

INTERIOR DESIGN RENDERING
TECHNIQUES

By

LEWIS GENE RICE

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Thesis Approved

Christine J. Salmon

Thesis Adviser

Florence McKenney

K. Kay Stewart

Levera Pepin

N. N. Duder

Dean of the Graduate College

896863

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Working with the techniques of interior design has been both informative and inspiring. Before undertaking the writing of this thesis, I was unaware of the importance of an excellent rendering. My professionalism has been furthered by this experience.

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Paul Klee was correct in saying that design does not render the visible; but that it makes visible.

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CHAPTER I

INTERIOR DESIGN: A FORM OF ART

George Nelson defines the designer as

. . . an individual or a group which, when presented with a problem to be solved, comes up with an answer which has a visible shape or form. This answer always has several aspects: it has functional attributes -- that is, it works. It has a technological base. It has aesthetic qualities which cannot easily be detached from function or technology, but which are not the same as either. It also has a social meaning.¹

The Dictionary of Art and Artists describes a designer as being the producer of a composition, and defines composition as

. . . the art of combining the elements of a picture or other works of art into a satisfactory visual whole: in art the whole is very much more than the sum of the parts.²

Webster's New World Dictionary describes a designer as being one who forms (plans, etc.) in the mind.³

For the purpose of this study the description of an Interior Designer is one who works through and for other people and is concerned primarily with spatial problems. In this respect he can be regarded rather like a doctor, with a responsibility for accurate diagnosis (problem analysis) and relevant prescriptions (design recommendations). He must know good design and apply it to the problem within the stated budget. In addition he must be able to transfer, convey and present his ideas clearly.

The point which sharply distinguishes the designer from the painter or sculptor is simply stated by David Pye when he says,

. . . the practitioner of design has limits set upon his freedom of choice. A painter can choose any imaginable shape, a designer cannot. If the designer is designing a bread knife it must have a cutting edge and a handle; if he is designing a car it must have wheels and a floor.⁴

The designer usually has a further responsibility of supervising the construction and installation of the work after having completed the design. However, there may be no direct involvement nor equivalent "feedback" as there is with the painter, or sculptor, whereby the original experience of the materials and the process of creating directly with the material is experienced. "Feedback" for the designer appears at the design stage, through his collecting of information and discussing this information with people involved in its performance. Changes may appear through collection of additional data on the project, but the changes will not always be of the designer's own choosing; their nature may be objectively determined by circumstances quite outside his control. Such factors might have something to do with costs, the availability of materials or techniques, a change in the client's requirements, or simply the discovery of factors that were hidden from sight in the early stages of the job. Many such problems might be encountered by the painter or sculptor but are less likely to occur because these artists are given more freedom in their work and their end product does not have to function as does the interior designer's. The designer instructs, and his work involves many people, with some of whom he will have contractual relationships.

Unlike the painter or sculptor, the designer cannot exercise personal insights until every conflicting factor in his brief has been reconciled to its best advantage; until, in short, he knows exactly his responsibilities and which constraints work in his favor. The term

function in this context " . . . is merely the floor below which a designer cannot go without failing to serve his purpose".⁵

At every stage of design there will be discussion, questions and argument. The final design will have to be demonstrated and if necessary defended to the client, who will not understand what the final result will look like. In many cases the client will tend to assume that he knows more about his own problem and proposed solution than does the designer, even though he has called the designer to solve it.

The designer must be capable of more detachment from his work than the painter. In some instances of design many responsibilities arise, to clients, to contractors, to the public, and others. If the design is a structure it must not fall down; if it is a roof, it must not leak; if it is a gallery, it must be capable of having pictures effectively hung within it.

For these reasons the designer is much more highly "problem" conscious than is the fine artist. He must be able to weigh a problem uninvolved on its own terms, and to select, arrange, and dispose his decisions accordingly. He must be able to work with his client and in some cases work as a member of a team, including the architect and contractor, etc. Such team efforts seldom appear in the work of a fine artist.

"Goal-seeking" is as familiar to the fine artist as it is to the designer; both involve much hard work. A painter's first responsibility is to the truth of his own vision, even though that vision may (or maybe always does) change as his work proceeds. But, this is not the case with the designer. The artist may also be involved with contractual responsibilities, but not to the same extent as a designer, whose

decisions are so crucially affected by these responsibilities. The designer works with and for other people; ultimately this may be true of the fine artist, but in the actual working procedure a designer's formative decisions have a different order of freedom. The fine artist is less dependent on the apparatus of communication that brings definition to a design problem and relevance to its solution. Unlike most fine artists, the interior designer as we have seen, has many considerations to undertake before decisions can emerge.

After the interior designer has reached his decisions about his design problem, he must then decide upon the most beneficial way to present them. To a certain extent the presentation must speak for itself. Rendering is the most realistic way to present a design proposal clearly. Through renderings the designer bridges the gap between the design visualizing ability of the interior designer and the client.

FOOTNOTES

¹George Nelson, "Industrial Design," The Human Designer, Vol. 20, No. 5 (June, 1973), pp. 241-243.

²Peter and Linda Murray, Dictionary of Art and Artists (England, 1960), p. 51.

³David B. Guralnik, Joseph H. Firend, Webster's New World Dictionary (New York, 1964), p. 114.

⁴David Pye, The Nature of Design (New York, 1964), p. 7.

⁵George Nelson, Problems of Design (New York, 1957), p. 9.

CHAPTER II

RENDERING: ITS PLACE IN INTERIOR DESIGN TODAY

Interior design as an art form is frequently represented by drawings or renderings. The first challenge in producing a rendering in interior design is to transfer a three-dimensional idea accurately by way of a two-dimensional presentation. Often the designer's ideas concerning the space are represented, but not accurately. The over-all effect of the composition becomes more important than correct representation of form in space. A visual interpretation of the design must always be accurately displayed and easily understood in order to produce the clearest idea of how the completed design will appear.

In interpreting his idea a designer might undertake the use of a bird's-eye perspective, which usually projects an over-all view of the entire interior. Although it is more complete in its view, it may irrationally distort the design and mislead the viewer. The eye-level perspective is a much more natural point of view and therefore interprets the design more accurately.

The most realistic rendering is developed by using a two-point perspective with one vanishing point far off the picture plan, the other within it. By using this procedure the space becomes less static and psychologically more inviting than a one point perspective and we receive a better view of horizontal dimension than is achieved by using the normal two-point perspective.

Accuracy in design interpretation must also be considered when reproducing a rendering, especially if the rendering is to be done in color, which is usually the case. If the reproduction is to be made by a photographic process in black and white, many distortions of color will take place. For example, reddish tones will appear darker than blue ones.

The importance of rendering in interior design has been questioned in the past, but today, it is a necessary step in the completion of any major interior design problem because it is the major link of communication. Through his rendering the designer is able to get a more complete look at his ideas and is able to convey these ideas clearly to his client.

The designer usually makes free hand perspective sketches for his client to eliminate a possible disagreement at a later date. These communicative sketches are critical in making design decisions. This is a link in the development of the design solution that the general public is usually unaware of.

The designer should communicate with his client, contractor and others responsible for the production of his design. This communication should take place at various stages of the design process. The designer needs a more complete means of communication than is received from a plan, section and elevation. Perspective drawings encourage "idea swapping" at the beginning level rather than the level of finished, detailed drawings. If this communicative conversation is left to be discussed over a set of polished and complete drawings, the client will feel pressured into accepting something he might dislike or be so disillusioned that he rejects it completely. Furthermore, if the

client's contribution is dealt with at an early level, it will dismiss having to "sell" an idea at a later date. Sharing ideas during the early stages of the design development will also serve to stimulate the client's interest due to his contributions.

These communicative sketches are decision-making drawings, but also should establish the design in bold statements. They should provoke the clients suggestions not his approval or disapproval. If the preceding steps are followed in planning the design ideas before the formal rendering is drawn many problems should be eliminated. The final rendering then should persuade the client that the design is the solution to his problem.

There are many other ways that the rendering benefits the designer. It acts as a visual guide for construction and provides an early chance to select important details such as texture, color, types of materials, lighting, and furnishings.

There are additional contributions to interior design that renderings perform. For example, large design jobs may need financial aid. A well drawn rendering is a useful tool to the owner who is applying for such aid. Many commercial jobs use the final rendering as a means of advertising. A fine professional rendering makes a substantial contribution to promotional programs.

There is no doubt that even with the automation of many facets of our lives and businesses, interior design rendering as produced by a member of the design team will remain a vital contribution to the transfer of the design idea.

Purpose

The purposes of this study are:

1. to explore the history of interior design rendering;
2. to explain the function of renderings; and
3. to illustrate rendering techniques used in the interior design profession.

Procedure

The procedures followed in this study are:

1. to present the background of interior design rendering;
2. to discuss the need for interior design rendering;
3. to discuss and explain several rendering techniques; and
4. to accomplish these tasks through the production of colored and black and white examples.

CHAPTER III

HISTORY OF INTERIOR DESIGN RENDERING

The history of interior design rendering is almost totally extinct today. One very important reason for this extinction is the lack of an easy method of reproduction. Since the original rendering was the only copy, and it was not considered valuable, it was used as a communication aid and eventually destroyed.

The earliest record of renderings of interiors is found in Egypt (1375-1350 B.C.). A stylized drawing combining plan and elevation was used to guide the builders, but was also used as a form of mortuary art on the walls of the kings' tombs (Figure 1). Papyrus or limestone was used for the drawings for the actual construction. The drawings were done in colored inks with different colors representing the different materials used. They were precisely rendered and were very geometric (Figure 2). At this same time pointed sticks were used to carve interior designs on clay tablets in Assyria and Babylonia.

The early Greeks and Romans constructed their designs on whitened or waxed wood with the use of lead or charcoal. All documents that were considered important were carved into marble, which was not the case of any type of building design drawings.

Early interiors were developed in a totally different method than they are developed today. The renderings were very simple geometric drawings; plans, elevations and sections evolved in a procedure totally

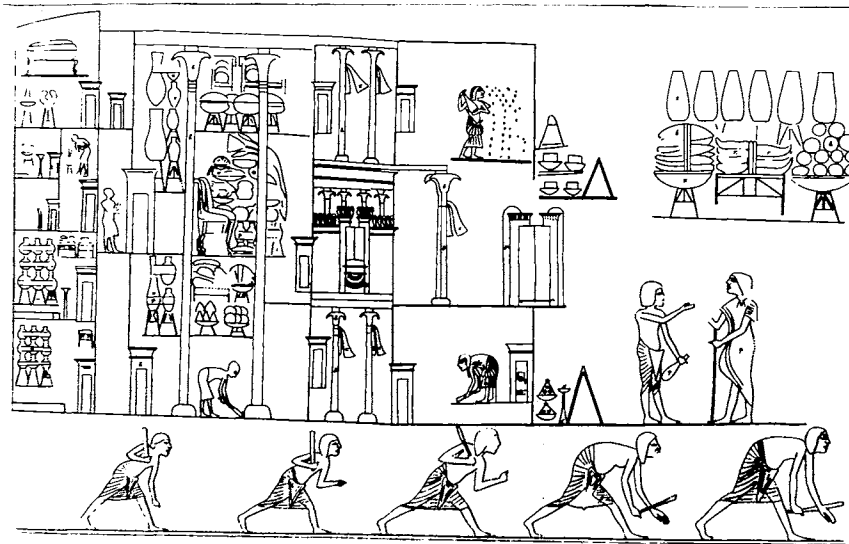


Figure 1. Egyptian Architectural Hieroglyph (painted on stucco wall with stick tool, Davies N. de Garis: The Rock Tombs of El Amarna).

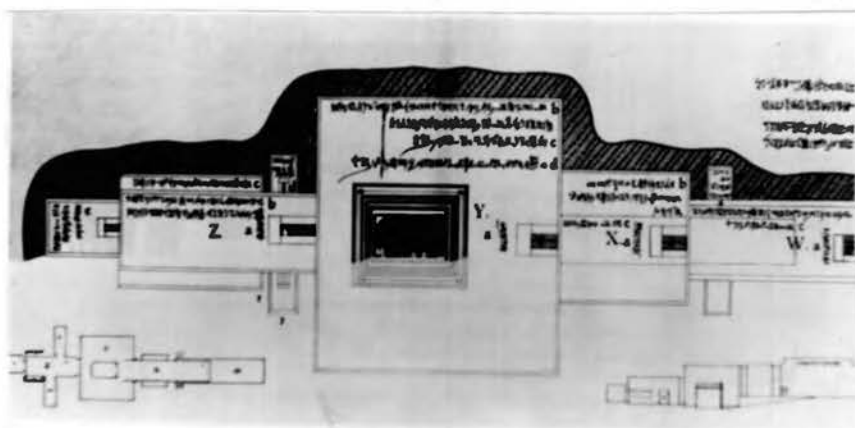


Figure 2. Tomb of Rameses IV (painted on papyrus, H. Carter and A. H. Gardiner: The Tomb of Rameses IV and the Turin Plan of a Royal Tomb).

different from today's practice. After the basic idea of the interior was drawn in its simple form, most of the details were added as the work progressed, either by the architect or the craftsman.

Complete renderings of a building were more likely to be seen after the buildings' completion than before. And these renderings were often developed in the form of an engraving or an occasional woodcut done by specialists in architectural illustrating.

It was in the building of churches during the Italian Renaissance that the use of perspective in architectural renderings developed. Bramante and Peruzzi, Italian architects of the fifteenth century, were two of the first to design in perspective. Perspective was the greatest stimulator of rendering since paper replaced Egyptian papyrus and animal skins. It was a very short time before the first linear perspectives developed into complete design renderings, as we know them today. This happened through the development of tonal variation which also generates another new aesthetic aspect in rendering, described as mood. These renderings were usually done in pen and ink with the addition of an ink wash and were always very tightly rendered at ground-level perspective (Figure 3).

The French architects a century later, along with ground-level perspective, developed aerial and sectional perspective (Figure 4). Almost two centuries later rendering advanced again through the invention of the modern graphite pencil which replaced the metallic lead, metallic silver and pulverized graphite sticks of the past. This discovery was used expertly by such draftsmen as Charles Percier (1764-1838) who combined the use of pencil wash with bistre, pencil with Chinese ink, and Chinese ink alone or with water color.



Figure 3. Interior of S. Constanza in Rome (deliniated using pen and ink, by Piranesi. Piranesi Giovanni Datlsta: Roman Architecture, Sculpture and Ornament).

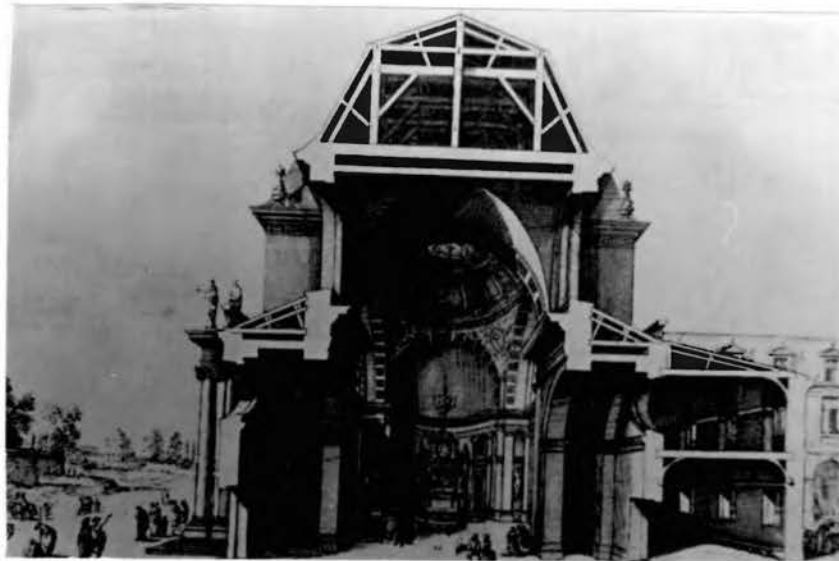


Figure 4. Sectional Perspective of "L'Eghsedu Monastere du Port-Royal" (pen and ink perspective, by Pautre Anthoine le Pautre: Les Oewores d'architecture di Anthoine le Pautre).

After the invention of the camera and the arrival of formal drawing education a style emerged which attempted to replicate as near perfectly as does the photograph, a realistic and less mathematical style of rendering. Two draftsmen who were most ably qualified to undertake this task were Viollet-le-Duc of France (1814-1879) and Carl Friedrich of Germany (1781-1841) through their manipulation of many various techniques and media (Figures 5 and 6).

There has been a continuous development from the linear pictorial drawings of ancient Egypt to the semi-naturalistic drawings of today (Figure 7).

This history, limited to art in the Western World, and this study include only those rendering techniques of a personal, artist drawn nature. The study excludes computer drawn perspectives, photographic montage, and other mechanical devices for illustrating design ideas.



Figure 5. Project Academic Imperiale du Musique (realistic rendering combining pencil and water color, by Viollet le Duc. Eugene Emmanuel: Compositions et dessins de Viollet-le-Duc).

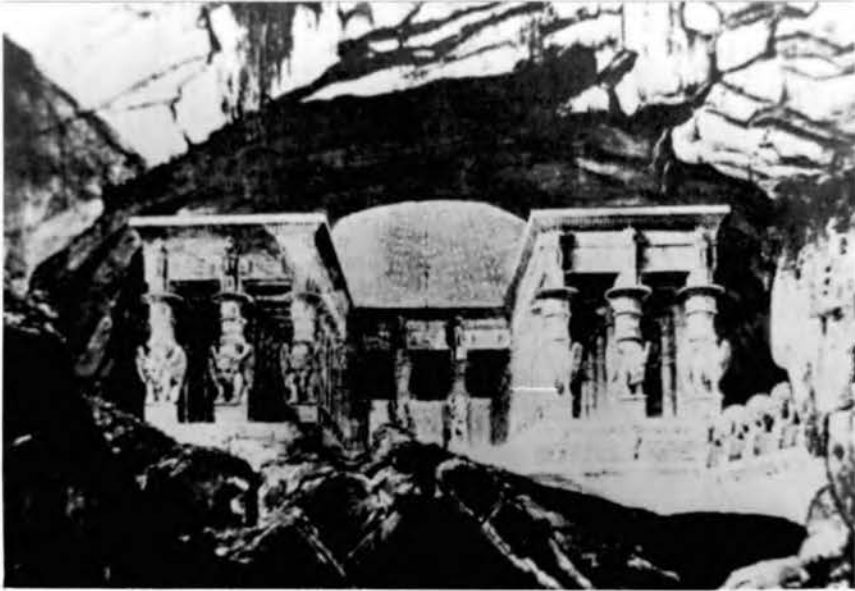


Figure 6. Design of "The Majic Flute" (water color rendering duplicating reality, by Schenkel. August Briseback: Carl Fredrick Schinkel).



Figure 7. Competition Drawing for Kennedy Airport Terminal Building, New York (rapidograph and airbrush, by Helmut Jacoby. John Pile: Drawings of Architectural Interiors).

CHAPTER IV

RENDERING TECHNIQUES

The rendering technique that an interior designer chooses depends on the problem, the medium used, the mood he wishes to portray, and the person or persons to whom the rendering is presented. There are many techniques in rendering and many reasons for the use of each. At the beginning of every rendering the designer should decide on the best method to bring out contrasts and to develop each detail without monotony. As stated by Weale (1965) "There is no one correct way to present an interior to a client."¹

The rendering choices fall into three categories. These categories are line media, graphic value media, and a combination of these two. The line media tools consist of pen and ink, pencil and color markers. These tools are produced in a variety of types for a variety of uses. The graphic value media tools are charcoal, water color, airbrush, pastels, acrylics and polymer. The pencil and color markers may be considered graphic value tools when used to produce a value rather than a line.

The purest technique is the use of the line. All other techniques are additions to the simple line. There are many variations of this technique. The greater the variation of the line, the more the character of the technique is changed.

The second most nearly pure technique is graphic value. This technique is more realistic than the line. Graphic value defines forms with a difference in value, which the line in its simple form does not do.

Fine Line

Fine line rendering (Figures 8 and 9) can be a great time-saver if detail is limited and the line work is simple. But this technique becomes very slow and tedious when used on large scale renderings. A fine line drawing illustrates detail very well, but in the representation of textures and patterns of materials additional line and also dot work must be used. Simplicity is always essential in order not to produce a labored look. This technique is represented most often by the use of a sharp pencil or a fine tipped ink pen.

Broad Line

The broad line technique (Figure 10) uses a blunt drawing instrument. This technique is one of the fastest. The blunt tips cover large areas quickly. Its appeal is due to its direct boldness, however, since this technique may be easily over rendered, one must be cautious not to become too superficial but work as rapidly as possible to avoid a stiff effect. The representation of this type of drawing is usually done with a blunt tipped pencil, a crayon, or a color marker.

Side Stroke

The side stroke technique (Figures 11 and 12) is a rough, "sketchy" type of rendering. In the side stroke technique, as in the broad line,

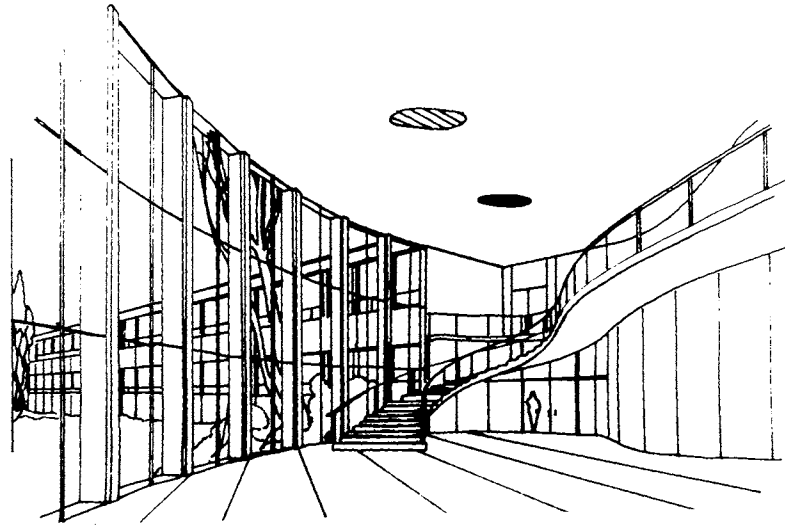


Figure 8. Fine Line Technique (pen and ink on white tracing paper with figure added to show scale, by Lewis Rice).

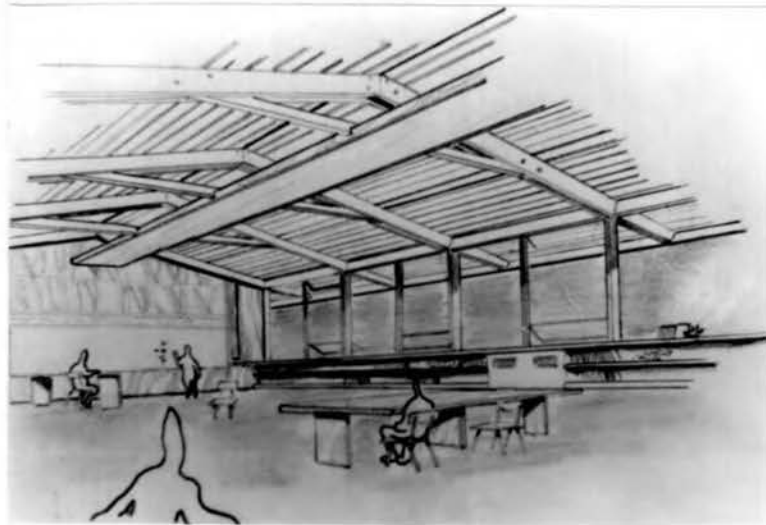


Figure 9. Fine Line Technique ("H" graphite pencil on white tracing paper, illustrating an accented outline technique, by Lewis Rice).

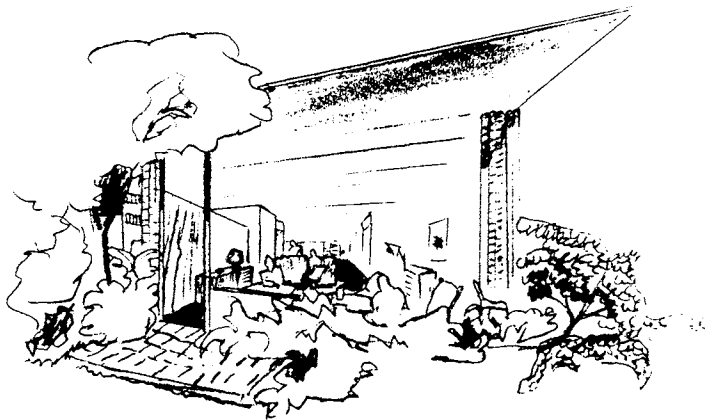


Figure 10. Broad Line Technique (four "B" graphite pencil on tracing paper, avoiding stiffness through rapidity of execution, by Lewis Rice).

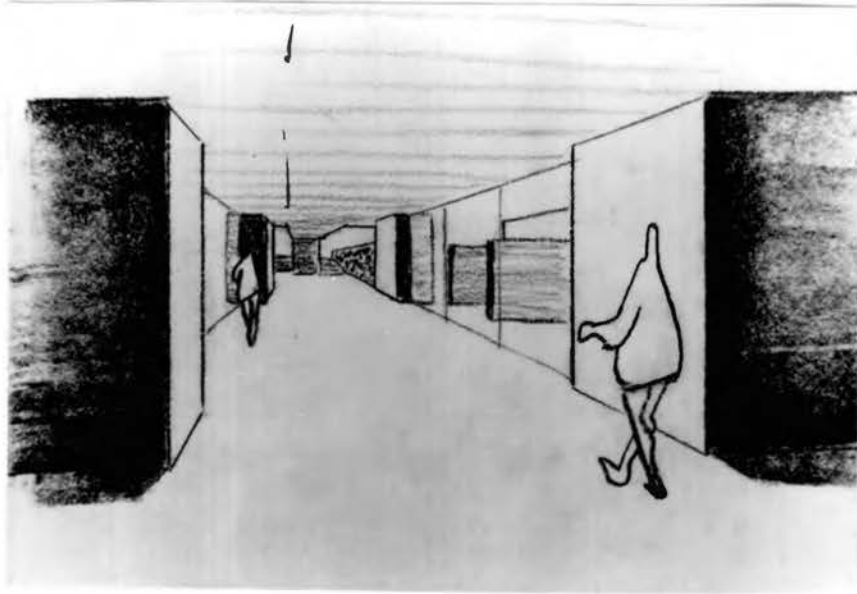


Figure 11. Side Stroke Technique (charcoal stick on 20 pound strathmore paper, by Lewis Rice).

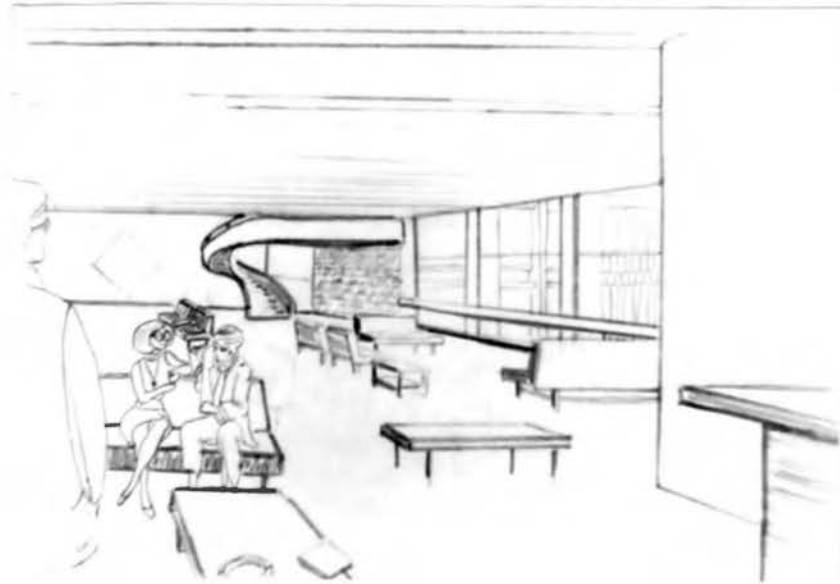


Figure 12. Side Stroke Technique ("HB" graphite pencil on 20 pound strathmore paper. Figures are added in fine line for comparison, by Lewis Rice).

the instrument is held so that the point is flat against the drawing surface. The difference is the side stroke is less restrained. It is used more for "on the spot" rendering and must be accomplished through a rapidly interrupted sequence of movements. Due to its incapability of detailing, it is not used often as a finished rendering. The tools most often used in this technique are the pencil, or for more finished work, the drybrush.

Graphic Value

The graphic value technique (Figure 13) produces tones in black, grey and white without the use of lines; light being its most important factor. Also contrast is very important to its success. It is the most realistic technique because it represents mass as it is seen in reality. Some tools which may be used are the airbrush, lead pencils, pastels, charcoal, color markers and paint brushes.

Scumbling

Scumbling, a technique (Figure 14) not usually used alone due to its limitations, is produced by moving a tool, held on its side, back and forth or in circles over a drawing surface. It is mainly used as a graphic value technique. Smooching is another form of scumbling and is done by feathering the surface particles after they have been applied to the rendered surface. The tools most often used are colored or graphite pencils, pastels and charcoal.

Combined

Under the definition of combined techniques (Figures 15, 16, 17,



Figure 13. Graphic Value Technique (acrylics on illustration board using a pure value technique, by F. Bayerkin).

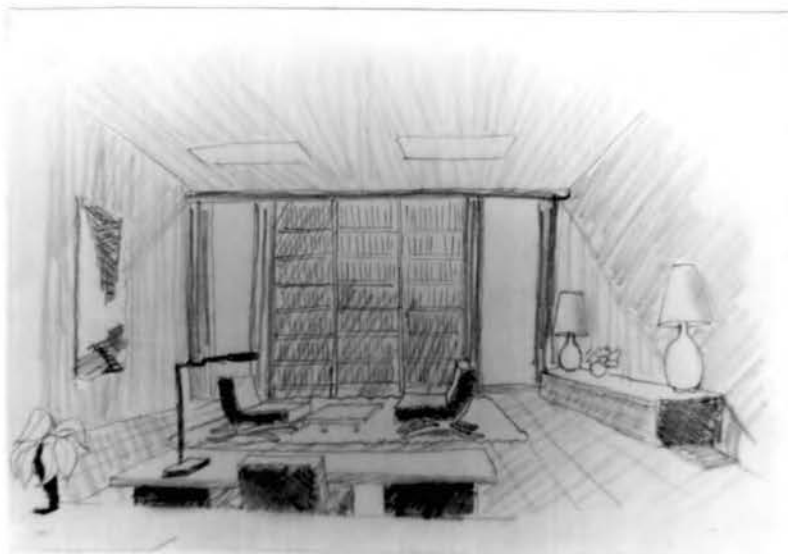


Figure 14. Scumbling Technique (three "H" and "B" pencils used with a few light lines for control, by Lewis Rice).

18, 19, and 20) are all renderings which use both line and graphic value as their source of presentation. A perfect example being pencil painting, which uses the broad point like a brush to achieve value and the fine point to produce details (Figure 21). Most renderers use a combination approach because of a feeling that one technique restrains creative expression. The joining of line work for volume and graphic value for material is the combination most often chosen and the tools vary from the use of water color brushes with graphite pencil to airbrush with rapidograph (Figure 22).

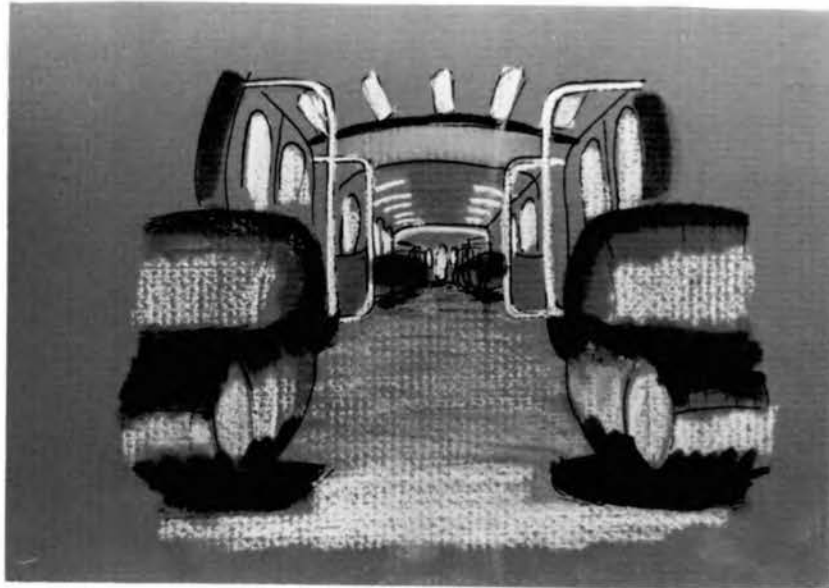


Figure 15. Combined Rendering Techniques (charcoal and white conte crayon used on middle tone, linear work is drawn with rapidiograph, by Lewis Rice).



Figure 16. Combined Rendering Techniques (india ink, enamel, water color, graphite pencil and aluminum tape, by Lewis Rice).

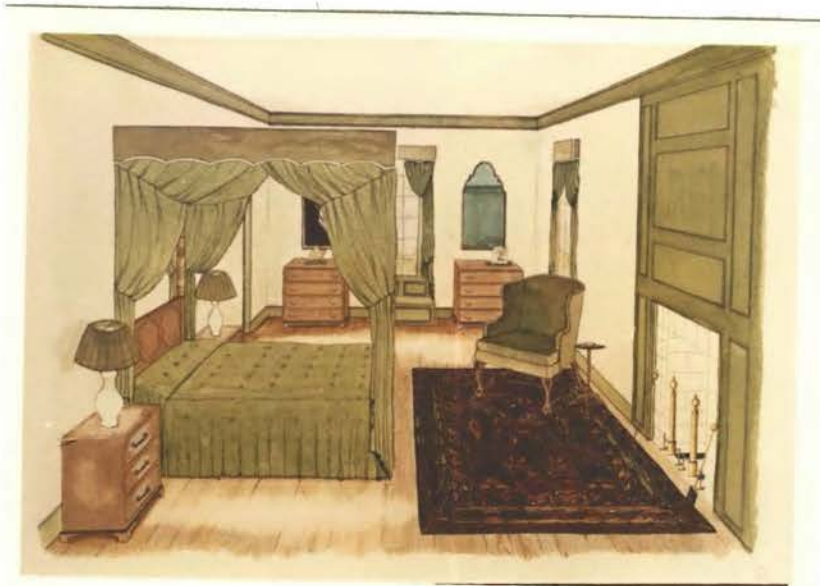


Figure 17. Combined Rendering Techniques (transparent and opaque color markers, graphite and colored pencil, acrylics, colored ink and zip-a-tone, by Lewis Rice).



Figure 18. Combined Rendering Techniques (rapidograph, transparent water color, by Lewis Rice).

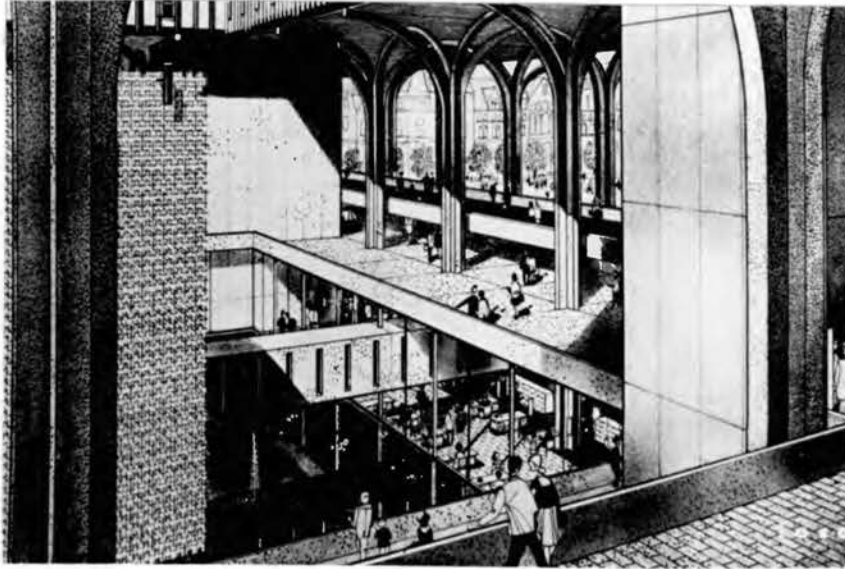


Figure 19. Combined Rendering Techniques (rapidograph and airbrush, by Helmut Jacoby).



Figure 20. Combined Rendering Techniques (water color markers and acrylics, by Lewis Rice).



Figure 21. Combined Rendering Techniques ("B" and "HB" graphite pencil as value and line instrument, by Lewis Rice).



Figure 22. Combined Rendering Technique (water color marker as value and line instrument, by Lewis Rice).

FOOTNOTES

¹Weale, Mary Jo, Rendering Techniques for Interior Designers
(Florida State University, 1965), p. 5.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

This study discusses the progress made in the various techniques of interior design rendering. A definition is first given to acquaint the reader with the presence and importance of interior design rendering.

The history of interior design rendering is then described, explained and illustrated. This history ranged from the first interior design rendering, which was painted on the wall of an ancient Egyptian tomb, through the discovery of perspective, to the inventive renderings of today.

The three basic types of rendering techniques were defined, explained and illustrated, the basic types being line, graphic value and combinations of these which subdivide into fine line, bold line, scumbling, side stroke as well as their variations and combinations.

Conclusion and Recommendations

The author contends, after much investigation of interior design rendering, that a rendering is essential in explaining an interior design idea and many considerations must be analyzed before the rendered perspective is delineated. The design idea must be produced as

accurately as possible and the finished result must follow the plans for development of the rendering. He must consult with the client and have the results pictured in his mind at the initial stages. If this theory is followed many mistakes will be avoided, and meaningful renderings will be produced.

The viewpoint of a rendered perspective is very important, especially when only one perspective is drawn. The point should be positioned in coordination with the shape of the design space, in order to explain the shape more accurately.

The angle of vision and viewing direction depend on the type of space, the perspective, and the technique used. The direction of view should always be toward the center of interest. The most realistic rendering is developed by using a two-point perspective -- one vanishing point far off the picture and the other within the picture.

The size of the rendering depends on its purpose. A relatively small rendering is recommended unless it is being made to be exhibited to a large number of people.

Whether a rendering is to be reproduced, must be considered when selecting an appropriate medium and technique. This is especially true if the rendering is to be done in color. If the reproduction is to be made by a photographic process in black and white, many distortions of color will take place. Mistakes can be avoided by choosing the size and color values according to the use of the rendering.

Many facts must be analyzed and much time consuming preparation accomplished. But, the aspect that means more than the medium or the technique applied is the concern for quality and accuracy in every rendering produced.

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VITA

Lewis Gene Rice

Candidate for the Degree of

Master of Science

Thesis: INTERIOR DESIGN RENDERING TECHNIQUES

Major Field: Housing and Interior Design

Biographical:

Personal Data: Born in Pauls Valley, Oklahoma, October 31, 1948, the son of Mr. and Mrs. Loyd Rice. Married Beth Lynn Rice, November 26, 1972.

Education: Graduated from Pauls Valley High School, Pauls Valley, Oklahoma, May, 1967, received the Bachelor of Fine Arts degree from University of Oklahoma, Norman, Oklahoma, July, 1972; completed requirements for the Master of Science degree, Oklahoma State University, Stillwater, Oklahoma, U.S.A., July, 1974.

Professional Experience: Interior Designer, General Design Consultants of America, Oklahoma City, Oklahoma (1972-1973); Independent Artist, Sculpture, Painting, Commercial Art, Oklahoma (1970-1974).

Organizations: Sigma Nu Fraternity.