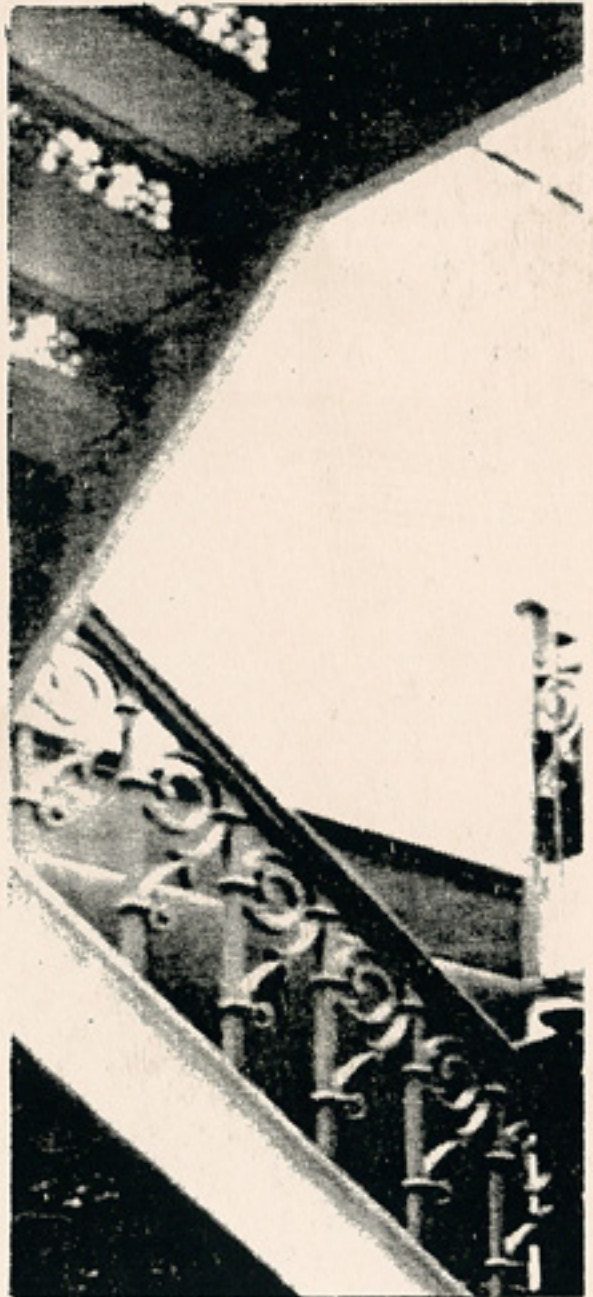


STANFORD UNIVERSITY

**Main Quadrangle  
Interior Design Guidelines**



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Interior Design Guidelines**

Project Team

Stanford University

The Ratcliff Architects

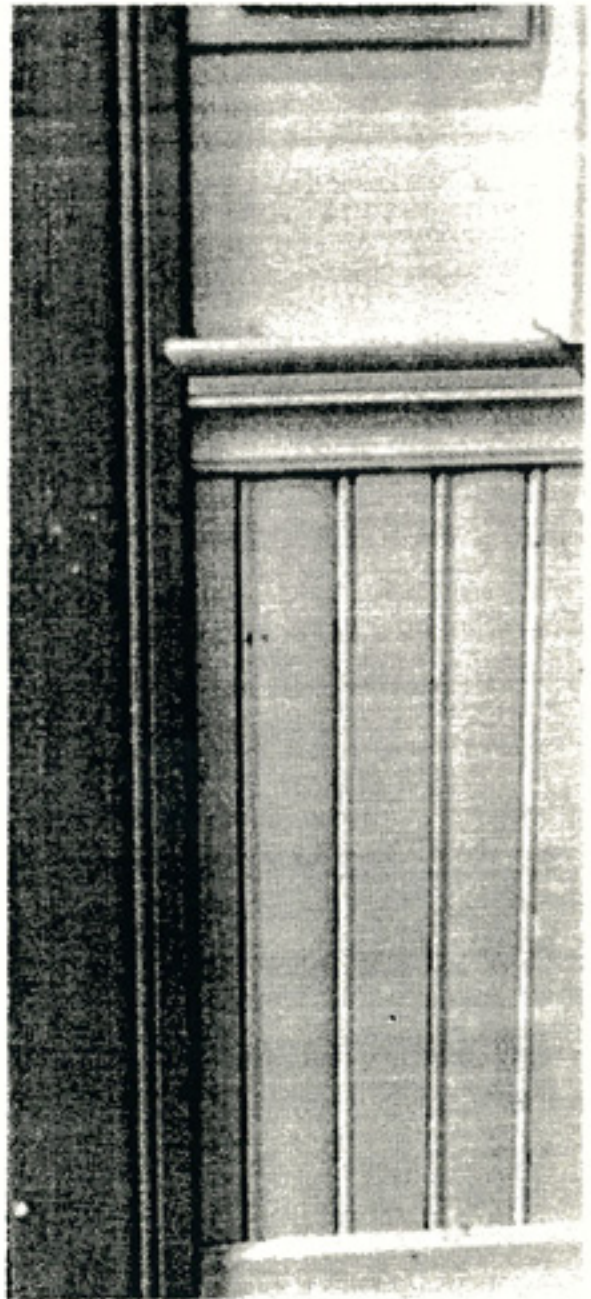
Yung-Ling Chen, Architect

February 28, 1989

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## INTRODUCTION





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## Introduction

### **Purpose, Scope, Approach**

In April and May of 1988, the architects met with representatives of the School of Humanities and Sciences, the Planning Office, the Provost's Office, Facilities Project Management, and the Space Planning Advisory Group to discuss the visions of the University and the School of Humanities and Sciences for the interior development of the Main Quadrangle.

In these discussions, the participants identified the following goals for the upgrading of the Main Quadrangle interiors:

- to raise the standard of living of the occupants of the Quadrangle;
- to create unified interiors which better reflect the character of the exterior;
- to respect the historical integrity of the Quadrangle;
- to enable the expression of individual departments' identities;
- to strengthen the identity of the School within the University.

The purpose of these guidelines is to unify the efforts of architects and interior designers who will be involved in a variety of piecemeal renovation projects ranging in scope from redecoration to reconstruction. The guidelines are meant to be a tool which is descriptive rather than prescriptive, allowing for individual creativity on the part of designers, and for changing educational requirements. They can be applied only through cooperation.

Each guideline is expressed as a problem with recommendations or solutions. In a few cases, the designer is alerted to problems for which there are no entirely satisfactory solutions at this time. In all cases, the guidelines attempt to stimulate a range of acceptable solutions.

## Historical Context

### *Educational History*

Since its founding in 1891, Stanford has provided its students with a broad liberal education, combined with preparations for practical contributions to society. In a break from the rigid curriculum that had characterized American education in the past, the University initially imposed few requirements and offered a wide array of elective courses. The University's concern for general education can be seen in its imposition of various "Western Civilization" requirements over the years. The recently adopted "Cultures, Ideas and Values" requirement embraces the study of non-European as well as Western cultures, works by women and by minorities.

The University has also sought to break down the barriers between disciplines. Originally, its departments were not organized into schools. In the 1920s, when the lines between departments appeared to have grown rigid, the departments were organized into the Schools of Biological Science, Social Science, Physical Science, and Letters (Humanities). In 1948, these Schools were combined into the School of Humanities and Sciences. The School is now the core of the University, comprising over 40% of its faculty and 80% of its undergraduate student population. Its individual departments have achieved high national ratings, while its broad curriculum has fostered innovative interdisciplinary programs in Human Biology, International Relations, and African and Afro-American Studies, among others.



The University's interest in upgrading the Main Quadrangle, occupied primarily by the School of Humanities and Sciences, reflects its commitment to general education and interdisciplinary studies, as well as a commitment to its architectural heritage.

### *Architectural Heritage*

The Main Quadrangle, the symbol of the academic heart of the University, is also the heart of Stanford's architectural heritage. The Quadrangle exudes a sense of permanence and tradition. However, the design of the Quadrangle, recognized today for the power and clarity of its concept, departed significantly from earlier American campuses in its symmetrical form and monumental image.

The concept of a central quadrangle was established by Francis A. Walker (of the Massachusetts Institute of Technology), Frederick Law Olmsted and Leland Stanford in their initial planning for the University. The design was carried out by Charles Coolidge of Shepley, Rutan and Coolidge, the successor firm to H.H. Richardson. In the final design for the Quadrangle, which has been described as "Richardsonian/Mission," one-story buildings were grouped around an inner quadrangle, surrounded by larger-scale buildings forming an outer quadrangle. Within each quadrangle, the sandstone buildings were connected by arcades.





Repairs done after the 1906 earthquake, and periodic restoration and reconstruction since then, have left the Quadrangle's original exterior appearance largely intact. In fact, the authenticity of the exterior belies the extent of the changes that have been made to the interiors of the individual buildings. Various degrees of remodeling over the years have led to a wide variety of interior conditions, few of which reflect the standard and style set by the exterior. A notable exception is History Corner, which under the direction of architectural firms Esherick Homsey Dodge and Davis, and Stone Marraccini and Patterson, was completely rebuilt within the historic shell in 1979.

A complete rebuilding of every structure in need of renovation would be too expensive. However, there are a few buildings which should be considered for historic restoration because they retain many original interior features. They include Buildings 30 and 260 (Language Corner), and Building 320 (Geology Corner).

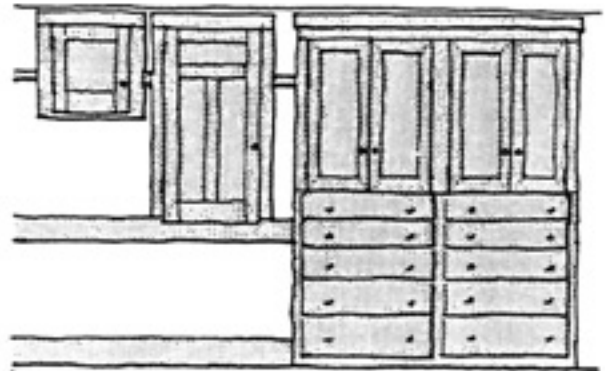
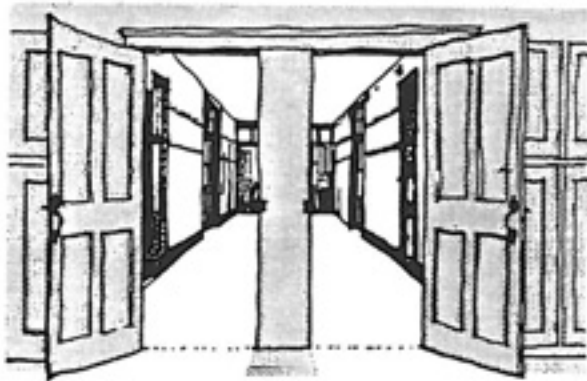
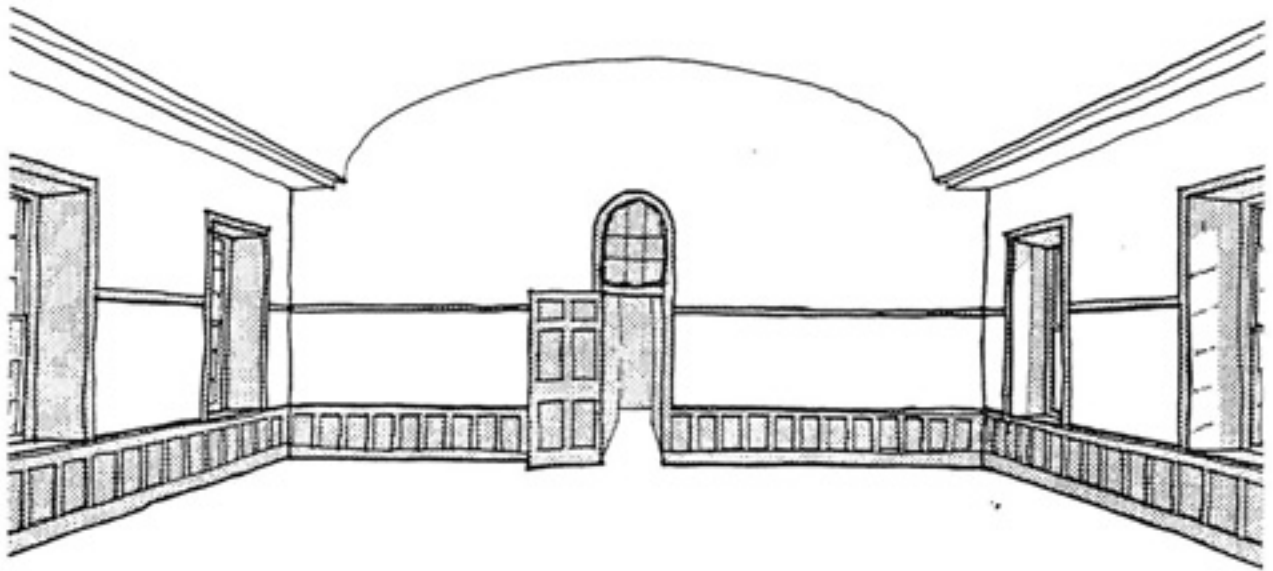


## Interior Design Concept

The recommended interior design concept draws from the work of H.H. Richardson, William Morris, the Arts and Crafts movement, the Mission style, and Shaker design. In returning to these roots, the intent is not historic preservation so much as respect and admiration for the original design. In this case, excellence depends not so much on lavish expenditure as on skillful deployment of basic, well-constructed elements. Reuse of existing original elements can also stretch remodeling funds. The original design features are appealing to a modern eye and can form the core of a contemporary design concept.

As with many Richardsonian buildings, the Quadrangle interiors originally consisted of austere, dignified spaces with high ceilings. The success of the design depended on scale, proportion and workmanship. Millwork of natural varnished wood, painted plaster, and decorative wrought-iron railings were used, along with accents of tile and brass. Daylighting was typical. Electric or gas lighting in pendant ceiling fixtures provided a low level of night-time illumination. Most surfaces were hard, providing a noisy acoustic environment. Furnishings, cabinetry and millwork were simple.





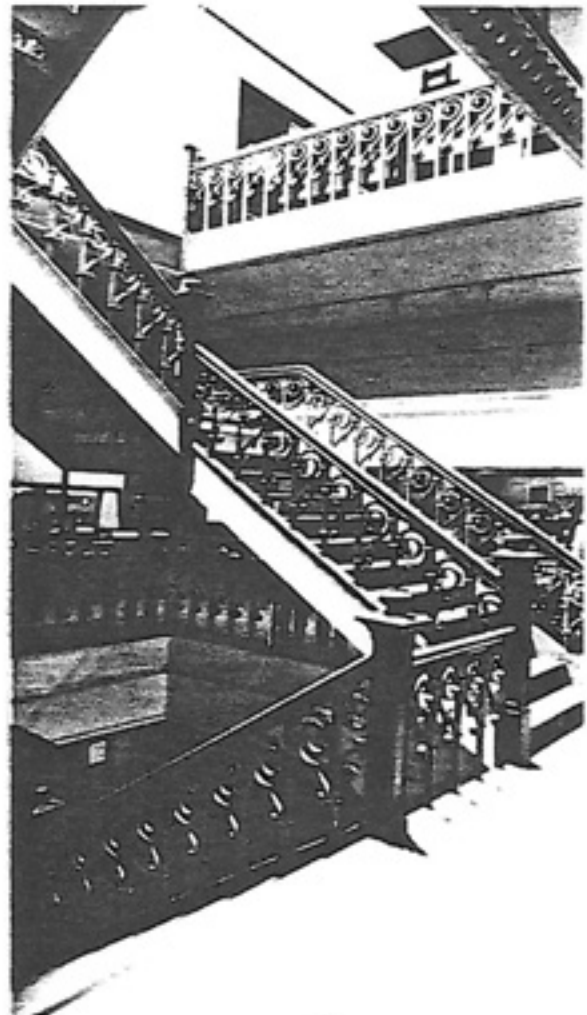
*FROM THE SHAKER TRADITION*

A new interior repertoire should draw from the original but must go beyond it, both to accommodate new uses and to work with the results of past remodelings when necessary. Contemporary situations not addressed by the original design include:

- the need to accommodate new technologies such as computers, copiers, and phones;
- low ceilings in most remodeled Quadrangle buildings;
- second-story spaces with very small windows;
- high labor costs relative to materials;
- a changed repertoire of available, economical materials;
- improved lighting standards;
- new energy conservation standards;
- handicapped access requirements;
- improved acoustic requirements;
- improved HVAC standards;
- improved structural and seismic standards.

Designers are encouraged to consider the development of a repertoire of interior elements to complement exterior elements, rather than to directly copy original motifs. These elements include:

- columns, capitals, arches;
- carved stonework;
- light standards;
- rose and gray checkerboard paving pattern;
- rosettes in wall and floor;
- railings;
- urns;
- gateways;
- layering of space;
- repetitive shadow and light patterns in an arcade;
- reconstructed pendant light fixtures;
- uniform doors and windows;
- variations within a theme (for example, many different, but related, column capitals).



### *The Whole is More Than the Sum of Its Parts*

Although this draft report for the most part addresses individual design elements, the key to good design lies in the way these elements are combined. Guidelines can raise standards, but they cannot guarantee wonderful spaces. There is no substitute for a good designer. Some things to look for in a designer's work are:

- respect for and attention to people;
- respect for tradition;
- a response to departmental character and preferences;
- attention to the craft of building and to current technology;
- richness with economy;
- attention to scale and proportion based on room size and use, and to human scale;
- a progression of spatial qualities and design elements based on levels of privacy, from public spaces to individual offices;
- whimsical, non-rational elements;
- challenging elements that stimulate thought and discussion;
- a feeling of unexpected familiarity-- a "Well, of course, why didn't we think of that?" reaction;
- designs that improve with time;
- designs that have the depth of fine art, as opposed to cartoon designs that are fully understood at a glance;
- the integration of art with architecture and daily life;
- an overall commitment to excellence.







FUNCTIONAL AND SOCIAL SPACES



## **Functional and Social Spaces**

Interior spaces must function on a variety of levels:

- operationally: to provide for the safe, efficient and comfortable performance of tasks required by a variety of users;
- socially: to allow and encourage desired interaction;
- culturally: to make connections to a broader societal context and to provide visual and spatial richness.

This chapter will discuss requirements for a variety of spaces which are currently in the Main Quadrangle, and some that are being considered for the future, such as coffee houses or informal gathering places within departments.

## School-Wide Facilities

### *Dean's Spaces*

#### *Problem*

Currently, there is little space available for new research projects, programs, institutes and other temporary work groups. Some of these groups will eventually move to a more permanent space, others will disband. Poorly designed and equipped spaces for burgeoning programs may reinforce their temporary status.

#### *Solution*

As space opens up in the Quadrangle, the School should consider reserving spaces for these types of programs. These Dean's Spaces should be centrally located and adaptable.

A central location could nurture new programs, which may be connected to a wide variety of departments. Because the spaces are temporary, interior work should be planned with a larger budget for movable/flexible design elements. At the same time, the spaces should include the physical trappings of permanence (such as a well designed conference space or a distinctive, accessible main administrative office), which are useful to the growth and identity of young programs.

## *Breathing Life into the Quadrangle*

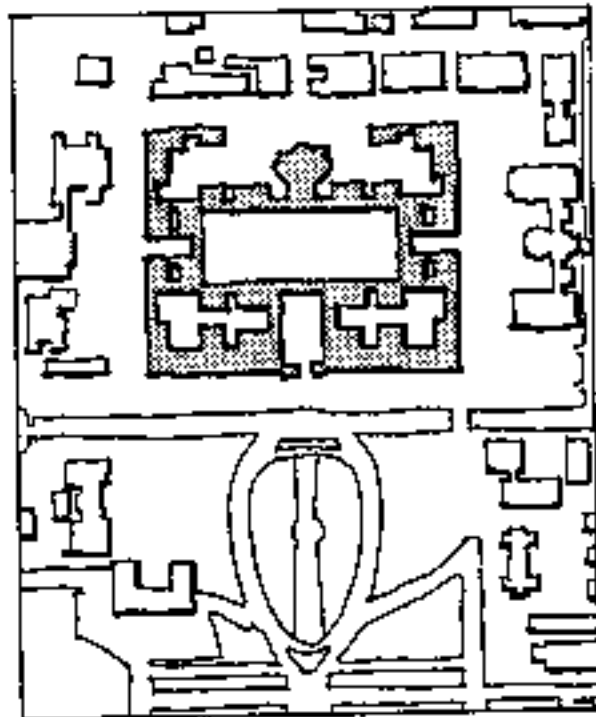
### *Problem*

The Main Quadrangle, as it stands, contains large and small classrooms and offices with a few other uses mixed in. It lacks the amenities that would encourage students and faculty to spend more time in the Main Quadrangle.

### *Solution*

Some campus-wide functions that could be housed in the Quadrangle include:

- used book store;
- corner store/newsstand;
- bank ATM;
- bake shop/coffee kiosk;
- fruit stands;
- coffee houses;
- offices for student or faculty organizations;
- counseling services.



## *Coffee Houses*

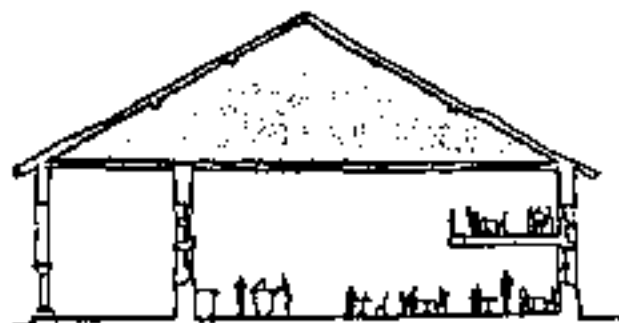
### *Problem*

Experiences at other universities and research labs show that dining rooms and coffee houses promote interdepartmental interaction and increase productivity. The snack bars in the Main Quadrangle, while heavily used, lack many of the characteristics found in successful gathering places.

### *Solution*

The following characteristics are common to many successful coffee houses:

- quiet and conversational atmosphere;
- reputation as a place for faculty and graduate students;
- physical convenience to a relevant cluster of departments;
- responsive staff, providing both food service and social news;
- low priced food that is better than what is normally available, such as very good coffee, and/or a distinctive sandwich, soup or baked good (i.e., items probably not provided by a large, institutional food service);
- long hours;
- attractive and distinctive physical character;
- major world newspapers on racks;
- newsstand, staffed or unstaffed;
- meeting rooms;
- reading rooms;
- no juke box or rock music.





## Department Facilities

### *Department Headquarters*

#### *Problem*

In the Main Quadrangle, many department headquarters are cramped, functionally confusing, and have little identity. They lack both the necessary visibility and accessibility, and the quiet and privacy needed for serious work. Although the department office should be visible upon entering the building, its layout should encourage access for only those students and faculty who require the attention of the staff.

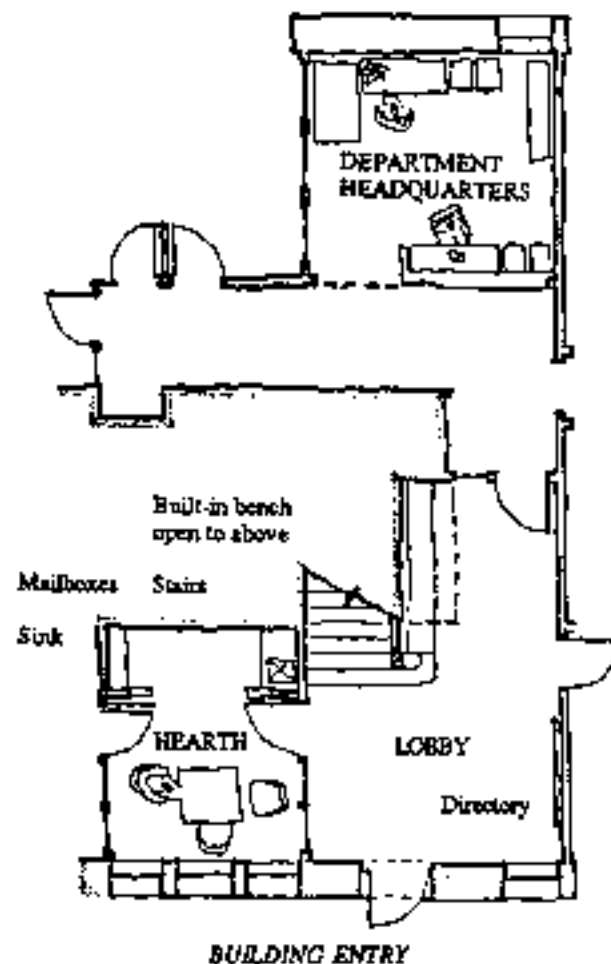
#### *Solution*

Locate department headquarters near, but not in, the entry lobby. Do not force the department receptionist to personally greet each and every person who enters the building, but make the department reception area clearly visible through large glass doors and/or windows.

The reception area should be expandable to accommodate heavier use during the periods of the school year when many students require departmental paperwork.

Mailboxes should be accessible to whomever is answering phones, but faculty and graduate students should have the option of accessing them separately. This can be accomplished by using pass-through mailboxes accessible from two places, e.g., a corridor and a department headquarters, or a staff room and a mail/copy room.

Photocopiers, printers, and other machines heavily used by non-staff members should not be located in staff work spaces, and paths to the machines should not pass through the work spaces.

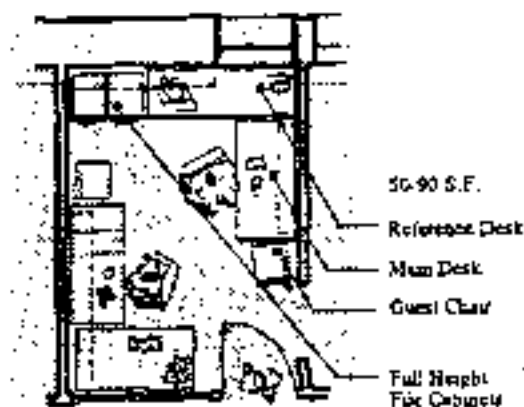


Clerical staff workstations should allow at least enough space for a standard desk and a computer workstation. In addition, space for another desk, files, and a guest chair is recommended.

A place within the suite to hold small meetings, whether it is part of the chairperson's office or a meeting room, is essential for privacy and is useful to maintain as a quiet work area overall.

Private offices for the chairperson and the department manager should be quiet and accessible from the reception area.

In larger department headquarters, a social corner for staff, away from faculty and students, is often welcome.



TYPICAL CLERICAL WORK STATION

## Department Hearths

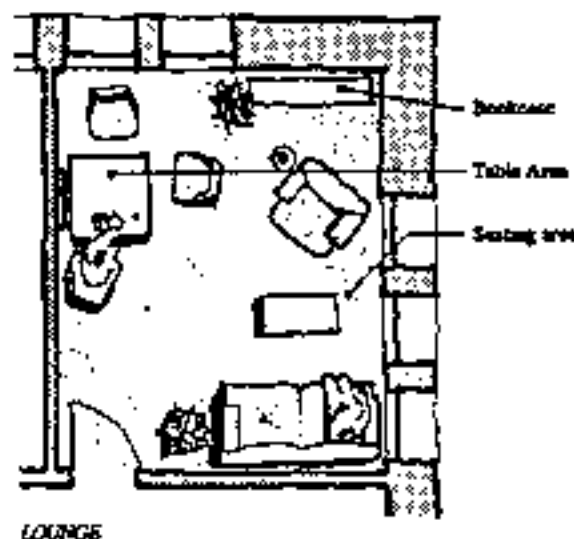
### Problem

Even in the most crowded circumstances, people manage to find some place for informal social contact. Personal interactions support and enrich intellectual exchange, research and teaching. The location and arrangement of a department can either inhibit social contact, or encourage people to meet by providing a welcoming, comfortable space. This place can vary significantly from department to department, depending on the department's size, age groupings, modes of collaboration, access to cafes, and other factors affecting its social ecology.

### Solution

Some desirable characteristics for department hearths are:

- space which is not available for scheduled activities;
- convenient location, preferably one by which people in the department must pass daily, yet one secluded from general building traffic. (Sometimes the best hearths occur as a result of chance interaction.);
- two doors, allowing people to pass through in search of conversation, without making a firm commitment to stay;
- proximity (but not necessarily adjacency) to department offices, mailboxes and toilets;
- coffee pot, microwave oven, refrigerator;
- comfortable chairs;
- access to daily papers and professional journals;
- blackboard or marker board;
- bulletin board;
- daylight and/or views;
- access to a usable outdoor area;
- features (such as art or furnishings) that characterize the subject matter of the department;
- an appropriate atmosphere to support the patterns of social interaction within a department.



## Classrooms

### Problem

The design of the classroom should enhance the student's image of the University as a positive, vital and stimulating place. Classrooms in the Main Quadrangle vary considerably in their ability to comfortably house small lectures and discussion sections. Acoustics and lighting are often poor, and furnishings are frequently mismatched. There is little provision for the use and storage of audio-visual equipment. Storage space for special teaching materials or extra chairs is often inadequate. Overall, the classrooms appear drab and anonymous.

### Solution

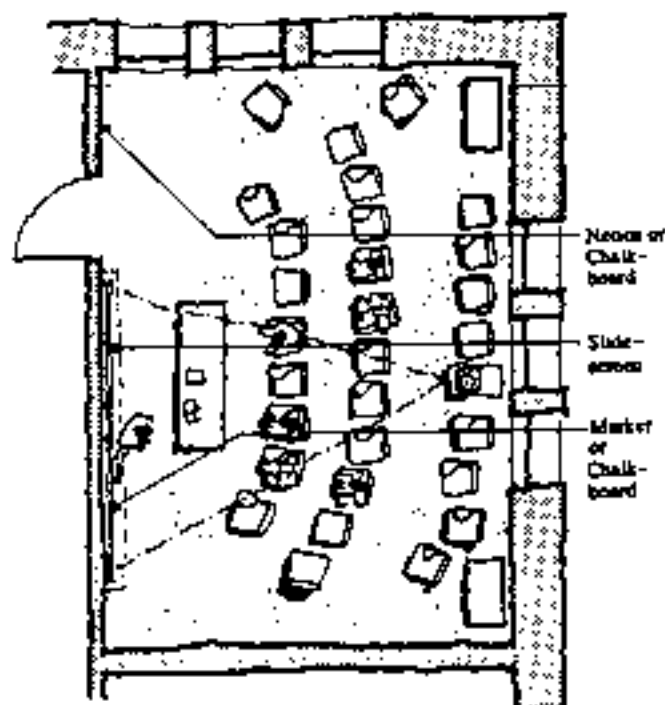
Good classrooms have simple, functional furnishings, finishes able to withstand heavy wear, windows for views and daylight, good artificial lighting, and lots of marker boards or chalkboards.

Some classrooms could be designated for particular types of users so that appropriate audio-visual and other teaching supports could be planned for them. Not all classrooms need the same level of audio-visual support, but most need window coverings to darken the room. Secure storage for the equipment is essential.

Handicapped access is important. In buildings without elevators, classrooms should be on the ground floor.

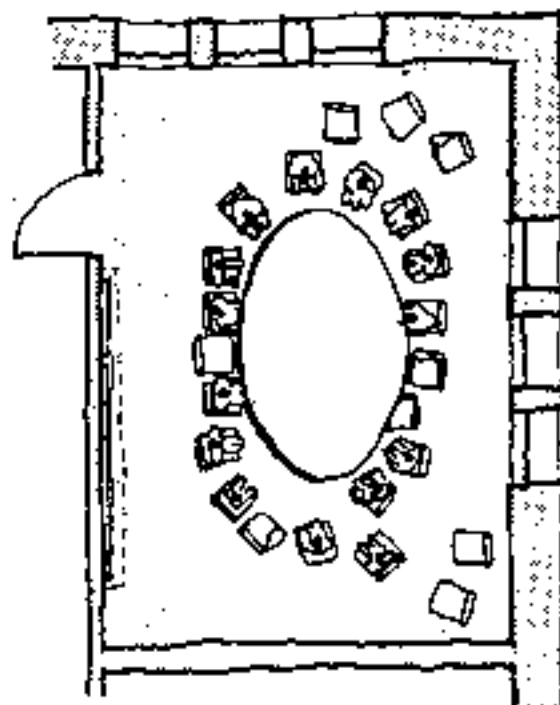
### Seminar Rooms

Seminar rooms are a special form of classroom assigned to a particular department or program. They can have a decorative character related to that department. Furnishings may be of a higher quality than those in a typical classroom. In some departments, special endowment funds may provide for an especially well appointed seminar room. Furnishings should be movable to accommodate a speaker and/or an open discussion.



TYPICAL CLASS ROOM

About 400 S.F.  
Min. 13 S.P./Person



## Conference Rooms

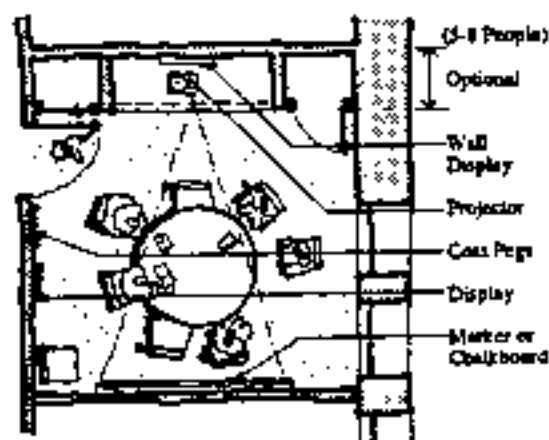
### Problem

Departments need a comfortable, attractive place to meet for department business, to exchange information, to meet with visitors, and to hold informal events. These meetings are typically less frequent, and less structured, than class sessions. They may include coffee and/or more extensive food services.

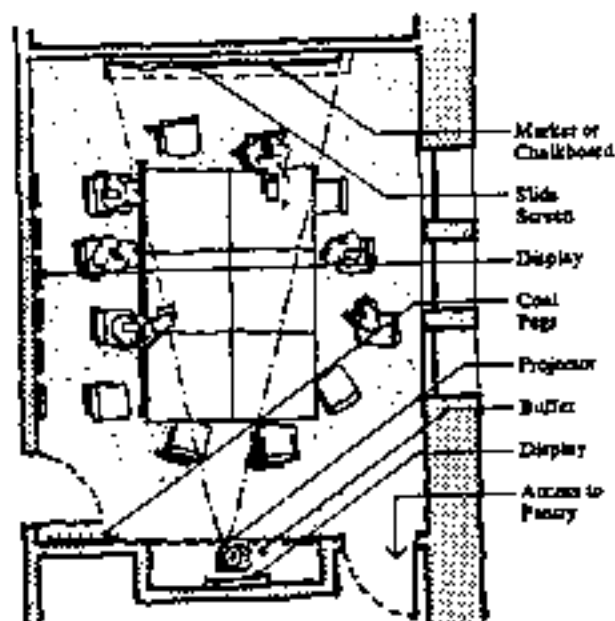
### Solution

Develop a department conference room that comfortably seats a department's faculty plus two or three others. (More may be accommodated on special occasions with some crowding.) Very small departments or programs may need to devote this space to more than one use. Large departments may need more than one conference room.

The main department conference space is likely to be the location of faculty meetings and important departmental events such as doctoral orals, tenure proceedings, selection of a new chairperson, and selection of new faculty. Artwork, department memorabilia, and/or historic photos can be used to express departmental identity. The conference room should generally be the best appointed space in the department. With adequate security, oriental or other special rugs, and furniture of unusual quality and distinction could be installed with the help of donations or endowment funds.



SMALL CONFERENCE ROOM



CONFERENCE ROOM  
(12-18 People)



## ***Reading Rooms***

### ***Problem***

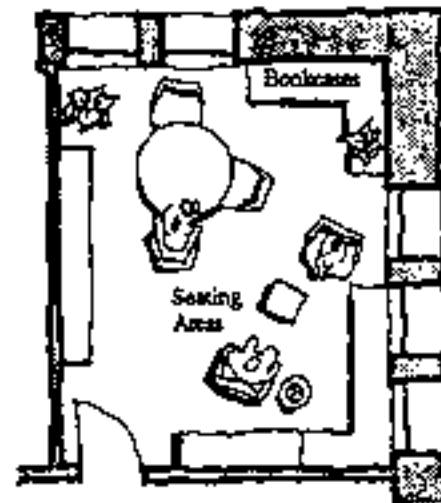
Many departments have recognized the need for a reading room for journals, serials, preprints, reprints and special reference works used on a daily basis.

### ***Solution***

Provide a reading room in departmental territory which houses such a collection in a quiet, private atmosphere. Along with bookshelves and racks for periodicals, the furnishings should include work tables and chairs, and more comfortable seating such as lounge chairs.

In some departments, provisions for a microfiche reader and/or a microcomputer for online or CD-ROM searching should be considered.

The reading room should share the decorative character of the particular department's conference room and seminar room.



***READING ROOM***

## *Private Offices*

### *Faculty Offices*

#### *Problem*

Many faculty members do not regularly work on campus. This situation diminishes the sense of the campus as an intellectual community.

Constant interruptions and cramped, dark offices which provide no privacy from noisy departmental activity encourage faculty members to retreat to their homes to work. Many move their personal libraries and computers to their offices at home.

#### *Solution*

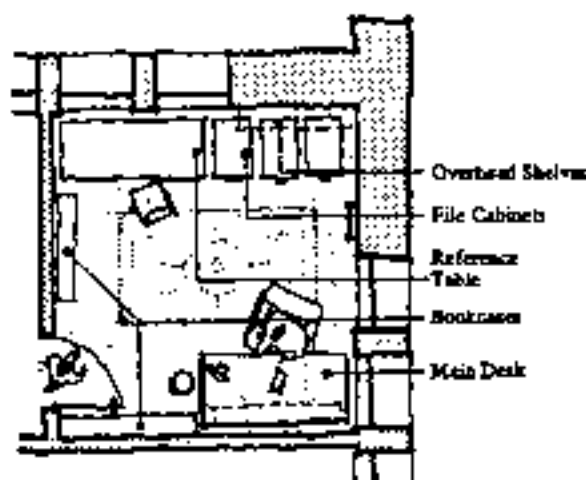
The provision of convenient, quiet and pleasant places to work can be part of the solution. Offices should be large enough to accommodate small meetings of three to four people, a book collection, a personal computer, files, and enough desk space for both teaching and research needs. As much shelving as possible should be provided for books.

Quiet should be given a high priority. Private offices should be secluded from entries and heavily used areas. Sound separation between spaces and acoustic treatment should be considered as needed.

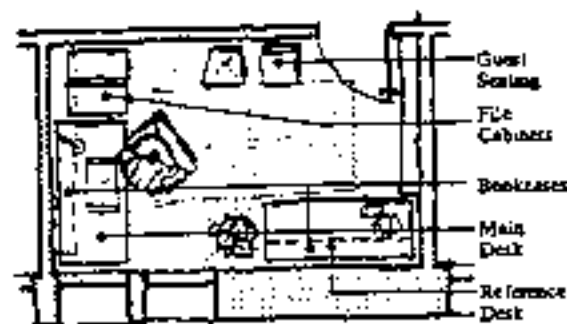
Views and daylight should be provided where possible.

#### *Other Private Offices*

Other private offices have many of the same requirements as faculty offices, but have less need for seclusion. For example, departmental staff may need to be more accessible than faculty.



CORNER FACULTY OFFICE



TYPICAL FACULTY OFFICE

## *Laboratories*

### *Problem*

The laboratories which remain in the Main Quadrangle are typically simple dry labs. Modern wet laboratories require utilities and support systems unavailable in the existing structures.

Ceiling heights are, in most cases, too low to allow for retrofitting of adequate ducts and pipes, although retrofitting might be possible with considerable cost and with some loss of assignable area.

Exhaust stacks incompatible with the historic exterior might be necessary under current exhaust requirements for chemistry, biology and physics laboratories. These laboratories often require 10 to 15 air changes per hour, with 100% exhaust of used air.

Bottle farms and other service areas required for piped utilities would also seriously affect the historic character of the Main Quadrangle. Wet laboratories may require water, deionized water, air, vacuum, nitrogen, steam, chilled equipment cooling water, and other utilities.

### *Solution*

Limit laboratories in the Main Quadrangle to situations where other alternatives are not available or convenient. Consider the impact to the ceiling height and existing plumbing system when lab becomes necessary.

Concentrate wet laboratory areas to limit laboratory systems costs.

## *Computer Space*

### *Problem*

Few existing buildings include adequate provisions for computers and computer networks. Main Quadrangle buildings often lack wireways for networks, and do not have enough electrical circuits and outlets or telephone jacks. Space for computer equipment, workstations and supplies is scarce. Lighting and furnishings are inappropriate.

### *Solution*

Provide suitable, secure space for computer equipment, including terminals, microcomputers, printers, modems and other accessory equipment and supplies.

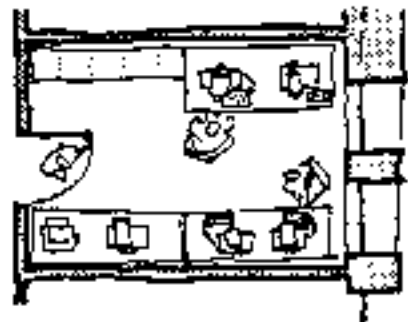
Where modems are required, install dedicated telephone lines.

Where networks are required, develop a systematic way to wire networks within a building.

Provide adequate electrical power and surge protection.

Provide glare-free lighting.

Select furniture designed to reduce back strain and accommodate people of various heights.



SHARED COMPUTER ROOM

## Connecting Spaces

### Corridors

#### Problem

Some of the most valuable daily social contacts occur in corridors, yet many corridors in the Quadrangle are drab, colorless and poorly lit. This creates a depressing, institutional atmosphere which discourages casual interaction. With no windows or signs, these corridors can also be seriously disorienting.

#### Solution

Give the same design considerations to corridors as to other spaces, transforming them from mere circulation routes to pleasant places in themselves. This can be accomplished by:

- providing views to exterior spaces to help people orient themselves;
- providing cues for locating spaces, such as clear room numbering and signs;
- generally providing soft lighting, with stronger lighting to accent entrances, drinking fountains, and other special areas;
- applying light colors from the interior color palette on walls and ceilings, and deep valued accents to bases or wainscots;
- displaying artwork and crafts pieces, securely installed;
- displaying pertinent educational materials (Geology Corner provides an excellent example with its active display of minerals and maps in corridors);
- creating spatial or visual breaks at intervals in longer corridors -- spaces that are wider, taller, and lighter are generally more pleasant to inhabit;
- offsetting door openings across corridors, enhancing the privacy and acoustics of the offices off the corridor.



## *Entry Ways and Lobbies*

### *Problem*

The sense of permanence and unity created by the exterior is lost in the transition to the interior of many Quadrangle buildings. Entry ways and lobbies are often dark, small and nondescript. They do not serve to welcome and orient people, to provide a place for interaction, or to express the character of a department or program.

### *Solution*

An entry way should include:

- windows or skylights to bring in natural light;
- well designed, adequate artificial lighting;
- a highly visible directory;
- bulletin boards and mailboxes;
- a bench, or alcove seating;
- glazed entry doors, which would bring in light and provide a view of the arcade and exterior court, could be considered for the entire Main Quadrangle. (Note that this is primarily an exterior design consideration and out of the scope of these guidelines.)





## Support Spaces

### *Problem*

Building renovations over the years have resulted in little support space. Toilets are not wheelchair accessible. Because janitorial closets are small, equipment is often stored in assigned spaces and corridors. Service routes cross main lobbies. Access panels are not concealed. Communications equipment lacks appropriate space.

### *Solution*

Overall operations and appearance should be the priority in remodeling; however, ancillary functions should be provided for and upgraded whenever possible to meet University standards. It may be necessary to relocate some spaces to make room for improvements.

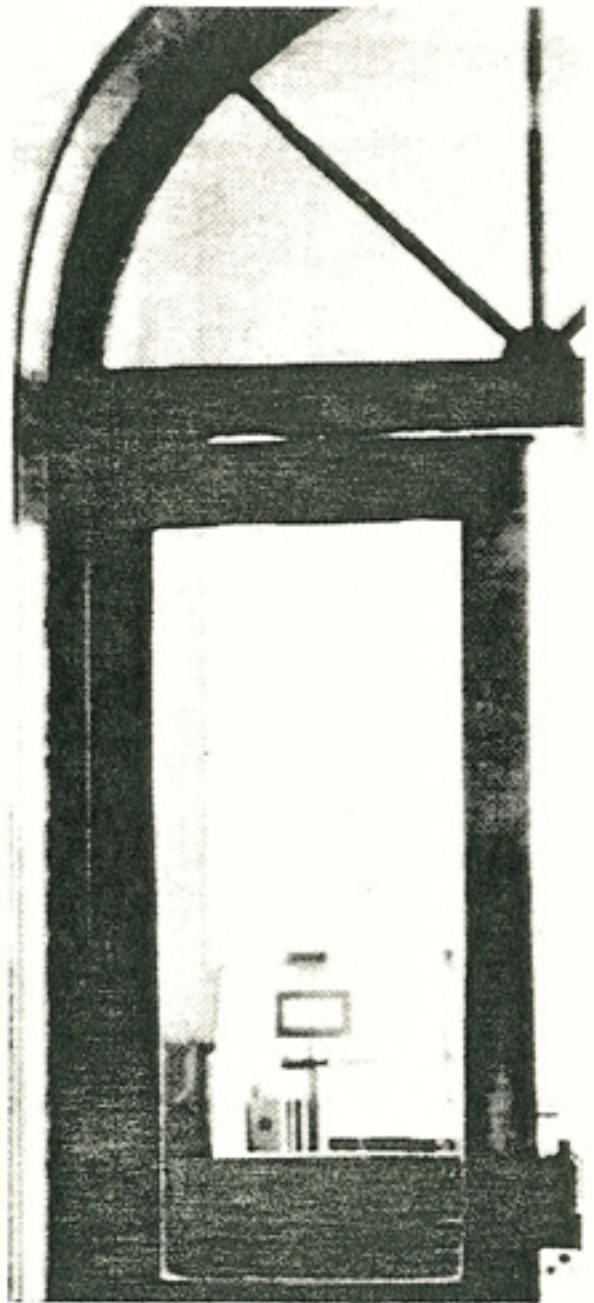
Allow appropriate space for:

- wheelchair accessible toilets;
- ventilated janitor closets;
- ventilated trash closet or a dumpster nearby;
- communications closets for telephone and computer equipment;
- service routes for piping and wiring across occupied spaces.

Create a clear route for deliveries, building maintenance, trash removal, and other services.



DESIGN ELEMENTS



## Design Elements

Interior spaces are made up of many design elements, including color and texture, lighting, materials and finishes, furniture and casework, and accessories. Although these elements are discussed individually in this chapter, they should be considered within the overall design concept.

Each element should be chosen to contribute to the whole on a variety of levels:

- visually: Does the element contribute to continuity or accent, and add color, texture and richness?
- technically: Does its use contribute to a practical, direct solution to a problem at hand?
- historically: Is the element compatible with the historic character of the buildings? Does it allow, as much as possible, for the use of materials which were available when the Quadrangle was built?
- economically: Does it allow for the reuse of existing features wherever practical? Is it composed of high quality materials with low maintenance requirements, and materials which will not become dated?

## Color and Texture

### *Problem*

Over the years color decisions have been made little by little in response to local needs for furnishings and maintenance. As a result, color selections show little sense of unity or interplay at a larger scale. They provide few cues to orient people, and do little to enrich the environment. Many individual spaces are drab.

### *Solution*

The use of color as a basic design element can be an economical way to work toward greater coherence and visual richness. Color can be used to affect the perception of scale and proportion, to orient people, to identify and distinguish various uses of space, to distinguish levels of privacy, to dramatize focal points, and to create an intended atmosphere. Existing furnishings and objects can be coordinated with an overall palette for greater unity and richness.

The exterior colors of the Main Quadrangle have served as the inspiration for the interior palette. The exterior colors work together with the architecture to create a sense of permanence, unity, and warmth. The basic colors are earth tones-- the buff of the sandstone, the warm gray, rose and reddish-brown of the paving, and the terra-cotta of the roof. These colors are enriched by the rose and grayish blue of the rosettes, and the yellows, browns, blues, greens and turquoise of the drinking fountains and the chapel facade. The deep shadows of the arcade, contrasted with the brilliance of the sunlit spaces, extend the exterior palette with a variety of color intensities.

The interior color palette is meant to respond to the exterior. A variety of colors related to the warm earth tones of the exterior are identified as basic interior colors. A number of accent colors selected from the exterior repertoire are identified as interior accent colors.

The interior palette is not inconsistent with the period and style of the original construction, though it is not historically accurate in a technical sense. Even if the original interior palette could be determined, its use would not necessarily serve contemporary needs.

### Conceptual Color Palette

The color palette is intended to be conceptual. Refinement and adjustment will be required as the palette is applied to specific buildings with existing furnishings, equipment and materials. The palette shown on the reference board (available at Facilities Project Management) includes paint chips, fabric, carpet, tile and wood, in order to portray color and texture with appropriate depth and sheen. (A graphic key to the color palette is included in the appendices of this report.) Specific fabrics, carpets, and other items will vary according to local design applications. Simplicity and order should guide the application of this palette.

The interior colors are organized into three groups:

- A) A range of light, warm earth tones: essentially warm white or very pale pastels for use in the upper portions of a room (ceilings, walls, window shutters, doors). Lighter, more reflective colors in the upper zones of a room will improve light quality and make rooms seem larger.
- B) A range of deep tones: blue/green, slate blue and terra-cotta. These colors can be used almost as neutrals on wainscots, trim, base, signs, doors and chalkboards. A single basic color from group B is encouraged for each area or building. Consistent use of particular colors for a department will unify the space, and, at the same time, help to create a visual identity for the department.
- C) A variety of accent colors: wood tones, tile colors, flooring colors and other accents.

## Lighting

In the Quadrangle, there is a variety of lighting conditions ranging from spaces which are brightly illuminated by sunlight, to those which have no sources of daylight.

The use of natural light supplemented by warm fluorescent or metal halide lamp lighting is encouraged wherever possible. State energy standards limit the use of incandescent lighting to accent lighting, or to situations where dimming is required.

## Natural Light

### Skylights and Monitors

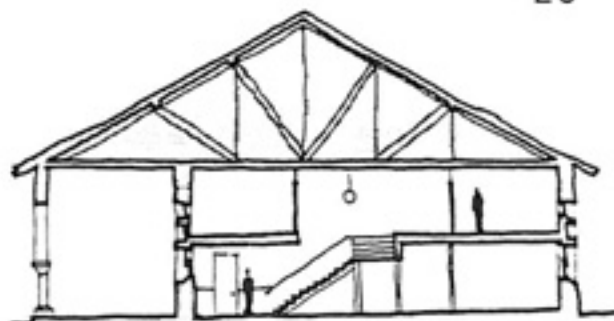
#### *Problem*

The interiors are frequently dark, particularly where an additional mezzanine level has been added. The lack of daylight is disorienting and creates a feeling of confinement.

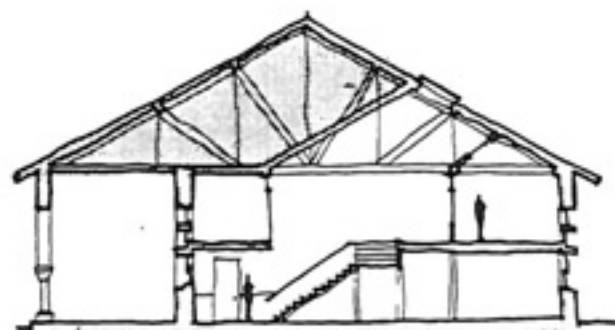
#### *Solution*

While it would be inappropriate to pepper the roof with skylights, a precedent exists for the use of flat glass, medium- and large-scale skylights on the non-arcaded (and generally less visible) sides of Quadrangle buildings to avoid the visibility from the Inner Quad. (The use of any skylight is subject to review by the University). New skylights should serve clusters of spaces or significant shared spaces. Where possible, they should be used at stairways and other two-story spaces to bring light through the building. Interior windows can supplement the small, low mezzanine windows in adjacent spaces.

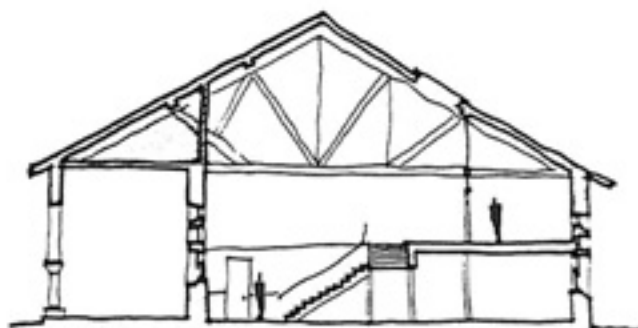
Since ceiling membranes may provide significant seismic bracing, structural requirements must be carefully considered when ceilings are opened up for increased volume and/or skylights. In some cases, the addition of skylights can be part of needed seismic upgrading.



SECTION OF EXISTING CONDITIONS



SECTION OF STAIR WITH SKYLIGHT



SECTION AT STAIR WITH SKYLIGHT AND EXPOSED RAFTERS



## Windows

### *Problem*

Historic preservation guidelines restrict the modification of exterior facades. Windows, as part of the historic architecture, cannot be changed. In general this is not a problem because the windows are well proportioned. Problems occur when a mezzanine is added to a building and it falls within the existing window opening. A similar situation occurs when new walls intersect windows.

### *Solution*

When a floor intersects a window opening, the best solution is to have the intersection step back from the window, leaving a two-story section at the exterior wall. Where the privacy of ground and mezzanine level spaces does not permit this open solution, the floor should fall on a wide, horizontal muntin where a connection can be made. If this cannot be done because of the required room heights, then the new floor can be connected to adjacent muntins above and below the floor/ceiling level, and the back of the existing glass that falls within this area can be painted with with opaque, black paint. This solution has been used successfully elsewhere in the Quadrangle.

Partitions and walls should be laid out so that they do not intersect window openings.

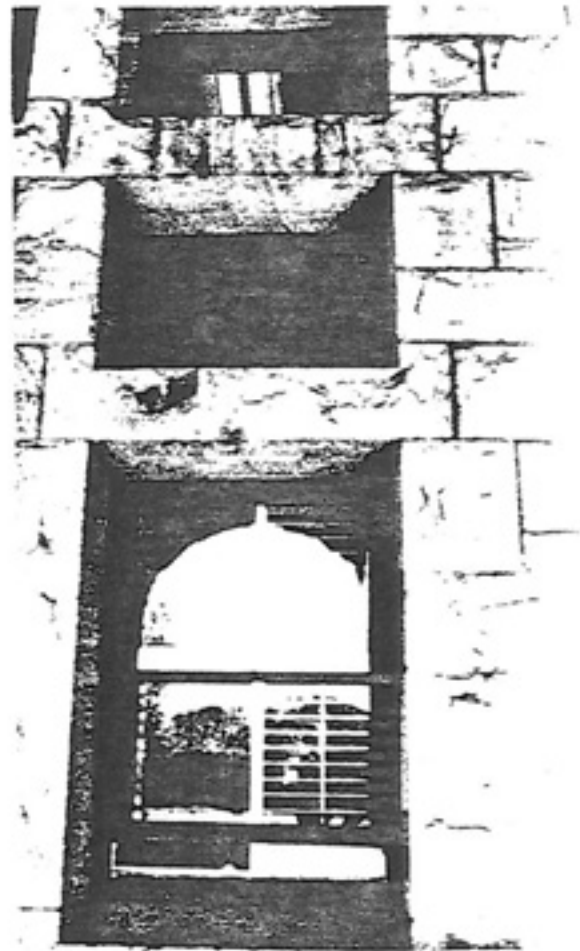
## Window Coverings

### *Problem*

Window coverings used in the Quadrangle vary widely, adding to a feeling of clutter.

### *Solution*

Use wooden louvered or paneled interior window shutters to achieve consistency. Louvers should be closable in rooms where darkening is required. The thickness of the walls will allow these shutters to stand open. The shutters of wider windows can be double-hinged.



## Artificial Lighting

### Problem

With the exception of newly remodeled areas, artificial lighting is a visual and technical problem throughout the Quadrangle. A wide variety of light fixtures has been inconsistently specified and installed. The lighting seldom adds emphasis or drama, and provides no visual reference to the historic context. In many cases the light source is exposed, creating glare. There is a mixture of cool- and warm-white fluorescent lamps. Light levels are often not suitable.

### Solution

Artificial lighting should be designed both to provide the desired quality and quantity of glare-free light, and to support and enhance the overall design concept.

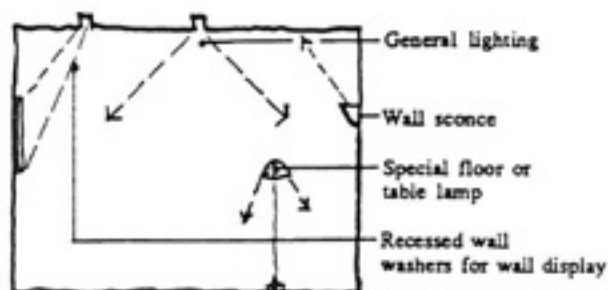
There are three types of lighting to consider: general, task, and accent.

### General lighting

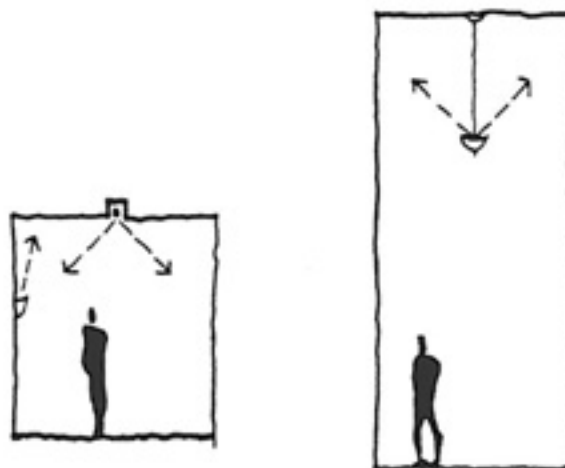
For general or ambient illumination, the use of recessed and/or indirect lighting fixtures minimizes the visual effect of the light source and permits the use of simple, moderate-cost fixtures from a variety of manufacturers.

Consistent lamping is critical to maintaining an aesthetic appearance. Warm fluorescent lamps, such as General Electric's SP35 series or Sylvania's D35 series, are recommended. These tubes cost somewhat more than either cool-white or warm-white lamps. Metal halide lamps in the warm 3400 K range are likewise recommended.

In tall spaces, indirect lighting (either a fluorescent tube concealed in a cornice or a metal halide pendant fixture) is strongly recommended. Make provision for uneven joist spacing when specifying the size of the recessed light fixtures.



LOUNGE LIGHTING



In spaces with low ceilings, recessed fluorescent PL downlights or 1 x 4 recessed fluorescent lights with parabolic louvers are preferred. Surface mounted or pendant 4-foot fluorescent fixtures should be limited to utility areas.

### Task lighting

Task lighting provides more intense local illumination for specific tasks. The variety of illumination levels achieved by a combination of general and task lighting reduces eye strain compared to a consistent high level of general illumination. It is also more interesting, attractive, and energy saving. Common forms of task lighting include desk and floor lamps, and lamps incorporated into cabinetry to illuminate countertops. Task lighting should be locally controllable, and adjustable when possible. (Standards for task lighting will be added to the guidelines as they are identified.)

In classrooms and conference rooms, dimmable incandescent or MR-16 quartz downlights should be provided to allow for the adjustment of lighting levels needed when projecting slides or other transparencies.

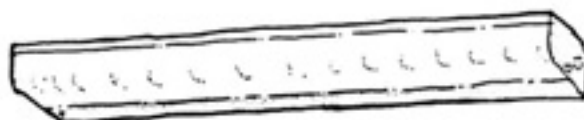
To illuminate demonstration tables or lecterns, two sources of light (one from each side) should be used rather than one source from the front. This will minimize both shadowing and glare.



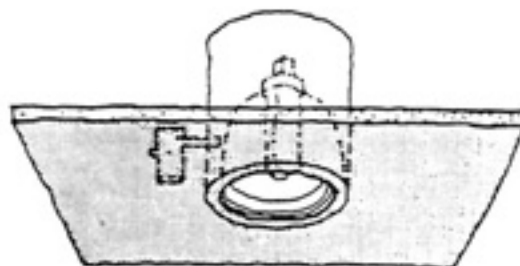
GOOSE-NECK DESK LAMP



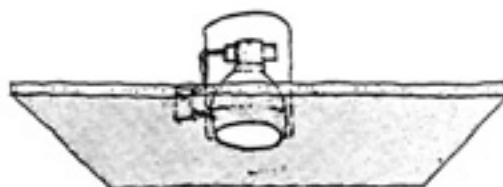
BANKER'S DESK LAMP



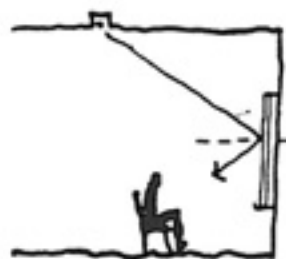
UNDER CABINET FLUORESCENT STRIP



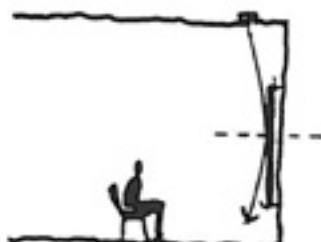
RECESSED PL DOWNLIGHT OR WALL WASHER



LOW VOLTAGE DOWNLIGHT (MR-16 LAMP)



GLARE: Reflection of fixture directed at viewer's eyes



NO GLARE: Reflection of fixture directed at floor

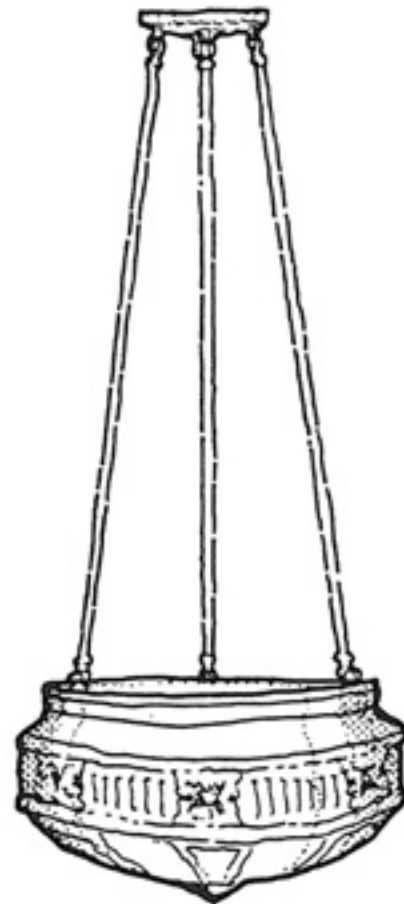
### Accent lighting

Accent or decorative lighting with a visually prominent fixture should be provided in selected public areas. Note that accent lighting usually provides only a small percentage of needed light.

A small repertoire of decorative sconces and pendants which refer to the building style and the design concept will be described in the guidelines when they are identified. Initial investigations suggest the use of alabaster and glass fixtures. The development of two to three custom designed Stanford Quadrangle fixtures should be considered, as their use would be only moderately more expensive than the use of stock fixtures.

MR-16 quartz downlights may be used sparingly to highlight a special feature with warm light.

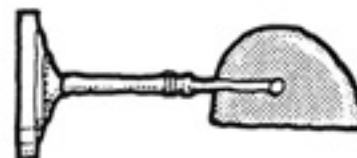
Artwork or bulletin boards in areas with low ceilings (less than 9 feet 6 inches) should be illuminated with recessed PL wall washers.



*HANGING DISH FIXTURE*



*STEPPED ALABASTER WALL SCONCE  
PL OR INCANDESCANT*



*WALL SCONCE WITH TROUGH SHADE  
CAN BE USED UP OR DOWN*

*Lighting Levels*

SPACE	GENERAL LIGHTING		TASK	ACCENT
	direct	indirect		
Coffee Shop	avoid	20-30 fc	pool of light at tables	accent food display or artwork
Department Headquarters/ Clerical Offices	50-70 fc	40-60 fc	desk lamps, 60-100 fc	wall washers to display art, etc.
Private Office	50-70 fc	40-60 fc	desk lamps, 60-100 fc	
Computer Lab/ Office-VDT use	30-40 fc	30-40 fc	desk lamps, 60-100 fc	
Lounge	avoid	20-30 fc	floor lamps or wall sconces	wall washers for artwork
Conference Room	50-70 fc	40-60 fc	dimming incandescent, 0-10 fc	wall sconces
Classroom	50-70 fc	40-60 fc	dimming incandescent, 0-10 fc	
Entry/ Lobby		30-40 fc		
Corridor	10-20 fc	10-20 fc		wall washers

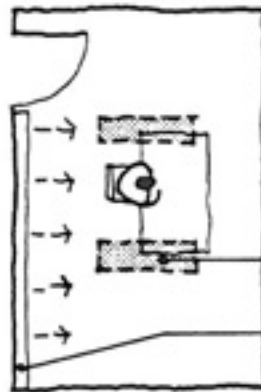
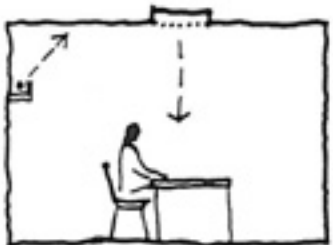
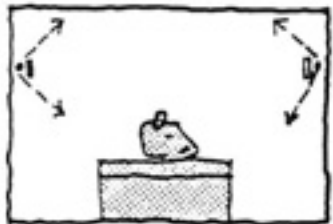
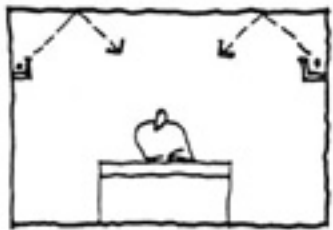
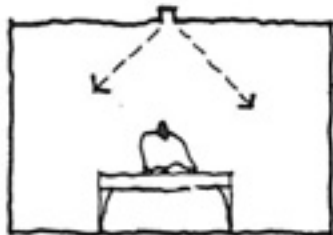
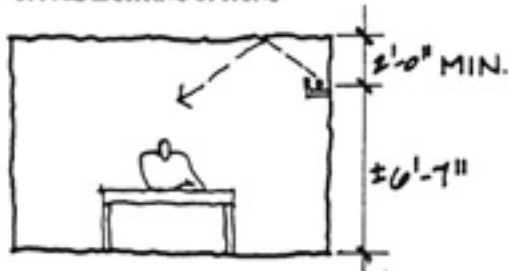
*Lighting Fixtures*

SPACE	CONCEPT	RECOMMENDED FIXTURES	
		general/ ambient	task and accent
Coffee House	soft, indirect; warm pools of light at tables	not standard; custom design appropriate to historic context	special decorative fixtures
Department Headquarters, Offices, Computer Use Areas	low ceiling: soft, glare free direct fluorescent with task lighting for close work, perpendicular to work surface where possible	1'x4' recessed fluorescent with parabolic louver mounted parallel to joists	desk lamps; recessed PL downlights at bulletin boards, mailboxes, etc.
	high ceiling (9'+): soft glare free indirect fluorescent	linear fluorescent cove lighting 2' below ceiling	desk lamps; recessed PL downlights at bulletin boards, mailboxes, etc.
	high ceiling (10'+): soft glare free indirect metal halide	metal halide pendants, 90% indirect	desk lamps
Department Hearth, Lounge	low ceiling: soft pools of light for social groups	PL sconce uplights to illuminate ceiling, or recessed PL downlights for reading	floor lamps
	high ceiling (9'+): indirect cove lighting with pools of light for social groups	fluorescent cove lighting	floor lamps
Conference Room, Reading Room	low ceiling: warm pool of light on table; display lighting on walls; dimming	1'x4' recessed fluorescent with parabolic louver at table	incandescent or MR16 quartz downlights at table, on a dimmer; recessed PL wall washers for displays, chalkboards, bookcases, etc.
	high ceiling: soft indirect warm pool of dimmable light at table	decorative metal halide pendants, 90% indirect	dimnable incandescent sconces

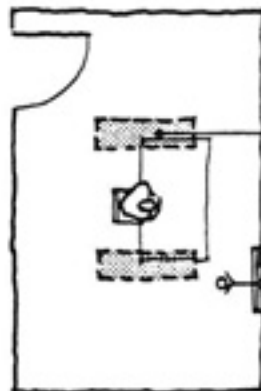


*Office Lighting Options*

OFFICE LIGHTING OPTIONS



Recessed 1' x 4'  
fluorescent lights  
Cove lighting



Recessed 1' x 4'  
fluorescent lights  
Recessed PL wall washer  
or adj. MR-16  
accent light

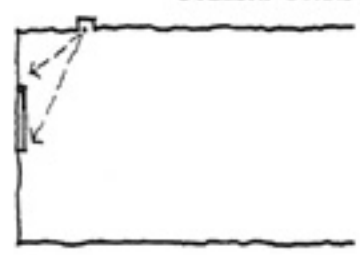
OFFICE LIGHTING PLANS

*Lighting Fixtures*

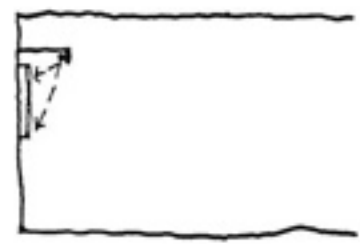
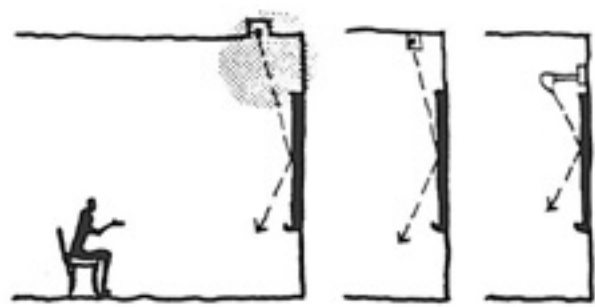
SPACE	CONCEPT	RECOMMENDED FIXTURES	
		general/ ambient	task and accent
Classroom, Small Lecture Hall	low ceiling: linear recessed fluorescent fixtures perpendicular to seating; dimming  high ceiling: soft indirect lighting	1'x4' recessed fluorescent with parabolic louver, perpendicular to seats	incandescent or MR16 quartz downlights or decorative incandescent sconces on dimmer, two or more recessed PL downlights at demonstration table to light both sides
Dry Lab, Wet Lab	provide two levels of illumination, office level and close work level, evenly and without shadows	1'x4' recessed fluorescent with parabolic louver mounted at about 9', parallel to bench top, two rows each aisle	
Pantry	low ceiling: good general lighting with accent on counter	recessed fluorescent downlighting strip or PL	under cabinet fluorescent strip
Entry, Lobby, Stair, Corridor	low ceiling: soft light that intensifies at stopping points  high ceiling: soft indirect light, brighter at stairs and crossings	recessed PL downlights at 8' oc  metal halide pendants	recessed PL wall washers at bulletin boards, drinking fountains, mail boxes, etc.; decorative PL sconces for design emphasis  decorative PL sconces for design emphasis
Toilets	provide soft lighting at stalls and at faces of people using mirror	1'x4' recessed fluorescent with eggcrate at mirror wall and water closet wall	none
Janitor's Utility Room	economical, adequate light	1'x4' surface mounted fluorescent with wrapped acrylic diffuser	none

**Lighting Options**

**BULLETIN BOARD OR DISPLAY LIGHTING**

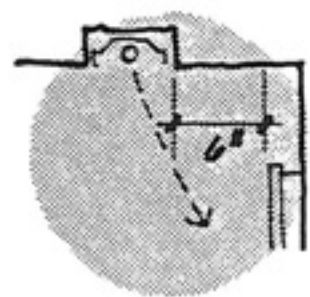


**SECTION**

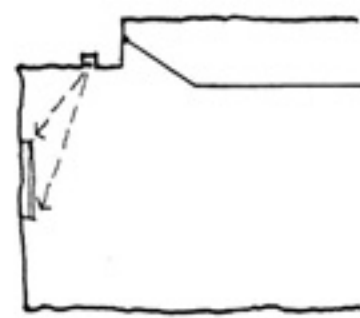


**SECTION**

when no ceiling space is available for recessed light fixture



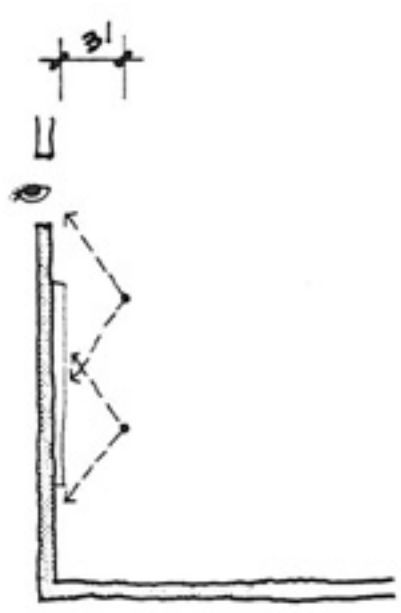
**CHALKBOARD LIGHTING**



**HIGH CEILING SECTION**

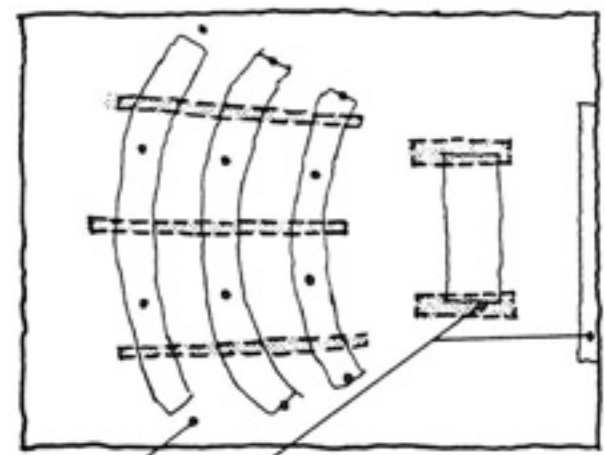
Lighting soffit

**LECTURE HALL AND CLASSROOM LIGHTING DIAGRAMS**



**PLW**

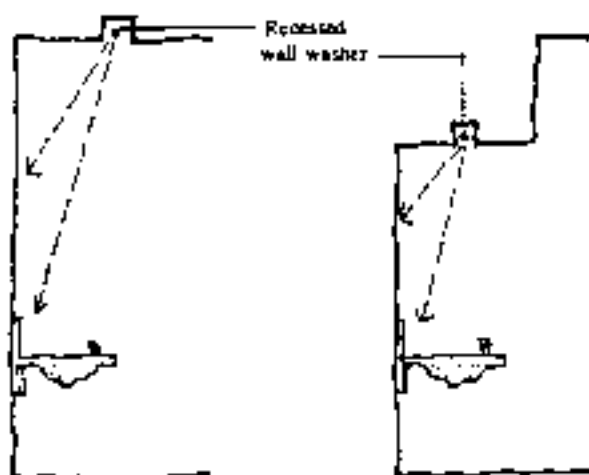
Light source should be located away from doors to avoid glare  
Pair of wall washers give even lighting



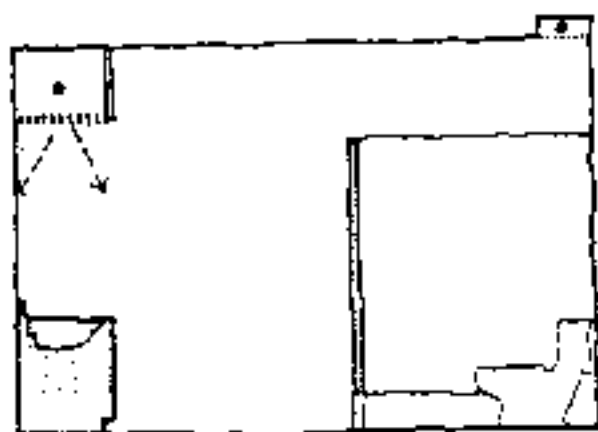
Pair of light sources for blackboard and lecture table stand

Dimable incandescent downlights for note taking

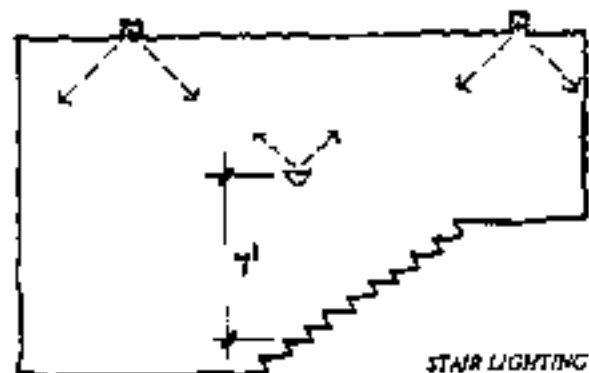
## Lighting Options



DRINKING FOUNTAIN LIGHTING

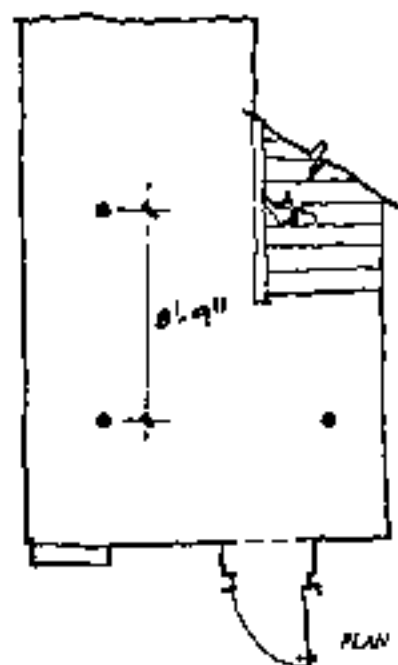


TOILET LIGHTING



STAIR LIGHTING

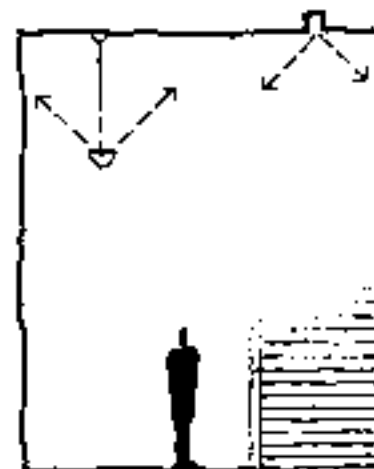
## ENTRY AND LOBBY LIGHTING



PLAN



LOW CEILING SECTION



HIGH CEILING SECTION

## Basic Interior Elements

### *Problem*

Over the years, a wide variety of materials and finishes has been used in Quadrangle interiors without reference to an overall system or design concept.

### *Solution*

Materials and finishes recommended are simple, durable products that were available when the Quadrangle was built: plaster, paint, wood, tile, carpet, brass, wrought iron, and fabrics.

Some contemporary products, such as gypsum board in place of plaster, can be included in renovation without compromising the visual effect.

Obviously contemporary items, such as T-bar ceilings and most light fixtures, should be concealed rather than expressed.

Limited ornamental elements should be used. When they are, they should be of permanent and high quality: tile work, wrought iron work, door hardware.

## Flooring

### Problem

The use of flooring materials in the Quadrangle interiors is not consistent. Also, flooring patterns bear no relation to the exterior, where the brick pavers of the open court and the patterned concrete paving of the arcade work together to create a unified design.

### Solution

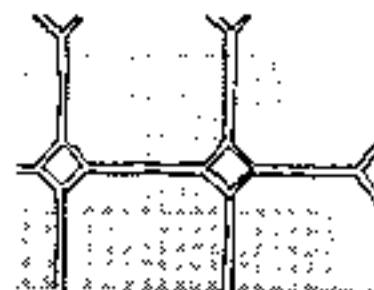
The selection of flooring materials should be based on the function of the space. Acoustics are a primary consideration.

Although it would be the most historically appropriate choice, hardwood strip flooring should be limited to areas where the noise of foot-falls is not a problem, or where loose rugs can cover the central portion of the room.

Quarry tile and ceramic tile are also historically appropriate and very practical in heavy wear and wet areas such as entries and toilets. Proper installation requires dropping the floor structure to accommodate the thickness of a mortar bed. Where costs prohibit this installation, mastic on a cementitious underlayment board should be considered. Traditional tile patterns such as those supplied by Gladding McBean or Moravian Pottery and Tile Works should be used.

Vinyl flooring and vinyl composition tile should be limited to utilitarian locations, with sheet vinyl preferred for wet locations.

Carpet, although not historically appropriate, is economical and solves acoustical problems caused by foot traffic. Carpet should be used in corridors, classrooms and department offices. Carpet tile in lobbies and corridors is recommended to allow selective replacement at heavy traffic areas. It is also practical and consistent to use carpet in private offices, lounges, and conference rooms.





## *Walls*

### *Problem*

In areas of the Quadrangle where the original interiors remain intact, wainscots, moldings and trim define walls with a clear base, center and top. These unifying elements also serve to protect the lower parts of the walls.

In other areas, this Richardsonian or Arts and Crafts wall treatment has been abandoned or altered. Plain walls have been installed with little attention to scale or proportion. Trim has been used sparingly and only around openings. Molded rubber or vinyl bases have been used inconsistently. Acoustical tile ceilings have been edged with only a wall/ceiling corner or a thin piece of metal grid.

In other cases, the original wall treatment has been maintained, but a mezzanine level has been inserted into the building, drastically altering the proportions of the rooms. The wainscot nearly bisects the wall, creating a base and a top, but no center.

In several buildings, carpenter-built interior walls have been added with little regard for acoustics, fire protection or appearance.

### *Solution*

Proportion and shape are critical to creating graceful rooms. There are no fool-proof rules, but the following observations generally apply to the design concept proposed by these guidelines.

Horizontals should be consistently maintained by base, wainscot, chair rail, picture or peg rail.

Items interrupting the consistent horizontals should typically be vertical shapes: doors, cases, windows, access panels. Horizontal shapes interrupting consistent horizontals, such as tack boards and blackboards in classrooms, add special emphasis.

Rectangles should typically be used, squares should seldom be used.



### High Ceilings

In areas with high ceilings, the original 42-inch high wainscot pattern should be retained. A picture mold or Shaker peg rail should be retained or added to articulate a top to the wall.

### Low Ceilings

In areas with low ceilings, wainscots should be cut down to one-fifth to one-fourth of the ceiling height. Where no wainscot exists, a chair rail and/or a wainscot should be added. Care should be taken to match the chair rail height with chairs in use.

Retain or consider adding a peg or picture mold just above standing eye level and below door header height.

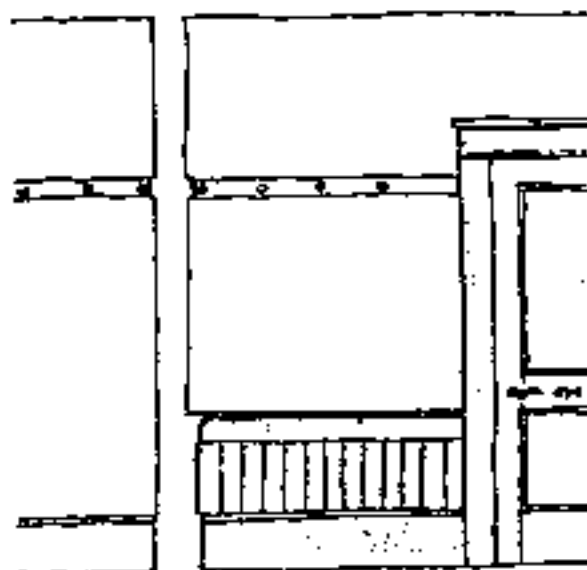
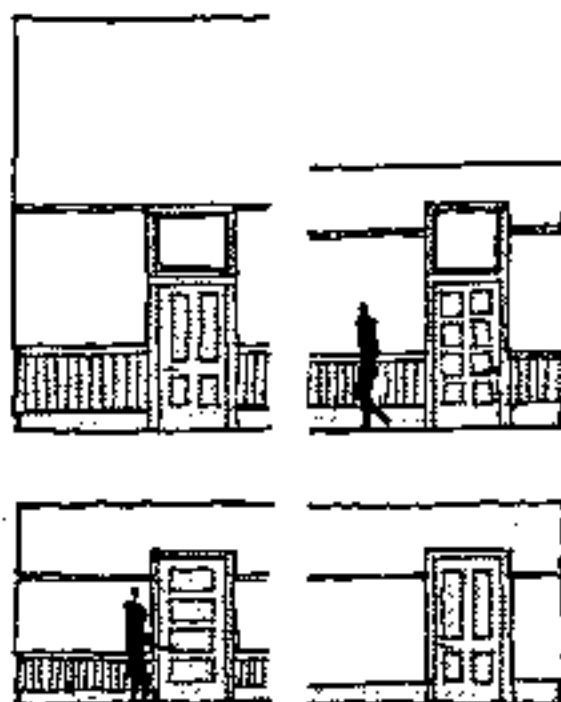
### All Areas

Bases and wainscots should be of wood, finished with a clear or light stain or painted in a quiet, deep color. Wood should be vertical, 4-inch V-groove, tongue and groove, or shiplap boards. V-groove natural wood plywood or even gypsum board may be used in lieu of boards when wainscot is to be painted, but a chair rail should be used to define a painted wainscot.

Where no wainscot is to be used, a wide wood base can form a suitable lower termination to the wall.

The top of the wall and the ceiling should be treated with the same color, a warmly tinted white with at least 80% reflectance.

The body of the wall should generally be painted the same color as the top and ceiling. In some rooms, the body might be painted a different color or given a special wall treatment for acoustics, tackable surfaces, or decorative patterns.



Shelving, tackboards, chalk and marker boards, projection screens, and artwork will often occupy a significant portion of the wall. A picture molding can be quite useful for hanging charts, slide screens, maps and pictures, and/or for organizing and terminating special wall surfaces.

The peg and picture mold and the chair rail and wainscot should be used as stable elements, allowing other elements to vary in size as needed. The design must sometimes accept, and might even emphasize, pre-existing elements that are too costly to move (for example, doors, windows, electrical panels, fire extinguisher cabinets, and access panels).

Access panels should be replaced with simple wooden, style-and-rail doors, painted or natural as called for by surrounding millwork. Where fire-rated or metal enclosures are required, paint them the same color as the wall, and/or frame with wood.

## *Ceilings-heights and shapes*

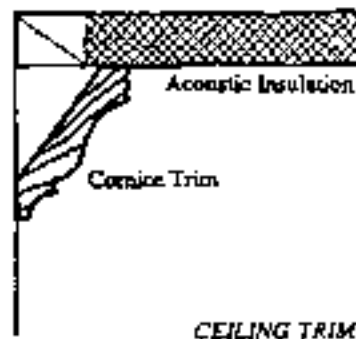
### *Problem*

Many interiors, particularly in the Inner Quadrangle, have very low ceilings which are, in some cases, quite out of scale with the proportions of the rooms. Often a plaster wall meets an acoustical tile ceiling with no molding or transition, resulting in an unfinished appearance. In addition, many of these spaces are poorly lighted.

### *Solution*

Although it would be pleasant and appropriate to restore the original high ceilings, it would not be practical due to the high demand for the space which was created by dividing the original high space into two lower ones. More practical alternatives include:

- creating higher areas in selected larger spaces or stairwells, and using areas with low ceilings for smaller spaces such as offices and very small group rooms;
- taking space from attics, where possible, to increase the height of second-story spaces;
- using lighter colors to increase apparent spaciousness;
- using soft lighting to support a more intimate feeling achievable with lower ceilings;
- installing moldings or dropped soffits where plaster walls meet acoustical tile ceilings. The detail of the molding should be very simple, especially for a space with smaller scale.



## Stairs

### Problem

In cases where mezzanine levels have been added to small Quadrangle buildings, the staircases are often simple and utilitarian. They are frequently dark and noisy, and feel somewhat cramped. There is an atmosphere of separation rather than connection between the two floors.

In the larger, unrenovated Quadrangle buildings, stairs are embellished with attractive wrought iron railings. While these stairs are more open, their spaciousness is not necessarily useful to the inhabitants of the building. Also, these staircases are often noisy.

### Solution

Solutions will vary widely, depending on the level of remodeling.

The use of carpet with high density padding on steps can solve basic acoustic problems.

Enclosed and visually inconsistent railings should be replaced with wrought iron wherever possible. History Corner, Language Corner, and Geology Corner are all good models for wrought iron work.

If wrought iron work is not included in the budget, a craftsman-style wood railing should be considered as an alternative in order to open up the staircase.

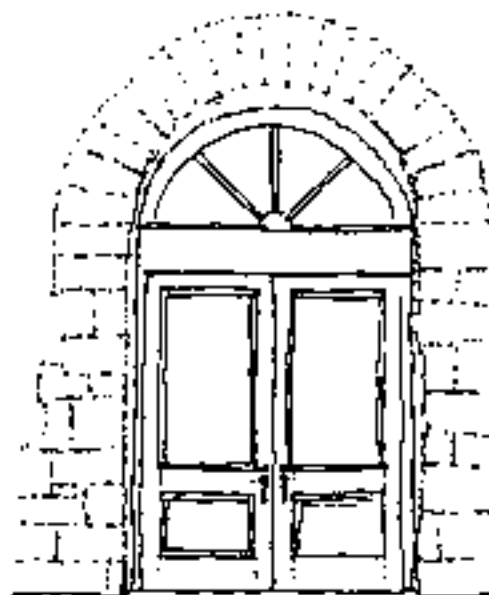
Space around the staircase should be treated as a useful public area with bulletin boards, chalkboards and benches.



## *Doors and Hardware*

### *Problem*

Over the years, a variety of door styles have been introduced into the Main Quadrangle interiors. There are both solid and hollow core flush doors, and wood and/or glass paneled doors in several designs. Finishes used include varnish, stain, paint, and in a few cases, plastic laminate. Similarly, there is little consistency in the metals, finishes, or styles of hardware selected over the years. Few buildings are outfitted with lever handled hardware that meets current handicapped accessibility standards. Although in many cases the existing doors and hardware are of good quality, they do not contribute to an attractive overall appearance.



### *Solution*

A standard paneled construction in hardwood should be considered for all doors. The use of Douglas fir is a less expensive alternative. Compatible doors with partial or complete glass panels should be considered for semi-public and public areas. Frosted glass panels could be used to transmit light between spaces.

Doors should be finished with clear finish or a very light stain.

Plain brass or bronze hardware which meets current handicapped access standards is recommended. If many pieces of existing hardware are to be retained, the new style should be compatible with existing hardware to the extent possible.

Where fire-rated solid panel doors are required, moldings can be applied to the fire doors to achieve the general appearance of standard paneled doors. This technique has been used successfully in History Corner.



## Acoustics

### Problem

Excessive noise transmission between offices, poor acoustics in lecture halls, noise reverberation in hallways, and transmission of noise from hallways into adjacent spaces, are common complaints in the Quadrangle. Ambient noise levels are often low, making inhabitants especially aware of sudden noise. Also, acoustical tile is often installed on ceilings and walls with little regard for the aesthetic impact, and sometimes with little acoustic effect.

### Solution

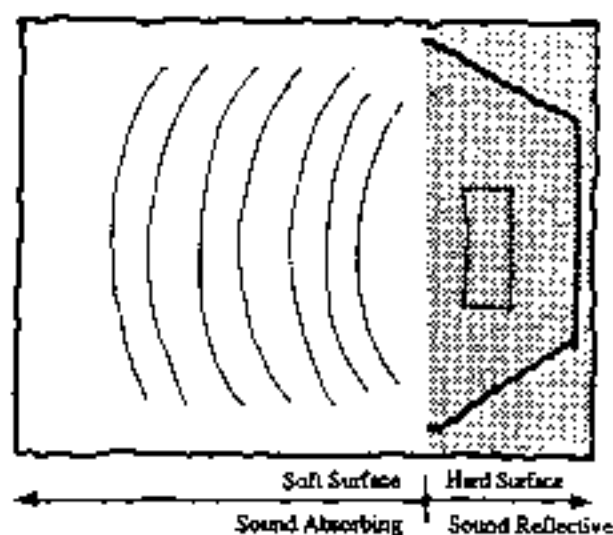
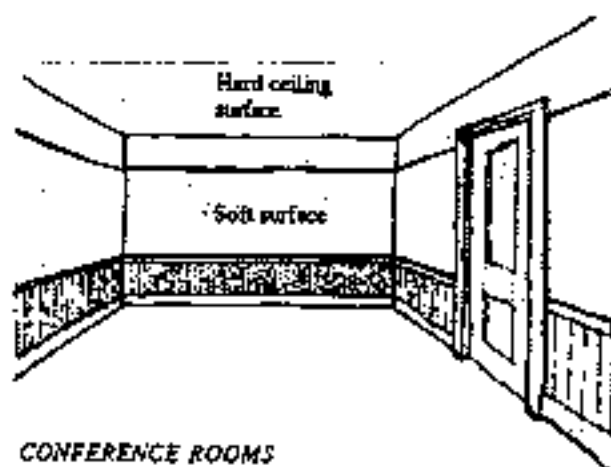
Carpeting and furnishings can provide all the acoustical modulation normally required in offices and small seminar rooms. No further special acoustical treatment is needed.

Conference rooms should have hard ceilings. Soft treatment should be applied at midlevel to half of the wall area.

Classrooms (20 feet by 30 feet) should have hard ceilings to reflect sound from the speaker to the listeners. Carpeting on the floor and soft, sound absorbing material applied to the rear wall would be beneficial.

Lecture halls should have hard ceilings to reflect sound. The rear one-half to two-thirds of the wall area should be finished with a soft material, and the front one-third to one-half of the wall area should be surfaced with hard, sound reflective materials. If the room is less than 40 feet in width, parallel walls can be used. If the room is greater than 40 feet in width, the side walls should be splayed. Larger lecture halls require special acoustical design.

Corridor ceilings should be acoustically treated to diminish sound reverberation in the corridors and into adjoining spaces. Carpet can minimize sound transmission into spaces below.





The standards of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) should be followed to reduce noise transmission between interior spaces through heating ducts and electrical outlets. Ducts should be correctly sized to reduce air noise. Mechanical equipment should be resiliently mounted to limit sound transmission through the structure.

Walls should be restructured where transmission between spaces cannot be traced to ducts, ceiling construction, or other sound leaks. If the wall is to be retained in the same location, remove one side and install batt insulation, resilient channels and new gypsum board. When resilient channels are used, install on joists or studs rather than on existing plaster or gypsum board. An air space is needed behind the channels to absorb vibrations. Refer to the *Gypsum Handbook* for alternative wall sections with appropriate sound transmission class (STC) ratings.

The use of acoustical ceiling tile is generally discouraged, as it is difficult to apply in a manner compatible with the style of the Quadrangle buildings. Other acoustical treatments such as wall panels, carpeting, fabric and upholstery can generally be used more effectively. When acoustical ceiling tile is required, it should be surrounded by an appropriately sized molding placed on the ceiling, or by a crown molding at the ceiling edge. Layout should be controlled so that only whole tiles are used. Two-foot by 4-foot tiles should be avoided in favor of square tiles.

Consultation with an acoustical engineer is advised to set priorities and to identify the most appropriate acoustical treatments.

STC RATINGS FOR PARTITIONS



WITHOUT INSULATION

STC 35                      STC 35-40                      STC 40-45

WITH INSULATION

STC 35-40                      STC 40-44                      STC 45-50

WITH INSULATION AND RESILIENT CHANNELS

STC 45-50                      STC 50-55                      STC 55-60

## ***Painting and Finishing***

### ***Problem***

There appear to be few problems with the quality of the painting and finishing in the Quadrangle. However, in the past the use of alkyd or oil-based paints was typical. Because spaces in which these paints are used must be vacated for several weeks, they are not recommended for use in remodeling.

### ***Solution***

Latex, water-based paints and varnishes are recommended in remodeling. Ceilings of drywall or plaster composition should be finished with a low-luster, non-reflective washable latex semi-gloss paint. Low-luster enamel is also appropriate for wall surfaces in high-use areas such as corridors, restrooms, and cafeterias. Semi-gloss or gloss enamel provides a durable surface for woodwork trim such as window and door casings, baseboards and built-in cabinetry. Texture of the finish should match the existing or use a fine stipple finish.

## *Furniture*

### *Problem*

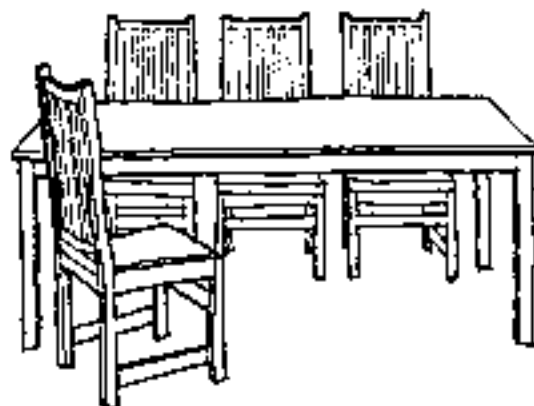
As furniture has been purchased over the years, styles and product availability have changed. Some of the pieces purchased in recent decades consist of metals and plastics that have not aged gracefully and cannot be easily repaired, resurfaced or reupholstered. As a result, many spaces in the Main Quadrangle contain worn and mismatched furnishings. However, much of the existing furniture is serviceable, and some is of very good quality.

### *Solution*

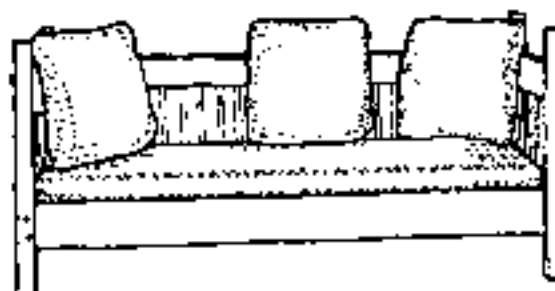
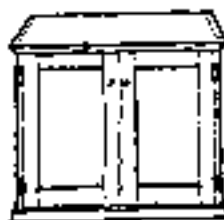
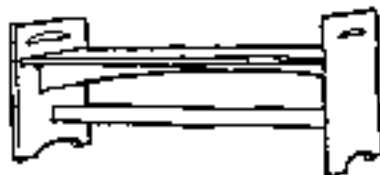
The use of existing furniture (and/or furniture available through the University stores), and the selective purchase of new furnishings, should be considered for each building. Public and shared spaces should have the highest priority for new furnishings.

Furniture that ages poorly should be avoided. The use of sheet metal and plastic furnishings should be limited. Hardwood and fabric pieces of a traditional construction in a medium tone similar to fumed oak are preferred. Heavy institutional hardwood furniture can be maintained in an attractive, usable condition over a long period of time through refinishing, reupholstering and regluing. In the long run, well-made, simply designed hardwood furniture will look suitable and well-used rather than outmoded and worn.

Hardwood pieces from different manufacturers can be mixed successfully. Older pieces and antiques can be used together with new pieces. Arts and Crafts or Mission style furniture should be sought for special areas such as departmental lounges. Restored pieces are currently competitive in price with high quality contract furnishings.



The use of a single proprietary system is not consistent with a piecemeal acquisition program over a long period of time. It would limit options for working with existing furnishings, narrow future options, and restrict price competition.



## Casework

### Problem

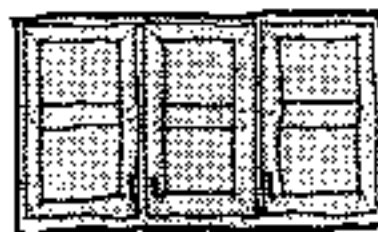
Casework is expensive to build and expensive to move and reuse as needs change. Existing casework varies considerably in style and quality.

### Solution

Movable furnishings should be used in lieu of casework whenever possible. Reserve casework for locations where plumbing requires a fixed case (such as pantries and wet labs), where there is a highly specialized need that cannot easily be met with available furniture, or where there is a strong desire for permanence.

Casework and doors should be hardwood style-and-rail, and have panel doors with visible frames. Avoid construction of a flush appearance that conceals the mode of assembly.

Red birch is the recommended hardwood species. With care, other species could be mixed with birch. The chosen wood should be easily available, durable, fine grained and reasonably priced. Available oak tends to be too heavily patterned. The more even grain of vertical grain fir, cherry, ash, alder and walnut is preferred. Douglas fir was originally used in almost all the buildings, and continues to be an appropriate choice. Vertical grain Douglas fir is less durable than a hardwood and is comparable in cost.



PANELED CASEWORK

## *Display Cases*

### *Problem*

Many departments have a desire to display artwork, specimens or samples in a secure, attractive manner.

### *Solution*

As the Geology Department has demonstrated, a display case can be used both to express a department's identity and to serve significant educational goals.

To create a degree of uniformity across departments, cases should be of wood consistent with casework standards. If cases are wall-mounted, they may be of standard sizes.

Based on individual department needs, cases could be freestanding or wall-mounted.

Display cases could be located in department lobbies, corridors or department headquarters.



## Bulletin Boards

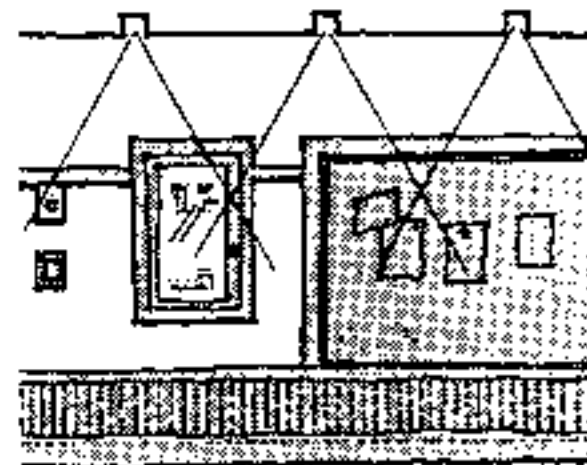
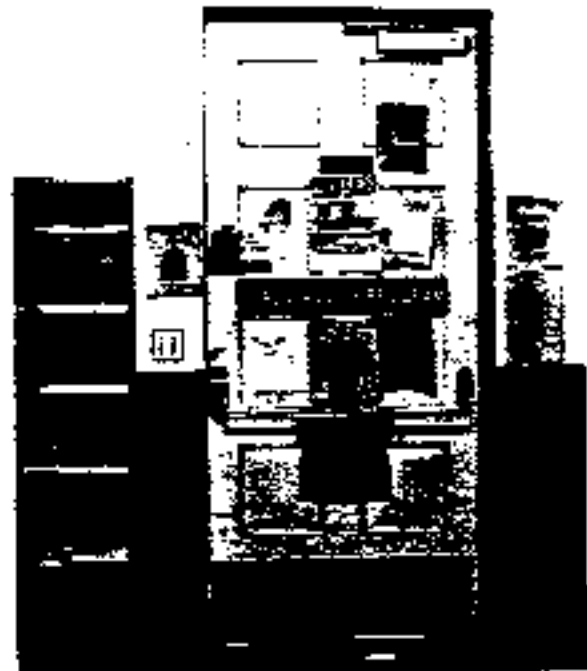
### Problem

Posters, notices and messages are plastered all over the walls, not only creating a mess, but also making it difficult to identify the truly important announcements.

### Solution

Suggestions for avoiding wall clutter include:

- centralizing all notices on bulletin boards;
- locating bulletin boards in department lobbies, near the mailboxes;
- increasing the visibility of the boards with accent lighting which also highlights the department name;
- using a standard size board for all departments (each department could determine the number of units to be used based on its own needs and space considerations);
- identifying uses for individual boards (such as department business, politics, jobs, entertainment, etc.);
- using wood frames which relate to the historic moldings and casework;
- using boards with natural cork surfaces;
- mounting boards in relation to the wainscot, considering both readability and ease of access.



## *Mailboxes*

### *Problem*

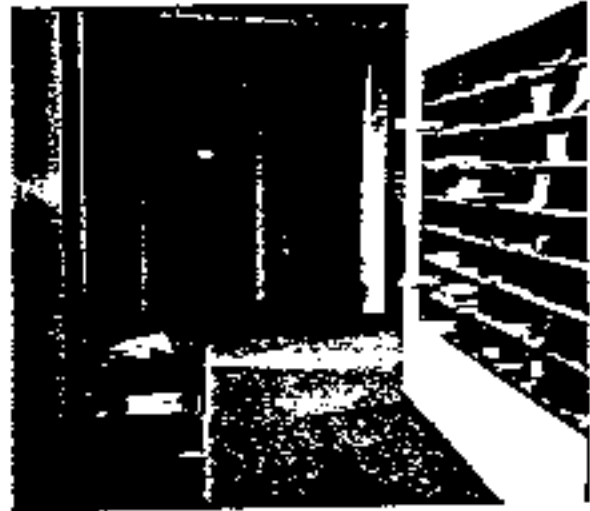
Mailboxes are often poorly suited for the type and amount of paperwork which must pass through them. They provide a key place for interaction, since everyone must stop by on a regular basis to pick up mail. However, they are often placed near administrative work spaces or in high-traffic corridors rather than in places conducive to conversation.

### *Solution*

The size of the boxes should be based on individual departments' needs (whether or not, for example, the boxes must hold computer printouts).

The placement of mailboxes should likewise be based on the needs of the individual departments. The department lounge or hearth is recommended in most cases. It may be useful to employ a mail cart in the department office for sorting and delivery if the hearth and administrative area cannot be adjacent. A separate phone message pickup area in the administrative/reception area might be useful in some departments.

Wood boxes are preferred. If the boxes pass through a corridor wall (and must therefore be secure fire-rated construction), traditional bronze units are recommended. Wood trim should be used if needed to coordinate the geometry of an area.





## Other Interior Elements

### Signs

#### Problem

A variety of sign systems is in use in the Quadrangle. Overall, they fail to successfully orient people, identify departments, or reflect the Quadrangle's historical character.

#### Solution

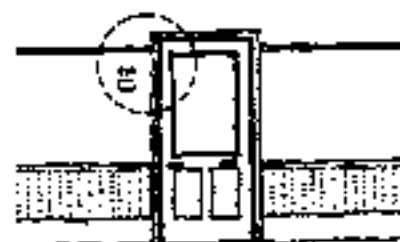
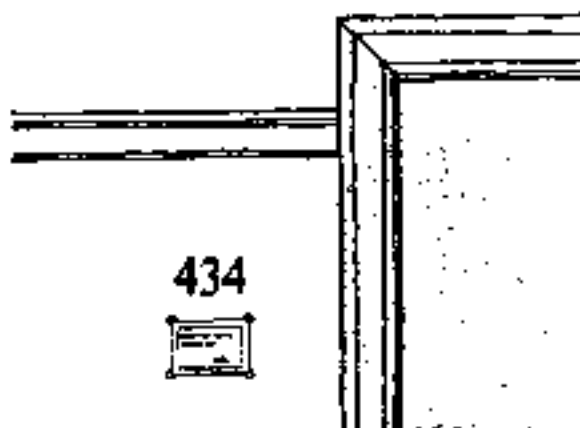
The signs on the exterior entry doors, which give building number and department or program names, are consistent throughout the Inner Quadrangle. Interior signs should also be provided in a manner consistent with the character of the Main Quadrangle. Each individual department or program needs a main department sign, a message board, a directory, and room numbers.

Manufactured directories and sign systems frequently read as anachronistic clutter in historic buildings and should be used with extreme care. A bulletin board in a shallow glass display case might serve as a building directory and official announcement center.

Interior doors could mimic the Quadrangle's exterior sign system. Signs etched on glazed panels, or hand painted on doors or transoms, would be historically appropriate.

Another possibility is the use of brass or bronze letters, numbers and message holders attached on or next to interior doors. Slipcases could be used to display office hours and room schedules. This system could easily be applied by a variety of people over time. It is also easily removed and replaced during painting and redecoration.

Current codes and regulations require the posting of safety information, such as the stipulation that elevators not be used in case of fire. This information could be printed and inserted in brass slipcases, or other type of standard signs could be produced.



## *Drinking Fountains*

### *Problem*

In addition to fulfilling an obvious need, drinking fountains provide places for casual social interaction. Despite their public locations, drinking fountains are usually sterile looking fixtures which detract from a well planned interior design.

### *Solution*

Special treatment can create a distinctive, or even whimsical, visual character for drinking fountains. Consider the use of accent colors or tile patterns from other parts of the Quadrangle. A cantilevered bowl can be used to create a decorative, utilitarian drinking fountain which meets handicapped requirements when the bowl is mounted at the correct height.



## *Artwork, Crafts*

### *Problem*

Walls in Quadrangle spaces are often bare except for random postings of announcements and practical objects such as chalkboards.

### *Solution*

Paintings, prints, lithographs, photographs, posters, woodcuts, etchings, sculptures, textile hangings and weavings, and other similar objects can make a space more interesting and stimulating.

Departments should be encouraged to choose artwork for their public or common areas, while individuals should be free to personalize their own offices.

Some ideas for art in public spaces include:

- reproductions of historic photographs from the Stanford archives;
- temporary or rotating pieces;
- Art Department exhibits;
- artwork purchased from a fund created by setting aside a percentage of the interior design budget;

It is essential to assure the security of art pieces through the use of display cases, secured frames and/or the placement of the pieces in well supervised areas. Tile work, art glass and other pieces integrated into the building are inherently secure.





## TECHNICAL ISSUES



## **Technical Issues**

When aesthetic and design issues are as important as they are in the case of the Main Quadrangle, there is a danger that technical issues will be overlooked or not given adequate consideration during the design phase. Unforeseen costs can impact a project's completion. Technical requirements discovered during construction can result in inappropriate and hasty design decisions that seriously affect the quality of the space.

The interior conditions in the Main Quadrangle vary significantly from one building to the next. A building-by-building analysis is essential. It is beyond the scope of these guidelines to provide specific technical information.

## Code Compliance

### *Structural and Seismic*

In developing these guidelines, no structural or seismic analysis has been made of any of the Quadrangle buildings. This analysis by the University is in progress. Structural work may be included in the scope of work for interior projects.

### *Disabled Access*

Most of the Quadrangle buildings contain some violations of handicapped access codes. Some buildings lack required wheelchair accessible entries. Many smaller buildings lack elevator access to upper levels. An approach to this problem is in progress by the University. Some interior projects may involve inserting elevators in existing buildings.

### *Energy Conservation*

The Quadrangle buildings' arcades, clay tile roofs and thick, stone walls are energy conserving in themselves. When additional conservation is required, the following guidelines should be followed:

- Insulation materials should always be inserted in hidden wall or ceiling spaces.
- If double glazing is required it should conform visually with existing windows. Existing sash should be removed and reglazed, or the sash should be replaced with an accurate duplication.
- If heat-rejecting glass is required, under no circumstances should reflective glass be used. The exterior appearance of the heat-rejecting glass should not be significantly different from clear glass.
- Weatherstripping should be unobtrusive.
- Thresholds should be of brass, not aluminum or stainless steel.
- Window coverings should provide for ventilation and protect against direct sunlight.

### *Ventilation*

All windows should be operable. Cross-ventilation should be provided wherever possible. Monitors should be used for ventilation in areas with high ceilings.

In some buildings air balancing problems have been solved by inserting louvers in doors. This technique reduces acoustic privacy and should be eliminated when heating, ventilating and air conditioning systems are improved or replaced.

Visible air conditioning units would significantly alter the exterior appearance of the Quadrangle and should therefore not be used. Air conditioning systems must be carefully integrated into the building design so as not to be visible or audible from the ground or adjoining buildings.

### *Asbestos Abatement*

Separate assessments are in progress to plan and assist in budgeting for needed asbestos abatement. Many interiors projects will necessarily include such a component.

### *Telecommunication/Network*

All conduits, wiring and outlets should be incorporated with the construction details and based on the University standards. Limit the surface mounted elements or consider them as part of designed details.

## Cost

The purpose of the cost model (which follows) is to provide a conceptual basis for estimating costs for various interior renovation projects. It should be used for strategic planning only. Actual costs can vary widely due to hidden conditions. Existing conditions in individual buildings vary significantly. The employment of a competent cost consultant to verify budgets and costs as work proceeds is essential to project management.

All costs apply to gross areas which are measured from outside wall to outside wall, and include both net assignable areas and non-assignable areas. Costs shown are construction costs and do not include other project costs such as insurance, fees and administration.

The cost model does not include site work, furniture, or specialty equipment such as kitchen equipment and fume hoods.

The cost model is based on the following assumptions:

- cost data valid through August 1989;
- a working area of approximately 6,000 SF;
- Type V, one-hour rated existing buildings with plaster ceilings;
- hot and chilled water provided by central plant.

A typical remodeled interior consists of:

- painted gypsum board walls;
- 3-piece base;
- wainscot;
- crown mold;
- picture mold or chair rail;
- wood window trim, all elements cased;
- louvered shutters on existing windows;
- insulated (R-30) ceilings, acoustic caulking.



### *Levels of work*

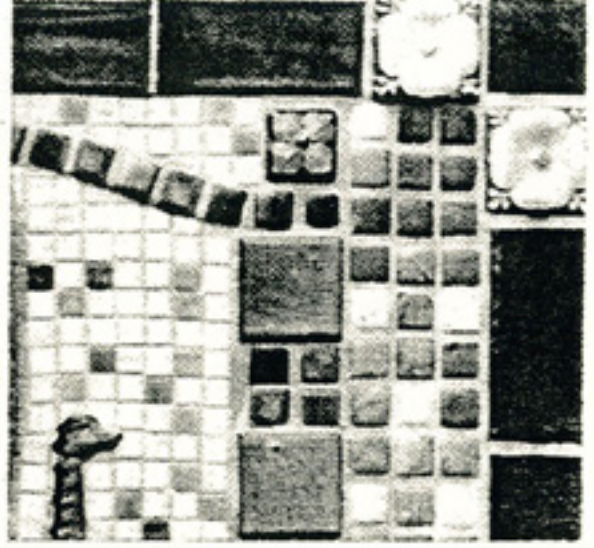
1. *Minor Remodel* Wall and ceiling surfaces cleaned, prepared and painted. Not more than 10% of plaster or gypsum board walls replaced. Picture molding or chair rail installed. Not more than 25% of doors and frames replaced. Acoustical treatment improved. New flooring. Some ceilings replaced. Minor electrical work (i.e., rewiring of switches, etc.). Battery operated smoke detectors installed. No mechanical work or new equipment.
2. *Medium Remodel* All of category 1. Ceiling insulated to R-30. Walls modified (up to 30% of wall area). Up to 50% of doors replaced. New lighting with minor changes to electrical panel (not exceeding 15% of circuits). Additional acoustical treatment. Some plumbing fixtures and piping. Toilet room floors and walls refinished. Minor ductwork and registers. No HVAC equipment.
3. *Major Remodel* All of category 2. Mostly new interior walls, doors, ceiling and floor covering. New wall and telephone outlets. Major ductwork revisions (without air handling). New plumbing fixtures with existing piping. New wainscot if required, new metal railings. Some new cabinets. New skylights. Minor structural additions.
4. *Total Remodel* Everything except basic structure and exterior stairs remodeled. All interior finishes and systems removed and replaced, including mechanical and electrical systems and equipment. Handicapped requirements met for entrance ramps, elevators, toilets. Seismic upgrading and structural strengthening to current standards. New fire alarm system, annunciator panel and fire sprinklers.
5. *New Work Within Historic Shell* Everything new except sandstone skin. Type I or II construction. Windows removed, restored and replaced. Sandstone skin braced and protected during demolition and construction.

*Cost Model per Square Foot (1989)*

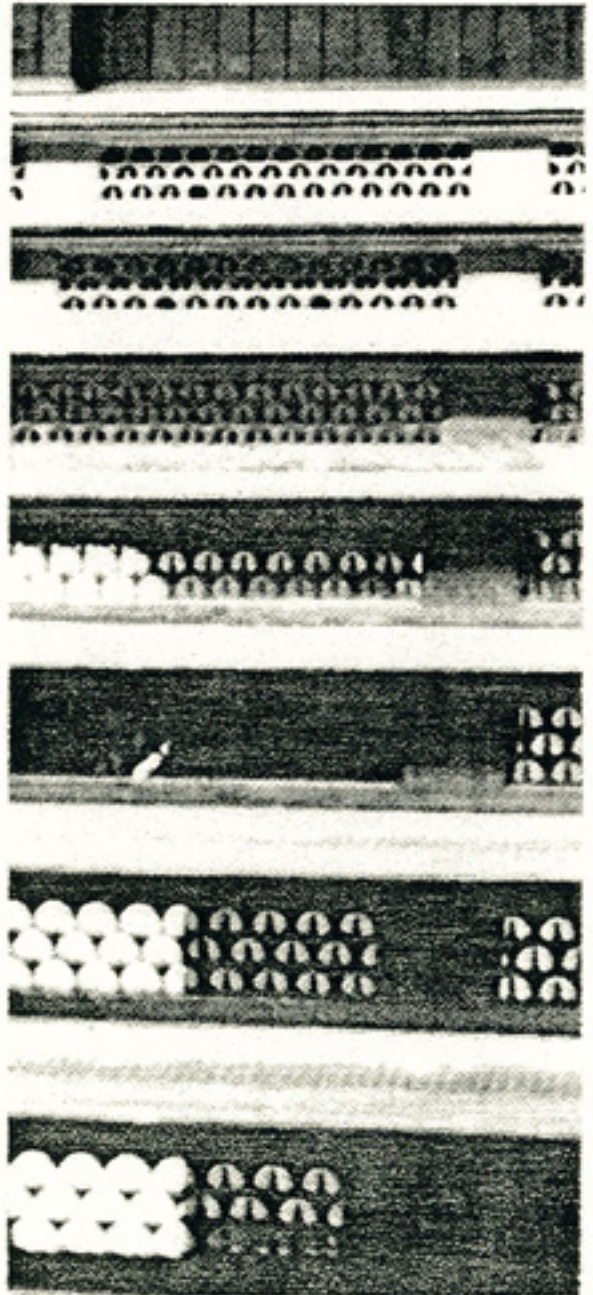
INTERIOR SPACE	MINOR REMODEL	MEDIUM REMODEL	MAJOR REMODEL	TOTAL REMODEL	HISTORIC SHELL
Auditorium	55	79	105	131	189
Lecture Hall	51	74	100	126	158
Classroom	43	61	84	116	152
Conference Room, Seminar Room, Reading Room	46	65	88	121	158
Office	37	53	79	110	137
Science Dry Lab	70	100	137	168	184
Science Wet Lab	92	131	168	189	200

*Adders to Cost Model*

Public Toilet Areas	\$ 110/ SF
Elevators ( includes elevator shafts, electric overhead 4x6 or 5x5, medium-quality cabs)	
Two stops	\$ 85 K/ EA
Four stops	\$ 105 K/ EA
Cabinet Work (per face SF of area)	\$ 50/ SF
Areas under 4000 SF	add 15%
Areas under 5000 SF	add 10%
Areas under 5500 SF	add 5%
Areas at 6000 SF	-0-
Areas over 6500 SF	deduct 5%
Owner's contingencies for remodeling work	15% for planning 15% for construction



## APPENDICES



## **Appendices**

### **Notes to the Users**

1. The intent of the Main Quadrangle Interior Design Guidelines is to provide recommendations to assure that the design standards match the existing qualities in the exterior, not to define the scope of the program or the detail design solutions. For example, if a skylight is recommended for a dark corridor, it does not mean the skylight is the only solution; if the existing wainscot or molding is in good condition, then the most effective way should be considered, which could include utilizing existing material rather than replacement with new, more expensive materials.
2. Each project shall start with a comprehensive check on the Main Quadrangle Regional Plan in terms of the planning priorities regarding the seismic, asbestos, classroom, safety, building system, network/telecommunication, maintenance and code issues. Each project also needs to follow the guideline of the Historical Index for any changes affecting the building exterior.
3. After the completion of each project, the survey chart in the Appendix for the building conditions shall be updated accordingly.

## Design at Stanford

*Notes by Philip C. Williams, University Architect, March, 1985*

We are witnessing a rapid change in the pace of building construction and the variety of building types at Stanford in response to new program and design requirements. There is no doubt that we are in a tough transition – challenged by dramatic changes in building technology and costs, and especially by new program requirements of "high-tech" science. At the same time we are blessed by a heightened respect for environmental and historical values.

*We must respond to technology, both in the substitution of new building materials and techniques for old ones, and in the functional requirements of education in science, engineering, and medicine. But we must also identify and maintain our relevant architectural values in the face of this change. These values, while derived from a traditional architectural style, must respond with contemporary means to our constant human needs and our changing educational programs.*

At Stanford we have been blessed with a strong architectural heritage – and we believe that we must achieve a transition in which *respect for our roots* is always evident, and in which what we see is an *evolution with substance and reason*, rather than just a showcase for architects' experiments.

### STANFORD'S HERITAGE

There are several significant elements of our heritage which have helped form the best of our architecture:

**CLIMATE and ECOLOGY**, and a response in buildings which offer shelter from sun and rain, and in landscape which acknowledges the semi-arid climate.

**CLASSICAL ARCHITECTURE**, suited to a "Mediterranean" climate, expressive of an institutional setting, and formal, in response to the motives of the Founders.

**PERMANENCE and DURABILITY**, expressed in materials and style.

**INTEGRATION, COHERENCE, "CONNECTEDNESS"**, embodied in the arcades and the unity of materials.

**SPIRITUAL QUALITY**, in the serenity and rhythm of the colonades and the poetic mystery of the changing play of light and shadow in the arcades, and, of course, in the focal church.

**JUXTAPOSITION**, over time, of the formal and informal, and of natural and exotic landscape.

The **QUALITIES** of the **ORIGINAL STANFORD BUILDINGS** may be summarized in terms of *Permanence, Shelter, Solidity, Rhythm, Connection, Human Scale, and Unity* -- a complex of distinguished buildings which are comfortable with each other.

### **GUIDELINES AND PRINCIPLES**

In order to interpret these important qualities of our heritage in new buildings, our architects must make careful distinctions between:

- The **ELEGANT** vs. the **PRETENTIOUS**
- ECONOMICAL** rather than **CHEAP**
- the **FUNCTIONAL** vs. the **PHONY**
- TIMELESS**, not **TRENDY**
- ENRICHMENT** vs. trivial **DECORATION**
- INSPIRING** without being **IMPOSING**
- WHIMSICAL** but not **TRITE**
- and stressing **VALUES** rather than **STYLE**

A useful analogy might be in the difference between **VOCABULARY** and **SYNTAX** -- between pieces of existing buildings randomly chosen and copied rather than elements carefully arranged to form a coherent composition -- a sentence. In other words, it is the difference between **SUBSTANCE** and mere **SYMBOLS**. Symbols are sometimes useful as a *complement*, but not as a *substitute* for substance.

The **HUMANE** qualities of Stanford architecture merit further mention:

- RICHNESS**, which evokes a strong human response.
- HUMAN SCALE** -- pieces that one can hold, even carry, and elements that one can relate to comfortably.
- WHIMSY** -- humor with respect, rather than ridicule; certainly a humane quality that helps make a campus friendly.

Specific examples may be helpful in illustrating successful, and sometimes not-so-successful **TRANSITIONS** in three important elements of the Stanford campus: **ENTRIES, OUTDOOR SPACE, and ARCADES.**

A strong sense of ENTRY is a key element in the original Stanford architecture. The well-defined entry is important, not only as a visual introduction to spaces and events beyond it, as in the East entry to the Quad, but also as a frame for significant views. At Stanford the arched entry has been interpreted successfully in the commercial motif of the Shopping Center, in the portal through the Braun Music Center, which connects a housing area to the academic center (somewhat austere -- partly due to a limited budget), and in the "high-tech" Center for Integrated Systems, in which there is a very clear sense of entry, which is also the frame for a significant view looking out. Perhaps the most obvious example is the view of Memorial Church framed by the arched main entry to the Quad.

One of the most important aspects of a campus that gives it identity and coherence is its OUTDOOR SPACES, and the sense of space and character that they create. Our most important space is the Inner Quad, which we have just completed after nearly 100 years. But some of our most humane spaces, in juxtaposition to the Inner Quad, are the small courtyards around it. Each is different, formed by the buildings around it and its time and designer.

Spaces have different purposes. There are spaces to BE IN, and there are spaces to BE SEEN IN. White Plaza is a major hub; mostly it is a place to go through or gather in, or have events in, whereas the Tresidder Patio is a place to be in, to eat, or talk, or listen to music. We have other important places to be in, with focal points such as "Mem Hoop", that integrate different but related buildings, such as the library complex into the Quad. We have other important spaces which serve multiple purposes, such as the Avocado and Citrus Courtyards in the Quad, which are successful "people spaces", circulation corridors, and also provide vehicle service to the surrounding buildings for deliveries and trash removal. Thus we have experienced transitions to more contemporary spaces as well as the use and renovation of some of our original spaces.

Some of our most interesting transitions have been in the form of the ARCADE, a most basic element, which incorporates the concepts of shelter, rhythm, and connection, and which may be our most significant architectural heritage. The Old Union is a classic example, in which the arcade fulfills all of its original intentions in linking the separate elements of that complex of buildings. Then, as we strayed from the original architectural concept to a long period of designing separate, individual buildings, the arcade was still recognized as a symbol that should be incorporated. In the Hoover Institution, the arcade was recalled in each element, but not as a link among them, and this technique was used often -- a classic case of substituting the symbol for the substance, with varying degrees of success. The Mitchell Earth Sciences Building is an example, and the Meyer Undergraduate Library is perhaps the ultimate example of the use of the arcade form in a monumental manner which captures the rhythm, but little else of the original concept of the arcade. In the Medical Center the arcade is incorporated in a significant way, more in keeping with the original concept of linking elements of a building complex, but the three-story height of the arcade substitutes a monumental expression in place of the feeling of human scale and shelter embodied in the original arcades. In the Law School the arcade is returned to its original intent -- the most successful interpretation in decades. In the C.I.S. Building the arcade is again incorporated in the design, but as a symbol in an individual building, rather than the substance of our original heritage.



We can hope that there will be a return to planning complexes of buildings that will incorporate the elements of our architectural heritage that have such deep meaning to us and to the real meaning of a CAMPUS.

### CONCLUSION

The basis of attitudes toward the aesthetics of architectural design can range from *instinctive good taste* and *what "feels right"*, to *metaphysical theories* about the constructed environment as *evidence of cultural values*. Both ends of this range, if it is a range, have relevance. Campus design, as a special kind of urban design, carries some unique baggage. This extra load may have its origins in the term "university", which simultaneously implies a *unity of purpose* and a *diversity of individual means* by which that purpose is accomplished; "-versity" is usually the operative part of the term!

One could hope that campus environments would reinforce education by imparting such *values* as:

**RESPECT** -- for nature, people, history and tradition, as well as for technical achievements and the fine arts.

**INTEGRITY** and **BALANCE** -- as the evidence of the application of critical thinking.

**ECONOMY** -- of means and resources.

The presence of such qualities may reflect good fortune in the selection of architects, or better yet, a *continuum of conscious institutional values* to which architects successfully respond.

## Definitions and Standards for Historic Building Rehabilitation

The following guidelines are excerpted from The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

### Definition

Rehabilitation is the process of repairing or altering a property for efficient, contemporary use, while preserving those features of the property which are historically, architecturally, and/or culturally significant.

### Standards

1. Make every effort to designate a use which requires minimal alterations.
2. Preserve distinguishing original qualities and characteristics.
3. Recognize buildings as products of their own time (for the Quadrangle, 1890-1905). Alterations should have an historical basis.
4. When changes to a building have acquired significance in their own right, this significance should be recognized and respected as evidence of the history and development of the building.
5. Treat distinctive stylistic features or examples of skilled craftsmanship sensitively.
6. Whenever possible, repair rather than replace deteriorated architectural features. If replacement is necessary, the new material should match the original in composition, design, color, texture and other visual qualities. Designs should be substantiated by historic, physical or pictorial evidence.
7. Surface cleaning should be undertaken by the gentlest means possible. Sandblasting and other cleaning or stripping methods that would damage the historic materials should not be used.
8. Contemporary designs compatible with the size, scale, colors, materials and character of the existing environment are permitted for alterations and additions. However, their use should not lead to the destruction of significant historical, architectural, or cultural materials.
9. To the extent possible, new additions or alterations to interiors should be done in such a manner that if they were to be removed in the future, the essential form and integrity of the original space would be unimpaired.

## Graphic Key to Color Palette

### *Color Group A- Paint*

Alabaster RM-15	Cumulus RM-19		
Sand Beige G-10	Rock Tan G-11	Almond G-12	
Hawaiian Sand A-50	Harvest Tint A-51	Grain A-52	Bold Case A-53

*Fuller O'Brien Paints*

**Color Group B- Paint**

Storm Blue E-126	Jungle Night E-132	Ebony Teal E-135	Leafy Bower E-127
Bittersweet B-123	Grand Canyon B-65	Harvard Red B-57	Woodchuck G-57
Slate Blue D-81	Gendarme D-133	Big Sur D-130	Ink D-120

*Fuller O'Brien Paints*

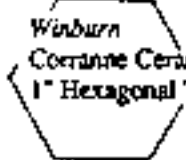
## Color Group C1- Fabrics

<i>Unika Vaev</i> Crown Imperial 950/70 Marquise	<i>Sunar</i> DIX 11/1612 18 Florentine	<i>Design Tex</i> Wool Petipoint DT 8583 Parsley	<i>Design Tex</i> Nylsuede DT 8737 Basil
<i>Design Tex</i> Pyro Dawn 1004-703 Cinnamon	<i>Design Tex</i> Paladin 2590-504 Mariner	<i>Arc Com</i> Montmartre AC-61593 Terra Cotta 40	<i>Design Tex</i> Pyro Point 1625-502 Gardenia
<i>Lee Jofa</i> Pyrgos 844908 Powder Pink	Wood Sample	<i>Maharam</i> Wool Repp 453901 15 Cedar	<i>Maharam</i> Safety Pinwheel 401202 149 Cordovan
<i>Maharam</i> Safety Twill Dot 400403 35 Slate/Flamingo	<i>Unika Vaev</i> Crown Imperial 950-73 Dutchess Rose	<i>Scalamandre</i> North Lake Flora 96453-1 Gobelin	<i>Maharam</i> Impression 454704 Corinth
<i>Lee Jofa</i> Pyrgos 844900 Slate Blue	<i>Unika Vaev</i> Crown Imperial 950/83 Magistrate	<i>Scalamandre</i> Mayreau Marelasse 957759-10 Iridescent Spruce	<i>Maharam</i> Wool Crepe 453601 26 Victorian

**Color Group C2- Carpeting**

<p><i>Monsato</i> 4035 Soave</p>	<p><i>Charleston Carpets</i> Ultra Graphics II RN 43335 Beacon Tan 100% Antron Advanced Gen. Nylon</p>
<p><i>Monsato</i> 2045 Cedar</p>	<p><i>Bentley</i> Crystal Palace 388-1251 Baccarat 100% Yarn Dyed DuPont Antron C.F. Nylon</p>
<p><i>Monsato</i> 3081 Maple</p>	<p><i>Bentley</i> Crystal Palace 388-1260 Metropolis 100% Yarn Dyed DuPont Antron C.F. Nylon</p>
<p><i>Monsato</i> 3022 Smoked Melon</p>	
<p><i>Monsato</i> 4063 Saratoga Blue</p>	
<p><i>Monsato</i> 4031 Medium Blue</p>	
<p><i>Monsato Ultron</i> 5120 Celadon</p>	

**Color Group C3- Hard Finishes**

<p><i>Crown</i>          Unglazed Mosaic Tile          TM87/TA3</p>	<p>TL77/TB11</p>	<p><i>Winburn</i>          Coranne Ceramic          1" Hexagonal Tile</p>  <p><i>Newmar</i>          Neutra Matrix          MR-2-3T</p>
<p><i>Winburn</i>          Coranne Ceramic Tile          White 1806</p>		

<p><i>Armstrong</i>          Stonex VCT</p> <p>Coral Sand</p>	<p>Gravel Blue</p>	<p>Vinyl Sample          To be identified</p> <p>Metal Sample          To be identified</p>
<p>Rock Mauve</p>	<p>Pebble Grey</p>	

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BLDG	AREA		STRUCTURAL		HVAC	TELECOM	ASBESTOS	FIRE SAFETY		CLASS ROOM	HANDICAPPED		REMOD HISTORY		REMARKS
	STORY	SQ. FT.	TYPE	STATUS				DATA SYSTEM	RATE		SPRINKLER	TOILET	ACCESS	SCOPE	
#1	2	13,574	URM				X						Int.	1950 1978 1982	
#10	2	8,313	URM		X		X						Int.	1969	
#20	2	10,037	URM										Int.	1957	
#30	1	5,877	URM												
#40	2	7,840	URM	(S.S.)			X						Int. (S.S.)	1960 1981 1989	
#50	2	12,390	URM										Int.	1956 1981	
#60	2	12,390	URM											1958	
#70	2	7,840	URM											1983	
#80	2	8,936	URM										Int. N/E	1979 1986	
#90	2	9,066	URM											1959	
#100	2	7,919	URM		X		X							1950	
#110	2	12,954	URM				X							1950	
#240	2	10,292	URM										Int.	1957	
#250	2	10,172	URM											1958	
#360	2		URM												
#370	2		URM												

(S.S.) = Structural Strengthening

