INTERNATIONAL MODERNISM AND THE PERCEPTION OF HISTORIC SIGNIFICANCE

by

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International Modernism, the predominant architectural style of postwar America, established a new system of aesthetics strikingly dissimilar from those of previous decades. Today these Modernist buildings are experiencing strong opposition regarding their consideration as historic resources. This thesis explores the history and theory behind the Modernist aesthetic, identifying specific features that inherently conflict with the general perception of the style's historic significance.

A survey was conducted to gather opinions on typical Northwest Modernist buildings that exhibit a variety of materials, forms and levels of articulation. Architects, preservationists and members of the general public ranked twenty-four images of buildings based both on general preference and their perception of historic significance, recording specific features that affected their choices. Results showed a clear preference for buildings using more traditional materials and massing, and a strong relationship between the buildings which respondents preferred and those they considered to be historically significant.

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DEDICATION

This thesis is dedicated to my parents, Joe and Rose, as a small token of my gratitude for their unyielding belief, encouragement and support throughout the years.

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CHAPTER I

INTRODUCTION

Framing the Thesis Question

> As the fifty-year threshold of significance under the age criterion of the National Register begins to encompass more structures and artifacts of the 1940s (and then the 1950s, 1960s, etc.) what will public attitudes be toward preserving these parts of our history? Since much of the preservation movement is based on preservation of architecture, particularly on the aesthetic qualities of earlier periods, will post-World War II architecture enjoy the same public support? The broad appeal of the historic preservation movement is in part due to a negative response to the design qualities of the Bauhaus movement and its offspring. Tom Wolfe and Prince Charles recognized a widespread antagonism towards contemporary architecture and urban redevelopment that may inhibit the preservation community's full embrace of post-World War II architecture. Will protection programs for later periods of architecture be limited to representative samples of the major turning points or landmarks in contemporary architectural history (e.g., Lever House, Dulles Terminal, the first McDonald's drive-in, etc.)? Is it possible to develop a set of principles or criteria that would guide surveys and evaluations of post-World War II structures, and how would these differ from existing criteria? [1]

Postwar America was a time marked by prolific construction of both residential and commercial structures, many greatly influenced by the increasingly popular style of International Modernism. This style is characterized by strict attention to issues of economy, efficiency and the intentional elimination

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[1] Dehart, H. Grant. (1991) "The Future of the Preservation Movement." Preamble to the Forty-Fifth National Preservation Conference. [WWW document] URL http://www.nthp.cog/preserve_link/library/v5_n5_future.htm

of ornamental features. The rejection of nonessential ornamentation was a key distinction between it and the styles that preceded it, including Art Deco[2]. Modern technologies and manufacturing processes resulted in new materials produced in great quantities, promoting the extensive use of concrete, metal and glass as exterior materials. The period following World War II marked a brand new era, and proponents of International Modernism seemed to have all the answers regarding the creation of its built environment. Through such puritanical zeal,

> . . . the masses could be protected from the decadence of the late nineteenth century urban environment that epitomized the taste and dominance of the bourgeoisie. Furthermore, it was argued that the construction of pre-fabricated buildings with the streamlined elegance of the machine would bring great architecture to all. The individually designed, crafted and embellished building was to be a thing of the past.[3]

Such optimism is not as evident today as the historic preservation field begins to assess the structures from this period as historical artifacts. Strong opposition regarding the preservation of International Modernist buildings has been experienced, coming from groups as diverse as developers, building owners, governmental agencies and citizens. It is commonly understood that many members of the general public never quite accepted the Modernist doctrine, often referring to it as boring, ugly, cheap, and even mean-spirited. Indeed, irony abounds as preservation proponents today are now seeking protection for an architectural movement that had great disdain for history and

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[2] John C. Poppeliers, S. Allen Chambers Jr., and Nancy B. Schwartz, *What Style Is It?* (Washington D.C.: The Preservation Press, 1983), 92.

[3] Cliff Moughtin, Taner Oc, Steven Tiesdell, *Urban Design: Ornament and Decoration* (Oxford: Butterworth Architecture, 1995), 146.

tradition, and whose construction led to the purposeful destruction of a great number of older, more ornate buildings.

For the first time it seems the preservation community is being asked a rather straightforward question: Why should it be concerned with preserving buildings of a style that through their original intent do not necessarily desire such attention, and especially when the general public appears uninterested in its retention? One obvious answer is that preservationists will work to preserve important buildings because they fall within the continuum of architectural history, and necessitate protection as historical artifacts. Indeed, the most important of modernist buildings should and will be listed on the National Register, as some have been already. But what about the non-high-style modernist buildings, which were built in great numbers during the postwar boom? Do they offer enough meaning and value to the general public to warrant the same attention given to their traditional-styled counterpart, many of which are considered worthy for listing on the National Register? Does the palette of modern building materials evoke a sense of care and craftsmanship that results in a sense of character? These are delicate issues with large consequences on how Modernist buildings will be regarded and treated, and ones that will provide a serious challenge to the next generation of preservationists. A more comprehensive insight regarding the key elements that transmit historic significance is required to accurately address these types of issues, for the more accurately these issues can be addressed, the more effectively the objectives of preservation can be realized.

The literature concerning the relationship between International Modernism and historic preservation tends to focus on methods designed to

garner acceptance from the general public for this style as one worthy of preservation. It seems evident, though, that the field needs to go beyond simply devising convincing arguments, and instead take a deep, hard look at the issue itself. "Inexplicably, many preservation leaders seem to have lost sight of the motives which once fueled their movements and have become preoccupied with *how* to preserve, either politically, economically or technically, with little or no discrimination as to *what* they are preserving and *why*."[4] As the Modernist style begins to challenge the status quo, it becomes crucial to explore the methods and rationale behind the determination of architectural significance. This thesis initiates this investigation, recording and analyzing the variety of opinions concerning the perception of International Modernism as a historic style. The fundamental aesthetics of the style are examined, both in its historic derivation and contemporary comprehension, with the intent of discovering possible reasons behind its apparent disregard as a historic entity.

Thesis Goals and Objectives

The goal of this thesis is to determine which elements and features of buildings influence the perception of historic significance, and how these items conflict with the consideration of International Modernism as a historic style. The main hypothesis is based upon the idea that those elements which distinguish International Modernist buildings from their more traditional predecessors—simple forms, the lack of ornamentation, the use of factory-manufactured glass and metal exterior skin—employ an aesthetic strategy that does not readily

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[4] William J. Murtagh, *Keeping Time: The History and Theory of Preservation in America* (New York, Sterling Publishing Co., Inc., 1993), 167.

impart a sense of historic significance. The International Modernist aesthetic is rather abstract by nature, often lacking the rich vocabulary and layers of meanings that communicate most directly to the general public. If certain buildings don't communicate meanings that are either understood or appreciated, then it might be asked why measures should be taken to save them for posterity's sake, beyond those recognized, important examples. Following this logic to its extreme yields this question: should buildings be saved for their architectural merit even if that merit is not well accepted or appreciated? This is a question the preservation field has not really had to address head on, until most recently.

Structure of the Thesis

This thesis is comprised of seven chapters, presenting information ranging from a review of the history and theory behind the Modernist aesthetic, to field research in environmental psychology, to the methodology and results of a visual preference survey. A Conclusions chapter attempts to tie all this information together and make it pertinent to the field of historic preservation. The author's thesis committee warned that this is quite a broad range of information to cover in a masters thesis, but agreed that such explorations were necessary to fulfill the goals presented earlier in this chapter. Below is a brief overview in what is covered in each of the following chapters.

Chapter II presents a synopsis of the derivation of and rationale behind the International Modernist aesthetic, explaining why it is so very different from that of previous styles. Chapter III examines why this change is aesthetic will present a challenge to the preservation field, a challenge based on the reduction

of character-defining features that define and determine a building's perception of significance. Chapter IV reviews the relevant field research, focusing on those elements that communicate architectural aesthetics. The design of the survey conducted for this thesis is presented in Chapter V, explaining the research scope, hypotheses and methodology. Survey results are presented and discussed in Chapter VI, with suggestions for future research offered. Finally, the Conclusions chapter examines how the information extracted from the previous chapters relates to the consideration of International Modernism as a historic style.

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CHAPTER II

THE HISTORY AND THEORY BEHIND THE INTERNATIONAL MODERNIST AESTHETIC

Introduction

To determine the reasons behind the challenges facing International Modernism and its perception as a historic style, it is necessary to understand the history and theory behind its aesthetic. This is no small feat (hence the length of this chapter), for Modernism's derived from and responded to very complex times. In response to this dynamic period, the style itself went through various phases of evolution. This chapter analyzes this evolution, investigates the reasons behind it, and explores its effects on the style's ideology.

Four main subchapters make up this chapter, each one looking at a specific stage in the development of the Modernist aesthetic. The first subchapter, "Reflecting a Changing World," describes the ideas and principles that called for a new system of aesthetics, and focuses on two key Modernist tenets: the use of new materials and construction systems, and the elimination of ornament. The next subchapter, titled "The Postwar Era," describes the context in which International Modernism thrived in America. It shows basically how International Modernism found itself in the right place and at the right time, allowing it to become the predominant architectural influence for over twenty years following the end of the Second World War. This is followed with "Evolution of the Revolution," which traces how Modernism transformed from a conceptual theory to a practical system of design and construction. It is in this

section that we are introduced to the distinct building elements which are part of the reasons why International Modernist buildings are being challenged as they enter into the historic realm. The final subchapter, "The Influence of the Miesian Aesthetic", discusses the derivation and acceptance of a distinct Modernist aesthetic as spelled out by architect and professor Mies van der Rohe. Buildings designed under the Miesian aesthetic are those that will offer one of the greatest challenge to the historic preservation field.

Reflecting a Changing World

Developing a Modern Theory of Aesthetics

The late nineteenth century was a time of immense architectural eclecticism, as witnessed through the vast number and variety of popular revival styles. This eclecticism was a direct reflection of the extreme changes brought on by the Industrial Revolution and experienced in just about every facet of life. The repeated use of historic styles, though, was seen by some architects as inappropriate and creatively limiting. The questioning of the use of historic styles "began just when science and technology were accelerating along an exponential curve; when absolutely unprecedented technical means of construction and destruction were beginning to appear; and when even popular taste, historically so fundamentally conservative, was being radicalized by planned obsolescence and the annual model."[1] To help fuel consumer demand and keep industry running at full capacity, seasonal and annual style changes were developed and announced. Certain architects in Europe and America felt it

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[1] James Marston Fitch, *Historic Preservation: Curatorial Management of the Built Environment* (Charlottesville, VA: University Press of Virginia, 1992), 23.

necessary to move past the constant turnover of aesthetics, and towards a clarity and consistency exemplified through industrial products and processes. They began to explore new building forms, ones deemed appropriate for a new era.

The search for a modern architecture coincided with the period between World War I and World War II, a time ridden with overcrowded cities, social troubles, and health problems—many of which were a result of industrialism itself. The long-standing aristocratic governments of Germany, Austro-Hungary, and Russia had collapsed, bringing about economic ruin and war. Political revolutions ensued, influencing a new social consciousness which demanded new economic systems, more jobs, and appropriate housing. European architects responded to these dynamic times by taking an active part in political and sociological debates, calling forth a desire for a new architecture, complete with a new system of aesthetics.

There were two important consequences of the industrial age that provided the drive and focus for these aesthetic investigations. First, industrialization had produced new building materials with no true historic precedent suggesting how they should be used aesthetically. This coincided with the arrival of new building types in the mid-nineteenth century, such as the train station and the highrise office building, which required the development of original and appropriate forms. The second condition was socio-economic in character, and involved the growing economic importance of the middle class, a direct result of the new industrial economy. This group wanted to display its new-found affluence, and began purchasing items that would provide proof of their status. With this desire and a surplus of money, the middle class began to establish its own definition of what it considered to be aesthetically appropriate

and in good taste. Under the philosophy that "more of everything is better," the extensive use of ornamentation and a proliferation of styles became popular. The definition of a new system of aesthetics deviated from the established protocol, the responsibility of which had previously fallen under the jurisdiction of the art community, who had been supported by the upper class. Sensing a loss of control, artists began to restrict the number and application of styles, and redefined the appropriate type and amount of ornament. This action was considered necessary to allow their affluent patrons to be able to easily distinguish their tastes from that of the lower classes. A new, modern aesthetic for all of the arts was to evolve from these dynamics.[2]

Advocates for a new architectural aesthetic followed suit by rejecting the concept of cyclical change and fashionable interpretations found in the historic revival styles, exploring instead more permanent and fundamental principles. This new system of design was to have more contemporary roots based in a new industrial consciousness, and began to coalesce into an actual movement. This movement, labeled Modernism, adopted "a more detached, clinical and scientific approach to the creation of buildings and objects. Henceforth, they said, objectivity and functionalism were to be the order of the day, and 'factories and laboratories' were to provide the new models for the office and the home."[3] It was the industrial age that brought a myriad of modern amenities, so it seemed obvious to use this phenomenon as the basis for a new system of aesthetics.

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[2] See Brent Brolin, *The Failure of Modernism* (New York: Van Nostrand Reinhold, 1976), Chapter II - "The Cultural Roots of Modern Architecture."

[3] Lesley Jackson, *Contemporary: Architecture and Interiors on the 1950s* (London: Phaidon Press, 1994), 12.

Interweaving architecture with the more pronounced social issues of the time, Modernists felt that societal problems were a direct result of a dishonest, and some considered even immoral, environment. This was based on an interpretation of the theory of human evolution, which assumed that the physical environment was a critical factor in determining social behavior. According to this logic, the best way to remove an undesired behavior was to change the environment in which it occured. Creating new, positive environments became a social imperative—with severe consequences if not done, or done correctly. Viewed from this standpoint, it was determined that modern times required a correctly designed modern city, one that would, in essence, become the opposite of the prevalent European city of the period. This new city would take advantage of all the latest technologies to create an environment that was clean, healthy, functional, safe, full of light, and affordable to all.

Such a city would require an architecture that adequately addressed all of society's woes, and based on contemporary fundamental principles. Walter Gropius, one of the founders of the Modernist movement, refined these principles down to two: standardization and rationalization. These he felt were the driving features behind the industrial age, and would give shape to the new architectural movement. It was to differ "by every means from the individualistic whims of a handful of ambitious architects. Modern architecture should be the product of the organic, intellectual, social, and technical condition of our age."[4]

These conditions were refined into a core philosophy, based on what was felt to be the essence of honest architecture in a modern age. In his book titled

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[4] Lesnikowski, Wohciech G. *Rationalism and Romanticism in Architecture* (New York: McGraw-Hill Book Company, 1982), 253.

The New Architecture of the Bauhaus, Gropius defines the new, modern aesthetic:

> The New Architecture throws open its walls like curtains to admit a plenitude of fresh air, daylight and sunshine. Instead of anchoring buildings ponderously into the ground with massive foundations, it poises them lightly, but firmly upon the face of the earth; and bodies itself forth, not in stylistic imitation or ornamental frippery, but in those simple and sharply modelled designs which every part merges naturally into the comprehensive volume of the whole. Thus its aesthetic meets our material and psychological requirements.[5]

A pivotal example of this philosophy taking physical form can be seen in Gropius' design for the Fagus Factory in 1911 (Figure 1). Using industrial

FIGURE 1. The Fagus Factory, 1911, Alfeld, Germany.
(Source: S. Giedion, *Walter Gropius Work and Teamwork* (New York: Reinhold Publishing Corp., 1954), 96.)

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[5] Walter Gropius, *The New Architecture and the Bauhaus* (London: Faber & Faber, Ltd., 1935), 43-44.

materials in a straightforward manner, Gropius created a building that uses large glazed areas to admit plenty of light, necessary to accommodate its function as a manufacturing facility.

Architecture based on these core truths became manifest at the Bauhaus School of Art and Architecture in Germany, where Gropius was director until 1929 (Figure 2). The Bauhaus was at the heart of the architectural philosophical debate of the time, and advocated an extremely reductive system of design. Integrating a building's form was a primary goal and had to be accomplished with the greatest economy of money and time.

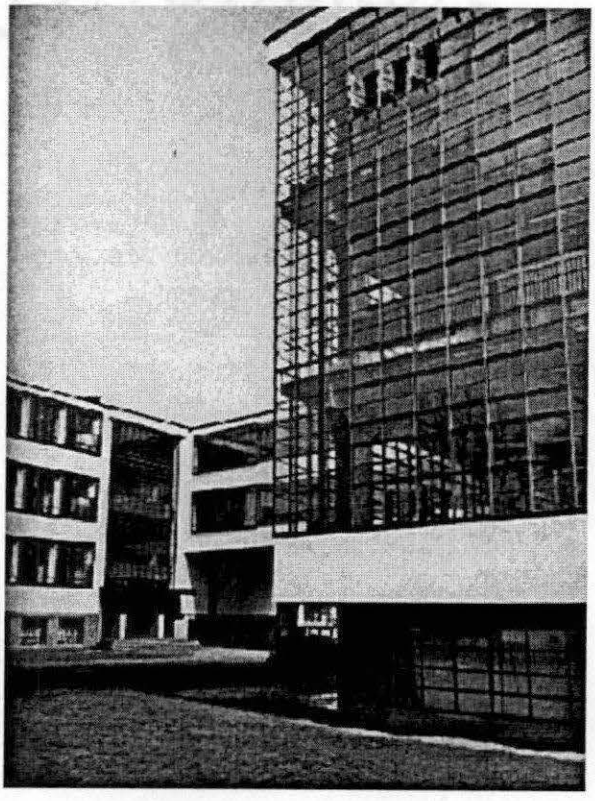

FIGURE 2. The Bauhaus complex.
(Source: S. Giedion, *Walter Gropius: Work and Teamwork* (New York: Reinhold Publishing Corp., 1954), 127.)

The Bauhaus was instrumental in instituting and testing a Modernist philosophy of design. The premises of this philosophy has been distilled down into three basic truths by architectural critic Brent Brolin.[6] They are:

1) *The Truth of Construction:* the physical structure of a building should be clearly expressed on its exterior.
2) *The Truth of Materials:* new, industrially-produced materials of steel, glass and concrete are to be used, and not concealed under other types of finishes.
3) *The Truth of Form and Function:* the shape of the building should be determined by the functions it is to accommodate, and not by any arbitrary stylistic manipulations.

The new inspiration for Modernist architecture was to be that most celebrated product of industrialization, the machine. The machine epitomized functionality in the purest sense. It was praised not only as a technical marvel, but a social one as well, with the ability to create a new sense of equality among all the classes. Laszlo Moholy-Nagy, a Hungarian sculptor who taught at the Bauhaus in the mid 1920s, summed up this idea:

> Before the machine, everyone is equal—I can use it, so can you - it can crush me and the same can happen to you. There is no tradition in technology, no consciousness of class or standing. Everybody can be the machine's master or its slave . . . This is our century—technology, machines, socialism . . . it is our task to carry the revolution towards reformation, to fight for a new spirit to fill the forms stamped out by the monstrous machine. [7]

The machine was the model of efficiency, producing the most work from the least amount of expended energy. Often created by an engineer via a rational

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[6] Brolin, 45.

[7] Laszlo Moholy-Nagy, "Constructivism and the Proletariat," *MA* (Hungary), May 1922, 95.

design process, it was often unpretentious in its aesthetics, with bare, uncluttered forms that honestly expressed their functional purpose. It was the engineer's design process that Modernists looked to when making their own architectural design decisions. The machine provided not only the model, but the method as well. In industrial processes, machines themselves are constructed through the use of other machines, and out of machine-manufactured materials. And so it would be for Modernist buildings. This declaration influenced not only the aesthetics of the final product, but the process of construction as well, in effect altering the architecture field's long-established relationship with the traditional building trades. This was a conscious consequence, for it gave Modernist designers greater freedom from the tradition-based trade organizations and their use of traditional materials. They desired more complete control over a building's ultimate expression, one unencumbered by any historic associations that might obstruct the assertion of a new mechanized aesthetic.

Early Modernist philosophy was also influenced through European artistic movements prevalent in the first third of the twentieth century. The Cubist movement, with Braque and Picasso as the main proponents, simplified and abstracted the representation of form, expressing various machine-age themes. The DeStijl movement, established in The Netherlands, took this idea even further. It used a simplified and reductive aesthetic, with an emphasis on rectangles and basic, primary colors, as seen in the work of Piet Mondrian. With this style as inspiration, some architects began to see buildings as abstract sculptures comprised of geometric planes in space. Gerrit Rietveld's Schroeder House (1924) is the best example of this idea brought to fruition. German Expressionism was another very important influence, and artists practicing

within this movement also happened to be teachers at the Bauhaus. Two of these artists, Paul Klee and Wassily Kandinsky, encouraged their students to base their artistic inspirations on instinctive personal expressions, as opposed to commonly accepted artistic conventions. This expression of the new and unconventional would eventually be reflected in their architectural designs. [8]

Up until the early 1930s, Modernism was quite varied in its application, lacking cohesive tenets or the broad appeal usually found in more recognized styles. This issue was addressed in 1932, when Henry R. Hitchcock and Philip Johnson developed and defined the term "The International Style" in their highly consequential book of the same name. Hitchcock and Johnson defined the style's unifying principles and presented examples of buildings that validated its universal application. "Today a single new style has come into existence . . . This contemporary style, which exists throughout the world, is unified and inclusive, not fragmentary and contradictory like so much of the production of the first generation of modernists."[9] The idea of a new style appealed to American architects, especially ones just beginning their careers who were looking forward to new, cohesive rules that would replace the seemingly disconnected aesthetics found amongst the revival styles. It was also deemed important to have a style that was both distinctly modern *and* distinctly American, symbolizing the nation's growing status as one of the world political, economic and artistic leaders.

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[8] For more information on the effects of art on early Modernism, see William J.R. Curtis, *Modern Architecture Since 1900* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1982), chapters titled "Cubism and New Conceptions of Space," and "Walter Gropius, German Expressionism, and the Bauhaus."

[9] Henry-Russell Hitchcock and Philip Johnson, *The International Style* (New York: W.W. Norton & Company, 1932), 19.

Hitchcock and Johnson identified three distinguishing aesthetic principles of the International Style. The first was an emphasis on a building's volume, with space enclosed by thin planes or surfaces (in opposition to an emphasis on mass and solidity). The second proclaimed a regularity in form as opposed to that of an obvious symmetry. The final principle advocated the use of new manufactured materials, joined with technical perfection.[10] Designing in accordance to these principles was not to be a simple, static process. "For even more than the great styles of the past it requires restraint and discipline, the will to perfect as well as to invent."[11]

All three International Style principles were based on a sense of functionalism, described by Hitchcock and Johnson to involve both a straightforward description of the activities occurring within a building and a honest depiction of the building's structural system. The authors were careful to point out that this functionalist methodology was not merely part of an engineering feat, but one that involves a decision-making process based on making aesthetic choices.

> "It is . . . nearly impossible to organize and execute a complicated building without making some choices not wholly determined by techniques and economics. One may therefore refuse to admit that intentionally functionalist building is quite without a potential aesthetic element. Consciously or unconsciously the architect must make free choices before his design is completed."[12]

This was an important distinction because it made the concept of functionalism, which could be considered a goal associated with numerous other styles, into a tenet specific to the International Style.

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[10] Ibid., 13.
[11] Ibid., 15.
[12] Ibid., 37.

New Building Materials and Construction Systems

As a part of the war effort, industrially-manufactured materials of steel, aluminum and glass were being produced in abundant quantity. The development of reinforced concrete and the refinement of steel construction were particularly major breakthroughs, permitting new structural possibilities that profoundly changed the basic engineering of buildings. The traditional load-bearing wall as a predominant structural system was being replaced with comparatively efficient concrete or steel posts and beams. Since the "truth of construction" was a major Modernist design principle, the use of these new materials and systems gave rise to the development of a new aesthetic code. Author F.R.S. Yorke describes this new aesthetic in his 1934 book, *The Modern House:*

> Steel and concrete have their own form and their own beauty. The new materials and the revolutionary systems of construction based upon their properties make it possible for us to plan our buildings according to our needs, with freedom and economy, with immense spans and slender supports, with cantilevered facades, so that the traditional sense of dimension, proportion and scale is destroyed, for not only is the internal organization affected, but the external form also. The form is the result of the plan, the construction, and the materials, not of a preconceived idea of what a building should look like, or an essay in a popular style.[13]

This new structural system was based upon an efficient frame engineered to carry the building's weight, while using a secondary system to enclose the indoor space, much like a "skin over a skeleton." A distinctly new system of enclosure, the curtain wall, was developed to protect the structure and interior

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[13] F.R.S. Yorke, *The Modern House* (London: The Architectural Press, 1934), 32.

spaces from the outside weather. Materials used in this system were usually handled in a manner that expressed their "curtain-like" function. This system was not self-supporting, and relies on the structural frame to support it. Thus, it must be as lightweight as possible. Other desired characteristics include a relatively inexpensive manufacturing cost and an ease of assembly. Both of these conditions were met through the use of pre-manufactured aluminum panels and plate glass, causing these two materials to become the preferred enclosure components in the curtain wall system. Aluminum as a building material came into its own after World War II, especially since postwar production was at all time high levels, forcing low prices.[14] It proved to be the perfect skin material—easy to manufacture, light and simple to erect, corrosion resistant, and thin in cross section. This thinness increased the amount of floor space available for leasing, saving an estimated $18 per linear wall footage in the 1950s.[15]

Ribbon windows, developed in the 1930s, are continuous bands of medium-sized panes set at approximately the same level across a building's facade. As a principal element in the curtain wall system, ribbon windows offer protection from the elements while allowing for continuous views to the outside, providing an almost seamless connection between inside and outside spaces on the ground level. This inside-outside relationship emphasizes the thin dimension of this enclosure system, transforming the window's historic interpretation from a "hole punched through a mass" into an integral component of the building's "skin." The extensive use of glass was due in part to technological advances, but also to an almost complete reversal in societal attitudes.

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[14] Bruce S. Kaskel, "The Metal and Glass Curtain Wall," *Cultural Resource Management*, vol. 18, no. 8 (1995): 24.
[15] Ibid.

> In earlier times sunlight was regarded as harmful rather than beneficial; it was considered a stimulant to the growth of bacteria and windows were made small deliberately and placed away from the sunny side . . . Through medical research we have learnt better, and today sunlight is accepted as healthy and desirable; we take sun-baths and even artificial sun-ray treatments, we like large windows, and sometimes fill them with special glass to admit the ultra-violet rays.[16]

Completing the clean, rectangular form of the modern building was a flat roof. New technologies made this type of roof easier to construct, but again its popularity was based more on philosophical issues. "Anything but a flat roof was *verboten,* because towers, cupolas, et cetera, symbolized the crowns worn by monarchs."[17] Flat-topped rectangle forms were a defining part of the modernist/cubist aesthetic, with the roof acting as a very important horizontal plane. Programmatically, a flat roof could be efficiently employed as an outdoor livingspace, one that encourages easy access to air and light.

The Elimination of Ornament

The use of ornamentation in the more traditional sense became a direct casualty of the International Style's new system of aesthetics. Not only was ornament not considered part of the new functionalist aesthetic, it was determined to be its antithesis. This attitude came through loud and clear when architect Adolph Loos exclaimed in 1908:

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[16] F.R.S. Yorke, *The Modern House* (London: The Architectural Press, 1934), 43-44.
[17] James Howard Kunstler, *The Geography of Nowhere* (New York: Simon & Schuster, 1993), 70.

> Weep not! See, therein lies the greatness of our age, that it is incapable of producing a new ornament. We have outgrown ornament; we have fought our way through to freedom from ornament.[18]

Loos' proclamation might seem a bit extreme, but it was not that far removed from what later became central to Modernist philosophy. Ornamentation provides a powerful means of communication, and to Modernists it communicated strong associations with corrupt cultural and political systems. It was denounced as an expression of extravagant luxury, and a dishonest manner of concealing the true form and structure of a building. The new aesthetic would eliminate these symbols and their implied meanings, relying instead on much more abstract methods of communication to express its aesthetic. Gropius defined this method in a 1938 magazine article:

> A true modern architect—that is to say, an architect who tries to shape our new conception of life, who refuses to live by repeating the forms and ornaments of our ancestors—is constantly on the lookout for new means of enriching his design in order to enliven the starkness and rigor of the early examples of the architectonic revolution. His increasing ability to introduce refined industrial processes of surface treatment into his compositions, by emphasizing the contrast of their component parts with different materials and different textures, indicates the probable direction of further developments towards ornamentation. The great variety of industrial textures—ribbed, corrugated, punched, spotted or mottled, derived from the manufacturing process—offers new elements for an artist's ornamental composition. By contrasting them with other surface finishes, mat or polished, dark or light, rough or smooth, his imagination will find an innumerable wealth of combinations which one day may far surmount the ornamental glamour of old times. Our confused minds will become proud and confident at last in the knowledge that we have at our

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[18] Adolph Loos, "Ornament and Crime," 1908, translated in Ulrich Conrads, *Programs and Manifestoes on 20th-century Architecture* (Cambridge, MA: The MIT Press, 1964), 20.

disposal such brilliant new means for shaping the image of our modern life.[19]

The role previously played by ornament was to be transformed into the art of architectural detailing.[20] This art involves the careful and visually subtle joining of exterior materials to define a building's overall form. Its success was crucial, as the Modernist aesthetic was reliant upon clean, smooth materials, precisely detailed to describe simple, unadorned geometric forms.

The Postwar Era

The Land of Opportunity

Between the World Wars, the convictions of the Modernist Movement were observed by a small group of colleagues, who received a very limited number of commissions. This less that overwhelming acceptance, though, did not keep Modernists from declaring their system to be the one true method of design. They aggressively challenging the architectural status quo, creating fervent conflicts. This was especially the case in Germany, where Adolph Hitler thought that Modernist ideas espoused at the Bauhaus were based on Communist philosophies, and as such insubordinate to the Nazi party. In 1933 Hitler closed down the Bauhaus, enforcing the official Nazi view on appropriate architecture by walling in its large glass walls and retrofitting flat roofs with hipped ones.[21]

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[19] Walter Gropius, "Towards a Living Architecture," *American Architect*, vol. 152 (January 1938): 21-22.

[20] See Edward Ford, *The Details of Modern Architecture* (Cambridge, MA: The MIT Press, 1990).

[21] See Curtis, Chapter 16, titled "Totalitarian Critiques of the Modern Movement."

Fleeing Nazi repression, three of the Bauhaus' most famous Modernists, Walter Gropius, Marcel Breuer and Ludwig Mies van der Rohe, emigrated to America in 1937. They were welcomed to their new country with key faculty positions and a variety of important architectural commissions, providing them ample ability to transform their design theories into built reality. In 1938, Gropius accepted the position of chairman of Harvard University's design department, and practiced in partnership with Marcel Breuer until 1941. Mies van der Rohe became director of the newly reorganized Illinois Institute of Technology (I.I.T.) in 1938, and immediately began redesigning its campus. The opportunity for these highly visible Modernist architects to both teach and practice their ideals encouraged a broader understanding and acceptance of the Modern movement in America.

The past indifferent attitude in Europe towards Modernism before the Second World War transformed into a broad acceptance almost immediately thereafter, one born out of overwhelming need. World War II decimated much of Europe, urging a rebuilding effort of immense scale, to be completed with great urgency. These requirements fit perfectly with the core principles of International Modernism, with its strict attention to economic efficiency, expeditious construction schedules and the use of mass-produced building materials. Their materials of choice, such as steel and glass, were readily available from American factories. The buildings that were of the greatest immediate need—cheap, multiple-family housing—were the type of structures that the Modernists studied with great attention before the war. Modernist buildings rose all over Europe, establishing its presence and providing a distinct separation between prewar and postwar architectural styles.

The effects of the war not only presented an opportune occasion for Modernist architects to utilize their craft, it also offered a confirmation of sorts regarding their core political and sociological philosophies. Searching for reasons to explain the horrors of war, many Europeans blamed the socio-political systems of the time, the very systems with which the early Modernists disagreed with so intensely. The fall of these systems appeared to validate the movement and its tenets. Author James Kunstler explains the situation:

> Anyone who had declared that ornament was a crime before World War II could afterwards point to the bone-heaps of Europe for proof positive. It was more than a crime, it was Evil incarnate. By the time Hitler and his regime were vanquished, in 1945, no decent person in the Western world could speak against Modernism and its practitioners.[22]

The Great Building Boom

At the end of the Second World War, America found itself in the undisputed position as the world's political, military and economic leader. U.S. industry was operating at full capacity, and the substantial amount of materials needed for the rebuilding of Europe and Japan would provide plenty of fuel to stoke its great engine. In conjunction with reconstruction, there was a pent-up desire to develop and modernize America's own infrastructure, in great disrepair after many neglectful years. The results of this ambitious building program is impressive—it has been estimated that 80% of everything ever built in America has been built since the end of the Second World War.[23] Wolf Von Eckardt, in his introduction to a book presenting American Institute of Architects honor awards

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[22] Kunstler, 76.
[23] Ibid., 10.

winners from 1949 to 1961, discussed some of the issues the country encountered at the time:

> We face the biggest building boom in any nation's history. The forces behind it—the rapid expansion of our population and the growing obsolescence of our cities—are irresistible. The question is not whether we will build on an unprecedented scale but how well we will do it. We can either create a new nation of social purpose, riches and beauty to outshine the glories of Greece and Rome, or we can erect the most chaotic and wasteful urban civilization which man's innate capacity for folly can devise.[24]

It was an era of manifest destiny, where the most powerful nation on the planet was required to create an appropriate physical environment with, as Von Eckardt suggests, tremendous negative consequences if they failed.

Postwar America was experiencing significant and substantial change, and Modernist architects found themselves right at the heart of much of it. It was a time of great optimism and the new Modernist aesthetic, confident in spirit and clean in appearance, was thought to provide the appropriate expression. Simply stated, the International Modernist movement came into its own by basically being at the right place, and at the right time. It was a period in which the need for new buildings, the desire for a new identity, and the availability of new resources all neatly intersected. Modernists were primed to play an integral part in America's development, which "would all be done in the Modernist style, because it was the morally correct style, the only acceptable style, the official style of decency, democracy, and freedom. . . ."[25] The International Modernist

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[24] Wolf Von Eckardt, ed., *Mid-Century Architecture in America* (Baltimore: The Johns Hopskins Press, 1961), 6.

[25] Kunstler, 77.

movement rose quickly to the forefront of the architectural world, and stayed there for well over twenty years.

As practitioners of the preferred architectural style, Modernist architects were deeply involved in the immense amount of architectural work. An interesting glimpse of this period can be found in a report commissioned in 1954 by The American Institute of Architects, titled *The Architect at Mid-Century: Evolution and Achievement.* It was to act as a kind of report card for the field, listing achievements and suggested areas of improvement. The report presents statistics recording the volume and type of architectural work completed from the beginning of the depression up to the early 1950s, and suggests that the tremendous postwar construction activity was placing a huge strain on the nation's architecture firms. It was mentioned that

> . . . the relentless pressure for new buildings will continue to arise from the inexorable growth of our population. In the decade between 1940 and 1950 the net addition of 19 million persons generated a most urgent demand for all kinds of buildings, a demand still far from being satisfied.[26]

The author continues by projecting a net increase of another 26 million people by 1960:

> If these new citizens are to be accommodated with building space in the same proportion to which we are now accustomed, it will be necessary, for this reason alone, to build by 1960 more that 7,500,000 new dwelling units, more than 322,000 new retail stores, . . . enough new general hospitals to add 260,000 more beds, 50,000 new churches, and a similar increase in all other types of buildings.[27]

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[26] Turpin C. Bannister, *The Architect at Mid-Century: Evolution and Achievement* (New York: Reinhold Publishing Corporation, 1954), 6.

[27] Ibid.

This exponential growth was reflected in the amount of fiscal investment in new building construction. At the end of the war in 1945, the annual dollar volume of new building construction was $3.7 billion. Just five years later, this amount ballooned to $20.9 billion, over a five and a half fold increase.[28] Architectural offices were scrambling simply to keep up with this tremendous increase of work, while at the same time having to deal with completely new challenges. For example, recently developed building materials and technologies brought many changes in how structures were to be designed and constructed, adding greatly to their complexity.

> Where once a shell, more or less ornamental, sufficed, today's buildings contain congeries of apparatus requisite to diverse installations of equipment. Demand for economy has encouraged off-site fabrication, standardization of materials and components, labor-saving details, and the use, whenever possible, of power tools and handling devices. The leisurely pace of former times has given way to precise scheduling and efficient management.[29]

This rapid, intensive pace of work completed in the language of a new style using new systems and materials eliminated the appropriate amount of time necessary for careful experimentation of these new systems, or thoughtful analysis of how well recently constructed buildings were performing. For fifteen years since the end of the Second World War, architecture firms had been working steadily and intensely, resulting in a general sense of fatigue for the profession. "By the early 1960s some were feeling burnt out, and out of their tiredness arose doubts and confusion. In 1953 the future had seemed so certain, and the way forward clear, but then years later some architects had visibly begun

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[28] Ibid., Table 53.
[29] Ibid., 17.

to flag . . . "[30] During this period, Modernism progressed quickly from abstract theory into the predominant architectural style for much of America. Under such intense activity, the movement itself began to evolve, progressing from idealistic socialist beginnings into the official and often-repeated symbol of corporate capitalism.

Evolution of the Revolution

Designing By Zeitgeist

> 'The twentieth-century revolution in architecture has been accomplished,' Henry R. Luce told the centennial convention of The American Institute of Architects in 1957. 'And it has been accomplished mainly in America—no matter how great our debt to European genius.'[31]

Architects in America, influenced by the Bauhaus masters working in their midst, steadily refined Modernist buildings and principles throughout the 1940s. By the 1950s, they were the clear leaders in the development of the movement. The buildings of this period were based upon a set of common premises, ones that were purposefully defined by the prevalent spirit of the times, or "zeitgeist." Zeitgeist, a German term, is manifested through commonly experienced thoughts and feelings occurring within a distinct period of time. Modernists felt strongly that their work should be inspired by, and be an expression of the zeitgeist. Designing through zeitgeist was a relatively new concept, for until recently architects found their inspiration based upon previous buildings and styles. Such precedents provided time-tested principles of design,

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[30] Jackson, 219.
[31] Bannister, 11.

along with a proven understanding of materials and building techniques. Any expression of originality would traditionally occur within these rather narrow parameters.

When Modernists broke cleanly away from previous styles and abandoned the use of traditional methods, they divorced themselves from most commonly understood reference points. Architect Gordon Howe, designer of one of America's first Modernist buildings, The Philadelphia Savings Fund Society in 1932, described this shift in philosophy:

> Our particular form of recent eclecticism, which has led to the creation of meaningless surface patterns based on an imitation of unrelated traditional forms or a personal system of modernistic ornamentation, has produced a succession of meaningless, unimportant, and impermanent fashions. To stem the tide of our futility the functionalist has consciously declared his conviction that architecture is social, not individual, and that its ideal must conform for better or worse to the social ideal of its time.[32]

A new methodology was required for creating aesthetic meanings, and interpreting the zeitgeist was seen as the obvious place to start. The zeitgeist "had two invaluable advantages for the makers of the new tradition: It was inevitable and ambiguous—at once inescapable and yet open to a wide range of interpretation."[33] Modernists believed that they were indeed making the zeitgeist manifest, allowing them to claim that theirs was the only valid architecture of the age.

Released from the binds of traditional ideas and systems, Modernists worked to develop, organize and proclaim their ideas. The proclaimed goal of the movement was to change all of society for the better, an uneasy integration of

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[32] Gordon Howe, "Functional Aesthetics and the Social Ideal," *Pencil Points,* vol. XIII, no. 4 (April 1932): 215.

[33] Brolin, 58.

architectural objectives with moral motivations. Modernism was thought of as a "rational way of building evolved inevitably in response to the needs of what society really is or ought to be, and to question its forms is certainly anti-social and probably immoral".[34] The dogmatic fervor of the style had an effect on its systems of aesthetics, both in how they were developed and how they were perceived. To doubt the purpose of Modernism was almost tantamount to blasphemy, effectively discouraging rigorous and open-minded scrutiny. Deficient in both a free and open discourse and the benefits of time-tested knowledge, International Modernism often based itself on incomplete, unrefined premises, ones that resulted in conclusions that occasionally contradicted with the movement's original intentions.

The Modernist aesthetic itself was somewhat difficult for the general public to warm up to, especially when it was compared with previous styles. Modernists understood how unpopular their designs could be for the general public, so they purposely didn't defend their work solely on its visual qualifications. "They never said that people would accept modern architecture because it was more beautiful than traditional architecture. Although they theorized about a *visual* art, they rationalized their visual choices in exclusively *moral* terms."[35] In effect, Modernist aesthetic principles were both determined and justified by the zeitgeist, and, Modernist would argue, how could anyone question the validity of the spirit of the times?

The problems with creating design decisions in accordance to a zeitgeist is that you first have to correctly the zeitgeist, and then accurately translate it into built spaces and places. This can be an extremely difficult proposition, for living

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[34] Jonathan Richards, *Facadism* (London: Routledge, 1994), 39.
[35] Brolin, 15.

and working within a specific time and attempting to deliberately define those times using design principles are two distinctly different operations. Modernists did not necessarily see this as a conflict, especially since they were basing their designs on the deceptively simple idea of functionalism. It seems like a rather straightforward venture to accurately assess the function of a building, and then express it simply and honestly. Gropius defined this process as "not the personal whims of a handful of architects avid for innovation, at all costs, but simply the inevitable logical product of the intellectual, social and technical conditions of our age."[36] It was to be, at its core, an intellectual exercise, not an emotional one.

A major fallacy of Modernist philosophy was the idea that there is a simple, straight-line correlation between defining a programmatic need, creating a functional solution, and having the result considered beautiful. Brolin mentions that there is "some truth to the claim that function and technology play a part in style decisions, but it begs the question to stop there. We should realize by now that the blandness of modern architecture is far less a product of function or technical necessity than it is of arbitrary aesthetic choice."[37] This is where one of those aforementioned contradictions began to arise amongst the Modernist ranks. Some felt that functionalism was a straightforward issue that had no relationship with aesthetic decisions. Others, especially Hitchcock and Johnson, felt that there must be aesthetic choices made, especially if Modernist architecture was to be considered a true style. Relying upon the accommodation of function as the standard for good design, though, is fraught with inconsistencies leading to a whole host of problems. Questions arise regarding the correct definition of the function to be accommodated. And if the function in

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[36] Gropius, *The New Architecture and the Bauhaus*, 20.
[37] Brolin, 41.

fact gets precisely defined, how then does one create an accurate accommodation of it? Is it required that a viewer understand a building's function to appreciate the building itself? If for some reason the function changes, is the building then considered a failure? What was intended to be solely an intellectual process suffered from logical inconsistencies in its main premises, producing conclusions that were not necessarily the ones intended.

The Increasing Roll of Manufacturing in Design

Modernist chose technology to be their new inspiration for architectural design, and integral to technology is the standardization of products and procedures. This standardization is endemic in systems of mass production, with proven success by way of the American war effort. After the war, the industrial system became more and more influential in how architecture was produced, and even designed. The production of building materials started moving into the factory setting, where they were assembled to the fullest possible extent. Since much of this work had to be fabricated well before the actual building construction began, architects were required to be much more precise in their specifications, with accurate construction documents playing a more crucial role in an already busy architectural office. Since the manufacturing process was quite a bit removed from the actual construction of the building, any errors in the specifications might not be caught until actual assembly on site, and with huge financial consequences. As a result, architects began to rely more and more on an established line of products, easing any miscommunications and encouraging efficient and economical production. The architect would simply chose facade

elements directly from manufactures' catalogs, in effect reducing a whole range of expressive possibilities down to those limited choices offered.

Architects were now working in greater partnership with the manufacturing industry, and relying much less on the craftspeople directly involved in the construction of the building. Traditionally, architects would have the various building trades and guilds execute a fair amount of a building's detailing and even ornamentation, taking advantage of their years of experience and in-depth understanding of materials. But much of this responsibility was now moving into the factory, reducing the previously collaborative role to one where the trades were responsible only for the basic assembly of elements already designed. As mentioned earlier, this was a very deliberate move for the Modernists, one that fell right in line with their desire to remove any and all associations with traditional methods. This realignment of partners, had a profound effect on the aesthetic responsibilities of a building's final design.

Manufacturers in general have a different set of priorities than do craftspeople. In the manufacturing of goods, the main goal is to bring a product to market as quickly and cheaply as possible. Issues of economy are of high consideration, and manufactured curtain wall systems, for example, were advertised to architects primarily as quick and cost-effective alternatives to more traditional systems (Figure 3). To distinguish products from those of other manufacturers, new and proprietary systems were touted as being the most current and distinctive. As a result of this tightly-budgeted, tightly-scheduled and continually innovative process, unproven products were sold well before their design was completely refined and tested.

FIGURE 3. An advertisement in an architectural magazine touting the advantages of this manufacturer's curtain wall system.
(Source: *Architectural Record* (January 1955): 48-12.)

The craft trades, in comparison, generally have a different set of priorities. The basic materials and methods used by on-site craftspeople are all somewhat equivalent, so what made their service distinctive is the quality and durability of the completed building. The important distinction here is that craftspeople are usually focused on the method of assembly, with their immediate product being the finished building. Manufacturers, on the other hand, are focused on the process of cost-efficient fabrication, with their immediate product being the manufactured item itself. Somebody else is responsible for actually assembling the building. Aesthetic decisions, it could be argued, are better made by those who are closer to the actual final product—the building itself.

Economical Design Manifested

The novelty of new products became a big selling point after the Second World War, with "cheaper, lighter, faster" becoming the mantra of the times. Even though the economy was strong and money available, the general mentality was that it was more appropriate to build a great number of economical buildings than to invest larger sums in a limited number of more durable ones. This was, of course, due in part to the huge need for buildings, but also because it was thought that if buildings were to always be "modern," they should not be built to last indefinitely. Gordon Bunshaft, the principle designer of many of Skidmore Ownings & Merrill's famous Modernist buildings, talks about this situation during a 1956 interview:

> It seems to me that the greatest change that is occurring in this country is that buildings are no longer being built to last five hundred years. . . . Today the economics of our civilization and the increasing requirements of comfort demanded by the people are making buildings obsolete in

> twenty to twenty-five years. This change, I think, is going to have a basic effect eventually on the structure and on the design theories of architecture.[38]

Modernists regarded their buildings as physical responses to functional needs, with the idea that as functions changed, so must the buildings. Thus, International Modernist buildings were often regarded as utilitarian structures with fairly limited lifespans, with their long-term maintenance and durability not generally of highest concern for either designers or building owners. "Research in the field of building history has proven that, in technological terms, some of the designers were quite well aware of that they were doing. Apparently, they accepted a limited *technical* lifespan as an answer to limited *financial* means."[39] This became the era of the throw-away product. Many manufacturers even took great pains to design a built-in obsolescence to their products. Why be concerned about a product failing when there was always a newer, cheaper and more fashionable one to replace it. In regards to architecture, the sense of perpetual newness and the use of flexible enclosure systems went so far as to encourage a complete change of building's exterior skin with one in a more contemporary style.

Issues of economy prevalent in the Modernist philosophy became incorporated into its aesthetic system. "Appropriate" architecture was no longer thought to be one that displayed signs of wealth, but instead one much more utilitarian in nature. Ornament, thought to be the main conveyor of these signs of

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[38] John Peter, *The Oral History of Modern Architecture* (New York: Harry N. Abrams, Inc., 1994), 42

[39] Wessel De Jonge, "Early Modern Architecture: How to Prolong a Limited Lifespan?", in *Preserving the Past*, Deborah Slaton and Rebecca A. Shiffer, eds., (Washington D.C.: Historic Preservation Education Foundation, 1995), IV-6.

wealth, was considered by Modernists to be expendable. When ornamentation was no longer considered to be a desired element on buildings, it became regarded as an expensive additional cost. This perception was inconceivable to previous generations of architects and their clients, who invariably budgeted in ornamentation as a necessary component of a finished structure.

Ornamentation was not only missing as an aesthetic and symbolic element from Modernist architecture, but also as a key element in a building's ability to survive years of weathering. As mentioned earlier, one roll of ornamentation is to cover the juncture between two materials, while providing visual interest at this area of focus. Architectural historian Leland Roth mentions that "As centuries of weathering have demonstrated . . . , historical ornamentation provides very practical and visually satisfying ways of shedding water, accommodating expansion joints, or otherwise making provision for buildings to age gracefully."[40] An architecture that lacks the use of an element like ornamentation becomes much more reliant on correct architectural detailing. Since the postwar period, this detailing usually relies heavily on the durability of waterproofing systems and sealants such as silicone. Buildings designed in this manner have proven to be difficult to maintain, often displaying unattractive weathering patterns such as water discoloration on concrete or rust stains from corroding metal fixtures. In comparison, traditionally designed buildings using time-tested methods have held up well after centuries of wear. "Within two decades . . . buildings like the Villa Savoye began to self-destruct, revealing that International Modernism is a very fragile architecture."[41] It seems ironic that

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[40] Leland M. Roth, *Understanding Architecture* (New York: HarperCollins, 1993), 480.
[41] Ibid.

during the most prosperous period in American history, architects would produce the cheapest and most frail of buildings.

Development of the Modernist Agenda

The International Modernist agenda evolved as architects attempted to incorporate it into their practical, everyday work. In theory, Modernist buildings were to be equally available to all of society, regardless of class or wealth. Unfortunately, a sizable number of the American public it was to serve didn't show great appreciation for the products of this effort. This was described in 1961 by Wolf Von Eckardt:

> . . . the American people have accepted the new architecture only slowly and with less than unanimous enthusiasm. In contrast to the princes and the archbishops of the middle ages and Renaissance who took no chances with the individual tastes and inclinations of the people, democracy poses considerable problems for those who attempt to reflect it visually.[42]

There is an obvious contradiction between the social aspirations of Modernism and its actualization, creating the following dilemma: Modernist architectural policies that are to benefit all people were themselves not derived from information provided by those very people. Since these policies did not stem from a democratic process, they cannot be easily instituted in a democratic manner. Modernists, in a rather haughty tone, felt that an education of the masses would provide the solution, for the more society understands why Modernist buildings are good for them, the more they begin to appreciate them. "Thus they produced ideology first, then wished people to respond with gratitude, but they acknowledged at the same time that there was a need to

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[42] Von Eckardt, 21.

change people. It was generally believed that for the common benefit one has to enforce an ideological system."[43] The idea of enforcing a dogma that is not widely accepted must be quite distasteful for those who like to think that they live in a truly democratic system.

A good example of the Modernist mentality is found in a story told by Italian architect Giancarlo De Carlo[44], a member of the Modernist governing body CIAM (Congress Internationaux de l'Architecture Moderne). For that group's 1959's meeting, De Carlo presented a residential project he designed that had purposefully strayed from the Modernist conventions, using gabled roofs, vertical windows, and bearing walls instead of the prescribed flat roof, horizontal windows and columns. The official criticism of this project chastises him for what was considered to be his inability to properly "educate" his clients:

> There is no doubt that you have a difficult task here, for these people have not received an education into the new plastic relationships of our epoch, and do not understand the poetry of modern space and movement. But you must talk to them about these concepts which are a result of the plastic of our time. You must, if you hope to lead them to the future, introduce this new plastic expression, and fight to make it clear and understandable to them.[45]

While fighting to make their expression "clear and understandable" to the uninitiated, Modernists philosophers never really took the time to test and clarify their own ideas and principles. Their sociological and psychological premises, while beginning with good intentions, were to a large extent reactionary and pedantic, and not well-grounded in significant empirical evidence. Developed in

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[43] Lesnikowski, 279.

[44] Benedict Zucchi, *Giancarlo De Carlo* (Oxford: Butterworth Architecture, 1992), 22.

[45] Giancarlo De Carlo, "L'ultimo convergo dei CIAM con una 'Memoria sui contenuti dell'architecttura moderna'", *Atti del Collegio Regionale Lombardo degli Architetti*, no.4, (1960): 90.

Europe before the Second World War and instituted in full force immediately after, these theories never had the opportunity to be accurately tested and evaluated. Modernist theoreticians often made the common error of "assuming their hypothesis," believing the validity of their initial conjectures, and instead of testing them. Most of their energy was spent in trying to convince others to accept their conclusions. An example of this method of thinking can be seen in the 1954 book *The Architect at Mid-Century,* where the author attempts to make a connection between Modernist buildings and quality of life issues:

> Of equal importance with utility and construction is the constant and cumulative influence which buildings have upon our mental and emotional health. We all react, consciously or subconsciously, but quite positively, to the environment which surrounds us, and it is manifest that the very prominence of buildings in this environment make them powerful and insistent stimuli for better or worse. Although the malevolent effects of ugly, confused buildings have thus far resisted precise psychological measurement, their unhappy impact on our minds and spirits is nonetheless real. Beyond any doubt, experience has proven that beautiful, orderly buildings do possess a magical quality that lifts our morale, refreshes our spirit, and fortifies our determination to transform mere existence into full and humane living.[46]

Many of the issues mentioned in this quote are simply conjectures based upon a host of assumptions. For instance, how does the author know that we react quite positively to the surrounding environment, and what exact environment is this based on? He at least mentions that the effects of "ugly, confused buildings" have not been empirically measured, but then goes on to assume that "beautiful, orderly buildings" elicits positive effects. Complete understanding of this statement, of course, is dependent on exactly how the author defines these two building types. If one thing was clear from the writing

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[46] Bannister, 8.

that preceded this statement, it was that International Modernist buildings were obviously to be included into the "beautiful, orderly" category. The author's overall goal was not to arrive at a conclusion based on sound premises, but simply to justify an opinion. The validity of his hypothesis is assumed, and all that's left is to convince the audience. It wasn't until the mid-sixties, initiated by two seminal books—Robert Venturi's *Complexities and Contradictions in Architecture,* and the *Team 10 Primer,* a collection of discussions by dissident Modernist architects—that these long-held hypothesizes were seriously challenged.

International Modernism proclaimed to have the distinct advantage of being an appropriate design for any cultural or geographic condition found in the world. Issues of culture were deemed somewhat irrelevant by Modernists, as it was assumed that humans shared almost the exact same needs and requirements for living, no matter what their location or background. Gropius himself outlined this precept: "On the whole, the necessities of life are the same for the majority of people. The home and its furnishing are mass consumer goods, and their design is more a matter of reason than a matter of passion."[47] Not only were all cultures placed on an equal scale, but the actual physical dimension of humans as well. Le Corbusier developed what he termed the "modular man," a scaling device which became his basis of representation for all humans. The assumption is that if you design a building using this modular model, you have probably accommodated not only for the users physical needs, but their emotional, cultural, spiritual needs as well. In effect, though, the user becomes an abstract concept, one that distances them from those responsible for

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[47] Walter Gropius, "Principles of Bauhaus Production," 1926, Conrads, 95-96.

designing their environment. As Italian architect Giancarlo De Carlo put it, "the modern movement attempted to discover the users by applying universalists' conceptions symbolically."[48]

This rather simplistic view of the world evolved from what Roth describes as an evangelical mission to spread the Modernist dogma, so that "International Modernism—and the Western cultural values that shaped it—were exported to all parts of the globe; whether or not this new architecture was appropriate to the local climatic conditions or social institutions was never considered."[49] As viewed through Modernist convictions, a building that was designed for Anchorage would be equally valid if it was for some reason to be relocated to Singapore. The change in cultures was considered insignificant, and any climatic differences were taken care of by modern mechanical systems powered through abundant and cheap fuel.

Valid or not, Modernist principles were formed, and disciples of the movement were sought. At first, Modernism was not entirely accepted by established American architects practicing in the late 1930s, so the search for disciples began in the academic system. This was a familiar environment for Gropius and Mies, who had used the academic environment of the Bauhaus as a testing ground for their principles. Ascending to positions of academic power quickly, Gropius and Mies headed up influential schools of design, and began to institute their ideas at once. Gropius, as chairman of Harvard's department of architecture, almost immediately reoriented the established curriculum and personally taught the masters students in the Graduate School of Design. After the war, the Harvard graduate program was considered to be the nation's leader

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[48] Giancarlo de Carlo, quoted in Lesnikowski, 286.
[49] Roth, 480.

in modern architectural theory, and was sought out by many top students. Mies, teaching at the Illinois Institute of Technology, made his personal views on design explicit and all-encompassing, influencing numerous students and professionals alike.

It was in the American collegiate environment that the refinement and consolidation of Intentional Modernist ideas made their greatest progress. From the immediate postwar period onwards, almost all architects received their training in collegiate architectural programs. The total number of architecture students expanded dramatically, with those seeking their first professional degrees increasing over 800% between 1945 and 1949.[50] More and more architecture programs, following Harvard and I.I.T.'s leads, were disseminating the Modernist views on design. Graduates from these programs went on to become leaders in the fields of both architectural design and academics, ardently professing and practicing their take on Modernist principles. "Unfortunately, despite Gropius' assertion that the Bauhaus intended to establish only an attitude and method of working, much of its impact on students and practitioners has been to promulgate a new style with its own clichés."[51] This was especially true in the case of a specific and popular branch of Modernist architecture, often referred to as "Miesian" architecture, named after its strong-willed maestro.

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[50] Bannister, Table 58.
[51] Ibid., 107.

The Influence of the Miesian Aesthetic

The Aesthetic as Decreed

> Now then in the twenties—the socially conscious twenties—and thirties, and forties, socially conscious architecture came with functionalism, with all the hoopla about the International Style. Everything really channeled down to one sort of style. It wasn't proper to step outside of that style at all. In fact, it was most improper. The exhibit at The Museum of Modern Art, you know, where you were judged whether you deviated from that style one bit or not. If you didn't, you got in. Then one man, Mies, really came along and codified all these attempts into one beautiful line and it became gospel. It became one straight line and its was a beautiful clear thing. It was open for everyone to copy if they wished and, by God, that's what they've done, too, and sometimes it was done very well. But that was about the state of things in 1950.[52]
>
> Architect Eero Saarinen, 1958

Of all the masters of the International Modernist movement, it was Mies van der Rohe who most successfully defined its aesthetics in America. Walter Gropius tended to play a more political role for the movement, and Le Corbusier was a bit too eclectic to generate any sort of standardized look. Mies, with his position as head of I.I.T.'s architecture program and a full slate of commissions, had all the means necessary to make tangible the Modernist principles, and disseminate them throughout America.

Mies van der Rohe was a strong proponent of functionalist architecture, basing his work on the development of very specific types and principles. The most crucial role that must be accommodated in architecture, in Mies' opinion, was that of modern industrialization. "If we succeed in carrying out this industrialization, the social, economic, technical, and also artistic problems will

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[52] Peter, 289-290.

be readily solved."[53] For Mies, this accommodation translated into buildings based on a strict structural logic and the absolute clarity of pure geometric forms. He incorporated the free plan, made possible by the skeletal structural system, and visibly expressed both through the use of the glass curtain wall. The building type that seemed to incorporate these ideas most accurately was that of the relatively new skyscraper. As Mies explains:

> Skyscrapers reveal their bold structural pattern during construction . . . When the outer walls are put in place, the structural system which is the basis of all artistic design is hidden by a chaos of meaningless and trivial forms . . . We can see the new structural principles most clearly when we use glass in place of outer walls.[54]

Transparency was the key to the Miesian aesthetic, generating new and dynamic visual effects. Mies discovered an interest in the "play of reflections and not the effect of light and shadow as in ordinary buildings."[55] During the daylight hours, a structure made completely of glass would offer reflections of its surrounding physical environment, including adjacent buildings and the sky. At night, it would reverse this relationship and act as a lantern, beaming interior light outwards while welcoming unobstructed views inside.

Even though these buildings would be enclosed almost completely in glass, they exhibited a complexity of texture, principally through an articulation of the building's structure. The true craftsmanship of most of Mies' buildings can be found in the careful, conscientious application of this articulation. It is at this degree of detail that his architecture finds its true essence, an idea described

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[53] Mies van der Rohe, "Industrialized Building," 1923, in Conrads, 74.
[54] Mies van der Rohe, "Two Glass Skyscrapers," in P. Johnson, *Mies van der Rohe* (New York, 1947), 182.
[55] Ibid.

succinctly in Mies' often quoted declaration that "God is in the details." It proved a challenge to express this articulation with steel framed buildings, for fire codes required that this framing be completely enclosed. Undeterred, Mies would actually affix non-structural steel members to the enclosed ones, allowing the structure to symbolically communicate its expression. This was obviously more of an aesthetic act than one derived from pure functional honesty, though Mies would never easily admit to it.

The Miesian aesthetic was expressed to the world through a number of very influential commissions. One of the earliest being the design of the German Pavilion for an international trade fair in Barcelona, Spain. (Figures 4-6) Completed in 1929, Mies' design consisted of a carefully arranged composition of vertical and horizontal planes that subtly enclosed a variety of spaces. Extravagant materials were used, including marble, onyx, exotic wood veneers and chrome-plated steel, all carefully fabricated and assembled. "Indeed, all of Mies' later architecture—as industrialized as its appears, and despite the importance of mass production and prefabrication of parts to its realization—required patient hand assembly to achieve its apparent mechanical simplicity."[56] This is an important point, for even though Mies is famous for saying that "less is more," his version of "less" took a tremendous amount of energy, skill and finances to accomplish. Succeeding architects attempted to do the same, but often without the same level of sensitivity or resources.

Mies pioneered the Modernist skyscraper shortly after the end of the war with his Lakeshore Drive apartments (1951) in Chicago (Figure 7). These two buildings, placed perpendicular to each other, were stripped down to their most

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[56] Roth, 472.

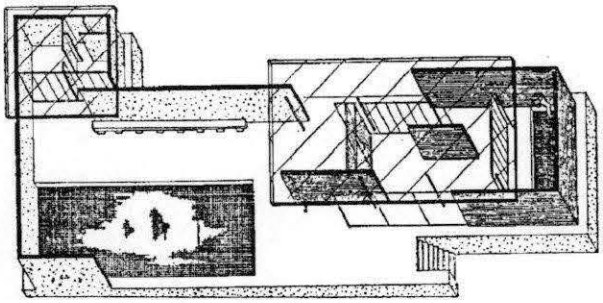

FIGURE 4. Axonometric of the Barcelona Pavilion.
(Source: Juan Pablo Bonta, *An Anatomy of Architectural Interpretation*, (Barcelona: Editorial Gustavo Gili, S.A., 1975), 31).

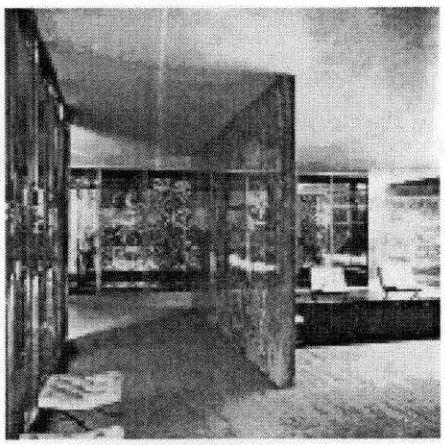

FIGURE 5. Interior of Pavilion Displaying Mies' Composition of Planes.
(Source: Jean-Louis Cohen, *Mies van der Rohe* (London: E & FN SPON, 1996), 54.)

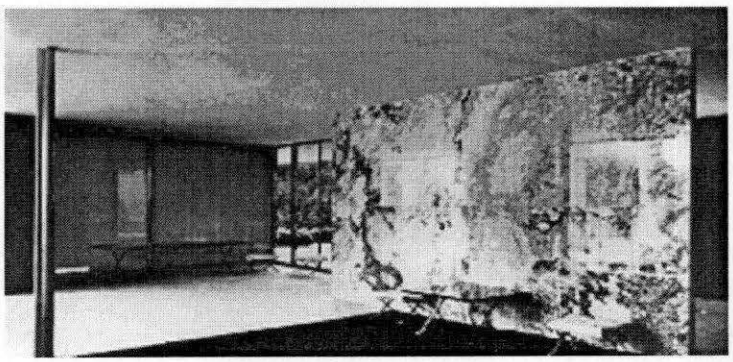

FIGURE 6. Example of Interior Materials, Including Stainless Steel Column Wrap (Left) and Marble Partition Wall.
(Source: Bonta, 96.)

simplified functional and structural expression. Carefully proportioned on all scales and displaying the same rhythmic glass and steel elements repeated on each facade, these buildings were unlike any that came before. The Lakeshore Drive apartments, along with its contemporaries—Lever House (1952) in New York by Skidmore, Ownings & Merrill (S.O.M.) and the Equitable Savings and Loan Association building (1948) in Portland by Pietro Belluschi—made a dramatic impact on both the American urban environment and the architectural community (Figures 8-9).

It was in the Seagram Building in New York (1958), on which Mies worked in collaboration with Philip Johnson, that all the precepts of the Miesian aesthetic came together to produce its accepted archetype (Figure 10). With its graceful form, refined proportions, and rich, bronze-colored facade, this building displays a proud, somber elegance. Great care and expense was taken in the design of an exterior that was articulated with bronze I-beams running the height of the 38 story building, creating one of the most expensive facades of its time. Even though this building is considered to be one of Mies' finest, his design process that created it was, according to him, not out of the ordinary.

My concept and approach on the Seagram Building was no different from that of any other building that I might build. My idea, or better 'direction,' in which I go is towards a clear structure and construction - this applies not to any one problem but to all architectural problems which I approach. I am, in fact, completely opposed to the idea that a specific building should have an individual character. Rather, a universal character which has been determined by the total problem which architecture must strive to solve.[57]

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[57] Mies van der Rohe, in Peter Carter, 'Mies van der Rohe, An Appreciation on the Occasion, this month, of his 75th Birthday', op. cit., 115.

FIGURE 7. 860-880 Lakeshore Drive.
(Source: Cohen, 103.)

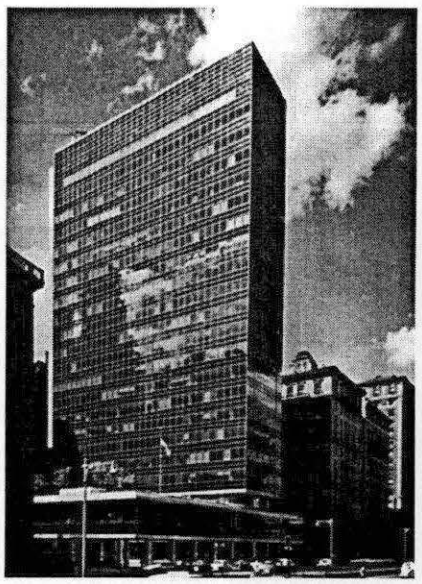

FIGURE 8. Lever House.
(Source: Wolf Von Eckardt, ed., *Mid-Century Architecture in America* (Baltimore: The Johns Hopskins Press, 1961), 43.)

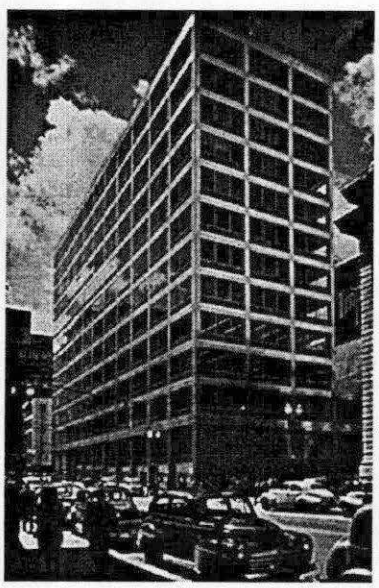

FIGURE 9. Equitable Building.
(Source: Leland M. Roth, *A Concise History of American Architecture* (New York: Harper & Row, 1980), 279.)

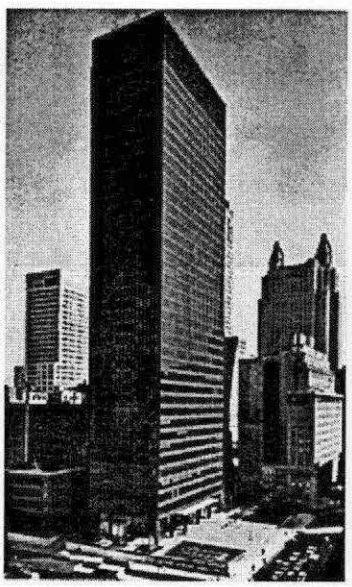

FIGURE 10. Seagram Building
(Source: Roth, 285.)

This "universal character" can be seen in a number of Mies' other influential commissions, proving how uniform his aesthetic can be, regardless of building program or location. It is very difficult to tell the difference, judging from their facades, between a governmental complex (the Federal Center in Chicago, 1959-73, Figure 11), an office building (I.B.M. Building, 1967, Figure 12) and residential apartments (Westmount Square, 1965-68, Figure 13). In his search for the purest architectural prototype, Mies began to disregard what he considered to be extraneous variables, including, surprisingly enough, the building's program. Contradicting an essential Modernist principle, Mies changed the "form follows function" declaration. "We reverse this, and make a practical and satisfying shape, and then fit the functions to it. Today this is the only practical way to build, because the functions of most buildings are continuously changing, but economically the structure cannot change."[58] Mies' refinement towards a limited vocabulary of types and themes resulted in universally adaptable spaces that have been considered rather neutral and uninteresting. "He felt uneasy when faced with other requirements in architecture that went beyond the formula that form plus structure equals architecture. He has almost no particular concept of functionality, other than making big, open, divisible spaces . . ."[59] Mies felt that if he gave the building open, divisible spaces, he had adequately addressed the program. He did not believe, however, that the specific accommodation of the building's users was the responsibility of the designer, as he explains in 1964:

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[58] Mies van der Rohe, quoted in "Mies van der Rohe", *Architectural Forum*, vol. 195, no. 5 (November 1959): 94.

[59] Lesnikowski, 92.

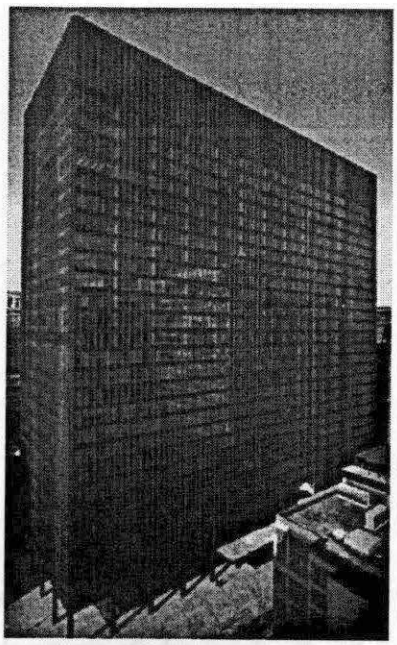

FIGURE 11. Federal Building, Chicago.
(Source: Leland M. Roth, *Understanding Architecture* (New York: HarperCollins, 1993), 60.)

FIGURE 12. I.B.M. Building.
(Source: Cohen, 117.)

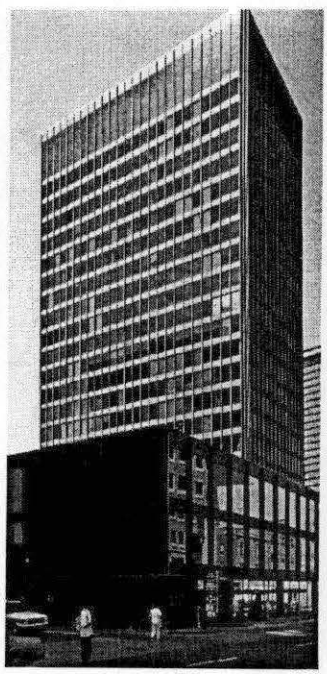

FIGURE 13. Westover Square.
(Source: Cohen, 120)

The sociologists tell us we have to think about the human beings who are living in that building. That is a sociological problem, not an architectural one. That always comes up, you know. But that is a sociological question. I think the sociologists should fight that out. That is not an architectural question.[60]

The architectural question that Mies did address concerned the refinement of Modern architecture down to its most basic elements, both inside and out. As a result, his buildings were so abstract in their aesthetics that it becomes difficult to easily differentiate between them. And it was these seemingly simple, programmatically flexible, and contextually adaptable buildings that defined the modern aesthetic. "Mies had done just what Gropius said was necessary, discovering and perfecting a type that could be used to the widest degree, and by the time of his death (in 1969) Mies could see adaptations of his glass tower, both good and bad, around the globe."[61]

The Aesthetic as Perceived

It must have seemed amazing even to Mies how quickly and completely his vision proliferated in America. His influence went beyond simply describing a system of aesthetics. Mies' built examples, along with Belluschi's and S.O.M.'s, were so persuasive that they thoroughly transformed the skyscraper typology. James Kunstler describes this transformation:

> No longer a needle-capped tower sporting gargoyles, it became a box on the purest Bauhaus terms: flat roof, no ornamentation, glass 'skin', gridlike regularity of fenestration, all the old hoo-ha guaranteed to prevent contamination from the ruinous pretensions of the ruling classes. Except

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[60] Peter, 168.
[61] Roth, 473.

that these boxes were the ultimate status symbol of the newest ruling class: the corporate elite.[62]

This new architectural aesthetic, described by Leland Roth as "frigid hauteur,"[63] was embraced by the U.S. corporate community as the perfect symbol of modern business in the postwar period. A new type of corporate architecture was thought to be beneficial in helping to change the generally negative perception of American business, which began to sour in the early twentieth century through accusations of World War I profiteering. This perception got even more negative when the general public and even President Franklin Roosevelt blamed what they felt were greedy and inept corporate operations for leading America into the great depression. The term "big business" became derogatory in nature, necessitating some fairly serious public relations damage control. Corporate leaders attempted to reverse this opinion by exhibiting a more subdued and socially-conscious public profile. They associated with, and quietly donated funding to, various arts, educational institutions and charities. As individuals in the postwar world, the rich were seldom seen and even less heard except as society's benefactors."[64] This low-profile attitude would eventually translate into the buildings they would commission.

During the 1950s and 60s, new, multi-national corporations went through intense phases of consolidation and diversification, creating an anonymous and ambiguous impression of what it was these corporations actually produced. Gone were the days when a company was associated with manufacturing only

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[62] Kunstler, 80.

[63] Leland Roth, *A Concise History of American Architecture* (New York: Harper & Row, 1979), 284.

[64] Robert Twombly, *Power and Style* (New York: Hill and Wang, 1996), 78.

one type of product. Business activities of the postwar era were becoming much more sophisticated, and required an appropriate architectural expression.

> Against a background of the changing structure of large-scale enterprise and the negativity with which it had been perceived after the stock market crash of 1929, postwar corporate ownership, now building on a large scale for the first time in fifteen years, appropriated what it understood to be salient characteristics of the 1920s and 1930s European and U.S. modernism: cool competence, understatement, restraint, rationality, minimal disclosure, an international outlook, and, most important, technocratic efficiency spurning historical association.[65]

The Miesian aesthetic offered the perfect look for the new corporation. The justification for this aesthetic was not based in the accurate accommodation of function, as was generally the case with Modernist buildings, but in the literal description of a new corporate persona. This new Modernist office building "conjured up associations of efficiencies, cleanliness, organization, and standardization which fitted the bill for what one might call the heraldry of big-business America."[66] Modernism offered the precise look for a clientele with the means to commission it, and commission it they did in great numbers. Philip Johnson, in 1955, describes the relationship between large corporations and the development of the Modernist style:

> The patronage we have today for great buildings, which is just beginning with General Motors and the Seagram's Company, would not be possible without a style. They see it coming. Some people in the companies see this common denominator of the basic style that is not expensive and not nonsensical. It's a way to monumentality without arrogance, without stupidity. It is making patronage possible and probable. It's now got to that point, which is a very good point to get to, because patronage today will be by business, just as it was with the Medici in Florence.[67]

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[65] Ibid., 79.
[66] Curtis, 266.
[67] Peter, 277.

International Modernism became attractive to another client as well, that of government agencies. Governmental bureaucracies tend to make choices and decisions based on hard numerical data, with the purpose of satisfying frugal budgets. Modernist architecture, besides its attention to economy, was seen as based on scientific theory, and supported by contemporary research. "By playing into the hands of existing power structures, the International Style thus secured for architects an unprecedented degree of control over an unprecedented degree of planning and development after the War . . ."[68] With governmental agencies and corporate enterprises as their main clientele, International Modernism became the major architectural player in the redesign of America.

As architecture firms got busier and clients demanded a greater economy than Mies himself had to deal with, the next generation of civic and commercial Modernist buildings began to deviate profoundly from the predecessors that inspired them. "Thus it was (often) crudely handled glass-box imitations of Mies van der Rohe which proliferated around the world as a species of corporate imagery. None of the excellence and most of the faults of the prototype were reproduced: the brash results are to be seen today in most major cities."[69] When the Miesian aesthetic became associated with the new, modern corporation, it lost any impetus for further refinement. Caution was practiced so not to change the accepted symbol, which might result in changing the meaning that the client desired in the first place. As long as the simple, clean overall form of the building was maintained, Modernism's symbolism would be intact. The individual details of a building that give it richness were, in this case, subservient to the slick

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[68] Zucchi, 14.
[69] Ibid.

building form, so there was no strong desire to develop them. As a result, the style stagnated as it proliferated, creating an abundance of what is today symbolic of an unimaginative and sterile aesthetic.

The Aesthetic as Practiced

One cannot underestimate the influence the Miesian aesthetic held on a significant number of America architectural firms. Miesian derivatives spread throughout America, capturing the imagination of architect and client alike. Henry Cobb, a member of the well-respected firm of I.M. Pei and Partners, explained the tremendous impression Mies made on their office:

> The early work of our firm in the 1950s came directly from the Miesian ethic. I use the word 'ethic' rather than 'aesthetic' because Mies' belief system had—or at least we interpreted it as having—a very significant moral dimension. This was both its strength and its limitation. Within this belief system, there was a right and a wrong way of making things, and that notion of right and wrong permeated the entire enterprise of architecture, from its broadest conception at the scale of urban planning to its ultimate materialization in the smallest details.[70]

Even if architects were not well versed in the aesthetic, they could mimic the main characteristics of this deceptively uncomplicated style. All they had to do was "measure the distances separating horizontals and verticals, vary their proportions, get a good structural engineer, add a touch or two of one's own (change the color, curve a surface, chamfer the corners, stick in diagonals) and the result was part of the canon."[71]

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[70] Michael L. Cannell, *I.M. Pei: Mandarin of Modernism* (New York: Carol Southern Books, 1995), 127.

[71] Twombly, p73.

As a greater number of firms began working in this aesthetic, the aesthetic itself began to evolve, creating what appeared to be an inverse relationship between quantity and quality. The decrease in quality could be attributed in part to an overwhelming amount of work and greater requirements of economy, but it was probably the nature of the Miesian aesthetic itself that was one of the most important contributing factors. Von Eckhardt recalls a quote from *Architectural Record*, which proudly stated that because of Mies, ". . . some less able architects have been released from the imperatives of originality and architecture is the better for it."[72] Originality can be manifest not only through the sense of a constant newness, but more through a constant vitality of thought and judgment. The religious fervor that drove the Miesian conviction would work to discourage such vitality. It was felt that all the architectural problems were already solved and the rules clearly spelled out, and all one had to do was to follow them.

The more talented and confident architects could follow the spirit and intent of these rules, yet still breathe a freshness into them. Architects lacking such abilities would simply conform to the rules, which in and of itself would offer justification to even the most average of work. The academic institutions that preached Modernist principles seemed to encourage this latter sort of architect. It must be remembered that Modernist architects like Gropius, Mies and Le Corbusier all had their training rooted in the traditional methods, and used this breadth of knowledge, consciously or unconsciously, in their design work. When they began teaching and writing, much of this background was forsaken as irrelevant. Postwar architecture would start fresh, and it was decided that there was no need to learn from past methods and aesthetics. When Gropius

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[72] Von Eckardt, 17.

literally removed architectural history books from the Harvard library, he was in effect depriving the next generation of architects the very advantages he himself enjoyed.

Mies in particular did not appreciate the American system of open learning, and instead based his I.I.T. curriculum on the master/apprentice scheme. Only after his students thoroughly learned his theories would they be allowed to debate them. Kevin Harrington, in the book *Mies van der Rohe: Architect as Educator*, recounts what is was like to be a student under Mies:

> Students were not allowed to express themselves or develop their own approaches. . . . the assumption of the curriculum was that the students must first master its ideas before challenging them. Mies and his colleagues were confident in the importance of their ideas and had come to them only after long reflection. . . . The positive result of this would be students of great intellectual and artistic drive and thoroughness, able to solve all aspects of very complex problems. The negative aspect would be students cowed by the authority of the teachers who would unreflectingly repeat the solutions learned as principles in school.[73]

One could imagine that the majority of students experienced these more negative aspects. When a young student enters a school that is lead by an accepted Modernist master, he or she would tend not to questioning his theories. Figures 14-16 presents some of Mies' student's work, showing an obvious indoctrination into the Miesian aesthetic. Designing solely within the Modernist mentality tended to discourage the exercise of free thought and deep theoretical explorations that one would assume to be part of the university milieu. This lack of fresh perspective and open-minded discussion produced designers who tended not to question architecture's core principles, and the work of that

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[73] Kevin Harrington, in *Mies van der Rohe: Architect as Educator* (Chicago: University of Chicago Press, 1986), 61-62.

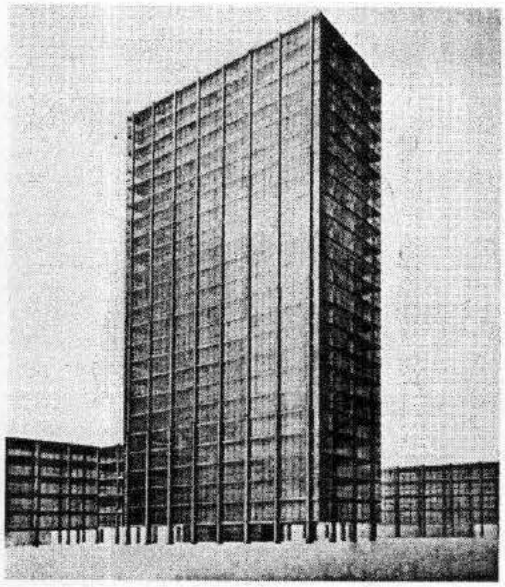

Figure 14. I.I.T. student work, 1944.
Source: Rolf Achilles, Kevin Harrington, and Charlotte Myhrum, *Mies van der Rohe Architect as Educator* (Chicago: Illinois Institute of Technology, 1986), 104.

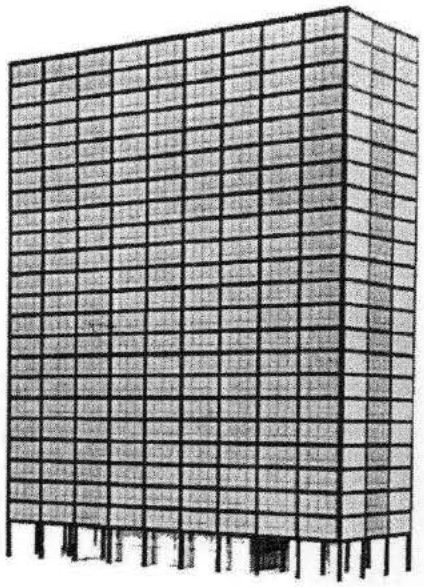

Figure 15. I.I.T. student work, 1951.
(Source: Achilles, Harrington, and Myhrum, 134.)

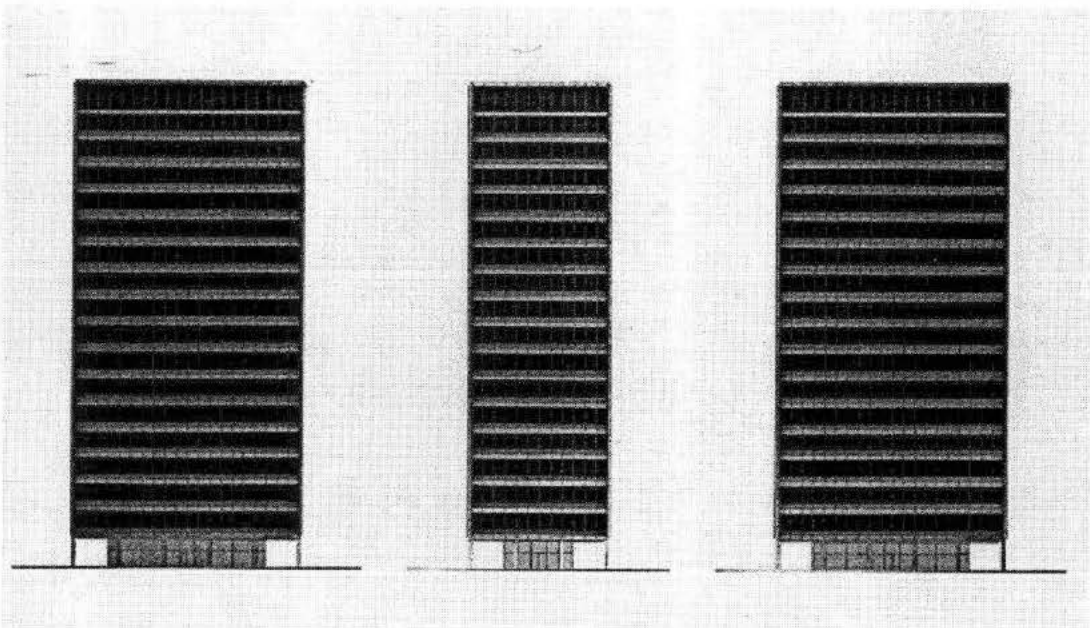

Figure 16. I.I.T. student work, 1956.
(Source: Achilles, Harrington, and Myhrum, 106.)

generation suffered for it.

The carefully developed details which Mies was known for began to become simplified and standardized by subsequent designers, until the overall interpretation of the aesthetic shifted from one of elegance to more of a featurelessness. "Unfortunately," remarks noted Modernist architect Arthur Erickson, "simplicity was too often interpreted as lack of detail."[74] The character of this aesthetic was not only found in the detailing, but also in the quality of the materials used. Taking the Barcelona Pavilion as an example, it's worth noting that Mies wasn't using his horizontal and vertical planes only to create spaces. These planes were made of exquisite, carefully crafted materials that displayed intriguing visual textures imparting a rich sense of quality. Mies was able to bring this sense of thoughtful detailing and quality materials to his curtain walled buildings, which turned out to be not something easily replicated. There was a distinct difference between his work and the derivatives that immediately followed. "The difference lay primarily in attention to detail, both visual and technical, and the most outstanding architects of the period were all distinguished by their single-minded rigor in this respect."[75] Extremely busy architectural offices working for clients that demanded very economical buildings did not have the time or resources to perform a rigorous testing and supervision of the quality of materials and workmanship. Simply put, it was very difficult for second generation Miesian buildings to match the quality of design, materials and construction found in the prototypical buildings that

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[74] Arthur Erickson, lecture titled "The Irrepressible Persistence of Modernism," Portland, Oregon, May 4, 1998.

[75] Jackson, 198.

inspired them. Philip Johnson explains that this was difficult even for someone who was considered to be a master of Modernism:

> There's no question about the historical roots of this modern movement, but the fact that it was carried furthest by a couple of very great geniuses is interesting. Corbusier and Mies. . . they were geniuses. But you see, people didn't believe that. People believed that Mies, and Mies himself believed, that Mies was something you could learn. It was too bad that you can't learn Mies. I never could, so why should anybody be able to? I'm as good a pupil as you can get.[76]

When both carefully-designed details and the use of quality materials began to disappear from this second generation of Modernist buildings, a sense of banality set in. Some architectural critics of the period not only defended such plain buildings, but actually felt this quality to be quite necessary. Eric Gill, in his book *Beauty Looks After Herself*, describes what he understands to be a key Modernist aesthetic feature:

> *Good* building, that is to say architecture, in an industrial age, is *plain* building. Plainness is a necessity. And plain means plain; it does not mean 'comparatively plain' or 'more or less plain'. It means completely devoid of all carvings and moldings. It means completely devoid of all those things which in any way spring from the exuberance or inventiveness of the man on the job. The man on the job is devoid of exuberance or inventiveness; it is no use designing his exuberance for him in the office . . . Plainness, therefore, is not a hardship to the architect, even if other people find it depressing. The necessity of plainness is actually a release from the tyranny of things which of their nature are today both irrelevant and ridiculous.[77]

This quote denotes a significant change in attitude regarding the purpose of corporate architecture. Instead of having the quality of human existence

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[76] Peter, 175

[77] Eric Gill quoted in Talbot Hamlin, ed., *Forms and Functions of Twentieth-Century Architecture* (New York: Columbia University Press, 1952), 744.

influenced positively through quality architecture, Gill deems it appropriate for architecture to reflect the lack of "exuberance or inventiveness" in corporate post-war life. This is a sort of social determinism in reverse, one in which a negative lifestyle induces a depressing architecture.

There appeared to be an honesty of sorts, in expressing the mundane activities of the corporate world with anonymous, featureless facades. The whole perception of the corporate climate in postwar America was undergoing a transformation. The "white collar" work force was now to join its "blue collar" brethren in marching in tune to the mechanistic spirit of the time:

> Offices came to be considered as similar to factories; that is, places where productivity and efficiency were primary considerations. In this context it appeared to make sense to pursue the idea of form following function to its logical conclusion. After the war, although the idea that the house should be considered a 'machine for living in' had gone out of fashion, the idea of the office as a 'machine for working in' was gaining ground, especially in the larger corporations.[78]

A valuable machine is an efficient machine, and efficiency was often considered equivalent to frugality. International Modernist buildings were, if nothing else, economical. Their facades were no longer inspired through the expression of interior functions, but instead designed to merely provide the most economical "skin" for the building. Any sort of play with the building's massing, and the careful arrangement of its solid and voids, was replaced with simpler, and much less articulated systems. "They eliminated ribbon windows, overhanging roofs, and cantilevers—anything giving facades texture or movement. . . "[79] Anything that projects out of the wall plane costs money to

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[78] Jackson, 197.
[79] Twombly, 80.

manufacture and detail. Also, this fact is compounded with the method used to calculate tenant-leased floorspace. The total amount of leased floorspace is measured from the distance between the inside of opposite windowpanes, so the farther out these windows are pushed, the more the developer can charge for rent. Windows flush with the exterior skin, a key part of a simple curtain wall system, fit this requirement extremely well. It becomes obvious how issues of both style and economy found a direct relationship within the Miesian aesthetic.

The general public might have questioned the aesthetics produced through this frugality, but building owners and developers were completely convinced. All across America

> . . . the flat-topped glass-walled office buildings rose in monotonous glory, and for one overarching reason, as Mies' chief disciple, Philip Johnson, admitted startlingly in a 1989 *Interview* magazine piece: 'The International Style did sweep the world because it came along at the same time developers wanted to make cheap buildings, and this was cheaper than other architectures.'[80]

More and more, buildings were commissioned by developers, who are driven by a different set of goals than, say, a company building its own corporate headquarters. For developers, a building is considered purely an economic commodity with the purpose of producing as much profit as possible, as soon as possible. Since financing a new building is a huge monetary risk, every avenue was explored to reduce the cost of construction and maximize rentable floor space. To accommodate this requirement, S.O.M. architects in the late 1950s would devise matrixes analyzing which building forms would produce the greatest amount of rentable space, resulting in a maximized payoff.[81]

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[80] Kunstler, 81.
[81] George Crandall, FAIA, interviewed by author, Portland, Oregon, November 4, 1997.

It has been understood that many postwar office buildings were designed with a known obsolescence, basically to last no longer than the length of their mortgage (usually between 20 to 30 years). After this period, the building's assets could no longer be written off for tax purposes, and many expensive elements, such as the mechanical systems, would be in need of updating and replacement. Developers, who were more interested in maximizing profits up front, would often sell their building before this period elapsed and lucrative returns began to diminish. This is the way the game is played when buildings become defined strictly as commodities.

Modernism, with its core principles based in creating economical buildings, played the developer's game, and with unfortunate consequences. Second-generation Modernist buildings today can no longer rely on their low first-cost economics as a positive attribute, especially when these buildings are now beginning to be considered as historic resources. As Henry Cobb succinctly described this situation: "In retrospect, it seems an irony of history that this rigorously moral attitude towards architecture should have been adapted by so many American architects as the lodestone for practice in an era now viewed as having been pragmatic to the point of expediency."[82]

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[82] Cannell, 127.

CHAPTER III

THE CHALLENGES IN CONSIDERING INTERNATIONAL MODERNISM AS A HISTORIC STYLE

The Current Situation

> Highly prized buildings are slipping through our fingers, the victims of economic and political pressures—or worse, the victims of mere oversight or the vagaries of taste. The list of landmarks needs to grow; the definition of landmarks is important and needs to evolve. If we close our eyes to the recent past, we are guilty of the same crimes that our predecessors committed against the Victorians. We must rise above fashion and personal taste: we cannot afford to make the mistakes of the 1950s and 1960s a second time. Tough though it may be for some of us, we must learn to see the beauty not only of Modernist icons, but of everyday examples of Modernism. The conscience of the preservationist must not be blinded by glass curtain walls or stonewalled by concrete slabs.[1]
>
> Robert A.M. Stern

Robert Stern's article in *Architecture* magazine, directed at the architectural and preservation community, discusses the need to accommodate International Modernism as the next in a long line of historic styles. To do so, Stern Feels it necessary to appeal to the preservation field's conscience in accepting this style, rather than relying on its already existing methods of determining historic significance. The above quote raises an important issue: does the preservation field have to change the way its looks at buildings to accept International

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[1] Robert A.M. Stern, "Save our Recent Past," *Architecture* (May 1996): 81.

Modernism as a historic style? This question must have been pondered by Stern himself, for as an advocate for the conservation of Modernist buildings, he presents unique and surprisingly contradictory qualifications. Stern has been a fairly constant critic of the Modernist aesthetic, showing his disregard for its convictions through his own prominently historicist architectural work. Stern also directs Columbia University's graduate program in historic preservation, the nation's pre-eminent program. As a critic of the style, and one committed to preserving all architectural styles, Stern understands the dilemma at hand:

> The problem with preserving urban Modernism is that many of the best buildings were constructed for short-term profits. Their time is now up, their metal walls leaking or even failing, the once sophisticated electrical and mechanical systems on which they depend are hopelessly antiquated, and their very 'look,' hopelessly old hat.[2]

Stern alludes to this style's unpopular aesthetics by mentioning that the public never quite "swallowed the medicine of Modernist minimalism."[3] If modernism was never really appreciated even during its peak, and has since aged poorly both physically and philosophically, then where is the incentive to preserve it indefinitely as a valued cultural resource? Answering this question requires a focused investigation into the resistance against Modernist buildings regarding their preservation.

American Modernist buildings have only recently become eligible for the National Register, as they are now beginning to fall within the fifty-year age requirement.[4] As the preservation field begins addressing these buildings,

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[2] Ibid., 77.

[3] Ibid.

[4] Buildings younger than fifty years in age can be placed on the National Register, but must prove to be of exceptional significance. Even for the respected icons of the Modernist Movement, this could be difficult. S.O.M's Lever House, one of the very

challenges unique and specific to the Modernist style are becoming more apparent, typified by the following two examples. The first concerns a 1958 Modernist bank building in Vermont whose historic eligibility was questioned all the way to that state's Supreme Court. The second example involves the difficulties experienced by the National Park Service (N.P.S.) in assessing the historic qualities of some of its own Modernist buildings.

FIGURE 17. The Vermont National Bank, built in 1958.
(Source: National Trust for Historic Preservation, "Preservation and the Recent Past", Information Booklet No. 69, (1993), 21.)

The case study of the Vermont National Bank in Burlington was presented in a National Trust for Historic Preservation's Information Booklet titled "Preservation and the Recent Past."[5] The 1958 International Modernist style building (Figure 17), designed by the local firm of Freeman, French, and

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first Modernist office buildings in America, was designated only after a weighty battle.

[5] National Trust for Historic Preservation, "Preservation and the Recent Past", Information Booklet No. 69, 1993, 21-22.

Freeman, was designated for renovation in 1988. Since the building is located in a design review district, the Bank asked for permission from Burlington's planning commission to remove the glass curtain wall and replace it with a brick facing. The Bank argued that the flaws of the original design permitted destructive water penetration, as well as being very energy inefficient. The bank mentioned that ". . . its customers and staff had found that the 1958 aesthetics of the building were projecting a 'cold, outdated, and uninviting image' of the bank."[6] Preservationists in Vermont rallied to save the physical integrity of the bank, as it is only one of three examples of 1950s International Style buildings in the city. Based on this argument, the planning commission rejected the renovation plans.

Vermont National sued the city in an attempt to get the commission's decision reversed, claiming that the bank was not considered a historic resource since it was not listed on either the State or National Register of Historic Places. Based on this, they felt the commission had no reliable basis for deciding that the building had historic merit.[7] The case was brought to trial in 1989, with the Chittenden Superior Court ruling that "the building . . . has not achieved local renown, and in fact . . . the opposite is true. As noted . . . neither federal, state, nor local preservation authorities deemed the building to be architecturally significant until after the bank filed an appeal of the Certificate of Appropriateness . . . The Court finds that 150 Bank Street has little or no significance to the traditional heritage of the City, and so it can be redesigned without endangering the preservation of the history of Burlington."[8] Vermont preservationists expressed disappointment in the ruling, which was summed up

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[6] Ibid., 21.

[7] Not long after the court case the building was added to the state register as a locally rare example of International Style architecture.

[8] Ibid., 22.

by the *Burlington Free Press:* "there's already enough red brick in this city to reconstruct the Berlin Wall. But what you've got right now is unique—literally."[9] The Court's decision was upheld upon review from the Vermont Supreme Court. What is interesting about this example is that a government body ruled that this particular Modernist building has achieved the opposite of local renown (would this be disrepute), and has no discernible role in the history of that particular city. That's a pretty weighty judgment to be passed down onto what preservationists considered a historically important building.

One of the most current debates regarding preservation and Modernism concerns the proposed destruction of two National Park Service visitors centers—one at Kitty Hawk, designed by the firm of Mitchell/Giurgola in 1960, and the other at Gettysburg in 1962 by the famous Modernist architect Richard Neutra. Both of these Modernist structures were built under the N.P.S.'s "Mission 66" construction program,[10] which produced a great number of similar structures in parks all across The United States. Many of these structures are now considered to be in poor condition, inadequately supporting their programs, and too expensive to operate. The N.P.S. has admitted to having difficulty in determining which structures are to be considered historically significant and preserved, and which can be replaced. This is rather ironic since they themselves are the keepers of the National Register and have developed the standards for determining historic significance. Their dilemma offers the perfect case-in-point

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[9] Ibid.

[10] Mission 66 was an ambitious ten-year program created to update many of the Park Service's facilities. Instituted in 1956 backed with a $800 million budget, the program built over 100 visitor's centers, changing the prevalent style of park architecture from rustic to modern.

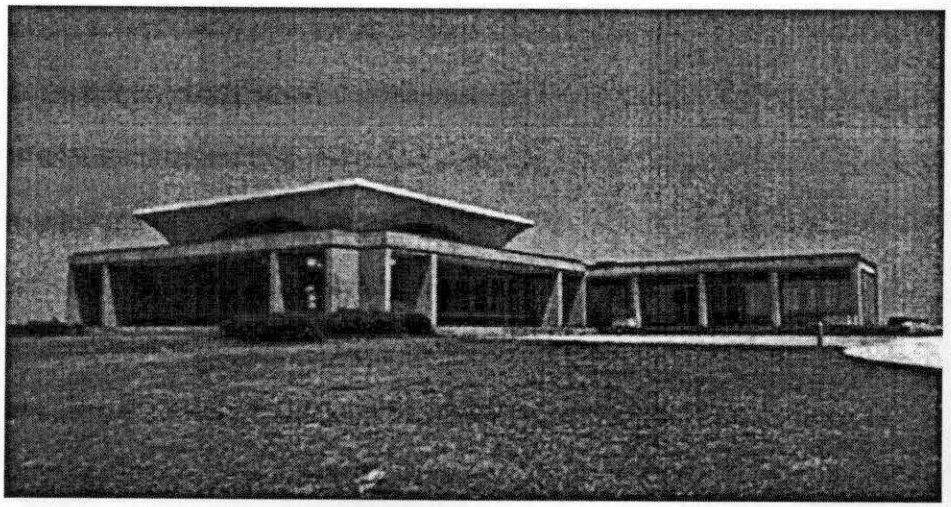

FIGURE 18. The Kitty Hawk Visitor's Center, 1960.
(Source: "Unwelcome Centers: The Park Service reevaluates its modern buildings from the 1960s", *Preservation Magazine*, (July/August 1997): 16.

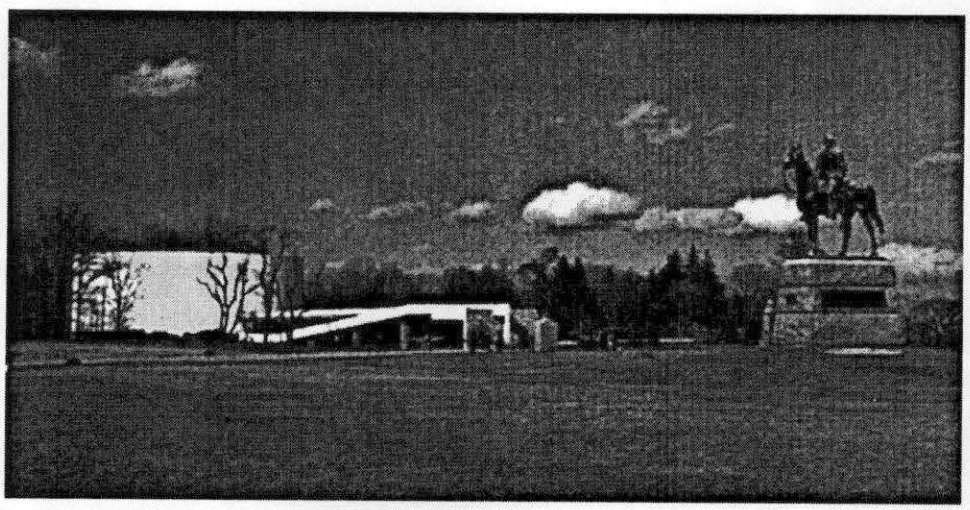

FIGURE 19. The Gettysburg Visitor's Center, 1962
(Source: "Unwelcome Centers: The Park Service reevaluates its modern buildingsfrom the 1960s", *Preservation Magazine*, (July/August 1997): 16.

regarding the present uncertainty in assessing the historic worth of Modernist buildings. Rodd L. Wheaton, assistant regional director in the Denver office and a strong proponent of the Mission 66 structures, has developed his own system

for determining significance. He tells his park superintendents that "if a building looks like an elementary school and could have been built anywhere in the United States, it probably isn't a strong preservation candidate."[11] The inherent contradiction here is that these structures were, by design, supposed to look like they could have been "built anywhere". Wheaton's conditions, though well meaning, goes against the very tenets of the style he is advocating for.

These are just two of many examples illuminating the challenges facing International Modernism. What exactly are the attitudes behind these challenges? Diane Wray, the director of the Modern Architecture Preservation League based in Denver, lists four reasons behind the adversarial attitude towards the preservation of Modernist architecture.[12]

1. "*It's too new*" – Modernism is a symbol of a new era, an era we are very much a part of even today. An extensive postwar building boom has resulted in so many Modernist buildings that the style doesn't seem to be in any obvious danger of being obliterated.
2. "*It's second rate*" – Modernist buildings are perceived as lacking prestige. This may be due in part to the inexpensive look of its materials, especially when compared to those used in earlier styles. Many Modernist buildings are thought to have an anonymous feel to them, lacking the characteristic "hand of the master" that offers a sense of distinction and identity that tends to encourage protection.

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[11] "Unwelcome Centers: The Park Service reevaluates its modern buildings from the 1960s", *Preservation Magazine*, (July/August 1997): 16.

[12] Diane Wray, "Organizing to Preserve Modern Architecture: The Modern Architecture Preservation League", in Deborah Slaton and Rebecca A. Shiffer, eds., *Preserving the Recent Past* (Washington D.C.: Historic Preservation Education Foundation, 1995), III-3 - III-9.

3. "*It's ugly*" – Some feel that Modernism is stylistically inferior to the more ornate and expressive revival styles. It's felt that these buildings do not want to hold a meaningful dialogue with the general public, and are frequently described as cold, forbidding, characterless, and resistant to human attachment. Also, Modernist buildings are not proving to age well both physically, acting as sorry reminders of a "new age" trying to survive well past its prime.
4. "*It's not historic*" – Modernist buildings don't seem to tell the "story" of a specific locality. Many of these buildings simply have no distinctive regional connection, reducing any sort of connection with cultural or geographic identity. Also, Americans love the very old and can be obsessed with the brand new, but anything in between is considered basically outdated.

Wray feels that these attitudes are not entirely well-founded, explaining that "in some cases these misconceptions are the result of sincere misunderstanding. In most, they simply reveal the creation of a new, disingenuous vocabulary to rationalize the destruction of a whole new generation of historic properties."[13] She feels that developers bent on maximizing profit are using the above attitudes to justify demolishing or severely compromising many Modernist buildings. This can be proven, she elaborates, through the well-publicized concern of the business community that preservation efforts of Modernist buildings threaten a community's need to remain stylistically contemporary and economically competitive. In defending Modernism, Wray disregards the opinions against it as invalid. Her focus is on instituting methods designed to change these opinions, rather than attempting to

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[13] Ibid., III-4.

understand why people feel so strongly about them in the first place. It appears that these attitudes against Modernism emanate primarily from an emotional base, and for Wray to simply shrug them off as a lack of understanding disregards their prominence. If the consideration of Modernism as a historic entity is to ever reach a sense of resolution, the attitudes expressed by the general public need to be carefully gathered and thoroughly examined in an open-minded manner. The survey conducted for this thesis was an attempt to remedy this issue.

It appears that the preservation field is repeating the same mistake that theorists of Modernism made so many years ago. Many preservationists are assuming the hypothesis that Modernism as a style must be preserved in the same manner and intensity as previous styles. Based on this assumption, the field has concentrated its efforts towards convincing the "misunderstood" public of this fact. But it is the general public who is the beneficiary, and ultimately the benefactor of preservation. It seems inappropriate to impose upon them something they intuitively don't appreciate, with the justification that they simply don't know any better. This, of course, was the same rationale that the Modernists used when trying to justify their buildings in the first place.

Apparently it is not only the general public's attitudes that need to be changed. It has been emphasized by Robert Stern and others that the historic preservation field must itself change its current attitudes and procedures to accommodate this newest of historic styles. "Because the architecture and urban development of the last 50 years has been radically different from anything that preceded it, the preservation movement must significantly redefine itself if it is

to save the recent past."[14] He bases this argument on the idea that preservation is often grounded in aesthetic issues. "We've got to struggle to get above taste. It's just about when a building is 30 years old that a new generation comes along to discover it. Landmarking is not to select what's pretty, it's to select what's significant."[15] Stern brings us to the heart of the argument: what role does aesthetics play in preservation, and must they be disregarded to accurately select what is considered to be historically significant? This is a question that has been addressed to some extent in the preservation field, but never quite as directly, or with such great consequences. An immense architectural heritage has now been placed before us, one that is not entirely appreciated on an aesthetic level. To properly address this situation, one must begin to understand the role of aesthetics in preservation work, in particular those features that convey a building's sense of character.

The Role of Character-Defining Features in Determining Historic Significance

Architectural significance is, in part, influenced by those distinguishing qualities or features that generate character. These features act as the primary means of communication for a building's system of aesthetics, with their success influencing the level of regard the building itself receives, and subsequently its significance to a community. And it is buildings of significance that tend to receive consensus when considered as historic resources. Consequently, the ability to define and analyze character-defining features and elements plays a

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[14] Stern, 81.

[15] "Preserving the Legacy of Modernist Architecture in New York City." *The New York Times*, Sunday, April 7, 1996, p. Y15.

substantial role in historic preservation work. These elements are conscientiously recorded on surveys and inventories, and given careful consideration on National Register Nominations.

The rather involved nomination process for the National Register has been devised to effectively determine structures of local, regional or national significance. For a building to be listed on the National Register, it must adequately demonstrate its significance in at least one of four different criteria. The one that deals directly with significance due to architectural qualities, criterion "C", states that a structure must

> . . . embody the distinctive characteristic of a type, period, or method of construction that represents the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.[16]

The National Register nomination guidelines were carefully composed to avoid discriminating against any particular architectural style, producing a somewhat objective equivalency between all architectural styles. But this system was devised for architectural styles that tended to have a continuity and connection between them, sharing a great many common elements. International Modernism, though, is quite different than its predecessors in both philosophy and realization, and tests the letter and spirit of criterion C. For instance, would buildings that were designed to use very economical, standardized, off-the-shelf parts common to numerous other buildings be considered the "work of a master"? Will a building that, by design and decree, lacks any ornamentation be commonly seen to possess high artistic values? Many cultural resource surveys

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[16] National Register Bulletin 16A: Guidelines for completing National Register of Historic Places Forms. U.S. Department of the Interior, 1991, 37.

and inventories require the listing of decorative features, no matter how trivial. These features are given due consideration when determining the building's historic ranking. What effect will this have on the consideration of International Modernist buildings? More specifically, what role do character-defining elements have in a building's perception of historic significance?

Before one answers this question, there needs to be clarity on how these type of elements are to be defined. This was specifically addressed in the National Park Services' Preservation Brief No. 17, titled "Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character". The title itself suggests the important connection between a building's visual features and its character. The author, Lee Nelson, mentions out that "even though buildings may be of historic, rather than architectural significance, it is their tangible elements that embody its significance for associations with specific events or persons and it is those tangible elements both on the exterior and interior that should be preserved."[17] This is a key assertion, for it contends that there is no distinct separation between a building's place in history and its architectural character. And architectural character, as defined in historic preservation work, is based upon important character-defining elements. These elements communicate a building's system of aesthetics, producing a distinct identity. But there can be a fundamental difference between elements that simply define character, and elements that communicate in a meaningful way so as to impart a commonly understood sense of significance. In other words, there is a difference between having character, and having *meaningful*

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[17] Lee H. Nelson, *Architectural Character: Identifying the Visual Aspect of Historic Buildings as an Aid to Preserving Their Character* Preservation Brief No. 17, U.S. Department of the Interior, 1.

character. For instance, what happens if a building's character is received with apathy or even disgust? Can it then be considered architecturally significant? Or historically significant? If the answer is yes to both questions, then what are the ramifications in granting historic status to a great number of these type of buildings? The first step in addressing these questions is to assess how character-defining elements, as the main messengers of aesthetics, contribute towards imparting a sense of architectural significance.

So what exactly are character-defining elements? Character, explains Nelson, refers to "all those visual aspects and physical features that comprise the appearance of every historic building. Character-defining elements include the overall shape of the building, its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment."[18] He suggests that these should be examined and recorded according to three distinct levels. The first level identifies the overall visual aspects of a building, and includes its shape, the various projections on the building, the roof, openings for windows or doorways, trim and secondary features, and the various exterior materials that contribute to character. The second level examines the visual character at close range, studying the qualities of the materials, their color and texture, and the evidence of craftsmanship and craft details. The third level takes one inside, exploring the visual character of the interior spaces, features and finishes.

This thesis is concerned primarily with Nelson's first and broadest level of investigation, for it is at this level that the greatest contrast between many pre- and post-World War II buildings is evident. In general, buildings before World

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[18] Ibid.

War II contained a familiar and understood use of materials, colors, textures, craftsmanship and ornamentation. These are the types of structures that the preservation field has the most experience inventorying and preserving. A number of building shapes and forms were used, expressed through a variety of roof profiles and other projections. A common feature, though, is that very few pre-Modernist buildings were simple, clean rectangular shapes. This contrast in forms denotes the most immediate difference between these eras, especially when viewed at this broadest scale of examination (Figures 20- 21).

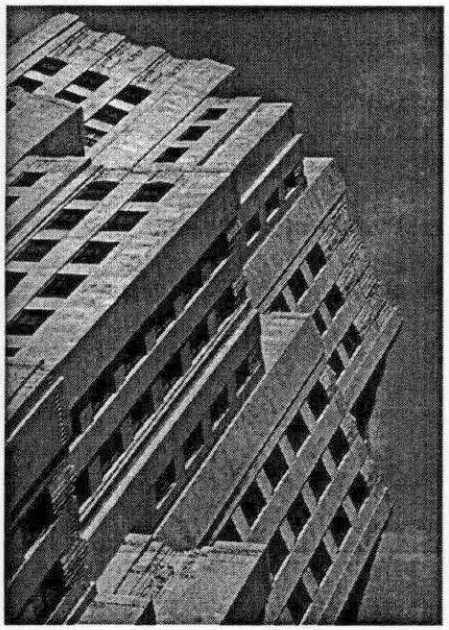

FIGURE 20. The Metropolitan Life Building. (Source: Richard Berenholtz, *Manhattan Architecture* (New York: Prentice-Hall Press, 1988), 169.)

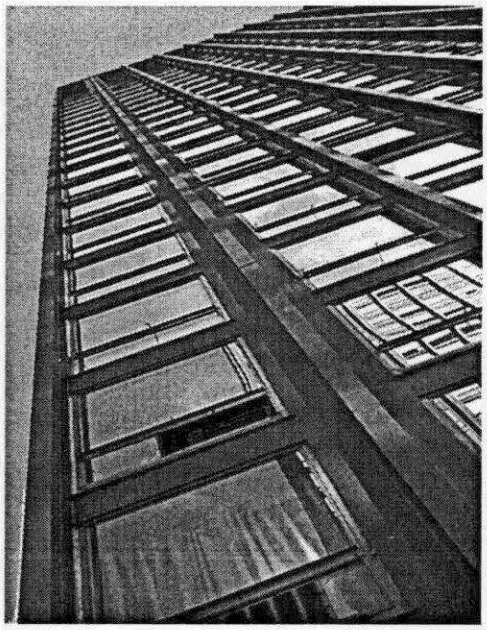

FIGURE 21. Lake Shore Drive. (Source: William J.R. Curtis, *Modern Architecture Since 1900* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1982), 250.)

Another obvious difference between the traditional and Modernist eras concerned the type and use of exterior building materials. Civic and commercial

buildings of the traditional era were commonly clad in wood, stone, brick or terracotta, and cast iron facades were usually designed and painted to resemble one of these materials. These exterior materials tend to be manufactured from natural substrates, specifically wood, stone, brick, clay. The nature of their manufacturing and construction is generally proportioned within human-scaled individual units. International Modernism, however, taking advantage of new curtain wall systems based on efficient manufacturing and ease of assembly, often resulting in much larger panel sizes. The use of these larger panels, especially when compared with the smaller units required by traditional materials and methods, transformed a building's scale. This scale issue suggests how thoroughly Modernist buildings were influenced by the machine aesthetic: they were manufactured by machines, assembled through the use of machines, and often scaled for optimum viewing by a machine (i.e. the automobile).

One of the most obvious and popular character-defining features is that of ornamentation. Ornament was historically considered to be an integral element of a building's design, regardless of that building's specific function. This relationship is emphasized by Brent Brolin, who stated that if "there has been one constant in the history of the arts, it has been the lack of debate about the use of ornament—until our time. The nearly ornament-less, modern design of our century is an aberration."[19] Ornamentation is a main player in the expressive quality of architecture, often communicating in a manner that the average, nonprofessional could easily relate to. For example, ornament was often used to describe the activities occurring within a building, call forth associations with historic events, communicate organizational or community values, or simply

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[19] Brent Brolin, *Flight of Fancy: The Banishment of Ornamentation* (New York: St. Martin's Press, 1985), 1.

impart a sense of visual joy. Viewing ornamentation engages both the intellectual and emotional domains, imparting a satisfaction and delight when symbols are recognized and meanings comprehended. It interacts with a viewer on a multitude of levels, with the ability to offer, as architectural critic Charles Jencks explains,

> . . . scale, depth, and proportion to large, bureaucratic monoliths; to provide variation and themes stated elsewhere in the building and to highlight these; to 'hide faults in construction', something which modernism in its more Calvinistic moments wanted to show; to give enjoyment, complication and visual games to a boring surface, and finally to accent the mood of a space rather the way spice and garlic accentuate taste.[20]

For all the reasons mentioned above, the removal of ornamentation was an unthinkable act for those working within the traditional styles. But the relationship between ornamentation, craftsmanship and aesthetics came under serious investigation during the Modernist era, and today raises the following issues: is ornamentation a result of function or structural considerations, or is it simply a language independent of the building's physical requirements? What is the true relationship between craftsmanship and ornament—is the purpose of ornament to hide poor craftsmanship, or to display good craftsmanship? What is the role of craftsmanship in architecture in general—is it most successful when least noticeable, achieving a seamless and geometrically perfect joinery, or is such a "perfection" considered inhuman and undesirable? In an era when craftsmanship seemed to be disappearing, should ornament disappear as well?

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[20] Charles Jencks, *The Language of Post-Modern Architecture* (London: Academy Group Ltd., London, 1987), 21.

The early Modernists understood that using modern methods of construction could achieve a more seamless joinery, subsequently replacing the technical use of an ornamented feature. Architect Gordon Howe described how this fact was interpreted aesthetically in a 1932 magazine article:

> We live in a self-conscious, scientific, and industrial age. Far from bewailing the fact the functional architect delights in the perfection of contemporary technical method and the orderly, conscious minds of the men he works with. He sees more beauty in the meticulous correction of a straight line or a smooth surface than in rough textures produced in imitation of a generation less skilled in mechanical processes.[21]

Smooth, clean finishes desired by Modernist architects replaced the desire for traditional ornamentation. This wasn't because ornamentation itself lost its meaning to the Modernist. On the contrary, they found it charged with meanings, but ones interpreted negatively. In the desire to remove all ornamentation, Modernists might have also removed an essential and understood method of communication."A most valuable system of design has been stripped from the architect's training," explains Thomas Beeby, "leaving him mired in an eclectic predicament no better than that existing just before the emergence of the Modern Movement."[22] International Modernism, with its new and different palette of materials, forms, and aesthetics, was obviously not without its own defining character. It's just that this character is so abstract that it communicates mainly on an intellectual level. To be fully experienced, though, aesthetic communication must illicit emotional associations as well. And as was

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[21] Gordon Howe, "Functional Aesthetics and the Social Ideal", *Pencil Points* vol. XIII, no. 4, (April 1932): 217.

[22] Thomas H. Beeby, "The Grammar of Ornament/Ornament as Grammar", from *Ornament*, Stephen Kieran, ed. (Philadelphia: Graduate School of Fine Arts, University of Pennsylvania, 1977), 28.

mentioned earlier, most emotional associations with Modernist buildings are reported to be either non-existent or negative in nature. This is a key issue, for if an aesthetic is not successful in producing positive associations, it will receive little support regarding its retention. It therefore is necessary to understand why the Modernist aesthetic has not achieved widespread appreciation.

An Issue of Aesthetics

Aesthetics, as defined in this thesis, is a set of principles used to define a sense of beauty. It is a basic function of human existence, evolved from our need to discriminate and make judgments. History has shown that humans have taken this basic function into an inclination towards decorating even the most practical, functional objects. Douglas Porteous, in his book *Environmental Aesthetics: Ideas, Politics and Planning* , defines three types of aesthetics. Sensory based aesthetics are concerned with pleasurable sensations, sounds, colors, smells. Formal aesthetics focuses on the appreciation of shapes, rhythms and other compositional elements. Symbolic aesthetics involves the understanding of messages and meanings.[23]

Architectural aesthetics in some manner engage each one of these three types. The architectural aesthetics in the mid-20th century, though, had severely reduced the type and amount of surface treatment. Unfortunately, it is at the surface level where a great deal of aesthetic pleasure is experienced. Architect Minoru Yamasaki describes the situation in 1960:

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[23] Douglas J. Porteous, *Environmental Aesthetics: Ideas, Politics and Planning* (New York: Routledge, 1996), 22.

> One of the things that has caused the reaction of modern architecture, early-twentieth-century architecture, was narrowing our horizons in every field. Simplicity, lack of color, everything reducing the materials which were popular. For instance, you couldn't use stone or marble, for a while anyway. All of this, I think, is tending to erase itself and now we're starting to broaden our horizons and include our whole palette. Heaven knows our palette isn't large enough really to use tastefully because I think that man needs variety."[24]

The first two types of aesthetics, sensory and formal, were reduced by Modernists in deference to symbolic aesthetics. The idea was that if the viewer *understand*s the aesthetic system, they will then regard it to be beautiful. But without any sort of sensory appeal, the overall aesthetic becomes rather one-dimensional, communicating on significantly reduced levels. "By suppressing ornament, by ignoring context, by eliminating association, by surrendering metaphor and symbol, architecture lost more than half its power of speech. Without detail, even the language of proportion was lost."[25] Modernist aesthetic decisions have affected its architectural interpretation; and how will it influence its acceptance as a historic style?

The preservation movement, contrary to what many believe, has often found itself involved with issues of aesthetic preference. It has been an often-used tool to stem the tide of aesthetically inappropriate development, as mentioned by the National Trust for Historic Preservation:

> Even now, preservation is often perceived as primarily a movement to control urban sprawl, to restrain commercial vulgarity, to stop the dehumanizing onslaught of high-rise buildings, to guard against overbuilt highways and freeways, to ward off the clearance-by-obliteration that

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[24] John Peter, *The Oral History of Modern Architecture* (New York: Harry N. Abrams, Inc., 1994), 281.

[25] J. Mordaunt Crook, *The Dilemma of Style* (Chicago: The University of Chicago Press, 1987), 249.

> sometimes accompanies downtown revitalization . . . Many a battle has been fought to prevent developers from fouling our landscapes and ruining historic surroundings with glass boxes and roadside clutter.[26]

It's interesting that the "glass box" has become a metaphor for those so-called foul items considered to be in direct conflict with the desired urban landscape. What is it about International Modernism that seems to make it appear to be the antithesis of a valued environment? In general, public apathy towards Modernist buildings can be attributed to the lack of interest in its rather sterile appearance. They seem not to be convinced otherwise by any of its intellectually-based supporting arguments. The general public never readily accepted the Modernism aesthetic when it was first introduced, and they don't seem to accept it now. "If modernism failed at anything, it was at creating a workable, comfortable vernacular—a design vocabulary out of which appealing everyday buildings could be made. Ordinary modern architecture was about making things cheap, not about making civilized cities."[27] The historic methods used to communicate ideals, symbols and values were either disregarded or transformed to the point that they no longer offered tangible significance to the viewing public. And up to this point in time, it has generally been buildings that communicate a common sense of significance, buildings with character that evoke positive emotions, that have constituted a majority of historic preservation activities.

There is always the danger of being misleading when comparing two distinct aesthetic philosophies and their perceived meanings, but the following

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[26] National Trust for Historic Preservation. Information Booklet No. 69: Preservation and the Recent Past. 1993, 6.

[27] Paul Goldberger, "Landmark Kitsch", *The New Yorker,* (August 18, 1997): 41.

comparisons are intended to examine how the traditional and Modernist styles manipulated basic building elements, and what those manipulations evoked. Probably the most common difference between the two aesthetics is the level of visual interest they impart. The postwar environment has been described as monotonous and unengaging, lacking a richness that captures the attention and imagination. In the book *Urban Design: Ornament and Decoration,* the authors describe what they consider to be the key ingredients in creating a visually rich environment:

> "Visual richness depends on contrast; the contrast of elements such as window and wall; or the contrast of building materials, their colour, tone and texture; or finally the contrast of light and shade on the highly modelled surface. Visual richness also depends upon the number of elements in the viewer's field of vision. Too few elements despite strong contrast gives little choice of objects to look at."[28]

Windows are a good place to begin this discussion, as they are considered by many to be those elements that truly give an expression to architecture. The conventional window (single or double hung, and even Chicago style) tends to have a human size and scale to it, mainly because it is operable and sized to be easily opened and closed. Since their main function is to provide light and ventilation to interior spaces, they are usually closely associated with well-defined interior rooms. Thus, the typical window/wall rhythm seen across a facade suggests a strong sense of human habitation inside (Figure 22). In contrast, for Modern curtain walled buildings, "it is hard to recognize either shape or scale, hard to distinguish window from spandrel, or either of them from the tall vertical slits that run almost continuously from top to bottom. The

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[28] Cliff Moughtin, Taner Oc and Steven Tiesdell, *Urban Design: Ornament and Decoration* (Oxford: Buttersworth Architecture, 1995), 25.

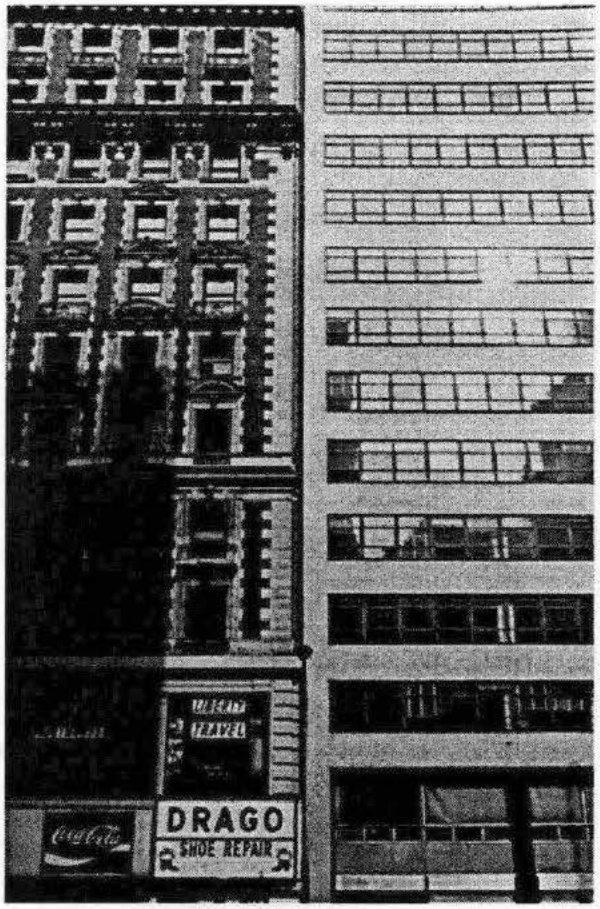

FIGURE 22. A contrast in window treatments.
(Source: Brent Brolin, *The Failure of Modern Architecture* (New York: Van Nostrand Reinhold, 1976), 26.)

suggestion of the window is gone, and so is the suggestion of people."[29] Using the window as an integral member of the enclosure system causes it to act more as a barrier than an element of focus. This becomes especially obvious when the curtain wall glazing is mirrored, barring any sharing of inside activity with the outside world (Figure 23).

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[29] Charles Moore and Gerald Allen, *Dimensions: Space, Shape, & Scale in Architecture* (New York: Architectural Record Books, 1976), 101.

The loss of ornament, it has been noted, brought with it the loss of a valuable means of communication. What was truly missing, though, was a system that communicated meanings from different distances and at various scales. "The visual intricacy of traditional buildings meant that as you approached them, different layers of ornament, at smaller and smaller scales, were revealed," explains Brent Brolin. "Since something new was being offered, the eye was always entertained and interested. With stripped modern architecture, the inquisitive eye is seldom rewarded."[30] It seems that many Modernist buildings were visually scaled for viewing from a car whizzing along on a nearby freeway. But on the pedestrian level, these buildings lacked features that sparked interest, such as those found on more traditional buildings which Modernists considered to be fussy and distracting. But it is these features, at the most intimate level of experiencing a building, that offer tactile interest, inviting touch while displaying a sense of craftsmanship. With their generally slick surfaces and lack of handcrafted elements, Modernist buildings tend not to invite this level of interest, or hold it for very long. Where people want it most, that sense of human scale and visual/tactile attraction is sorely missing.

And it is at this closer level of viewing that Modernist buildings most show their wear and tear. All buildings will weather, but to what degree depends on the type and quality of materials, and the amount of maintenance it receives. When exterior materials such as stone and brick receive a layer of dirt, they don't appear to be nearly as sullied as smooth concrete surfaces or metal panels, two of the most common Modernist materials. Adding to this situation is the idea that Modernist structures were designed to look eternally

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[30] Brolin, The Failure of Modern Architecture, 25.

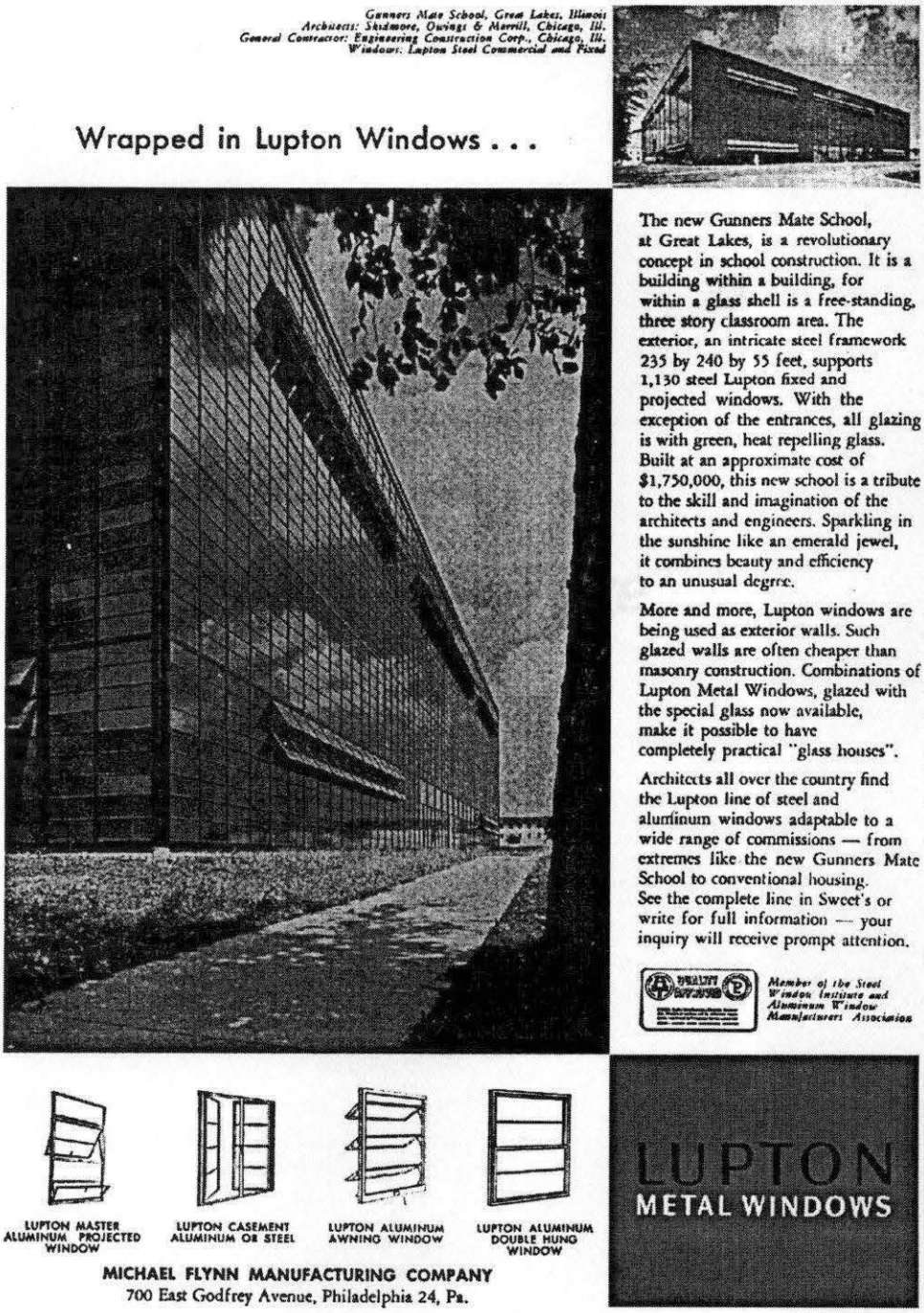

FIGURE 23. A Lupton Windows ad from 1955, touting its flexibility. Who would have guessed that this was a school building.
(Source: *Architectural Record* (January 1955): 48-12.)

clean and new, and when they show signs of aging they betray this original intent. Stained and dented metal panels could be dismantled and replaced with newer ones, but this act raises huge issues concerning historic preservation's idea of maintaining material integrity. This creates a philosophical dilemma: Modernist buildings were designed with the flexibility to change their exterior skin when needed, advancing the idea that "modern buildings can often be made more authentic by having their parts replaced. Like the Bionic Man, they are truest to form when they are forever new."[31] The long-held preservation philosophy regarding material integrity directly conflicts with a fundamental intent of the Modernist style.

Another key Modernist principle, that of functionalism, presents yet another challenge to preservation methodology. Modernists considered a building's value to be determined by its ability to support its intended function. When it is no longer able to support this function, a building should either be readapted to a new use or destroyed and replaced. The act of preserving these buildings for their historic value alone was contrary to the beliefs of the movement. "By deciding in favour of conservation of their buildings, we act against their principles at the same time."[32]

As mentioned earlier, Modernist buildings have come across as somewhat cold, authoritarian, and even mean-spirited. In their book *Dimensions: Space, Shape, & Scale*, authors Charles Moore and Gerald Allen illuminate what they felt to be the populist opinion of Modernism:

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[31] Goldberger, 41.

[32] Wessel De Jonge, "Early Modern Architecture: How to Prolong a Limited Lifespan?", in *Preserving the Past*, IV-7.

> From the vantage point of the mid-1970s, Modern architecture has acquired some very general and very simple attributes in the popular imagination. It seems awesome and therefore powerful, austere and therefore unfriendly, abstract and therefore inhuman, unyielding and therefore authoritarian. It is important to note that all of these adjectives have meanings far beyond what is required simply to describe the physical qualities of a building, since this fact confirms the belief that architecture does indeed have a host of dimensions beyond the familiar three *(shape, space and scale)* and that the kind of architecture we choose to build can affect people's imaginations as well as their bodies, their dreams as well as their physical needs.[33]

Negative opinions of Modernist buildings can run fairly deep (even into one's subconscious, as Moore and Allen suggest), discouraging an interest to save these buildings, and instead possibly encouraging an imperative to destroy them. Many Modernist buildings simply are not valued, for people consider something valuable if it seems as if it was built with genuine care and consideration for the enjoyment of future generations. Carefully constructed buildings of durable materials and worked with a sense of craftsmanship impart such a value. A viewer of such buildings might find themselves compelled to think: "Wow, somebody really spent a great deal of time and care creating that building, and with my enjoyment in mind. It would be a shame if it was not handled with at least as much care." How an architect considers the thoughts and emotions of those who will interact with his/her product ultimately shows through in the final project. All those Modernist statements of justification and dogmatic validations are effective only on a limited scale, and for a limited time. It is the building itself that ultimately communicates the architect's and owner's

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[33] Moore and Allen, 157.

true intents. Stanley Abercrombie, in his book *Architecture as Art*, analyzes how the architect's mentality can be perceived:

> Does he respect, tolerate or despise them? Does he wish to elevate spirits and delight senses, or is his primary concern the efficient functioning of the entire society, suppressing personal excitations? Does he design simplistic functional objects without wit or intelligence - in other words, does he underestimate us? Does he condescend? Does he brag? Has he provided just the degree of intellectual stimulation we are capable of appreciating, or is his building, pretending to deliver more than it can, pompous? Daring too little, is it a bore?[34]

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[34] Stanley Abercrombie, *Architecture as Art* (New York: Van Nostrand Reinhold Co., 1984), 134.

CHAPTER IV

REVIEW OF THE LITERATURE

Introduction

> The building which, long after the fashionable idioms of its time have degenerated into clichés, still continues to contribute some memorable quality to human life is the building which draws its communicative force from the unchanging emotional associations of the archetypal elements in the architectural language, those which are most deeply rooted in the common sensory experience of humanity. So it is these associations that we must first turn to for an answer to the question: What makes a building enter the consciousness and lodge its image in the memory in a particular way?[1]
>
> Sinclair Gauldi

The creation of archetypal elements through a conscious architectural expression has been the goal of a great number of architects working within a multitude of styles. International Modernism, in its attempt to produce a universal design aesthetic, decided that the new scientific processes of the industrial age would furnish the necessary methodology. For Mies van der Rohe, fundamental architectural truths were to be discovered through a rational realization based on abstract philosophies. Methods involving sensory or emotional experiences, from which Sinclair Gauldi feels that archetypal elements are best discovered, were not part of the Modernist mentality. No, for Mies and

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[1] Sinclair Gauldie, *Architecture* (London: Oxford University Press, 1969), 13.

his fellow theorists, archetypal truths were to be approached mainly through the intellect, and appreciated in the same manner.

This mentality resulted in one of the greatest misconceptions of the Modernist Movement. It was thought that basing the Movement's aesthetics on the rationally-designed machine would, by association, produce a rational design process. The processes of technology and the methods of empirical study were misinterpreted as being one in the same, both cloaked behind the use of pseudo-scientific jargon. Author Benedict Zucchi explains:

> The misappropriation of . . . specialist terminologies contributed to a fog of mystification in which important distinctions were conveniently obscured, like the line between art and technology. Thus what had been a purely artistic impulse . . . was justified in terms of the prevailing technological ethos of the time. By its very title, the 'machine' of 'engineer's aesthetic' claimed for itself the validity and credibility of a science, and treated form-making as if it were simply another branch of specialist knowledge, to be assimilated in a matter-of-fact way.[2]

Hidden behind the illusion of empirical thought and driven by a desire to create better environments for humanity, it becomes obvious why Modernist theories evolved into a doctrine expressed with an almost religious zeal. But like other doctrines, the founding premises and their conclusions will eventually get examined and possibly questioned. It is the manner in which this questioning is received that reveals how flexible and open-minded the doctrine really is. The Modernist Movement tended not to encourage open deliberation, for it was thought that the principles of design had already been figure out rationally, making any controversial points illogical and invalid.

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[2] Benedict Zucchi, *Giancarlo De Carlo* (Oxford: Butterworth Architecture, 1992), 12.

> There was good reason for rejecting the modernist doctrine that an architecture could be made to flow, conduit-like, from a body of facts. Critics like Stanford Anderson have pointed to the arrogance and coerciveness of such a position, its implication that if you do not like such an architecture, then the fault in not in the architecture but in you. If you do not accede the 'revealed truth' in these forms that are as inevitable as the rocks and trees, then you are being retardataire, sentimental, irrational.[3]

The general public might have been subdued for a while by being told they lacked the appropriate architectural understanding to fully appreciate Modernist buildings, but the scientific community was not so easily placated. Members of the psychological and sociological fields in the 1960s and 70s began to closely examine the relationship between humans and their environment. These investigations resulted in the emergence of a new field of study called environmental psychology. Many of the early studies in this field were driven by a general dissatisfaction with buildings produced through the Modernist aesthetic. Henry Sanoff, one of the leaders in the field, mentioned that there was a ". . . growing dissatisfaction with the visual environment of the past few decades, in contrast to the positive feelings evoked by its historical predecessors. This inability to effectively embrace issues of visual quality can be traced to many factors, least of which is the planning and design process."[4] This process would begin to come under rigorous analysis starting in the 1960s.

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[3] William Hubbard, *Complicity and Conviction: Steps Towards an Architecture of Conviction* (Cambridge, MA: The MIT Press, 1980), 8.

[4] Henry Sanoff, *Visual Research Methods in Design* (New York: Van Nostrand Reinhold, 1991), xi.

Interpreting the Environment

The scientific analysis of aesthetics must begin by determining where these meanings are conceived, and how they are received. The question arises as to whether aesthetic meanings are inherent in an object itself, or based solely on the reaction of those who interpret it. This second explanation, analogous to the old saying that "beauty is in the eye of the beholder," defines an architectural object as being semantically neutral, having meanings attributed to it only through the interpretations of an observer. Ralf Weber, on the other hand, asserts that an architectural object is itself pregnant with meanings, beyond those attributed to it by a viewer.[5] But no matter where, or with whom the reaction originates from, the object itself never plays a completely passive role. It is constantly asserting meanings, the definition of which, at a most fundamental level, could begin to garner general concurrence. This is the supposition of psychologist Stanley Kaplan, who argues that judgments of preference are at the most fundamental level are neither arbitrary nor idiosyncratic, but instead reveal common patterns of aesthetic values.[6] Defining these common patterns and their corresponding aesthetic values has occupied the environmental psychology field for the past thirty years. This thesis will attempt to incorporate these findings into the analysis of those elements that generate a sense of architectural and historical significance.

If we assume that the built environment is constantly emitting meanings, then it becomes necessary to understand how those meanings are received. First

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[5] Ralf Weber, *On the Aesthetics of Architecture* (Aldershot: Avebury, 1995).

[6] Stephen Kaplan, "Perception and landscape: Conceptions and Misconceptions," in Jack L. Nasar, ed., *Environmental Aesthetics: Theory, Research, and Applications* (Cambridge: Cambridge University Press, 1988), 45-55.

of all, humans are very active and quite skilled in seeking out and deciphering messages in the environment. The evolution of the species depends not necessarily on instinct or a refined system of physical senses, but on an accurate interpretation of the conditions of the environment, making quick determinations regarding safe or dangerous situations. The action of acquiring information and being able to recognize, predict, evaluate, make judgments and act has gone beyond merely fulfilling survival requirements. Interpreting the environment can evoking a sense of pleasure. How this complex process works, though, is not very well understood.

There is no single factor, either psychological or physiological, that can account for the complete range of aesthetic experiences. The perception and interpretation of the physical environment involves a carefully orchestrated interplay between human physiology, psychology, previous experiences, and culturally influenced values. This process evolves progressively, with distinct experiences abstracted and incorporated into a system of aesthetic judgement, which acts then as filters for interpreting subsequent experiences.[7] As part of this process, commonalties are detected, repeated patterns interpreted, and a cohesive framework of related types established. The goal of this system is to find meaning and resolution in our environment. "Becoming aware of perceived environmental effects is a necessary first step in striking the delicate balance between familiarity and monotony and boredom, between variety and confusion and disorientation."[8]

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[7] John Brebner, *Environmental Psychology in Building Design* (London: Applied Science Publishers Ltd., 1982), 156.
[8] Sanoff, xiv.

When the established system of symbols, developed over many generations through a gradual evolutionary process, is abruptly substituted, there are usually jarring effects. This, of course, describes the situation at the end of the Second World War, when the Modernist system of aesthetics was so quickly and completely incorporated. These aesthetics were so far removed from the established norm, and so abstract in their realization, that the full range of communally recognized symbols were significantly reduced. Ralf Weber describes the implications of this:

> . . . when gradual adjustment of meanings to forms is discontinued—when it is interrupted by revolutionary stylistic change, or when styles divert abruptly at any particular point—the cognitive schemes of different individuals will most likely adjust differently and cause a decrease in the overall degree of intersubjectivity. This often results in a situation where specific stylistic tendencies become meaningful only to particular subcultures, who then develop their own exclusive conventions . . . Because new styles are based in part on old styles, styles whose meanings are no longer largely intersubjective will form the basis for future stylistic divergences, which, in turn, will produce ever less subjective meaning.[9]

The fact that International Modernism was so very different from its predecessors dramatically diminished its ability to convey subjective meanings, narrowing the opportunity to become meaningful to the general population. In other words, lowering the subjective meanings lowers the emotional connections. Lowering these connections reduces the ability to relate to and understand a building, in turn reducing its perceived sense of significance. This becomes one of the greatest inherent challenges in the consideration of International Modernism as a historic style. Examining the specific features that were

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[9] Weber, 36.

redefined by the Modernist aesthetic will begin to offer an explanation behind this lack of perceived significance.

Specific Architectural Features and Their Meanings

What are the specific characteristics of a building that might elicit subjective meanings? A building's physical form is considered the principle factor in the immediate experience of architecture, and should be addressed first. Henry Sanoff had schoolchildren sort images of houses into various categories, and found that physical form and specific detail were the predominant criteria utilized.[10] Dwayne Brittell hypothesized that architectural form is an integral part of how buildings are understood, both functionally and symbolically.[11] He conducted a study that examined whether people are aware of the subjective meanings found in a building's physical form, and how they interpreted these meanings. Two groups of subjects, architecturally and non-architecturally trained, used a semantic-differential scale[12] to rate a variety of International Modernist buildings, organized according to their sense of "expressiveness." For instance, the curving, flowing forms of Eero Saarinen's TWA Terminal building (Figure 24) was determined through pretesting to be subjectively more expressive than Mies van der Rohe's Lake Shore Drive apartments (Figure 25). His results showed that those not trained in architecture tended to interpret

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[10] Henry Sanoff, "Youth's perception and categorization of residential cues," in *Environmental Design Research, Volume 1*, Wolfgang F.E. Preiser, ed., (Stoudsburg, PA: Dowden, Hutchinson and Ross, 1973), 84-97.

[11] Dwayne Brittell, *The Connotative Meaning of Architectural Form.* Eugene, OR: The Center for Environmental Research, 1969.

[12] A semantic-differential scale presents two opposite descriptions (i.e., balanced verses unbalanced), and a respondent is to chose which one best describes the image presented.

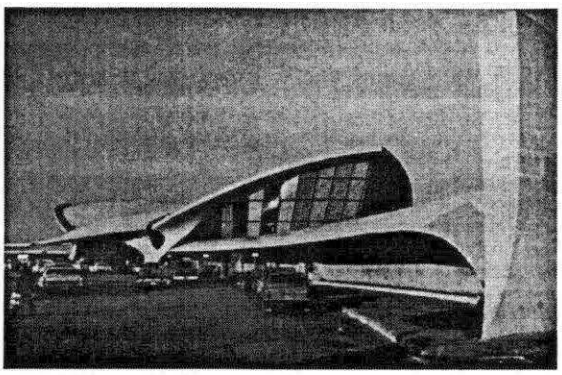

FIGURE 24. The TWA Terminal building
(Source: Leland M. Roth, *A Concise History of American Architecture* (New York: Harper & Row, Publishers, 1979), 296.)

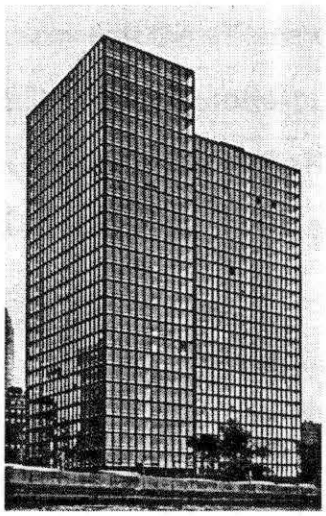

FIGURE 25 Lake Shore Drive
(Source: William H. Jordy, *American Buildings and Their Architects, Vol.5* (Oxford: Oxford University Press, 1972), 238.

buildings in a much more subjective manner than those with architectural training. In regards to the Lake Shore Drive Apartments, there was a fairly distinct difference of opinion between the two groups. The architecturally trained respondents considered this building to be "ordered, vertical, simple, balanced, clear, and high," while the non-architecturally trained respondents described it as "extremely dull, static, and uninspiring." The building types most preferred by all subjects were those described as "organic-sculptural," which included the aforementioned TWA Terminal building and Le Corbusier's Ronchamp Chapel.

Beyond displaying a shape or form, a building also presents a certain countenance manifested through its principle facades. A facade becomes the architect's canvas displaying his or her ability to integrate exterior materials with systems of proportions, rhythms, and massing into a complete, coherent

composition. It is through the comparison of facades that the difference between International Modernism and earlier styles finds its greatest contrast (Figure 26). Martin Krampen, considered a leading expert in the semiotics of the built environment, explains what he feels to be the basic intent behind the Modernist aesthetic:

> It is true that the development of capitalist functionalistic architecture out of the narrow-mindedness of copying the styles of the past represents a certain progress. On the other hand, the highly developed and all-pervasive functionalism of modern architecture shows its true face in the anti-artistic emptiness or in the abstract decorativism of the facades. It took the architecture of industrial capitalism a century to reveal its basic motives in its external form: stinginess.[13]

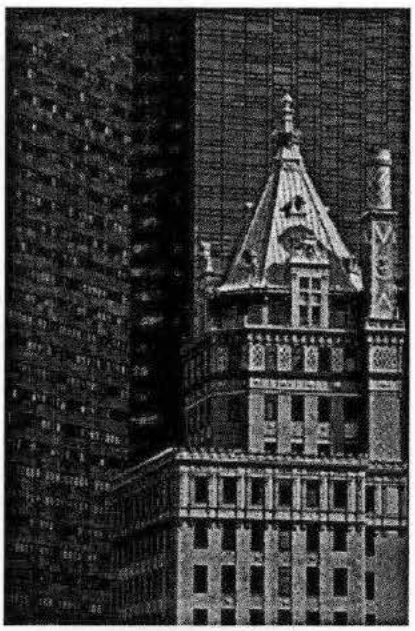

FIGURE 26. An obvious contrast between two different styles regarding the amount of visual information found in building form and detail. (Source: Richard Berenholtz, *Manhattan Architecture* (New York: Prentice-Hall Press, 1988), 93.)

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[13] Martin Krampen, *Meaning in the Urban Environment* (London: Pion Limited, 1979), 306.

Krampen conducted a series of experiments to explore how the differences in pre and postwar facade design were perceived. In his 1974 study,[14] the photographs of eighteen facades of German buildings, nine constructed before 1900 and nine after 1945, were analyzed. Seventy-six subjects (sixty German males and sixteen Italian males and female students) viewed slides of the facades and rated them on twenty-two semantic-differential scales. Results showed that the pre-1900 facades tended to be rated more positively on average then the more modern facades. The older facades were described as pleasant, friendly and inviting, as well as overdone, playful and diverse, meaningful, personal, original, generous, expressive, and natural. In comparison, the newer facades were considered unpleasant, unfriendly, repelling, sober, serious, and monotonous, inflexible, meaningless, impersonal, banal, stingy, and inexpressive. In another study, von Buttlar and Wetzig[15] used an objective system of analysis to show that facades of the late nineteenth century are richer in information than those of modern buildings. The experimenters calculated the amount of informational elements detected in a facade, and concluded that modern facades do not contain enough detail for the viewer to analyze, and as a result are considered "boring."

Materials play an intricate role in the comprehension of a aesthetics. Sadalla and Sheets tested the assumption that the exterior materials of a building

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[14] Martin Krampen, "A possible analogy between (psycho-) linguistic and architectural measurement—the type-token ratio (TTR)," David Canter and Terrance Lee, eds., *Psychology and the Built Environment*, (London: Architectural Press, 1974).

[15] A. von Buttlar and A. Wetzig, "Die Schonheit der Stadt-berechnet," *Suddeutche Zeitung*, no.103, (1973): 151-152.

may, in some cases, denote social meanings.[16] In a series of four studies, 111 American university students were shown slides of the same middle-class suburban tract house, the only difference being in the exterior materials, which were of either wood, stone, brick or stucco. From these images, the subjects rated what they surmised to be the owner's personality traits on thirty-three bipolar scales. The results suggested that building materials have broad symbolic significance, specifically as metaphors that define interpersonal style, creative expression, and social standing. The authors mentioned that the physical and functional properties of materials don't seem to vary much between cultures, probably because their universal symbolic meanings might be based more on their inherent physical and functional properties rather than on cultural interpretations. They also suggested that different materials might be associated with different emotional qualities. For example, the warmer and smoother wood evokes different connotations than does the generally colder and harder brick.

One of the most fundamental criteria used when evaluating systems of aesthetics involves the preference between varying levels of simplicity and complexity. Research indicates that people tend to require sensory intake of appreciably diverse levels, with extreme deficiencies of external stimulation producing negative consequences. A.E. Parr in 1966 stated that "the variety inherent in the natural environment has been succeeded by a far smaller selection of much more vigorously repetitive forms which has recently been reduced to even greater uniformity by explicit architectural doctrine."[17] Parr suggests that the human-made environment under the International Modernist

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[16] Edward K. Sadalla and Virgil L. Sheets, "Symbolism in Building Materials: Self-Presentational and Cognitive Components," *Environment and Behavior*, vol. 25, no. 2, (March 1993): 155-180.

[17] Sanoff, 25.

doctrine has greatly limited the amount and type of sensation that humans have evolved to desire and appreciate. As architect Robert Venturi simply puts it, "blatant simplification means bland architecture."[18] Playing off of Mies van der Rohe's famous quote, "less is more," Venturi quips that in reality, "less is a bore."[19]

Experiments in complexity and novelty by Daniel Berlyne led to conclusion that the more complex the stimuli, the stronger the response elicited.[20] Diversity, complexity, novelty, and ambiguity found within a composition lead to conditions of arousal and interest. Eduardo Lozano tested this theory by hypothesizing that the human need for complex visual stimulation is based upon a combination of orientation and variety.[21] To achieve greatest success, the physical environment must generate a set of visual stimuli of varying complexity. Those environments based on a very low order (simplistic) lack the appropriate number and quality of visual clues, and are considered boring and disorienting. Such monotony can become a form of sensory deprivation, and humans tend to reject these situations. Conversely, environments based on a very high order (complex) are considered too busy and confusing. A balance between the two is the key, using the optimal combination of simple, redundant messages to provide orientation, and highly informative messages, which provide variety. Lorenzo mentions that this system hasn't been used for recent design work:

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[18] Robert Venturi, *Complexity and Contradiction in Architecture* (New York: The Museum of Modern Art, 1966), 17.
[19] Ibid.
[20] Daniel E. Berlyne, *Conflict, Arousal, and Curiosity.* (New York: McGraw Hill, 1960).
[21] Eduardo Lozano, "Visual Needs in the Environment". *Town Planning Review* 43, (1974): 351-374.

> It is striking that most contemporary urban designs are not based on a combination of visual inputs at different complexity levels, but tend to be influenced by a kind of pendulum law, stressing either an exclusive low-order organization (modern-movement purism) or a pseudo-complex organization (superimposed picturesquism).[22]

Sanoff measured the relationship between visual satisfaction and issues of complexity, ambiguity, and novelty.[23] He had thirty architects, recognized as experts in research and design, rate two sets of buildings—San Francisco's carpenter Victorian period of the 1880s, and buildings in a 1960s residential development in North Carolina. The San Francisco houses received responses significantly higher than their more recent counterparts. The attributes of the preferred buildings were described as complex, stimulating, sensuous, dynamic, and rough, while the less preferred environments were described as simple, universal, asymmetry, unobtrusive, common, static, and uniform.

According to these studies, it appears that the International Modernist style, with its clean, simple system of aesthetics, does not provide a level of interest that invites and rewards in-depth scrutiny. Buildings that don't capture an adequate level of interest will usually not become embedded in a community's collective memory, resulting in an overall sense of apathy. Martin Krampen elaborates:

> Informal evidence that there is an association between negative evaluation and low visual complexity of architecture has accumulated in recent years and contributed to the 'crisis of functionalism' in architecture.

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[22] Eduardo Lozano, "Visual Needs in Urban Environment", in *Environmental Aesthetics*, ed. Jack L. Nasar (Cambridge: Cambridge University Press, 1988), 398-399.

[23] Henry Sanoff, "Measuring attributes of the visual environment," in *Designing for human behavior: architecture and the behavioral sciences*, Jon Lang, Charles Burnett, Walter Moleski, and David Vachon, eds., (New York: Van Nostrand Reinhold, 1974), 244-260.

> Functionalist architecture, according to these critics, has contributed to the experience of monotony and dullness in the urban environment of recent construction. The separation of different human activities sanctioned by ... rationalization, standardization and industrialization in the construction industry, and all this combined with the ruthless profiteering of real-estate speculators are mentioned as reason for the 'crises of the urban environment.'[24]

As suggested by the research, the appreciation of International Modernism has been limited due to its narrow, abstract system of aesthetics. People with architectural training, though, tend to have a familiarity with the abstract symbolism used in Modernist buildings, and are inclined to show a stronger appreciation of the style. Exploring the different constructs that architects and non-architects use to interpret the environment would prove useful in understanding how Modernist buildings communicate their aesthetics. Towards this end, Robert Hershberger compared architects' and non-architects' opinions of buildings, and found profound differences concerning the issue of "potency," defined as the perceived power, strength and permanence of a wide range of building types and styles.[25] Forms intended by architects to be "exciting" and "good" were not necessarily interpreted that way by lay people. On the "pleasantness" and "novelty-excitement" dimensions, almost half the judgments by architects were significantly different than those of non-architects. The architects would judge a certain building to be good, pleasing, beautiful, interesting, exciting, and unique, while non-architects would judge them to be bad, annoying, ugly, boring, calming, and common. It was surmised that such a

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[24] Martin Krampen, *Meaning in the Urban Environment.* (London: Pion Limited, 1979), 295.

[25] Robert G. Hershberger, "A study of meaning and architecture," in Henry Sanoff and Sidney Cohn, eds., *EDRA 1: Proceedings of the First Annual Environmental Design Research Association Conference* (Raleigh: North Carolina State University, 1970) 86-100.

vast difference in interpretation would seriously affect the success of architectural communication. Sanoff felt that:

> Quite often, design professionals and the public do not share the same aesthetic values. Designers differ from the public in their reactions to the environment. This factor has significance for the development of aesthetic controls and public policy, since community decisions about aesthetic regulations often require strong support for aesthetic judgments.[26]

This becomes a key issue when public participation is needed to support and advance governmental policies, such as those involved in the induction of buildings on the National Register of Historic Places.

The study that was instrumental in the creation of the visual preference survey for this thesis was conducted by Linda Groat, and published in 1984.[27] Groat studied the perceived contextual fit of new buildings with older ones, and the criteria that influenced these judgements. This study was significant because it is considered to be the first empirically-based analysis of lay people's interpretations concerning contextual compatibility. What drove the study was the fact that architectural guidelines and policies effecting a wide range of people are influenced almost exclusively by professional opinions. Groat proposed the need to temper this with lay opinions, and devised the means to gather and analyze them.

Her survey apparatus was based upon respondents' categorizations and comments of twenty-five color photos, gathered through a multiple sorting task. Subjects were asked to sort the images based on a variety of constructs provided by both Groat and the respondents themselves, and place them in a ranked

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[26] Sanoff, xi.

[27] Linda Groat, *Contextual Compatibility in Architecture: An Investigation of Non-designer's Conceptualizations* (Milwaukee: The School of Architecture and Urban Planning, 1984).

order. This proved to be a very useful and accurate method of assessment since people tend to analyze through comparisons, and the sorting method offers multiple points of comparison. Respondents mentioned this to be a fun and interesting process, allowing them to feel like they received something for their time invested.

Groat found that the most noticed design features affecting contextual compatibility were a building's materials and its style/age. Half of the design features found to affect contextual compatibility had to do with facade design, with the most frequently mentioned features being: windows, age, color, degree of detail, and style. There appeared to be a preference for the richness of detail typical of older buildings, and respondents reported finding the starkness of modernist architecture incompatible with its more traditional predecessors.

In summary, research into the challenges facing the acceptance of International Modernism as a historic style suggests that these challenges are based on Modernism's inherent systems of aesthetics. A more in-depth investigation is required to determine what particular elements of the Modernist aesthetic appeal or don't appeal to the general population, and the reasons why. Towards this end, a survey was prepared as part of this thesis and distributed to three distinct respondent groups. The goal was to ascertain which specific architectural features influence aesthetic preference, and how they might also affect the perception of historic significance.

CHAPTER V

THE RESEARCH DESIGN

Introduction

The field research on the subject of aesthetics, as presented in Chapter IV, has not yet provided a convincing answer to this rather straightforward question: why do people like certain buildings and dislike others? The answer, of course, is varied and complex, and a coherent framework in which to define it is only beginning to be developed. To architects who create our physical environment, and preservationists who work to define and maintain it, even a basic understanding of this issue should be of great interest. The variety of opinions regarding International Modernism both in general and as a historic style provide a tangible focus for this issue. Specific information regarding these opinions and the reasons behind them is essential if the preservation field is to accurately address the issue at hand, along with all its ramifications. One of the goals of this thesis was provide a vehicle for gathering information on opinions regarding the perception of Modernist buildings.

A survey is one of the best instruments for gathering a broad range of information to be analyzed for any coherent patterns. This type of survey (as opposed to a historic survey) is not normally been a part of historic preservation work. The preservation field has not, to the knowledge of this author, conducted any direct assessment regarding what the public considers to be historically significant, and why. This type of information will prove to be of use in

addressing the current conflicts facing Modernist buildings, and the development of relevant data in this regard is the overall objective of the research conducted for this thesis.

Research Scope

The research scope for this survey examined issues of general preference and the perception of historic significance as determined by four elements: a building's exterior materials (including texture and color), its level of articulation, its overall form, and to a lesser extent, its height. These elements were chosen because previous research has shown them to be prime conveyors of architectural aesthetics. The survey focused on civic and commercial buildings, two of the building types which receive the greatest amount of interaction by the general public. They are also buildings that are most critical in defining a town's character. The survey looks specifically at building exteriors, as that is the part of the building that is the most visible. Dates of construction for the buildings ranged from the mid-1940s to the mid-1960s, a twenty-year span in which the International Modernist aesthetic was fairly consistently applied. Also, this age range of buildings is now the next generation to begin reaching the fifty year threshold, and are starting to be considered for acceptance to the National Register.

All buildings used for this survey were from Northwest cities located along Interstate 5, specifically Eugene, Salem, Portland, Vancouver WA, Olympia, Tacoma, Seattle, and Vancouver, British Columbia. Buildings from this region were chosen because they offer a good range of Modernist interpretations within a distinct geographic locality. Very few of the buildings are nationally

recognized examples of International Modernist buildings, Pietro Belluschi's Equitable Savings and Loan Building notwithstanding. They can be thought of as rather generic examples of the Modernist style, and as such are the type of structures this thesis seeks to address.

The Working Hypotheses

The survey was designed to substantiate four main hypothesizes that examined building features, building styles, opinions between different groups, and consistency within individual opinions. This is quite a range of data to gather from a single survey, but all of it is considered important in addressing the larger issue at hand. The specific hypotheses are listed below.

Hypothesis #1

The strongest conveyers of meaning, both in terms of general preference and historic significance, are a building's exterior materials, its level of articulation, and its exterior form.

a. Buildings with exteriors of stone and brick will be more highly preferred than buildings of glass and steel. This is due in part to these material's inherent richness of texture and color, and the sense of solidity and permanence they impart.

b. Buildings with higher levels of articulation will be preferred over those with lower levels. It is assumed that the greater the level of articulation, the more interest the building will hold for the viewer.

c. Buildings with a form and massing that exhibit a well-developed play of solids and voids will be preferred over those employing a smooth "skin."

This hypothesis addresses the heart of the survey, and is based upon much of the previous research reported upon in Chapter IV. Until reliable data is produced that begins to quantify the roles of materials, articulation and massing within a system of aesthetics, the larger issues they characterize cannot be addressed with any confidence. The intent of this Hypothesis #1 is to verify that a higher quantity and quality of aesthetic information is usually desired and appreciated.

Hypothesis #2

People will rank "traditional-style" buildings higher than International Modernist buildings both in terms of general preference and historic preference.

This hypothesis goes beyond the study of individual elements and features, and compares buildings from two distinct styles head-to-head. It is assumed that when viewed comprehensively, "traditional-style" buildings will be preferred over Modernist ones.

Hypothesis #3

The buildings that people have the highest preference for will generally be the same buildings they consider to have the highest historic significance.

In general, the preservation field does not focus on issues of aesthetic preference, but instead on whether specific buildings constitute a fine example of their style, or exhibit high standards of craftsmanship. Yet, by nature, people tend to consider significant elements which they have a strong preference for, and these items of significance are ones that most likely will get cared for and preserved. Conversely, if an element is not generally preferred, there might be an adverse impact on its retention and preservation. If there is found to be a strong correlation between preference and historic significance, then those preferences become quite relevant to preservation work.

Hypothesis #4

The general public will exhibit a greater dislike for International Modernist buildings in terms of general preference and historic preference than will both the architect and preservationist respondent groups.

These three groups have a stake in any preservation work determines significance based on architectural design. That stake is obvious for members of the architectural and historic preservation fields, but maybe less so at first glimpse for the general public. In effect, buildings that are deemed significant for their architectural merit become part of a society's cultural resources. They can be considered as artifacts, much like those displayed in a museum, and are retained and maintained for the benefit and enjoyment of all. The general public is a direct beneficiary of this process, and through the granting of tax deductions and congressional appropriations, they are also one of the main benefactors of preservation work. It would be useful to understand if there exists any concurrence or disagreements between these three groups regarding what they

consider to be worthy of preservation. The assumption for Hypothesis #4 is that members of the general public, unbiased by knowledge of architectural history, will evaluate International Modernism more negatively than architects or preservationists.

Survey Methodology

General Methods

The goal behind this survey was to determine which architectural features people prefer in general, and assess the role they play in determining a perception of historic significance. Three distinct respondent groups—architects, preservationists and members of the general public—were asked their opinions regarding twenty-four images of buildings, which were presented in two sets of twelve images each. It was felt that presenting the building images on 3.75" x 5" cards, as opposed to slides, would allow the respondents to more easily make direct comparative choices, and in the amount of time they individually deem necessary. The survey consisted mainly of International Modernist buildings, twenty images in all, along with four images of "traditional-styled" buildings. The Modernist buildings were selected to represent a variety of material groups and levels of exterior articulation.

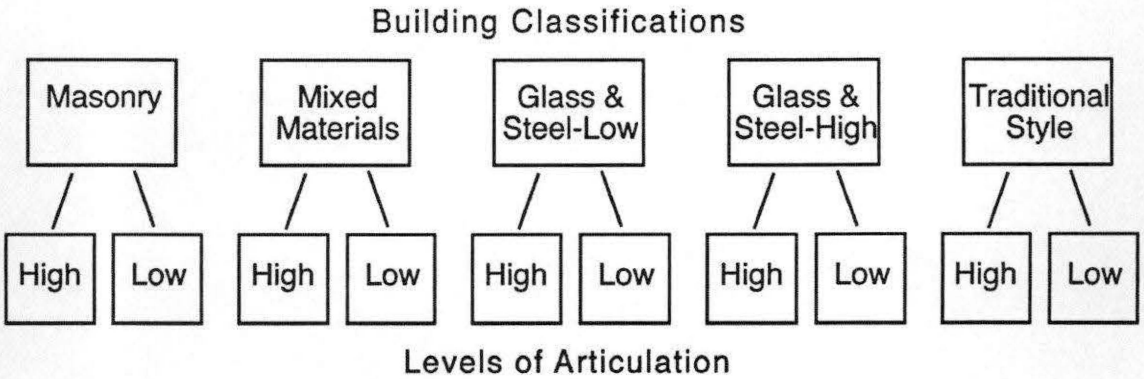
It must be noted that describing architectural features through the use of two-dimensional images limits what is usually a multi-sensory experience. There also exists the potential for various unintended distractions to influence a person's opinion (for example, the angle from which the image was photographed). But considering the financial and logistical alternatives, the use

of image cards as opposed to arranging site visits was considered the best possible method to gather as many opinions as possible within the designated time frame.

Image Selection

The twenty-four images used in the survey were culled from sixty-five photographs of civic and commercial buildings found in northwest cities located along Interstate 5. All twenty-four images with their classification and location is presented in Appendix A. The buildings were separated into five classifications, with four of these classifications containing buildings designed exclusively within the International Modernist style (Graphic 1.). The buildings in these four classifications were then categorized according to their exterior materials, specifically: masonry, mixed materials (usually masonry with glass and steel), glass and steel lowrise, and glass and steel highrise. Buildings in the fifth classification, termed "traditional-style", were ones that generally predated International Modernism and were considered more traditional in character, at least in terms of the handling of massing and exterior materials. These buildings were carefully chosen to contain very little ornamentation so as to avoid any unfair comparisons with a style that almost completely lacks it.

The five building classifications—masonry, mixed materials, glass and steel lowrise, glass and steel highrise, and traditional—were further divided into groups of both high and low articulation. The term "articulation" was used because it presents the strongest analogy to the role ornamentation played in "traditional-styled" designs. For this survey, articulation was defined as "the amount and variation of distinct elements that make up a building's look."



GRAPHIC 1. The building classifications used in the survey.

To determine each building's level of articulation, ten respondents from the University of Oregon's School of Architecture and Allied Arts were asked to perform a rank ordering. The respondents ranked buildings from each of the five classifications into subcategorizes of high, medium and low articulation. Respondents were told to have at least one representative in each subcategory. The results were tabulated and ranked, determining the twenty-four buildings used for the final survey.

The five classifications contained at least four buildings in each—two of low articulation and two of high articulation. Four extra buildings, called "floaters," were added because they were particularly interesting examples of International Modernism, though they were not ranked in the highest or lowest category according to their levels of articulation.

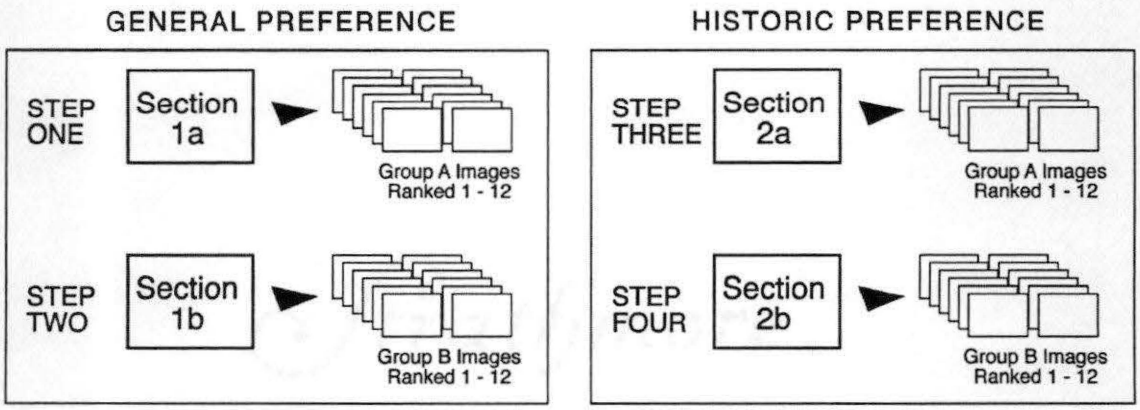
The building images were scanned into a digital format so any potential confounding variables could be removed. This was done to encourage a less-biased assessment of a building's architectural features. For example, some of the elements removed included text on signs, brightly colored sidewalk elements,

automobiles that hid ground levels, and telephone poles that obscured facades. Also, blue skies were placed in all images that lacked them on the day the buildings were photographed to provide a consistent atmosphere. All digital alterations were judiciously chosen to avoid altering or misrepresenting any key feature of the building itself (Appendix B.) The images were output on a high quality color printer and mounted on 3.75" x 5" cards, with the assigned image number placed at the lower right corner. The twenty-four images were divided up into two sets of twelve, designated as Group "A" and Group "B". Each group had equal representation from all of the five classifications and received two of the "floaters." Dividing up the total number of images into two smaller groups allowed for more manageable ranking by the respondents. It also allowed for a comparison of how images from the same classifications were ranked between the two groups.

The Survey

The survey was designed to be self-explanatory, and respondents were encouraged to keep it for a few days to find the proper amount of time to finish it. Most subjects reported that it took about an hour to complete. The survey itself was divided into four general sections, denoted as Section 1, Section 2, etc. (please refer to the actual survey provided in Appendix C.) The first two sections involved a sorting and ranking of the image cards, with Section 1a and 2a using the cards from Group A, and Sections 1b and 2b using those from Group B (Graphic 2.). Alternating the two groups of images between sections helped discourage a simple re-recording of answers, and allowed a bit of time to lapse before the respondents had to again rank those images. The respondents were

also told that once they completed a section, they were not to turn back and refer to it. They were asked to focus their evaluations solely on the main building presented on each image card, ignoring any surrounding buildings or vegetation.



GRAPHIC 2. The procedures used for Sections 1 and 2.

For Section 1a, respondents were asked to lay out the images from Group A in front of them, and arrange them first into three general categories of preference: prefer/neutral/do not prefer. The respondents were then asked to rank the images from #1 to #12, with #1 as the most preferred building. After all the images had been ranked, respondents were to identify two specific features from each of the top three and bottom three ranked buildings which most strongly contributed to the positions they assigned them. Section 1b followed the exact same format, except using the images from Group B.

Section 2a asked the respondents to again look at the images from Group A, but to evaluate them according to different criteria. In an imaginary scenario, the respondents were told that they were members of a Historic Landmarks Committee with the responsibility of reviewing twelve buildings up for

landmark status. All twelve buildings were mentioned to be equally eligible, and the criteria for evaluation was to be based on what the respondents *sensed* was each building's overall historic significance. After ranking the buildings from one to twelve, the subjects were asked to identify the single most important feature from each of the top three and bottom three ranked buildings that most strongly contributed to their assigned position. Section 2b followed the exact same format, except using the images from Group B.

Section 3 asked fifteen questions designed to obtain information on what people consider when looking at buildings in general, and at International Modernist buildings in particular. The first six questions requested a rating of how highly respondents consider six specific elements—architectural style, exterior ornament, exterior form, exterior materials, age, and size—when judging civic and commercial buildings. For question #7, respondents were asked to rank their preferred age range of civic and commercial buildings from three categories: 1900s-1930s, 1940s-1960s, and 1970s-1990s. Question #8 requested a ranking of preference for five exterior materials—wood, stone, metal & glass, terracotta and brick. The remaining seven questions asked information regarding opinions on International Modernism both in general and as a historic style.

Section 4 was designed to gather general information about the respondents themselves, including gender, age range, education and other background data.

The Subjects

Eighty respondents took the survey, and were divided into three distinct groups. Forty respondents were classified as "architects," and were either

licensed architects, interior architects or architectural interns working for firms in Eugene and Portland, Oregon. Fifteen respondents, referred to as "preservationists," worked either in the historic preservation field or were advanced students in the University of Oregon's Historic Preservation Program. The remaining twenty-five respondents were classified as "general public," meaning they did not receive education in, or work as professionals in the fields of architecture or historic preservation. The majority of respondents lived in western Oregon and western Washington, and the surveys were administered between September 1997 and January 1998.

CHAPTER VI

RESULTS AND DISCUSSION

Introduction

This survey was intended to be investigative in character, examining a variety of issues in the endeavor to discover any coherent patterns of preference that might encourage more focused studies in the future. To detect these patterns, a variety of tables and graphs were used to organize and describe the survey results. The results were gathered and analyzed for each of the three respondent groups (architects, preservationists, and the general public), as well as compiled into a single collection. They can be found in Appendix D.

FIGURE 27. An example of a survey image with its associated description, as seen in Tables 1 through 12 in Appendix D.

Most of the data interpretation involved straightforward calculations of ranking averages, with comparisons based on these rankings. Twelve tables were devised that incorporated the survey images, with the intent of making data

interpretation more informative. Each image has its associated image number and material classification positioned along the left side. For example, "2.12 g&s-lo +" describes image #2.12, with its classification as glass and steel low rise, and of high articulation, as represented by the "+" (Figure 27). Images are presented in their ranked position, along with their average rank score.

A much more subjective method was used to tabulate the "main features" that respondents reported as affecting their image rankings. The large number of responses, 2,107 for general building preference and 1,071 for historic preference, were given a cursory review to determine general categories. Seven categories were found and responses placed in the most appropriate ones. Any responses that were not determined to fit into a specific category were placed in a miscellaneous category called "other." This category contained anywhere from 18% to 49% of a respondent group's total answers. Tables 13 through 17 in Appendix D present this information using bar graphs.

Section 3 of the survey asked a variety of questions, most of which required the respondents to place their answer on a five-step scale. Results from this section are presented in graph form in Table 17. The actual questions asked in this section can be found in Appendix C, where the entire survey is located.

The Results

For the sake of clarity, the survey results will be presented in conjunction with their associated hypothesis.

Hypothesis 1a:

Buildings with exteriors of stone and brick will be more highly preferred than buildings of glass and steel. This is due in part to these material's

richness of texture and color, and the sense of solidity and permanence they impart.

The survey results appear to offer strong support for this hypothesis, as a building's exterior materials were found to be of high importance when judging preference. "Materials" were ranked a close second behind "Building Form" when respondents were asked what they considered when judging preference for civic and commercial buildings (Table 17, question #4). When asked to rank material preference for commercial and civic buildings (Table 17, question #8), respondents ranked stone as their first choice, followed by brick, terracotta, metal & glass, and wood.

In regards to the respondent's general building preference (Table 1, Section 1a and 1b), five of the top five buildings in Group A and four of the top five in Group B were of masonry or mixed materials. This held true when the buildings were ranked according to historic preference (Table 1, Section 2a and 2b). When the data is organized according to building classification for both general preference (Table 5) and historic preference (Table 9), four of the top five categories contained masonry buildings.

The glass and steel buildings represented in this survey, on the other hand, tended to be ranked lower overall. They comprising four of the bottom five positions in regards to building classification for both general preference (Table 5) and historic preference (Table 9).

When respondents were asked to record the main features that influenced their image rankings (Table 13), the highest recorded feature was a building's exterior materials. This held true for both the top three and bottom three ranked buildings. Thus, for the buildings the subjects preferred, which were mostly

masonry, the exterior materials were the most likely reason. And, for the buildings not preferred, mostly glass and steel, materials were again mentioned to be a highly contributing factor.

Hypothesis 1b:

> *Buildings with higher levels of articulation will be preferred over those with lower levels. It is assumed that the greater the level of articulation, the more interest the building will hold for the viewer.*

A building's level of articulation, as least as recorded in this survey, was not found to be a significant factor in determining preference. In terms of general preference (Table 1, Sections 1a and 1b), three of the top six buildings in Group A and four of the top six in Group B were those exhibiting high articulation. These rankings do not appear to signify any sort of definite overall pattern. This lack of pattern held true as well when looking at the bottom six buildings in each group. Issues of articulation were not highly mentioned as features that affected building rankings (Table 13).

When looking at general preference in regards to building classifications (Table 5), it was found that higher articulated buildings under the "masonry", "mixed materials" and "glass & steel highrise" categories were ranked ahead of their lower articulated counterparts. Yet the opposite was true for the "traditional" and "glass & steel low-rise" categories, in which lower articulated buildings ranked ahead of higher articulated ones. This same pattern held true for the data in respect to historic preference (Table 9). An expanded analysis on this will occur in the Discussion section.

Hypothesis 1c:

Buildings with a form and massing that exhibit a well-developed play of solids and voids will be preferred over those employing a smooth "skin."

The results in regards to Hypothesis 1a shows there to be a fairly strong concurrence between a building's form and its preference. This offered a confirmation of Henry Sanoff's 1973 study,[1] which indicated that a building's form is of important consideration when judging preference. Building form was of highest consideration when respondents were asked what they considered when judging their preference for civic and commercial buildings (Table 17, question #4). "Form and massing" issues were mentioned just behind "materials" when respondents were asked to list the main features that affected their image rankings (Table 13). This held true when listing features for both the top three and bottom three ranked buildings, and for both general and historic preference.

The four top-ranked buildings in each of Group A and Group B for both general preference and historic preference (Table 1), exhibit the well-developed play of solids and voids that was predicted to be preferable over the smooth-skinned options, which were placed consistently at the bottom of all rankings. This distinction is especially obvious after examining the buildings in their designated classifications for both general preference (Table 5) and historic preference (Table 9).

Hypothesis #2

People will rank "traditional-styled" buildings higher than International Modernist buildings both in terms of general preference and historic preference.

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[1] Henry Sanoff, "Youth's perception and categorization of residential cues," in *Environmental Design Research, Volume 1*, Wolfgang F.E. Preiser, ed., (Stoudsburg, PA: Dowden, Hutchinson and Ross, 1973), 84-97.

This was almost entirely the case. The Group A "traditional" buildings (Table 1, Sections 1a and 1b) placed second and third for both the general and historic preference rankings. The Group B "traditional" buildings (Table 1, Sections 2a and 2b) placed second and third for the general preference rankings, and first and second when ranked for historic preference. The preservationists tended to rank the traditional buildings higher (Table 3), followed by the general public (Table 4), and the architects (Table 2). When viewed in their building classifications (Tables 5 and 9), the traditional buildings capture the top two spots, with the low-articulated traditional buildings ranked ahead of the high-articulated ones.

Hypothesis #3

The buildings for which people have the highest preference will generally be the same buildings they consider to have the highest historic significance.

There appears to be a very strong relationship between what people prefer in general and what they feel is worthy of historic preservation. For example, the top six buildings in Group A and Group B (Table 1) do not change more than one place between their general (Sections 1a and 1b) and historic preference rankings (Sections 2a and 2b). This is also true of the bottom three buildings in each group. This concurrence is even stronger for the rankings of building classifications (Tables 5 and 9), where the top five positions are exactly the same for both general and historic preferences. This conformity, though, wasn't reported to be of importance when respondents were directly asked if they would be more supportive of a building being designated as historic if it was designed in a style they really liked (Table 17, question #15). The architects and preservationists were almost completely neutral on this matter, with the

general public a bit more in favor. The obvious dissonance between how respondents ranked their preference and how they answered a directly-related question will be elaborated upon in the Discussion section.

Hypothesis #4

The general public will exhibit a greater dislike for International Modernist buildings in terms of general preference historic preference than will both and both the architect and preservationist respondent groups.

There doesn't appear to be much of a difference of opinions between the three respondent groups as far as the building rankings are concerned. One obvious difference was that in the description of a building's features, architects and preservationists both exhibited a much more developed architectural vocabulary than did the general public.

Other, more subtle differences were discovered when reviewing the data from the questions in Section 3 (refer to Table 17). When asked their opinions on the International Modernist style (question #9), all three groups tended to be on the "dislike" side of "neutral." It is interesting to note that preservationists had the lowest opinion of the style, followed by the general public and finally the architects. When asked if the same amount of effort and resources should be expended on preserving International Modernist buildings in comparison to that for earlier styles (question #11), the average answer for all subjects was slightly more than the selection, "a bit less." The general public felt somewhat stronger that a bit less effort should be expended when compared to the other two respondent groups. The architects, with moderate confidence, agreed when asked if buildings from all architectural styles should be preserved, regardless of

whether that style is currently appreciated (question #14). Preservationists and the general public tended to agree as well, though with less certainty.

Discussion

Overview

The main intent of this survey was to gather data that began to explain the reasons why International Modernism has been experiencing resistance regarding its designation as a historic style. In regards to civic and commercial buildings, the survey results suggest that those features that make Modernist buildings distinctive are, in general, the same ones not entirely appreciated by the general population. Those surveyed showed a strong preference towards lowrise masonry buildings with a massing that displays distinct solid and void patterns. The respondents also preferred those buildings to be designated as historic resources. What respondents did not prefer were buildings with glass and steel exterior materials, or a mix of masonry and steel. It was felt that both a building's exterior materials and its exterior form offer the principal explanation for these preferences.

Summary of Major Findings

A building's level of articulation was not found to be a defining factor in regards to preference, except possibly for one circumstance involving the glass and steel buildings. As reported in the results for Hypothesis 1b, glass and steel highrise buildings of high articulation tended to rank above their low-articulated counterparts. The opposite was true for glass and steel lowrise buildings, in

which the lower-articulated examples were ranked above the higher-articulated ones. This idiosyncrasy might very well be a function of a glass and steel building's height. It could be speculated that a greater amount of articulation, especially when used to emphasize verticality, is welcomed on a building approximately ten stories or higher, generating a sense of elegance that can be seen in survey image #2.15 (Figure 28). This look was very much part of the Miesian aesthetic, demonstrated by many of the structures presented in Chapter II. In contrast, highrise buildings that lack appropriate elements of articulation might be perceived as being too plain. This could especially be the case if a building accentuates its horizontal lines, as was the case in survey image #1.19 (Figure 29).

The opposite appears to be the case when looking at lowrise glass and steel buildings. Buildings in this category with high articulation tended to receive lower preference ratings, possibly because they appear to be too busy and cluttered (survey image #1.12, Figure 30). The simpler lowrise buildings, especially those with a highly reflective exterior surface (survey image #2.18, Figure 31), received the highest ranking out of all of the glass and steel structures. A simpler, cleaner aesthetic for International Modernist buildings of modest size might be the most convincing way for these structures to convey a sense of grace and refinement. Future studies regarding this issue would be necessary to confirm these speculations, and might provide interesting and useful results.

It came as no surprise that the natural, non-industrial building materials, such as stone, brick, and marble were found to be preferred both in the building

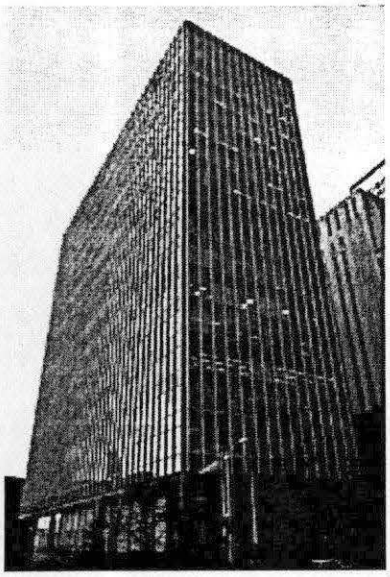

FIGURE 28. Image #2.15.

FIGURE 29. Image #1.19.

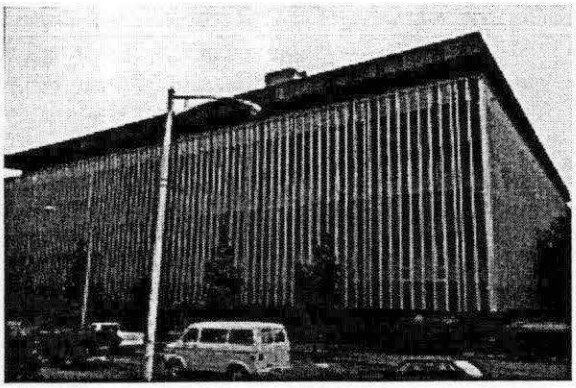

FIGURE 30. Image #1.12.

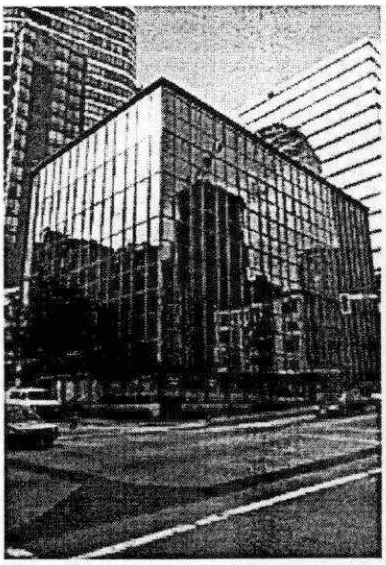

FIGURE 31. Image #2.18.

rankings and when the respondents were asked about this issue directly. Since stone and brick are made up of smaller sized elements, due to their nature of manufacturing and assembly, they are inclined to evoke a human scale and visual texture that tends to find positive acceptance. They usually display a more massive form and presence, evoking a strong sense of permanence. A significant part of masonry's high regard has to do with its color scheme, which is usually perceived to be brighter and warmer than that used in the glass and steel system. In this thesis, a building's materials and its color were grouped together, but this shouldn't be perceived as a mutually inclusive relationship. For example, a glass and steel highrise with brighter or warmer colors might produce a higher preference rating than a darkly-colored masonry building. Such a bright, warm color palette, though, was not usually part of the Miesian aesthetic, reducing its opportunity to connect with the viewer on a more meaningful level.

The three respondent groups did not diverge in their views concerning Modernism as much as was predicted, with all three groups feeling that it is important to preserve buildings regardless of style or current level of appreciation. Members of the general public, though, regularly expressed more negative opinions towards the Modernist style. The architects seemed to be more open-minded regarding Modernism as a style worthy of historic merit, even more so than did preservationists. This might be because they have a greater understanding of Modernist principles and aesthetics, and with an average age range between 31 and 45, they would have probably been taught by professors who were well-versed in the Modernist aesthetic.

The high concurrence between what the respondents generally preferred and what they considered to be historically important was confirmed, as this

type of relationship is well-established in psychological research. The theory of cognitive dissonance[2] states that people will commit to that which they prefer, and will prefer that which they are committed to. Any discord between these two circumstances produces an uncomfortable state of conflict. This theory also works in the reverse, in that we won't generally commit to what we don't appreciate, and visa-versa. The effects of cognitive dissonance are powerful enough to not be ignored by the preservation field. In general, preservation activities are designed to remove most subjective interpretation—buildings are deemed historically significant not simply because they are attractive and well-liked, but because they have fulfilled some other objective criteria. But a consideration of what people like or don't like should not be dismissed as irrelevant, and instead acknowledged as having validity, and analyzed to better understand the rationale behind it. If there is strong evidence that a majority of people don't value a specific architectural style, and for well-substantiated reasons, then the preservation field should at least examine the reasons behind this. It may not simply be a matter, as has been suggested, of teaching people to accept what they don't appreciate.

It is noteworthy to mention that the two highest-rated building classifications were of the "traditional" style, one that preceded International Modernism (Table 5). Respondents were asked to rate these buildings in terms of their general preference well before any question of historic significance was asked, so ranking them purely on their age should not have been of issue. Respondents simply preferred the aesthetic nature of these buildings, and the simpler they were in terms of articulation, the better they liked them.

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[2] This term, developed by Festinger (1957), suggest that people will avoid a scenario in which there is interpersonal conflict between what believe and how they actually act.

The one thing that most of the top-ranked buildings have in common is their well-defined play of solids and voids, creating interesting surfaces and a variety of deep relief. This characteristic seems to corroborate Eduardo Lozano's hypothesis, which suggested that the most interesting stimulus involves a careful combination of simple elements providing orientation and a degree of complexity that maintains interest.[3] These buildings establish a connection with the viewer through an easily comprehended profile, then entice them with projections and recessions that produce interesting plays of light and shadow. "Visual richness depends on contrast; the contrast of elements such as window and wall; or the contrast of building materials, their colour, tone and texture; or finally the contrast of light and shade on the highly modeled surface."[4]

It is really no surprise that this sort of arrangement attracts the human eye, for such a thing has been ingrained in our development and advancement as a species. For example, it has been shown that infants carefully trace with their eyes along edges of high contrast—those places where dark areas meet lighter ones. Areas of contrast provide information regarding an element's boundaries, defining their shape and eventually leading towards recognition. This is the process that humans use to decipher their environment, and the resulting comprehension provides a sense of accomplishment and pleasure. Buildings that offer this type of stimulus are ones that will receive consensus as being of interest. Interesting buildings encourage a sense of significance, and significant buildings often become preserved buildings.

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[3] Eduardo Lozano, "Visual Needs in the Environment," *Town Planning Review* 43, (1974): 351-374.

[4] Cliff Moughtin, Taner Oc, Steven Tiesdell, *Urban Design: Ornament and Decoration* (Oxford: Butterworth Architecture, 1995), 25.

Conversely, buildings that are of very simple form without any interesting variety or relief will not hold one's attention for an extended period of time. Modernist buildings, especially of the Miesian ilk with their uniformly dark color and relentlessly repetitive bays, were not designed with human perceptual needs in mind. These were products of technology, grounded in issues of efficiency and designed to satisfy the needs of production and replication. Their abstract aesthetic is best appreciated almost entirely on an intellectual level, ignoring the fact that humans don't comprehend their environment exclusively on that level. To create a built environment that encourages only intellectual understandings disregards our highly-evolved process of experiential inquisition, and as a result denies a basic element of our humanity. It is most likely that the goal of International Modernism was not intended to deny anyone's humanity, but unfortunately their products can induce such an effect. Modernist buildings don't readily communicate on a profoundly human level, and as a result have not significantly contributed to our enjoyment of the built environment. With this in mind, convincing a non-appreciative public to maintain these kinds of buildings in perpetuity should be acutely questioned.

Study Limitations and Suggestions for Future Research

As mentioned in this chapter's Introduction, this survey was designed to examine a variety of issues in a rather general manner, looking for any significant patterns that might emerge. The results have proved to be promising in this regard, as patterns have been recognized that encourage more specific studies. These studies might be designed so as to avoid some of the limitations this study encountered. For example, this survey attempted to study the

experience of architecture through the use of photographs, a method that is convenient and efficient but not exactly representative of the full architectural experience. Viewing a photograph presenting a single image in a single moment in time is not the same as moving around buildings and experiencing them with all our senses. This difference could be more dramatic when examining buildings of the International Modernist movement, many of which act as "landscape mirrors", with a system of aesthetics somewhat dependent on the play of reflections and even weather conditions. A more robust survey instrument that takes place in the field would capture more accurate opinions, and result in a much more reliable assessment.

This survey devised a scenario in which the respondents were to pretend that they were members of a Historic Landmarks Committee, reviewing buildings considered for landmark status. They were given no information regarding these building's landmark qualifications, and were asked to evaluate them based on what they sensed was each building's overall historic significance. This, of course, is not the common method of designating landmark buildings (as a few preservationists made mention in the margins of their survey). The rationale behind this was to allow for comparisons between respondents' general preference and their sense of historic significance without any intervening and potentially confounding information. As a result, a connection between general preference and the sense of historic significance had been established, leaving it up to future studies to more thoroughly explore its depth and range. For instance, it would be useful to understand the specific methodology and criteria utilized when reviewing historic status, directly addressing why our society values and preserves that which it does.

The question regarding exactly how buildings communicate to viewers is an enormous one, but enormously important when we are assessing the qualities of vastly different architectural styles. It is recognized that these issues need to be explored well beyond the scope of a single thesis. The author hopes that a useful data base has been created to encourage more advanced investigations. It is also desired that the design of this survey is accurate enough at gathering information that it could be used for future studies. More specific investigations into the roles of materials and building forms in historic analysis, found in this study to be of high consideration, are necessary to more precisely understand how buildings communicate meanings and how these meanings are received. For instance, it would be interesting to explore issues of preference regarding specific building materials, when compared across a variety of architectural styles. Ornamentation as a communication device is an issue that should be addressed directly—this study handled it in a rather indirect manner through a building's level of articulation. Evaluating a variety of ornamentation from a number of different historic styles would offer insight into how meanings are communicated through the language of aesthetics. Borrowing specifically from psychological methods of assessment, a type of Rorschach test could be devised to gather and analyze specific meanings that certain types of ornamentation have for people.

All the information that would be gathered from such studies could be useful not only for understanding how past styles communicate, but could possibly aid in the development of future design directions. A design aesthetic could be developed that directly addresses how people intuitively gather messages from the environment, and focus on those features considered to be the

most meaningful. It should be noted that the author of this thesis feels that buildings of the Post-Modern period do not adequately fulfill this function (the reasons why would fill another thesis). What is proposed here would be less a method of design based on a set of premises and principles, and more of a return to an intuitive sense of what makes architecture meaningful in its most profound form. It is understood that this would be no new discovery, as such a thing can easily be seen in many buildings of a vernacular nature, where the principal aesthetic was often based on meanings with deeper emotional associations. Arriving at an architectural aesthetic that produces meanings on an intellectual and emotional level is a most worthy goal, having the potential to reduce major disagreements concerning the significance of such buildings, and encourage their retention and preservation.

CHAPTER VII

CONCLUSIONS

Introduction

This thesis began with two distinct hypotheses. The first asserts that the type, quality and quantity of architectural aesthetics found in a building will influence how it will be received and appreciated. An appreciation of a building's aesthetics tends to positively bias its perception of significance, which, in turn, affects its recognition as a historic resource. Conversely, buildings which communicate a much reduced and unappreciated level of aesthetics will be received much less positively, possibly with apathy or even contempt, and will not be among those that will not be easily promoted for preservation. The survey conducted for this thesis provides evidence to this effect, with respondents showing a preference for buildings with interesting plays of massing, masonry materials, and a more "traditional" system of aesthetics. The issue now focuses on how this information relates to the consideration of International Modernist buildings as historic resources. If the preservation process for determining significance is truly an objective one, then this information will have very little relevance. But if subjective opinions are important and even inherent in the process, then this information might very well exemplify the challenges ahead for this latest of historic styles.

Subjectivity and the Determination of Significance

The preservation field is constantly endeavoring to strike a balance between producing unbiased determinations of significance and keeping these determinations within the range of understanding and acceptance by the general public. If the field expressed esoteric views that deviate too far from public opinion, its mission as a publicly-sponsored entity could be in question. On the other hand, if it sponsors only structures that are currently accepted, it does little to elevate an understanding of deeper historic meanings. W. Ray Luce describes the dilemma facing the preservationist as they evaluate the physical environment:

> Does this mean that the public will (or should) agree with all of our evaluations? Absolutely not! If we are not evaluating things that are not currently appreciated by the general public, it is likely that we are not doing our job. On the other hand, we must recognize that we are involved in a public process— one with policy and fiscal implications—and if we get too far out of step with public perceptions we will be viewed as irrelevant or as a hindrance.[1]

To accomplish its goals within these constraints, the preservation field has attempted to integrate two basic conditions: it has established a predetermined criteria for assessment, and it attempts to achieve a basic level of consensus among interested parties. Despite the best of intents, both of these considerations are not without their biases, as they are based upon rather subjective assumptions. First and foremost, there is no definitive measure of how to determine significance. Deeming something to have significance is, by its very nature, a function of values and judgments. The question is, who makes these

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[1] W. Ray Luce. "Kent State, White Castles and Subdivisions," *Preservation Forum*, vol. 10, no 1. (Fall 1995): 42-43.

judgments and upon what are they based? The rationale behind this determination contains the crux of the conflict between proponents and critics of International Modernism and its acceptance as a significant historic style.

There has been fairly substantial debate in the preservation field on whether a building's significance should be based primarily on either a historical (criterion B) or an architectural (criterion C) perspective. When judged according to its historic qualities, a building must prove to be closely related to an important historic event or person. The building is regarded, in a manner of speaking, as a "witness to the past." Its aesthetics are not of issue, with the principle concern being the condition of its physical integrity. Architectural significance, as described by criterion C of the National Register Nomination process, examines more specifically the design and fabrication of the building, and how well it exemplifies its style, or is a rare example of that particular style within a distinct locality. The primary basis used for determining significance for International Modernist buildings, whether historical or architectural, will have an important role in how that these buildings will be accepted into the body of preserved styles.

As International Modernist buildings are relatively new on the scene, they haven't yet acquired associations to key historic events that the passage of time generally affords. Typically, buildings of the postwar period tend to be judged less on their historic significance and more on their architectural significance. By the end of 1994, over 2,000 properties less than 50 years old had been listed on the National Register, with a large percentage deemed significant according to criterion C, in the area of architecture.[2] This strongly suggests that the

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[2] Carol D. Shull and Beth L. Savage, "Trends in Recognizing Places for Significance in the Recent Past," *Preservation Forum*, vol. 10, no 1, (Fall 1995): 44-53.

interpretation of architectural design has great emphasis on the historic designation of International Modernist buildings.

It needs to be reiterated that the appreciation of International Modernist architecture based on its historic significance is not in dispute in this discussion. Modernism is understood to be a tremendously influential style, one that had an effect not only on the physical landscape, but on architectural theory as well. "Modern architecture did not just eliminate ornamentation; it did not just eschew references to the past; it did not just emulate a machine ethic; it entailed challenges to theretofore basic assumptions about the properties of design."[3] Important structures designed in this style must and will be preserved, and that cannot be emphasized enough. But with a huge inventory of Modernist structures built in the years after the Second World War, and a relatively small percentage considered to be prime examples of their style, one must wonder If and how these types of buildings will eventually find their way onto the National Register. The trend, as mentioned above, seems to be in listing Modernist buildings for their significant architectural contributions, rather than historic ones. Thus, Modernist buildings can expect to receive their evaluation of significance based on a much more subjective criteria.

While it is true that basing judgment on subjective criteria has the potential for inconsistencies, it is important to note that at this personal and emotional level that people find their most powerful connection with buildings. For example, the often-heard response from viewers of highly ornate Queen Anne Victorian houses tend to be emotionally based ("I simply love it", "I find it very pleasing", etc.). The general public tends to use their senses and emotions in

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[3] Richard Longstreth, "I Can't See It; I Don't Understand It; and It Doesn't Look Old to Me," *Preservation Forum*, vol. 10, no 1, (Fall 1995): 10.

experiencing their environment, even when encountering the abstract, intellectually-based International Modernist style. This predilection was obvious in the survey, where respondents often used subjective descriptions to justify their image rankings. This was most common when listing the features for their lowest-ranked buildings. Answers such as "yuck," "it's just plain horrible," and "demolish it now!" spoke of passions more emotionally that intellectually based.

There is solid precedent for analyzing building significance from a somewhat subjective viewpoint, as evidenced in one of the most important publications in the preservation movement, the book *With Heritage so Rich.* This book was instrumental in the passing of the Historic Preservation Act of 1966, which in effect legitimized preservation efforts in America. Below is an excerpt from its conclusion of findings:

> First, the preservation movement must recognize the importance of architecture, design, and esthetics as well as historic and cultural values. Those who treasure a building for its pleasing appearance or local sentiment do not find it less important because it lacks "proper" historic credentials.[4]

Subjective responses to buildings are often based upon a building's system of aesthetics. While there can be a great variety of opinions regarding architectural aesthetics, there does seems to be a level of general consensus on the appreciation of key features. Significant studies that describe this common appreciation, based on fundamental psychological and physiological systems, were mentioned in Chapter IV. The results of the survey conducted for this thesis contributes to this field of research, broadening it to encompass the perception of

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[4] Albert Rains and Laurance G. Henderson, eds., *With Heritage so Rich* (New York: Random House, 1966), 64.

historic significance. The interpretation of aesthetics is an integral part of why we save what we save, and the interpretation of Modernist buildings has not been a positive one. People are beginning to question why a style with such an obvious disregard for the long-term physical and emotional needs of its inhabitants should be considered for retention. The reasons behind this opinion needs to be teased apart and scrutinized, before any sort of a plan addressing it is instituted.

The Dilemma of Preserving "Throw-Away" Buildings

Part of the attraction of preserving historic structures, especially commercial and civic buildings, is that many of them were designed and constructed to last for many generations. People of contemporary times tend to appreciate such consideration, feeling somewhat obligated to return the courtesy by insuring the building's healthy survival well into the future. "One of the things that people like about older buildings," says author and preservation specialist Clem Labine, "is that they were built to last. They have a sense of permanence about them. Up until the 20th century, people thought that they were building for the ages."[5]

Modernist buildings, though, were not executed with this same resolve. Instead, they exemplify the postwar period's "throw-away" mentality, one that encouraged demolition and reconstruction if a building was found to no longer support its programmatic function. Today we find ourselves forced to deal with the results of this strategy, questioning all the while why great amounts of resources should be expended to preserve what was intended to be relatively short-lived. Some people even take this issue personally, finding great offense in

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[5] Steward Brand, *How Buildings Learn* (New York: Penguin Books, 1994), 91.

Modernism's wasteful, selfish attitude and blatant disregard for issues of durability. The fact that these buildings are starting to disintegrate, due to their purposely-limited lifespan, has been thought by some to be the process of evolution in action, in effect dividing out the "sick and weak."

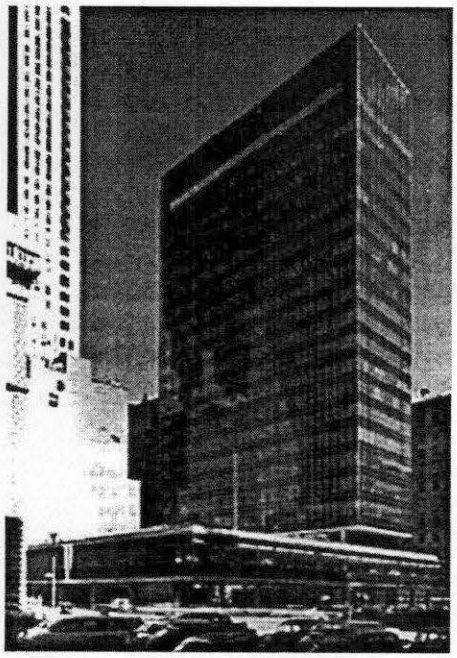

FIGURE 32. Lever House.
(Source: William J.R.Curtis, *Modern Architecture Since 1900* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1982), 267.)

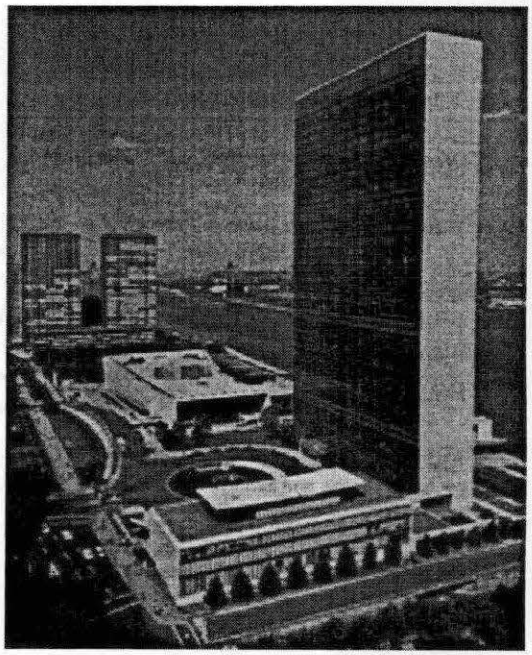

FIGURE 33. The Secretariat Building
(Source: Curtis, 267.)

First of all, it needs to be mentioned that there are not many obvious levels of perceived quality when assessing the entire cross section of International Modernist buildings. Simply put, when its buildings were good, they were very good, and when they were not good, they were often simply poor. Unfortunately, due to a very narrow systems of aesthetics, it can be quite difficult to differentiate between the good and poor examples. Lewis Mumford,

in his 1956 book *From the Ground Up* [6], discusses the difference between two highly visible products of the Modernist style, Lever House (Figure 32.) and the United Nations Secretariat Building (Figure 33.). His descriptions of the buildings are quite similar, but his interpretations of them are entirely different. Mumford expresses an intense dislike of the Secretariat Building, while considering Lever House to be one of the greatest example of its style. If most people were to compare both structures, it seems unlikely that they could arrive at such a diversity of opinions. The buildings just seem too much alike to make such contrasting distinctions. This inability to easily discriminate between the best examples of the style from all the rest allows the huge quantity of derivatives to, for all practical purposes, define the style. The development of criteria that distinguishes the good Modernist examples from the poor ones will be one of the preservation field's greatest challenges.

The premature physical failure of Modernist buildings as a result of faulty materials and construction techniques raises difficult questions regarding issues of integrity. Establishing a building's integrity, based on the presence of original materials and key features, is of critical importance if it is to be considered for the National Register. When a Modernist building's exterior enclosure system begins to fail, it usually requires whole-scale material replacement, resulting in a significant reduction in its historic integrity. This is a fairly recent predicament unique to the Modernist style. Often, when traditional-styled commercial or civic buildings are renovated to make them more viable, their exterior is able to be retained, while their interior receives the greatest amount of modification. This allows the all-important exterior integrity to be maintained. For Modernist

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[6] Lewis Mumford, *From the Ground Up* (New York: Harcourt, Brace & World, Inc., 1956).

buildings, with their flexible open floor plan and inefficient and often ineffective curtain wall system (in terms of energy use and weather protection), it is the exterior that we usually witness getting replaced, and often in a more contemporary style. This deals a serious blow to its historic integrity, a consideration that the Modernists themselves would not be worried about, as their buildings were often designed to have their parts easily removed and replaced. To prohibit this action from happening for the reasons of preservation could negate the designer's original purpose, raising the question of whether it is more important to preserve tangible materials or conceptual intentions.

The International Modernist style, for the reasons presented above, has been interpreted by the general public as lacking either coherent meanings or inciting fairly negative ones. It might be asked, if a society should be actively preserving buildings based on architectural merit if they are felt to generate such undesired connotations? This is an important issue, for in its role as advocate and recorder of buildings deemed significant, the historic preservation field is constantly involved with issues of meaning. This scenario begs the question: is it necessary for an architectural style to produce positive meanings to then be considered significant and worthy of preservation? Basically, if we don't like what modernist buildings have to say, should we expend the resources to preserve them in perpetuity? It almost boils down to a confrontation between emotionally-based distaste and intellectually-based rationale. International Modernism is a style based on abstract meanings whose true appreciation is to be found through conceptual justifications. Therein lies the conflict: a style that generally produces negative emotional connotations can only really find its validity intellectually. The recent literature produced by the preservation field

suggests that all the public needs to do to appreciate International Modernism is to undergo a process of education. If this process is to be successful, the public will then have to suppress or negate their intuitive feelings, and replace them with more analytical understandings. In essence, the idea here is not to question the motives and systems behind the architecture, but instead question and attempt to change the intuitive understandings of the viewer. It is ironic that this is exactly what the Modernist architects attempted to do to justify their style in the first place. Can we learn to appreciate Modernism, or is it a style in which only the most important examples should be preserved, and the rest left to fend for themselves? Such a question challenges the core values of the preservation field, and how it conducts its business.

Implications on Historic Preservation Activities

> The challenge is great. There is much to save. After World War II, the United States became an international leader in modern architecture. Our legacy of work by a wide range of highly creative designers—of landscapes and interiors as well as of buildings—during the postwar era is probably unmatched by any other single nation.[7]

It is remarkable how the simple act of adding yet one more architectural style to a long list of historic styles has exposed some very formidable issues. And, as the quote above suggests, the challenge is great, the issues real and pervasive, and addressing them touches upon the very essence of the preservation field's mission. It is an issue based upon an interpretation of aesthetics, and what we as a society deem to be significant and worthy of retention. How the preservation field defines and addresses International

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[7] Longstreth, 14.

Modernist buildings will be critical in how it matures into its roles and responsibilities. This thesis suggests a series of strategies that might be employed to allow the field to adequately address and possibly resolve these issues.

The first such strategy is to simply carry on with "business as usual". Procedures are already set in place to accommodate historic styles, and have worked reasonably well for decades. International Modernism does present its challenges, but buildings in this style should receive the same consideration as preceding styles. This strategy will have to look beyond the notable level of dissension found within the preservation field itself, and ironically based on preserving a style of architecture that seems to be an antithesis to core preservation values—yesterday's threat to America's heritage is now ready to take its place as part of that heritage. Also, some preservationists have found working on buildings with a lack of ornamentation and overall craftsmanship to be rather anticlimactic. Theodore H.M. Prudon, an associate professor of historic preservation at Columbia University, explains that ". . . in traditional preservation there is an inherent significance in the original materials, both as artifacts and often pieces of craftsmanship. . . I have a hard time bringing up the same respect for a precast concrete panel."[8] With these sort of issues inherent in the relationship between International Modernism and historic preservation, its doubtful that the field could unobtrusively proceed with a "business as usual" approach.

A second strategy would be to change how the preservation field determines significance, opening it up to be based more on a true historicist's approach. Indeed, it is already the case that the consideration of modernism as a

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[8] David W. Dunlap, "Preserving the Legacy of Modernist Architecture in New York City," *The New York Times*, Sunday, April 7, 1996, p. Y15.

historic entity is being led at this point more by historians than preservationists. The historicist's method considers all buildings to be an integral part of history, which removes the subjective constraints of having to prove architectural significance. The rationale behind this was presented by history professor Richard Striner, who feels that ". . . instead of emphasizing the interconnectedness of the building arts and society, we separate 'architecture' and 'history' and proceed to the further separation and isolation of the ornamental aspects of architecture in our mania for classifying so-called architectural 'styles'.[9] Striner sees the predilection for personal taste playing a large role in the determination of architectural significance, and calls for a more empirical system. "Our movement is supposed to be a movement for historic preservation (and certainly the National Register program is grounded in historical analysis) but many preservationists continue to behave as though the movement were a war of taste."[10] According to Striner, only by judging buildings solely on their historic merit will the preservation field rid itself of the subjective whims of fashion and closed-minded judgements.

Viewed exclusively as historic artifacts, it is thought that significant buildings should not have to comply with the National Park Service's fifty-year age stipulation. Diane Wray, director of the Modern Architecture Preservation League, has even gone so far as suggesting that as soon as buildings are constructed, they could be determined significant and placed on the National

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[9] Richard Striner, "Scholarship, Strategy, Activism in Preserving the Recent Past," in Deborah Slaton and Rebecca A. Shiffer, eds., *Preserving the Recent Past* (Washington D.C.: Historic Preservation Education Foundation, 1995), III-18.

[10] Ibid.

Register.[11] From the purely historicist's viewpoint, almost anything of historic value should be maintained, regardless of practical considerations. For example, one of the most important results of Modernism was its profound effect on the environment. Historicists have suggested preserving large-scale modernist projects, such as whole shopping centers and vast suburban housing developments,[12] even if they were never well received or financially viable.

The historicist's approach appears to be a rather narrow one. Reducing buildings merely into historic artifacts completely ignores the full and complete purpose that architecture is meant to perform. Architecture is not comprised of specimens that must be categorized, labeled and placed on display in a museum. Buildings are designed as an active and fundamental element in the environment. They perform the necessary function of supporting activities, and must do so in order to fulfill their core purpose. Judging buildings according to some pseudo-objective criteria based solely on historic significance is not the answer in avoiding any sort of subjective assessment. Opinions and values are endemic in the preservation process, and to obscure them within "purely" objective methods ignores their importance and in effect reduces the number of opinions that influence a decision. The purely historicist recommendation of preserving what are considered to be good representatives of genuinely poor architecture entirely because of their historic value is questionable at best, and to suggest doing so on such a large scale is simply irresponsible. Society can support only so many preserved buildings that lack a practical function.

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[11] Diane Wray, "Organizing to Preserve Modern Architecture: The Modern Architecture Preservation League," in Slaton and Shiffer, III-3.

[12] Refer to National Trust for Historic Preservation, *Preservation and the Recent Past*, Information Booklet No. 69, 1993.

Diane Wray's suggestion of circumventing the National Register's fifty-year rule removes the chronological and philosophical distance necessary to make much more accurate decisions regarding significance. Without this perspective, it seems that just about everything could be considered significant if it of consequence in some manner or another. The determination of significance suddenly gets very broad, begging the question that if everything can be considered significant, is anything then *really* significant?

The most appropriate preservation strategy regarding the treatment of Modernist resources should be one based upon achieving a general consensus on a definition of significance. This consensus is necessary, otherwise the preservation field could inappropriately force upon society buildings which have been shown to impart a plethora of negative implications, in particular the great number of Modernist derivatives. Doing so would result in a backlash that could ultimately provide resistance for the preservation of highly significant buildings within the same style. Saving and preserving the prototypical Modernist buildings must be of high priority, and be accomplished before the lesser buildings begin to be considered. It might so happen that many of the lesser buildings will eventually get severely renovated or even replaced, and maybe this would not be such a horrible thing. Recycling these buildings would, in effect, fulfill the original Modernist intent of viably accommodating contemporary functions and economic needs. It could also produce an environment which allows the better examples of the Modernist style to stand out even more, reminiscent of the successful balance between various aesthetics present when the style first arrived on the architectural scene, before it became so diluted with its shear numbers and overpowering presence.

An attempt towards balancing historic and aesthetic issues is currently being addressed on a world-wide scale. In 1994, there was a strategy proposed that would begin "to move away from the purely architectural view of the cultural heritage of humanity to one which was more anthropological, multi-functional and universal." Nominations to the list of World Heritage sites would be based upon a

> . . . striking transformation of multiple meanings in the use of materials, technology, work, organization of space, and, more generally, life in society. This new approach would naturally require something more than a 'world prize' for architects in the development of a methodology that would make it possible to identify a battery of objective criteria and operational procedures that would reveal the significant characteristics of this category of cultural property so as to produce selections that were truly relevant.[13]

Buildings under historic consideration would have to possess "outstanding universal value," and pass the "test of authenticity in design, materials, workmanship and setting."[14] Architecture would be considered significant not only through historical implications, or how much it is currently appreciated, but according to its cultural implications and how it addressed a society's shared values. This strategy would offer a most inclusive and robust look at our surroundings, encouraging a profound discussion on the types and depths of meanings evoked from our built environment.

It is of interest that the definitive statement regarding the evolution of International Modernism should come from the 1961 book *Mid-Century*

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[13] Susan Bronson, "Commemoration of the Built Heritage of the Modern Era in Other Countries and at the International Level," (Parks Canada, 1997), 5.
[14] Ibid.

Architecture in America, which discussed the change in meanings that are most relevant in our analysis of the Modernist movement today.

> In their earlier, self-conscious and defensive stage, modern architects tended to insist they were mere technicians of function, just good ole Yankee businessmen, who used their newfangled modernism only because it gave you the most shelter for your money. They 'satisfied function, not fashion,' they said. They still do. But they now realize, in Giedion's words, that 'people want the buildings that represent their social and community life to give more than functional fulfillment. They want their aspirations for monumentality, joy, pride and excitement to be satisfied.'[15]

Recording and preserving buildings that physically embody these positive aspirations should be of high priority for the preservation field. Preserving buildings that only "gave you the most shelter for your money" should be much lower on the preservation agenda. Historic preservation is not based on simply saving a variety of elements in the environment, but in saving *meaningful* elements. The full range of meanings must be considered, recognizing both the importance of commonly-appreciated aesthetics, and historic and cultural merits. Maintaining this balance would help ensure the continuity of a meaningful environment, one that reflects back to the people of a society who they were, who they are now, and what they as a civilization aspire towards.

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[15] Wolf Von Eckardt, ed. Mid-Century Architecture in America. (Baltimore: The Johns Hopkins Press, 1961), 26.

APPENDIX A

SURVEY BUILDING IMAGES

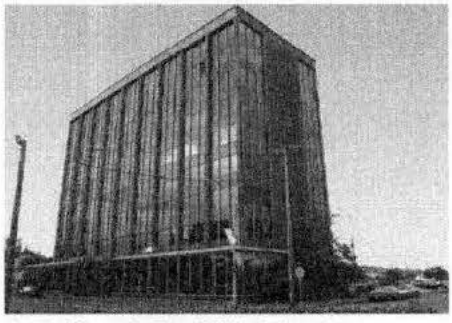
APPENDIX A
Survey Building Images

Group A

1.10 Masonry (+)
Canada Post, Vancouver, BC, 1955

1.11 Mixed Materials (+)
Kennell-Ellis Bldg., Eugene, OR, 1947

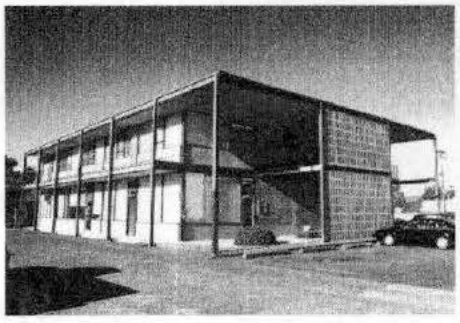
1.12 Glass & Steel Lowrise (+)
Lane County Courthouse, Eugene, OR, 1958



1.13 Glass & Steel Highrise (+)
Capitol Center Bldg., Olympia, WA, 1968

Group B

2.10 Masonry (+)
Salem YMCA, Salem, OR, c.1956



2.11 Mixed Materials (+)
Orchard Bldg., Eugene, OR, 1951

2.12 Glass & Steel Lowrise (+)
WA Mutual, Tacoma, WA, 1962

2.13 Glass & Steel Highrise (+)
1281 W Georgia St., Vancouver, BC, 1959

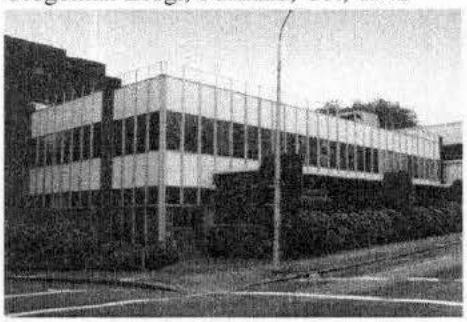
APPENDIX A
Continued

Group A

1.14 Traditional-style (+)
Salvation Army, Portland, OR, 1947

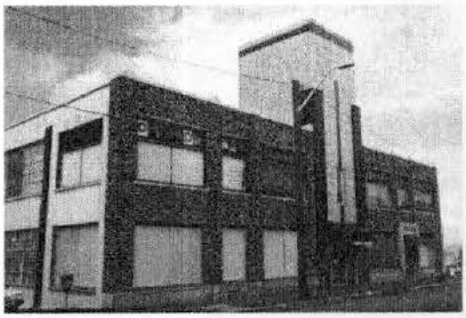
1.15 Glass & Steel Lowrise (+) "floater"
US MotorBank, Portland, OR, 1954

1.16 Masonry (-)
Oregonian Bldg., Portland, OR, 1942



1.17 Mixed Materials (-)
1500 SW 12th Ave., Portland, OR, 1958

Group B



2.14 Traditional-style (+)
2715 Western Ave., Seattle, WA, 1918

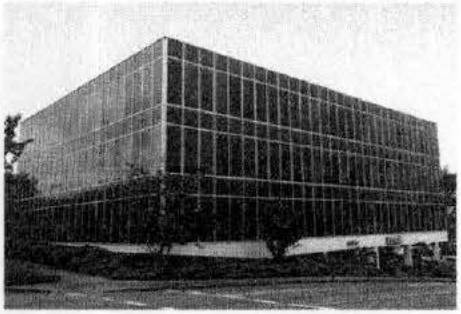
2.15 Glass & Steel Highrise (+) "floater"
Norton Bldg., Seattle, WA, 1959

2.16 Masonry (-)
Northrup Center, Portland, OR, 1956

2.17 Mixed Materials (-)
Bld #8 - Janzen Sportswear, OR, 1961

APPENDIX A
Continued

Group A



1.18 Glass & Steel Lowrise (-)
615 S 19th, Tacoma, WA, 1962

1.19 Glass & Steel Highrise (-)
Portland Medical Center, Portland, OR, 1956

1.20 Traditional-style (-)
801 Main Street, Vancouver, WA, 1942

1.21 Glass & Steel Highrise (+) "floater"
Guinness Tower, Vancouver B.C., 1967

Group B

2.18 Glass & Steel Lowrise (-)
1190 Melville St., Vancouver, BC, 1959

2.19 Glass & Steel Highrise (-)
Seattle City Light, Seattle, WA, 1954

2.20 Traditional-style (-)
757 Fawcett, Tacoma, WA, pre 1941

2.21 Masonry (+) "floater"
Oregon Dept. of Transp., Portland, OR, 1961

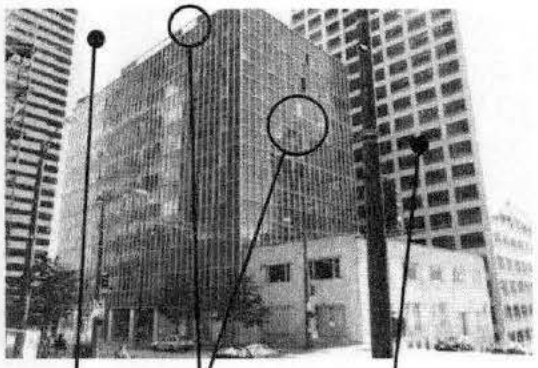
APPENDIX B

EXAMPLES OF DIGITAL CORRECTIONS

APPENDIX B

Examples of Digital Corrections Made to Remove Potentially Extraneous Variables

Before Corrections



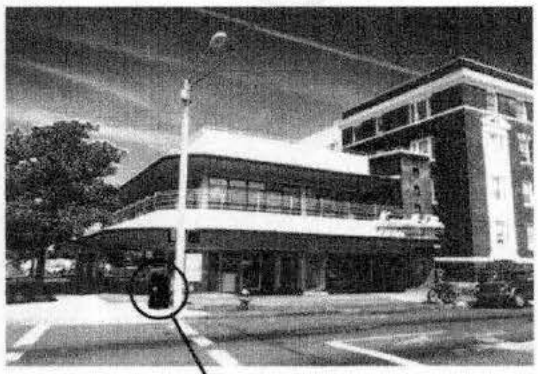
Added Blue Sky

Removed signs of construction

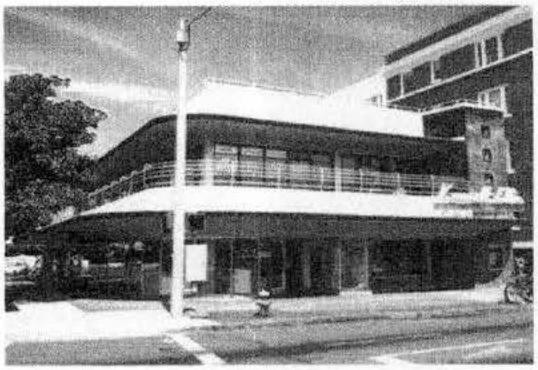
Background building distracted from main image

After Corrections

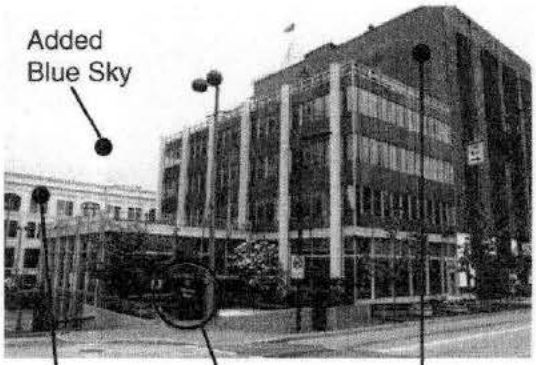
2.19 Glass & Steel Highrise (-)
Seattle City Light, Seattle, WA, 1954



Bright red newspaper box considered a distraction, and was removed



1.11 Mixed Materials (+)
Kennell-Ellis Bldg., Eugene, OR, 1947



Added Blue Sky

Lowered Building

Removed bank sign

Lowered Building

2.12 Glass & Steel Lowrise (+)
WA Mutual Savings Bank, Tacoma, WA, 1962

APPENDIX C

THE SURVEY

Consent Form

Thank you for participating in this survey, which examines the preferences of different building types. This research is conducted by Paul Falsetto, a graduate student in the Historic Preservation Program at the University of Oregon, for the completion of his Masters thesis.

This survey involves the preference ranking of building images, and completing a general survey. The whole process should take about 20 - 40 minutes. Afterwards, if you wish, we can discuss any issues raised by the survey.

Your participation is voluntary, and all answers will be confidential. You are not to write your name on the survey form, in order to maintain complete anonymity. Your answers to the questions will not be associated with your name, or disclosed to anyone. You are free to withdraw your consent and withdraw from this survey at any time without penalty.

You will be given two consent forms, one to sign and return, and one to keep for your records. Your signature indicates that you have read and understand the information above, and that you willing agree to participate in this study. If you have any questions regarding this survey, please feel free to contact Paul Falsetto at (503) 335-7760 or his advisor, Don Peting, at (541) 346-3631. Any questions regarding your rights as a research subject may be directed at the University of Oregon's Human Subjects Compliance Office, at (541) 346-2510.

Thank you again for your participation.

Print Name: _____

Signature: _____ Date: _____

Date: ____/____/19__

please fill in today's date

Thank you for your participating in this survey, which was designed to study those preferences people have for various building types. As explained on the consent form, your participation in this survey is voluntary, and all answers will be kept confidential. To maintain complete anonymity, please do not write your name on the survey form.

The survey is made up of four sections, and should take approximately 40 - 60 minutes to complete. You will be looking at two separate groups of images, and ranking them according to a given criteria. The two groups, designated ***Group A*** and ***Group B***, each contain 12 images of buildings. Each image has a single building as its focus, and it is that building and that building only that you are to rank – ignore any surrounding buildings or nearby vegetation. All images have a number on the front that you will be recording in the designated areas on the survey form.

There is no set amount of time to complete each section, and when you are through with one, feel free to go on to the next. Once completing a section, though, do not turn back and refer to it. When completely through with the survey, place it, along with the two smaller envelopes of images, within the larger envelope marked "University of Oregon", and return it to Paul Falsetto.

Thanks again for your participation.

Section 1a

Instructions:

(1) Remove the image cards from the envelope marked **Group A**, and lay them out in front of you.

(2) Arrange the cards according to your degree of preference for each building shown. If you wish, you may start by grouping the images into 3 basic categories:

prefer / neutral / do not prefer

(3) Now that you have placed the images into the above categories, rank them from one to twelve, with **#1** as your **most preferred** building. Record your ranking below, using the image number found on the front of the card.

Highest Preference

#1. _____	**#5.** _____	**#9.** _____
#2. _____	**#6.** _____	**#10.** _____
#3. _____	**#7.** _____	**#11.** _____
#4. _____	**#8.** _____	**#12.** _____

Lowest Preference

(4) Please identify two specific features of the **top three** and the **bottom three** ranked buildings which most strongly contributed to the position you assigned them.

TOP THREE

Image **#1**:

- _____
- _____

Image **#2**:

- _____
- _____

Image **#3**:

- _____
- _____

BOTTOM THREE

Image **#10**:

- _____
- _____

Image **#11**:

- _____
- _____

Image **#12**:

- _____
- _____

(5) Now return the images back to the **Group A** envelope and proceed to the next section.

Section 1b

Instructions:

(1) Remove the image cards from the envelope marked **Group B**, and lay them out in front of you.

(2) Again, arrange the cards according to your degree of preference for each building shown. If you wish, you may start by grouping the images into 3 basic categories:

prefer / neutral / do not prefer

(3) Now that you have placed the images into the above categories, rank them from one to twelve, with **#1** as your **most preferred** building. Record your ranking below, using the image number found on the front of the card.

Highest Preference

#1. _____	**#5.** _____	**#9.** _____
#2. _____	**#6.** _____	**#10.** _____
#3. _____	**#7.** _____	**#11.** _____
#4. _____	**#8.** _____	**#12.** _____

Lowest Preference

(4) Please identify two specific features of the **top three** and the **bottom three** ranked buildings which most strongly contributed to the position you assigned them.

TOP THREE

Image **#1**:

- _____
- _____

Image **#2**:

- _____
- _____

Image **#3**:

- _____
- _____

BOTTOM THREE

Image **#10**:

- _____
- _____

Image **#11**:

- _____
- _____

Image **#12**:

- _____
- _____

(5) Now return the images back to the **Group B** envelope and proceed to the next section.

Section 2a

Instructions:

(1) Return to **Group A**, again removing the image cards and laying them out in front of you.

(2) Now, imagine that you are a member of an Historic Landmarks Committee, and have to review twelve buildings up for landmark status. Like the previous twelve buildings, these twelve are also all equally eligible, so your criterion for evaluation is to be based on what you sense is each building's overall historic significance.

As before, rank the buildings from one to twelve, with **#1** being the building with the **highest historic status.** Keep in mind that the higher the rank, the more likely that the building will be protected from demolition. Conversely, the lower the rank, the greater the chance the building will be demolished sometime in the near future.

(3) Record your rankings below, using the image number found on the front of the card.

Highest Historic Status

#1. _____	**#5.** _____	**#9.** _____
#2. _____	**#6.** _____	**#10.** _____
#3. _____	**#7.** _____	**#11.** _____
#4. _____	**#8.** _____	**#12.** _____

Lowest Historic Status

(4) Please identify the single most important feature of the **top three** and the **bottom three** ranked buildings which contributed to the position you assigned them.

TOP THREE	BOTTOM THREE
Image #1:	Image #10:
• _____	• _____
Image #2:	Image #11:
• _____	• _____
Image #3:	Image #12:
• _____	• _____

(5) Now return the images back to the **Group A** envelope and proceed to the next section.

Section 2b

Instructions:

(1) Return to **Group B**, again removing the image cards and laying them out in front of you.

(2) Again, imagine that you are a member of an Historic Landmarks Committee, and have to review twelve buildings up for landmark status. Like the previous twelve buildings, these twelve are also all equally eligible, so your criterion for evaluation is to be based on what you sense is each building's overall historic significance.

As before, rank the buildings from one to twelve, with **#1** being the building with the **highest historic status**. Keep in mind that the higher the rank, the more likely that the building will be protected from demolition. Conversely, the lower the rank, the greater the chance the building will be demolished sometime in the near future.

(3) Record your rankings below, using the image number found on the front of the card.

Highest Historic Status

#1. _____	**#5.** _____	**#9.** _____
#2. _____	**#6.** _____	**#10.** _____
#3. _____	**#7.** _____	**#11.** _____
#4. _____	**#8.** _____	**#12.** _____

Lowest Historic Status

(4) Please identify the single most important feature of the **top three** and the **bottom three** ranked buildings which contributed to the position you assigned them.

TOP THREE	BOTTOM THREE
Image #1:	Image #10:
• _____	• _____
Image #2:	Image #11:
• _____	• _____
Image #3:	Image #12:
• _____	• _____

(5) Now return the images back to the **Group B** envelope and proceed to the next section.

Section 3

Please answer the following questions to help us to understand in more specific those elements you prefer in buildings. Circle the number on the scale that best corresponds to your response.

What elements do you consider when judging your preference for civic *(libraries, city halls, courthouses)* or commercial buildings *(offices, retail stores)*?

1. The building's architectural style.

1 — **2** — **3** — **4** — **5**

Highly Considered — *Neutral* — *Not Considered At All*

2. The type and amount of ornamentation on the exterior.

1 — **2** — **3** — **4** — **5**

Highly Considered — *Neutral* — *Not Considered At All*

3. The building's exterior form *(i.e. the shape of the building).*

1 — **2** — **3** — **4** — **5**

Highly Considered — *Neutral* — *Not Considered At All*

4. The building's exterior materials *(i.e. brick, stone, wood, terracotta, metal, glass).*

1 — **2** — **3** — **4** — **5**

Highly Considered — *Neutral* — *Not Considered At All*

5. The building's age

1 — **2** — **3** — **4** — **5**

Highly Considered — *Neutral* — *Not Considered At All*

6. The building's size

1 — **2** — **3** — **4** — **5**

Highly Considered — *Neutral* — *Not Considered At All*

7. What age range of buildings do you generally prefer for civic and commercial structures? Rank order the age ranges below, with #1 being the most preferred.

____ 1900s -1930s ____ 1940s -1960s ____ 1970s -1990s

8. What exterior materials do you generally prefer for civic and commercial buildings? Rank order the materials ranges below, with #1 being the most preferred.

____wood ____stone ____metal & glass ____terracotta ____brick

9. The majority of buildings you saw in this survey were designed in the International Modernist style. What is your opinion of that style in general?

1	2	3	4	5
Like Very Much		*Neutral*		*Dislike Very Much*

10. List three adjectives that you feel best describes this style:

- _____
- _____
- _____

11. International Modernist buildings are now being considered for historic status, as they begin to reach 50 years in age. Do you think that the same amount of effort and resources should be expended on preserving these buildings as historic structures in comparison to earlier styles?

1	2	3	4	5
Same Amount		*A Bit Less*		*Significantly Less*

Why? _____

_____

12. How much do you feel you know about International Modernist architecture?

1	2	3	4	5
Quite A Bit		*Some*		*Not Much At All*

13. Would you like to learn more about this architectural style?

1	2	3	4	5
Yes		*Maybe*		*No*

14. *How strongly do you agree with this statement:*

We should preserve buildings from all architectural styles, regardless of whether that style is not currently appreciated.

1	2	3	4	5
Strongly Agree		*Neutral*		*Strongly Disagree*

15. *How strongly do you agree with this statement:*

All things being equal, I would be more supportive of a building being designated as historic if it was designed in an architectural style I really like.

1	2	3	4	5
Strongly Agree		*Neutral*		*Strongly Disagree*

Section 4

General Information

Please answer the following questions to help us gain a better understanding of who is involved in this survey sample.

1. What is your gender? ☐ Male ☐ Female

2. What is your age? ☐ under 18 ☐ 18-30 ☐ 31-45 ☐ 46-65 ☐ over 65

3. How would you describe the community in which you primarily grew up?

_____ big city *(more than 100,000 people)* _____ town *(less than 25,000 people)*

_____ small city *(25,000 - 100,000 people)* _____ rural *(located outside a town or city)*

4. Please check the highest level of education you have received.

_____ elementary school _____ junior college degree

_____ junior high _____ college degree

_____ high school _____ some graduate school

_____ some college _____ graduate degree

5. What field do you currently work in?
(if a full time student, write in "student" and give your major area of study)

_____

6. How many architecture, architectural history or historic preservation classes have you taken?

_____ None _____ 3 -5 _____ Above 10

_____ 1- 2 _____ 5 - 10

Note: You are now finished with this survey. Please place the survey and the two image envelopes in the larger, "University of Oregon" envelope, and return it to Paul Falsetto. Thanks again for your participation.

APPENDIX D

SURVEY RESULTS

TABLE 1

Sections 1 and 2: Rankings From All Subjects

Section 1a		Section 2a		Section 1b		Section 2b	
1) 3.49	1.11 mix +	1) 3.33	1.11 mix +	1) 2.56	2.21 mas +	1) 3.65	2.20 trad –
2) 3.98	1.20 trad –	2) 3.70	1.14 trad +	2) 4.37	2.20 trad –	2) 3.75	2.14 trad +
3) 4.16	1.14 trad +	3) 3.77	1.20 trad –	3) 4.53	2.14 trad +	3) 3.92	2.21 mas +
4) 5.20	1.10 mas +	4) 4.68	1.10 mas +	4) 5.35	2.10 mas +	4) 4.87	2.10 mas +
5) 5.59	1.16 mas –	5) 6.02	1.16 mas –	5) 6.73	2.15 g&s-hi +	5) 6.30	2.15 g&s-hi +
6) 6.62	1.21 g&s-hi +	6) 6.25	1.21 g&s-hi +	6) 6.77	2.18 g&s-lo –	6) 7.19	2.12 g&s-lo +
7) 7.73	1.13 g&s-hi +	7) 7.51	1.17 mix –	7) 7.18	2.12 g&s-lo +	7) 7.365	2.17 mix –
8) 7.54	1.18 g&s-lo –	8) 7.82	1.13 g&s-hi +	8) 7.24	2.13 g&s-hi +	8) 7.368	2.18 g&s-lo –
9) 7.55	1.17 mix –	9) 8.37	1.18 g&s-lo –	9) 7.25	2.17 mix –	9) 7.68	2.13 g&s-hi +
10) 7.59	1.19 g&s-hi –	10) 8.41	1.19 g&s-hi –	10) 7.97	2.16 mas –	10) 8.17	2.16 mas –
11) 9.08	1.15 g&s-lo +	11) 9.04	1.12 g&s-lo +	11) 8.41	2.19 g&s-hi –	11) 8.78	2.19 g&s-hi –
12) 9.83	1.12 g&s-lo +	12) 9.07	1.15 g&s-lo +	12) 9.64	2.11 mix +	12) 8.96	2.11 mix +

TABLE 2

Sections 1 and 2: Rankings From Architects

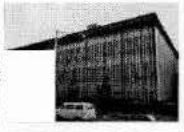
Section 1a	Section 2a	Section 1b	Section 2b
1) 2.92 1.11 mix +	1) 2.97 1.11 mix +	1) 2.05 2.21 mas +	1) 3.67 2.21 mas +
2) 4.17 1.10 mas +	2) 3.95 1.10 mas +	2) 3.95 2.10 mas +	2) 4.07 2.10 mas +
3) 4.55 1.20 trad –	3) 4.70 1.14 trad +	3) 5.15 2.14 trad +	3) 4.77 2.20 trad –
4) 4.75 1.14 trad +	4) 4.85 1.20 trad –	4) 5.85 2.20 trad –	4) 5.07 2.14 trad +
5) 5.87 1.16 mas –	5) 5.20 1.21 g&s-hi+	5) 6.00 2.17 mix –	5) 6.02 2.17 mix –
6) 6.07 1.21 g&s-hi +	6) 5.77 1.16 mas –	6) 6.42 2.12 g&s-lo +	6) 6.15 2.15 g&s-hi +
7) 6.97 1.17 mix –	7) 7.22 1.17 mix –	7) 7.00 2.15 g&s-hi +	7) 7.22 2.12 g&s-lo +
8) 7.85 1.13 g&s-hi +	8) 8.32 1.18 g&s-lo –	8) 7.97 2.16 mas –	8) 7.37 2.11 mix +
9) 8.12 1.18 g&s-lo –	9) 8.42 1.13 g&s-hi +	9) 7.97 2.18 g&s-lo –	9) 8.02 2.18 g&s-lo –
10) 8.45 1.19 g&s-hi –	10) 8.70 1.12 g&s-lo +	10) 8.30 2.13 g&s-hi +	10) 8.05 2.16 mas –
11) 8.80 1.15 g&s-lo +	11) 8.75 1.19 g&s-hi –	11) 8.42 2.11 mix +	11) 8.15 2.13 g&s-hi +
12) 9.45 1.12 g&s-lo + 	12) 9.07 1.15 g&s-lo +	12) 8.90 2.19 g&s-hi –	12) 9.40 2.19 g&s-hi –

TABLE 3

Sections 1 and 2: Rankings From Preservationists

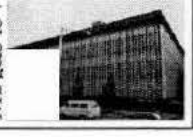
Section 1a	Section 2a	Section 1b	Section 2b
1) 2.47 1.20 trad –	1) 2.33 1.11 mix +	1) 2.60 2.20 trad –	1) 2.78 2.20 trad –
2) 2.87 1.11 mix +	2) 2.60 1.20 trad –	2) 3.20 2.14 trad +	2) 3.00 2.14 trad +
3) 4.07 1.14 trad +	3) 3.93 1.14 trad +	3) 3.40 2.21 mas +	3) 4.14 2.10 mas +
4) 5.93 1.10 mas +	4) 5.40 1.10 mas +	4) 4.60 2.10 mas +	4) 4.50 2.21 mas +
5) 6.27 1.16 mas –	5) 6.13 1.16 mas –	5) 6.93 2.15 g&s-hi +	5) 5.86 2.15 g&s-hi +
6) 6.73 1.19 g&s-hi –	6) 6.20 1.21 g&s-hi +	6) 7.13 2.13 g&s-hi +	6) 7.43 2.18 g&s-lo –
7) 7.27 1.21 g&s-hi +	7) tie 7.93 1.17 mix –	7) 7.33 2.18 g&s-lo –	7) tie 7.78 2.13 g&s-hi +
8) 7.40 1.13 g&s-hi +	8) tie 7.93 1.19 g&s-hi –	8) 7.67 2.16 mas –	8) tie 7.78 2.12 g&s-lo +
9) 7.60 1.18 g&s-lo –	9) 8.73 1.15 g&s-lo +	9) 7.73 2.12 g&s-lo +	9) 8.14 2.17 mix –
10) 7.73 1.17 mix –	10) 8.13 1.13 g&s-hi +	10) 8.27 2.17 mix –	10) 8.21 2.16 mas –
11) 9.40 1.15 g&s-lo +	11) 9.00 1.18 g&s-lo –	11) 8.80 2.19 g&s-hi –	11) 8.78 2.19 g&s-hi –
12) 10.27 1.12 g&s-lo +	12) 9.67 1.12 g&s-lo + 	12) 10.33 2.11 mix +	12) 9.57 2.11 mix +

TABLE 4

Sections 1 and 2: Rankings From General Public

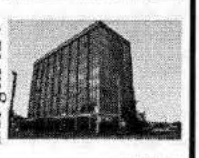
Section 1a	Section 2a	Section 1b	Section 2b
1) 3.67 1.14 trad +	1) 2.48 1.14 trad +	1) 2.23 2.21 mas +	1) 3.17 2.14 trad +
2) 4.63 1.16 mas –	2) 3.86 1.20 trad –	2) 4.67 2.20 trad –	2) 3.38 2.20 trad –
3) 4.67 1.11 mix +	3) tie 4.69 1.11 mix +	3) 5.00 2.18 g&s-lo –	3) 3.59 2.21 mas +
4) 4.93 1.20 trad –	4) tie 4.69 1.10 mas +	4) 5.23 2.14 trad +	4) 6.38 2.10 mas +
5) 5.50 1.10 mas +	5) 6.14 1.16 mas –	5) 6.27 2.15 g&s-hi +	5) 6.55 2.12 g&s-lo +
6) 6.50 1.21 g&s-hi +	6) 6.89 1.13 g&s-hi + 	6) 6.30 2.13 g&s-hi +	6) 6.65 2.18 g&s-lo –
7) 6.87 1.13 g&s-hi +	7) 7.34 1.21 g&s-hi +	7) 7.37 2.12 g&s-lo +	7) 6.89 2.15 g&s-hi +
8) 6.90 1.18 g&s-lo –	8) 7.38 1.17 mix –	8) 7.47 2.17 mix –	8) 7.10 2.13 g&s-hi +
9) 7.60 1.19 g&s-hi –	9) 7.79 1.18 g&s-lo –	9) 7.5 2.10 mas +	9) 7.93 2.17 mix –
10) 7.93 1.17 mix –	10) 8.55 1.19 g&s-hi –	10) 7.53 2.19 g&s-hi –	10) 8.17 2.19 g&s-hi –
11) 9.03 1.15 g&s-lo +	11) 8.76 1.12 g&s-lo +	11) 8.27 2.16 mas –	11) 8.24 2.16 mas –
12) 9.77 1.12 g&s-lo +	12) 9.41 1.15 g&s-lo +	12) 10.17 2.11 mix +	12) 9.93 2.11 mix +

TABLE 5

Designated Building Classifications - Preference Rank for All Subjects

	Sections 1a	Sections 1b	Floaters
1) Traditional (-) 4.17	1.20 trad –	2.20 trad –	
2) Traditional (+) 4.34	1.14 trad +	2.14 trad +	
3) Masonry (+) 4.37	1.10 mas +	2.10 mas +	2.21 mas +
4) Mixed (+) 6.56	1.11 mix +	2.11 mix +	
5) Masonry (-) 6.78	1.16 mas –	2.16 mas –	
6) Glass & Steel low (-) 7.15	1.18 g&s-lo –	2.18 g&s-lo –	
7) Glass & Steel high (+) 7.23	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
8) Mixed (-) 7.40	1.17 mix –	2.17 mix –	
9) Glass & Steel high (-) 7.54	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
10) Glass & Steel low (+) 8.70	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 6

Designated Building Classifications - Preference Rank for Architects

	Sections 1a	Sections 1b	Floaters
1) Masonry (+) 3.39	1.10 mas +	2.10 mas +	2.21 mas +
2) Mixed (-) 4.57	1.17 mix –	2.17 mix –	
3) Traditional (+) 4.95	1.14 trad +	2.14 trad +	
4) Traditional (-) 5.20	1.20 trad –	2.20 trad –	
5) Mixed (+) 5.67	1.11 mix +	2.11 mix +	
6) Masonry (-) 6.92	1.16 mas –	2.16 mas –	
7) Glass & Steel high (+) 7.72	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
8) Glass & Steel high (-) 7.81	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
9) Glass & Steel low (-) 8.05	1.18 g&s-lo –	2.18 g&s-lo –	
10) Glass & Steel low (+) 8.23	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 7

Designated Building Classifications - Preference Rank for Preservationists

	Sections 1a	Sections 1b	Floaters
1) Traditional (-) 2.53	1.20 trad –	2.20 trad –	
2) Traditional (+) 3.63	1.14 trad +	2.14 trad +	
3) Masonry (+) 4.64	1.10 mas +	2.10 mas +	2.21 mas +
4) Mixed (+) 6.60	1.11 mix +	2.11 mix +	
5) Masonry (-) 6.97	1.16 mas –	2.16 mas –	
6) Glass & Steel high (+) 7.15	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
7) Glass & Steel low (-) 7.46	1.18 g&s-lo –	2.18 g&s-lo –	
8) Glass & Steel high (-) 7.60	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
9) Mixed (-) 8.00	1.17 mix –	2.17 mix –	
10) Glass & Steel low (+) 9.13	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 8

Designated Building Classifications - Preference Rank for General Public

	Sections 1a	Sections 1b	Floaters
1) Traditional (+) 4.45	1.14 trad +	2.14 trad +	
2) Traditional (-) 4.80	1.20 trad –	2.20 trad –	
3) Masonry (+) 5.08	1.10 mas +	2.10 mas +	2.21 mas +
4) Glass & Steel low (-) 5.95	1.18 g&s-lo –	2.18 g&s-lo –	
5) Masonry (-) 6.45	1.16 mas –	2.16 mas –	
6) Glass & Steel high (+) 6.48	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
7) Glass & Steel high (-) 7.21	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
8) Mixed (+) 7.42	1.11 mix +	2.11 mix +	
9) Mixed (-) 7.70	1.17 mix –	2.17 mix –	
10) Glass & Steel low (+) 8.72	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 9

Designated Building Classifications - Historic Rank for All Subjects

	Sections 2a	Sections 2b	Floaters
1) Traditional (-) 3.71	1.20 trad –	2.20 trad –	
2) Traditional (+) 3.72	1.14 trad +	2.14 trad +	
3) Masonry (+) 4.49	1.10 mas +	2.10 mas +	2.21 mas +
4) Mixed (+) 6.14	1.11 mix +	2.11 mix +	
5) Masonry (-) 7.09	1.16 mas –	2.16 mas –	
6) Glass & Steel high (+) 7.27	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
7) Mixed (-) 7.44	1.17 mix –	2.17 mix –	
8) Glass & Steel high (-) 7.81	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
9) Glass & Steel low (-) 7.87	1.18 g&s-lo –	2.18 g&s-lo –	
10) Glass & Steel low (+) 8.43	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 10

Designated Building Classifications - Historic Rank for Architects

	Sections 2a	Sections 2b	Floaters
1) Masonry (+) 3.90	1.10 mas +	2.10 mas +	2.21 mas +
2) Traditional (-) 4.81	1.20 trad –	2.20 trad –	
3) Traditional (+) 4.89	1.14 trad +	2.14 trad +	
4) Mixed (+) 5.17	1.11 mix +	2.11 mix +	
5) Mixed (-) 6.62	1.17 mix –	2.17 mix –	
6) Masonry (-) 6.91	1.16 mas –	2.16 mas –	
7) Glass & Steel high (+) 7.57	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
8) Glass & Steel high (-) 7.78	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
9) Glass & Steel low (-) 8.17	1.18 g&s-lo –	2.18 g&s-lo –	
10) Glass & Steel low (+) 8.33	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 11

Designated Building Classifications - Historic Rank for Preservationists

	Sections 2a	Sections 2b	Floaters
1) Traditional (-) 2.69	1.20 trad –	2.20 trad –	
2) Traditional (+) 3.46	1.14 trad +	2.14 trad +	
3) Masonry (+) 4.68	1.10 mas +	2.10 mas +	2.21 mas +
4) Mixed (+) 5.95	1.11 mix +	2.11 mix +	
5) Masonry (-) 7.17	1.16 mas –	2.16 mas –	
6) Glass & Steel high (+) 7.26	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
7) Glass & Steel high (-) 7.64	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
8) Mixed (-) 8.03	1.17 mix –	2.17 mix –	
9) Glass & Steel low (-) 8.21	1.18 g&s-lo –	2.18 g&s-lo –	
10) Glass & Steel low (+) 8.73	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 12

Designated Building Classifications - Historic Rank for General Public

	Sections 2a	Sections 2b	Floaters
1) Traditional (-) 2.69	1.20 trad –	2.20 trad –	
2) Traditional (+) 2.82	1.14 trad +	2.14 trad +	
3) Masonry (+) 4.89	1.10 mas +	2.10 mas +	2.21 mas +
4) Glass & Steel high (+) 6.96	1.13 g&s-hi +	2.13 g&s-hi +	2.15 g&s-hi +
5) Masonry (-) 7.19	1.16 mas –	2.16 mas –	
6) Glass & Steel low (-) 7.22	1.18 g&s-lo –	2.18 g&s-lo –	
7) Mixed (+) 7.31	1.11 mix +	2.11 mix +	
8) Mixed (-) 7.65	1.17 mix –	2.17 mix –	
9) Glass & Steel high (-) 8.02	1.19 g&s-hi –	2.19 g&s-hi –	1.21 g&s-hi +
10) Glass & Steel low (+) 8.24	1.12 g&s-lo +	2.12 g&s-lo +	1.15 g&s-lo +

TABLE 13
Main Features that Affected Image Rankings - All Subjects

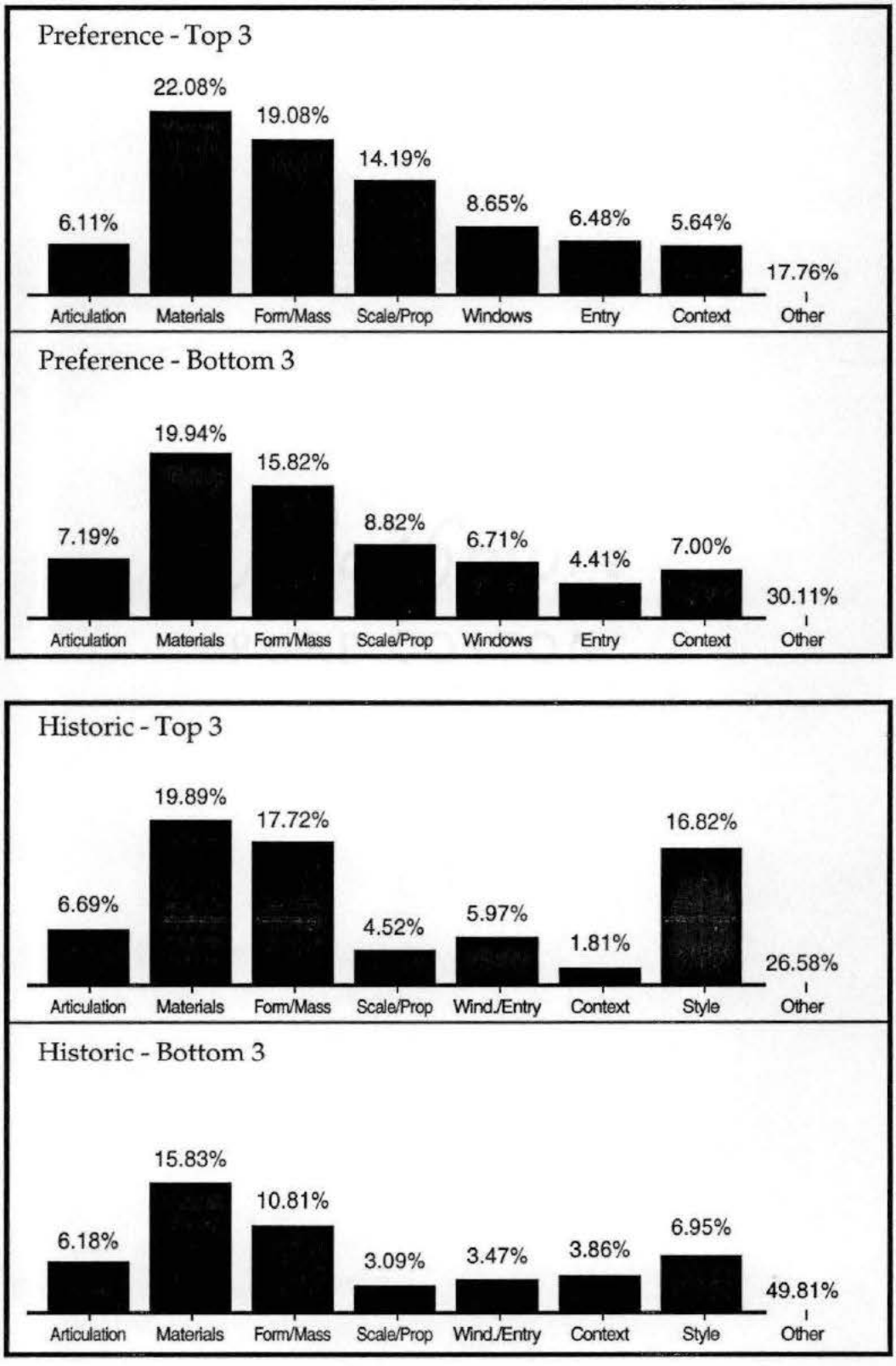
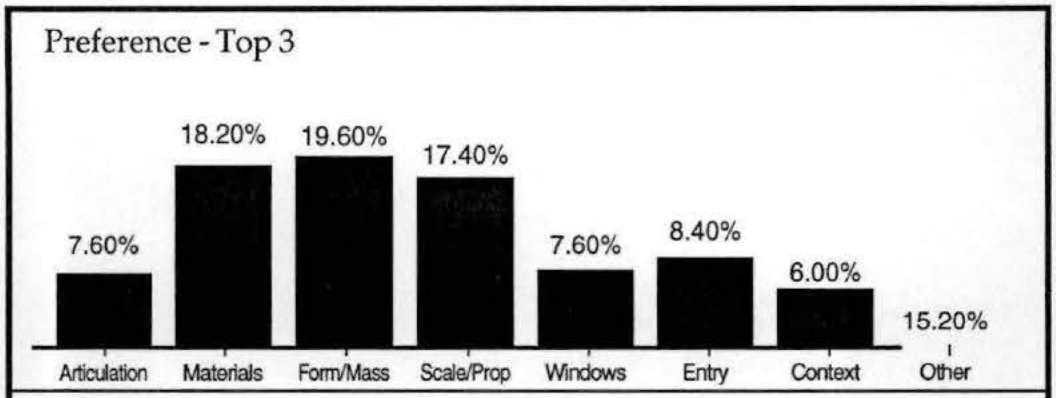
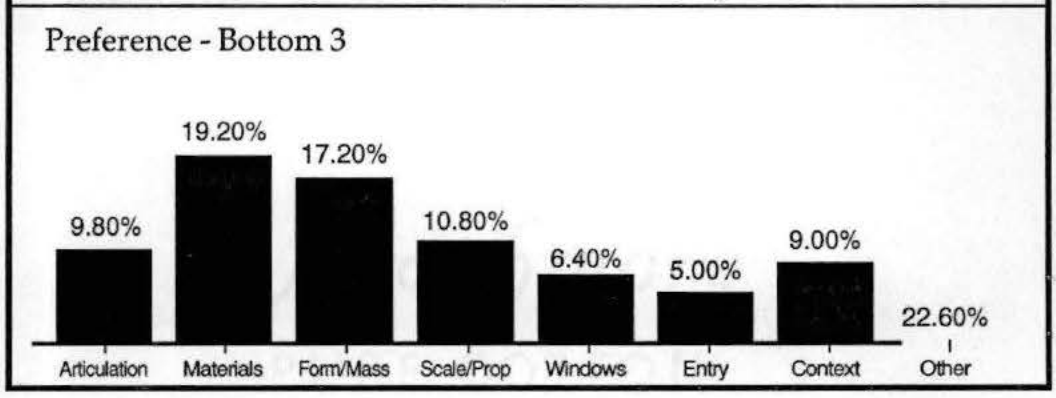
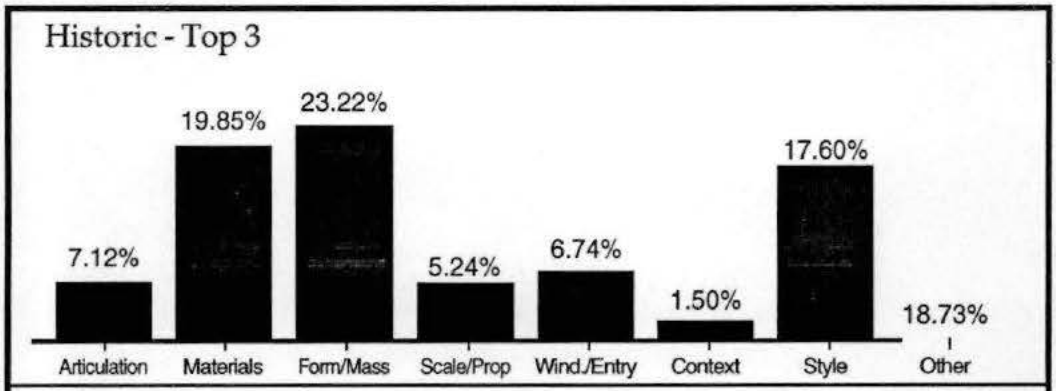


TABLE 14
Main Features that Affected Image Rankings - Architects







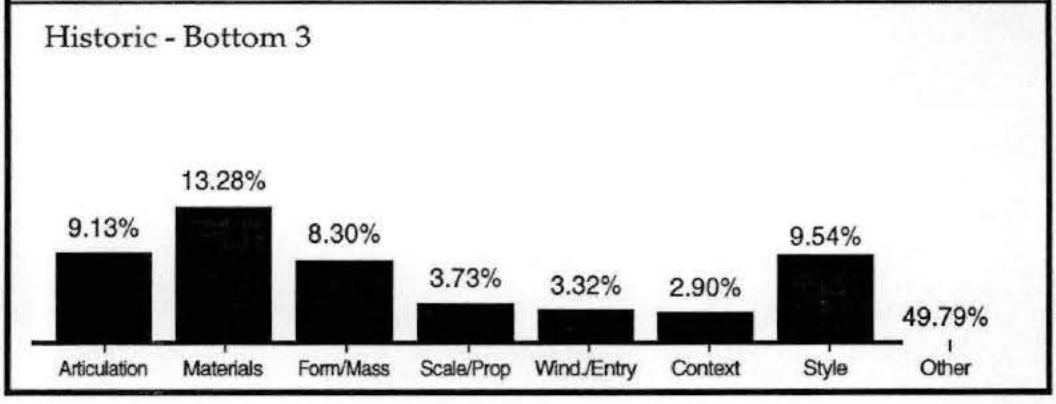
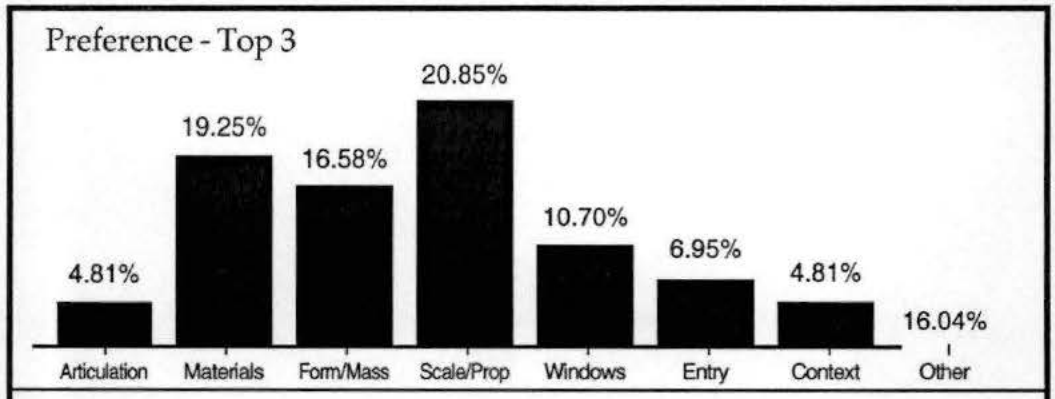
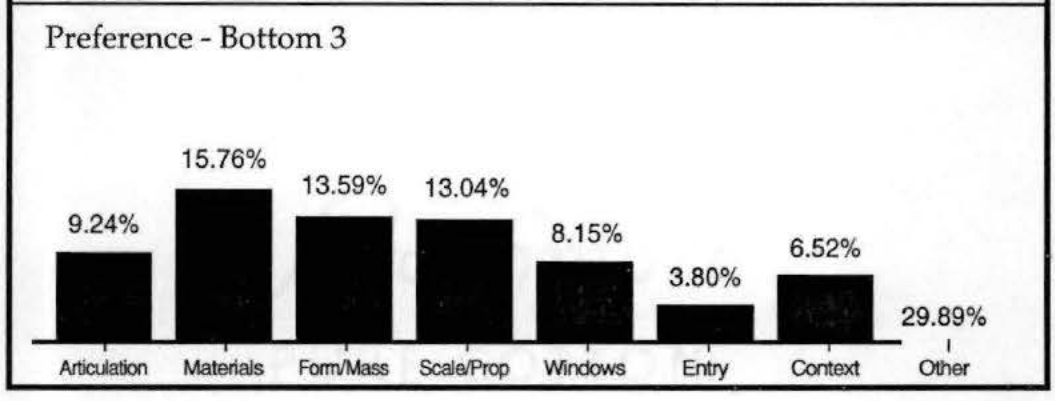
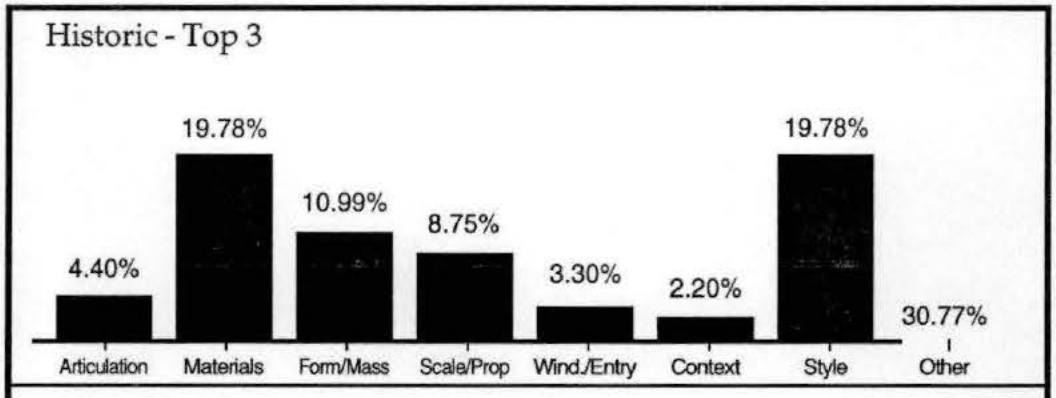


TABLE 15
Main Features that Affected Image Rankings - Preservationists







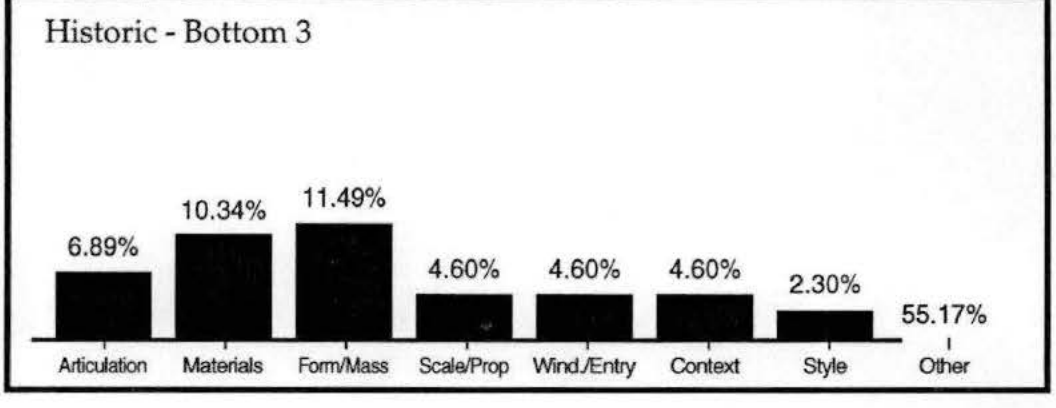
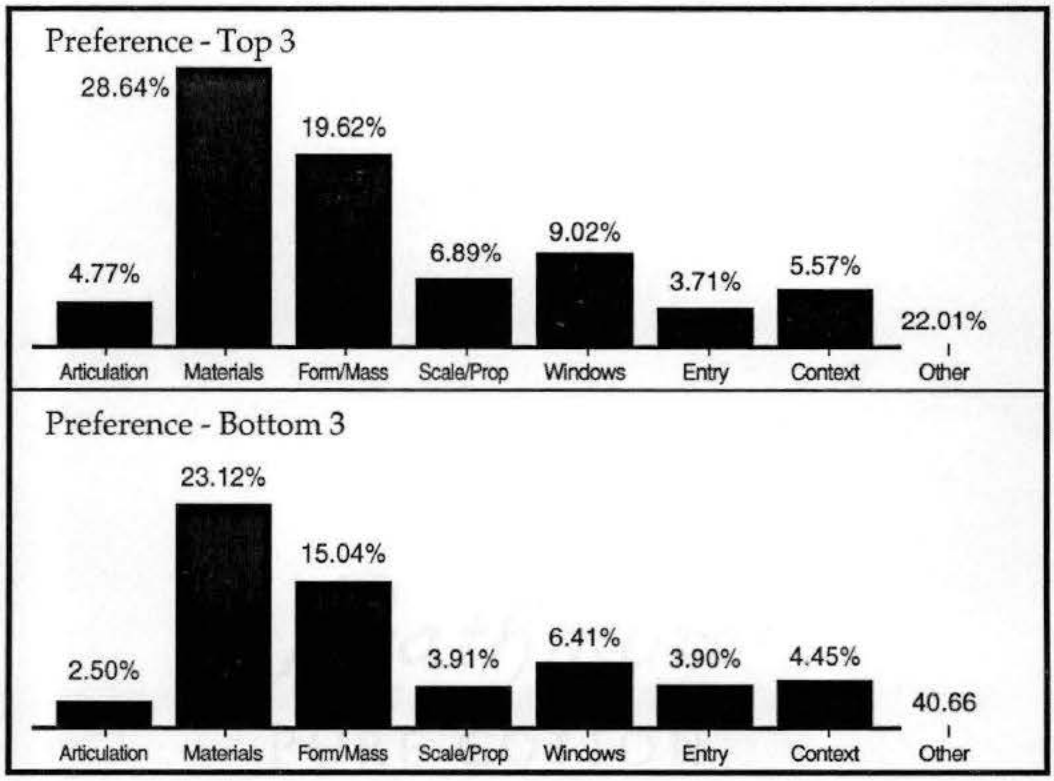


TABLE 16
Main Features that Affected Image Rankings - General Public



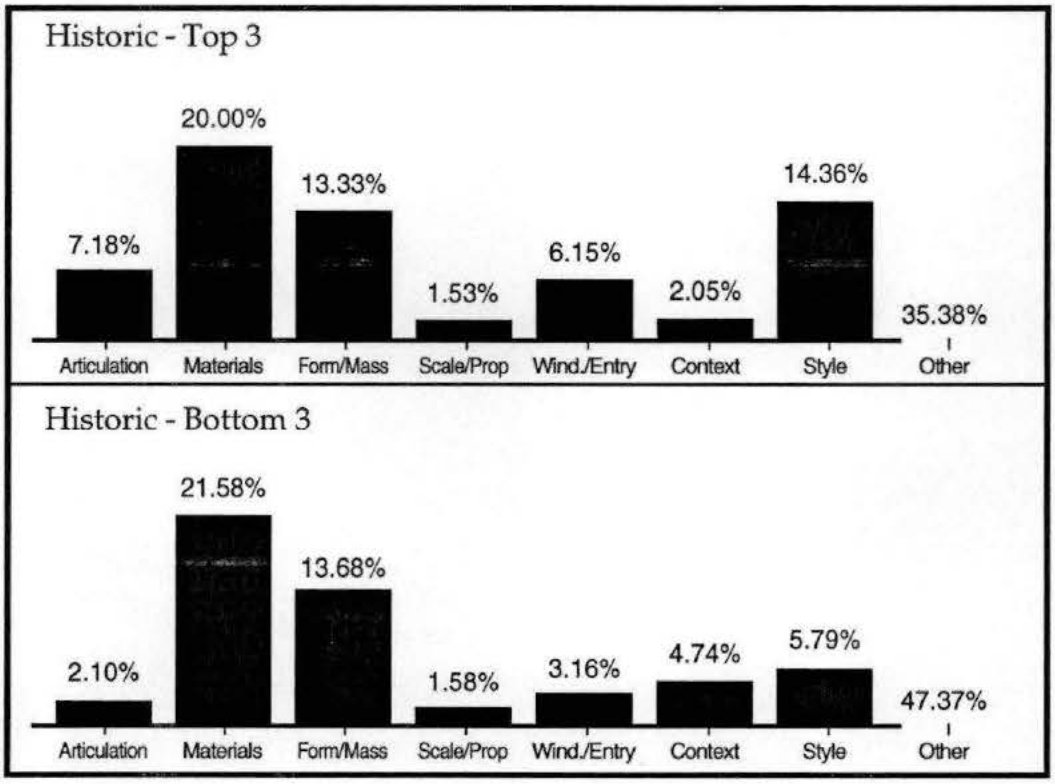


TABLE 17
Responses to Survey Section 3

All Subjects	Architects	Preservationists	General Public
1) Architectural style - 1.83	1) Architectural style - 2.10	1) Architectural style - 1.67	1) Architectural style - 1.73
2) Ornamentation - 2.17	2) Ornamentation - 2.43	2) Ornamentation - 2.00	2) Ornamentation - 2.07
3) Exterior form - 1.50	3) Exterior form - 1.60	3) Exterior form - 1.60	3) Exterior form - 1.30
4) Exterior materials - 1.53	4) Exterior materials - 1.80	4) Exterior materials - 1.40	4) Exterior materials - 1.40
5) Age - 2.43	5) Age - 2.78	5) Age - 2.07	5) Age - 2.43
6) Size - 3.09	6) Size - 3.40	6) Size - 2.80	6) Size - 3.07
7) Age Rank	7) Age Rank	7) Age Rank	7) Age Rank

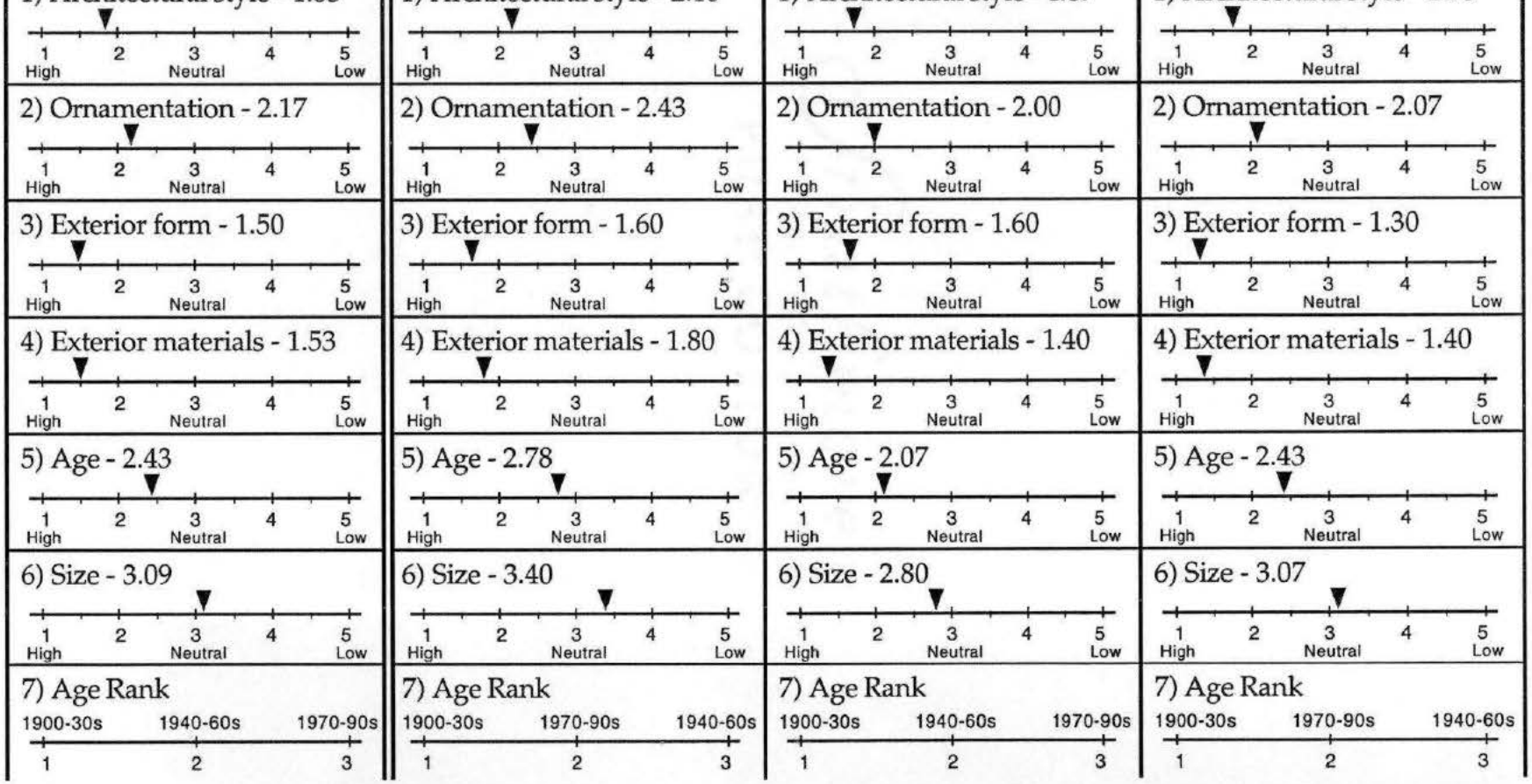


TABLE 17
Continued

All Subjects	Architects	Preservationists	General Public
8) Material Preference Stone Brick Terracotta M/G Wood 1 2 3 4 5	8) Material Preference St Br TC M/G Wd 1 2 3 4 5	8) Material Preference St TC Br M/G Wd 1 2 3 4 5	8) Material Preference St Br TC Wd M/G 1 2 3 4 5
9) Opinion of style - 3.53 1 Like 2 3 Neutral 4 5 Dislike	9) Opinion of style - 3.25 1 Like 2 3 Neutral 4 5 Dislike	9) Opinion of style - 3.79 1 Like 2 3 Neutral 4 5 Dislike	9) Opinion of style - 3.55 1 Like 2 3 Neutral 4 5 Dislike
11) Effort towards IM - 2.61 1 Same 2 3 aBitLess 4 5 SigLess	11) Effort towards IM - 2.38 1 Same 2 3 aBitLess 4 5 SigLess	11) Effort towards IM - 2.53 1 Same 2 3 aBitLess 4 5 SigLess	11) Effort towards IM - 2.93 1 Same 2 3 aBitLess 4 5 SigLess
12) Knowledge of IM - 3.20 1 aLot 2 3 Some 4 5 None	12) Knowledge of IM - 2.43 1 aLot 2 3 Some 4 5 None	12) Knowledge of IM - 2.93 1 aLot 2 3 Some 4 5 None	12) Knowledge of IM - 4.24 1 aLot 2 3 Some 4 5 None
13) Learn more - 2.88 1 Yes 2 3 Maybe 4 5 No	13) Learn more - 2.70 1 Yes 2 3 Maybe 4 5 No	13) Learn more - 2.80 1 Yes 2 3 Maybe 4 5 No	13) Learn more - 3.14 1 Yes 2 3 Maybe 4 5 No
14) Preserve all bldgs - 1.86 1 Agree 2 3 Maybe 4 5 Disagree	14) Preserve all bldgs - 1.70 1 Agree 2 3 Maybe 4 5 Disagree	14) Preserve all bldgs - 1.93 1 Agree 2 3 Maybe 4 5 Disagree	14) Preserve all bldgs - 1.96 1 Agree 2 3 Maybe 4 5 Disagree
15) Support blds liked - 2.81 1 Agree 2 3 Maybe 4 5 Disagree	15) Support blds liked - 3.08 1 Agree 2 3 Maybe 4 5 Disagree	15) Support blds liked - 3.00 1 Agree 2 3 Maybe 4 5 Disagree	15) Support blds liked - 2.34 1 Agree 2 3 Maybe 4 5 Disagree

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