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A Thesis Submitted to the Faculty of
The College of Fine and Applied Arts
in Candidacy for the Degree of

Master of Fine Arts

# Aesthetics for a Working Environment

By

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CONTENTS

# ILLUSTRATIONS

The purpose of my thesis is to formalize a philosophy of aesthetics, and to express that philosophy through several pieces of furniture for my business office.

Study of aesthetics and the creative process will form the basis for the written thesis. I will discuss these issues in general terms, and more specifically, how they affect the individual furniture projects.

The projects will then serve as a direct illustration of my work to colleagues and prospective clients visiting my office.

I would like to thank M.S. for all the thought-provoking breakfast conversations and otherwise endless support throughout the year. I am grateful to Doug Sigler and Bill Keyser for their interest in and concern for my work, and to Gary Griffin and Karl vonHacht for the guidance they have given me.

# I. INTRODUCTION

Prior to attending Rochester Institute of Technology, I worked as an architectural designer and licensed general contractor in the San Francisco area. I shared ownership of a small design corporation with a colleague from The University of California at Berkeley; we both graduated with degrees in architecture from the College of Environmental Design in 1974.

After four years of a variety of work experiences, I decided to focus my attention on the area of woodworking and furniture design. This decision led me to enter the Masters program at R.I.T.

Graduate school has given me the opportunity to acquire a foundation in the skills and techniques of woodworking. The thesis year, besides adding to this technical knowledge, has been a time for critical self-evaluation and a time to question the aesthetics of my work.

This thesis year has been an introspective one. It has prompted a reassessment of the values which I had assimilated from my architecture studies and my work experiences. It has also introduced me to many new issues particular to the arts and to my

field of furniture design. The intent of this paper is to synthesize a design philosophy, one that gives guidance and substance to the projects constructed for my thesis.

# II. PROCESSES AND ELEMENTS OF DESIGN

"One of humanity's prime drives is to understand and to be understood."[1] The creative process is an active attempt to clarify and share our understanding of our life experiences. During that process one examines and redefines one's perceptions. Both self-awareness and awareness of one's environment and culture are utilized during creative thought and work. The product of that activity is a manifestation of evolving perceptions and is intended to communicate to others that which the individual has understood.

"The creative process is the process of change, of development, of evolution, in the organization of subjective life."[2] The process involves several stages, each with its own level of involvement on the part of the artist. The process is not entirely logical or explainable, nor can it simply be outlined and followed at will. There are, however, certain aspects of the process, which, when understood, can only help to nurture the artist's creative activity and improve the possibilities of success.

The Japanese Zen masters saw technical proficiency and discipline as a means to freedom of cre-

ative thought.

> "Draw bamboo for ten years; become a bamboo; then forget all about bamboo when you are drawing. In possession of infallible technique, the individual places himself at the mercy of inspiration. Artist and product, man and object, are one. Selfhood is extinct and the genius can unfold without limitation."[3]

Infallible technique is not necessarily a prerequisite for creative activity. Rather, the important point of this Zen attitude is that the work can unfold without limitation.

Just as an artist should not be limited by a lack of skills or knowledge, it is equally important that one not be inhibited by a preoccupation with process and technique and with producing objects which are merely evidence of one's virtuosity. In World of the Makers, Edward Lucie-Smith points to the need for craftsmen to avoid such limitation:

> "When skill is preserved after the need for it is gone, then it turns into an exercise in pure virtuosity. It is the knowing how to do it and not the end product, which gives delight. Yet it must be recognized that crafts exercised in this way, for their own sake, or in simple rejection of the modern world and its assumed evils, seldom produce objects which are particularly interesting to look at."[4]

One must also not be limited by a preoccupation with solutions already in existence. Original thought demands that the individual look beyond that which is known, disregard that which is prevalent or vogue, and develop new forms based on personal perceptions.

A vital part of creative activity occurs when there is an absence of will, when one's mind is free to work at unconscious levels, free from the confines of rational thought, free to follow one's intuition.

> "Your intuition is your most exacting sense, it is your most reliable sense. It is the most personal sense that a singularity has, and, intuition, not knowledge, must be considered your greatest gift."[5]

One must cultivate a sensitivity to the spontaneous developments of unconscious activity, and learn to recognize elements of intimation as being worthy of further study and refinement.

The artist must evaluate and revise his or her intuitive ideas to achieve a format capable of clearly communicating the newly perceived order. Each individual must establish personal guidelines for this refinement process, and identify the values upon which judgments are based. One must define his artistic identity, and recognize those issues and

responsibilities which pertain to his work. It is the conscious referral to this identity during the creative process that encourages work of substance and conceptual value.

Because my work is concerned with the creation of 'objects', those things which serve a defined, functional purpose, I am a designer.

Design is a social discipline. Its primary purpose is to make objects for people to use and to enjoy. As such, I recognize the fact that I could not be satisfied producing furniture on a speculative basis, nor do I aspire to create museum pieces for exhibition or publication. My interest in designing and building furniture is to satisfy the functional requirements of the project, and to respond to the particular needs of my clients.

The designer's individuality and creativity are influenced by the unique life experiences and perceptions brought to the design process. My design process, my attitudes towards materials and construction and preferences for visual qualities and forms have been greatly influenced by my architecture background.

My identity as a designer is determined by my responsiveness to the nature of the piece to be constructed. I begin my design process when I clarify and verbalize my perceptions of the essence of the object. Louis Kahn refers to this essence or nature of things as 'Form'.

> "Form encompasses a harmony of systems, a sense of order, and that which distinguishes one existence from another."[6]

Designing is a comprehensive thought process; decisions made concerning one aspect of a design must be made with an awareness of their potential effect on all other parts of the whole. Reference to the 'Form' of that whole, to the nature of the object, gives purpose and direction to design decisions, and guides the refinement of intuitive ideas towards a final design. An important criteria for evaluating the success of a project is the degree to which the original concept of 'Form' is evident and understandable.

The more pure the substantiation of 'Form', the more likely the essence of the object will be understood. Pureness implies neither simplicity or complexity, nor does it dictate style or motif. It is

"being such and no other ... containing nothing that does not belong."[7] Purity results from the prevalence of an interdependent relationship among various design elements, all of which contribute to the whole, and none of which can be removed without lessening the impact of the statement.

Pureness knows no specific form or appearance. It is a quality which exists simultaneously in the visually complex and ornamented Chartres Cathedral in France, and in the minimal and austere East Wing of the National Gallery in Washington, D.C.

Each piece of furniture I build is a response to particular design parameters and to my perceptions of its nature and its uniqueness. While my approach encourages a diversity of designs, the qualities of pureness and resolution are those which I try to achieve in all my projects.

In furniture design, pureness exists when a harmonious interrelationship of design elements prevails. While satisfying the needs of the client and the functional requirements of the project, I give equal consideration to the environment in which the piece will rest and the quality of activity it will serve. Pure-

ness also requires an internal harmony of form, materials, construction and detailing. Furniture, as such, can emanate a sense of resolution, of internal calm, and of existing in a state of equilibrium with its surroundings.

My attitudes towards materials and construction have been greatly influenced by my study of architecture and engineering, and by my construction work experiences. I am consistently most impressed with the work of architects and engineers who demonstrate an extraordinary mastery of building materials.

Of particular interest to me are the reinforced concrete structures by Pier Nervi and T.Y. Lin, the light-weight tension structures by Frei Otto and R. Buckminster Fuller, the stonework by Frank Lloyd Wright, steel-frame buildings by Mies van der Rohe, and the wood buildings by Charles and Henry Green, William Wurster and Bernard Maybeck.

These designers share a 'truth to materials' approach to their work by which building materials are used in accordance with their particular structural characteristics. They have created structures which are visibly expressive of the uniqueness of

the chosen materials, and which have encouraged innovation in the building construction technologies of the time.

Louis Kahn was perhaps the most articulate in expressing his attitude towards materials, as seen in his 'conversation with a brick':

> "If you think of brick, and you are consulting the orders, you consider the nature of brick. You say to brick, "What do you want, brick?" Brick says to you, "I like an arch." And you say, "Arches are expensive, and I can use a concrete lintel over an opening. What do you think of that, brick?" Brick says, "I like an arch."[8]

Wood is available in a variety of forms and products: greenwood, kiln or air-dried lumber, plywood, veneers, particle board, masonite and paper. Each of these forms has its own visual qualities, connotations and structural properties. The designer must choose that form of material most harmonious with the 'Form' of the object to be constructed, and use it in a way that is most honest to its structural characteristics.

The form and actual species of wood used in furniture projects should be correspondent to the

environment in which they are to function. Their appearance should also be responsive to the individual client's preferences for visual elements of form, shape and ornamentation.

Before designing the actual furniture for my thesis work, it was necessary to define as specifically as possible the environment in which the pieces would be located, the quality of the business activities they would serve, and, as I am the client for the projects, to recognize the qualities of visual appearance which I would prefer for my workplace.

# III. MY WORKING ENVIRONMENT

Although the exact building in which my business will be located is currently unknown, I do know of several suitable locations for the shop in San Francisco. The city offers a central location accessible to an extensive metropolitan area and is a stimulating environment in which to live and work.

Most rental property is available by the square foot; large commercial building spaces are subdivided for many small businesses. It is common to lease a space and to build or demolish interior partitions to suit one's needs. I have assumed this sort of flexibility in space planning, and have defined various spatial relationships as they would best serve my business operation.

Work areas will be arranged in a relatively formal manner, with a separation of varying activities and the spaces they require. The largest area will be the workshop, organized into several smaller work areas for lumber storage, milling, fine machine work, construction, assembly, finishing, tool and supplies storage.

Totally separate from the workshop will be two smaller areas: the office and conference spaces.

While they may be in separate rooms, or simply separate areas within a larger room, I feel it is imperative that they be isolated from the workshop space.

The design and business area is where I do my designing and drafting, where job records and plans are kept, and where all financial accounting and business work is done. It is most desirable that drafting surfaces and drawing storage be dust-free, therefore they require an air-tight separation from the workroom.

The conference area will be a clean, uncluttered one, providing for the visit of clients or colleagues; a comfortable setting for discussion. Here, too, it is important to isolate the chairs and table, which are central to the area, from the dust of the machine room.

Beyond these practical considerations, there is an equally important philosophical purpose for giving appropriate space and furnishings for these activities. The design process is not housed in some corner of the workshop where it would indicate a subservience to the mechanical processes of construction. Rather,

the design process is the reason for the workshop, it is a prerequisite to construction, and, as such, should be given priority and independence in the layout of the shop. Likewise, the client is, and must be encouraged to feel like, a vital impetus for the entire process. The provision for a special area to greet and confer with clients is indicative of my belief in their importance to my work.

At the time I was developing the schematic layout of work areas, I chose the projects to be included in the year's work: an interior entrance door, a conference table with four chairs, a coat rack, and a flat file.

It was evident from their close proximity that all the pieces would be simultaneously visible. While it was important that each project maintain its own character, it was desirable that there prevail a compatibility and harmony among them all.

My overriding concern was that the furniture correspond to the environment in which it was to function. Each piece was to express a responsiveness to its position in a business office adjacent to a workshop area. Practical considerations indicated

the need for strong, durable furniture capable of withstanding the heavy daily use of a workplace.

These parameters encouraged a sense of unity among the projects. They suggested visual qualities of strength, stability and substantiality. They also encouraged the use of 'common materials', of redwood, maple and red oak, bronze and iron. All are domestically available and relatively inexpensive, thereby discounting any appearance of rareness or extravagance, which would be inappropriate for my working environment, and which would be implied by the use of more exotic woods or precious metals.

I respond most positively to visual qualities of unembellished directness, of simplicity and austerity. I have appreciated these qualities in the art and architecture of the Japanese Zen Masters, and of the modern movement of Twentieth Century America.

Simplicity is a quality I prefer in many aspects of my life, and it is a particularly appropriate one for the appearance of my workshop and of the furniture for my office and conference areas. I like to work in a clean, uncluttered, well organized environment, one with empty walls and open spaces.

> "Simplicity as a visual expression is the result of continuous elimination of the superfluous, is a reduction of form, space, motif, construction, function and material to the barest minimum necessary to comply with the purpose of existence."[8]

The reduction of elements to a minimum is for me a means to achieving the pureness and resolution I desire in my work. Together with the need for strength and durability, the visual quality of simplicity implied the use of wood in solid lumber form as being suitable for my thesis projects. In board and plank form, massive in section, the strength of solid wood is revealed, and the use of clean, planar forms is suggested.

# IV. NOTES ON THE INDIVIDUAL PROJECTS

## Introduction

In September, I determined that the projects would not all be designed at the outset of the year but as the year progressed. Each piece could then derive maximum benefit from my continuing thesis research, and from the design, construction and final evaluation of the preceding project(s).

The door and table were built during fall quarter when I was researching background material for the thesis and beginning to organize my thoughts. During winter quarter, I worked on the four chairs and consolidated my research material into the essential body of the paper. The rough draft of the thesis was virtually completed before the final design development of the coat rack and flat file, all to be completed during spring quarter.

My discussion of the individual projects contains direct references to journal and reading notes kept throughout the year and a critical evaluation of the completed pieces as products of the evolved design philosophy.

Interior Entrance Door

The original concept for the door was that it be for the entrance to my office and conference area and that it would serve as a sign for my business. In response to studying the writings of Louis Kahn, I wanted to consider what I could define as the 'nature of a door' and see what designs would result from such considerations.

The uniqueness of a door is that it exists in its own form as a plane; yet in its function it provides a passageway through a plane. It is at times closed and solid, and at others, open and penetrable. I tried to incorporate this dual character into the visual appearance of the door by penetrating its mass with openings.

Redwood, uniquely native to California, was chosen for its rich, warm appearance, which, together with its softness, would give the door an inviting quality. Hardware elements are bronze, a warm-toned and relatively soft metal, untreated to allow oxidation to a dark color as time progresses.

Preliminary designs studied variations of ways in which to open the door, as well as ways to relate

the door handle and hinges to the opening in order to further reinforce the concept of penetration. This concept was also strengthened by increasing the thickness of the door beyond standard measurements, thus providing a more massive body of wood in contrast to the openings piercing it. I dry assembled the door and changed from designing in quarter scale to full scale.

At full scale, one is better able to judge dimensions of members and relationships between volume and mass, to test certain functional aspects, such as height of a table or comfort of a chair, and to accurately determine the focal point of a piece. When one works on a scale drawing, it is possible to visualize the entire subject; when a project is increased to actual size, it extends beyond the scope of a single glance. The designer must determine what focal point will best emphasize the concept of the piece and develop the composition of elements to lead the viewer's eye to that point.

The establishment of a focal point, in an otherwise solid and massive door, and the resolution of inconsistencies among the various metal elements

and their respective openings, prompted the reduction of the design to just the handle passing through a single opening. The handle is the means by which to open a door; it is the point one is physically drawn to and in contact with, and it is thus a natural focal point of the piece. These decisions marked the end of the design process and the door was constructed with a long vertical opening, the upper end of which is penetrated by the combination push-plate and pull-handle.

Months later, after further developing my ideas during work on the thesis paper, I would make one last refinement in the design by reducing the opening to the minimum necessary to provide for the handle. The opening would be shortened, and this would bring the penetration of the plane into sharpest focus.

Conference Table

The conference table design was begun while I completed the finishing work and hanging of the entrance door. Several concepts brought to light during thesis research and the design development of the door became major parameters for the table.

Unity and order were of utmost importance. These qualities were to be achieved by continuity among the various elements of the table and consistency in the treatment of detail. My investigation of the nature of objects continued to be a primary design determinant. I wanted to define and express those qualities that would differentiate the conference table from a dining or other type of table.

A conference table provides the setting for exchange between designer and client. It is a channel for business discussions, which are the most productive when the exchange is open, direct and honest. These qualities of communication may be expressed through the visual design elements of volume, directness of resolution of structural systems, clarity and visibility of construction techniques and details.

My primary concern was that the table top and supporting elements be compatible, well integrated parts of the total design. To achieve a direct visual relationship between the two, planar members were used for the base of the table as well as for the top itself.

The basic arrangement of the supporting members was the result of the intuitive design process. The design consists of a flat plane and a cylindrical section, located at opposite ends of a rectangular table and joined by a long, horizontal stretcher. Refinement of the design, with particular attention given to the construction detailing, resulted in a further reinforcement of the harmony between the planar elements.

The cylindrical support member was constructed by the coopering technique, which involves the approximation of circular forms by an arrangement of bevel-edged, planar members. When arranged in an alternating order, these same beveled members combine to produce a flat plane, and in this way were used to construct the flat support element and the table top. The beveled edge inherent in the coopering

process is applied to the edge treatment of the table top and the lower stretchers, and defines the angle of the thru-tenon wedges.

The individual components of the table combine to produce a harmonious whole through their similar planar qualities and ordered system of joinery and detailing. Visual simplicity is a result of a reduction of elements to a minimum and the presentation of those elements in a clearly visible system of construction which is inherent in knockdown furniture. This simplicity gives the table a directness and honesty suitable to a worktable for business discussions.

The table appears durable and substantial in the hardness of its red oak material, in the thick proportions of its members, and in its obvious composition of solid lumber.

For the remainder of the year the conference table has been used in my home for dining, entertaining, and for writing, editing and typing this paper. Not long after installing the table, it became apparent that either the lower stretcher was too wide, or the table top was too narrow, for I hit

my shins on the stretcher when crossing my legs under the table.

Though repairable, the table presently contains this failure in design. Regardless of all its visual qualities and conceptual strengths, it is an uncomfortable piece of furniture to use. The failure resulted from inadequate full-scale mock-ups of the table during the design process.

Four Armchairs

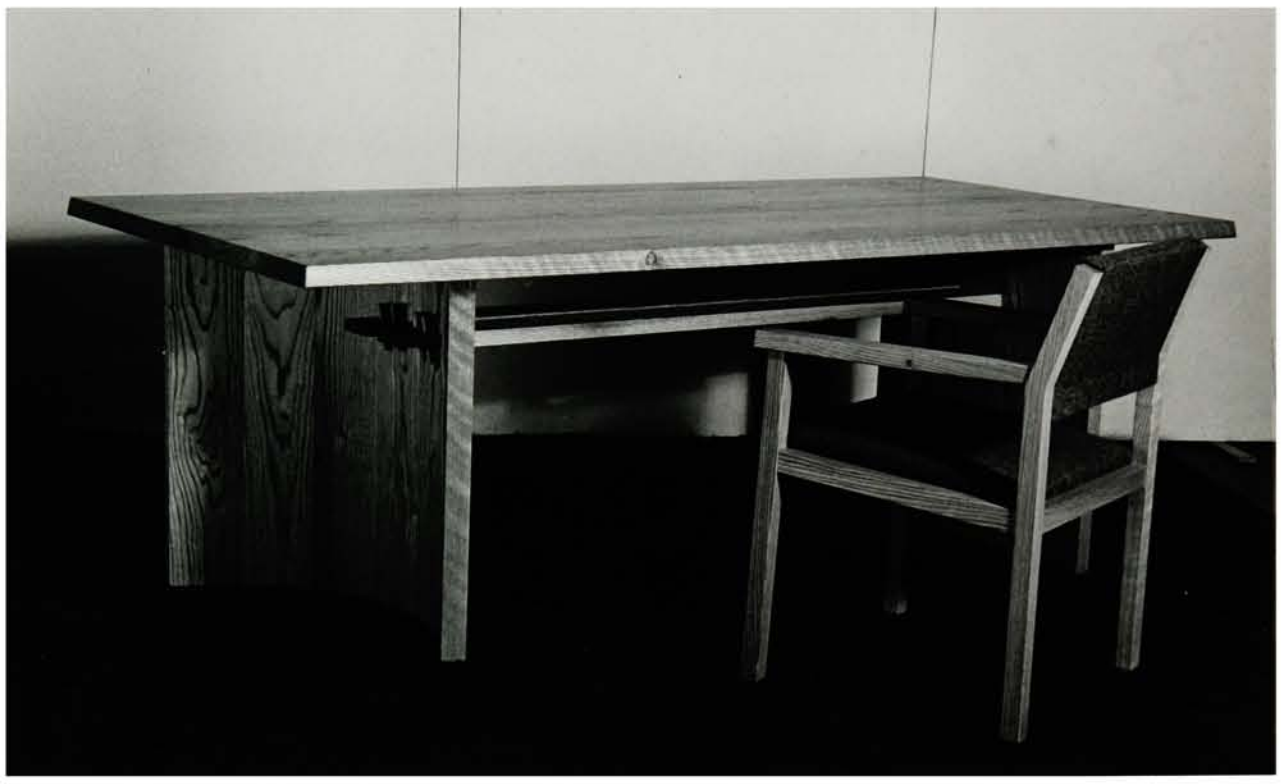
I next began design work on the chairs, mindful of the conference table's shortcomings. I was determined not to compromise the comfort of the chairs for visual considerations, and hoped to regain a balance between functional success and conceptual content of the design. The chairs also served as a means for further application of the concept of order, not only of their own internal order, but also the external one of their relationship to the table.

A full-scale seating jig was constructed, and from it, the basic seat and armrest heights and angles were defined. Development of the visual appearance of the chairs proceeded with minimal adjustments to the established measurements. Two full-scaled prototypes were used to carry out the design process. They were constructed out of a different wood than red oak, to avoid relying on the superficial similarity between chairs and table of the same material. This allowed me to concentrate on relating the lines and forms of the chairs to those of the conference table.

The faceted chair back, though softened by the

upholstery material, gives a direct reference to the faceted, coopered member of the table. The chair armrests were kept horizontal to reiterate the dominant horizontal table top. The individual wood elements of the chairs are uniform and massive in section, as are those of the table, and are likewise reduced to a direct expression of their structural function, each maintaining its own integrity while being a component of the whole.

Uniformity in size and shape of members, and continuity in joinery and edge detailing give the chairs their internal order and visible quality of resolution. Their form has been reduced to the most simple and direct composition while still achieving the desired, predetermined standard of seating comfort. They are quiet, straightforward pieces of furniture, possessing an internal calm, and they enjoy a harmonious compatibility with the conference table.



Coat Rack

There were several motivations for including the coat rack in my thesis program. The first was that it would offer a relief from the more traditional and lengthy projects of the year. The coat rack would also serve as a gesture of welcome in providing for the visit of a client. The last, and perhaps most important purpose of the project, was that it would illustrate my interest in doing smaller and less costly pieces as well as the major, more complex and more expensive ones.

As the function of a coat rack is to service the hanging of clothes, I saw the quality of hanging, of suspension, as being the essence of the piece. The design began with this concept and with the decision that, instead of being a floor standing piece, the rack, as well as the clothes, should be suspended.

The initial visual image was that of a steel rod, suspended from the ceiling, supporting one end of a wood beam from which the clothes would hang. This image of a horizontal wood member suspended by a slender vertical element was kept in mind throughout the design process. This is the image I wanted

to have most evident in the final product.

There were several considerations which had to be taken in the further development of the design: the need to incorporate a shelf for hats, to give stability to the wood structure, to anchor the unsupported end to the wall and to provide for the mechanics of the rod and hangers.

Resolution of the wood structure was guided by a concern for the establishment of a strong horizontal element: to contrast with the vertical lines of the suspension rod, coat hangers and coats. This in turn reinforced the linear quality inherent in the steel elements. The beam was extended to a long, tapering form which begins anchored to the wall, projects out far enough to provide for the hanging clothes, and then turns again to run parallel to the wall.

To stabilize the wood structure and to provide a horizontal surface for hats, three wide slats bridge the back and front members. They are positioned so as not to interrupt the continuity of the beam's horizontal line. Detailing on the corners of the wood structure was also intended to reinforce

the line of the piece. Though I chose to use exposed dovetails for their strength and structural expressiveness, the proportions of the joints were elongated and the angles of the pins and tails were softened to minimize their interruption of the movement of the tapering wood element.

The suspension element, coat hangers, and hanger rod were all fabricated out of mild steel, and they were blackened in the forge to provide the strongest contrast to the light maple wood. The actual device for hanging the clothes, the hanger rod, is not visible. What can be seen is the vertical suspension element, the coat hangers, and a steel dot protruding through the end of the maple. The viewer is enticed into making the connection between the visible steel elements, thereby discovering the hidden horizontal rod by which to hang one's clothes.

## Flat File

The flat file is distinguished from the other thesis projects by its location in the workplace and its design parameters. The entrance door, table, chairs and coat rack are specifically intended for the conference area, and they were designed and built as custom, one-of-a-kind pieces. The flat file, a drawer and shelf system for storing large drawings, is to be used in the design and drafting work area and it was designed to be a prototype for limited production.

Flexibility within a standard module was adopted as a systems approach during design development. It was decided that there would be three basic variations to be provided: a drawer unit for storing flat sheets of drawings, a shelving unit for rolls or tubes of drawings, and a light table and slide storage unit. All were to be housed in identical carcasses which could be used together in varying arrangements or as individual units.

A flat file differs from most other chests of drawers or shelving systems by its content - paper. The uniqueness of such a file, then, lies in the

layered storage of thin, planar sheets of material. The visual qualities I wanted to achieve in the file were those of a construction of planes, and a layered or stacking reference to the paper it contains.

The resulting design is that of a modular carcass unit, 20 inches high, 27 inches deep, and 39 inches wide. It is detailed to be seen from all sides, and as a single unit could simply be placed on top of a layout table as is often done in an architect's office. The top and bottom edges of the carcass are notched to facilitate the stacking of two or more units; two combine to a height of 39 inches, which is standard height for drafting surfaces.

The top of the unit is an independent frame, which may be removed if the arrangement of the units is to be changed, and which can be either a wood, formica, or glass top surface. The latter would be for the light table, with fluorescent fixtures housed in the top drawer of the standard drawer unit.

Although the drawer unit is faced by four drawer fronts, and the shelving unit by two hinged cabinet

doors, a continuity between the two systems was achieved through a consistent treatment of detail. A 1/8 inch reveal separates the drawer fronts from each other and is the space between the cabinet doors. All are separated from their respective carcasses by this same reveal. This detail is also seen banding the entire carcass where the top frame notches into the upper unit and where one unit stacks atop another. The drawers and doors share the same recessed-notched pull system, which is intended to minimize the disruption of the planar cabinet fronts.

The resulting visual image is one of a composition of isolated, floating planes, and of a visibly layered system of components, both indicative of the contents of the file.

# V. CONCLUSION

In this year, I have reassessed my beliefs and defined new personal values. In doing so, I have gained a more full appreciation of my architecture background and how it has influenced my attitudes and perceptions.

I am developing a philosophy which identifies me as a designer, and which has given guidance to the projects I have completed this year. While this philosophy will hopefully continue to evolve in the future, I accept it in its present state as the foundation for my work at this time.

I am ultimately motivated by the concern that my furniture serve its function and my clients successfully. I am most satisfied when it can do so with an appearance of harmony and resolution, both within itself and with its surroundings, and when the piece is clearly expressive of my original perceptions of its nature.

The immediate value of these projects to me is the technical knowledge and conceptual understanding I have gained from designing, constructing and evaluating them. Their ultimate success will be determined when they are installed and functioning in my working environment.

# VI. FOOTNOTES

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