THE LIVING WORKPLACE:
A conscious work environment for a small publishing company

by Richard Carl Berg B.A. (Architecture) University of Washington, Seattle, Washington, 1979

Submitted to the Department of Architecture in partial fulfillment of the requirements of the degree of MASTER OF ARCHITECTURE, at the Massachusetts Institute of Technology, June, 1986

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ABSTRACT

This thesis is about the oneness of working and living, and about the making of workplaces that support and encourage the idea that one's work can be an integral part of one's life.

The opening position is that there is a "paradigm shift" occurring in our society which influences the way that we think about our work in relation to our lives. Rather than experiencing work as a separate entity in time and space from our home life, work can be fully engaged in our lives; an activity that requires us and interests us, which helps us to find meaning and makes us care. Our friends and families can know our work and spend time with us in our workplace. Our personalities and actions can be both similar and complimentary in the work environment and the home environment.

The search in this thesis is for ways of making work environments that acknowledge our current culture, society, and technology, yet respond to and support this "new" way of working and living. This search involves an investigation into working and workplaces in pre-industrial and early industrial times: an analysis of how people worked and how they interacted with the settings in which they worked. This analysis provides clues which are then used to propose ways that a modern building might support an integrated attitude about living and working.

The design project is for a small office building in Cambridge, Massachusetts for Linguistics International, a publisher of foreign language and computer science college textbooks, currently based in Boston. Linguistics is a suitable subject for this project for several reasons: books—information—are an important icon of our times and for our society; editing/publishing is a creative process; perhaps most importantly, the project addresses the design of white-collar office work and the office environment, the most common type of workplace in our information—based economy.

Thesis Advisor: William L. Porter Professor of Architecture and Planning

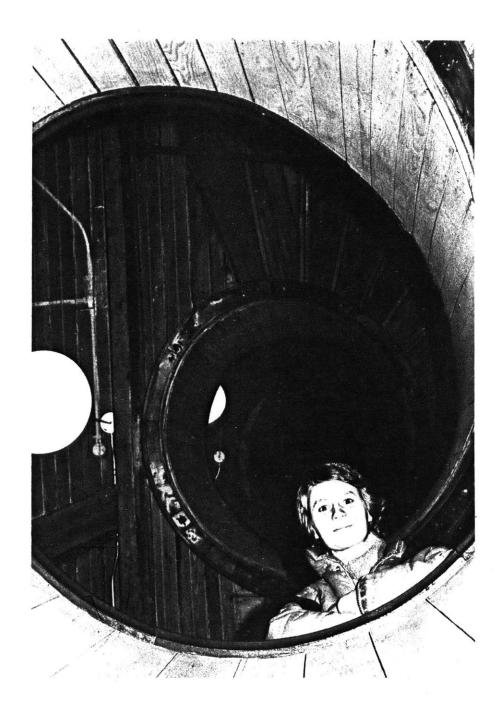
THE LIVING WORKPLACE:



...A CONSCIOUS WORK ENVIRONMENT FOR A SMALL PUBLISHING COMPANY

Dedicated to Kristin, who endured the whole ordeal with me, gave me encouragement at key times, and was willing to wake up in the middle of the night to share my thoughts and anxieties when I needed it.

Kristin is an integral part of my life and my work.



Kristin at Wannalancit Mills, Lowell, February 17, 1986

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I would like to express my heartfelt thanks to the following folks for their contributions to this work:

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To the crew of the "Albatross", the people at Autumn Harp and the place that makes rag rugs in Bristol, Vermont, and at Damadera Farm in Wilton, New Hampshire for their contributions to my ideas about the integration of work and life.

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Very special thanks to Jim Brandt, whose thesis (both process and product) has been a real inspiration to me, and for being an amazing friend and partner.

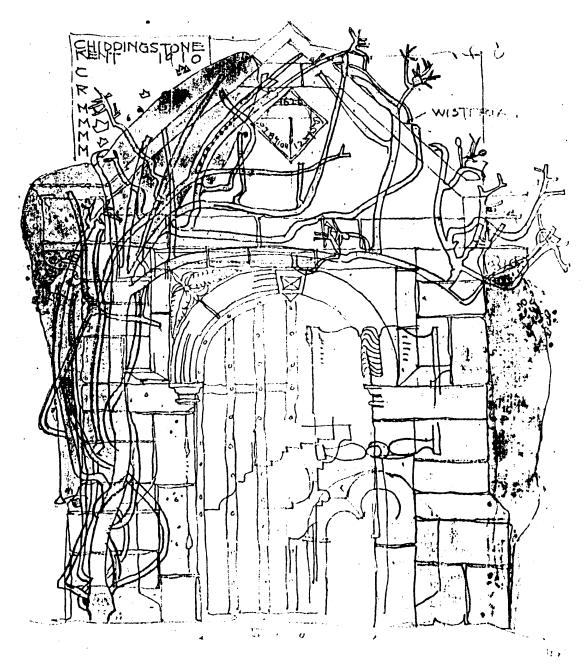


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VALUES AND VOCATION:

SOME IDEAS ABOUT WORKING LIVING

"Through work we are fully engaged in life." This phrase is a simple expression of a set of attitudes about the oneness of working and living. It can be taken as the basis for my investigation into work and the workplace, and as representative of my attitude as the designer of a workplace for Linguistics International, a publisher of educational books based in Boston.

In contrast to what I see as a "typical" work pattern in current, post-industrial society, characterised by the nine-to-five stint at the office and by separation between work life and home life, one's work can become an integral part of life. Work can be an activity supportive of personal and community

growth; an activity which allows us to create and to discover meaning. Work comes to include all of the same characteristics of life outside of work: energy and play, study and solitude, community and social events, times of repose.

I have found it useful to give some definition to this set of ideas about working by placing it within the context of a "paradigm shift". In her book The Aquarian Conspiracy: Personal and Social Transformation in the 1980's, Marilyn Ferguson defines the word paradigm as "a framework of thought...a paradigm is a scheme for understanding and explaining certain aspects of reality." A classic example of a paradigm shift is the transcendence of our understanding of the universe based on Newtonian physics by a new understanding made possible by

Einstein's theory of relativity--a shift from a clockwork paradigm to a paradigm of uncertainty, from the absolute to the relative.₁

Social commentators such as Marilyn Ferguson, William Irwin Thompson, Fritjof Capra, and others argue that we are currently engaged in a paradigm shift that encompasses the totality of human and planetary existence. Although it happens slowly and tends to trickle up through society, affecting the most established institutions last, this evolution in human consciousness creates a vision of the future that diverges from the mere extrapolation of current patterns of consumption and power structure. This vision of the future is referred to as the "meta-industrial" future: optimistic yet decentralized. Meta- is a prefix

Metaindustrial

Decentralized

1 3

2 4

Preindustrial (A new, final dark age)

Long-range prospect: World-wide decline of urban-industrial civilization eased by return to local and regional economies. Integration of classical economies of the past into a new structure of civilization.

Prophets: William Irwin Thompson, Murray Bookchin, E.F. Schumacher, Amory Lovins, Theodore Roszak, Lewis Mumford, Ivan Illich.

Cultural expression: The metaindustrial village and the planetary city, decentralized biotechnologies, a symbiosis of nature, self, and society.

Long-range prospect: World-wide collapse of interconnected global economies. Massive drop in population. Chronic cycles of plague and famine. A return to savagery.

Prophets: Roberto Vacca, Paul Ehrlich.

Cultural expression: A decimated landscape of deserted cities, mined for their "raw" materials, tribal bands wandering the countryside. Chaos and conflict over scarce resources.

Optimistic

Pessimistic

Superindustrial

Long-range prospect: World-wide development of postindustrial economies. Fifteen billion people earning \$20,000 a year. Elimination of poverty and disease. Infinite supply of energy and materials through the exploitation of space.

Prophets: Herman Kahn, Gerard O'Neill, Daniel Bell, B.F. Skinner.

Cultural expression: On earth we would have the "city of efficient consumption," a Disneyworld of manufactured fun and adventure. In space, we would have efficient industry and fantasy islands.

Hyperindustrial

Long-range Prospect: World-wide freeze on industrial growth. Revolt of the masses requiring massive, often severe, centralized control by state. Technical elite and military join together to prevent collapse of civilization. Privilege of the few maintained at the expense of the many.

Prophets: Robert Heilbroner, H.G. Wells.

Cultural expression: "Federal" architecture, poorly serviced, joyless "Pentagons" and bare necessities with zones and pockets of opulence. A "1984" police state.

Centralized

Figure 1: The "superindustrial" scenario on which most current U.S. policy is based is not really very realistic.

derived from Greek used to mean "beyond."

Thompson uses it to distinguish his

vision from post-industrialism, which is

based on oil and capital-intensive econ
omies of scale. 2

It is important to point out that, although the pre-industrial world contains many useful models for a future society that "treads lightly on the earth," the meta-industrial vision does not propose a return to the past. Thompson envisions a world where electronics, information flow, and miniaturized technology will serve and connect people in a variety of settings and that the increased ability to "move out of the concrete world of New York to live with the trees" will encourage a profound transformation of consciousness in the individual, based on a sophisticated understanding of science

coupled with a reawakening of spirituality.

How does this paradigm shift influence our perception of working?

Gary Coates, Associate Professor of Architecture at the University of Kansas, offers this expression of the meaning of work within the metaindustrial paradigm:

"The purpose of work is to maximixe the welfare of the worker, the productive organization, and the broader community. In producing goods and services the goal should be to serve others while minimizing harm to naturally occuring ecosystems. In assuming responsibility for his or her actions, the worker learns to temper selfish impulses and in so doing promotes his or her own good. The reward for work is not leisure, it is play. Leisure is empty time and space that requires work to fill up. Play is a spontaneous enjoyment of creation that itself is the outcome of right livelihood."

Marilyn Ferguson distinguishes
between an old paradigm of economics and
a new paradigm of values. In an attempt

to provide an inclusive definition of the new paradigm as it regards $\frac{\text{working}}{1 \text{ iving}}$, she has made a list which contrasts aspects of the two paradigms. Throughout the list. the new paradigm proposes an inclusive. holistic, intuitive and playful attitude towards working.

Embodied in the act of creating new prototypes for the workplace is participation in the creation of a "mythology of the metaindustrial" which transcends the myth of the machine. If in industrial society our identities are based on our homes, our cars, our appliances, (you are what you own) then in the new planetary culture our very being will define who we are. Thus, as the purpose of work turns from economic motives and material values. consumption at all costs, towards craftsmanship, quality, and innovation to serve

ASSUMPTIONS OF THE OLD PARADIGM OF ECONOMICS

Promotes consumption at all costs, via planned obsolescence, advertising pressure, creation of artificial "needs."

People to fit jobs. Rigidity. Conformity.

Imposed goals, top-down decision-making. Heirarchy, bureaucracy.

Fragmentation, compartmentalization in work and roles. Emphasis on specialized tasks. Sharply defined job descriptions.

Identification with job, organization, profession.

Clockwork model of economy, based on Newtonian physics.

Aggression, competition. "Business is business."

Work and play separate. Work as means to an end.

Manipulation and dominance of nature.

Centralized operations.

Runaway, unbridled technology. Subservience to technology.

Struggle for stability. station, security.

ASSUMPTIONS OF THE NEW PARADIGM OF VALUES

Appropriate consumption. Conserving, keeping, recycling, quality, craftsmanship, innovation, invention to serve authentic needs.

lobs to fit people. Flexibility. Creativity. Form and flow.

Autonomy encouraged. Self-actualization. Worker participation, democratization. Shared goals, consensus.

Cross-fertilization by specialists seeing wider relevance of their field of expertise. Choice and change in job roles encouraged.

Identity transcends job description.

Recognition of uncertainty in economics.

Cooperation. Human values transcend "winning."

Blurring of work and play. Work rewarding in itself.

Cooperation with nature; taoistic, organic view of work and wealth.

Decentralized operations wherever possible. Human scale.

Appropriate technology. Technology as tool, not tyrant.

Sense of change. becoming. Willingness to risk. Entrepreneurial attitude.

ASSUMPTIONS OF THE OLD PARADIGM OF ECONOMICS

Quantitative: quotas, status symbols, level of income, profits, "raises," Gross National Product, tangible assets.

Strictly economic motives, material values. Progress judged by product, content.

Polarized: labor versus management, consumer versus manufacturer, etc.

Short-sighted: exploitation of limited resources.

"Rational," trusting only data.

Emphasis on short-term solutions.

Allopathic treatment of "symptoms" in economy.

ASSUMPTIONS OF THE NEW PARADIGM OF VALUES

Qualitative as well as quantitative. Sense of achievement, mutual effort for mutual enrichment. Values intangible assets (creativity, fulfillment) as well as tangible.

Spiritual values transcend material gain; material sufficiency. Process as important as product. Context of work as important as content—not just what you do but how you do it.

Transcends polarities. Shared goals, values.

Ecologically sensitive to ultimate costs. Stewardship.

Rational and intuitive. Data, logic augmented by hunches, feelings, insights, nonlinear (holistic) sense of pattern.

Recognition that long-range efficiency must take into account harmonious work environment, employee health, customer relations.

Attempt to understand the whole, locate deep underlying causes of disharmony, disequilibrium. Preventive "medicine," anticipation of dislocations, scarcities.

Figure 2: An inclusive, intuitive, playful attitude towards working

authentic needs, we expect the workplace to support and serve the needs of its inhabitants other than the needs of the process or the owner. Included in the needs of the workers is the need for self-determination, as a person and as a member of the community of workers.

Upon the completion of the Centraal Beheer office building in 1972, architect Herman Hertzberger wrote:

"This building is a hypothesis. Whether it can withstand the consequences of what it brings into being depends on the way in which it conforms, with the passing of time, to the behaviour of its occupants. The building should be responsive to people, to their evaluations and their inner worth; it should provide everyone with the conditions that enable him or her to be who they want to be, and especially who they want to be in the eyes of others. It should clarify the relationships, involvements and responsibilities of its users: patterns and processes are based in such a way that everyone can evaluate them him/herself; the building should reveal the extent of the

space everyone can freely use, and pinpoint where and by whom oppression is being exercised. A building might in this way lead to less oppressive and less oppressed behaviour.

The essential element is the provocation that should emanate from the building, spurring its occupants to make the choices which they feel at a given moment are the most appropriate to themselves as individual beings."5

The search for the mythology which surrounds the creation of a work environment for the metaindustrial age involves a return to the writings, lore, and the built environment of the pre-industrial world, for "reversal is the movement of Tao." Yet we must also look to technology, appropriately conceived of and applied; especially the technologies of communication and construction, for it is the Tao of physics--the reconciliation of mysticism and science--that will carry us into the future.

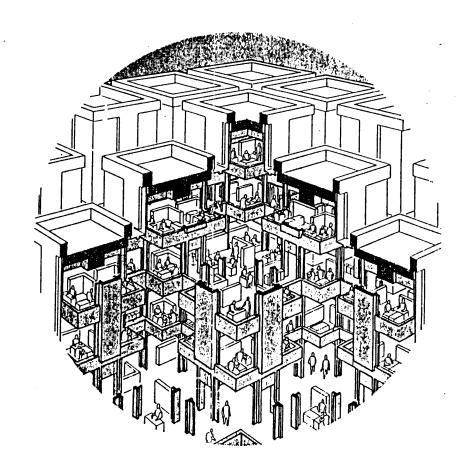


Figure 3: Hertzberger's Centraal Beheer office building offers physical definition but does not make demands about how the space is to be inhabited.

But finally, as Hertzberger has recognized, the mythology must be one of self-definition and self-determination for people at every level of society, or in the case of the workplace, at every level of the organization. Hertzberger goes on regarding the Centraal Beheer:

"As far as the individual workspace is concerned, the simple facts of choosing one's own lighting and desk type, and it being possible to dress it up in one's own way with flowers, plants, posters, and whathave-you, allow one to take possession of it and make it a home-fromhome. It is the fundamental unfinishedness of the building, the grayness, the naked concrete, and the many other imposed (but also the concealed), free-choice possibilities, that are meant to stimulate the occupants to add their own colour, so that everyone's choice, and thereby his or her standpoint, is brought to the surface."

The new workplace that I propose for Linguistics International, therefore, will be an infrastructure; a support for all

the aspects of human activity that contribute to the creation of ideas and books, imbued with the magic of structure and the mystery of the relationships of part to part, and offering suggestions but not making demands about how it is to be inhabited.

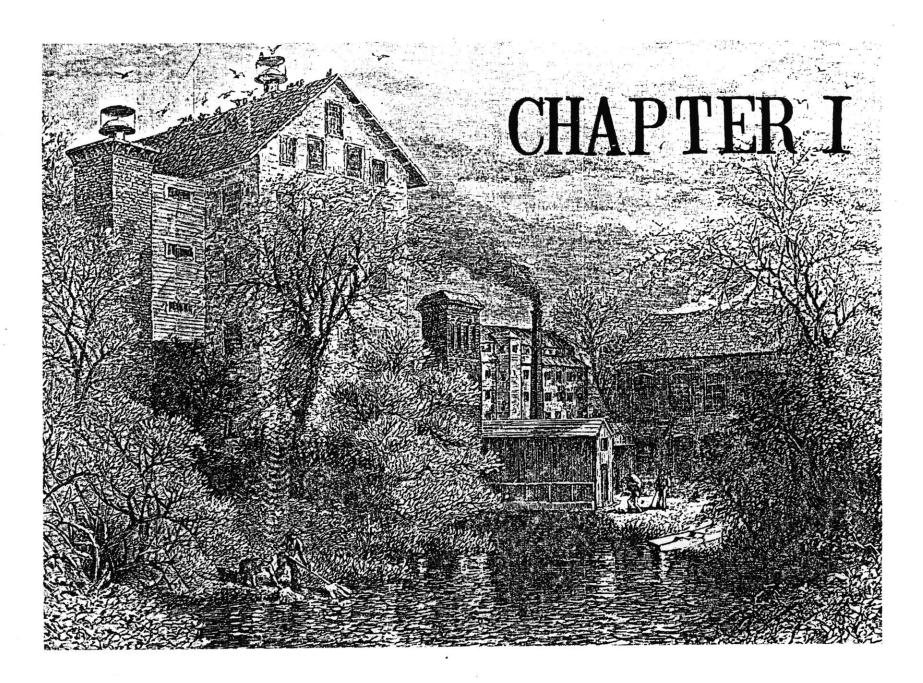
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- 2. Thompson, William Irwin, Darkness and Scattered Light, 1978 Anchor Press/Doubleday, Garden City, New York, p. 89
- 3. Thompson, p. 90
- 4. Coates, Gary J., ed., Resettling America: Energy, Ecology, & Community 1981 Brick House Publishing Co. Inc., Andover, Massachusetts, p. 26
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Figure 1: Coates, p. 55

Figure 2: Ferguson, pp. 328-330



"REVERSAL IS THE MOVEMENT OF TAO"

Looking forward to try to define

a new paradigm of working 1 and to understand its implications on the built

environment demands a simultaneous look

backward to times and situations when

work generally was "fully engaged in life."

The most common form of preindustrial workplace is undoubtedly the
family farm. The attached farm buildings
commonly found in northern New England
actually emerged as a type after the beginning of an industrial economy in the
United States, and were increasingly
influenced by commercial farming methods.
However, because they combine home life
and several types of work under one roof,
they provide an interesting reference.

The typical connected farm complex consisted of the main house which included

the parlor, bedrooms, and storage; an attached kitchen; the "back house", an all-purpose workroom and the usual site of the privy; and the barn. In this dog-bone arrangement of space, the busy, working areas of the farm were the kitchen and the back house, and the two larger buildings at either end were places of rest and repose for the family, belongings, animals, and feed.

The lives and activities of farm families have always been heavily influenced by the cycles inherent in nature. Daily routines and vastly different activities according to season are among the most prominent features of farm life. Seasonal changes are reflected in the building, which allows places to be adapted to different uses at different times of the year. In his book, Big House,

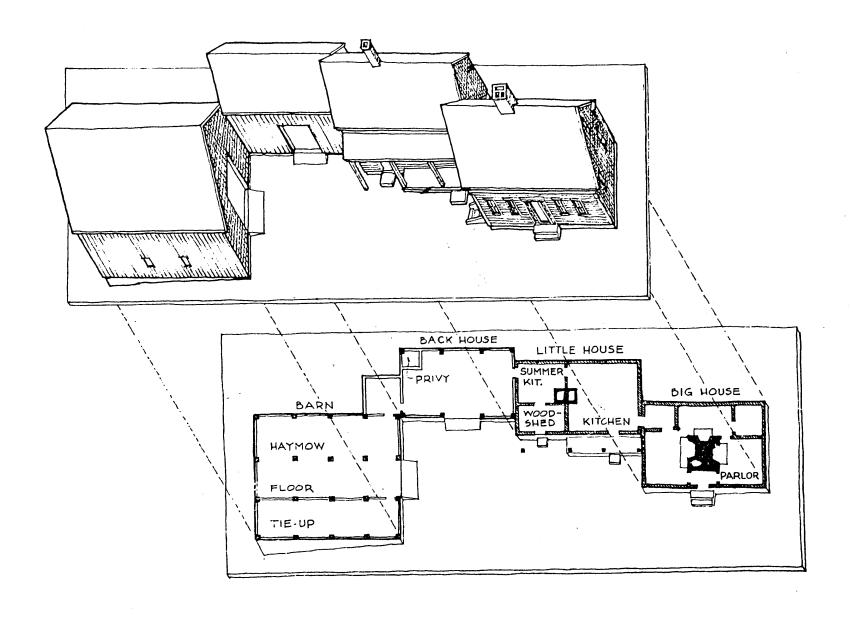


Figure 1: A typical connected farm building complex. (Sawyer-Black farm, Sweden, Maine)

Little House, Back House, Barn, Thomas
Hubka notes that the loft areas of the
back house often served as sleeping quarters for children and hired help during
the summer, and as cold storage at other
times of the year. He also points out
that "the seasonal movement of the stove
from the major kitchen to the summer
kitchen or workroom alongside the kitchen
was a frequently recorded backhouse event."
2

In either location, the kitchen served as the activity center of the farm. Not only was the kitchen the social center of the farm and the setting for mealtime rituals, but it was also the site of many major work activities on the farm. These tasks included such farm-related activities as the production of butter and cheese, canning, mending clothes, child-care, etc. but often also included the production of

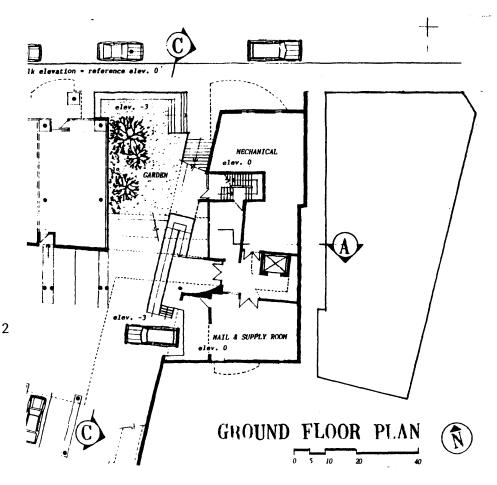
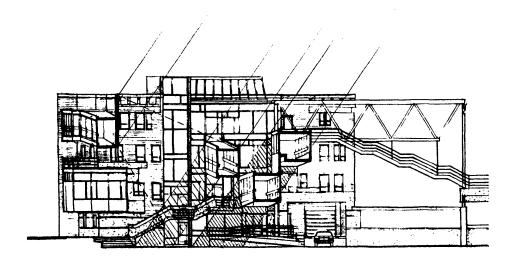


Figure 2: Partial plan of proposed offices for Linguistics International. The slot through the building, oriented slightly to the west of due south, allows the sun to fill the ground-floor garden during lunchtime every day throughout the year. Because of the narrowness of the slot, the movement of the sun through the space will be quite pronounced.



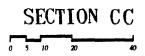


Figure 3: Section through the slot in the building.

The location of the shadows from the ramps vary with the seasons. The south wall of the ramp to the fourth floor (upper left) reflects sunlight into the slot throughout the day and throughout the year.

home-industry products to support the income of the farm, such as weaving of cloth and various craft products. In combination with the back house, where other home-industry crafts such as leather work or wagon-works took place, the center section of the house supported an amazing variety of activity.

Each section of the house had a corresponding extension to the outside. At the front door was a formal yard, and behind the barn a barnyard. The kitchen and the backhouse opened out on to the "dooryard", located in the spatial and working center of the complex. Partially enclosed on three sides and sheltered from the north and east winds, this yard provided the choice of indoors or outdoors at any given time for the many tasks that revolved around the kitchen and back house.

As in any "living" workplace, the kitchen and back house were constantly changed and adapted over time. Hubka points out that early 19th century features such as the kitchen fireplace, wooden sink, and wooden wainscoating were often replaced after 1850 with woodstoves, metal sinks, and many layers of paint and wallpaper. Porches, bay windows, dormers, and trellisses were commonly added. "So common were these modifications that today it is extremely difficult to find a New England farmhouse kitchen that preserves even the faintest hint of its earliest interior or exterior origins."3

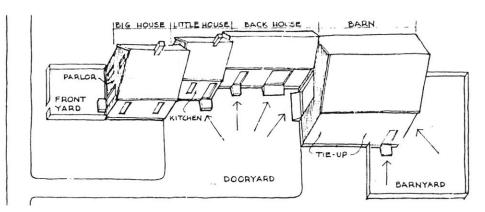


Figure 4: Outdoor extensions of each part of the connected farm complex.

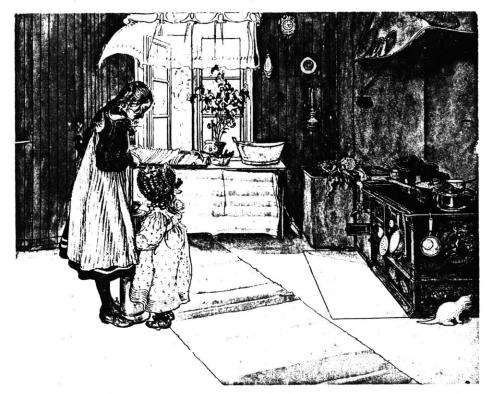
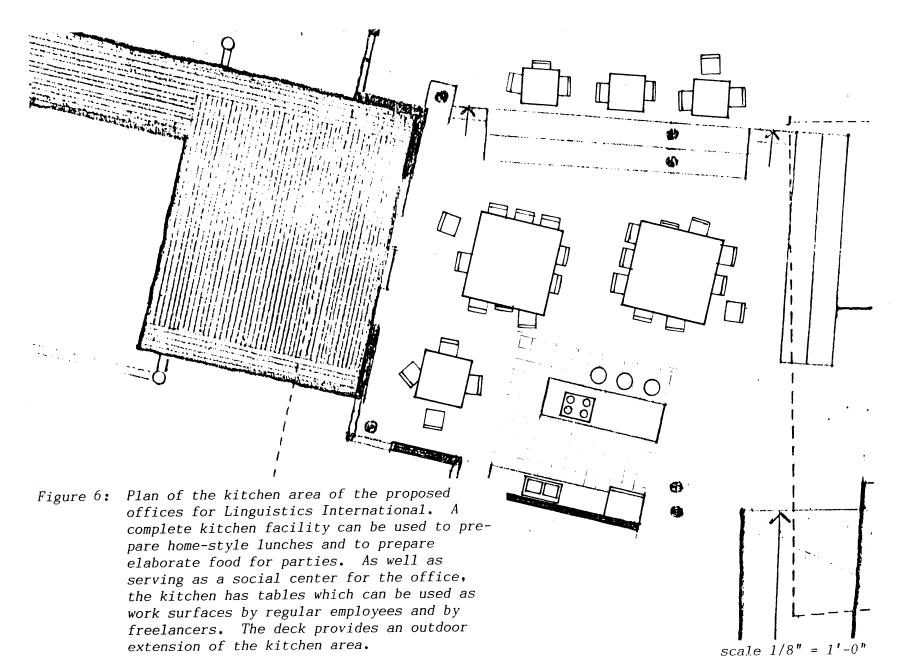


Figure 5: "The Kitchen" by Carl Larsson



It is against the backdrop of the family farm that the debate over industrial manufacturing first came to America. At the opening of the 19th century, Thomas Jefferson's vision of America was that of a vast Garden of Eden: "A boundless extent of free land distinguishes America from Europe, and the success of the republican experiment depends upon the independent and virtuous yeoman who tills this land."

The industrial revolution was already well under way in England, and factory cities such as Manchester had grown up near the coal fields. The crowded living conditions and the state of moral degradation among the workers was well known and quite repugnant to the visionaries of democracy in the United States. By comparison, America at the

time provided a model of an integrated economy: "Conditions in New England mirrored the national picture. In 1810 there was virtually no division of labor in New England's economy. Farmers combined household manufactures with their agricultural occupation, and mechanics usually combined farming with their trade. More than 90 percent of the population lived by agriculture." Up until 1820, two-thirds of all clothing worn in the United States was the product of household manufacture. 5

Jefferson believed that manufactures could be introduced without disturbing the nation's rural landscape or its agrarian values. During the 1790's, Jefferson himself operated a nail factory on his plantation. The operation was large enough to require retail outlets throughout the

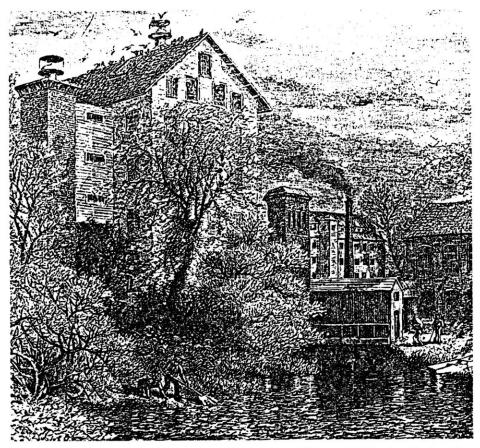


Figure 7: A mill on the Blackstone River, Rhode Island.
"Nature was always close at hand."

state, but was considered an integral part of the life of the plantation. He pictured manufacturing as a possible check to the development of overgrown commercial centers. "Instead of being located in crowded, dirty cities, American manufactures would be spread over the green countryside—in farmhouses or along swift—ly flowing streams."

Prior to the period of rapid industrialization in America (roughly 1830-70), manufacturing tended to fit well into the Jeffersonian vision. Factory settings were generally pastoral; if not part of a farm, a sawmill or gristmill might be nestled in a small village at a falls in a river where water power was available.

Nature was always close at hand.

Factory production was essentially an outgrowth of the craft-guild tradition. Production was determined by the skill of the individual craftspersons working in the factory, and skills tended to be passed down from generation to generation. Among the workers, a strong moral code existed, based on collective support and mutual assistance. Rates of production and standards of quality were determined by the workers, resulting in a sense of dignity and pride in the work.

The New England textile industry followed the Jeffersonian pattern closely at first, and in fact contributed to the integrated economy. The first person to import textile technology from Britain was Samuel Slater, who operated several mills in Rhode Island that spun cotton yarn. The yarn would be hand-woven into cloth on

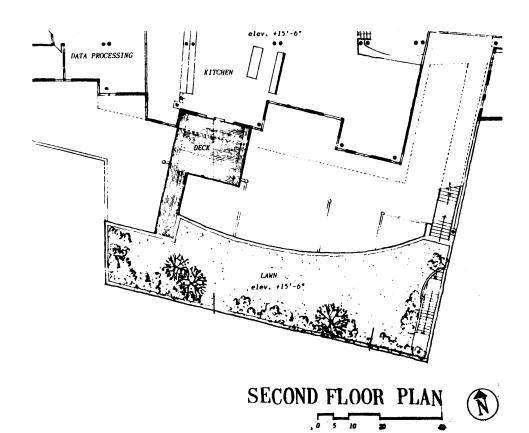


Figure 8: Lawn and garden floating above the parking area of the proposed offices for Linguistics International. Along with the sunken garden by the entry, this piece of "ground" provides a sense of nature nearby and makes a buffer between the building and the back yards of the neighboring houses. The lawn is accessible from a mid-block pathway so that the neighbors can use it after office hours.

the premises, or else "put out" to local farm families to be hand-woven. Slater's mills were located near falls, mostly in the Blackstone Valley in the vicinity of Pawtucket, Rhode Island. Slater generally employed entire families to work in the mills, with the children and fathers working in the mill and the mothers operating hand looms. The mill company provided tenement housing for the families, a company store, and eventually Sabbath schools for the children. The life of the village was completely centered on the mill.

While continuing the farm labor tradition that children should help support the family in whatever way possible, and although the work was not difficult or strenuous, Slater's system set the stage for the exploitative paternalism that would come to characterize the New England

textile industry.

A few years after Slater began his operations in Rhode Island, Colonel David Humphreys started a mill that made yarn from wool at a falls on the Naugutuck River in Connecticut. Like Slater's mills, a settlement soon grew around the factory, known as Humphreysville. Humphreys drew his labor force from New York orphans and New England farm girls, and was genuinely

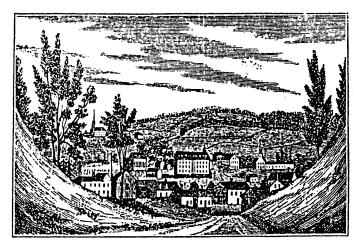


Figure 9: Humphreysville, Connecticut

concerned about the health and moral influences on the workers. He encouraged the state legislature to make on-site visits to his factory to monitor conditions; a comendation given in 1808 shows how influential Jefferson's ideas were at the time: the legislators noted that "by employing persons not formerly productive, nothing is drawn from tillage and yet the funds of national industry are increased."

Colonel Humphreys provided boardinghouse accomodations for groups of ten to
fifteen, gardens, and a school. He wrote
plays which he and his employees performed
on holidays, and led the operatives in
military-drill style exercises. Life in
Humphreysville seems to have been a
pleasant enough, if probably not ideal,
existence. It was a small community set
in beautiful natural surroundings; working

hours were long, but interspersed with "play"--gardening, exercise, and literate pursuits. The growing of food for the community was part of the daily rituals.

The production of the first American power loom in Waltham, Massachusetts in 1812-13 changed the scale of textile manufacturing overnight, and changed the face of American industry permanently.

The first integrated textile mill

(that is, a mill that produced finished

cloth from raw cotton) in the United States

was located in Waltham at a site on the

Charles River. By the early 1820's the

operation was so successful that its owners

began looking for a site with greater water

power. They chose a site on the Merrimack

River which proved so successful that with
in ten years it had grown to a city of

several thousand people supporting a number

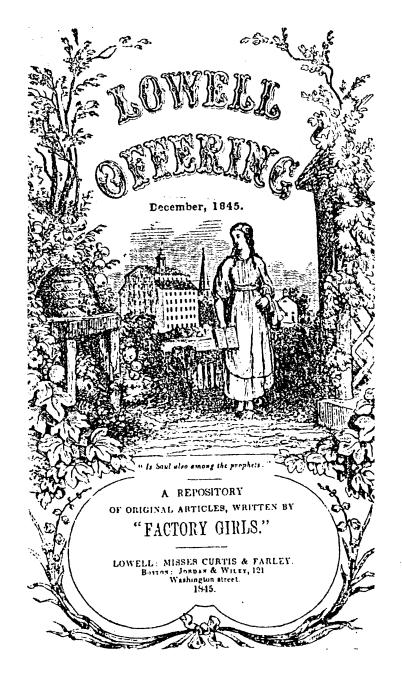


Figure 10: Cover of the Lowell Offering, December, 1845. Featuring poems and articles written by the mill girls, the Offering was a perfect advertisement for factory life. The mill owners saw it as "the ultimate proof of the uplifting capability of mechanical industry."

of mill companies. The city was called Lowell, after Francis Cabot Lowell, who produced the first power loom in Waltham.

The mill companies in Lowell attempted to pattern their operations after the example set by Colonel Humphreys. Since the demand for cloth hand-woven at home by farm women was falling off as the amounts of factory-made cloth increased, it was the "underemployed" farmers' daughters throughout New England who became the natural labor pool for the mills. The owners set out to provide a setting which would attract women from the farms.





Figure 12: Interior, Boott Mills, Lowell, Massachusetts

The mill girls were required to live in boardinghouses provided by the mill, each under the supervision of a matronly housemother. The mill kept strict control over most aspects of their lives and morals, including requiring their attendence at church. Life in the boardinghouses was a cosmopolitan experience for girls from small, isolated villages:

"Each boardinghouse was a social center where the girls made friends and explored new ideas. Intent on self-improvement, they stocked the parlors with books, magazines, and literary journals. Somehow, after their long hours at the machines, some of the mill girls found time to attend lyceums, to read, to study poetry, and to write. Tenure at Lowell was more than just a job, it was an education."

Although it was the cosmopolitan experience which drew the girls to Lowell, the city in its early days was far from congested:

Figure 13: Individual workspaces in the proposed offices for Linguistics International are partially defined by the light from the windows. The curved shape of the exterior wall creates a partial containment around the workspace and reflects the light from the window into the space.

"The spacious layout and beautiful surroundings of early Lowell helped to ease the factory routine. The mill girls said they enjoyed a life of "Arcadian simplicity," picking flowers on the way to the mill and admiring sunrises and sunsets from the windows of their workrooms. The factories were "light, well-ventilated, and moderately heated, each factory stood detached, with pleasant sunlit windows, cheerful views, and fresh air from all points of the compass." Rural land still surrounded the city. Never far from view, natural beauty softened the rough edges of industry."

The vitality and intensity of life for the operatives in the early days of Lowell depended on the mobility of the workforce. For the first two decades, mill girls seldom stayed longer than three

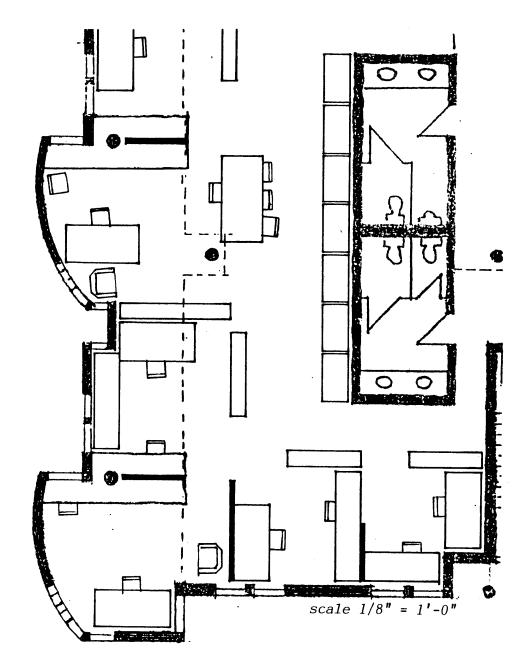
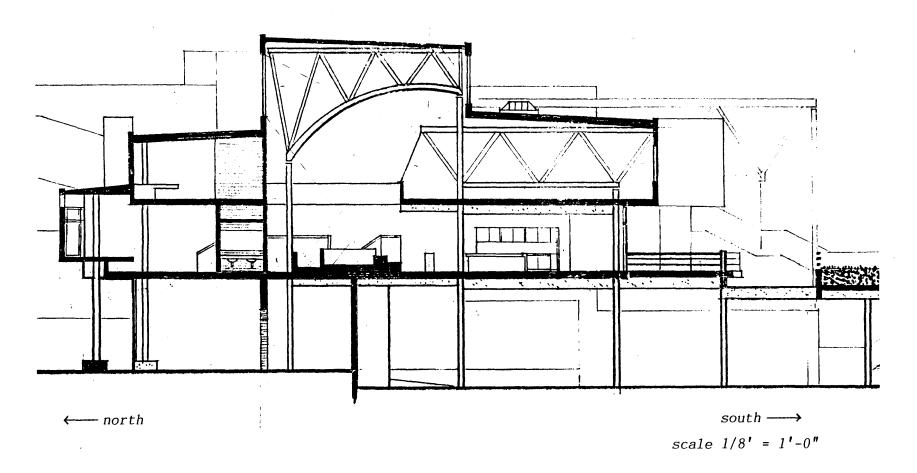


Figure 14: Cross-section through the proposed offices for Linguistics International. Light from the monitors in the roof floods the public areas of the building as well as work areas that do not have direct access to windows.



years or so, before they returned to the countryside to marry or otherwise moved on. There was a steady supply of labor as Lowell had a reputation throughout New England for supplying high wages, morally supervised lodging, and the excitement of city life. However, by the late 1830's and early 1840's, the magic had started to fade; the operatives had experienced a wage cut for the first time and the mill owners had weathered their first strike. In 1845 the potato famine in Ireland brought the first large influx of immigrants to the United States, effectively ending the practice in the mills of hiring farm girls.

In 1841, the following appeared in and article in *The Lowell Offering*, an amateur literary journal written and edited by the operatives:

"I am going home, where I shall not be obliged to rise so early in the morning, nor be dragged about by the factory bell, nor confined in a close noisy room from morning to night. I shall not stay here...Up before day, at the clang of the bell—and out of the mill by the clang of the bell—into the mill, and at work in obedience to that ding—dong of a bell—just as though we were so many living machines."

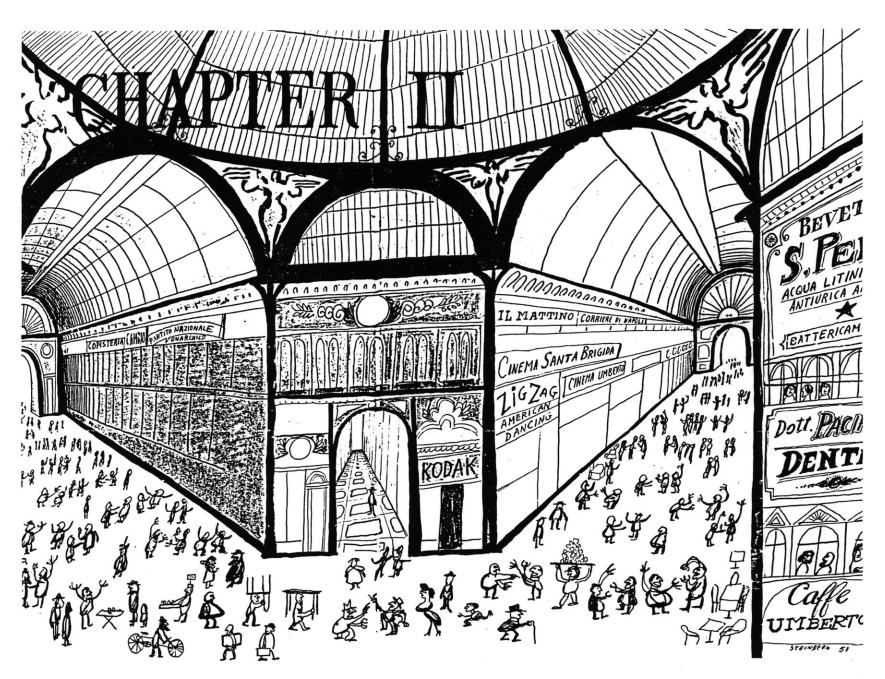


Figure 15: Bell tower, Boott Mills, Lowell, Massachusetts.

NOTES

Chapter 1: "Reversal is the Movement of Tao"

- 1. Hubka, Thomas, Big House, Little House, Back House, Barn: The Connected Farm Buildings of New England, 1984 University Press of New England, p. 7
- 2. Ibid. p. 50
- 3. Ibid. p. 49
- 4. Bender, Thomas, Towards an Urban Vision: Ideas and Institutions in Nineteenth Century America, 1982 The Johns Hopkins University Press, Baltimore & London (originally published by the University Press of Kentucky in 1975) p. 25
- 5. Ibid. pp. 28-29
- 6. Ibid. pp. 23-25
- 7. Scheu, Jenny Potter, Design for the Workplace: A New Factory, M. Arch. Thesis, M.I.T. Department of Architecture, 1979
- 8. Dunwell, Steve, The Run of the Mill, 1978 David R. Godine, Publisher, Boston, pp. 13-15
- 9. Bender, p. 27
- 10. Dunwell, p. 47
- 11. Ibid.
- 12. "The Spirit of Discontent", The Lowell Offering, 1841, p. 111



THE BLURRING OF LINES

BETWEEN WORK AND PLAY

"Through work we are fully engaged in life." Are we not most fully alive at the moments when we are having the most fun? If work is to be an activity that both produces and feeds off of adrenalin and laughter, is it only a matter of the nature of the work and the attitude of the workers? Or does the physical nature of the workplace play a role? In what ways can the work environment support the experiencing of work as being more like a game of volleyball at the beach with friends, an exhilarating hike, or lovemaking?

Lucy Larcom, in her description of her first experiences working in textile mills in Lowell, Massachusetts (ca. 1832), provides us with a spirited glimpse of what the $\frac{\text{work}}{\text{play}}$ experience can be like for a child:

"So I went to my first day's work in the mill with a light heart. The novelty of it made it seem easy, and it really was not hard, just to change the bobbins on the spinning frames every three quarters of an hour or so, with half a dozen other little girls who were doing the same thing. When I came back at night, the family began to pity me for my long, tiresome day's work, but I laughed and said, 'Why, it's nothing but fun! It is just like play!'

And for a little while it was only a new amusement. I liked it better than going to school and 'making believe' I was learning when I was not. And there was a great deal of play mixed with it. We were not occupied more than half the time. The intervals were spent frolicking around among the spinning-frames, teasing and talking to the older girls, or entertaining ourselves with games and stories in a corner, or exploring, with the overseer's permission, the mysteries of the carding-room, the dressing-room, and the weaving-room."

Lucy's description of a child at

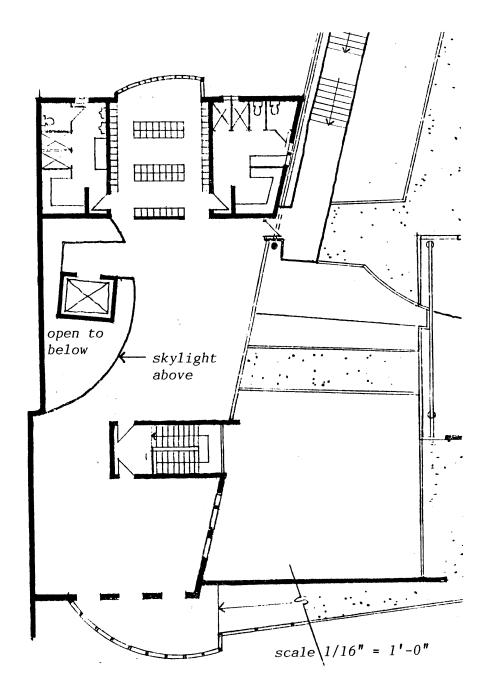
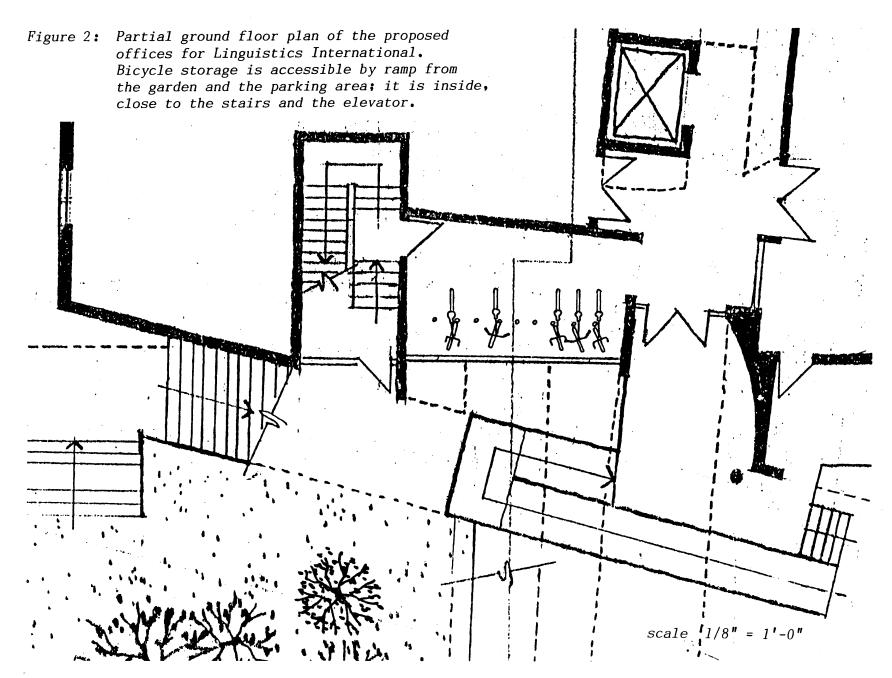


Figure 1: Fourth floor plan of the proposed offices for Linguistics International. This skylit top floor is an exercise room with lockers and showers. An exterior stairway leads down to the lawn over the parking area, providing a choice between indoor and outdoor "play".

work play begins to suggest a model for "adult" work in which work and play are integrated to such an extent that the memory of the total experience at the end of each day is one of having been fun. The extent to which the play is really part of the work or if it occurs during breaks from the work will inevitably depend on the level of intrinsic interest or, conversely, tedium in the work.

Kenneth Pelletier has written about health, both physical and mental, in the workplace. He generally supports the idea that the setting in which the work takes



place is not nearly as important as the attitudes of management and workers, in terms of promoting good health in the workplace. However, he does make some specific suggestions for ways in which the work environment can be more supportive of a healthy life for the people working there. These suggestions deal with providing opportunities for mixing play (or exercise, as we adults like to call it) into the work experience.

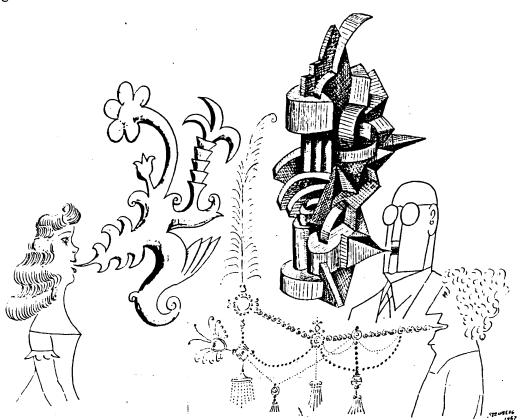
The suggestions include providing safe storage for bicycles, lockers and changing rooms for those who exercise on their way to work or during lunch, and providing passes to local facilities such as the YMCA. It is important to take into account older, disabled, and sedentary workers and to avoid intimidating incentives and peer pressure. And it is important

encouraging attitude on the part of management is more important than the best of facilities. For example, at a Pepsi plant in Purchase, NY, workers were given the freedom to use athletic facilities at any time during the day, and 11,000 out of 14,000 took advantage of it.2

Play is mostly a matter of having fun with whatever is at hand to be pressed into service. The Lawrence Mills factory where Lucy Larcom worked as a child was certainly not conceived of architecturally as a playroom, although that is what Lucy and her co-workers made it. Most likely its geatest assets as a place to support play were that it had corners to huddle in and a sense of the unknown, offering opportunities for exploration.

Perhaps the most important thing

that the architect can keep in mind in designing a workplace that will help to blur the lines between work and play, is to imagine him- or herself working there, taking breaks, schmoozing, wandering; does the building offer opportunities and surprises? Do individual workspaces have the qualities of a corner to huddle and swap stories in?



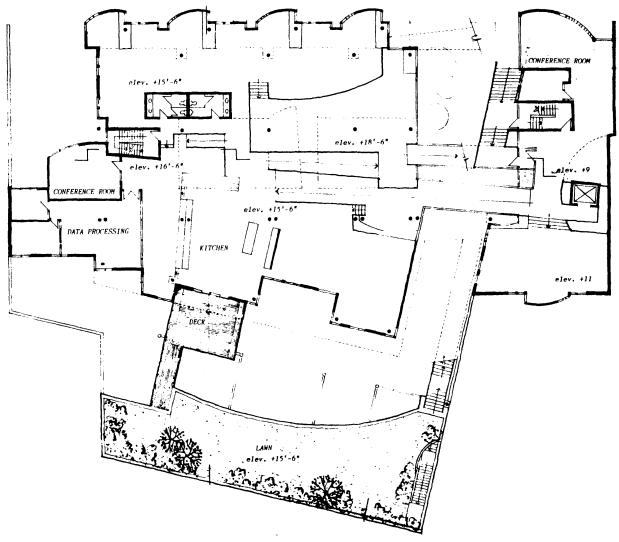


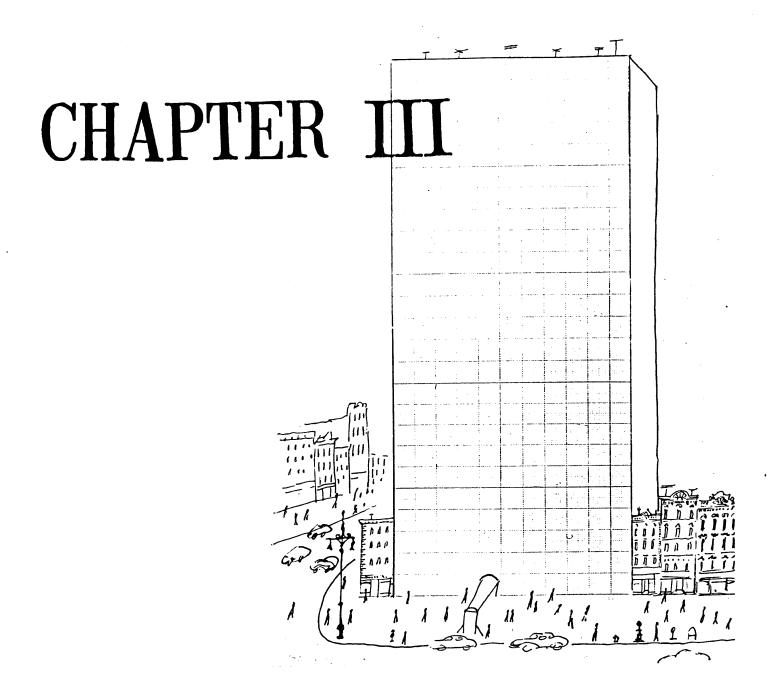
Figure 3: Second floor plan of the proposed offices for Linguistics International. The ramp system makes a 3-dimensional interior "street", a good place for taking breaks, wandering, schmoozing.



NOTES

Chapter 2: "The Blurring of Lines between Work and Play"

- 1. Larcom, Lucy, *A New England Girlhood*, 1986 Northeastern University Press, Boston (originally published by Houghton Mifflin Co. in 1889) pp. 153-154
- 2. Pelletier, Kenneth, Healthy People in Unhealthy Places: Stress and Fitness at Work, 1984 Delacourt Press/Seymour Lawrence, New York, pp. 17-18



INDUSTRIAL MANAGEMENT: THE OLD PARADIGM

The change from the small factory with a craft-guild labor tradition to the large, automated factory first manifested in the textile industry, brought with it a fundamental change from skilled craftspersons to unskilled labor. As the author of the farewell piece in the 1841 Lowell Offering was well aware, it did not take long before the management of large-scale factories ceased to see the unskilled laborers as human beings, but rather as a necessary part of the means of production.

The underlying assumption of the old paradigm is that human beings are most deeply motivated by economic concerns.

Despite the obvious reality that beyond a certain level of sufficiency, strong needs such as the desire for health, love, and meaningful activity take precedence for

many people, this assumption became the driving principle behind industrial management theory. The paradigm of economics is clearly expressed in the management theory of Frederick Winslow Taylor, an American consultant who was very influential during the late 19th century.

Placing a great deal of emphasis on "efficiency," Taylor proposed that tasks be separated and scientifically developed, and that workers be specifically trained for each task. Furthermore, management would take responsibility for division of labor, production schedules, and quality control. Taylor's theories influenced the development and introduction of the assembly line, among other changes.

Although developed for production processes, Taylor's ideas also had some effect on office work, especially as

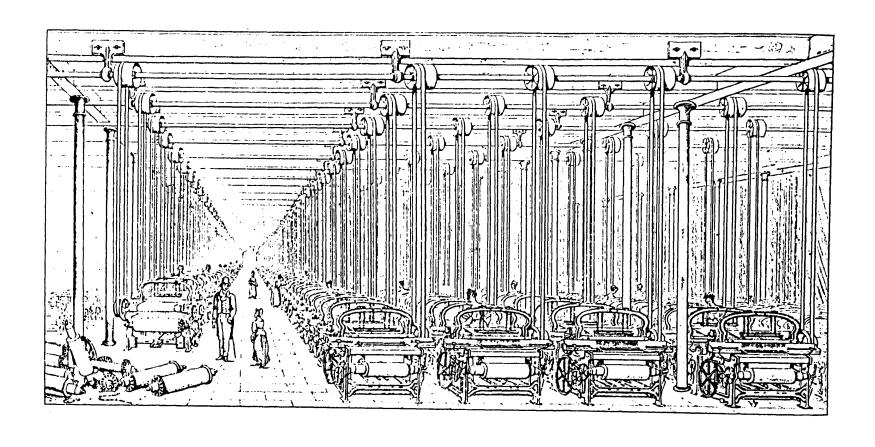


Figure 1: Power looms in an early textile factory.

offices grew to factory scale and office work became increasingly automated. With a few notable exceptions such as Frank Lloyd Wright's Larkin Building, office structures during Taylor's time essentially followed the precedent of dwellings converted to office use. Louis Sullivan described the office midsections of his skyscrapers as "offices piled tier upon tier, one office just like all the other offices--an office being similar to a cell in a honeycomb, merely a compartment, nothing more." $_{2}$ The need for more efficiency, particularly in terms of communication and flexibility, led to the development, following the Second World War, of the open office plan pioneered by Mies van der Rohe.3

The postwar years, which saw Mies' open office plan become the standard for

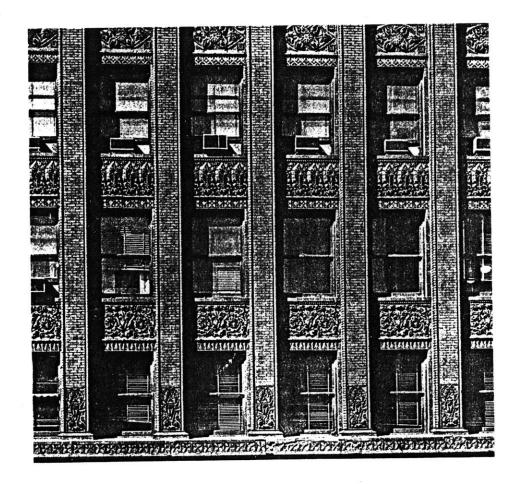


Figure 2: Facade detail of the Wainwright Building, Louis Sullivan, architect. "Offices piled tier upon tier, one office just like all the other offices..."

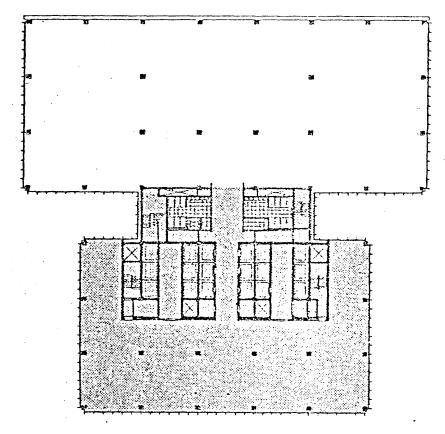


Figure 3: Plan of a typical office floor of the Seagram Building, Ludwig Mies van der Rohe, architect. Upon completion of the Seagram Building in 1958, Peter Smithson wrote in Architectural Review: "The inside spaces are fine when they are simple and one can see the outside, but none of the suites of rooms that have been specially designed seem to have any relationship with the fundamental organization of the building, or to utilize the potential relationship between the outside space and the views. It may be that a Mies building can only really have one sort of internal space..."

new office construction virtually worldwide, also saw the field of social science begin to question some of the basic assumptions behind Taylor's management theories. In 1960, while at the Sloan School at MIT, Douglas MacGregor undertook an analysis of management attitudes. He classified attitudes generally into two categories. which he called Theory X and Theory Y. The hypothesis was that Theory Y managers, by virtue of the recognition of their workers as human beings with values and aspirations, would be more successful in the long run.

This work spawned a great deal of research by the social science community into work and the workplace, and fairly widespread interest on the part of industrial management. In Scandinavia and Japan, and eventually in America,

automobile manufacturers experimented with dismantling assembly lines and grouping workers into assembly teams, where each worker does a number of jobs during the production of each car or truck, and each car or truck is the product of a team effort. Although there were some negative

effects, it was generally found that with the increased sense of control over the process, the increased responsibility and reliance on one's co-workers, absenteeism dropped, productivity soared, and quality improved. $_{\Delta}$

Theory X

people are unmotivated and lazy

people do not seek an understanding of, or responsibility for, their work

incentives are based on piecework, placing emphasis on competition

Theory Y

people are motivated

people seek outlets for creative expression

people take responsibility for their own work

incentives are based on the number of operations a worker can perform and the quality and quantity of the group effort, placing emphasis on teamwork and cooperation

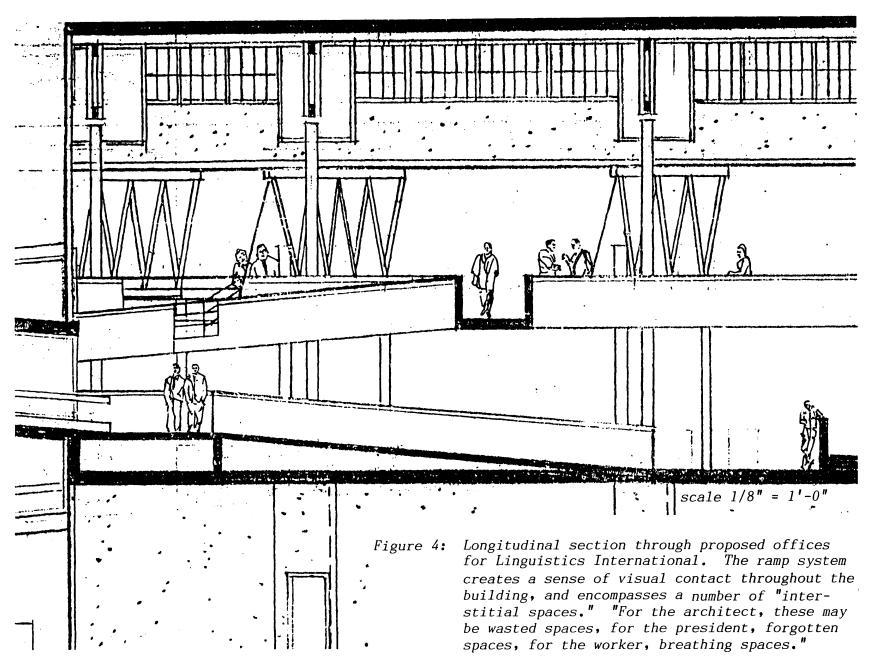
management decides on production goals, and the workers decide how to accomplish the work as a group



"Aren't you the least bit interested in how I feel about going through a maze?"

"White collar work is devoid of pleasures of craft and the tyranny of exhaustive physical labor. The white collar workplace is devoid of the power determinants from which factories derived their form. So it stands as a built manifestation of man's attitude towards himself." 5

The basic open office plan, with no architectural definition of space, forcing almost complete reliance on office landscape systems, is still the standard for new office construction in the United States. Recent office highrise designs have made the concession from the purity of Mies' box to try to maximise the number of corner offices. This is justified by the claim that it gives more of the executives the prestige of a corner office, but it also seems to be a manifestation of the fact that people feel better working in a space that has more architectural definition; that is, a place that has a



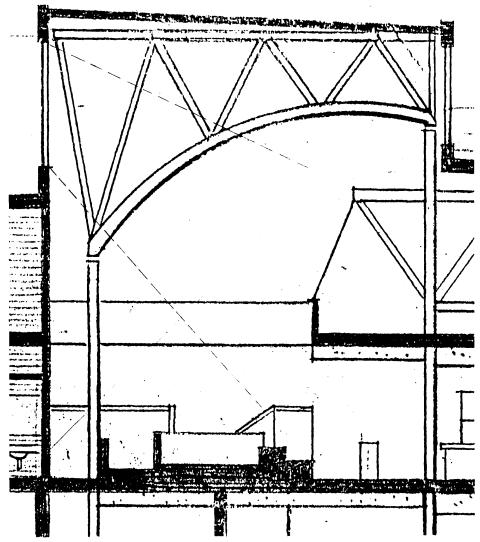


Figure 5: Cross section through proposed offices for Linguistics International. Light monitors at the upper truss level flood the interior space with direct and indirect natural light. According to Louis Kahn, "Natural light provides a connection to the natural forces."

greater sense of permanence.

Taking the idea of providing more corner offices a few steps further, one might hypothesize that a sincere effort to create a workplace that would support and encourage the attitudes inherent in Theory Y management might produce some ideas about physical form. Two previous MIT M. Arch. theses dealt with this very issue: Design for the Workplace: A New Factory, by Jenny Potter Scheu (1979) and White-Collar Workplace: Interior Form and Definition in Office Building Design, by Michael Slezak (1978).

Although they are designing for completely different uses, both Jenny and Michael design specifically with Theory Y management in mind. The physical determinants that were mentioned in both theses

can be grouped roughly into a few categories.

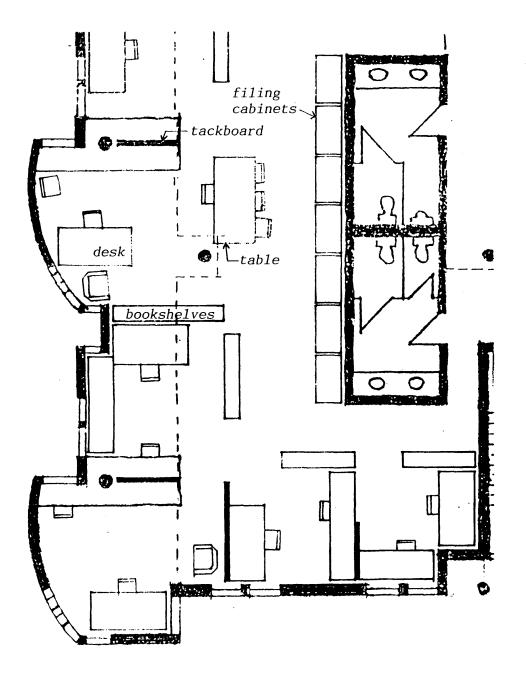
The relationship between managers and workers is one concern. Shared facilities, visual contact between parts of the building, and places for comfortable social interaction are suggested.

Variety of space is another issue of importance. "Interstitial spaces" and places for rest and renewal are important. Variety in conditions of light and tactile quality, and views to the outside are also mentioned. "(Views) afford daylight, minimize the sense of enclosure, create cheerful, more relaxing conditions, show what's happening outside, and give eyemuscle relief."

Finally, individual control over one's own workspace is important, particu-

larly in the white-collar workplace. As Hertzberger pointed out, the ability to modify and personalize makes it easier for the person to make the office a home away from home. The ability to block or open views by installing bookshelves or tack-boards allows each person to have control over the quality of their own privacy. Some individual control over lighting, ventilation, and noise allows each person to adjust the environment to their own comfort levels.

These concerns provide some clues about differences in form between a work-space which responds to the old paradigm, and a workspace which is supportive of the new paradigm. In what ways does the new paradigm facilitate an enrichment of the improvements in the workplace suggested by



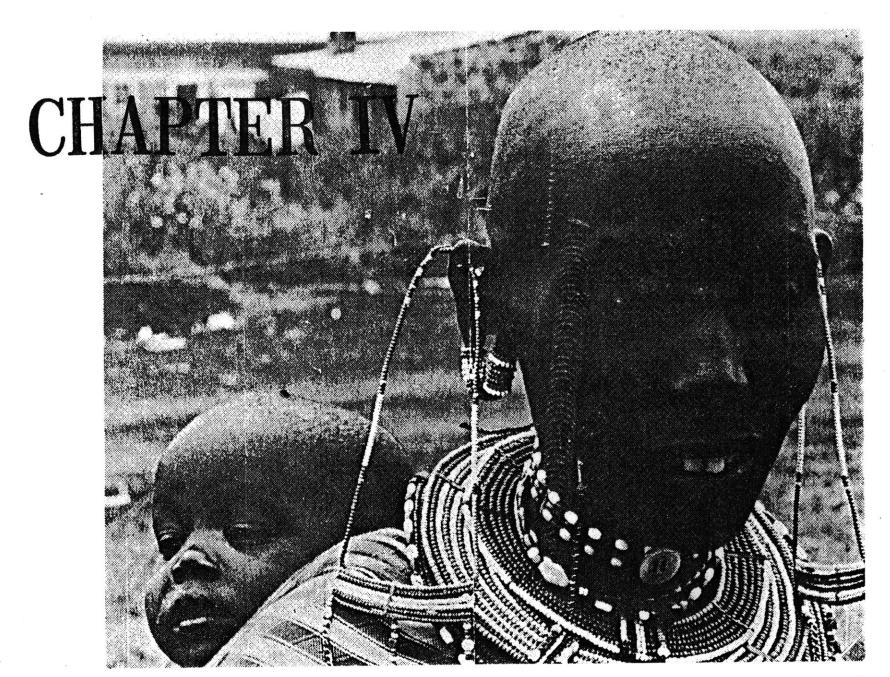
the work of the social science community?
What role can the architect, as a professional, and as a rational, emotional,
and spiritual human being play in giving
life to the workplace?

Figure 6: Detail of individual workspaces in the proposed offices for Linguistics International. The building provides some spatial definition, a work surface, and a window for light and a view out. The inhabitant can provide additional privacy and definition of his or her own space by locating desks, bookshelves, or tackboards.

NOTES

Chapter 3: "Industrial Management"

- 1. Scheu, Jenny Potter, Design for the Workplace: A New Factory, M. Arch. Thesis, M.I.T. Department of Architecture, 1979 p. 12-13
- 3. Slezak, Michael, White-Collar Workplace: Interior Form and Definition in Office Building Design, M. Arch. Thesis, M.I.T. Department of Architecture, 1978, p. 19
- 2. E. G. Holt, (1966) p. 305
- 5. Scheu, pp. 38-43
- 6. Slezak, p. 2
- 7. Scheu, pp. 46-66, and Slezak, pp. 31-45
- 4. Scheu p. 27



THE LIVING WORKPLACE

The central idea of this thesis, and indeed the central idea expressed by the new paradigm, is that of the integration of work with life. For this notion to have any meaning as an architectural determinant, this oneness of work life must be found in the building itself. The building must be alive—that is, it must grow and change, and have a personality through which it develops personal relationships with its inhabitants.

In Patterns of Association, Jack and Mart Myer explore various environments and consider ways in which these environments make associations with our own "inner landscapes"—our very aliveness as human beings. Starting with the rolling agrarian landscape of Spring Green, Wisconsin, they suggest that the qualities of

the earth, "waiting, soft, fecund, warm; the swales, rich, wet," the horizontality, concavity, and support of growth, all make associations for us with the experiences of early childhood, nurturing, mothering.

We do not necessarily understand these associations at a conscious level, but at what is described as the level of autistic thought, which "creates for itself a dream world of imagination."

A description of a set of farm
buildings set into this landscape follows.
The Myers point out how the roof and window forms make eyes and brows, combining
in places to form faces, "conscious of the
view out and drawing us to look in."
Similar to our consciousness of our own
bodies, and our bodily relationships with
others, we sense architectural elements of
the building such as eyes, faces, fronts,

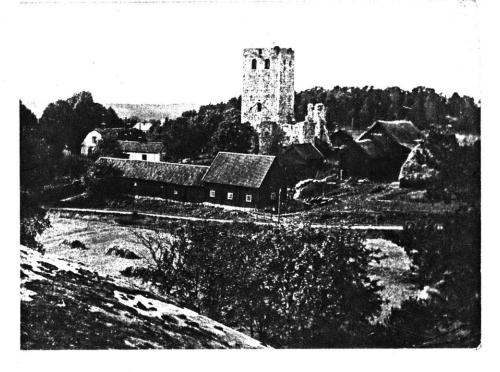


Figure 1: A group of farm buildings in Sweden (gift of Kristin Nelson)

flanks, sides, back. And we find ourselves aware of the group of farm buildings as a group of beings with specific relationships between them.₂

Using as examples an ancient sawmill and a boat yard located in Nova Scotia, the same kinds of associations, drawing on our physical self-awareness and our early experiences in the world, are found in the workplace. Natural cycles represented by the polarities of light-dark, hot-cool, hard-soft, dry-wet are present. In the sawmill, the interior is moist and dark, a place of death for the logs and of birth for the freshly gleaming boards. It is relieved in places by openings in roof and wall, introducing life-giving light. The boat shed, with its soaring ceiling structure like the ribbed hull of a boat and its great doors opening out toward the

Figure 2: Rear elevation of the proposed offices for Linguistics International. Roof and window forms make eyes and faces, conscious of the view out and drawing us to look in.



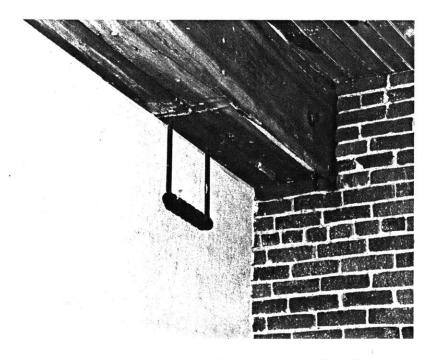


Figure 3: Restored Wannalancit Mills in Lowell, Mass., now an office building. In a few places, small details remain which give the building a visual memory of its former life.

sea, is a womb-like space for the creation of the fishing boats. $_{\Lambda}$

Beyond the associations, these buildings have their own life-cycle of growth, decay, and renewal:

"...to find a built environment which has been generated incrementally and periodically, as needed, through deploying the locally made piece of dimension lumber, gives one the understanding of how it got generated, and even the sense of having generated it oneself or with a small group of others." 5

From Lucy Larcom's description of her life and work as a child in Lowell, an idea begins to emerge about how the energy that went into the social life, the reading and writing, and the tending of the machines in the mills was derived, via the building, from the moving water of the Merrimack river. The building itself had a sense of energetic, thought-provoking life:

"In a room below us we were sometimes allowed to peer in through a sort of blind door at the great waterwheel that carried the works of the whole mill. It was so huge that we could only watch a few of its spokes at a time, and part of its dripping rim, moving with a slow, measured strength through the darkness that shut it in. It impressed me with something of the awe which comes to us in thinking of the great Power which keeps the mechanism of the Universe in motion."

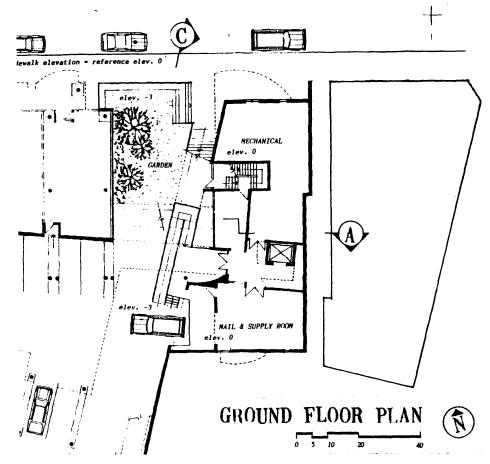


Figure 4: Plan detail of the proposed offices for Linguistics International. From the entrance, the loading operations can be seen through the "slot" in the building, reminding workers and visitors that the work goes beyond the paste-up table and dignifying the job of the mail clerk. There are also windows from the sidewalk into the mechanical room, drawing us to look in.

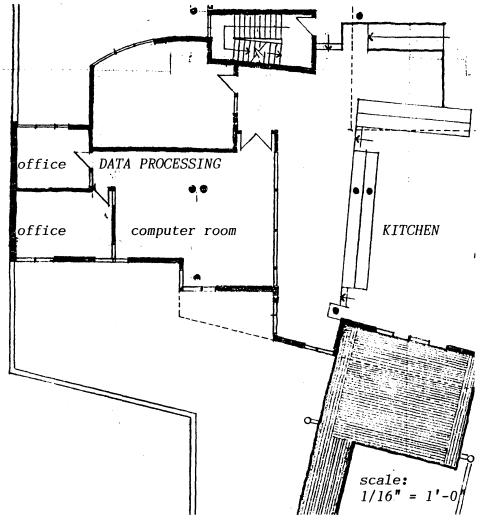


Figure 5: Plan detail of the proposed offices for Linguistics International. The enclosed, air-conditioned computer room is separated from the social center of the kitchen by a glazed wall--a visual reminder to everyone of the importance of the machines inside to the operation as a whole.

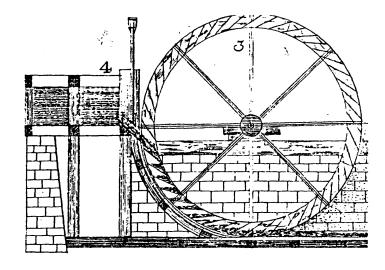


Figure 6: A "breast wheel" waterwheel, similar to those used in most of the mills at Lowell. The wheels were often as large as 30 feet in diameter and 20-30 feet wide.

We hope to be able to sense life in the built environment of the workplace. The building should respond to the human needs of the workers and other users, and might also make associations with human life at a deeper level. In addition, for a building to be truly alive, I propose

that it must express an awareness of its place in the social and political climate of its time. Thus part of the role of the architect is to infuse the building with a sense of his or her own social consciousness.

In A Meaning for Monuments, an article dealing with the ways in which buildings communicate, William Hubbard cites a well-known example:

"Buildings too can take on an aspirational role, as at Thomas Jefferson's University of Virginia campus, where students and professors are grouped together around a space leading to the central library. Jefferson intended that this arrangement be not merely a model for the physical layout of universities, but that it stand as a model for how life in a university ought to be organized, with students and teachers meeting on common ground to share and increase knowledge. And by holding before us an accomplished fact of life lived according to such an ideal, the university would stand as an ideal towards which the society at large might aspire."

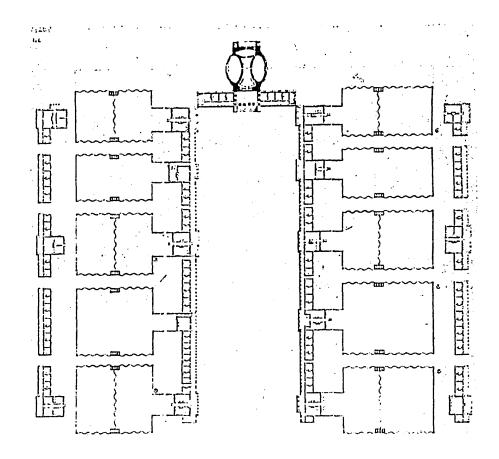


Figure 7: Jefferson's plan for the original University of Virginia campus.

Thus the aware workplace might gently criticize the work habits in our society, which are to a large extent currently derived from attitudes inherent in the old paradigm. Bill Hubbard suggests that this is the case in Louis Kahn's Richards Laboratories building in Philadelphia. Even now, a quarter-century after its completion, scientists working at the Richards Labs complain about the lack of privacy and inconvenience inherent in the design of the building. However, there was an ideal about scientific research which influenced the layout of the building: that if the scientists could see into and circulate through each others' workspaces, they would communicate more and more cross-fertilization of ideas would take place. The building recognizes that tunnel vision and lack of a

wholistic understanding is a serious problem in the world of scientific research, takes a stand against working in isolation, and in so doing expresses a noble ideal.

SOME IDEAS ABOUT $\frac{\text{WORKING}}{\text{DESIGNING A WORKPLACE}}$

Some thoughts about how the proposed workplace for Linguistics International might come to life begin to emerge:

First, the building might be constructed using an understandably incremental process which allows encourages incremental growth and change. It will be possible to add and subtract use surfaces, storage systems, and technological gadgetry as needed, and the building might have a visible memory of things that were there before.

Second, the building might have human-like attributes: eyes and faces, front, flanks, sides, back; horizontality and verticality, contact and conversation with its neighbors. The building might

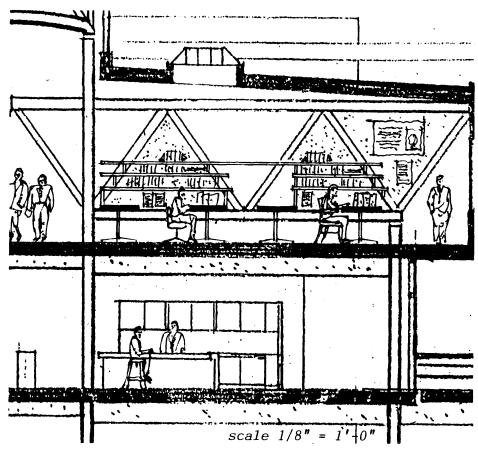


Figure 8: Production area in the proposed offices for Linguistics International. Trusses in the space give partial spatial definition, and provide an infrastructure to which work surfaces, shelving, and partitions can be added. Interior wall surfaces and partition panels in the trusses are made of homasote, a pressed paper product, providing a usable surface and helping to create an affinity between the building and the birth process of the books. Openings in roof and wall introduce lifegiving light.

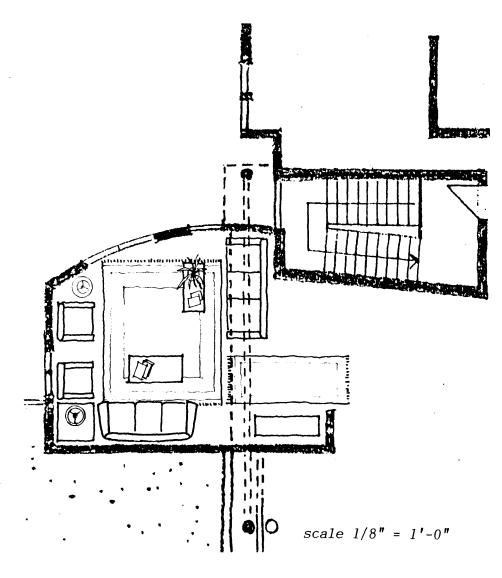


Figure 9: Plan detail of the proposed offices for Linguistics International. On the top floor at the end of the ramp system is a space that might be used as a quiet and comfortable place to rest or read.

respond to the process of birth creation of books: editing and production might take place in an inner, womb-like space where work takes place in relationship to penetrations of life-giving light. Iconography and symbolic intensification of surfaces might pick up on motifs associated with the various processes (editing, word-processing, telemarketing, etc.) and help to give meaning to specific places in the building.

Third, the building might respond to human cycles and activities that express the life of the inhabitation of the building. There might be places for the feverish energy of work and places for $\frac{\text{repose}}{\text{renewal}}.$ The building might $\frac{\text{allow}}{\text{encourage}}$ the experiences of hunger and thirst, satisfaction, sorrow and celebration.

Fourth, the building might respond to the earthly and celestial cycles which are too often drowned out of our lives by our world of TV and mashed-potato lighting. Consideration of the penetration of the sun into the building at different times of the day and of the year, recognition of the differences between the hot and cold times of the year, and recognition of the lunar cycles can all be integral parts of the experience of the building.

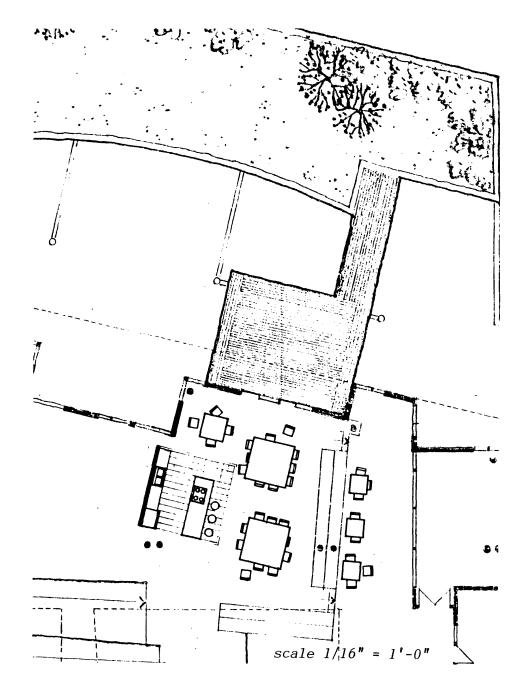


Figure 10: The kitchen in the proposed offices for Linguistics International—a great place to party.

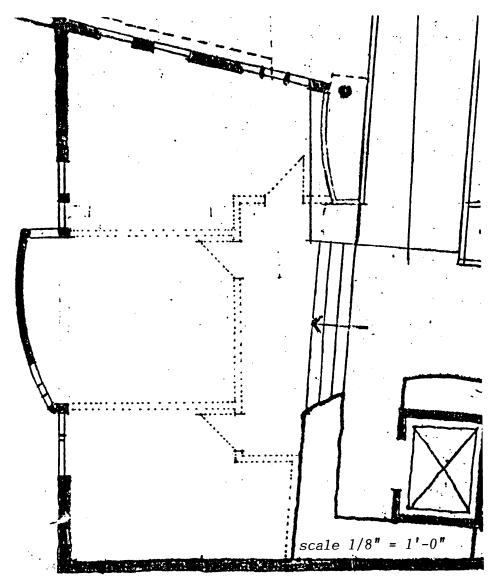


Figure 11: Plan detail of the proposed offices for Linguistics International. A place for three partially defined workspaces or three private offices.

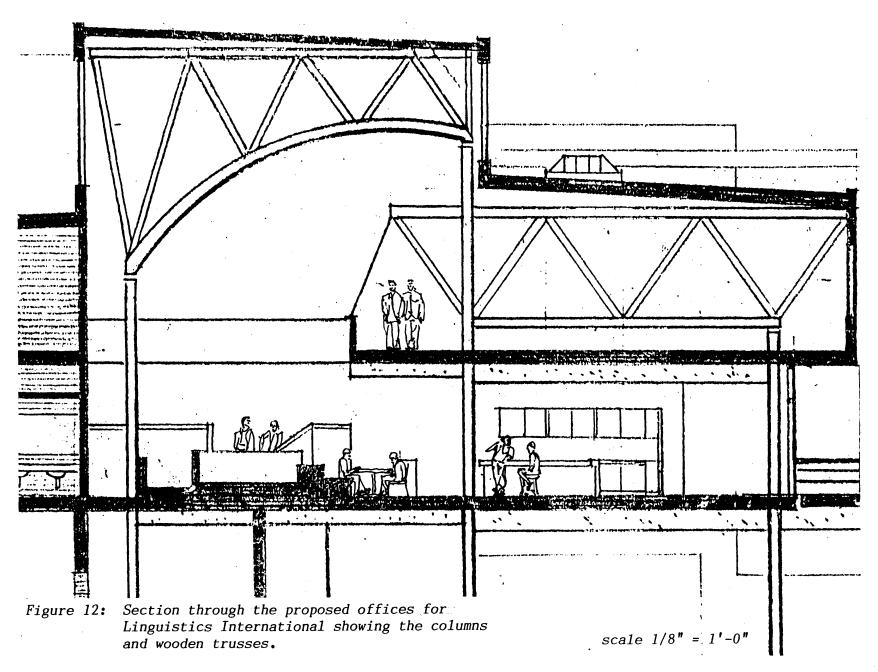
Finally, the building might have some awareness of its role in the lives of its inhabitants, and of the society in which they work. The building can suggest to workers that their work can be more fully engaged in their lives. It might be a great place to bring family or friends for a meal or a game; it might be a great place to party, or simply an easy place to visit. It can provide a setting that fosters informal communication and emphasize the importance of the role played by each person.

The building can be structured to break down heirarchy in other ways, as well. For example, it can provide enough spatial definition so that managers and executives don't feel compelled to wall themselves up inside private offices; alternate places for private conversations

can exist. And the building should be able to accommodate partitions if certain employees need private spaces in order to feel comfortable.

In an age when much of the architecture that makes up our work environments can be emcapsulated in two conflicting images—the "tree of life" and the "crystal of death"—the architect can take the stand of breathing more "tree of life" into the workplace.

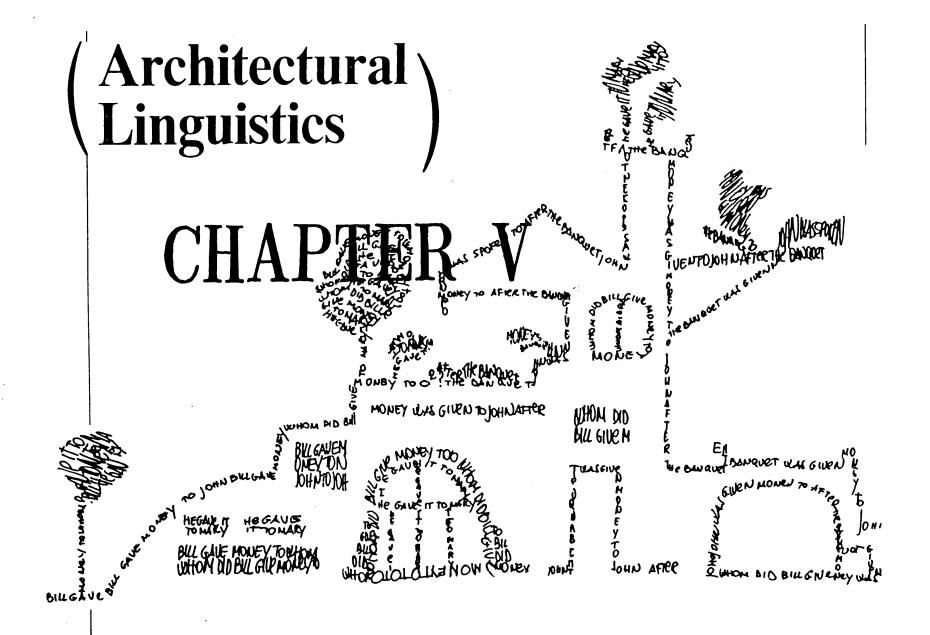




NOTES

Chapter 4: "The Living Workplace"

- 1. Myer, John and Margaret, *Patterns of Association*, 1978, Cambridge, Massachusetts, pp. 5-9
- 2. Ibid. pp. 10-13
- 3. Ibid. pp. 23-26
- 4. Ibid. p. 37
- 5. Ibid. p. 32
- 6. Larcom, Lucy, *A New England Girlhood*, 1986 Northeastern University Press, Boston (originally published by Houghton Mifflin Co. in 1889) p. 154
- 7. From a lecture delivered by Bill Hubbard during the symposium, "An Architecture Substance," at M.I.T., January, 1986



LINGUISTICS INTERNATIONAL

Linguistics is a parent company
under which there are four companies, all
of them involved in educational publishing.
Two of these companies make up the major
part of the workforce employed in the
Linguistics corporate offices: Boyd &
Fraser, publishers of college textbooks in
computer science, and Heinle & Heinle,
publishers of foreign language texts.

Linguistics was consolidated fairly recently, and is growing fast. In our increasingly information-based economy, companies that deal with the production of information are in a growth market, and a market that is increasingly important as time goes on. And within the information market, books about how to use cybernetic technology and about communicating in our ever smaller world community are vital.

Linguistics is involved in areas of interest which are both essential to the economy and are becoming more and more important in each of our daily lives. The company is also organized on a small enough scale so that the company takes an interest in the lives and well-being of its employees. And it is clear from observing the company's offices in downtown Boston that the management values both informal contact and discussion as a part of running and directing the company, and a comfortable setting where both formal and informal business can be conducted.

LINGUISTICS INTERNATIONAL

Outline program (based on existing office)

Executive suite: 6 private offices, 1 conference room

Accounting: 3 workstations

Personnel: 1 private office, receptionist's area,

mail room, supply room

Sales and Marketing: 3 private offices, 1 workstation,

1 conference room (shared with Accounting)

storage for books, samples, paper

Telemarketing: 1 private office, 3 workstations (sampling)

4 workstations (telemarketing), 1 terminal

Fulfillment: 2 private offices, 7 workstations,

file storage

Data Processing: enclosed, air-conditioned computer room

2 small offices, storage for tapes, discs

Acquisitions & Production: Boyd & Fraser: 4 private offices,

3 workstations

Heinle & Heinle: 5 private offices

4 workstations

tables for use by freelancers area for freelance word-processor

2 conference rooms

storage for paper & materials

general: kitchen & staff area

3 or 4 xerox machines

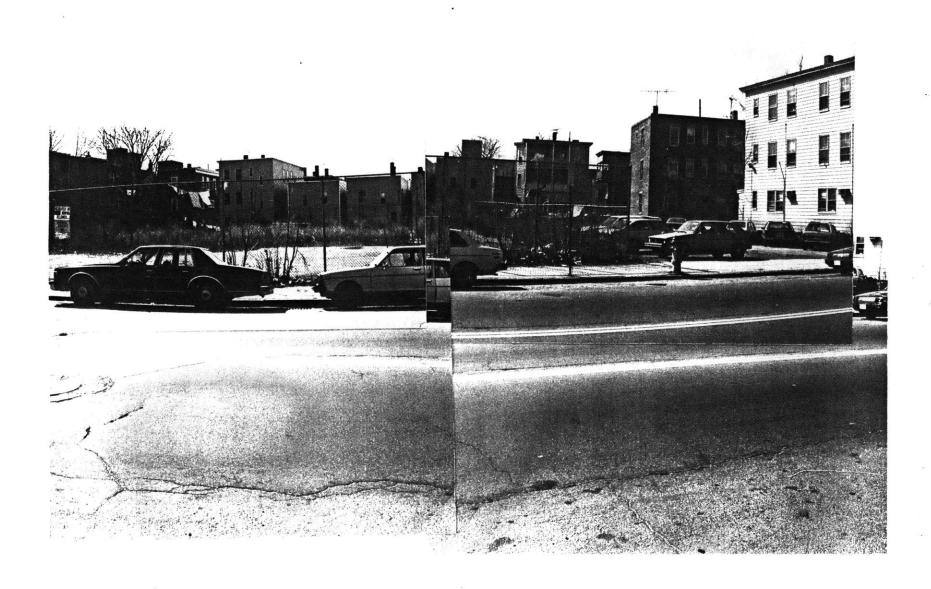
912 - 952 CAMBRIDGE STREET

This site is one of very few vacant pieces of land located along the length of Cambridge Street in Cambridge, Massachusetts. Cambridge Street connects Harvard Square with Lechmere, the commercial center of East Cambridge, across the Charles River from the North Station area of Boston. The site is between neighborhood commercial districts at Lechmere and Inman Square, and is part of the block bounded by Cambridge, Windsor, Willow, and Palermo Streets. A four-story office and retail building has been proposed for the site and seems likely to proceed.

Although it is not a site that
Linguistics would be likely to choose as
a location (a downtown location with close
proximity to the Boston publishing community seems to be an important part of
80



Figure 1: The site, from Cambridge Street. It is one of the few vacant pieces of land along the length of Cambridge Street from Harvard Square to Lechmere.



their corporate image), this site was an interesting one to me because it forms the center of an otherwise residential block. This allowed me to use the surrounding residential building stock as a contextual design reference and also to investigate the issue of how the building and its community of workers might fit into the existing community of residents.

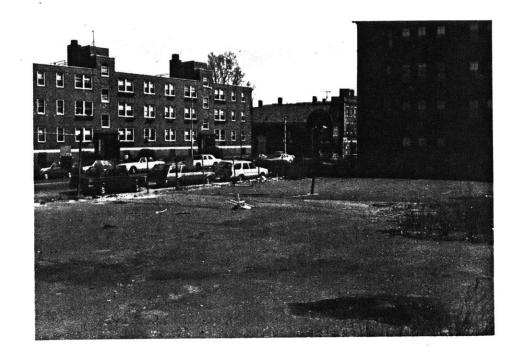
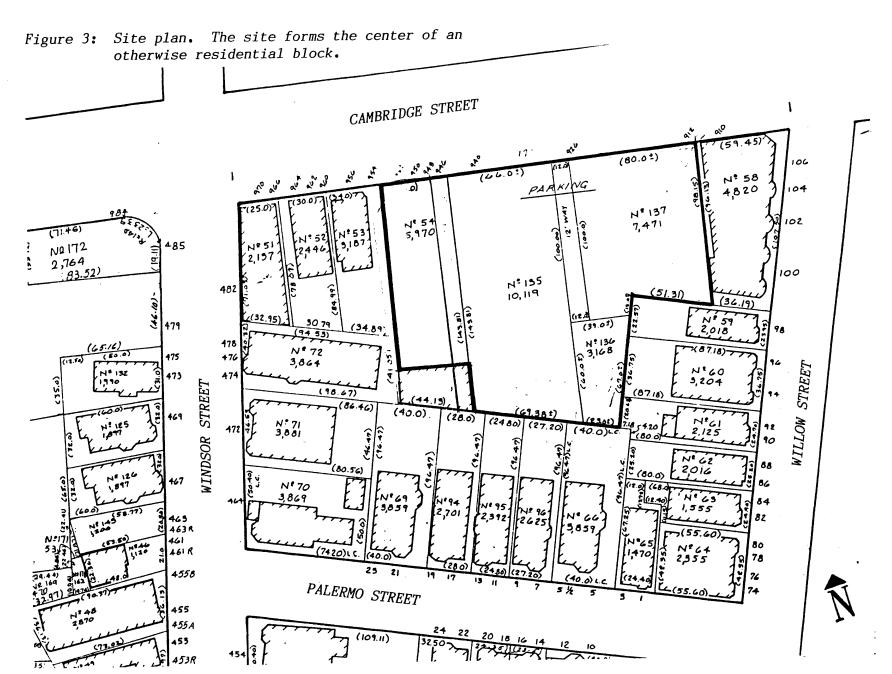


Figure 2: Cambridge Street, from the site.



THE PROJECT

The corporate management team for Linguistics is made up of the president, the financial officer, the administrative vice president, the presidents of the subsidiary companies, and the sales and marketing director. In their downtown office, these people all currently have offices in or near an executive suite which includes a living-room-like conference room (called the "oval office" by the staff) appointed with comfortable furniture, bookshelves, plants, and oriental rugs. This room is used for business meetings but also provides a setting for

Figures 4 & 5: The "oval office" at the existing downtown offices of Linguistics International.





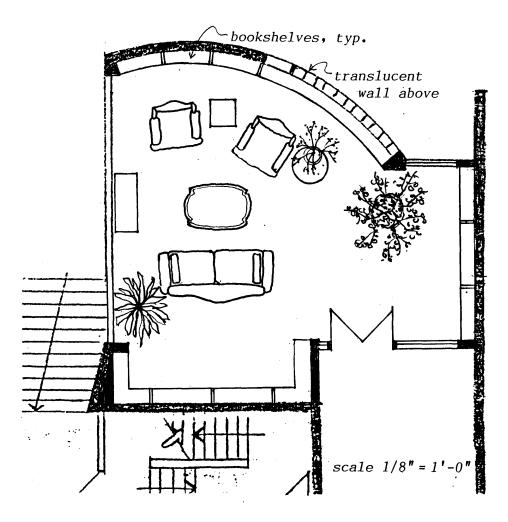


Figure 6: The new "oval office" in the proposed building. Diffuse light from the translucent "Kalwall" panels in the curved wall gives the room a luminous quality reminiscent of that produced by Japanese rice-paper screens.

Views through the clear windows are out toward the street and down into the garden at the entrance.

informal chats and discussions among the management group on an ongoing basis.

In the proposed new offices, I tried to provide for the continuation of this tradition by anticipating the making of six or seven pleasant, individual workspaces or private offices in close proximity to a conference area with a nice view, good light quality, and a high ceiling. However, I also attempted to encourage the idea that the whole building might be a setting for informal discussion about the company and that the camaraderie that now exists among the corporate management team can extend to employees at all levels in the company, if they choose to be a part of it.

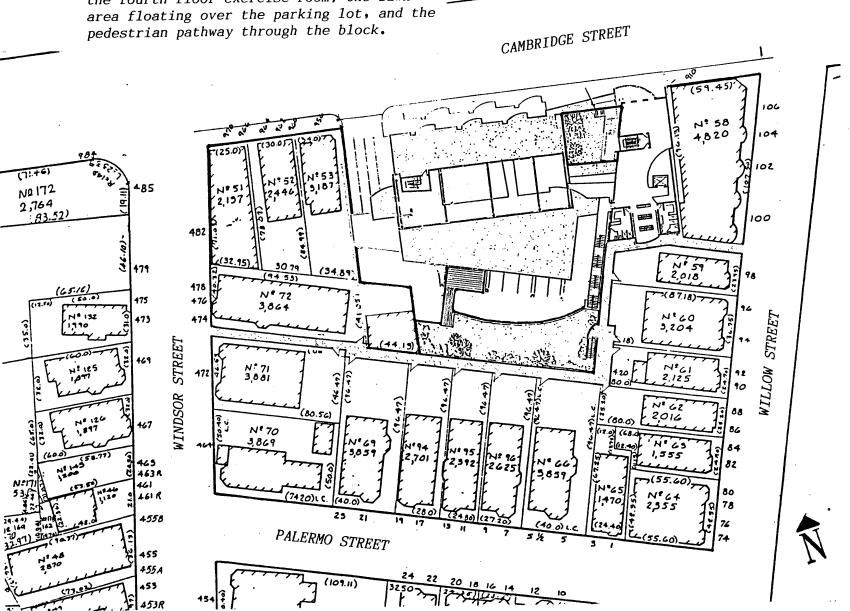
From my observation of the current offices, and discussions with various people throughout the firm, I compiled an

outline program based loosely on the status quo. From this program I assumed approximately a 20% expansion in terms of space needs. Although at first I tried to fit the various parts of the program to specific areas in the building, during the design process it became obvious that the best approach is to provide an infrastructure which has enough space to accomodate the program but can be inhabited in any number of ways. This allows for flexibility and easy, successful re-inhabitation by Linguistics or for a future occupant.

Hopefully, this flexibility can be achieved without the boring sameness characteristic of the typical open office plan, through creative use of structural elements, modulation of the skin, and variety in the interior landscape.

Finally, part of the proposal for the building is a proposal that a semi-public pathway be established through the middle of the block, allowing access between the back yards of the houses and the "back vard" of the building. As it is much larger than the back yards of any of the houses, the lawn of the building could provide a place for the neighborhood kids to play frisbee, football, etc. or a place for block picnics. The building, which would otherwise be seen as an intrusion, would make a positive contribution to the social life within the block. The lawn might even be a place where interaction between workers and block residents might occur.

Site plan showing the relationship between Figure 7: the fourth floor exercise room, the lawn area floating over the parking lot, and the



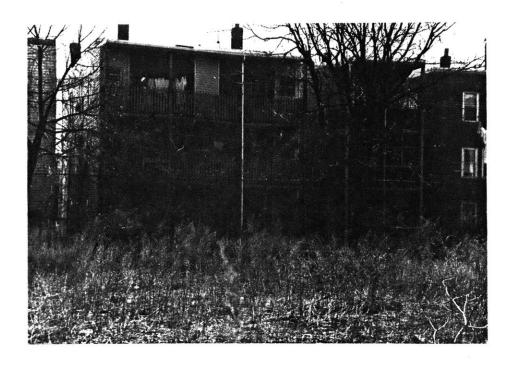
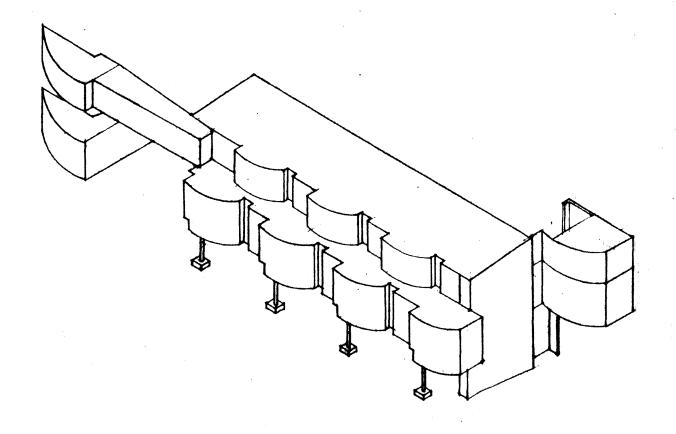


Figure 8: Back porches of the houses on Willow Street.

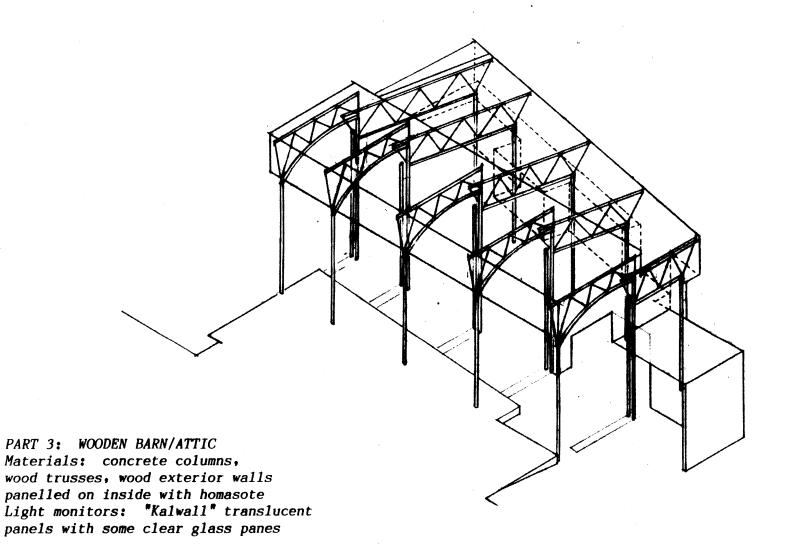
SITE PLAN AT GROUND LEVEL CAMBRIDGE STREET (59.45) 106 4,820 (71.46) 102 Na 172 2,764 :83.52) 485 100 482 3 479 478 (65.16) 473 STREETNº 71 3,001 120 92 STREETNº 62 2,016 WINDSOR Nº 70 3,869 461 R PALERMO STREET scale: approximately 1" = 60'

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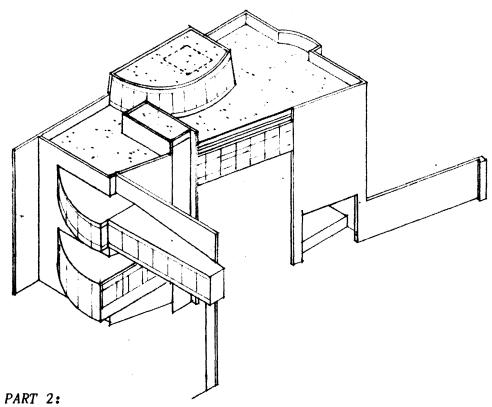


PART 4: PUBLIC FRONT/INDIVIDUAL WORKSPACES
Materials: aluminum sandwich panels, "Kalwall" translucent panels, glass

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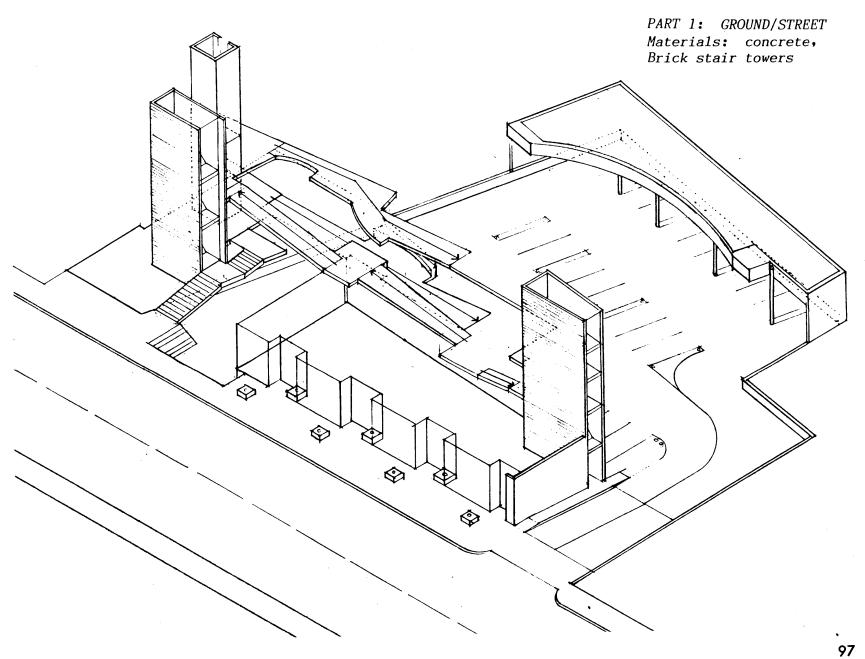


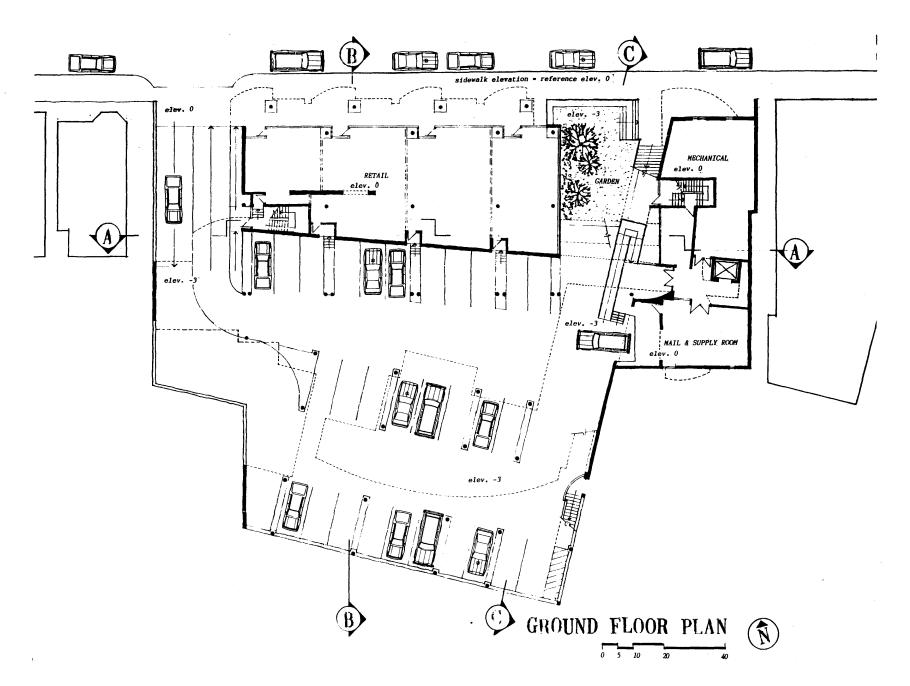
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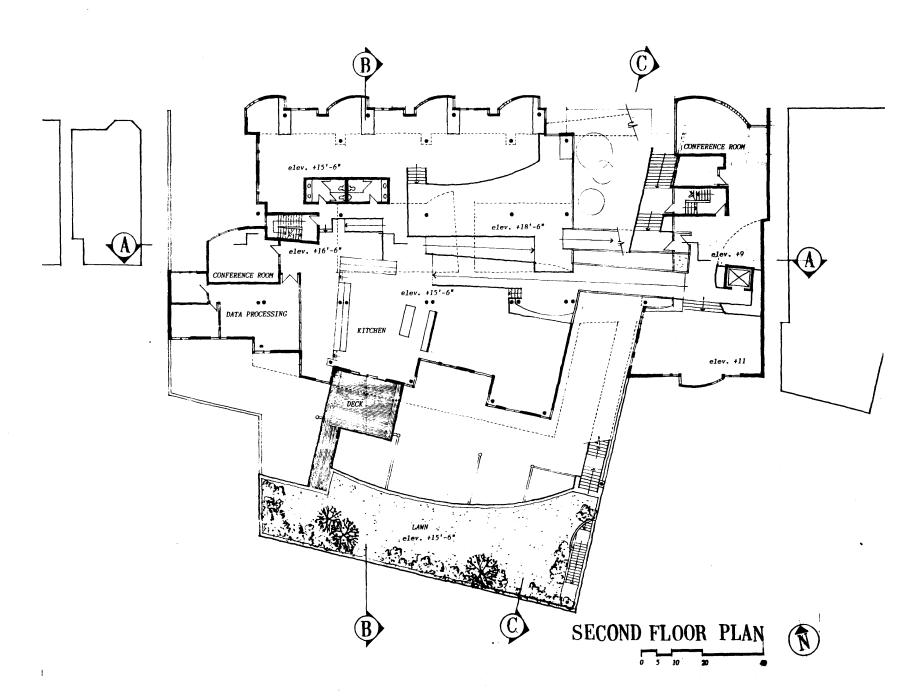


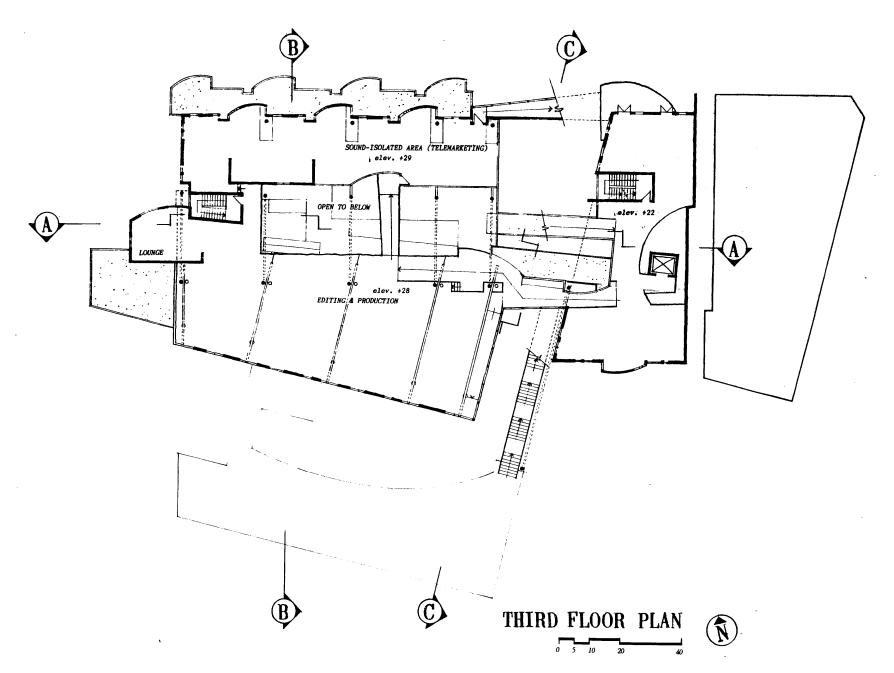
BRICK BUILDING
Materials: concrete
base, brick veneer walls

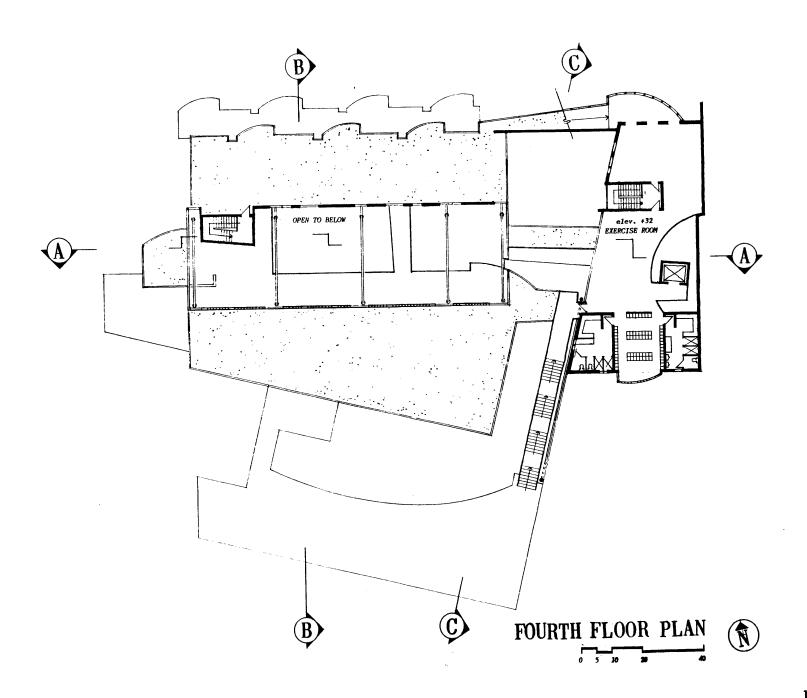
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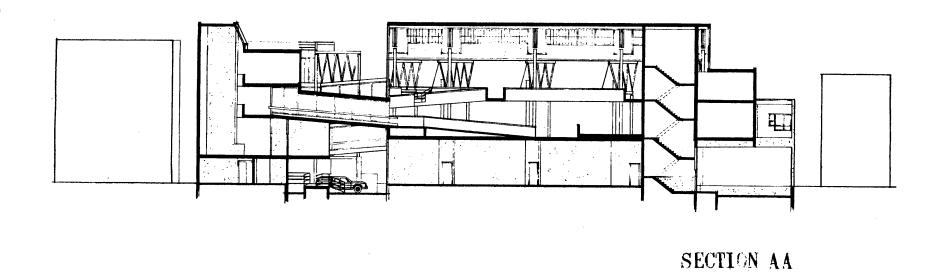


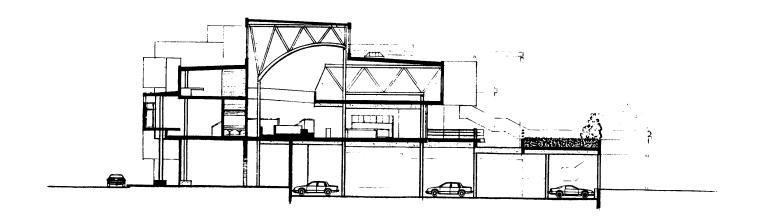






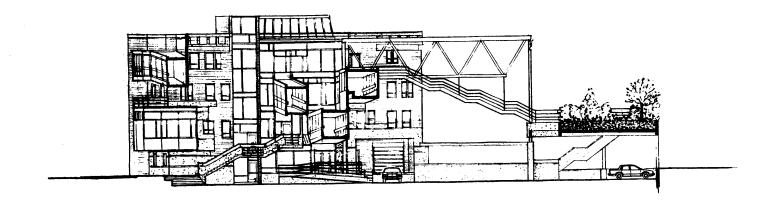




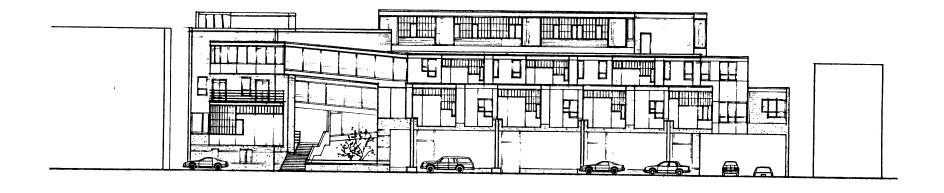


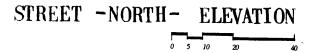


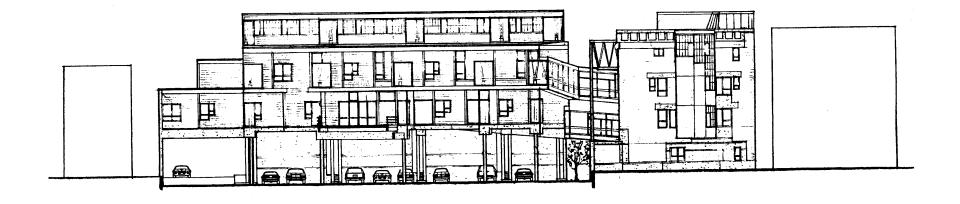
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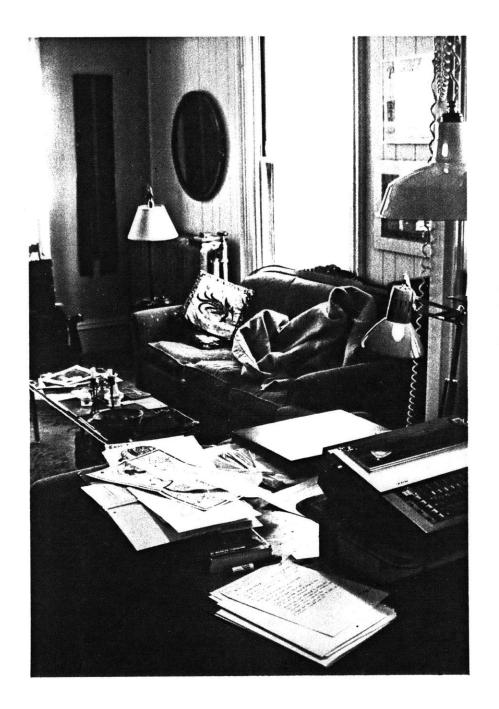








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APPENDIX: WORKING AT HOME

WORKING AT HOME PROVIDED A USEFUL MODEL FOR CONSIDERATION DURING MY INVESTIGATION INTO WHAT MAKES A "LIVING WORKPLACE". OF COURSE, WHILE WORKING AT HOME IT IS NOT ONLY POSSIBLE BUT PROBABLE THAT ONE WILL INTEGRATE HIS OR HER WORK WITH LIFE AROUND THE HOUSE--BREAKS NOW AND THEN TO DO THE DISHES OR PUT THE LAUNDRY IN THE DRYER SEEM INEVITABLE.

HOWEVER, TWO ASPECTS OF THE PHYSICAL ENVIRONMENT OF THE HOME EMERGED, NOT ONLY FROM MY OWN WORK AT HOME BUT IN NUMEROUS CONVERSATIONS WITH OTHERS WHO WORK AT HOME THAT ARE WORTHY OF USE AS REFERENCES IN THE DESIGN OF OFFICE ENVIRONMENTS. FIRST, THE SCALE OF A HOUSE OR APARTMENT IS SMALL ENOUGH SO THAT IT IS ALWAYS POSSIBLE TO WORK NEAR A WINDOW, SO THAT ONE HAS NATURAL LIGHT AND A VIEW OUT. SECOND, THE HOME ENVIRONMENT PROVIDES A CHOICE OF PLACES TO SIT DOWN AND WORK--USUALLY AT LEAST A DESK, THE KITCHEN TABLE, AND A FAVORITE READING CHAIR.

The couch was often pressed into use--it is the most comfortable place to read. It lives by one of the living room windows.

The kitchen table was my favorite place for research. It is the only place in the apartment where direct sunlight enters for any length of time during the day. It was wonderful to experience the growing duration of morning light and warmth there as the year moved closer to summer.

The outdoor extension of the kitchen was a great place to read on a warm day, but more often served as a place to relax and get away from the mess inside, whether for lunch or just a cup of tea and a chat with the cat.







My desk was headquarters for the thesis and took an honored position in the bay window in what once was the dining room. Activity became more concentrated here as the thesis process moved more into a production mode. Typing, some drawing, and paste-up all happened here. (The major drawings were produced next to a wonderful, but drafty large steel-sash window in room 10-485 at MIT. At some point, I found I just had to get out of the house to get some major chunks of work done!)



