ART

and

ARCHITECTURAL DESIGN

CURRICULUM DEVELOPMENT

SECTION 3.0

Kurt Dietrich
SK85ON23

<u>INDEX:</u>

ABSTRACT:

The ability to shape our built environment and people's lives is a powerful expression of what it means to be human.

The expression of human nature can be found through many artistic formats, fueled by the emotional thrust and intentions of the artist. Artistic works relative to the human condition spring from the artist's perception and interpretation of the "truth" relative to the human condition. Architecture, as seen in the adjacent fields of art, also searches for "truth" in design through the representational process of design.

PREAMBLE:

Public perception and acceptance of the unique personal creative skills provided by architects has been in place since the early days of design. Though the public may not always agree or perceptions may be biased, the special position relative to building design has existed. It is primarily through a lack of understanding that the specific role of an architect has been misunderstood.

Architectural design as an art form relies on the architect's understanding of "truth" in design. Truth means many things in construction depending on which subtrade you may be conversing with, and there are likely as many interpretations of "truth" as there are tradesmen on site at any time.
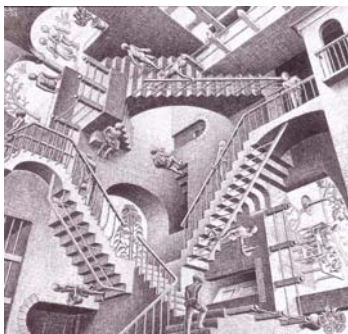

Figure 1: Relativity, M.C. Escher (1953)

In the case of architectural design, "truth" has a very limited definition, restructured to the terms "absolute truth". Absolute truth speaks to the honesty and clarity by which the design solution resolves the problem presented by the client's purpose in hiring the architect. Absolute truth speaks to the skill and honesty of the architect's ability to clearly and succinctly identify the problem presented by the client and resolve it in a built form.

Architecture as an art form provides more than vernacular buildings can since architecture provides the structure with a quality that cannot be clearly defined except to call it the "truth" in design. This truth quality is outside the realm of realism, boundaries, social class or race; as truth is without borders, boundaries and social delineations. Absolute truth in building design is universal within the culture that created it.

Figure 2: Ames Lodge Gate, 1881

An architectural design may be faced with realistic constraints (specific item placement) however these constraints will have no bearing on whether or not the building achieves the level of truth in its design. The ability to achieve truth lies in the skill and personality of the design architect.

The architect's personality is the filter to the architectural form as he/she set out in design to arrive at a "truthful" solution. Design as a practice of art relies on the architect's understanding of the integration and respect for truth in design. The architect must rely on his/her own emotions to reflect and find the truth as may be present in the current design solution. Through the process of steps one (sketching), two (graphic analysis and presentation) and three (artistic composition) the architect's interpretation of truth is explored, tested, revised and re-explored until the truth is inherent in the solution.

The primary fuel for decision making during the design process is the trained emotional response of the architect. The successful resolution of the client's needs, desires and intentions relies on the architect who in turn relies on his/her education, practice and historic reference for examples of absolute truth in design elements.

Truth is not a single axiom consistent throughout the field of Western Architecture. Truth within a relative architectural spectrum relates to the foundations of design that the practitioners hold forth as being responsive to the human need.

Figure 3: Goetheanum Boiler House, Dornach Switzerland, 1924

The history section of this curriculum touches upon differing design streams; each holds to its theory of design as that which is true. Pugin in latter day England held forth that the principles of Gothic design was the true architecture for civilization.

Le Corbusier proposed the "house is a machine for living in" maintaining truth in the modern design style of the time. Frank Lloyd Wright found truth in the fireplace as the hearth/heart of the house. Richard Rogers has designed structures based on truth in the machine/structural systems of the building solution. These principles of truth were found even through the writings of Vitruvius who had the methods of design so completely laid out; truth of the time was inherent in the final product.

Figure 4: G. Pompidou Centre, Paris - R. Rogers (1976)

Truth is relative to the culture which constructs its environment. It is this truth that speaks to many nations of a particular time, place and society. Art in design is the means to evolve the truth of a structure; however art should be seen as only one component of a successful solution.

COMPONENT INITIATIVE:

The goal of this section is to provide information and instruction on how artistic drawing techniques or representation (sketching) and presentation relate to the process of architectural design.

Figure 5: Guggenheim Museum, Bilbao (1996)

This section also focuses on the use of artistic means of communication relative to the design process. Communication methods are presented in the manner of visual imaging relative to the proposed design solution. These methods of communication are critical in the process of architectural design. Communication forms the bridge between the architect's vision and the client's understanding.

COMPONENT COURSE MATERIALS:

Art within the field of architecture begins with four principles relative to architectural design:

- Purpose of artistic design: to express the personality of the architect(s) through their interpretation of a defined set of needs.

- Early design phase: represents the inspiration of the architect(s) to generate and create ideas relative to the potential built environment.

- Sketching: develops and illustrates the intended design solution through the filter of the personality of the architect. Sketching produces a first-person account of the event which has yet to arrive (the actual building).

- Precedent- related to sketching; art is a medium based on precedent in style, materials and compositional techniques. The role of precedents within the artistic realm of architectural design is to bring out certain given elements of building design, to bolster the intended solution by the earlier success of the integrated design elements.

Figure 6: Ronchamp Chapel Entrance, 1950

Each of these primary artistic principles relies on the personality of the lead design team member- the architect.

INSTRUCTIONAL STRATEGY:

- Direct Instruction:

  Lecture series with written material handouts

  Slide presentation showing stages of artistic expression through design

  Presentation of tools used to produce artistic imagery

- Indirect Instruction:

  Lectures from visiting professionals

  Audio visual presentations on art inclusion in construction

- Independent Study:

  Student research on artists and works relative to specific periods

  Student completion of art folder and sketchbooks

- Interactive Instruction:

  Art production techniques, graphic reproductions, modeling and sculpture

  Site tours of art installations within building structures

STUDENT ACTIVITIES:

- Oral:

  Presentation on researched systems

  Class discussion regarding art history related to architecture

- Visual:

  Study of individual art works

  Review of art integration into the building context

- Kinesthetic:

  Production of artistic elements (sketching, storyboards, renderings)

- Written:

  Report preparation on art studies relative to design stages

ASSESSMENT METHOD:

- Pencil & paper method:

  Written testing: definitions, period styles, overall impact

  Research submission

  Submission of art folder and sketchbooks

- Performance assessments

  Participation in class discussion

  Participation in art production and placement

- Personal assessments

  Understanding of art and its use in generating design solutions

  Awareness of influence provided by art through the design process

COMMON ESSENTIAL LEARNINGS:

- Communication

  New terminology and definitions

  Enhancement of non-verbal communication skills through artistic compositions to convey an idea

- Creative and Critical Thinking

  Understanding the nature of art and architecture

  Understanding relative to production of an aesthetic building environment.

- Independent Learning

  Research and written submission relative to course content

- Numeracy

  Proportional studies on artistic rendering techniques

- Technological Literacy

  Basic understanding of technical production requirements for artistic image generation

- Personal & Social Values & Skills

  Enhanced knowledge of relationship between the use of art and development of architectural design

  Understanding of artistic forces influencing architectural development

ENVIRONMENT:

- Classroom Climate:

    Visual access for lecture and presentations

    Open area for movement during modeling stage

    Natural lighting/Task lighting for art studies

- Physical Setting

    Modeling area for sketchbook studies

    Seating area for sketching

    Draughting tables, portable easels for drawing

- Flexible student groupings:

    Required for storyboard creation and assembly

    Varied sizes for student studies on fixed elements

- Extensions beyond classroom setting

    External sketch trips (around or outside building area)

    Resource based research on historic art structures

- Community experiences

    Community sketch trips

    Study of art studios and production facilities in other institutions

    Participation in community art events and displays

MATERIALS / RESOURCES REQUIRED:

- In-room supplies:

    Audio visual resources

    Graphic supplies for sketching, storyboards, colour productions

    Drawing stations for independent work

- External supplies:

    Access to community programs and selected buildings

Introduction

The purpose of Art and Architectural Design is developed in several forms within this section.

Figure 7: The Turning Torso, Santiago Calatrava, 2004

The original proposal for this section outlined three key areas of review relative to "Art in Architecture":

- Development of a design (use of sketch books principles);

- Graphic presentation and analysis: illustration used to communicate the design solution; and

- Artistic composition: the specific use of artistic techniques used to reinforce the graphic presentation.

This section also reviews the specific use of artistic elements within architectural solutions. This part of the review comprises Part I of this section.

The Development of Design

"Architecture is the unavoidable Art". (Leland Roth, "Understanding Architecture", 1993)

Architectural buildings are viewed as works of art when the historical context of the civilization is considered. It was reviewed during the history section that Architecture is the means to convey societal values and legacy onto other civilizations and cultures. It is through the exploration and inclusion of artistic elements that a building surpasses that which is merely utilitarian to be considered architectural.

Figure 8: The Pantheon, Rome (118)

An architectural structure embodies the intentions of the culture that constructed it. We must consider in historic cases (cathedrals and castles) that the culture was evolving at the same time as construction was taking place. Therefore, the cultural aspirations (artistic legacy) were shifted, resulting in subsequent shifts with the design elements of a structure. Each shift brought about artistic changes that combined to create our dramatic historic structures. It was not only the sheer volume, mass or scale of the structure that created the "architecture", it was also the art.

When considering the argument "Is architecture art?" one has to understand that the two definitions are complementary, not identical. Architecture contains an artistic element as one component of its exposure. This one component combines with a multitude of factors that all must be present in some form to coherently create an architectural work. These factors include form, function, solidity, philosophy, psychology, relationships, and even truth.
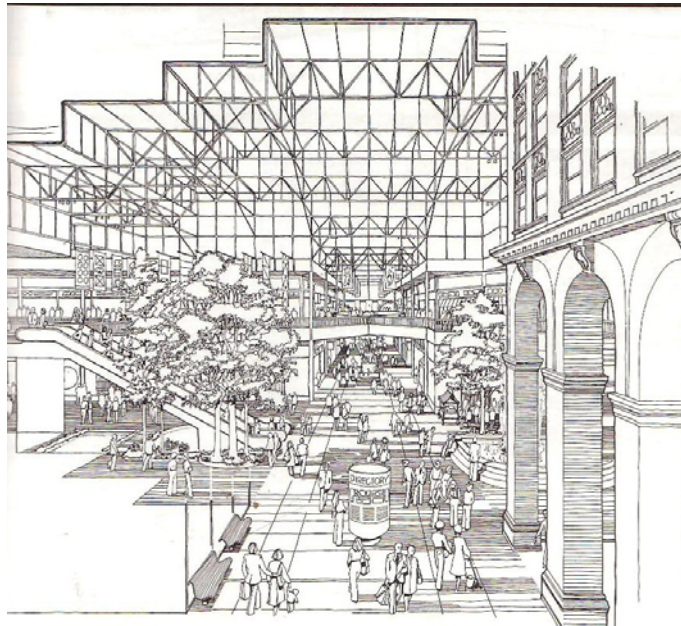

Figure 9: Sectional Perspective

Vitruvius defined architecture as structure containing firmness, commodity and delight. Art is the component that provides the aspects of delight within the building environment.

Art in Architecture

Art in architecture reviews the realm of artistic enhancement of the building environment, providing the aspect of beauty (delight).

Artistic elements have been incorporated into the building environment since the first structures were created. The initial forms such as paintings and carvings to symbolize deity beliefs were crude and for the most part, surface-applied. These examples may almost be viewed as "appliqué" decoration; however they were used to tell the story or purpose relative to the structure itself.

Figure 10: Dolmen Tomb, Brittany (1500 b.c)

Egyptian culture began to display a real integration of artistic elements within its monumental construction. This culture used artistic elements in order to replicate articles of nature.

This technique in application proposed a relationship to the environment (via papyrus carvings in columns) as well as familiarity with vernacular buildings of the region. The use of "natural elements" helped to soften the harsh façade of the stone elements used in their megalithic structures.

Figure 11: Temple of Amun, Karnak (1375bc)

The use of surface-applied graphics was also a tool employed by the Egyptians. Hieroglyphics were used extensively throughout their monumental structures, primarily to illustrate the nature, lifestyle, and social standing and life skills of the structure's patron. These "story boards" are considered as both a part of the art of the building and part of the basic building structure.

Figure 12: Hypostyle Hall, Temple of Amun, Karnak (1290bc)

Greek architecture carried on with the use of artistic elements both applied and integrated. Examples abound of both methods as was illustrated with the History section of the curriculum.

Greek application methods are primarily seen in the fascia sections (metope) where artistic sculptural relief was set. These relief sections were carved to reinforce the purpose of the structure through historic or anecdotal references. This system once again is seen as "appliqué" to the finished structure.

Figure 13: Entablature, Tholos, Epidaurus (360bc)

Integration of Grecian artistic forms is explicitly seen in examples such as the "Porch of the Maidens". This example illustrates the use of sculpted statues as the principal structural element of columns. The example presents an explicit use of sculpture combined with structure in order to reinforce the purpose of the monument.
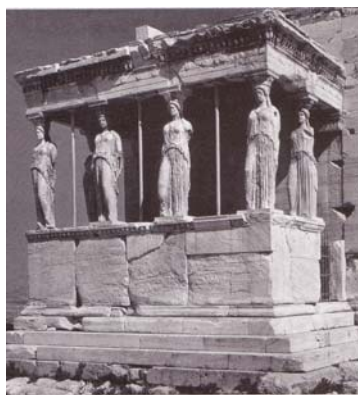
Figure 14: Porch of the Maidens, Eruchtheum (420bc)

Figure 15: Columns at Temple Gate, Tell Halaf (250bc)

There are numerous examples of combinations between sculpture/art and structure within architectural monuments. It is interesting to note that artistic elements within architectural monuments do not need to be as explicit as applied artwork or integrated sculpture. An architectural piece may be viewed upon the artistic merit of its finishes and combinations of materials alone. An example of this "artistic architecture" genre is easily found within the Taj Mahal. The use of marbles; colouring, placement and richness in texture, provides an artistic palette equal to applied artwork.
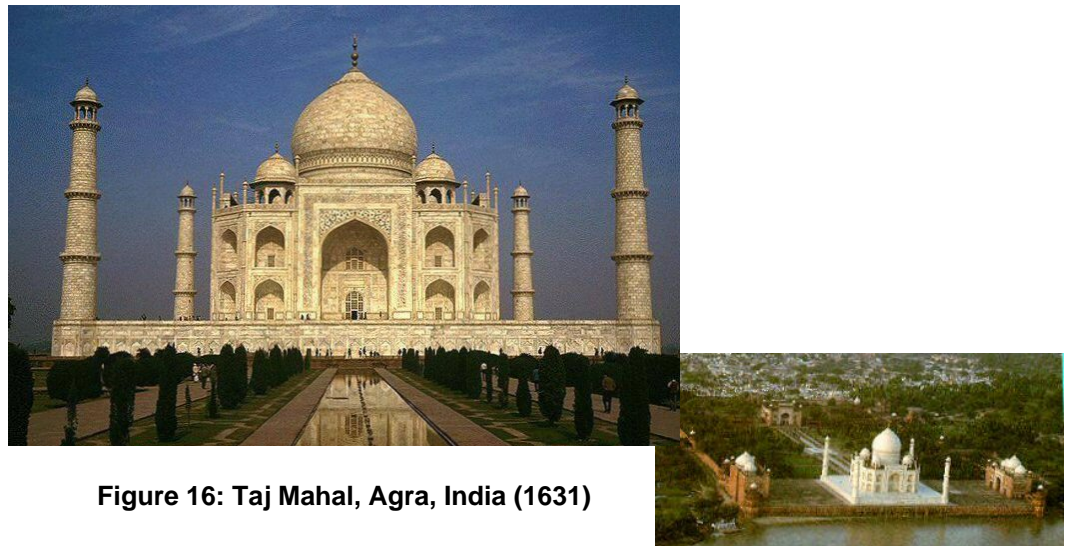
Figure 16: Taj Mahal, Agra, India (1631)

Colour was earlier used by the Greek civilizations in rich and vibrant hues throughout their monuments. In today's analysis, these structures are marveled for their intricacy, mass and intelligent design solutions. The application of colour may enhance their overall artistic merit, or it may be seen as a distraction. The simple axiom, "Beauty is in the eye of the Beholder", reigns true in this analysis. It is for this reason that a structure judged for its architectural merit will rely on artistic elements as only one of many components.
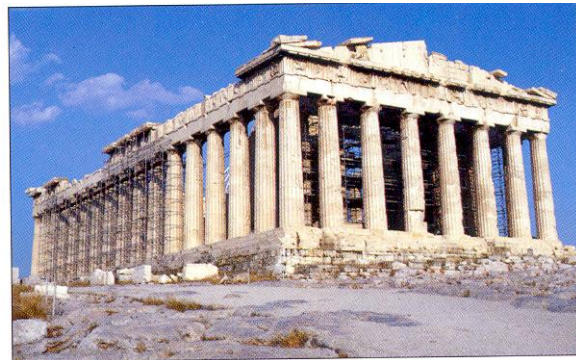
Figure 17: Parthenon, Athens (447 bc)

Art to be included as an element of the architectural solution must provide a reinforcement of the building's function or philosophy. It will be only through achieving integration with the building's cultural and functional purpose that art contributes to the components of an architectural structure.

Figure 18: Column Capital, Innocenti (Foundling Hospital), Florence (1419)

Art's inclusion into the building environment provides architectural works with something more than that which is found within vernacular building forms. Artistic elements provide a special quality that exceeds the boundaries of structure, class, region or materials. Artistic elements provide a "goodness" or absolute truth when incorporated in a structure that allows the final form to exceed that which can merely be built by human hands.

Figure 19: Sagrada Family Church, Spain (1884)

Design as an art form relies on the skill of the architect to include, either graphically or inherently, the artistic intent of the solution. This inclusion is part of the philosophical basis of the final design solution.

Design also uses art as the means of communication between the architect and the client. It is this communication or dialogue of architect/client that creates the understanding among all parties as to the building's function and philosophy. The architect must be skilled in the practice of understanding the client's needs and desires (intent) in order to interpret the items into the artistic building solution.
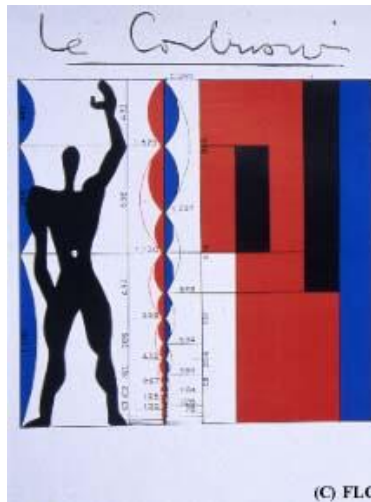
Figure 20: The Modulor, LeCorbusier

This dialogue is one built on an understanding of communication between the parties. The primary means of communication with architecture is visual – a display of the intended solution for understanding and acceptance by the client. Intimidation and possible subsequent rejection of design solutions may arise due to ignorance of the client in their understanding of the design solution.

It is due to the possibility of intimidation that architects must carefully choose the manner through which they explain the design solution. The ability to visualize, to draw, to illustrate the solution of verbal needs begins with the architect's ability to visually interpret the initial requirements of the client. This process of initial interpretation most often is completed through the process of sketching.

> *"As soon as I understand the scale of the building and the relationship to the site and the relationship to the client, as it becomes more and more clear to me, I start doing sketches".*
>
> *Frank O Gehry*

Article I – Sketching

The basic thrust of art in architectural design is to establish a means (art) through which to convey the thought (architectural design). The basic method available to the architect is the method of sketching.
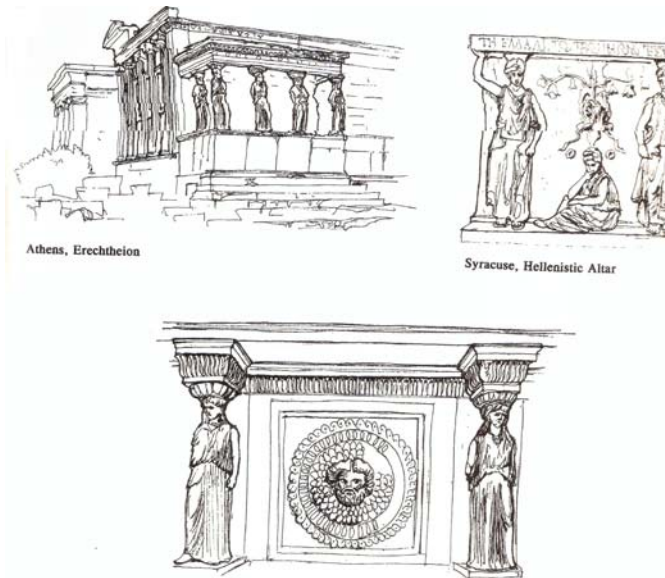

Figure 21: Structural Elements, Vitruvius

Sketching is a practice which has an affect on all aspects of architecture design practice. The influences can be seen in some ways by the following list of the attributes of sketching.

The practice of sketching:

- Establishes precedents in form
- Allows a collection of ideas to form (historical or visionary)
- Historical references reinforce the ideology of learning from the masters. By replicating the forms and details, we can gain a better understanding of their solution, thereby learning how to possibly achieve these solutions in future works.
- Creates a better "feel" for materials as one learns methods by which to illustrate the texture, form and solidity of various elements.

Sketching is also an important tool in developing the artistic influence of the architect. No matter how poorly a person may feel they draw, everyone has the ability to sketch the most basic of forms and ideas. Sketching is not meant to be a replication of something, it is meant to illustrate the idea and therefore, it may take many forms by individuals.
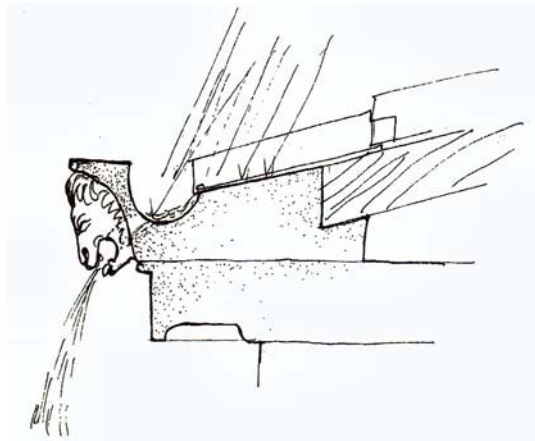

Figure 22: Downspout Illustration, Vitruvius

Sketching aids in development of the artistic side of the practitioner. It provides valuable experience related to design and illustration including:

- Provides an excellent means to develop greater hand/eye coordination. Architects think with their heads but must explain with their hands.

- Assists in understanding proportions and developing the ability to vary solutions as ideas are developed.

- Promotes the communicative aspect of design as the means to accurately convey the ideas are sought.

- Develops greater skills in illustration and presentation aspects. Sketching is one form of art that greatly improves with practice and experience.

- Activates the artistic mode of the brain to assist in explaining the thoughts of the technical side relative to a design solution

- Establishes the confidence to be able to explain and illustrate changing ideas "on the fly" as the design solution matures.

- Promotes a basic tool to providing two or three dimensional representations. Sketching allows you the opportunity to quickly review conceptual solutions without taking the time to technically illustrate them.

- Promotes the ability to think spatially relative to proportion, scale, mass and form.

Sketching provides the means to alter or vary the appearance of design elements quickly and in some cases, representational so that ideas are quickly explored. Clear sketching techniques will allow for an early interpretation of human response to a proposed solution.

As design is the principal element being explored within this section, it is important to note that sketching represents one of the earliest aspects of seeking a design solution.
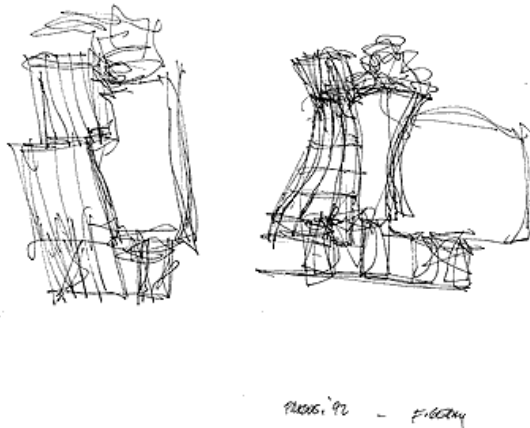
Figure 23: Nationale-Nederlanden Building, Prague (1996)

The act of sketching is a highly personal activity, one which through practice will assist in developing the individual style of the architect. As the ability to represent ideas graphically is part of the craft of architectural design, sketching allows for a wide variety of personal experimentation through the design process.
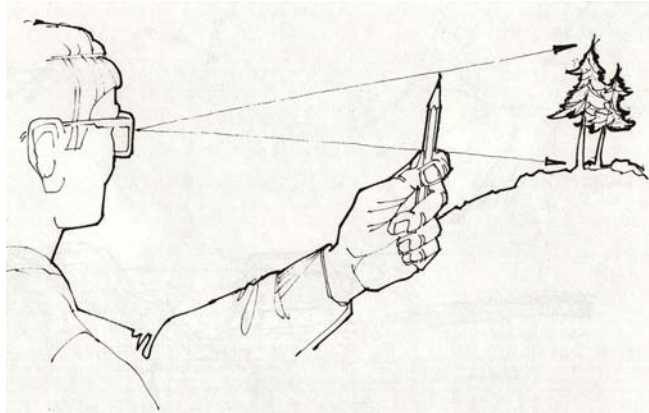
Figure 24: Proportional Referencing

The ability to sketch, to evolve into a useful method of design strategy, is one that requires continual practice and refinement. It is through repetition and development of hand/eye coordination that sketching becomes accurate and explanatory. This experience allows for the design to be explored through all allowable options in order to arrive at the successful solution.

Exploration of design schemes is a difficult task to conduct in the real world since actual construction of alternative schemes is impractical for physical, financial and scheduling reasons. Drawing, sketching and interpreting the requirements through alternatives is the means through which architectural design can be perfected.

The process of sketching is a tradition that has carried on since the early days of design and construction. Through the Renaissance, sketching was considered an act of discovery amongst designers as they attempted to resolve complex problems. Leonardo da Vinci is renowned today as much for his sketch books as for the few famous art works he produced. Da Vinci in fact sketched designs for helicopters and even bicycles long before these items were functionally constructed. It was through the process of sketching that da Vinci was able to test out his theories for the designs to the point of realistic representation.

Figure 25: Figurative Scumbling Technique

All great artworks start out as conceptual sketches. The final product which we revere today is the end result of multiple studies, analysis and revisions that the artist went through, using the process of sketching. This fact is true with architecture as it is true with painting. The basic contribution of art to the architectural design process starts with the act of a sketch.

Figure 26: Madonna with Child, Leonardo da Vinci (1478)

An architect must establish and accept basic rules relative to the architectural design problem at hand. These rules may be stipulations of the client, realities presented by the site or general rules of design principles. Sketching is the process that establishes the initial dialogue between the architect and the potential solution.

One aspect of competent resolution is the ability to represent the intended design in diagrammatic (sketch) form. It is for this reason that the practice of sketching, creating a compilation of thoughts in a sketch book is one of the central aspects of the education process at the Beaux Arts school in France.

Architectural design as an art form relies on the architect's understanding of "absolute truth" in design. Absolute truth in this case represents a compilation of the clients' intentions, societal initiatives and achievable goals relative to the built environment.

A study of precedents, facilitated by the efforts of sketching, can assist the architect in learning to 'read' the built environment assessing how well different environments provide good design solution via incorporation of 'truths' in the solution. Developing the ability to trust in one's interpretations of truth is an important facet of the knowledge base relative to how precedents function in the design as an art form.

The process of sketching starts as simply as picking up the pencil or pen (perhaps even a crayon depending on the level of talent) and beginning to draw. The frustration typically experienced by students is the lack of ability to 'replicate" the intended object. This frustration may cause a loss of faith in the exercise; and exercise that will improve with practice, not necessarily by instantaneous success.

The basic theory of sketching within architecture is to put forth the idea, not illustrate it. Architectural sketches of concepts may take on the basic form of the parti without actually illustrating a specific building element. Sketches may comprise a series of tableaus which together tell the story of what the building will be.

Sketching reduces the practice of illustration to the basic elements. Sketching should provide the 'essence' of the architecture, not necessarily the detail of it.

As sketching is relative to illustration of the essence of an object or idea, what is required to teach is the ability to perceive the particular 'essence'. It is this element that provides the language to be understood.

The essence of an object or idea is that key element, the parti, which can explain the absolute truth of the item. The Cheshire cat, within Alice in Wonderland, is reduced within the storyline to only its smile. The smile is that image which we retain as the visual image of the character; the smile is the essence of the cat.

> "I wish you wouldn't keep appearing and vanishing so suddenly; you
> make one quite giddy."

> "All right," said the Cat; and this time it vanished quite slowly, beginning
> with the end of the tail, and ending with the grin, which remained some
> time after the rest of it had gone.

> "Well! I've often seen a cat without a grin," thought Alice; "but a grin
> without a cat! It's the most curious thing I ever saw in all my life."

Sketching the essence of an object or idea requires first the ability to understand the particular nature which is to be explained. The frustration in sketching should not be felt via the technique of illustration. The frustration will most likely arise due to the lack of ability in clearly illustrating that which is to be explained.
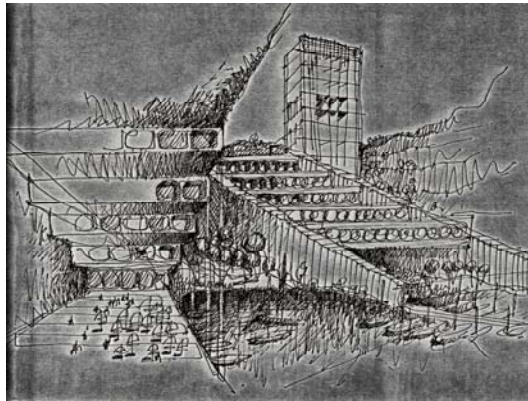

Figure 27: Design Schemes

Anyone can sketch, but not every sketch clearly illustrates the idea.   It is through experience in studying the precedents, practicing the illustration of an idea and relying on a storehouse of imagery that architectural design uses the sketch form repeatedly.
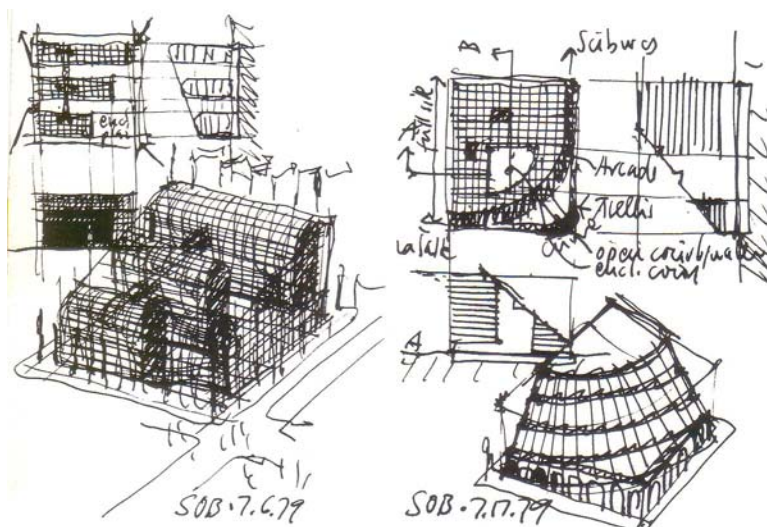
Figure 28: Design Schemes

The frustration found in sketching for architectural design will be the lack of clarity in the illustration. The evidence of this item clearly identifies that the architect is not clear on what it is they are attempting to create. If the designer is not clear, then the explanation will be even more obscure. This reality is the first indicator in the design process that additional thought/work is required on the parti of the solution, prior to proceeding further towards construction.

Figure 29: Bavinger House Sketch, Bruce Goff (1950)

The practice of sketching is the crucial first step of the design process both to illustrate the intended solution for the client's understanding and also to prove to the designer themselves that they are clear in their own mind what it is that they are working towards. Sketching is one principle of the foundation of architectural design. It remains a personal art form relative to architectural design; personal in the sense that no two persons will produce identical sketches and also personal in the interpretation of the essence of the object or idea being explained.

Figure 30: Bavinger House, Norman, Oklahoma (1950)

Article II – Graphic Presentation and Analysis

The second component of this section relates to graphic presentation and analysis. Sketching provides the imagery necessary to convey the idea. Graphic presentation provides the means to assemble the various illustrations or images to provide a complete understanding of the architectural design.

Graphic presentation is a technique developed from the sketch book theory, used once again as a tool to communicate the intended design solution.
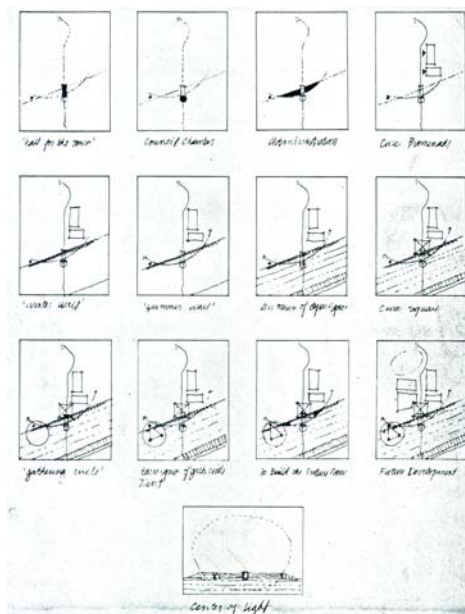

Figure 31: Graphic Development of the Parti

A great variety of presentation styles are available at this stage of the design process. It is important to ensure that communication style used is suited to the knowledge base of the client/audience. As noted earlier in this section, that an idea improperly or poorly presented will likely result in rejection rather than acceptance on its own merits. Representation plays a crucial role in the field of architectural design as it is the means to explain the concept, the intended solution.

Verbal explanation at a presentation stage should be minimal based on several key elements existing at this stage:

- The preliminary sketches will have illustrated the concept to the client's understanding

- The graphic presentation should present the ideas as a storyboard for easy recognition

- The process should be easily identifiable through the reading of the storyboards, allowing the viewer to follow through the development, rationale and resulting design concepts illustrated.

Figure 32: Storyboard Development

This stage still represents the theory of the building design, rather than hard architectural details. It is from this stage of design development that the presentation drawings are assembled. Later stages in the architectural process will provide hard line construction drawings, details and contract specifications to be used in the actual construction of a building.
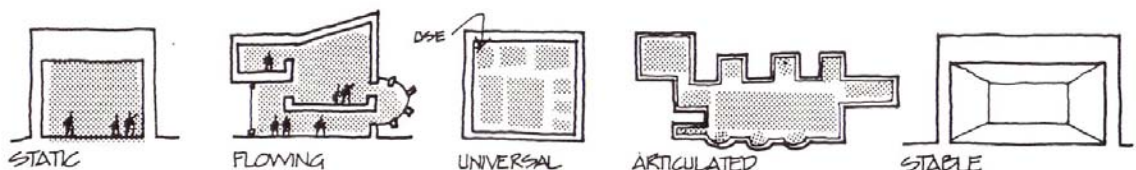
Figure 33: Spatial Quality Studies

The stage of graphic analysis and presentation illustrates both the sketches relative to the design parti, and the intended resolution of the client's desires, needs and intentions for the building program.

As this stage of analysis proceeds, real building parameters begin to take shape in the form of graphic representation. Elements such as:

- Functional relationships and adjacencies
- Proportional planning spaces
- Massing relationships
- Contextual relationships

are further explored and tested against the architectural parti from the sketch phase.
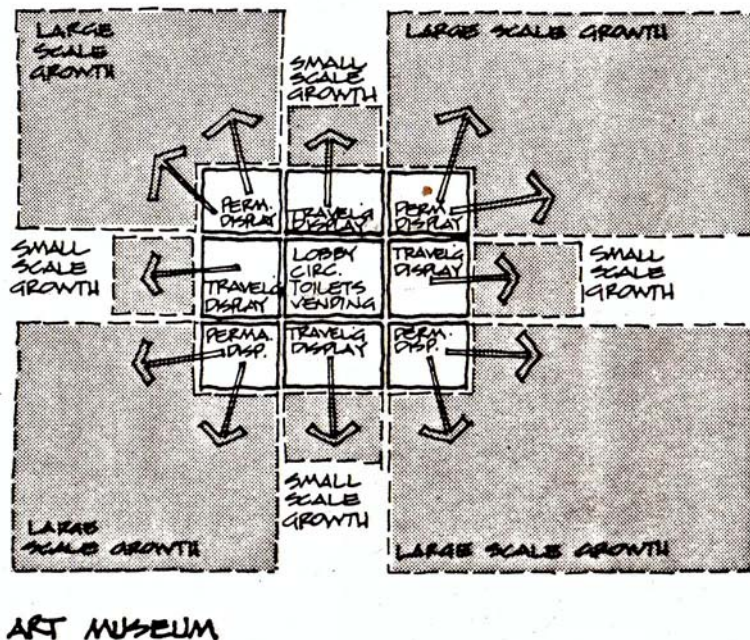
Figure 34: Adjacency Study

Elements of illustration are used extensively through this stage to explore and develop the noted criteria as a graphic representation.

These means of communication can be seen in:

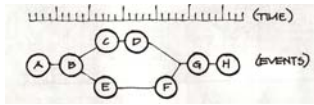- Bubble diagrams; illustrating areas, priority, precedence, relationships
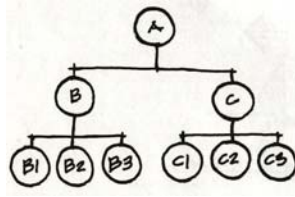

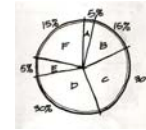**Figure 35: Proportional Areas**   **Figure 36: Workflow Diagram**   **Figure 37: Organization**

- Programming diagrams; illustration of the nature of the intended solution's operations, function and flow within the client's organization. Programming is crucial in every architectural design from single family residential houses to the most complicated lab or institutional organization.
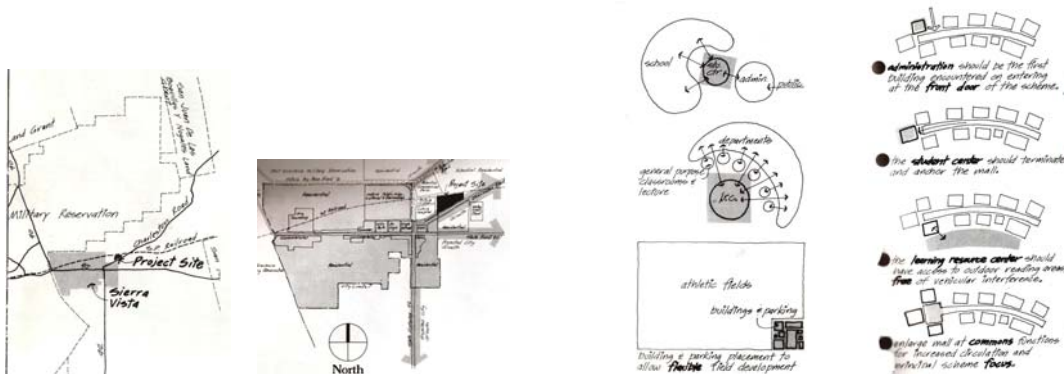

Figure 38: Programming Functional Diagrams

- Master planning diagrams; illustration of planning layout relative to the orientation, context and site elements of the solution
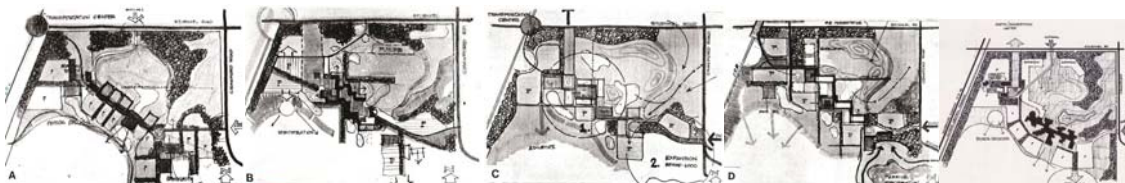

Figure 39: Master Planning Diagrams (Site Analysis)

The ordered use of illustration is a matter left to the discretion of the architect. Just as sketching is used to illustrate the design solution parti, so is graphic analysis is used to illustrate the intended building solution without details. The opportunity to visually explain the intended building solution is available through the use of:

- Sketches: illustrations relative to the parti including design studies, conceptual illustration, character or thematic sketches
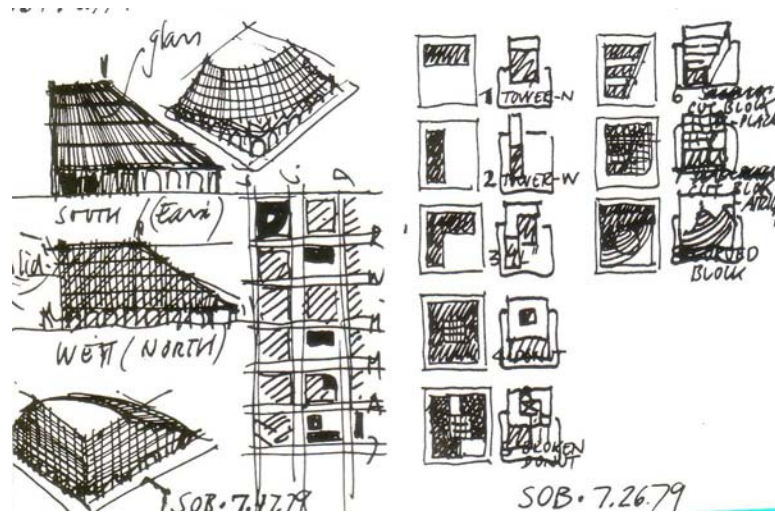

Figure 40: Design Schematic Sketches

- Symbolic representations: illustrative techniques used to reflect the overall function of the indeed design solution. Symbolic representation may be in the form of various circles, line diagrams or the use of international symbols to illustrate the flow and function of the solution.
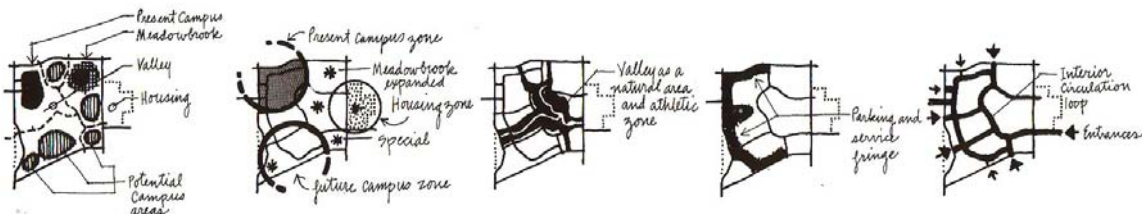

Figure 41: Analysis Representation

It is with the combination of visual (sketch) forms and symbolic (illustrative) representations that the architect speaks back to the client that which has been learned through the process. The design process is a circular pattern or learning and interpretation from client to architect and subsequently reinterpretation from architect to client in graphic form. The end result is the graphic presentation form of the concept that provides the visual representation of the architect's understanding of the client's design intent.
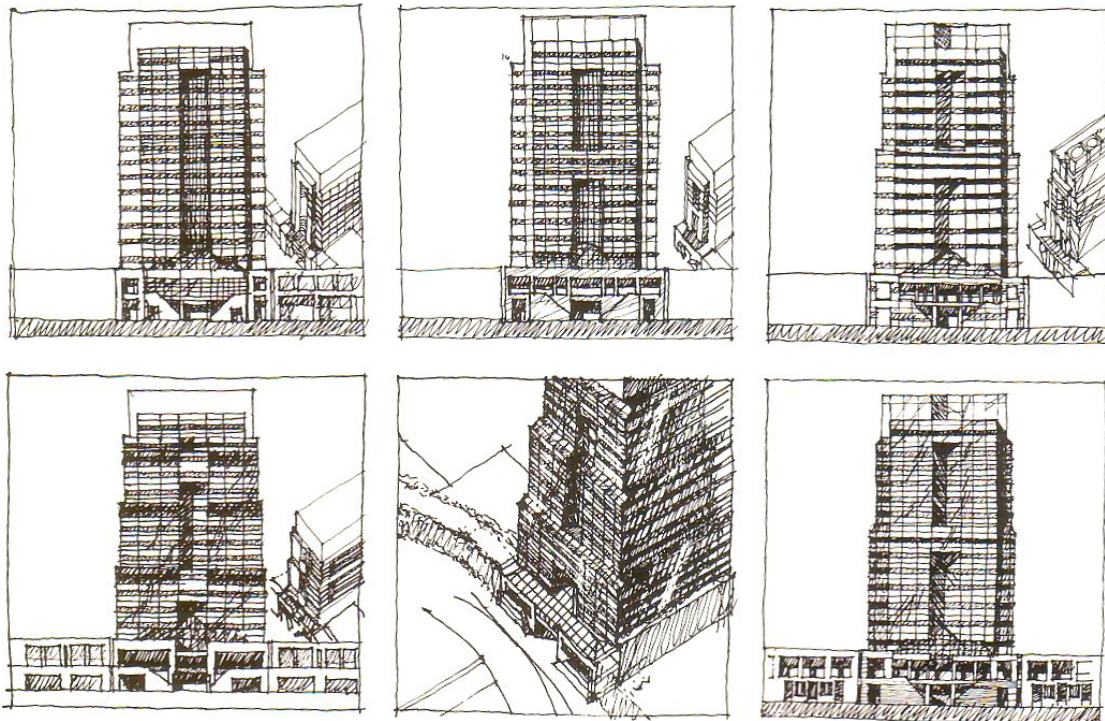

Figure 42: Building Design Studies

The actual presentation technique at the graphic stage can take as many varied forms as there are designers. The basic requirements noted herein for development of a storyboard concept, illustration of the process and intent as well as explanation of the design parti must be evident in every case in order to provide the coherent logic for the design solution.

Historical references are repeated through this stage since many presentation techniques (illustration, perspective) that are in use today were developed during the Renaissance period. While it should be noted that these techniques have been updated to allow for the inclusion of modern materials and processes (including computers), the basis of their purpose remains the same.
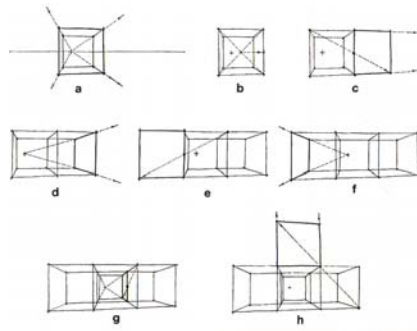

Figure 43: Generating Perspectives

The hand techniques in use today stem from the evolutionary period of the Renaissance. It was the painters of the Renaissance period who developed the mathematical rules of perspectives and studies in light and shade to give a recognizable image representation. The use of Trompe L'Oeil representational technique was perfected during the Renaissance and subsequent Rococo periods. This element is the basis of the sketch purpose.

Figure 44: Trompe L'Oeil Ceiling Fresco, Carracci (1600)

Graphic presentation relies on basic compositional ideas relative to art and design elements. Further exploration on the Design Elements occurs in that specific section of the curriculum. The basics that apply to graphic presentation include:

- Balance
- Patterns
- Flow
- Complexity

Balance as a key component of graphic presentation is the visual balance of a presentation format. The format may be made up in several ways to illustrate various points of the solution concept or it may even be only a single image such as the case of a three dimensional perspective.

A simple balance is achieved when opposing forces or visual weights are equal, known as symmetrical balance. Asymmetrical balance is found when there is an informal or unequal relationship between visual elements. Radial balance is found when elements or components are displayed in a centrifugal pattern, centered on a key concept (the design parti)
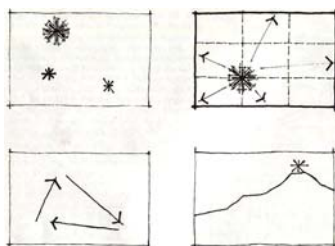

Figure 45: Layout Options

The use of balance within the graphic presentation format will provide the intended viewer response to the design solution. As is used in the Artistic environment, some artists provide asymmetrical compositions to further evoke viewer response relative to their work.

The use of patterns within graphic presentation assists to provide continuity between the presentation elements. Patterns are present throughout our environment. The ability to recognize or ascertain a pattern is almost inherent in everyone, though many persons may not actually realize they see a specific pattern. In some cases, the actual pattern may be obscure and hard to define, though it can be perceived by the viewer.
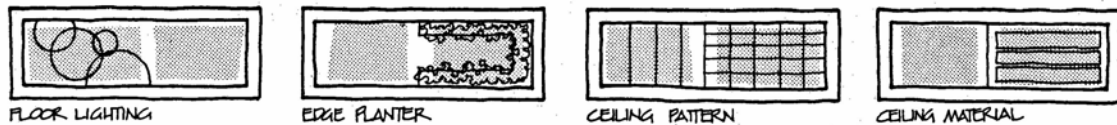

Figure 46: Pattern Sketches

Pattern used in architectural design reinforces the individual components through repetition. Patterns may be used to provide visual interest or relief to a building or it can be incorporated into the building elements themselves. The illustration of this pattern type can be achieved through the sketch format and graphically represented by repetition of the individual sketch.
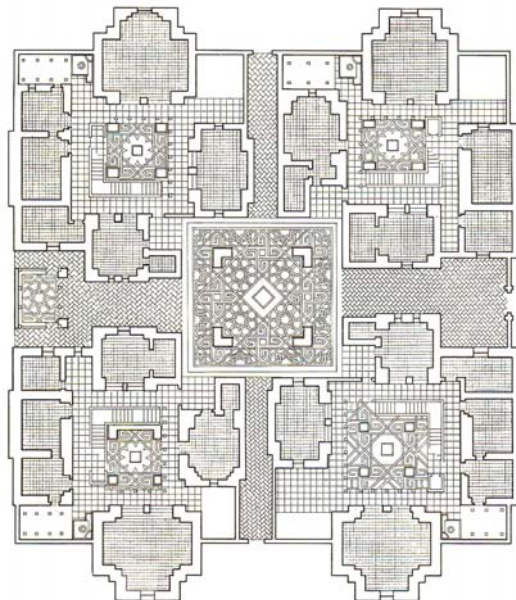

Figure 47: Floor Patterns (Illustration of Room Areas)

Flow relates to the manner in which the materials are organized to provide the entire storyboard. Again, the possibilities vary depending on the means and intent of the graphic presentation, the exact nature of the information it seeks to impart and the means through which the architect has chosen to explain the design solution.
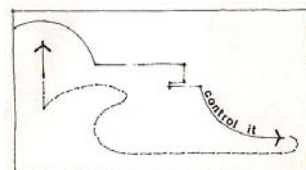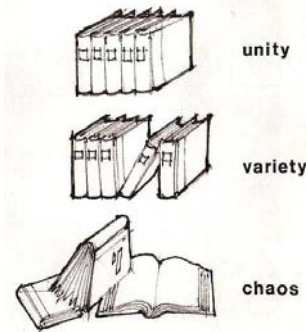
Figure 48: Eye Flow Control

Flow in a graphic presentation should provide a smooth method by which to follow through the design process in a clear, logical manner. The flow of a presentation illustration may be enhanced by the use of symbolism and graphic linkages in order to lead the viewer through. As discussed earlier in this stage, the graphic analysis and presentation should be almost entirely capable of explaining the design solution (parti, resolution and solution) with only the minimal of spoken word required.

The specific use of flow relative to the presentation can provide the opportunity to focus on key concepts/staging points along the path of the design process. These key concepts/staging points would contain the creative leap illustrations that show how the design solution was artistically derived by the architect from the client's needs and desires.

Complexity of the presentation responds to the balance, pattern style and flow of the solution presentation. A general rule to ascribe to is "the less the complexity, the cleaner the solution". The relationship of complexity to the graphic presentation is similar to the relationships seen in the sketch phase. The more sketches required means that the design parti remains too complex (misunderstood) to easily illustrate. More work and theory is required at this point on the parti. In the current explanation, the more complex the graphic presentation, the more likely that the initial stages at sketching relative to the parti and graphic analysis relative to the sketches is incomplete.
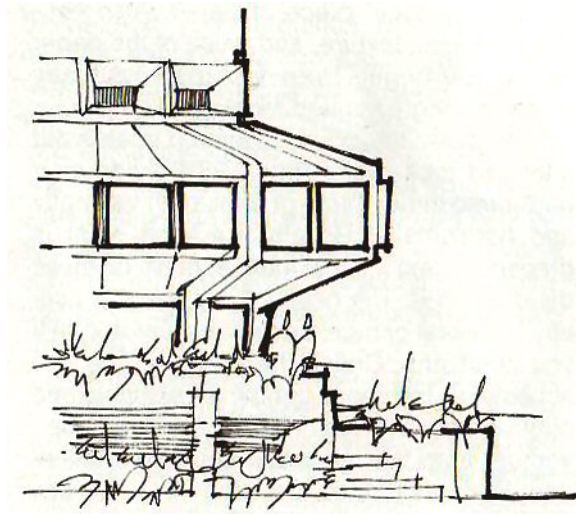
Figure 49: Simple Elevation Study

Stop gaps exist all throughout the design process. It takes the experienced skill of the architect in the design process to be able to recognize where these break points occur. Upon reaching any one of these points, there must be opportunity for pause and reflection relative to the intended solution. A test of the solution's parti relative to intent is carried out to ensure that the path remains focused on the original goal (parti) established with the client.

At any point, the architect must honestly reflect on whether the solution is still meeting its intended goals. Through experience, the architect can recognize the early indicators of failure in the process or the potential areas where additional investigation must occur in order to arrive at a successful design solution. These key points can be identified by the trained practitioner. If a design parti cannot be illustrated via sketch form, it must be revisited. If a story of design cannot be easily explained through graphic analysis and presentation, then the basis of the design may be flawed and requires additional review.

These first two items are combined through the artistic composition to create the overall display used to convey a design solution. Artistic composition makes up the third component of this section.

Part III – Artistic Composition

Artistic composition shares similar elements with the separate curriculum section Design Elements. The Design Elements section focuses on specific building design elements. This part of Art in Architecture relates to the use of artistic composition in the presentation of the intended design solution.

The form of the artistic composition (visual, textural, model or schematic graphics) will speak directly to the awareness of the client. In public practice, the three dimensional graphic (perspective) is the most common type of artistic composition used. These perspectives are often referred to as "an artist's conception" of what the final structure will look like. This stage in practice is often completed prior to undertaking preparation of contract documents and subsequent construction so some changes in the final appearance are very likely. By labeling the perspective as "artist's conception", there remains some liberty or allowance for changes in the final product.

Figure 50: Dr. Martin Leboldus High School Addition (2004)

The use of artistic composition within the realm of architectural design is a process that requires careful consideration. Art is a visually expressive medium; it must be laid out in a fashion suitable to the expression of the design solution. There very well may be dramatic differences in the presentation format for the design of a hip-hop nightclub from the art media form used to express the design for a new monastery chapel.

The type of composition must be tailored to suit the audience. The composition type may also be used to elicit a response from the viewer which enhances the design intent. The anticipated response can assist in the viewer's understanding of the architectural design concepts being presented.
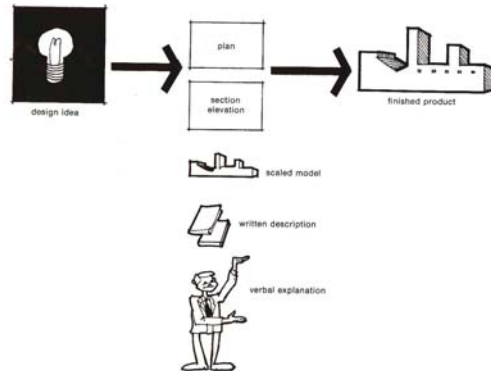

Figure 51: Simplified Process Steps

Artistic composition as a specific step of the design process must respect the very purpose of all three steps noted in this section. The basic purpose for the use of art within architectural design is to convey the message, to explain the design solution, to allow for understanding of the intent, review and subsequent approval of the client. Public approval may be required in some cases; in some cases it may be public rejection that cancels a project.

Artistic composition is comprised of many differing levels of art theory and design, though the basic elements relating to architectural design include:

- Proportion
- Colour
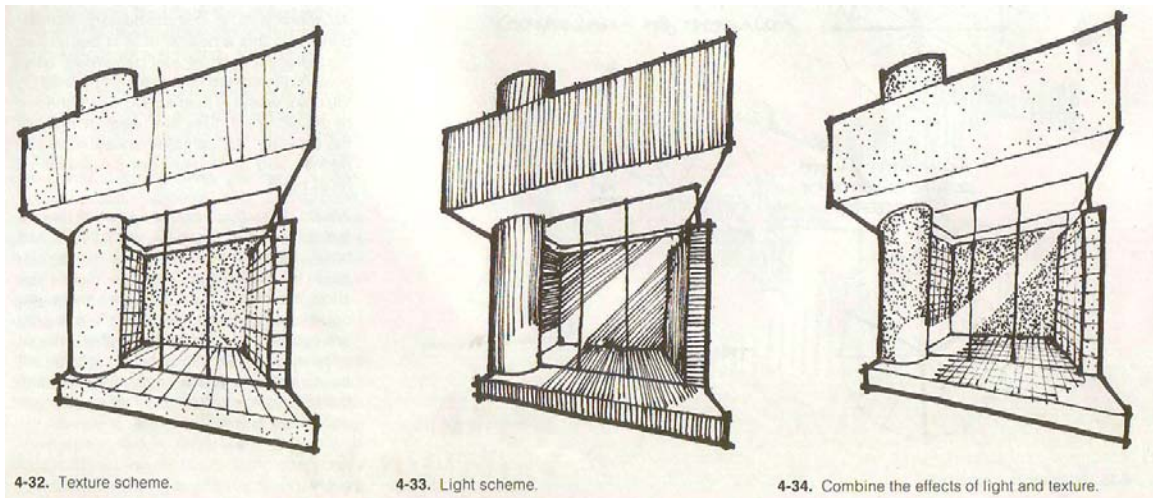- Visual expression
- Texture
- Layout.

4-32. Texture scheme.   4-33. Light scheme.   4-34. Combine the effects of light and texture.

Figure 52: Variable Illustration Schemes

An understanding of the human response to artistic composition is also required for the architect to clearly illustrate the parti for the intended audience. The varied use of proportional elements to illustrate mass, space or volume; the differentiation of elements through the use of colour or pattern (literal or interpretive); the differentiation of building elements through texture and graphic representation and the combination of each of these items in a coherent layout/presentation format; all these items have a direct bearing on the response to the design parti presentation.
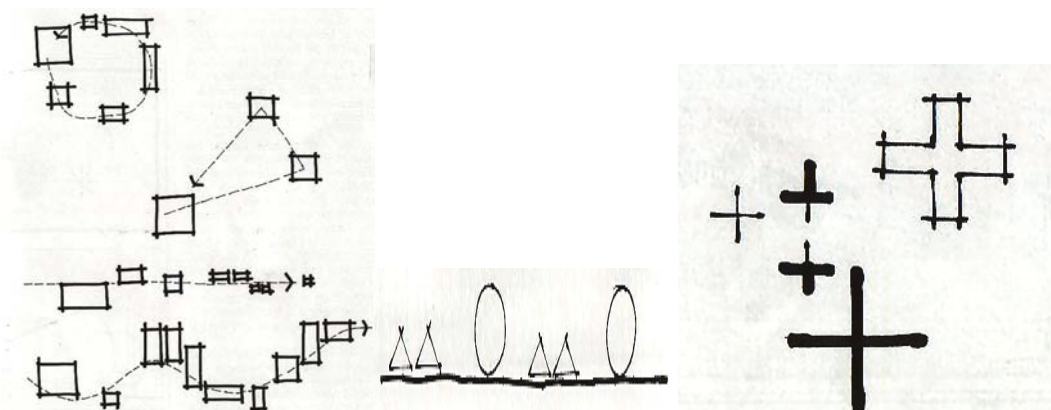

Figure 53: Geometry / Rhythm / Themes

It is all too often that an architect will find themselves defending the use of the colour blocks that illustrate specific regions of the design solution. Many client departments have no desire to be illustrated through the use of grey, red, yellow or any other colour that may be deemed unlikely at the time of presentation. This stumbling block, typically arriving at the outset of the design presentation can often derail a design review meeting until all parties are satisfied of their colour realignment. People take the representation of their personal and professional space quite seriously.
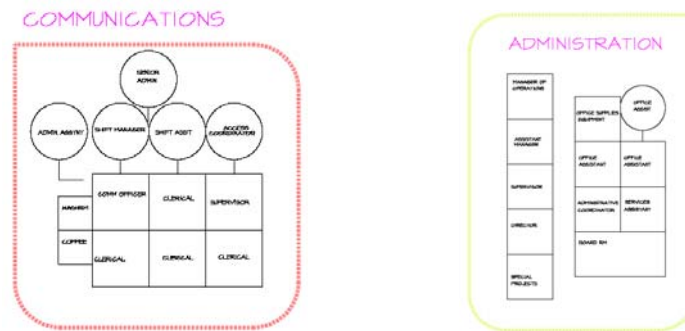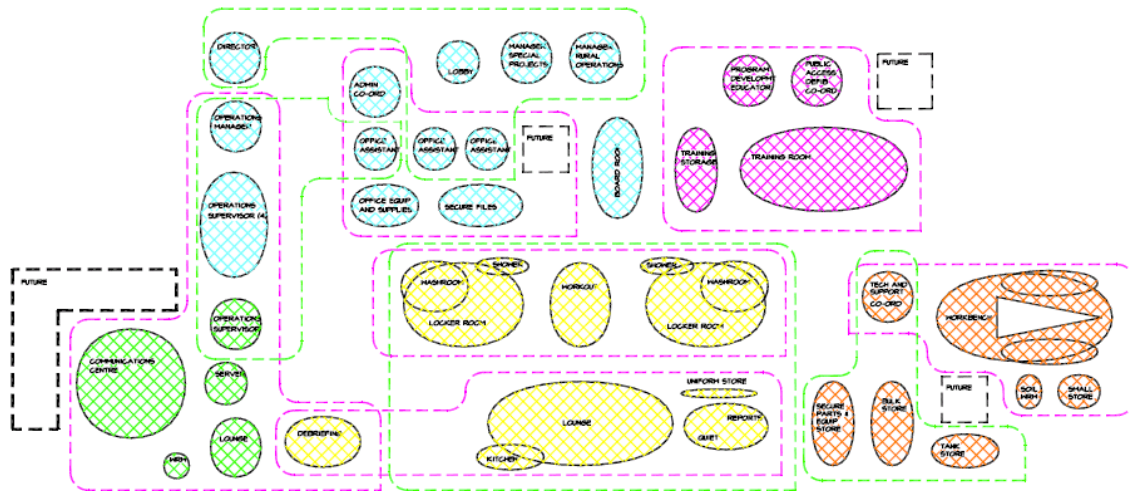

Figure 54: Department Relationships

Figure 55: Facility Interrelationships

As noted in the sketching component, representations that aren't understood will likely cause rejection. This rejection may not even be due to the design or any flaws, but it will be due to the fact that the architect shared representations of the concept solution in a manner or format that the client wasn't able to grasp or understand. This lack of understanding may result in the intimidation of the client via ignorance; intimidation may result in rejection of the design scheme due to fear of failure based on a lack of understanding. The design itself may be flawless but the means to explain it failed; therefore the design itself may meet with failure to eventually construct.
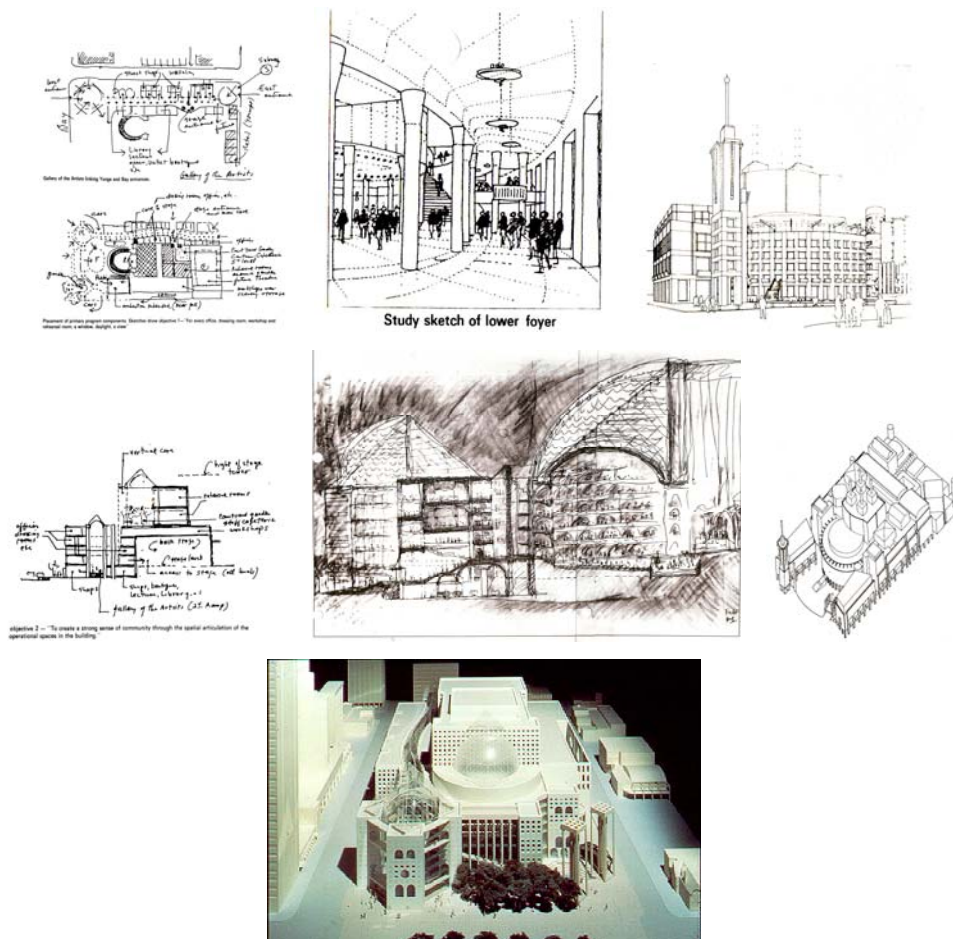

Figure 56: Toronto Ballet Opera House, Moshe Safdie (1988)

Successful Presentations like the Toronto Ballet Opera House combine sketch formats with hard-line drawings to illustrate the concept and solutions.

Presentation drawings assume artistic quality as they combine concepts with solutions in a format to visually capture the eye and subsequently the imagination. Formats such as the proposal for the Canadian Museum for Human Rights (Winnipeg, Manitoba) submitted by Antoine Predock Architect (USA) are artistically balance, visually appealing and informative relative to the concepts, key components and solutions of their proposal. The following image is merely one of the presentation boards submitted to promote their solution to the complex building program of an eighty-million dollar structure.
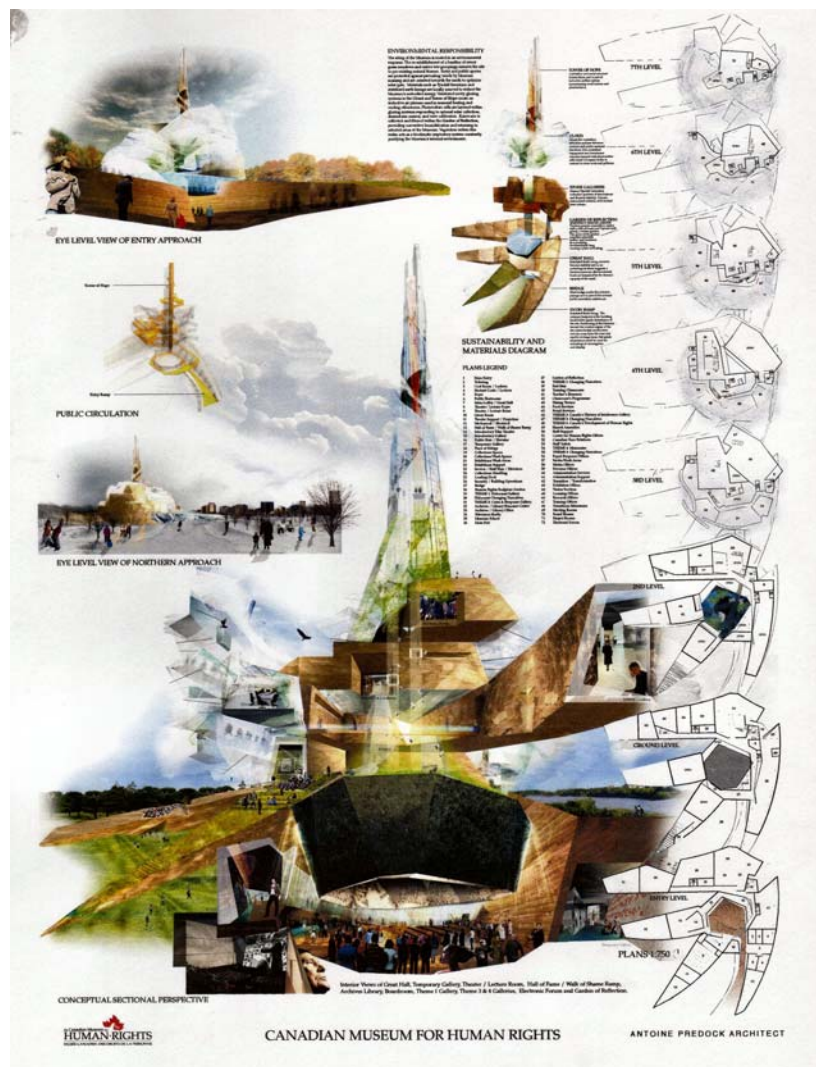

Figure 57: Proposal Submission, Antoine Predock Architect (2004)

Communication is critical to the process of architectural design. The means to communicate remains the requirement of the visual imagery for the proposed solution. The method of development and presentation for the solution balances art with reality in a composition to tell the story of the design.

Architectural design as an art form remains critical in the process of constructing our built environment. The ability to shape our day to day environments and subsequently the manner through which civilization exists within that environment is a powerful means of expression of the human existence.
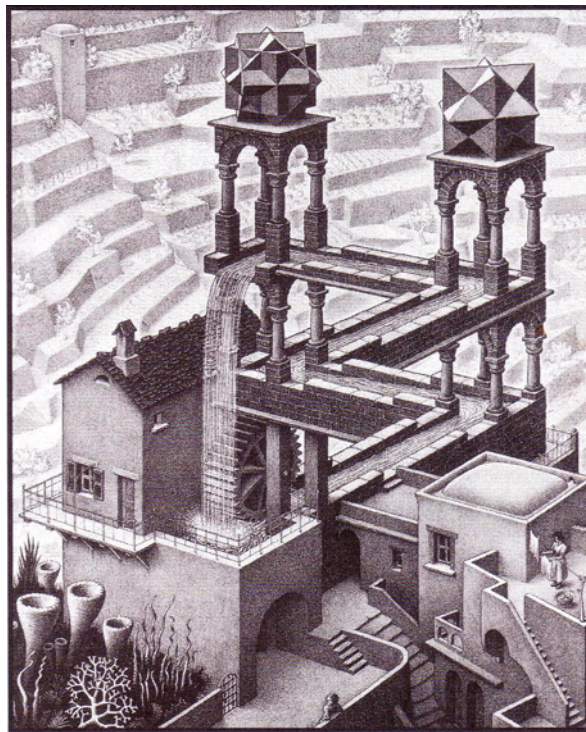
Figure 58: Waterfall, M.C. Escher (1961)

"Within architecture there lies the essence of art as well as the science of building, the psychology of sociology related to the people of the time, the philosophy of living and the routine of daily experience"

LELAND ROTH "UNDERSTANDING ARCHITECTURE" 1993

49

NEW TEXT DEFINITIONS:

{A listing of new architectural definitions provided by this component}

APPENDIX 'A'

List of Images

Reference tags:

A	:	Design Presentation: Creating Marketing/Project Proposals
B	:	Ten Books on Architecture
C	:	Design Presentations for Architects
D	:	Concept Source Book
E	:	Plan and Section Drawing
F	:	Architecture: Prehistory to Postmodernism
G	:	Buildings that Changed the World

Number	Name	Reference	Page
Cover	Sagrada Family Church	G	138
1	Relativity, M.C. Escher	Author's Collection	n-a
2	Ames Lodge Gate	----------------	
3	Goetheanum Boiler House	G	151
4	G. Pompidou Centre, Paris	G	172
5	Guggenheim Museum, Bilbao	G	179
6	Ronchamp Chapel Entrance	G	161
7	The Turning Torso	Internet based image	n-a
8	The Pantheon, Rome	G	34
9	Sectional Perspective	A	31
10	Dolmen Tomb, Brittany	F	49
11	Temple of Amun, Karnak	F	64
12	Hypostyle Hall, Temple of Amun, Karnak	F	64
13	Entablature, Tholos, Epidaurus	F	102
14	Porch of the Maidens, Eruchtheum	F	95
15	Columns at Temple Gate, Tell Halaf	F	76
16	Taj Mahal, Agra, India	Internet based image	n-a
17	Parthenon, Athens	----------------	
18	Column Capital, Innocenti (Foundling Hospital),	Author's Collection	n-a
19	Sagrada Family Church, Spain	G	139
20	The Modulor, LeCorbusier	Internet based image	n-a
21	Structural Elements, Vitruvius	B	137
22	Downspout Illustration, Vitruvius	B	210
23	Nationale-Nederlanden Building, Prague	Internet based image	n-a
24	Proportional Referencing	C	7

25	Figurative Scumbling Technique	C	7
26	Madonna with Child, Leonardo da Vinci	Internet based image	n-a
27	Design Schemes		
28	Design Schemes	A	8
29	Bavinger House Sketch, Bruce Goff	Internet based image	n-a
30	Bavinger House, Norman, Oklahoma	Internet based image	n-a
31	Graphic Development of the Parti	Canadian Architect	Vol.
32	Storyboard Development	C	4
33	Spatial Quality Studies	D	31
34	Adjacency Study	D	32
35	Proportional Areas	C	20
36	Workflow Diagram	C	20
37	Organization	C	20
38	Programming Functional Diagrams	A	3
39	Master Planning Diagrams (Site Analysis)	E	20
40	Design Schematic Sketches	A	8
41	Analysis Representation	E	15
42	Building Design Studies	A	12
43	Generating Perspectives	C	48
44	Trompe L'Oeil Ceiling Fresco	Art History	763
45	Layout Options	C	40
46	Pattern Sketches	D	76
47	Floor Patterns (Illustration of Room Areas)	C	76
48	Eye Flow Control	C	30
49	Simple Elevation Study	C	40
50	Dr. Martin Leboldus High School Addition	Author's Collection	n-a
51	Simplified Process Steps	E	11
52	Variable Illustration Schemes	C	41
53	Geometry / Rhythm / Themes	C	37
54	Department Relationships	Author's Collection	n-a
55	Facility Interrelationships	Author's Collection	n-a
56	Toronto Ballet Opera House	Canadian Architect	1988
57	Proposal Submission, Antoine Predock Architect	CMHC Website	2005
58	Waterfall, M.C. Escher	Author's Collection	n-a

APPENDIX 'B'

Bibliography

Burden, Ernest

Design Presentation: Creating Marketing and Project Proposals

New York, NY, USA; McGraw-Hill Publishing, 1992

Rowland, Ingrid D. and Thomas Noble Howe

Vitruvius – Ten Books on Architecture

New York, USA; Cambridge University Press, 1999

Reichold, Klaus & Bernard Graf

Buildings that Changed the World

London, England; Prestel Press, 2000

Stephenson, Michael

The Architecture Timecharts

London, England; Worth Press Ltd., 2003

Stokstad, Marilyn

Art History

New York, NY, USA; Harry N. Abrams, Inc. 1995

Trachtenberg, Marvin & Isabelle Hyman

Architecture: From Prehistory to Postmodernism

The Netherlands; Harry N. Abrams, B.V., 1986

Wahl, Michael Iver

Design Presentations for Architects

New York, NY, USA; Van Nostrand Reinhold Company, 1987

Wang, Thomas C.

Plan and Section Drawing

New York, NY, USA; Van Nostrand Reinhold Company, 1979

Winters, Nathan B

<u>Architecture is Elementary</u>

Salt Lake City, Utah, USA: Peregrine Smith Books, 1986

On-line Resources:

Internet resources including www.greatbuildings.com