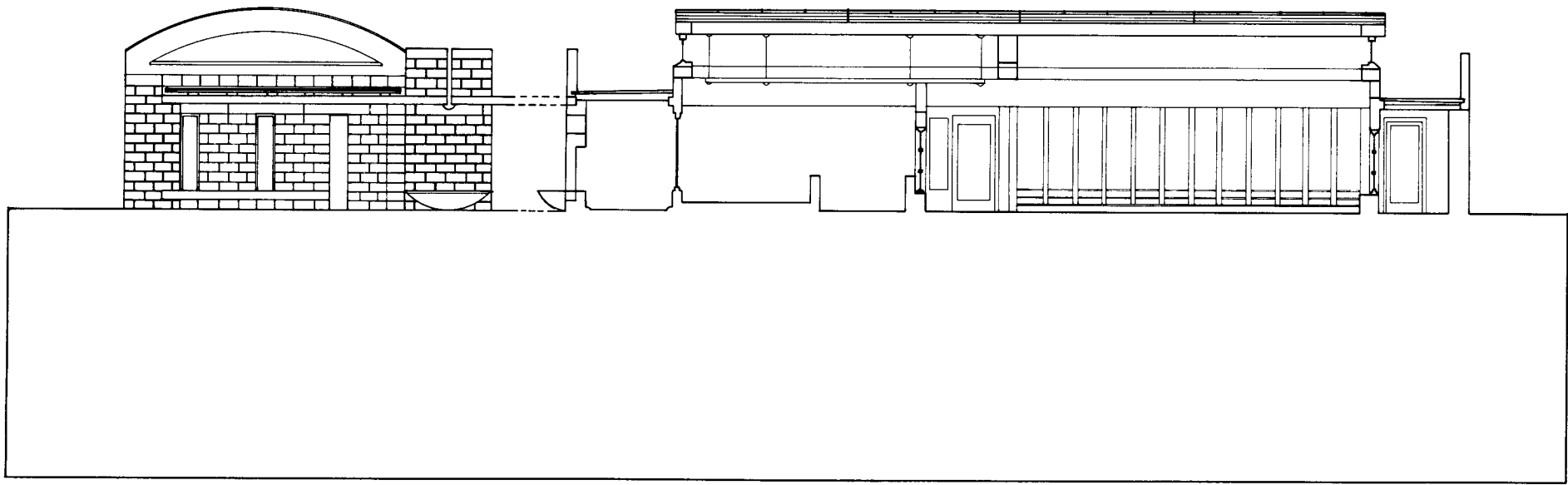
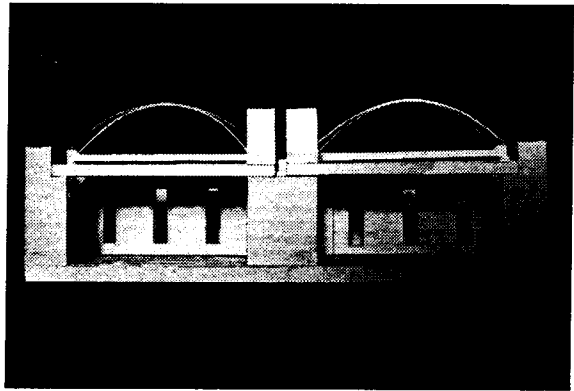
CLASSROOMS

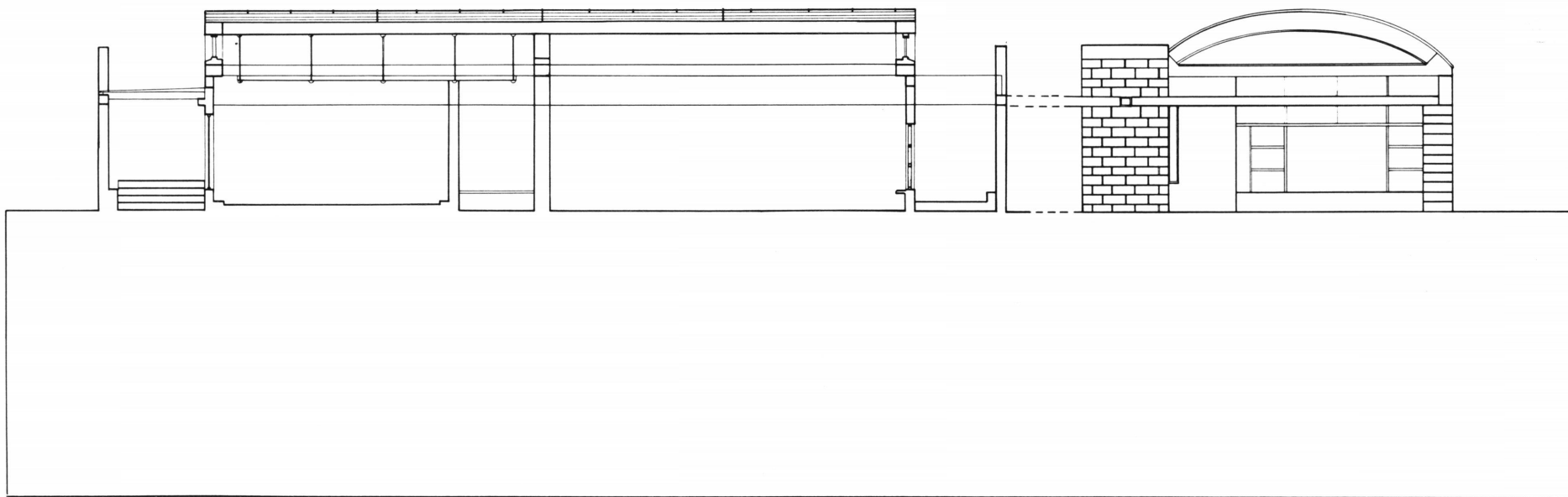
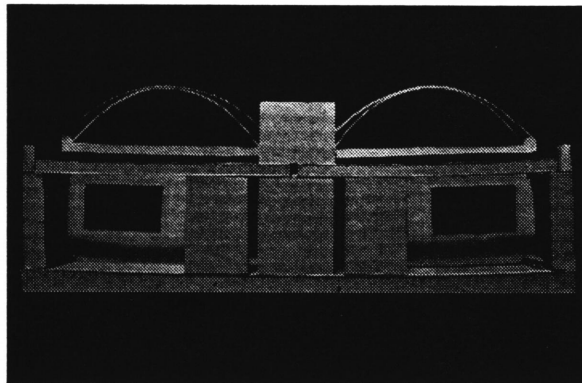
The classrooms are arranged in pairs along a slope moving from North to South. They share an entrance area where students can gather to socialize and work on group activities. As students enter their classrooms they encounter a lowered ceiling and tiled floor. They pass under a beam to enter the vaulted, carpeted area of the classroom. In the classroom, one wall is lined with cubbyholes for students to store their coats and lunches. The opposite wall holds the chalkboard. The end walls contain operating windows which look out onto the joint activities area at one end and onto the landscape at the other end. There is a sink for each room and a door which leads to a separate outside area for each classroom.

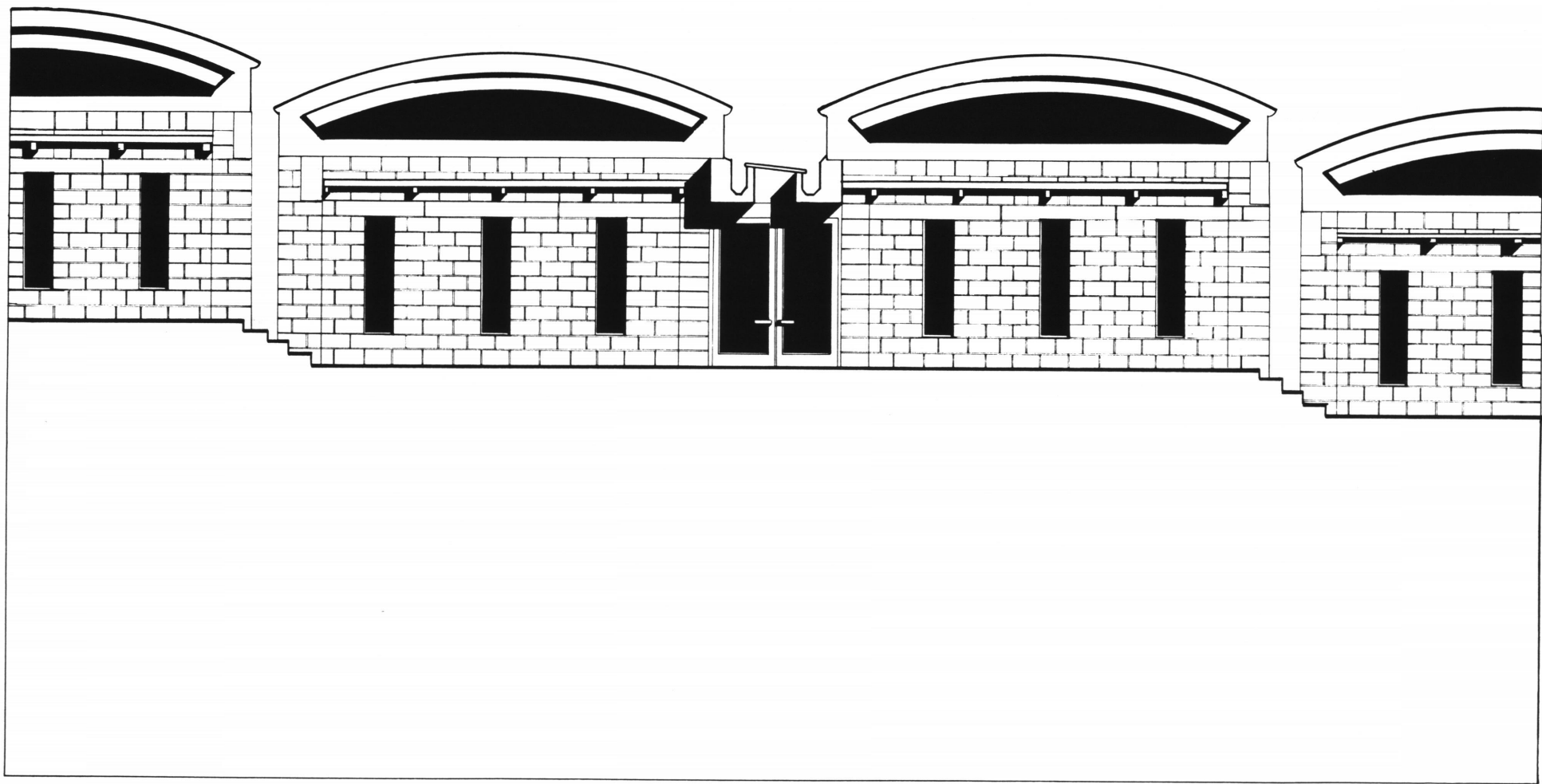


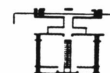
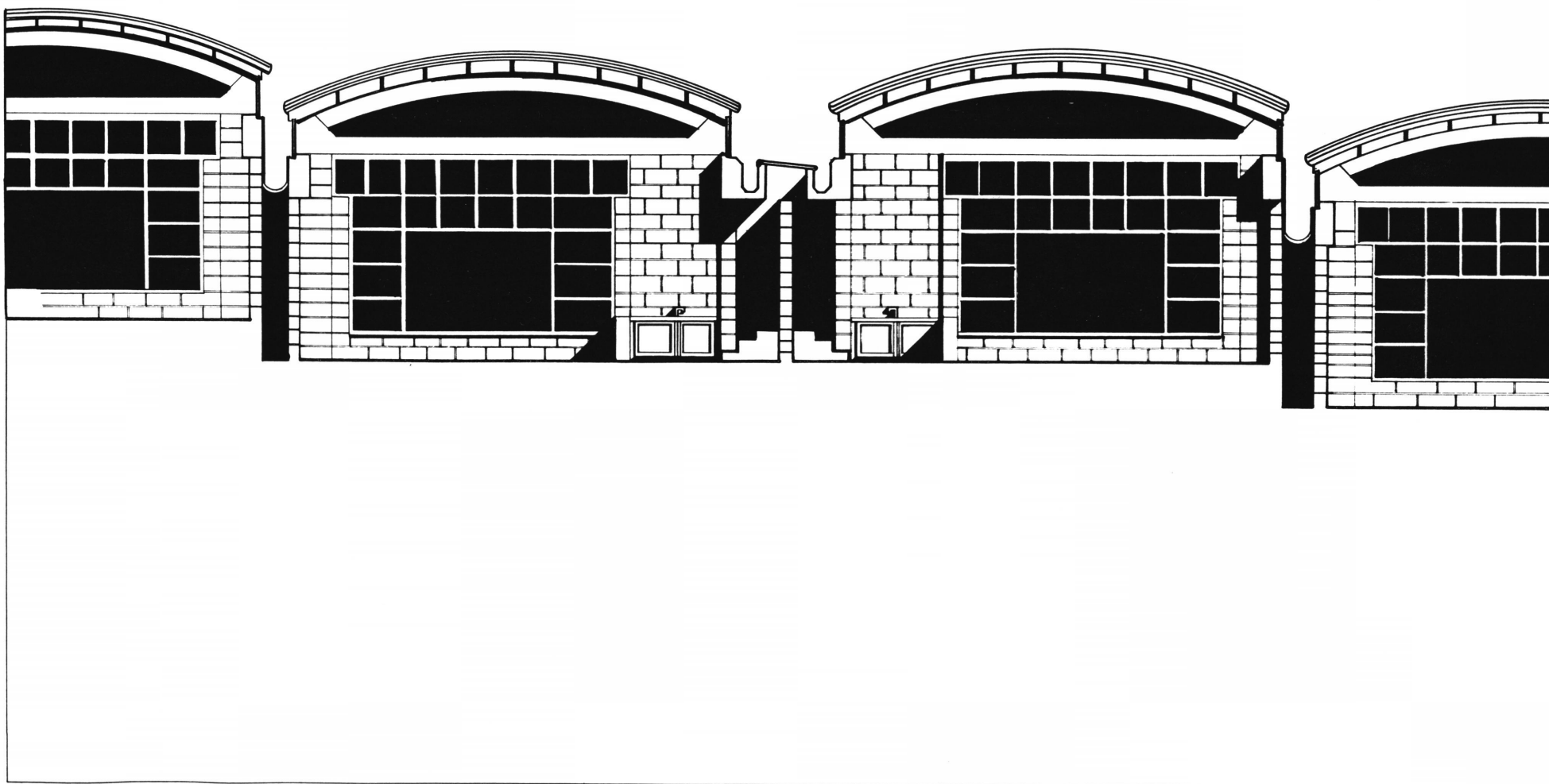


Classroom Plan







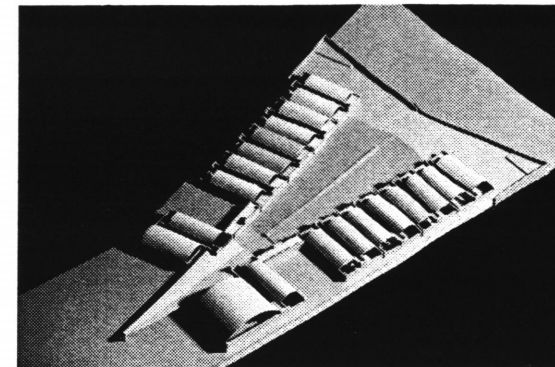


THE WHOLE

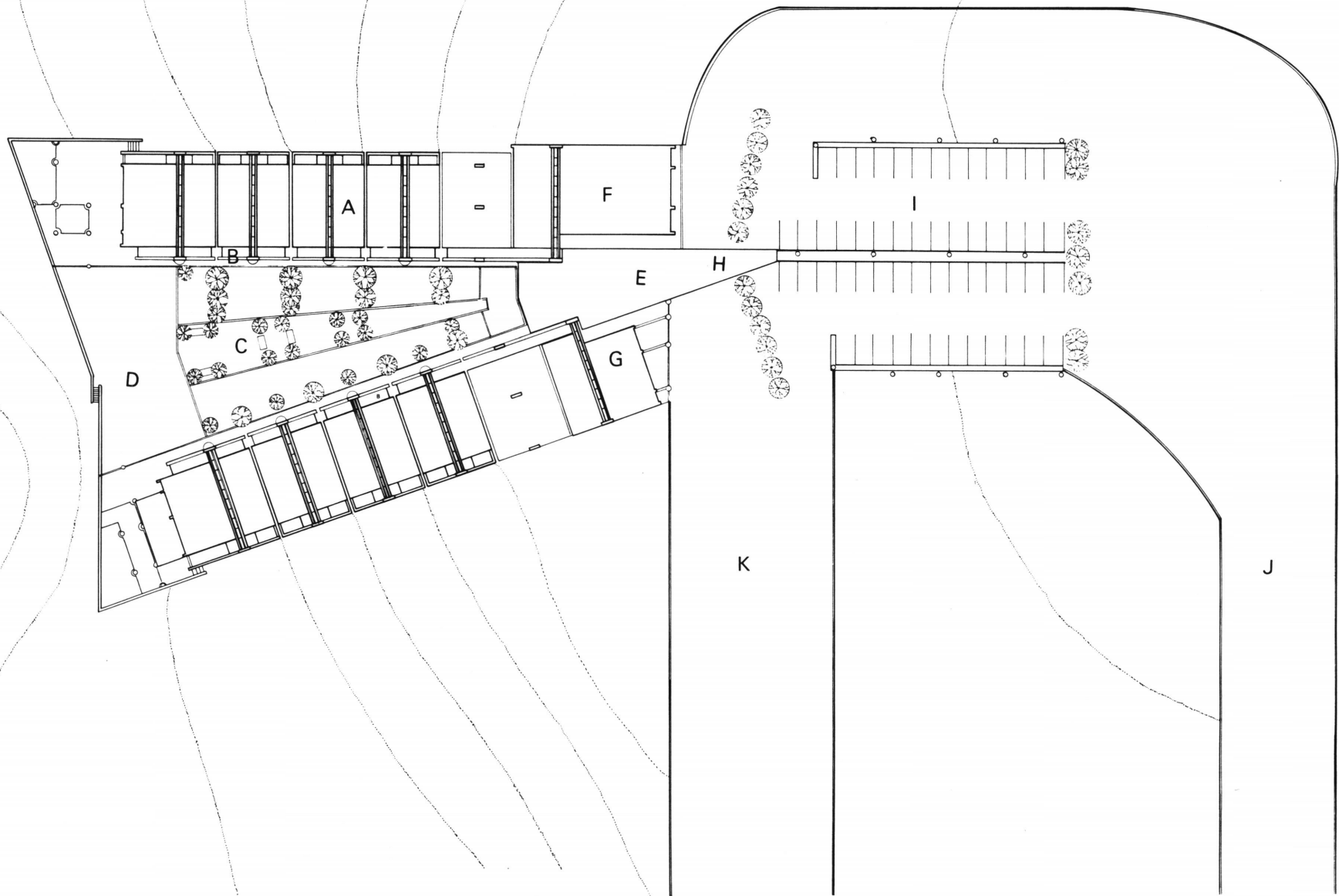
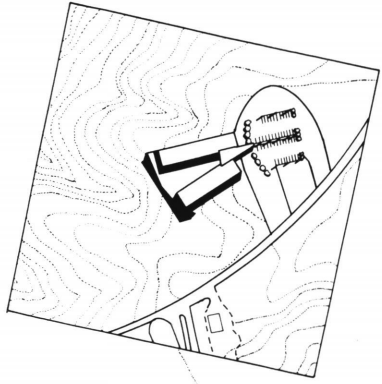
I have worked to create a unity of parts in order to achieve a whole. Herman Hertzberger speaks of the reciprocity of the unity: "Parts determining the whole and determined by it - may in a sense be regarded as a structure." Within this structure I have attempted to balance the parts in order to give the school a harmony of places, not a hierarchy of places.

The materials chosen were in direct response to their task, the needs of the design, and the capacity of the materials. Hence, all vertical structural elements are constructed of reinforced concrete block while horizontal structural elements are constructed of precast concrete. The plan consists of repetitive structural elements which are intersected by non-load bearing walls. The building section reveals the precast horizontal beam roof system.

The two facing rows of classrooms are joined by a sloping courtyard. At the north end of the courtyard is the entrance and the parking area. At the other end is a bricked play area which opens up to a view of the surrounding countryside.



- a - Typical classroom
- b - Exterior hall
- c - Courtyard
- d - Open plaza
- e - Covered entrance plaza
- f - Gymnasium
- g - Library
- h - Bus loading
- i - Faculty and guest parking
- j - Entrance
- k - Exit



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S E L E C T E D B I B L I O G R A P H Y

26

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P. 3 - Field in Blacksburg, VA . By the author.

P. 6 - Piazza del Campo, Siene, Italy. By the author.

P. 7

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1. Piazza S. Marco, Venezia, Italy. By the author.

2. Piazza della Parrocchiale, Deiva Marina, Italy. By Pepi Merisio.

3. Piazza Vecchia, Bergamo, Italy. By the author.

4. Piazza dez Duomo, Anagni, Italy. By Pepi Merisio.

5. Piazza della S. Croce, Penne, Italy. By Pepi Merisio.

6. Piazza della Chiesa, Cervo, Italy. By Pepi Merisio.

7. Piazza Duca Federico, Urbino, Italy. By Pepi Merisio.

8. Piazza della Chiesa, Ripatransone, Italy. By Pepi Merisio.

9. Stair in Assisi, Italy. By the author.

10. Piazza Duomo, Ragusa Ibla, Italy. By Pepi Merisio.

11. Piazza del Duomo, S.Gimignano, Italy. By the author.

12. Piazza Rinadi, Treviso, Italy. By Pepi Merisio.

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15. Piazza della Chiesa, Taggia, Italy. By Pepi Merisio.

16. Piazza della Chiesa, Bazzano, Italy. By Pepi Merisio.

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