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Rise and Fall of the Continuum Revivalism in Architecture

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Preface

There are no constants in the realm of architecture. A time comes for every mentality, practice and stylistic tendency to be challenged by those who come after the age of its creators. They search for something to accommodate the changing of the world and its people. History has proven architecture to be a process of evolution. Since the beginning of architecture, the representation and manifestation of ideas have congealed into styles that stand out in retrospect as unique.

At a certain point in any age there are those who hold aspects of the existing architectural age against the needs and mentality of the world and decide that the match is insufficient. From there the age is scrutinized and split between the elements and concepts that were its strengths with sustained relevance in the current setting, and those that had come to outgrow their use. The unneeded aspects in a given view of architecture are discarded and the stronger points from the preceding age (or many preceding ages) are used as a base from which to depart in the construction of a new style. That new style would then exist for a number of years before it was accepted as the norm before ideas of its replacement began brewing in the minds of its critics: the process begins again. This process existed for the majority of architecture's existence, since the heights of the Egyptians and the Etruscans. The result was a balance between the old and new, a synthesis that consisted of a strong foundation below the brilliance of an innovative structure of design. The incorporation of previously existing elements can be termed here as "Revivalism"—reviving the use, need, or appreciation for concepts from a preceding age. An extreme of this sentiment, resulting in a direct replication of architectural precedent, void of innovation, can be known in this thesis as "Historicism." Its partner,

"Creationism" represents the ideas that are original in their insertion into the cycle. Revivalism struck a balance between these to polar visions of design.

Unfortunately, this balance is often lost. After millennia of stasis, time has watched the once strong presence of Revivalism wane, almost to the point of non-existence, while Creationism has flourished. As a result we can look back and find strengths that existed previously in architecture that now are absent in design due to a lack of respect for the past and an unwillingness to fuse it with the present.

If we focus on the turn of the twentieth century, we will find the general location of the pivot point between the older traditions of design that held a strong affinity for Revivalism and a newer age that emphasized Creationism. Within a matter of decades a architecture would test itself in the eyes of the designers and the hearts of the public to form a progression of styles: Arts and Crafts, Art Nouveau, and Art Deco.

The end of the nineteenth century was home to a period known today as the Arts and Crafts style, a style of design built largely on ideas of Revivalism. The 1890s brought a feeling of regretful nostalgia to some, particularly a man named John Ruskin. When looking around his English home he saw an age of architecture that had evolved beyond the appreciation for material, site, and craft. He found himself looking back to medieval times where the craftsman held a respect for his trade and ability that elevated him above another common worker. The work that hands produced was respected, revered as a treasure that was honored for its rarity. Such perspectives became myths in Ruskin's world. Instead he saw the growing presence of the machine demote human skill and human craft. His quest became a crusade to revive the reverence of the craftsman and

his works, looking back to a time when a craftsman was an integral part of the design process and when their numbers formed entire guilds. The mentality became contagious and supporters grew in numbers. Later, the style would rise with the names William Morris and Edward Burnes-Jones. Along with an appreciation for handicraft were a priority for natural materials, a strong connection to the site, and an availability to the middle class. Each of these doctrines became pervasive from the broadest of concepts to the smallest of details.

Aside from impressive doctrines and amazing pieces of architecture, this style gave us an example of a mentality built almost completely upon the will of reviving points of the past. The desire of Ruskin and Morris was not to create a new, modern style but rather to reject the machine and rejuvenate an appreciation for concepts of design and construction that the carelessness of time had let fade from practice.

As the architectural realm moved through the first decade of the new century there were those who began to assess the validity of the sentiments of Arts and Crafts as they looked to a world continually shaped by machines, materials and with new possibilities. Iron and glass were suddenly capable of so many more forms and uses than the world had previously known. Freedom was a growing sentiment: freedom of thought and freedom of expression. There was no denying the desire for the creation of a new style. Today we look back at one of the time period's largest styles and refer to it as Art Nouveau. With the "new" style we could see "organic forms…full of untrammeled curves and dynamicism. At the same time it [symbolized] birth, growth and decline." Henry Van de Velde, Charles Renee Macintosh, and Victor Horta all were proponents of

this new growing style that spawned in Europe before spreading outwards and eventually reaching the United States.

Despite the struggles to frame these new mentalities in a new way, there were numerous aspects of previous eras of architecture that found themselves incorporated into Art Nouveau. Within its curving forms we can find traces of Gothic traditions, Classical elements, and even forms, and figures from the Baroque or the Rococo. The designers of the era took ideas that were suited for a new palette and built their expression on a base of forms, mentalities, and design ideals all revived from preceding times. The product is a synthesis of old and new that create a markedly unique expression of built form. From its preceding ages it took the craftsmanship and attention to detail and created a new language of articulation to extend focus back to the intimate scale.

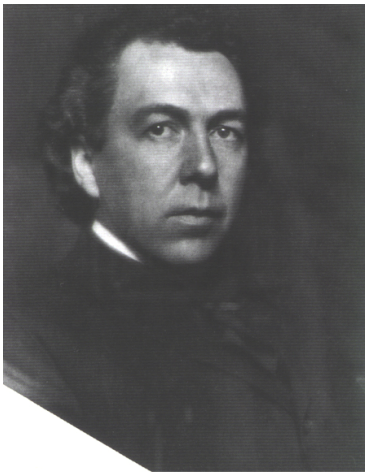
The 1920s and 1930s brought a similar process to a slightly different environment. A decade and a half prior the machine was accepted; now it was embraced. With it came a new desire for modernity and thus a new vision of what modern truly meant. In both Europe and America, this was answered was with a taste we know as Art Deco. The machine found its way into images on every building type in the urban landscape with metallic, sheet metal surfaces. Speed, power, and ascension heralded the arrival of the style with buildings growing taller and the limits of man's ability to construct being pushed to higher limits. We see the emergence elements such as racing stripes that wrapped around faces and volumes to unite a building in a mentality of velocity.

Even more so than its predecessor Art Nouveau, Art Deco was riddled with elements that held resemblance to a myriad of historical time periods and their respective styles. From Egyptian and Sumerian influences, to Mayan and Native American characteristics, to classical and neo-classical elements, Art Deco is an amazing composite of old ideas reconstituted to suit a modern, fast-paced civilization. With these older styles often came their appreciation for detail. Such detail could encompass a building, offering many beautifully ornate works design with an entirety of scales from reaching new heights into the sky to the sidewalk and its human occupants. Historically revived elements guided the success of Art Deco and only through the union with modern notions was it a style to be revered and eventually revived decades later. Thus far the rhythm has remained very similar to the history behind it, with architectural development coming from a combination of newly created ideas and restored concepts.

Paralleling the latter half of Art Deco's supremacy in certain architectural environments, certain other groups appeared that saw a new way for buildings to respond to evolving human needs. The Modernist movement found discontent with historical remedies in solving problems. The world continued to shrink while its population continued to grow. Ideas of Functionalism and Rationalism found no use for ornament or decoration, or anything that did not directly advance the function and purpose of a building. Attention to the smaller scales was compromised in favor of devoting more attention to the larger scales (the broader tasks and ideas of a project.) People who searched the images of the designs from Modernism, or more specifically, the "International Style," would be lost trying to find recognizable relationships to the years

and eras in architecture that preceded them. There was no desire by the architects to have their new creations associated with works of old.

It is here we see the rip in the continuum of the way design evolves. The emerging Modernists brought with them a style that was a testament to Creationism: new and unique, to the point of being foreign and foreboding to some of the architectural community and much of the non-architectural public. Revivalism was all but written out of this period of architectural thinking with possible exceptions being such that a roof must be supported by members beneath and with it. This period emerged disjointed from the span of architectural development before it. However, this is not a bump in time, or an isolated event. This era ultimately brought about a changed perspective for the development of architecture that has followed us to the present day.



While the designs of many architects can be chosen to represent each of these stylistic eras in design, there are few whose careers straddled all of these periods, contributing and responding to each. Frank Lloyd Wright is an example of an esteemed designer whose time designing buildings spanned from the late 1890s to the first half of the twentieth century, spreading across a highly evolving period of architecture in the world. Furthermore, Frank Lloyd Wright is one of the greatest examples of a true practicing Revivalist—a perfect combination of historical inspiration and fresh innovation. By following his work throughout his career in conjunction with other works from architectural stylistic

progression, we can parallel society's architectural development and see the art and notion of Revivalism being put into practice, as well as the success that it brings.

Today's vision of architecture provides an example of a resulting lack of Revivalism. The number of those who wish to honor and rejuvenate the past—or just analyze it to understand its strengths and weaknesses—has dwindled to a scant few. The goals of the few that remain are mocked by those who simply take a precedent that was once successful and lift it from its origin to a new carbon copy that sits in a new site for a new client with new needs. The rest have taken the mentality of Creationism to its extremes, driven by a desire to not only be something new, but launch the next memorable and defining era of architecture. This new mentality can be called "Revolutionism;" a stigma that grips so many in the architectural world and instills the need to be different for the sake of being different, new for the sake of being new, to create continually from scratch only because there is then a possibility to be known as the true creator of a new style. Intimately scaled designs fall prey to cost-cutting methods that often leave a bland result in their wake. This fosters an environment where a building can be erected in a series of sweeping waves and curves, none discernable without the aid of a computer, and climb into the air in a mess of gleaming chaos for people to point with raised brows to something they have certainly never seen before—all without the consideration of whether it is better, whether it is truly an improvement or merely a discovery.

In the pages that follow we will step through each of these movements and discover what the presence of Revivalism brought to architecture in times of its strength

and also what came from its absence. Ultimately, the conclusions of this can be applied to the future of architecture. Arguably, a critical study of the past can lead the world of architecture to an even greater future.

Introduction

Like any of the fine arts, the success and development of architecture hinges on the concept of creativity. Unlike other professions or tasks that are more dependent on mechanical skills, art and design are largely built from different talents, and creativity is arguably the most important. Many could argue that one lacking creativity could not be a successful architect or contribute much to the built environment as a whole. Thus, the stress on making creativity fresh and alive is well founded. There are times, however, when creativity is mistaken for originality; that being creative requires one to create something no has ever seen before. This notion can undermine the entire goals of architects and their pursuits. This same conflict is present in the minds of architects who group together to follow different schools of thought regarding the practice of architecture. The battles can be Practitioners vs. Historians, Modernists vs. Classicists, Realists vs. Theorists, but in the end there are aspects of each of these arguments that are similar. One common theme is whether or not we as architects should focus on the creation of new ideas, new forms and new methods, or study and utilize previous ideas, forms and methods.

The polar ends in such a debate become the stances of Historicism and Creationism. The former comes to represent a belief that history has reached the zenith of design and with its tools, materials and methods, design can continue onward in its likeness and sustain success. It poses no need for sizable innovations, modernizations, or adaptations to changing times. Architecture becomes a constant that the world must revolve around.

Creationism represents the opposite philosophy. It sees success as a temporary concept that the present must always continue to fight to attain. A Creationist would believe that the continual production of brand new ideas will define success. Old ideas are regarded as truly past their time of relevance. The future is where all eyes should be pointed to let each age create something completely and utterly unique in its every aspect in responding to the completely different world.

Most of those within the field would likely argue, for a combination of both the old and the new, but perhaps one that is far more equally weighted than many may suspect. The notion of Revivalism is a mindset is one looking both forwards and backwards. Around us in the present are new issues and problems that need to be assessed and solved, but behind us is a wealth of experience and wisdom. Many forget that there is a great deal more architecture visible to us in the past than there is in the future. Revivalism focuses on these former initiatives to break down their strengths and weaknesses. Those strengths are revived and enriched to sustain them in the present day while the weaknesses are discarded and replaced with new solutions and methods, oftentimes spawned by new technologies and materials, not just new design concepts. The end result is a unique product that is grounded in the past and precedent but responding to the present surrounding condition. Some would argue that reaching back to search for solutions or using components of former styles and time periods infringes on being truly creative, but in the end this is simply not true. This thesis will display the vitality, if not superiority, of such a method.

Creativity is not equivalent to being on the "cutting edge." To the contrary one can creatively maneuver, utilize, or organize a series of totally existing pieces in a creative fashion to create something unique and profound. The creation of something new in no way assures that it is an improvement to what existed prior, nor that is it a "good" intervention at all. The mentality that creating something brand new automatically adds value breeds a notion that can be termed "Revolutionism" in this thesis—an assumption that both fellow designers and the public will reward efforts towards the finding of a brand new style, the next breakthrough. The result is that instead of working towards assessing problems or weighing the present to the past, designers are set on being revolutionaries and create new things for the sake of being new. In the end, this is not productive.

Revivalism provides a balance that lets innovation be guided by a foundation of knowledge and practice. Following a mentality of Revivalism offers two main strengths to design: It gives an accurate weighing of the positive and negative aspects of the past for their reassessment and comparison to the present, allowing for the positives to be reworked and reinstituted into design and the negatives to be left behind. It also makes a more fluid transition for a design into two existing conditions: the surrounding built environment and the collective conscience of the public.

There is a potent value that is gained by using the approach of an evolution of periods architectural from one to the next, and history has proven its success time after time. A study of the previous periods or styles reveals strengths and weaknesses for each of them. Some responded to their time periods with greater success than others, while some explored certain materials for the first time and retired others. No matter what the

unique aspects of a particular stylistic period may be, each era has existing requirements as well as new challenges or dilemmas that develop. The present is no different. How architects respond can drastically affect where effort, time and innovation are allocated and their corresponding degree of success. Knowledge of former strengths in anything from form to decorative technique only widens the palette of a designer as he looks at the blank canvas before him.

Similarly, there can be strengths of design that are discarded from practice not because of their failure in ability to be applied or a lack of functionality but simply because they are not new. What is left behind may be years of assessment and tuning for the sole reason of the length of time it has been used. Former strengths in design may have no real reason to be discarded and then all that is accomplished is a weakening of the collective effort of designers to continuously improve on the built environment. One could be addressing a task that history may have solved already. Methods in problem solving that were used formerly to tackle completely different issues could be revived and applied to new problems for updated and better results. Conversely, fixing the areas that are lacking in preceding style is harder if one does not know enough about what came before. How are problems and shortcomings addressed if the past is not sufficiently studied and used?

Another aspect of Revivalism is fluidly guiding a design into the realms of the built environment and the mental environment of the public. The definition of an "addition" is almost always a new piece of structure, program or landscape that is directly added to the site or form of an existing piece of the built environment.

Nearly all buildings must fit into a surrounding realm of a pre-existing built environment. There exist exceptions to this such as Le Corbusier's Villa Savoye or Frank Lloyd Wright's Falling Water—these building need only respond to the natural environment that encompasses them. For most projects, the existing environment is an inescapable factor and will be comprise of more older buildings than newer buildings more times than not (the existing environment has a higher percentage of former styles than "recent" buildings.) Any attempts to achieve a level of cohesion with this environment would only be aided by the concepts and knowledge that Revivalism brings. Revivalism fosters the thought that styles in architecture evolve from each other—each one growing in some form from those that preceded it. Continuing this mentality would make new designs laden with aspects of former periods and projects, raising the similarities between a new design and its environment and thus facilitating its cohesion within. Knowledge of how such a phenomenon has worked in the past could better prepare designers for how it could be done in new ways with the creation of new styles.

Another environment that is even more inescapable is that of the minds behind the eyes that view a building everyday. The people that use a building, pass by a building, or read about it all form a collective conscious as to how they judge and rate architecture. Almost in their entirety, these people will not be architects and so they will not be discovering and assessing a piece of design with the same mindsets and tools that architects possess yet they vastly outnumber the designers in the world and will be using the created buildings a great deal more. In essence, these are the people that architects are designing for.

Some could proceed to argue the credence of Revivalism and claim that it is merely another subjective point of view held in the eyes of some and not in the eyes of others or that Revivalists are only a stone's throw from Historicists—trapped in the past and unable to see the future. For the future, change and adaptation to new conditions will come on its own, it does not need to be forced by designers in the world. The truth is that concepts held within the notions of Revivalism have a deeper rooting to people and basic human nature to render it more likely to produce results that are appealing and positively accepted by the population at large. Beyond mere subjectivity, there are deeper studies of human nature that can show how these concepts become relevant.

In 1968, at the University of Michigan, a psychologist named Robert B. Zajonc submitted a study to the Journal of Personal and Social Psychology entitled: "Attitudinal Effects of Mere Exposure." In those pages, Zajonc proposed that "mere repeated exposure of the individual to a stimulus is a sufficient condition for the enhancement of his attitude toward it."[1] He argued that merely by human nature alone, a repeated exposure to a certain sound, sight, or other sensation would cause people to like it more over time and along with that, a person was more likely to accept and find appealing something that they had already been exposed to rather than sensations that were completely novel. One can see the implications for and similarities to the idea of Revivalism. Let it be said that this does not imply a coddling of a society that resists change by removing the knowledge and experience of architects in their quest to explore.

[1]Zanjonc, Robert B. "Attitudinal Effects of Mere Exposure." Journal of Personal and Social Psychology, June 1968, Volume 9, No. 2 Part 2.

Rather, it points to a compromise of designer and client that does not result in the rift we can see develop between the goals (and mutually understanding them) of each side.

To some, the idea seemed contrary to normal tendencies. So much notice and attention is often given to things that are new, cutting edge and represent the exploration of the unknown. Though Zajonc acknowledged this activity, when confronted with it he explained:

> *"On the contrary, it is more likely that orienting towards a a novel stimulus in preference to a familiar one may indicate that it is less liked rather than it is better liked. Ordinarily, when confronted with a novel stimulus the animal's orienting response enables it to discover if the novel stimulus constitutes a source of danger."*

He goes on to say:

> *" Novelty is commonly associated with uncertainty and with conflict—states that are more likely to produce a negative than positive affect."*[2]

Through a series of studies, including word frequency tests, nonsense word exams, and tests through Chinese characters to those unversed in the language, Zajonc was able to produce very favorable evidence that his hypothesis was indeed correct. Psychologists to

[2] Ibid.

follow would continue to ratify and build upon Zajonc's work for. It is still a revered discovery and validated theory today.

The demeanor of Revivalism could not agree more with Zajonc's ideas of the Mere Exposure Effect. Despite the tenacity with which designers are often filled with to create new and pioneering ideas, the Mere Exposure Effect deems that the presence of precedent has a greater chance of being accepted by the public that is going to be using and inhabiting the creations. As a mindset based on the synthesis of forms, relationships and concepts between older architecture and the needs of the present, built into its framework is the presence of things that people will find familiar when they use or pass by these structures. Even without educating the world to the depths of architecture and design—a feat that many would agree is all but impossible—people can and will draw subconscious affinities towards things that they recognize and find their degree of comfort in. To ignore this is to pit a design against the natural tendencies of the human mind and only add to forcing it into the acceptance of the populace just as it is forced into the built environment.

Some professionals could argue that they are not psychologists—they are designers trained to guide the population forward. This is true, and their training does afford them the ability to make more informed decisions as to how to aspects of design will best respond to the needs of the client. However, ignoring the basic workings of the human mind will not foster a trust in clients as they view the place of architects in society. If designers are viewed merely as artists imposing their will upon society then the aspect of their professional design training in functionality, efficiency, historical

knowledge and more will be compromised in the eyes of the public as will their tendency to grant architects credence to work.

While creativity and innovation are qualities that are essential in fostering the idea of development and progression, to give them too great a priority in the realm of architecture is to the detriment of the field, its creations, and its place of respect in the eyes of the public. These things need not disappear from design, but the focus of enhancement to the practice of designers should include deeper and longer looks into the past and what it has to offer to the world of today. A sense of accomplishment can be shifted away from pure exploration of the future to the talent that one can proficiently perform a synergy between past and present given that the work of Psychology for almost the past half-century "indicates quite clearly that exploration and favorable attitudes are negatively related."[3]

[3] Ibid.

Arts and Crafts

Towards the end of the nineteenth century the world was moving into a new era. Skepticism around the machine faded, bringing the possibility of production and fabrication to a new scale. Industrialization grew as a concept laden with opportunity and promise, and with it came the notion of mass production. Some would claim that there were certain benefits from new technology and new methods, to enhance appearance or durability. There were beliefs to the contrary, with others saying that the quality of products would decrease as a result of the idea of getting the most for the least. Such people saw mills and factories as large unwanted structures that swallowed up land in the city and countryside and spewed waste through chimneys and tall stacks. These were also the people whose efforts pioneered a style known today as Arts and Crafts.

A faction of designers and artists arose in Europe that subscribed to the latter view, lead prominently by a man named John Ruskin. Ruskin was one of the first to oppose industrialism when it began to grow across the England. The Gothic Revival had swept across England and other parts of Europe in the second half of the nineteenth century with eyes and minds turning back to the fantastic height, strength and detail of cathedrals. The art of restoration was prevalent and at its peak, while tracery and ornate finials were finding their way into residential dwellings. Towards the end of the century, however, this was coming to an end. Ruskin was one of the few who were not ready to see it go. As a writer, philosopher and designer he went into battle with the weapons of Medieval and Gothic architecture. Unlike many of his fellow lovers of gothic forms, “He

was opposed to all restoration—to him the defacement of those precious surfaces that were the bearers of that joy-of-the-craftsman."[4] Despite his opposition to touching existing works of architecture, he held no qualms in using existing styles and creating new masterpieces from their languages and techniques. Ruskin championed the appearance and forms of preceding styles, heralding them for their elegant presence, but the strength of his cause was the means of construction. His works praised the medieval craftsmen and the talent within them to work in force to erect landmarks and milestones of their era. As a result, the concepts of mass production and dehumanized approach to organizational performance were adamantly opposed. Industrialization was downcast by Ruskin on principle alone. It prevented artisans from adding their spirit to buildings, and it did not accommodate the masses of stone and timber that he wanted to see continue.

Ultimately, Ruskin represented a mentality that was the pinnacle of Historicism. Within his Seven Lamps of Architecture he states a series of Aphorisms, one of which is: "Modern builders are capable of little; and they don't even do the little they can."[5] He truly believed that there was no need to change or more forward from the means of methods and materials that history had given to the world in means of methods and materials. In this judgment he was inaccurate, and the lack of feasibility or realism that surrounded his gothic vision most likely lead to the decline out of his supporters, sermons and texts. However, his notion of and respect for craftsmen was carried forward by a friend and contemporary, William Morris.

Tratchenburg speaks of Morris saying that "His was a passionate commitment to the finely designed, well-wrought, non-historic, man-made surroundings for the entire

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[4] Trachtenburg, Marvin and Isabelle Hyman. Architecture – from Pre-History to Post Modernism. B.V. Netherlands, Prentice Hall Inc. and Harry N Abrams Inc, 1986 Harry N. Abrams. P.490

[5] Ruskin, John. The Seven Lamps of Architecture. London: Dover Publications, Reprint Edition 1989

community."[6] As a painter, writer, speaker and architect himself, Morris arose in a world of growing allegiance to industrialization, but he also shared Ruskin's vision that the invention of greater machines could lead to the death of quality design and true craftsmanship. When he looked at the architecture around him, he did not see the marvels of machines but rather a world of growing boredom and repetition that grew from a lack of time and effort given to the creation of the arts. As the world looked forward to the type of futuristic world machinery could bring, Morris did not see the answer lying ahead, but rather behind.

Morris was also drawn to the architecture of the Middle Ages, marveling at the structures of Medieval and Gothic origin. For Morris, like Ruskin, it was not only about the beauty that rose from the ground in timber and stone, but the process by which these buildings were crafted. The difference between these men was that Morris was not an advocate of historicism. Though he honored and respected the accomplishments of times behind him, his message was not that society must replicate their forms. His focus remained on the life and work of the prized yet vastly unappreciated craftsmen. He pointed to the times when craftsmen were revered for their talents. The model of old trade guilds would be one that he promoted for years to follow, assured that true art and design came only from the work of human hands. Architecture became one of many art forms that he would advocate as part of his mantra. His concepts of form and appearance came together to create the Arts and Crafts Style.

A prime example of Morris' vision was his own house, known as The Red House (Figure 1). Begun in 1859 at Bexleyheath in Kent, the Red House was a testament to the Ruskinian goals for architecture. Designed by Philip Webb, a staunch supporter of

[6] Ibid

Morris' efforts, the brick exterior, steeply pitched roof of shakes and heavy timber interior all draw focus to the medieval times that the Arts and Crafts movement was trying to return to the forefront of the contemporary populace.

The name itself speaks to the union and interaction that its founders intended for design and the creative arts. Artisans and craftsman, designers and builders, unified groups brought together to create the mental and physical aspects that are needed to create great pieces of art or architecture. Author Kitty Turgeon states that the movement was a time of "refocusing on the creations of the heart and hand."[7] Morris saw the architectural process as the result of a combined effort from all trades that went into its construction. The theory behind the movement argued for these men and women to become a stratified group above the rest of civilization and which convened for the purpose of ensuring the greatness and success of the creative arts. His message was that all should be able to enjoy a well designed and decorated home or fine piece of art. However, in reality, the age of Arts and Crafts was not trying to empower the common man into his own adventures of artistic exploration. As boldly as ever, there were distinctions made and lines drawn between the client and those suited to perform artistic services—even if the latter was expanded to include what we might

Figure 1

[7] Turgeon, Kitty and Robert Rust. Arts and Crafts. New York: Friedman/Fairfax, 1997.

consider today as more common trades. He continually tried to manage a group consisting of cabinet makers, glass blowers, blacksmiths and builders that would work hand-in-hand as a single force with design and surface decoration to create a unified masterpiece down to the smallest detail—the intimate scale. His vision included the resurgence of trade guildsman, rising again to make an enlightened and artistic working class a conglomerate of power and a creator of a new era of art inspired by earlier works. Their focus came to affect buildings from concepts of massing and form down to the utilization and unification of the smallest of spaces.

Paralleling the concept of human craft was the need for structure to be strongly linked to its site and surrounding natures—another striking strength of the movement. Far beyond a structure's orientation or positioning on its given plot of land, it was recommended that the land itself be brought up into the intervention by means of terrain and, more poignantly, materials. From medieval times, the Arts and Crafts movement drew a fully natural selection of materials, but the goal was to push the connection farther through the use of native materials to strengthen the link between the building and its surroundings. Cladding, roofing and beams were chosen from the woods nearest to the site or sometimes the trees to create the plot itself. If near larger hills, then hearths could rise out of slate or fieldstone, whereas a riverside abode might be constructed of smoothed river jacks.

Those efforts instilled a connection among the inhabitants, the land they owned and their home or building. Most importantly, those were relationships that the clients could see as their own, not mixed philosophies buried deep in an abstract or particularly educated knowledge of the form.

The Revivalistic points of the style are easy to see. Author and historian Cleota Gabriel comments on how "Arts and Crafts architects, drew imaginatively on many historical sources, holding that the simple, useful domestic building styles of the past ages held the secrets for their own success."[8] Traces of medieval work appear in not only in the use of wood, but in often-used heavy timber construction with revealed or accented presence in rooms. Styles succeeding medieval construction often covered structural members for coats of paint and plaster to bare a more finished appearance. Arts and Crafts revived those hand-crafted features and brought them back to the experience of the space. The use of leaded glass windows in their decorative flare was by no means necessary, but aesthetically successful. Larger modules of glass had been successfully created and used by the time Arts and Crafts homes were being constructed. Their inclusion into designs indicates a conscious effort to revive a medieval and gothic means for glass construction and display.

In many ways, the Arts and Crafts movement paralleled the sentiments of the Gothic Revival that preceded it—reviving a revivalistic movement. The first half of the nineteenth century took industrialization to the next level of progress in America. That brought with it a standardization of parts, new materials to fill the tasks of old, innovative approaches to construction processes and solving design problems. Ultimately that drove a decidedly "urban" sentiment, aiding in a boom of city growth through factories and warehouses. The Gothic Revival represented a force that opposed those characteristics. Its focus was the customization of detail, the return to materials such as stone and wood,

[8] Gabriel, Cleota Reed. The Arts and Crafts Ideal: The Ward House. Syracuse: The Institute for the Development of Evolutive Architecture, 1978 p.22

historical methods and processes, and a vision and setting that was pointedly "anti-urban" and a pursuit that was picturesque.

The revival of Gothic tradition was a glance back to a time when details in designs were highly customized for each individual project. Any features that could be characterized as "gothic" still allowed room for each building to make them its own. For architects whose goal was to respond accurately to the Gothic tradition, the precedent required an attention to customized detail. When speaking of Richard Upjohn's Trinity Church (New York, New York, 1839-46,) Leland Roth pointed out that "The pulpit shows Upjohn's attention to detail down to the smallest element."[9] (Figure 2) Admittedly, those efforts had their limits as Upjohn's vaulting on the interior of the building was plaster construction instead of truly structural. Another example would be the leaded glass windows of Alexander Jackson Davis's New York University building on Washington Square (New York, New York, 1832-37.)[10] These also represent details unique to the project.

Figure 2

Like Arts and Crafts, materiality was an integral part of the Gothic Revival, but materials alone were not enough to create buildings that were "Gothic" in the eyes of even contemporary designers. The method of construction upheld Gothic tradition in the

[9] Roth, Leland. American Architecture. New York, Westview Press, 2003. p.175
[10] Roth, Leland. American Architecture. New York, Westview Press, 2003. p.172

designs of the bellwether architects of the period. Upjohn's Trinity Church represented complex stone constructions that allowed his building and its massive stone tower to approach the heights and vastness of space that Gothic churches historically achieved. His demands for three dimensional stone sculpture raised the standard for the means of production and the craft of the time. Even though some saw those as steps backwards in design, Upjohn's efforts show the tenacity that was inherent (and demanded) in the Gothic Revival and mirror the fervor that Ruskin and Morris drew into the Arts and Crafts period that followed.

The Gothic Revival's strong pull towards natural depiction and surroundings must also be noted as it parallels the efforts of the Arts and Crafts. With both of these movements striving to fight against the rise of industry and urbanism, both clung to the images of forests and untarnished plains as well as depicting those settings in their designs, whether through carved friezes or leaded glass windows.

Arts and Crafts becomes an example of a new notion of design built upon a retroactive base in mentality. Morris and his contemporaries saw a world moving forward without adequate awareness of the lost pieces of wisdom that were being left behind. We may never know whether, the pioneers of the movement raised the silent questions about fixing things that did not need to be changed. How many new concepts and images and forms were new because they marked steps of improvement? How many were new simply for the sake of being new? It would be unfair to say that those practicing in the time of the Arts and Crafts movement never forward to create things that were entirety new to the public, and it would be equally unfair to say that Arts and Crafts was merely a period of repetition of buildings of the past. The truth is that Arts and Crafts

came to stand as a synthesis of old and new—a combination of old values and new forms to create enduring value through an original style.

The goal of this contingent of designers and artists was not to create a cutting-edge, modern mentality of design, but rather to re-address and rejuvenate ideas that were parts of previous styles. When problems are encountered in any aspect of one's surroundings, it is often natural to try to create new, innovative ways of fixing it, but Morris and his allies drew attention to an ulterior course of action. Their method was to look back instead of forward and see what methods history would suggest to correct similar dilemmas. The results were creations that held a union with history that does not go unnoticed. To their surrounding environments they often found an easier synthesis into the towns and villages, closer to the existing fabric than counterparts that were completely new. To those who inhabited and passed those buildings, they found a new creation laden with a number of concepts and visions that they could recognize and relate to—many they had already seen before and saw anew in a slightly different context. What was achieved was a gradation of new steps in design rather than an upheaval of tradition, and with it, comfort to mark the glaring dawn of a new age.

In 1909 there was a house finished in Pasadena, California, for Mr. and Mrs. David Barry Gamble. Today it stands as one of the best examples of the Arts and Crafts period. Designed by the acclaimed firm of Greene and Greene Architects, this house encompasses and expands upon the base of the Arts and Crafts mentality as well as serving as an excellent example of a design with strong ties to revivalism and meticulous attention to the intimate scale.

The Greene brothers came into the field of design with an extensive background in study. They also had a depth of experience that included the Beaux Arts, late Victorian, the Japanese and the English Arts and Crafts, to leave them commonly knowledgeable in the periods of architecture that preceded them. They carried years of study in the craft arts of woodworking and metal-smithing; something that becomes quite clear when viewing their work and their choices for materials.

The timber frame of the home was chosen from native woods of the Pacific Northwest: Oregon Pine, Redwood and Oak (Figure 3). They were as elegant materials in appearance, with a high weather resistance. These materials worked to further tie the building to its site in accordance with Arts and Crafts goals. The house continued to relate to the hilltop site that the brothers chose for it by means of terracing and grading to gradually fit the house into the ground plane.

Figure 3

The influence of the house is extended outward to meet the landscape. The form of the house pushes out horizontally in the forms of its low pitched roofs and extending rafters. Spatially it does the same through two large brick terraces, a covered front entry porch and numerous second floor sleeping porches for an overlap of interior and exterior spaces. Meanwhile, the natural landscape fuses inward with the use of plantings, climbing vine work and hanging porch planters and window boxes.

The materials further reflect the traces of the Greene brothers historical influences. The large, exposed, pegged timbers and rich use of wood suggest not only a medieval scale in structural members but also perhaps Japanese origins when seen in stacked and stepping fashion (Figure 4). Redwood shakes were chosen for both siding and roofing materials to complete the array of natural and handcrafted products.

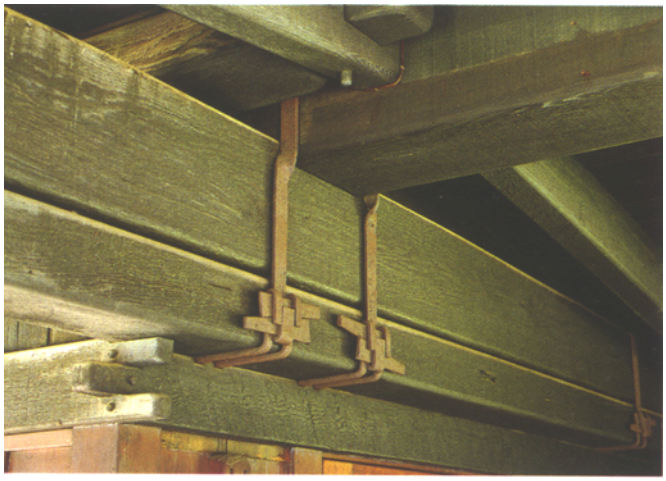

Figure 4

Beyond the scale of site connection, there is an evident goal of design integration that is all too consistent with William Morris' own goals. The Greene brothers took part in every aspect of the design of this home beyond the structural form and its landscaping surroundings. They went on to design every interior surface, ornate glasswork for windows, lighting fixture details, furniture and even carpets and other trimmings for the dwelling. Their focus drew down from the overall goals of the site to the presence of the intimate scale. Once again this shows the results of Morris' original idea of having all aspects of a design process in coordination and the integral nature of a close bond between architect and talented craftsmen.

The gradation down into smaller, more human scales occurs very quickly in this design. Contrary to a modern mentality of free plan and multi-use space, the first floor is delineated and segmented into rooms that give specific attention to specific functions and

activities. One could argue that such methods lead to need for more space, but it also allows for a space to respond more acutely to a given function, responding closely in any manner of articulation such as scale, lighting, or circulation. The Greene brothers choice of this mentality can be seen in a series of individual spaces linked by a common, open hallway. For the most part, no room is accessible from another without traveling through the common hall space, thus removing the problem of the passage of people disrupting any current use of a room. One school of thought is that rooms with sole uses needlessly divide up a home. Admittedly, circulation becomes a longer process and movement between the rooms becomes a separated process, but the circulation process results in more intensified experiences in each of the program spaces. Whether it be Mr. Gamble's den, the dining room, or the Butler's Pantry, each room was crafted with a common warmth but a responsiveness to particular needs, thus heightening the intended experience in each room.

Figure 5

Separate rooms scaled down once again to even more distinctive spaces, characteristic again of the Arts and Crafts movement. Spatial moves such as the fireplace inglenook (Figure 6) in present an attention to a scale beyond that of the room as a whole to create a smaller and more intimate experience of the hearth and its

Figure 6

presence. Similar design interventions such as built in cabinets and shelves around the hearth in the den display

a desire for every space to be of value and use, and

sufficiently designed.

The designers used every surface as an opportunity

to design and display the fruits of handcraft and labor in an appreciation for tradesman that paralleled that of Morris and Ruskin. Truly, when looking at any room in the home it is easy to see that the construction would not be possible without highly skilled men in a number of crafts—the expertise of Ruskin's labor force. Attention to connection is meticulous through the joint and peg work of members or the intricate metal strap work that is designed for binding together the beam. Amidst the characteristics of Revivalism, this serves as a great example of innovation fused with historical elements in order to create a fresh and new appearance and functionality.

Figure 7

An example of the affinity for detail and handcrafted work is the leaded glass in the doors of the entry hall, reminiscent of older methods of glasswork and consistent with the natural direction of the Arts and Crafts theme. It depicts the "Tree of Life", designed by the Greene brothers (Figure 7). At the intimate level, the lead work is flawless. The use of leaded glass work is a Revivalistic tendency incorporated into a contemporary design. Over the fireplaces there are intricately carved friezes depicting, once again, natural scenes through the same material of its surrounding walls. The decorative frieze work in is

similar to both Oriental and Classical tendencies. Even at its smallest scale, the warm teak interior is ridden with rounded, polished edges, promoting a softness and responding to touch much more than a machined-milled counterpart.

The Gamble House presents its occupants with a perfectly orchestrated medium among new forms, appearances, and relationships and images that are instantly recognizable and comfortable for its occupants.

Robert McCarter states that "Wright's own assertion that no previous architecture had any impact on his thinking and his work was also not the whole story."[11] This concept is repeated throughout his career. However, it is perhaps most notable in the Wright's early work as an architect, while he was still in the process of finding his own place in the discourse of design. The first project that was created without influence of employers was actually a house built for himself in Oak Park, Illinois, in 1899. There one can see a wealth of historical references to Arts and Crafts, as well as hints of the preceding Victorian era.

The front façade of the home bears the massive presence of an oversized gable roof protruding past the first floor space beneath it (Figure 8). The scale alone brands it as the most powerful form of the home, very similar to the emphasis placed on the gabled form in Victorian

Figure 8

[11] McCarter, Robert. Frank Lloyd Wright Architect. London, Phaidon Press Ltd, 1999. p. 27

residences. The elevation plays between a balance of symmetry and asymmetry with the mirrored formal conversation offset by the door being located not centrally, but in the right bay. The house pushes back from the street with many noticeable forms such as its bay windows, protruding octagonal rooms and steeply pitched, crossing gable roof lines. It is the orientation and placement of these elements that let the house diverge slightly from a direct replication of the sources from which it draws.

McCarter comments that the plan of the house was "based on the then-standard builder's prototype, named the 'four-square' because of its four basic spaces on the ground floor: entry/stair, living room, dining room and kitchen."[12] However in this case, the "squares" are broken and shifted to begin to break the box of traditional orientation, much in the same way that the Greene brothers organized their Gamble House.

Also like the Gamble House, the exterior is almost completely clad in wooden shingles, drawing on a well known archetype of the Shingle Style, often seen as a brother or offshoot of Arts and Crafts. The use of diamond-paned, leaded glass for windows—most notably on the front façade—is also a striking return to a historical, nearly medieval use of the material (and far beyond necessary at this point in history.) Wright chooses to use this aesthetic manner and whether he desired it or not, it helps draw a parallel of recognition between his house and preceding suburban homes in the United States. However, other windows on different faces of the building receive different levels of variation to this style with the dining room windows being comprised of almost drop-shaped elements and those on the rear of the second story bearing little to no resemblance to those beneath.

[12] Ibid. p.31

The finishing of the interior rooms draws more notable references to contemporary Arts and Crafts mentalities. Among these is the use of window seats, inglenooks and built-in furniture that reinforces the idea of maximizing usable space as well as making the entire home a unified, handcrafted work. (Figure 9) Though the rooms themselves are not very large, these small spaces are tucked into the fabric of the home to reduce the scale of occupancy back down to the single person. This transition, however, is made easily, back and forth, from the solitary to the family, and then again to the public when exiting the home.

Figure 9

Another tactic is the detailing done in stronger tones of decoration such as the exposed beams that divide the ceiling of the living room into proportioned sections. Garnished with a reinterpreted dentil molding above, an over-sized frieze wraps the entirety of the room. Located in the corners of the ceiling are smaller squares created by the crossing beam work, that hold simple globe bulbs beneath plaster-cast decorations—a detail that one would expect to see in a Victorian home. The traditional picture or chair rails were discarded in favor of a datum set at eyelevel around the room to aid in the scaling of the room back down to the human form and distance it from the larger scale of the frieze. The oversized frieze is present in many of the Gamble House's room with the marking of similar heights in relation to the occupants.

Figure 10

The hearth itself is inserted into a nook that draws a strong kinship to the Gamble House. (Figure 10) Curtains can enclose the small, quaint space completely if desired. Within, the brick of the hearth is surrounded by the warmth of wood. In both houses, the decoration that accompanies the hearth area is simple, restrained, yet detailed and meant to emphasize and highlight the main forms that are present. The built-in cabinetry shows the same restraint with its design, stressing the workmanship and handcrafted nature of the units rather than trying to include ornament that would detract from the impressive talent needed to build them. The result in all cases is an elegant balance of simplicity and detail, innovation and restoration.

The time of Arts and Crafts can be viewed as the most recent period that favors the Historical pole of Revivalism, lacking the balance of innovation. Unfortunately, this would prove to be its downfall. In any period, pure Historicism indicates a full commitment to the past, void of forward movement or the introduction of new ideas of the present. No matter how much beauty, success or endurance a certain style or period may have, pure Historicism limits its time of practice.

The true forces of Arts and Crafts did not shy away from machines, but denounced them as all but the apocalypse of design and craft. Even for one with a great

love for craftsman and the beauty made possible by human hands, there is a point—even today—where machines are helpful, if only to expedite or simplify tasks and do not detract from the artistry that true craftsmanship involves. The wills of Morris, Ruskin, and their followers were strong, but even the strongest of wills could not undermine the rise of industrialization to the world.

Architects such as the Green brothers or Frank Lloyd Wright represent a much more left-wing end of those who held and practiced the ideas of Revivalism. Their ability to recognize the values of their precedents and combine them with visions of future improvement lead them to be both great designers and, within that, superb Revivalists—and perhaps among the most successful of the Arts and Crafts designers. It is because of this that their homes are still loved and their technique still finds its way into the hearts of clients without much alteration.

Despite these draw backs of the Arts and Crafts movement, it still produced many fantastic pieces of design. Perhaps its greatest contribution to architecture was providing a starting point for the modern era of design; not necessarily something to replicate, but a clear vision of the extreme and how Revivalism could begin to find its place in future periods. Arts and Crafts pulled the architecture of prior generations and grounded it in the twentieth century to give the very revival of perspective and example that architecture continues to need. In the end, the opportunity was seized and spawned the style of Art Nouveau.

Art Nouveau

As the period of Arts and Crafts saw its decline, the world unknowingly began its journey into another era of architecture. What arose in new architectural designs would become the base of a style that, like its predecessor, Arts and Crafts, surged across the world. Yet also like the preceding age, this new style was built through a series of unions between present and past and retained an attention to the intimate scale.

Though the leading artists of the world were still very strong they began to shift to wanting something decidedly new. The world continued to change and population of designers and artists called for the evolution of a new image of work to accommodate the advancements made in technology, industry and government around them. This influx of creativity surged to create what is known today as Art Nouveau. Designers were given a new palette of materials that could be manipulated in new ways to increase versatility. Iron became pliable and moldable into a limitless number of shapes. That enabled the design world to more beyond uses of only connection elements or decorative flare used in small portions. Metal challenged masonry as the material of choice for structural members. Glass was flattened into longer and broader units than it had in the past, affording new possibilities.

The bell-weathers of Ruskin and Morris had watched technology lead to mass product and repetition—from there they could only see a loss of originality. In the same manner that the community of building and design learned that structures could rise in more than simply the stacked stone of ancient Greeks, the world assessed an attribute of the past, deemed it inaccurate, and investigated a new solution to add to architecture of the day. As it was, technology turned to be one of the great assets to the stylistic

successor of Arts and Crafts. Though the values of beauty and craft heralded by Morris and Ruskin were retained, their aversion to a growing industrial society was left behind and the age of the machine was embraced. The designers and engineers who followed these masters disproved the beliefs that industry would destroy artistic expression and craft. To the contrary, Art Nouveau can be described as "the time when industry stopped being feared as the end of hand craft and more revered for possibility."[13] The mechanized world became more than just an ally to architects; it became the door to limitless opportunities. At the same time, Franco Borsi notes that "Art Nouveau clearly championed craft and refused standardization."[14]

One may think that the acceptance of industrialization brought with it images and forms with hard edges and cold surfaces, yet this could not be farther from the truth. Art Nouveau encompassed fluidity and grace—a style "not tied to any definite motifs but based on organic forms and full of untrammeled curves of dynamacism. At the same time it [symbolized] birth, growth and decline."[15] This notion of accurately portraying life and its fluidity was present in the period through all different mediums of art and design. Where Arts and Crafts was prone to depicting natural scenes and settings, Art Nouveau began to represent nature and life. A complete palette of materials, old and new, was allowed to take forms that explored representing life rather than merely depicting it.

The period saw amazing developments in hand-crafted work from the furniture of Charles Mackintosh to the glass work of Louis Comfort Tiffany, both displaying an intensity of talent that rose directly from the driving forces of Arts and Crafts. Worries that saw the combination of machined work and handicraft as stark were proven wrong

[13] Lenning, Henry F. The Art Nouveau. Netherlands, The Hugue. 1951
[14] Borsi, Franco and Paolo Portoghesi. Victor Horta. New York: Rizzoli New York, 1991.
[15] Hotler, Hecibert. Movements in World Art: Art Nouveau. Methuen & Co. 1965

with a time of elegance and movement. Experimentation and investigation into iron and steel saw structural members of all types begin to shrink from their former wooden masses to new, thinner and more delicate objects. New physical properties and greater mechanical strength permitted longer distances and construction spans. Delicate forms could support and enable even larger spaces and loads than their predecessors. Nouveau became the art that utilized innovation in an appropriately tempered manner.

The population of artists and designers agreed that architecture's state up to that point could not accurately and completely manifest emerging ideas—and they were correct. Many eyes began to look upon Classicism as a static form lacking growth and adaptation. While it offered assurance and balance as icons that had been in architecture since its infant stages, its rigidity was often considered a negative in the eyes of those trying to construct new additions to the built environment. There was a common goal of creating a style that was decidedly current or "modern" and yet there was a desire for the stronger points of the past to remain steadily in the new design that would welcome a new age.

Art Nouveau provides good opportunity to assess what 'modern' truly means. It is often the case to mistake a modern intervention as something that must be entirely new—"cutting edge." The dictionary defines modern as:

> "of, relating to, or characteristic of a period extending from a relevant remote past to the present time…"[16]

This is far more accurate, describing modern to be a new solution that links an old idea to its new use—in a word, adaptation. Contrary to the architectural style known as the

[16] Dictionary.com. The American Heritage Dictionary of the English Language, Fourth Edition. Houghton Mifflin Co. 2000. http://dictionary.reference.com/search?q=modern

International Style, Art Nouveau supports and depicts this definition with acute accuracy and is laden with traits of Revivalism. It would be a mistake to say that the style emerged with little influence from its predecessors and strove to create something completely and utterly new. Author and historian Stephen Tschudi asserted that "Art Nouveau, both in time and development may be placed midway between Historicism and the emergence of the modern movement."[17]

The beginning of Art Nouveau shows a direct correlation to its birth from Arts and Crafts. Tschudi goes on to say that "It is in the ranks of the Arts and Crafts movement that we find the proto-Art Nouveau artists."[18] The naturalistic tendencies of Morris, Ruskin or even the Greene brothers provided the spring board for the fluid organic forms of Art Nouveau. Where the forms of nature and life were bounded by straight wooden stiles in the Gamble House, Art Nouveau was free to define form rather than embellish. Within Arts and Crafts there was a widespread search for forms for designers, a search that focused on nature. Whether this was present in wall treatments, glass images or picturesque settings of structures, the natural found a prominent place in consideration and process of designs. This sentiment was one of the strongest connections to Art Nouveau. There was a notable difference between the two. One on hand, Arts and Crafts depicted decoration and materials of construction to make the forms and provide interconnection of spaces. This promoted the idea of organicism to envelope designs both figuratively and literally. Again, Nouveau took Arts and Crafts depiction of nature and stepped further into the forms of nature. Trachtenburg describes the style as one that "turned to biomorphic, and sometimes geopomorphic, world as the

[17] Tschudi, Stephan. Sources of Art Nouveau. New York: DeCapo Press, 1975
[18] Ibid

central source for [its] work, which often spilled over into exoticism."[19] This sentiment can be seen clearly in the works of Hector Guimard, most especially his Metro station entrances with their iron, plantlike forms which seemed to grow from the concrete sidewalks and curl around incoming and outgoing passengers. (Figure 11) The hard nature of iron is completely forgotten when viewing his fluid lines as they dance with one another.

Figure 11

Nouveau embraced the notion of a complete style and an integration of elements. Their artisans as designers and artists worked together to design not only buildings, but their wall treatments, furniture, artwork and novelties for a unified experience. Though the palette of materials may have changed, the importance of interconnectedness remained the same into the early years after Arts and Crafts. This connection and integration aided the style in the same way that it aided Arts and Crafts, guiding the designer's focus from the larger forms all the way down to the most intimate of scales. As a result, there was no absence of detail in those new designs. Forms and figures reached down to the level of appreciation to the human occupant. Inclusion and attention to all range of scales on a project became part of the marvel that was focused on the Scottsman, Charles Renee Mackintosh.

[19] Trachtenburg, Marvin and Isabelle Hyman. Architecture – from Pre-History to Post Modernism. B.V. Netherlands, Prentice Hall Inc. and Harry N Abrams Inc, 1986 Harry N. Abrams. p. 509

Perhaps best known for his contributions and direction to the Glasgow School of Art, Charles Mackintosh was a pioneer in the innovation of architecture with strong connections to Art Nouveau. Mackintosh was born in Glasgow, Scotland in 1868. By the time he had reached his twenties he was feeling the force of the Arts and Crafts movement in England. Proximity alone would guarantee his experiencing the works and methodologies of Ruskin and Morris. Though he would deviate in many ways from their teachings, there were still many aspects of his work that drew from Arts and Crafts, and historical precedent generally to give a Revivalistic presence to Art Nouveau.

Mackintosh was a champion of a new style. Like his contemporaries, of Henry Van de Velde and Victor Horta, he sought to reinterpret the face of art and design to encompass the realm of possibilities that a new industrial age was bringing to the field. Like those designers he also found a great deal of validity to the integration of historical design into architecture, especially the older localized traditions of the site around a new building as he stressed that historical built form was a large part of the character to any city of built environment. He believed that culture is engrained into the former design projects of any society and they are pieces of identity that should not be lost, but reincorporated into new design pieces.

> "—the curious Balls often seen at stairs, such as the Old College one now at Gilmorhill and very many other features which give a historical character to the buildings they adorn for they tell of a time when Scotland was much more friendly with France than with England… In face I think we

should be a little less cosmopolitan and rather more national in our architecture, as we are in language, new words and phrases will be incorporated gradually, but the wholesale introduction of Japanese sentences for example would be denounced and rightly by the purist."[20]

Despite his desire to bring design philosophies into the present, Mackintosh touched on the fact that the present is meaningless without the past. In his view, it had no grounding, no fortitude and little importance. Only through a union of past and present could architecture gain its place in the built environment. Mackintosh seemed to be saying, 'do not charge ahead without first looking where one has been.' Doing so makes it much easier to know where one is going.

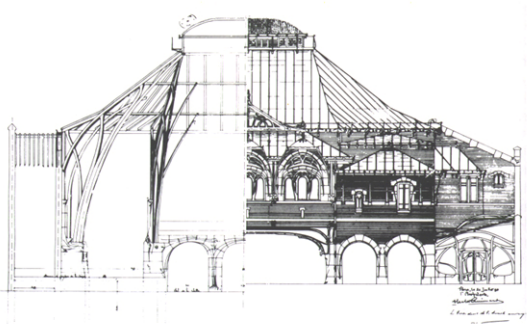

Figure 12

Figure 13

Delving further into Art Nouveau reveals strong ties to Gothic architecture. A good example is Hector Guimard's Humbert de Romans concert hall in Paris (Figure 12). The concert venue reflected the stretched heights and the bold, massive structural elements the reach high for a

[20] Mackintosh, Charles Renee. Untitled Paper on Architecture Charles Renee Mackintosh, Ed. Pamela Robertson. Charles Renee Mackintosh: The Architectural Papers.

feeling of vastness within the space, dwarfing and humbling in the same fashion that Gothic cathedrals coined decades before. Despite this, the space is pleasant, lacking the coldness of stone (a relic of religious servitude in Gothic structures.) The metal members that complete the large spans hold the same curved and fluid grace that of his metro stations. Like Gothic architecture centuries before, Guimard redefined what the appearance of such massive structure, removing the stiff and linear elements and replacing them with fluidity. Tschudi claims that "The Gothic Revival, Neo-Rococo and the Neo-Baroque contributed to shape Art Nouveau…One with its theory, the other with its application of details, and the third with its conception of form."[21]

At the same time, this work that was revered for its novel nature and spatial approach draws on a precedent—perhaps unknowingly—in the United States. The Martinsburg, B & O Railroad, West Roundhouse, (built in 1866 in Martinsburg West Virginia) used a network of thinner steel members to accommodate the large and open spans needed to swing locomotives around to new track beds. Though certainly not a public space, it far preceded Guimard's design for his theatre, and yet the spatial result is very similar. Once again, innovation of a 'new' style (Nouveau) reflected glances to the past.

Assessments of the work of Victor Horta highlight strong similarities to the Neo-Baroque and Rococo, with his fluid symphonies of curved lines that sometimes wrapped their way to every surface. Baroque was perhaps one of the stronger precedents for many of the creations in Nouveau. The French-born style was used most often in the context of country manors and small castles. Largely a style restricted to the rich, the etiquette and language of Baroque was both a test of wealth and a test of craft. With every surface

[21] Tschudi, Stephan. Sources of Art Nouveau. New York: DeCapo Press, 1975 p.137

receiving a hyper-decoration, and often layers of gilded gleam, the highest caste of noble society used architecture evidence of their wealth and taste, yet ingrained within was also stretching craftsman and artisans to their limit to create such detail and elaborate wonders. Similarly, Art Nouveau was a test of craft and a test of materials. Though plasterers may have been exchanged for blacksmiths in constructing the beauties of this later age, the highest caliber of talent was often required to bring those designs to life. This also branched beyond the wealth of society as architects focused on ways to drive metal to new limits. Furthermore, elaborate styles were drawn by taking curved and more fluid forms and working them into the framework of Classicism. Ultimately, the fluid and rich nature of Rococo was always conquered or bounded by the orthogonal of an older organization. The innovation of Art Nouveau broke those boundaries and allowed the fluidity of form and design to invade, encompass and dictate the design as a whole, switching its classical references to being subordinate, but present nonetheless. This all continues to point to the source of Art Nouveau's strength as a style "New" creations are truly forms and relationships that were not developed from scratch. Rather they were seen as strengths of a prior period and revived to new use in a more modern time.

These connections created a compromise that consumers and inhabitants appreciated more than we might have expected. Their appetite for something different was addressed, yet elements can be seen that drew traces of the existing environment to guide their comfort and recognition into the next age. It truly encapsulated the difference between "new" and "foreign." Foreign creates disruption and prohibits unity while new dictates ideas of evolution and growth. This unspoken dialogue is complemented by

attention to the intimate scale that allows these buildings to converse with their occupants and passers-by on their level.

In 1861, Victor Horta was born in Ghent, Belgium. The son of a cobbler, he would rise to become one of the strongest forces in guiding architecture to a new age towards the end of the nineteenth century. Horta is widely considered to be one of the most influential designers in helping to determine the style that we now know as Art Nouveau.

Horta rose as another example of one who could grow up within a society of a given architectural and stylistic direction to learn its strengths only to fuse them with his own visions of how it could be improved to address a new age. His birth resides close to the end of the Gothic Revival, only years before the rise of William Morris and John Ruskin would champion the revival of art and craft in society. His youth brought him through the years of Revivalism that sprung from England, and yet by the time he was thirty years of age he had already begun framing his notions of a new direction of architecture—a new way to synthesize the old and the new.

Like Frank Lloyd Wright, Horta was an architect that designed a project to completion in every sense of the word. There was not a surface in his work that was not treated in order to become a cohesive part of the entire design. Like Wright, he worked with a range of materials from plaster to stone to iron, though one of the most predominant elements in his work is his use of glass. Material choices and juxtapositions offer a glimpse into his union of past and present such as a carved stone façade supporting the thin nature of a balcony of metal and glass. Horta was not afraid to push

the limits of an existing architectural solution until it grew to suit the needs of his project. He became a master in not only aesthetics but structural experimentation to devise new ways that materials like stone and iron could carry loads with grace that belied the perceived coldness that most associated with these materials.

Horta's language, though quite Revivalistic in nature, departs drastically from Wright's. Combining the natural focus of Arts and Crafts with the majestically curved grace captured within Gothic design, Horta was able to create a language of natural origins and truly organic representation. Wright's own desires of organicism often—though not always—manifested themselves more in notions of cohesion throughout a design rather than forms that would be described as biological. Horta took the notion of a unified whole and depicted it through a lens that mirrored the living unity in nature itself. Author and historian Franco Borsi comments on Horta's designs when saying:

> *"He expressed his feelings in biological terms, looking for existential metaphors in the themes he proposed to design dialogue, collision, growth, repetition, birth and death."*[22]

This can clearly be seen in one of his earlier, yet most recognized, works: The Tassel House.

The Tassel House, later known as the Hotel Tassel, was only Horta's second private commission despite the mastery that would evolve from the freedom that he was given to explore his new ideas of design. The building was commissioned by Emile Tassel. A professor of geometry at Brussels University, Emile was said to desire "a house

[22] Borsi, Franco and Paolo Portoghesi. Victor Horta. New York: Rizzoli New York, 1991. p. 13


Figure 14

as a show, a manifesto, to be discovered slowly like the plot of a novel."[23] The academic hired Horta to create this new vision of elegance for him on 12 Rue de Turin in Paris, France. The site was decidedly urban in its long and narrow slot of space between a pair of existing structures. In this narrow plot, Horta would create the first of many striking projects that wove styles and beliefs of the past with their successors of the present.

The façade, exceedingly important in a long, thin, urban setting, greets one's arrival with a clear example of the desire for union in Horta's work. (Figure 14) At first glance the building could appear almost heavy with its strong use of stone climbing up either side of the façade as they bare their punctured windows set back to emphasize the thickness of the wall. Below the roof is a heavy cornice, reminiscent of renaissance works throughout Europe or private Italian urban villas. Author and historian François Loyer states that "The façade of the Hotel Tassel affirms itself primarily as a classical construction, a powerfully modeled piece of sculpture ruled by symmetry."[24] Around the pair of heavy wooden doors are variations of brackets and case molding that ground the entry in a historical air. However, it would be only moments before the eye fully registered the innovation that shared the presence of the project. The center of the

[23] Borsi, Franco and Paolo Portoghesi. Victor Horta. New York: Rizzoli New York, 1991. p. 11
[24] Loyer, François. Victor Horta Hotel Tassel 1893-1995. Bruxelles: AAM Productions, 1986. p.121

symmetrical front bares a lightness of form that contrasts the heavy nature of the walls to either side. Solid and void exchange places: in the stone walls, the voids of windows are rare and carefully placed in a field of mass, though in the curved windows of the center, stone turns into minimal, light members that support the windows. Within this expression of stone and glass, details of small columns are placed between the hollow of glass marking a historic connection to aged forms while having reinterpreted bases in the form of clawed feet. The entire center of the building expands towards the street as if the façade had bulged outwards from within to the point of tearing seems in its stone surface. Even so, the union of the two materials, as well as the tradition edges and the more progressive center, is done flawlessly.

Figure 15

Once inside, the novel aspects of the design are certainly the first found by the occupant. Horta uses a combination of marble, plaster, iron and glass to sculpt each of his spaces in their plant-like forms. The lightness of Horta's articulation causes one to forget the narrow nature of an urban site. Slim columns hold aloft light steel construction—a new language for buildings—as the designer plays with the ancestors of open-web joists or trusses. Windows are used not only between interior and exterior, but continually between interior rooms to bolster this feeling of openness within the space. The warmth of bold

and poignant colors is also very evident. Existing precedents of solid colored walls—even perhaps some of more unusual pigment choice—cannot stand aside the fade of orange that warms the main hall and staircase. The deepest color begins at the baseboard and gradually fades to a light peach towards the ceiling. (Figure 16) Amidst the painted sunset, vine-like forms climb up the walls in their streaking green nature, mirroring similar forms that comprise the railings on the opposite side of the stairs. This particular form was a key characteristic of Victor Horta, known as his "whiplash." Its continuous use helps to lift the design to a level of displaying and manifesting the idea of the "organic" in a way that had never been done before—and perhaps has not been completed as well since.

Figure 16

Still, these choices are mixed with a considerable amount of Revivalistic tendencies. The elongated steel columns hold a resemblance to those of a more Classical origin as they hold delineation of a clear base, shaft and capital. The whiplashing metal that reaches from the vertical members to lick at the horizontal counterparts appears to draw their inspiration from brackets as they serve more of a curved, aesthetical purpose rather that being purely structural. (Figure 17) Rooms such as the vestibule carry a paneled wooden ceiling—an older form no longer needed to articulate wooden beams. The use of leaded glass in a large number of both interior and

exterior windows adds to the colorful beauty of the building, but is by no means "necessary." Much like Wright's own home and the Gamble House—perhaps only more so now—the use of stained glass utilizes a means of enclosure and an art form that was considered to be archaic by progressive designers. Horta's use of this medium is liberal throughout the home.

Figure 17

Perhaps most notably, despite the whiplash vines being a hallmark of originality associated with Horta, the inclusion of nature and search for the organic is not novel. Here, one can see a direct correlation between Arts and Crafts and Art Nouveau. The naturalistic direction of Arts and Crafts in depicting nature and life had shifted into the direction of portraying and manifesting life. The Greene brothers' Tree of Life window finds similarities in color tones and shape consistencies with Horta's own glasswork in this area. With this, we can see that the level of craft and detail that Morris and Ruskin had championed is one of the strongest elements in the Tassel House. Were it that these men had lived long enough to see this home designed and built, it is likely that they would have been more confident in the direction that architecture was going after their death.

Frank Lloyd Wright used the term "organic" as a goal for his architecture throughout most of his career. In his case, organic referred less to plant-derived or natural iconography in choosing his forms but rather that spaces and forms of the home should be a fluid composition with each other and the nature around it with the grace of a living organism. Still, there are elements of his work in the early 1900s, paralleling the Art Nouveau succession of Arts and Crafts. Though no entire home of his design can confidently be put within this stylistic grouping, his furniture design and his glass work—particularly in the Dana Thomas House—hold qualities that are strikingly reminiscent of Nouveau.

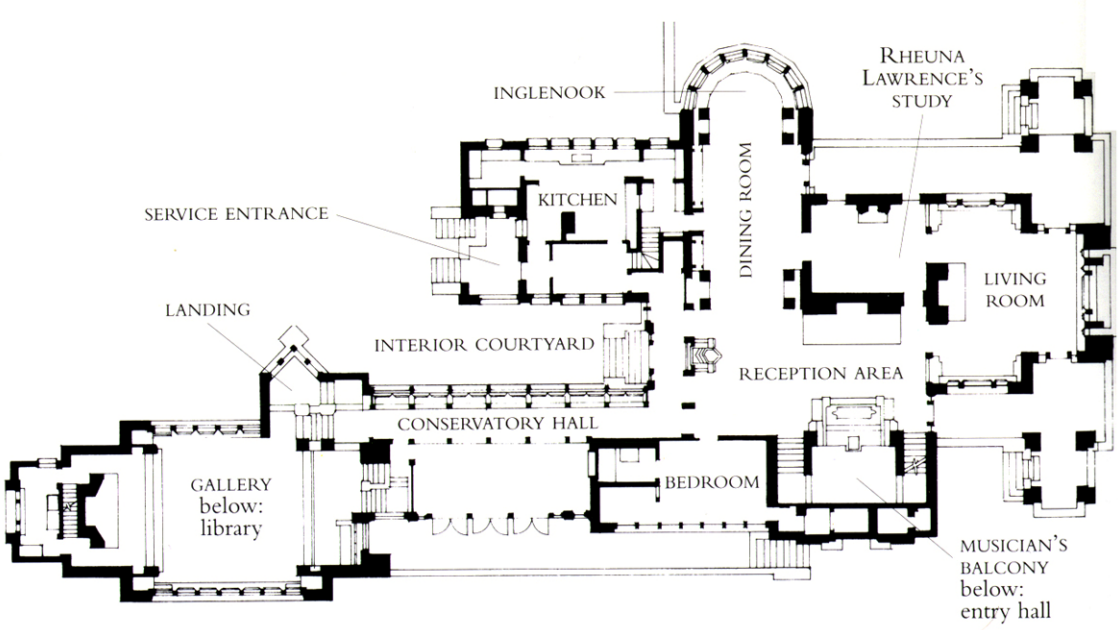

Figure 18

In 1902, Wright designed a home for Mrs. Susan Lawrence Dana, daughter of a wealthy investment tycoon. The house rose up in the suburbs of Springfield, Illinois. The wealth amassed by her father was now hers to spend and she "decided to build a grand

house to serve as a base for her new role as a wealthy civic leader and socialite." [25] This would become the first project in which Wright was given an unlimited budget. With this, however, came an interesting stipulation from the client: for sentimental reasons, Mrs. Dana required that the original Lawrence House, which this house was replacing, be incorporated into his design. It may have been the early nature of Frank Lloyd Wright's career or simply the prospect of unlimited design funds that caused him to acquiesce to this request. In his later years, he probably would not have accepted such stipulations.

Like Art Nouveau itself, the house had its stances of innovation, most pointedly its spatial organization. Wright had specifically targeted the project and its grandness to change the Victorian notion of grandeur in its design and create a new sequence of spaces that were continually linked and overlapped rather than boxed out into various programmatic choices. Wright comments on the Victorian period and his desires to change its precedents:

> "Dwellings of the period were "cut-up," advisedly and completely, with the grim determination that should go with any cutting process. The "interiors" consisted of boxes beside or inside other boxes called *rooms.* All boxes inside a complicated boxing. Each domestic "function" was properly box to box....
>
> … I declared the whole lower floor as one room, cutting off the kitchen as a laboratory… screening various portions in the big room, for certain

[25] McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 295

domestic purposes—like dining or reading, or receiving a formal caller."[26]

Wright's efforts would create fifteen clear, subtly different floor levels throughout the house and a series of spaces that broke through the walls of a segregated mentality for program and function. The result complemented Mrs. Dana's goal for the house to be used largely as a place where she could exercise her political presence through parties and events. The house needed to be a fluid succession of movement and space to accommodate large numbers of people and the ease of movement through the expansive first floor. (Figure 19)

Figure 19

Like much of Frank Lloyd Wright's work, this was not completely without precedent. The overlapping and linking of spaces, providing new juxtapositions, was a tactic experimented with by English architect Sir John Soane (1753-1837). The house that Soane designed for himself (now the Sir John Soane Museum) bore a mixture of Revivalistic appearances. In particular, Soane emphasized detailed ornament and finishes with new adjacencies of space, often creating slots or zones of space that were ambiguous as to which room they truly belonged. These interstitial spaces appear again in Wright's Dana-Thomas house.

The glass work in the home strikes on Wright's ability to straddle the concepts of Revivalism and Creationism—taking two steps forward but one step back. Wright used

[26] Ibid p.296

leaded glass designs throughout the entirety of the home from windows, to doors, to sconces, to hanging lamps and fixtures. In each case one can see not only a detailed examination of the intimate scale. In 1928, in an *Architectural Record* article Wright specifically points to the need for and importance of the glasswork of the home.

> "In the openings of my buildings, the glass plays the effect the jewel plays in the category of materials. The element of pattern is made more cheaply and beautifully effective when introduced nto the glass of the windows that in the use of any other medium that architecture has to offer."[27]

Figure 20

In all of the windows created for the project one can see designs within that hold a thinness and elongated components that draw similarities to the stretched and slimmed nature of Nouveau. Certain pieces were even derived from organic origins with their natural forms finding their way into the works. These are clear similarities to Arts and Crafts and the Gamble House. Wright took the existing concept of using leaded glass to depict natural affinities and changed its designs—stretched, slimmed and elongated—for a more recent age. A prime example is the windows made for the dining room that

[27] Ibid. p.297-298

Wright names the “sumac windows.” (Figure 20) It is worth noting that the sumac itself was a plant form that has appeared in architecture for millennia, dating back to its use in Roman design. Its inclusion here, while tasteful and fitting, was far from revolutionary and seems to be more of a touch to the past. A number of colors were used in the design as well including yellows, oranges, and soft blues. The transparent frescos bare a striking resemblance to the works of Louis Comfort Tiffany, a designer in glass who was renowned for his contributions to the Art Nouveau.

The same similarities are even more striking in some of the glass work that Wright created for the lighting of the home. For the dining room, Wright designed a set of chandeliers suspended on long, thin rods from the looming barrel vault above. (Figure 21) The lights are hung delicately down into the space like thin, hanging vines with a discrete fashion that can be found in the Hotel Tassel. At the base of the vines are intricately designed glass shades that enclose and direct the light into a soft glow over the room. The amazing detail in each is a testament to Wright’s commitment to a completeness of his design and his desire for it to be appreciated at the intimate scale. It also draws attention to a more literal depiction of an “organic” goal for his work. Though lacking the curved lines of Horta’s work, it is easy to imagine the lamp shade growing outward from the connection at its top and spreading

Figure 21

out into the pedal-like extensions. The individual components of glass that make up the whole may be small and more numerous than Horta's light work, but the proportions of the piece still stress the long and thin nature of the piece that ties them together. Wright names the design a "butterfly" pattern, but either way, the inspiration is clearly natural in origin and solidifies the similarities between Wright's work here and that of his contemporary Nouveau designers.

Figure 22

There is another obvious Revivalistic quality of the glasswork, the same as in his own house with its alignment with the Arts and Crafts. It is easy to forget that the use of leaded glass is far from necessary and is in itself a revivalistic gesture to a process and product that many had already begun to view as outdated. The use of larger plates of glass for double hung sashes was already popular by the beginning of the twentieth century. Undoubtedly, that option would have been cheaper and would have required less time to design. Wright chose to invest in the time anyway. Ultimately, this grounded the work in an existing framework of design and linked it to some contemporary work in Art Nouveau and back to Arts and Crafts, Renaissance and Medieval work before that.

Art Nouveau designers set out in a decidedly different direction than Arts and Crafts that resulted in its distinctive

Figure 23

presence. Where Arts and Crafts wanted to bring art down to the appreciation and experience of the common man, Art Nouveau wanted to raise art to a level of finery and distinction. In many ways, it was also different in its cross-cultural or socio-economic. Oddly enough, both found their best clients in the wealthier strata of society despite Arts and Craft's best hopes to cater to the common working man. Nouveau's decline was largely due to its ornate level of highly-curved detail. As industry improved, the visions of style evolved into sleek, straight lines in response to goals of speed and power. Though elements of Nouveau's decorative and formal techniques can still be seen in the years that followed, Art Deco rose to bring a revitalized face to a world in its new stages of industrial and commercial development.

Art Deco

Architecture underwent another sizable evolution in 1925 when Paris hosted the Exhibition of Decorative and Industrial Art. Companies designed and raised pavilions around the fair with a collective feeling of a new air in design. The term “Art Deco” was coined here. The decline of Art Nouveau began and while the International Style sprang up in parts of Europe, Art Deco grew as an alternative to its stark and minimalist nature. Though Art Deco explored new areas of design and materials, creating greater building heights and functionality, in many ways it was one of the most Revivalistic periods in recent architectural history.

Art Nouveau succeeded in raising the decorative and applied arts to the level of “Fine Arts.” Artists and consumers attributed value to artistic expression whether in the form of paintings, sculptures, or architecture. A renewed appreciation for time and effort given to the decoration or articulation produced rich and exciting forms that were combinations of older works and their newer counterparts. This was a concept that would have been welcomed by Ruskin and Morris. The rising demand made it easy for artists and designers to justify the time and effort put into the further exploration of design. Yet around the same time, ideas of rationalism and functionalism were gaining support in parts of Europe. Factions of designers and artists of a new era rebelled against the movement of Nouveau that they had recently experienced as well as the new style of Deco that was rising around them. Their focus was not on the decorative arts but rather how needless form and articulation could be stripped away to leave behind a ‘clean’ piece

of architecture that could perform its function precisely to the best of its ability. There was a strong effort of Modernists of the International Style to guide architecture in such a direction but as Architectural Record said at the time, a "usurping Rationalism was not allowed to take the place of aesthetics."[28] There was still a demand for the decorative arts in the eyes and minds of the public and Art Deco became their answer.

Spanning from the end of the 'Roaring 20s' into the early 1940s, Art Deco has been described as "A unity on perhaps the most fundamental change in the history of style—the final, total acceptance of the machine."[29] The time where the machine was a choice had come and gone. Industrialization was shifted into the next gear of its operation and business followed to fuel the growth of cities. As a result, Art Deco came to represent speed, ascension and power. These qualities could be applied to the growth and height of a new corporate commerce, the power and efficiency that industry brought or the new capabilities of materials open to design.

Art Deco was spurred into existence through a French arts exposition, but its strength, particularly in America, came from the allure that corporations and businesses found for its language and organization. Deco became the style that welcomed the commercial age into existence by providing the first language that people could use to associate with corporate commerce. New heights were reached not only in a conceptual level of design tactics, but also in a literal nature of buildings heights as they climbed upwards to form cityscapes. The evolution of steel framed construction set new standards and possibilities for buildings above the existing four or five story limit. The spans of building bays grew larger from stronger members while the spans of bridges did due to

[28] Hiller, Bemis and Stephen Escritt. Art Deco Style. London: Phaidon Press Limited. 1997, Reprinted 2000. P.67

[29] Walters, Thomas. Art Deco. New York: St. Martin's Press, 1973

the innovation of steel cable. What were once only seen as utilitarian pieces of engineering now had broader capabilities in design. Their increased frequency and choice placement in the landscape drew more attention and focus from architects. In the 1930s the price of steel moved below the price of most wood. This condition brought visions of chrome panels and metal trim to become more common due to easier (and cheaper) production, replication and installation. The source of all of these new opportunities was machines. Factories and railway cars and power plants were no longer things that society pushed aside to the outskirts of their minds and encased in solid blocks of stone. These things were celebrated for the possibility they held and the energy they brought to power a new world of commerce and speed—the things that breathed strength into society and allowed for expansion.

One example of these concepts in design was the emergence of *speed lines*, usually occurring in pairs or triplets that wrapped around awnings or building facades. These simply articulations were reminiscent of artwork that depicted trains, planes and automobiles that opened new speeds of transport. The night was no longer a time or darkness for buildings where their detailed presence was unseen until the dawn of the next day. The new levels of power that industry was acclaimed for showed itself in lights illuminating the faces and sidewalks of these new buildings. Whether using merely a wash of light or the bends and twists of neon colors, the night appearance of buildings was a new consideration for designers and a new face for their buildings.

Buildings such as the Chrysler Building, designed by William Van Allen in 1928, New York, New York came to be a prime example of the image that Deco helped to create. (Figure 24) Its medal cladding caught the light as it rose into the air. The pinnacle of the tower is comprised of curved sections that fit within each other to give a telescoping appearance as if some unseen set of gears and switches extended the building to its full height—operating like the new machines that they were: machines of business and work. At the same time, moments of historical touch find their way into the building in reinterpreted forms such as the eagle-fashioned gargoyles that protrude from the building two-thirds of the way up—certainly an old icon that has been revived and renewed for a new environment. The curved sections also bare a strong resemblance to the sunburst design found in Mayan or Aztec artistry.

Figure 24

The ideas of tradesmen and their level of craftsmanship that held such importance to John Ruskin and William Morris were not lost, but rather broadened to include a wider range of the blue collar, working class—those who constructed and ran these machines that were raising the function and output of society. A conscious care for craft was still evident yet no longer in smoothly filed edges of a wooden desk's profile or the perfect fit

of a dovetail joint, but rather in the accurate fit of gears and hinges or the careful placement of screws and rivets to achieve an aesthetic of mechanization. Buildings were needed to house the growth of the business and industry and skilled labor was needed to ensure their timely and successful completion. Once such a base of talented workers found, buildings were designed to take advantage of this workforce from pushing the envelope at the largest scale or specifying acute levels of detail.

One could imagine that a movement towards machinery would sacrifice the intimate scale in designs but the truth was quite the contrary. Undoubtedly, most of the designers in the late 1920s and 1930s had been schooled in the Beaux-Arts style of Classicism. This is evident in how they did not take machines as closed boxes that served a function, but sought to discover their intricacies and fuse them with former proportions or forms for new methods of representation.

There was an influx of Revivalism for the designers of Art Deco and its reach was broader than any recent style that came before it. The desire for a new style in the eyes of designers was undeniable as no former style could truly respond to this mechanical age. "No traditional style was quite appropriate, but the element of novelty might be translated; as it were, into a well proportioned old form with extreme propriety to detail." [30] This was only achieved through a combination of new methods and their predecessors.

As a Revivalist would expect, Art Nouveau left behind aspects of its mentality as the direct predecessor of Art Deco. Slim, curved proportions of Nouveau were straightened and stretched into longer vertical articulation. Deco was a vertical style often

[30] Hiller, Bemis and Stephen Escritt. Art Deco Style. London: Phaidon Press Limited. 1997, Reprinted 2000. P.67

stressing the height of any façade or elevation and how it rose upwards, moving forwards. Experimentation with metal and glass work continued to be innovated into taller and stronger results to withstand tens of stories of weight and still allow the sway of a building in the winds.

The Beaux-Arts training of designers revealed itself in countless ways including sets of reinterpretations of the Greek Orders that had survived for millennia. New columns, capitals, pilasters, and most notably friezes all bore new forms and styles that were combined with the base of proportion and concept that architecture began with. The travertine figures wedged within the pediment of the Parthenon became the gilded figures of Rockefeller Center, designed by Raymond Hood from 1932 to 1940 in downtown New York. (Figure 25) This was most prevalent during Roosevelt's New Deal age where a mass of government buildings were constructed often called the PWA (Public Works Administration) era of Deco. Searching for an image of security, longevity and control, buildings such as court houses, city halls or other federal

Figure 25

Figure 26

government buildings chose neo-classical tendencies. With re-interpreted pediments and columns, the goal was to place recognition of an archetype in minds of people yet still show the public that new construction was being done—that progress was being made in the country. An example of this is the Polish National Home in Hartford, Connecticut. (Figure 26) Designed by Henry F. Ludorf in 1930, the proportions and placement of decoration in the pilasters as well as the casing that wraps the entrance carries direct response to Classical architecture. This was not the first time that this utilization of classical precedents came into contemporary civic architecture.

The emergence of Greek elements into American architecture in the nineteeth century carried a sense of both grounded precedent as well as a sense of monumentality. The built language of the Greeks had proven itself in the architectural world millennia beforehand and its infusion into a country of growing independence was used to legitimize new buildings to their surrounding public. The Greek Revival language was used to strengthen the pre-existing view of respect given to some building types such as statehouses or banks.

William Strickland was one architect who used a combination of the Greek Revival style and its well known temple form to reinforce the notion of monumentality in government buildings and ground his Tennessee Statehouse in a firm base of familiar elements. Strickland's goal was one of presentation down to the point of placing the structure high on a hilltop. The two main façades are clear displays of the Greek temple front with portico fronted with ionic columns beneath a pedimented roof. If only an application of ancient grammar, it is an accurate application as "Strickland's Ionic order

was carefully scaled and proportioned after Greek sources."[31] While the Greek Revival may have been comprised of a more direct affinity for Greek forms and orders, the parallel is still strong to some of the products of Art Deco This is a perfect example of how Revivalism can be utilized to guide the mindset of the public into the acceptance and understanding of new architecture. Both of these movements were used to help people see the similarities in designs and uses in order to secure their zone of comfort and acceptance. At the same time, innovation was certainly present and these new realities of America—whether it be colonization or the rise of commercialism—were merely paired with tactics that depicted reliability and confidence.

Yet the traditional past of architecture was not all that found its way into this new cohesion of past and present. Contributions came from a wealth of ancient civilizations to make a re-emergence in a present day, corporate society. Friezes of buildings saw the use of scarabs and surrounding bead work that were drawn from Egyptian jewelry and temples. Designers frequently chose the form of the ziggurat with its continued set backs and articulated level changes to help their new buildings extend higher into the sky than their Mayan originators could have ever dreamed of. As a note, some lobby that the ziggurat form of buildings was attributed to the set backs laws that were created as buildings rose to new levels but the truth is that there are many examples of buildings that exhibit this method of articulation that are much to short to fall within the restrictions of skyscrapers and often preceded the existence of taller buildings more strictly forced into set-back requirements.

[31] Roth, Leland. American Architecture. New York, Westview Press, 2003. p.164

Native American artwork and bead work was introduced into buildings through form and color alike in examples such as the State Office Tower of Syracuse, New York, designed by Thompson and Churchill and opened in 1927, amidst the polished brass of its lobby and entry hall. Here the forms of Native American symbols replace the traditional choices for capitals and friezes to make an unlikely presence in large structures. Other modes present in Deco include Babylonian, Sumerian, Japanese, Mexican, African and Assyrian designs. They are all a testament to the unity that Art Deco achieved not only with the present and the past, but an international inclusion of components. It is possible that this multi-cultural unification of stylistic choices was the beginning of a more globally conscious business world, marking the start of today's strong steps towards globalization. The entire movement serves as the hallmark of Revivalism in its purest form and what progress can be made when glances are taken backward first.

Revivalism allowed the public to search these new and find things they could respond to on a number of levels. Within these designs were images and relationships they could pull out and recall from previous times in their lives yet they were beside new and exciting elements the planes that were traveling over oceans. Unlike its contemporary mentality of a modernistic International Style, Art Deco went "beyond functionalism to representation, the hallmark of Art Deco as a decorative response to modernity."[32] Its machine age sought to make modern elements and modern functions less frightening to the general public, and in many ways it can be deemed successful. The age can most

[32] Hiller, Bemis and Stephen Escritt. Art Deco Style. London: Phaidon Press Limited. 1997, Reprinted 2000. P. 84

aptly be named one "of building qualities, not star architects." [33] The result is a response from the public to the architecture instead of the names of the architects. It is very likely that if asked, most people (lacking a formal architectural education) would not recognize the names William Van Allen, Raymond Hood or Shreve, Lamb and Harmon. To the contrary, very many would know the Chrysler Building, Rockefeller Center or the Empire State Building. When architects are not self-dividing, each searching for their own revolution, the outcome is far superior to a series of independent crusades to greatness. After all, is the goal of architecture fame or an improved built environment?

Figure 27

Perhaps one of the greatest examples of Art Deco architecture in existence is the Niagara Mohawk Building—originally the Niagara Hudson Power Company—in

[33] Bayer, Patricia. Art Deco Architecture. New York: Thames & Hudson. 1999 p. 12

Syracuse, New York. (Figure 27) The building stood as the headquarters to the power company that provided an image of industry to millions of people. This work came to be an icon of everything that power and industry encompassed. Most prominent is the ziggurat form that steps upwards from either side to a tower-like piece at the top. Limestone piers are accented, helping for the eye to insist on a vertical nature of a relatively short building. Within the piers are tall, thin windows with smaller pilasters in between them, again emphasizing Deco's verticality of the form. Along the top are details of chevron-styled ornamentation with various piers elevating above the parapet line to create a jagged roofline reminiscent of the tops of Gothic or even Medieval structures. The choice of stone set the building in strength and solidity, letting the viewers know of the reliability they could count on—for their power to be there whenever they needed it and that this building and the company within itwould always be present.

Figure 28

The age of the Mayan form and the limestone material were contrasted by a wrapping base of polished black marble and chrome decoration. Where the building meets the ground and is met by the pedestrians on sidewalks or in cars is where it assures them of its modernity and its control over technology. Above the windows are datum lines of broken speed lines, characteristic of Art Deco and its quest for speed. Grouped in triplets, they

have been broken only by the vertical ascension of the chrome rising upward with their vertical elements always intact. The base wraps most of the building at a single story to protrude upwards around the as a welcome to those arriving and responding again to the stepped nature of the massing. There is an upward force in the center of the building as if the center is being pushed or extended by the force of some great machine. The stone and metal work together in the day time to reflect the up-to-date nature of the building when it was built—that it was not 'yesterday's power company,' but a power company of today and tomorrow. An awning extends out over the sidewalk to comfort those passing by or welcome those who intend on entering into its field of glass doors wrapped in chromed metal.

The eye cannot miss the silver sculpture that hangs on the front of the façade, keeping watch over the entrance and the streets of Syracuse. Designed by Clayton Frye, the sculpture is crafted from Stainless Steel and is entitled the "Spirit of Light." (Figure 29) This large statue with its wings spread wide across the front of the building works to encompass the idea of what Niagara Mohawk wished to instill in its customers. A beautiful form, cast in metal that shone against the light of day stood ever-present in protecting those below. Both hands of the figure sit on two columns of light much like levers, as if it is controlling some greater machine of the building that most cannot even begin to comprehend.. Even in this piece of art one can find traces of

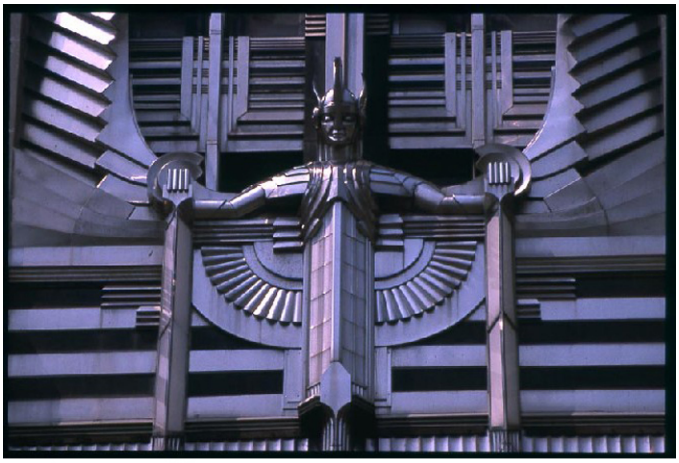

Figure 29

revived historical, yet reinterpreted references. A helmet frames in the head of the figure with horn like protrusions while plates of metal overlap one another as they cascade down the shoulders like a modernized suit of Medieval or Japanese armor. It earns its place on the façade and with the building and the spirit of the sculpture synonymous.

Despite the beauty that the building offers during the day, the true beauty of the building is at night when the vision of limestone fades away and lights are illuminated over the entire structure. Some colored and some merely bright white, the lights let the building become an ornate lantern in the darkness—a beacon to all who see to know that the source of light is there. The vision of this building burning bright throughout the night is one that may help the individual customers sleep more easily, knowing that if the Niagara Mohawk building is on then the power must be running.

When mentioning the stylistic age of Art Deco, Frank Lloyd Wright is not an architect often drawn on as an example of the period, however, a portion of his work paralleled the goals and techniques of the age. The movement of Art Deco elements into residential design was a secondary stage of the period, and often not as notable as its corporate and commercial counterparts. Wright provides a rare example of how Deco and its monumental ideas and scale can be brought down to the level of the single, private residence. Wright's desire for continuous innovation in this particular

Figure 30

case of his Millard House, also known as La Miniatura, guided this migration with explorations most notably in materials. Wright was able to explore new means for utilizing an existing material yet chose forms and nuances that drew on historical references.

In the 1920s, Wright could feel the pull of architectural design work towards the density of the center of large cities and away from the custom homes that he had found his broadest success in. Historian Neil Levine comments on Wright's Imperial Hotel in Tokyo Japan, completed in 1922, and how "he expected to gain the kind of fame and recognition he thought would attract the wider, corporate clientele that now dominated American building."[34] Levine goes on to say that:

> "Wright clearly wanted to appear as an architect of the most professional sort, capable of handling major corporate jobs, and not just custom-designed houses for the upper middle class."[35]

This points to Wright being once again notably aware of the architectural tendencies around him and how they were changing the face of the American built environment. It is very possible that Wright believed the incorporation of Deco would aid in his efforts to continue to place his reputation in the leading edge of the design field.

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[34] Levine, Neil. The Architecture of Frank Lloyd Wright. Princeton: Princeton University Press, 1996. p. 150

[35] Levine, Neil. The Architecture of Frank Lloyd Wright. Princeton: Princeton University Press, 1996. p.150

An exterior glance of La Miniatura encounters its box-like forms of the main house as well as the garage, attached by a small hallway. (Figure 31) All views from the exterior enforce an image of monumentality, much like the tendencies of Art Deco. With its continuous columnar elements spanning up the front façade and subtle terracing of forms, the height of the building is emphasized more than its width. The building is without strong horizontal band courses to highlight specific heights or the looming presence of overhanging roofs—that can be found both before in Prairie homes and Taliesin or after in Usonian Houses or Fallingwater. These tactics work together to imply a larger, perhaps urban, scale of vision to the project even if it is not achieved in physical size. La Miniatura, despite its a monumental presence, occupies a relatively small footprint and volume.

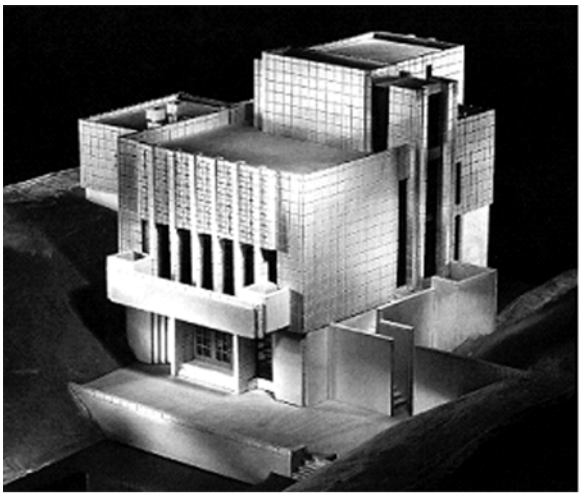

Figure 31

Another strong trend within Deco design was the patronage to Meso-American or Native American culture and the incorporation of their architectural forms and decorations into present day work. Wright's presence in Arizona and California brought him closer to Native American culture and Levine mentions that his design work in Southern California was approached with a desire for his architecture to "resonate, somehow, with the traditional materials and methods of construction of a region whose history included both Spanish and ancient and

modern Amerindian cultures."[36] If this type of gesture was made in previous California homes, such as the Hollyhock House, it failed to reach the intensity that Wright brought to his textile-block houses.

The stepped forms of La Miniatura are strongly reminiscent to the ziggurat of Mayan or Aztec architecture—forms that would also recognize building types of vertical emphasis rather than horizontal. The gray tones of the concrete used can draw similarities to the massive stonework used in the construction of these ancient temples. Just as these structures were formed through the hand-assembly of a multitude of individual blocks, La Miniatura was also built through the ingenious system of custom concrete blocks used to construct its walls. While many have terms Art Deco urban structures as "Temples of Commerce", Wright has brought this revitalized temple back down in scale to worship the simplicity of the common residence.

Like Art Deco itself, La Miniatura was not without its design innovations. Most notably, the creation of his concrete block system was one of the strengths that Wright brought to the projects. This represented a way of combining new efficient methods for previously existing material and new uses for these materials to take shape in ways that alluded to older traditions. The system was comprised of concrete, pre-cast on site into sixteen inch square blocks. Conducting this process on site allowed for dirt and sand of the site to be integrated into the mixture of concrete and alter the color to capture tones of its surrounding landscape—a tactic that drew parallel to Arts and Crafts ideals of strong connection of the architecture to natural elements of the site. Each block also had a

[36] Levine, Neil. The Architecture of Frank Lloyd Wright. Princeton: Princeton University Press, 1996. p.152

decorative design cast into their face to create a matrix of integral decoration when assembled together.

These blocks could be lifted by a single man, and assembled to form a wall with steel reinforcing and concrete joints between them. One of Wright's goals was to eliminate the time and expertise needed for traditional concrete formwork that often elevated the costs of projects. Two of these walls were erected for each wall of the home: one facing towards the exterior and one towards the interior creating a "dead-air" space between them. The air space decreases the loss of temperature from the interior to exterior as well as a barrier to excess moisture. This kind of forward thinking was well ahead of its time.

The blocks stood as one of many ways to bring the home from its monumental appearance back down to the human scale. The grid of blocking provided the sixteen inch by sixteen inch grid to carry through the entire volume of the home. Any size wall was scaled back down to the occupant in the various datum lines that wrapped the space. In addition was the use of balconies like the one on the front façade of the building that visually cuts the elevation in half while still not spanning the entire width of the building—making certain not to remove the vertical hierarchy of the façade. A similar tactic is done on the interior where a balcony hallway scales down the double-height space of the living room. Wright had no intention of the

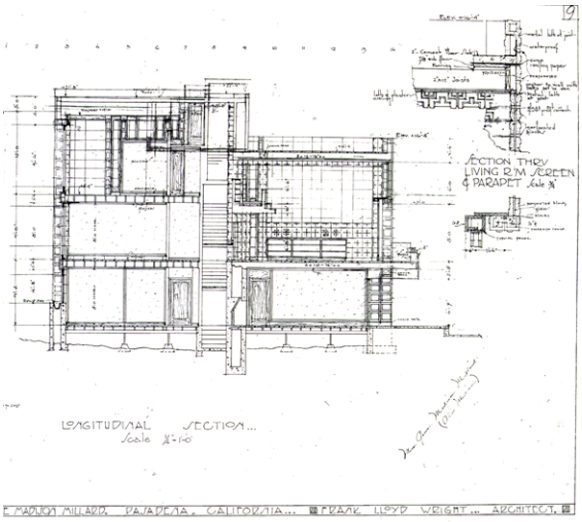

Figure 32

residents feeling dwarfed by their surroundings and devised ways to enjoy the integrity of a monumental space while still bearing the intimacy of a private home.

The kind of new ideas inherent in the project did not divert Frank Lloyd Wright from including historical and existing elements into the design. Where other architects may take concrete and use new formwork to create new forms for design, Wright took an under-utilized material and created a new means for its use—one that was cost effective, energy efficient, and aesthetically pleasing—to recreate old forms. Wright could not deny the need to use machines in a growing industrial age but neither could he compromise the need for connections to the site and native cultures of architecture. The familiarity drawn from these elements is likely to only add comfort to a material that had traditionally be perceived as cold and distant.

Art Deco's decline around the outbreak of the second World War may be attributed to the very presence of business that created it. While Deco was an image of commercial activity and function, it was ultimately not very cost-effective. The detail, the lighting, the metalwork and the craft required for their realization made the age elegant but also a labor-intensive style. In times where jobs were needed, it produced for that need amply but afterwards when the concern with the final product and employment was paired with concern for cost-cutting, Deco lost its applicability in the eyes of many. Efforts were made to embrace the machine even further than Deco's temples of commerce and entertainment, integrating the notions of cost effective construction that stripped aspects of the intimate scale. The decades that followed grew through a mindset that swept the globe to be adequately named, The International Style.

The International Style

Despite the strength and popularity that the styles Arts and Crafts, Art Nouveau, and Art Deco had around the world, there were factions of those who disagreed with the direction that they guided architecture. Some saw that the connection they had to history—their Revivalistic nature—served as a weakness rather than a strength. This sentiment brought rise to a new and rather unprecedented goal for architecture: the desire to separate itself from its historical backdrop and create something completely novel, geared meticulously towards the needs and desires of the current age. Designers, artists, and theologians appeared around the globe in support of the new sentiment that brought the name the International Style to the movement that we also know as the strongest component of Modernism. This time period of design marked the beginning of a divergence from Revivalistic thinking.

With the hallmark personages of Adolf Loos, Peter Behrens, and Walter Gropius in its early years, and Le Corbusier, Mies Van de Rohe, and Louis Kahn in its later stages, Modernism saw the present as a clean slate of opportunity. Gropius named Modernism as "The New Architecture" that in his mind marked a beginning for a time where ideas of building and design could be fashioned from close studies of the present and the future. The past was looked upon less as a presence of guidance and more as one of bondage.

> "A breach as been made with the past, which allows
> us to envisage a new aspect of architecture

> corresponding to the technical civilization of the age
> we live in." [37]

The time, paralleling the emergence of Art Deco, produced new materials such as concrete and steelwork and with them came new forms and new possibilities. In the past, new possibilities often found older forms and ideas treated in different ways such as the iron work of Art Nouveau and the alteration of the arch into a new realm of widths, angles and thickness. In the eyes of Modernists such as Gropius, these new possibilities had no place in relation to the past and the only way to truly utilize them was to sever the practice of design from the time that came before it.

Where periods such as Art Nouveau and Art Deco embraced the age of industry that helped create them, Modernism lived by it. Mechanization passed beyond serving as a useful tool into that of a commanding and determining factor. This had its advantages. Pieces of buildings as well as their entire assembly could be made in a fraction of the time, resulting in a fraction of the cost. Standardizing processes and pieces, even for a single project, resulted in systems that could facilitate organization and construction. One could imagine that this could provide ways to produce more elaborate architecture for the same cost that it required to produce the status quo beforehand. It also may have been possible that the status quo could be reproduced at simply a lower cost.

Mechanical production brought with it these notions of cost reduction, and replication. Despite still being viewed as artists, craftsmen succeeded to lose the reverence and importance that John Ruskin and William Morris had rallied for decades

[37] Gropius, Walter. The New Architecture and the Bauhaus. Cambridge: The MIT Press. 1965, seventh printing 2002. P. 19

before. Modernism saw machines as the future and thus oriented their designs and training towards the concepts of how to maximize the efforts of mechanized processes. Handicraft seems almost unimportant despite the work still needed to erect a building—even a modern one. Gropius says:

> "In last resort, mechanization can have only one object:
> to abolish the individual's physical toil of providing himself
> the necessities of existence in order that hand and brain
> may be set free for some higher order of activity."[38]

Apparently what was viewed by many years before (and arguably still many here today) as a gifted art form was suddenly regarded as nothing more than physical toil. Whether they were leaded-glass workers, carpenters, masons, or even more modern trades such as concrete work and glass workers, the fate that Morris feared so greatly had finally befallen them: their tasks being considered little more than menial, implying that a carpenter's work is far below the realm of "higher order of activity." Up to this point in time every craftsman needed to construct a building was providing a service that also was an artistic talent. The International Style indirectly wrote these artisans out and belittle their place in the built environment. These people were far from the guilds of experts that were once searched for as vital parts of top quality work, but an unfortunate necessity that participated for their brief part of construction. Calling this form of art and task meaningless is no different than deciding that people should no longer learn to paint or

[38] Gropius, Walter. The New Architecture and the Bauhaus. Cambridge: The MIT Press. 1965, seventh printing 2002. P. 33

draw with the possibilities of computer-based art. This mentality helped frame the rise of Modernism as not only the end of countless ages in architecture, but the beginning of a disjunction between the built environment and the hands of mankind.

The classical staples and forms that had been with architecture for thousands of years were no longer viewed as helpful. Views of Modernism did not see new heights, new speeds, and new strengths as an opportunity to link accomplishments to where they had evolved from, but rather to create an image of architecture that focused on a new era for civilization. It is true that glances to the present are valuable. There are new needs that arise everyday, perhaps only slightly different than their predecessors but enough to merit an assessment and response of their own. Without a critical eye consistently questioning the state of the environment, it would never evolve and would ultimately be taxing to the progress of the people that occupy it. However, the extreme of this mentality caused a portion of society to see "modern structural materials and our scientific concepts absolutely do not lend themselves to the disciplines of historical styles."[39] Modernists were consistently looking for ways to do things in different ways whether it be how to mount glass, how a building needed to be supported or how spaces needed to be allocated for program and occupation.

Accommodating and responding to the present was a goal woven into all aspects of Modernistic architecture. Eras preceding the International style often followed the idea that rooms were crafted for specific purpose for specific occupants. Homes, and then rooms within homes, were customized the activity that was expected to occur. In some ways, this facilitated rooms to be designed down to the intimate scale in the forms of

[39] Frampton, Kenneth. Modern Architecture: A Critical History. New York: Thames & Hudson Ltd. Reprinted 2002. P.87

articulation, decoration and ornamentation with the goal of enhancing the experience of the space for the occupant. The International Style approached this questioningly and ultimately found that such tactics were misguided. Notions of Rationalism and Functionalism, both close to the hearts of Modernist designers, dictated that a space should contain nothing that does not directly enhance the performance of tasks that the space was intended for. Professor and architect Colin Rowe tells us:

> " …the modern building was absolutely without iconographic content, that it was no more than the illustration of a program, a direct expression of social purpose. Modern Architecture, it was pronounced, was simply a rational approach to building."[40]

The result was a style built on goals of minimalism. Standardization was a hallmark of a Modernist education such as one found at the Bauhaus. "The desire to meet the needs of community at less cost and effort."[41] Detail is often assimilated to an increase in cost as well as time and as a result, forms were to be made simpler rather than more complex. A true change that occurred was a shift in the willingness to spend money on buildings and where cost attention was focused. This brought a demise of detail and attention to the intimate scale, but furthermore, it was only a matter of time before the ideas of lost cost outweighed the priority of high quality.

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[40] Eisenman, Peter, et al. Five Architects. Rowe, Collin. Introduction. New York: Wittenborn & Company, 1972, fifth printing 1979. p.3

[41] Gropius, Walter. The New Architecture and the Bauhaus. Cambridge: The MIT Press. 1965, seventh printing 2002.P. 30

Commenting on Futurism—one of the sub-eras of a spawning International Style—Joshua Taylor said in 1909, "[It] was an impulse rather than a style."[42] Unknowingly he coined an accurate description of the entire era of Architecture that would come to follow and grow from futuristic explorations. Modernism cannot be seen as a movement as much as an "Anti-Movement." The International Style arose with the goal to create a direction that contradicts the existence of the historical: a style with no precedent. In many ways it succeeded. However, along with this came many repercussions that made the style not as successful in certain aspects as its predecessors. The style began a separation between architecture of the present and its established historical continuum.

Severing the course of architecture from its past also jarred the comfort that the continuous progression brought to the public. In doing so they drew their designs away from the recognition of the greater populace. Modern forms became drastic and abrupt anomalies in the continuum of built form that existed around it. As awkward juxtapositions to the fabric of the built environment, association to its surroundings continued to be minimal. The message this seemed to portray is that the future is not in union with the past or that existence and success in the future will require the throwing away of all that has been gathered up to this point. The very idea of a continuum was gone, as if creating a new starting point for how we should consider architecture.

Modernists strove towards ideas of innovation, and when held outside of any context they cannot be completely faulted for this pursuit. As already mentioned, architecture is a continuum whose success is contingent on reassessments of how it

[42] Frampton, Kenneth. Modern Architecture: A Critical History. New York: Thames & Hudson Ltd. Reprinted 2002.P.85

responds to the present. Without innovation, architecture can slip into the realm of the obsolete. The needs of people would then surpass the capabilities of the built environment and the two would be severely out of sync. Architecture would lose its importance and simply become a dysfunctional service without a substitute. Unfortunately, the very idea of Creationism is not always based in a desire to be different and better, but at times being different for the sake of being different. The years of Modernism were filled with discoveries, but at times was looked upon as successful due to the fact that it was completely unrelated to what came before it—as if such a thing were positive.

The minimalist nature of Modernism is heralded by some as a strength. Simple forms are claimed to be clean of needless ornamentation or garnish that will clutter their simple beauty. The designs became stark and bland as though there were no elements of smaller scale that could be successfully designed into larger forms. One has to wonder how it had been done for centuries before hand. Adolf Loos wrote, " Modern ornament has no forebears and no descendants, no past and no future…welcomed by uncultivated people to whom the true greatness of our time is a closed book, and after a short time it is rejected."[43] The words of an adamant modernist, revered in some circles of design, not only point out the chasm Modernism created between itself and history, but paints a rather uncaring image of how the common occupant responds to architecture. He uses this to justify the creation designs that are of common appreciation as if architecture in general is above the realm of the common person's understanding. Again, we have to question who architects are really designing for. A common misconception is that

[43] Frampton, Kenneth. Modern Architecture: A Critical History. New York: Thames & Hudson Ltd. Reprinted 2002. P.91

architects should design for other architects or those schooled in architecture. It could have been such sentiments that allowed constituents of the International Style to care less about how easily their creations would respond to the existing landscape.

The International Style's greatest flaw was branding itself with an adamant isolation from the rest of time and its evolution. The years ahead were not woven into the years that had been history for a short while. Art Deco took the new form of a skyscraper—an archetype that held no precedent in the eyes of the public or designers—and built ideas, forms and uses that its occupants and viewers could recognize and respond to with familiarity. Whether it is a reinterpreted Mayan form, or a new vision of the classical orders the products of the style were inherently bonded to those who lived at the same time. Art Deco took things that were new and brought them into the realm of comfort. The International Style took things that were familiar, and made them foreign.

In the 1930s, Walter Gropius had been residing in America for some time now and decided to enact his methods of design in a new home for himself and his family.

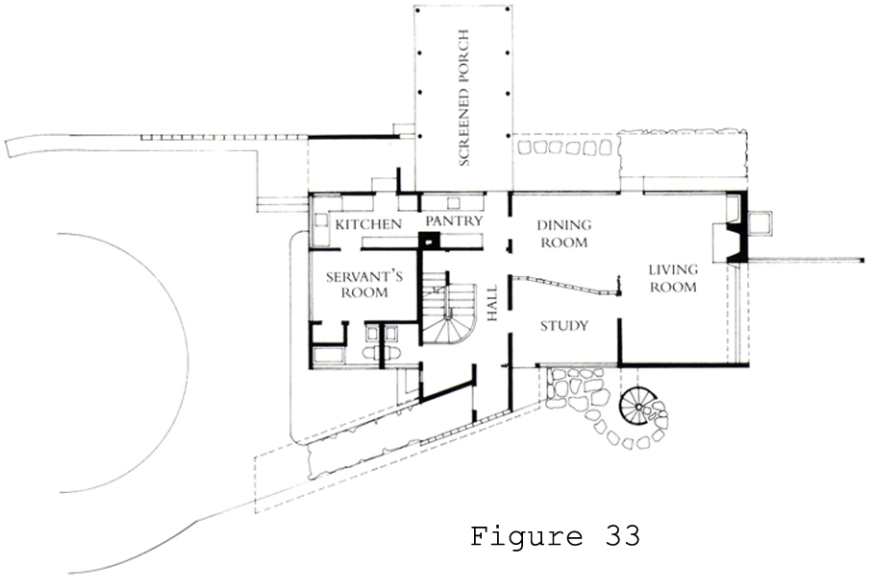


Figure 33

Located in Lincoln, Massachusetts, the Gropius House (Figure 33) encapsulates the core of his efforts and beliefs—the same that nurtured the Bauhaus School and the International Style at large. There is complete clarity in Gropius conveying his intentions for the home. One can see them clearly in his words of: "The Bauhaus believes the machine to be our modern medium of design and seeks to come to terms with it," as well as the necessity for a "common citizenship of all forms of creative work and their logical interdependence upon one another."[44] The confusion comes when we see Gropius' solutions to his own challenges.

Figure 34

The Gropius House sits as a white block with volumes carved away while others are extruded from it. The form is unmistakably clear in its presentation. Wrapped in wooden cladding, common of the time, the clapboards are shifted to run vertically instead of horizontally before receiving its coats of white paint. In effect this could be viewed as a Revivalistic gesture meant to link the building to the colonial suburbs that likely surrounded it. The success of this particular tactic may be questionable. This orientation also compromises the overlapping of clapboards that make them effective in weather protection—likely why such an aged method is still used frequently today. Long, horizontal ribbon windows are cut into the elevations of the building to stretch across its surface in moments of glass and

[44] McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. P. 323

gray trim providing views past the stark and almost cold exterior. Aside from minor sills beneath the windows, the walls are void of depth or articulation, leaving the eye no reason to linger and observe the vision for a prolonged length of time. An arrival to the home finds a long and narrow portico that extends out from the form of the house in an acute angle as it struggles for connection to the greater whole. This goal of unity falls short, being little more than a minor landscape affect of a nearly-tangential line to the circular driveway. The same unfortunate circumstance can be found in the rear in the houses screened in porch. The Japanese-style garden at the opposite end of its rectangular shape speaks to it being an intentional and important gesture from Gropius, yet the viewer is left with little to use as a connection between the volume of unsightly poles and screening and the backdrop of the rear façade of the house. (Figure 35) The idea of unification of forms and elements that seemed so pressing to Gropius seems absent in the manifestation of his ideas.

Figure 35

The interior holds an array omf rooms, beginning with an entry hall that provides access to adjoining spaces such as the pantry, the dining room and the study. Modernism's broadening of spaces and minimizing of their individuality is evident in the lack of stronger delineation between dining room, living room and study making "the entire downstairs one large living area, of which the study… was only a section." [45] This kind of melting together of program and space facilitates interaction between different

[45] Ibid. P. 327

activities in various zones of the space. Visually the spaces can appear to be larger, which is often pleasurable. Movement between spaces is certainly easier and perhaps more fluid in many cases. It also happens to eliminate spaces that only solely created for means of circulation—things that are often seen as questionable. So, it is true that the base of the concept is not without any hope of positive repercussions. However, the unification of program into a space is a catalyst to the deterioration of the intimate scale. This may not be because it is better suited for a bland nature, but rather it is simply more difficult to incorporate detail into multi-use space and so it is often left behind. The intended advantage to unified spaces is clearly defined, however it does succeed in diluting the focus of individual activities (most likely not done together) that take place in the various corners of a single, larger room.

Figure 36

Designed detail deteriorates further in the house. A glance to any surface reveals common, stock fittings, fixtures and hardware. Gropius' goals for embracing of mass production and a low level of cost made certain that all components "throughout the house were all standard items found in 1937 building-supply catalogs."[46] The exception to this is the railing that follows the main spiral stair that required custom fitting and fabrication on site. (Figure 36) The concept of designing details within a greater whole is completely disregarded. Perhaps a stark and bland form or space make designing a light fixture to

[46] Ibid. P. 327

uniquely respond to the home an impossibility. If this idea is revolutionary and "modern" then it is certainly not positive as it removes elements of designing from the architect. In addition, it detracts from creating a composition of unique components that cannot be found at ten other houses on the same block. We can see here the same tendencies that we suffer from today, only today more so in a cheapness of finish and detail with the goal of saving money by designers and contractors. We can only look forlornly at history's masters such as Frank Lloyd Wright and Louis Sullivan who crafted these details as inseparable parts of their designs while looking patiently for Gropius' "logical interdependence."

The Gropius House displays the truth to support that The International Style was "never a widely popular style for house design"[47] in America. Its zenith was seen—and can still be seen today—in commercial or industrial structures. These types of buildings have the need to accommodate a new scale of business and production—one unknown for its intensity in previous eras. Unfortunately, the International Style embraced the idea of these larger masses but compromised their relations back to the individuals on an intimate scale. This can explain the leaving behind of smaller, more intimate scales in exchange for larger gestures for larger buildings that represent the effect of a group, instead of a collection of individuals. Furthermore, this can shed light as to why the residential branch of the International Style was its weakest point. Homes are the manifestation of the smallest scale; housing a family, a couple or a single person. Occupants of personal dwellings are searching for the very connection that lies in a scale that they can relate to, not one that relates to humanity as a whole. Clearly, in this arena

[47] Ibid. P. 332

history bounds past the Internationals Style as it still defines the majority of new homes built in the era and today.

Frank Lloyd Wright brought his own response to the rise of the International Style in the 1930s. This change in direction created an era of his residential design known today as Usonian. The first of Wright's Usonian homes, the Jacob's House, is one of his best and captures the transition from Revivalistic ages into a Creationistic era that followed. (Figure 37)

Figure 37

In 1936 Herbert and Katherine Jacobs brought Wright a challenge: to design a good American home for no more than $5,000. In the aftermath of the great depression, Wright was already interested in cutting the costs of design and construction while not sacrificing the quality of the project. These efforts were also seen in the construction of his concrete-block homes such as La Miniatura. Wright's respect for technology ultimately lead him to believe that a well-designed home was not a product of money alone. The challenge offered by the Jacobs provided a venue for Wright to test his theory.

This idea was not novel by any means. A large contingent within the Arts and Crafts style believed that well designed homes could be designed for the common man

without large amounts of captial. This produced a common archetype known as the Bungalow. Unfortunately the goal of cost effectiveness and that of pleasurable homes did not materialize for very long before it was split into a pair of poor results. One, that was visited earlier, was that products of Arts and Crafts designers—including homes—became much to costly for the average homeowner. The Gamble House is a great example of this. The other was the creation of standard Bungalow designs that would be sold as pre-drafted packages to the general public in order to offset the costs of their creation. Although this may have found success in its beginning, the end result was simply the replication of a product rather than performing a true service of design. Wright found a degree of success in his own efforts towards a similar goal.

Donald Kalec described the Jacobs' search for a new home and spoke of their impressions of other residential projects in the 1930s. They "had looked at new homes being built in Milwaukee and Madison. They did not like the 'white-washed austerities of the International Style."[48] Again, despite the short flux of homes similar to the Gropius House that found a sparse popularity in some parts of the country, there was still a large contingent of consumers that were not at all enamored by the modernity of such design. More aptly, the Jacobs said that a "modified Dutch Colonial with white painted brick was more their ideal."[49] Although this is not what Frank Lloyd Wright gave them, his efforts produced a modern home that was not quite as austere as the products of the International Style and did not make as large a leap from the anticipation of his clients

Materiality was one of the most basic ways that Wright used to eliminate costs from a building project. The entire project was divided into three basic materials: brick,

[48] Frank Lloyd Wright and Madison: Eight Decades of Artistic and Social Interaction. Ed. Paul E. Sprague. Madison: University of Wisconson, 1990: Ch. 11, The Jacob's House. P. 91

[49] Ibid

pine and concrete. As in La Miniatura, concrete provided a solid base for the home with all floors being poured as a slab with the exception of the kitchen that received a wood and linoleum overlay. Wright had a four foot by two foot grid trowelled into the floors that as an organizational grid that served a similar purpose to the grid that helped to organize La Miniatura. The house had only a small basement to house the boiler and traditional foundation walls were exchanged for half walls that only extended the three and a half feet needed to reach below the frost line in the ground.

Figure 38

Brick piers were used incrementally to support the roofs to leave the wooden board-and-batten infill without any weight to bear from above. These walls became pine boards laid side to side horizontally with redwood battens used to cover the horizontal joints and resist weathered wear. (Figure 38) The board and batten method of siding was not an innovation however, having been a method of exterior siding for some time. Katherine Jacobs could have likely seen similar work on the Milwaukee farm that she grew up on. Wright took this convention and merely altered it to his new, cost-saving purposes. To do this, Wright mirrored the faces of his walls in a “sandwich” fashion so that the same brick and wood that was seen on the outside would be mirrored on the interior as well. This effectively removed the layer of insulation commonly found in wooden wall construction. The relative thinness of the walls was countered by an innovation in heating and

cooling—Radiant Heat, a system that even today is still being perfected for mass use. With pipes encased in the concrete slab of the floors heat was brought to all the rooms and money was saved on the absence of expensive radiators and the space they normally consumed.

The roof was another item chosen as an area that could be altered in order to reduce excess cost. Original hopes of a Dutch Colonial certainly included an image of a pitched roof, yet its construction would only add serious cost and time to the project. For this reason Wright chose to eliminate what could be seen as a Revivalistic icon in exchange for flat roofs in the primary goal of saving funds.

One could argue that these methods of cost-cutting are valuable for the field of architecture as a whole even if they pull away from Revivalistic notions of design. However, when they begin to compromise the goals and desires of clients or detract from the finished product, they can be detrimental. Managing cost is indeed a necessity to building, only more so in today's conditions, but what may appear to be an astounding success really only finds it through a great deal of chance and kindness that could not be continually replicated on an industry scale. Ultimately, the figure of $5,000 is an elusive one even though the goal of the home was technically achieved.

Due to the Great Depression, the value of the land was an anomaly in American history. This allowed the Jacobs to begin with a large part of their hopes completed at an unrealistic bargain price. To say that Wright took a salary-cut on this job would be an understatement. Wright completed the project for a mere "$450 covering the design of the house, furniture, and landscaping; preparation of the working drawings; and supervision of construction." Further, Wright prepared seventy-five drawings for the

small home where "an average architect-designed house would usually require only about ten to fifteen." [50] Wright's desire to prove his point and meet the challenge given to him outweighed his desires for profit—not something that we can reasonably expect of all architects. Lastly, Wright's parallel work on the Johnson Wax Company project allowed him to obtain bricks that were turned down for use at no cost as well as procuring his own apprentices to transport them to the site without pay as well. Though the project could be seen as the first of many interesting experiments, one could question the success of sacrificing Revivalistic icons, mantras or client expectations for cost when the goal of cost was not truly accomplished.

The idea of Usonian homes was one that revolved around innovation more than revival, stepping away from things including choosing materials and allocating space to construction practices. However, Wright's response to a cost effective age was not Gropius' response. Gropius embraced the idea of standardization to an industry driven standard and bringing that standard to organize a home. Wright's approach was forming new standards and systems of organization that involved new ways of utilizing old materials. Even so, more than any other stage of his residential construction, Usonian homes were more a testament to Wright's innovative capabilities rather than his unsung, but honed, talent of incorporating historical elements into his designs in order to enhance them. This could provide a reason as to why we do not see Usonian homes, or their variations, around today.

As Wright continued with his Usonian homes, their forms grew farther away from a Revivalistic nature and thus outside the comfort zone of the normal, working class family to which their concept of cost-saving was so appealing. It is likely that the draw to

[50] Ibid p.92

these projects from clients was not their aesthetic result, but the promise of a function and original design for substantially less than the competition could offer. The fact is that without Wright, architecture could not offer this as a viable choice because no architect was willing to sacrifice enough compensation in order to make the low cost projects truly low cost. Due to the designs and custom work being a reasonably expensive process, society was left with a pair of choices: the International Style's increasingly violent departure from historical reference or inclusion in design, or the uninspiring but somewhat emotionally comfortable reproductions of historical archetypes. A PBS documentary on Wright terms it well in saying "there is a reason these houses might not appeal to the masses, however: owners had to be willing to defer their aesthetic values to Wright's vision."[51] Society reverted more strongly back to the Revivalistic icons that we see today and Wright's vision of Usonia faded away.

[51] PBS VIDEOdatabase. Frank Lloyd Wright, Part 2; Volume #281. <http://pbsvideodb.pbs.org/programs/chapter.asp?item_id=10731&chap_id=2>

Conclusion: The Present

The previous century of architectural development has left us in a precarious position. The years of a Modernist movement within the International Style began design on the path to where it is today. Unfortunately, many aspects of this are not positive. It presents the designers of today with a task to reshape the profession and what it produces as well as its connection to the minds and hearts of the people it designs for, back to a high caliber.

The majority of the architectural society remains in a state rather similar to Modernism's creationist attitude towards design. Admittedly, those who are not are often not reviving the past today as much as replicating it. Decades of creationistic tendencies have left these tendencies in how designers create their work and what the clients have come to expect. Those that find beauty and possibility in the past shy away from changing it the canvas of today's design work as Revivalism has been downplayed and left behind for so long. The result is replicas of Colonial homes or Beaux Arts buildings. The opposite pole is a contingent that strides onwards without a glance around them, let alone backwards. One could argue that these efforts represent a Revivalistic tendency, perhaps even Historical, yet this is not truly the case. These homes are replications of a former style, almost void of innovation, but they are not constructed to the level of craft and detail that would merit them being termed a Historical pursuit such as that of Morris and Ruskin.

The front of architecture has become a free-for-all where designers are each fighting for their own unique representation devoid of organization as an industry or field. Even the modernist movement was a unified front towards achieving new goals of

distancing themselves from the past. Today we are a scattered number of individuals all hoping to find the next movement. This can be named "Revolutionism."

Revolutionism is the only way that the multi-faceted nature of today's architecture can truly be grouped together into a common movement or direction. The goal of architects today seems not only to create architecture that is a new statement when compared to the past behind it, but to create something strikingly unique to any of his or her contemporaries—and willing to go to any lengths in order to assure that it is done. At some point there was a notion adopted that used uniqueness as a disclaimer for design. It can be seen all around us.

The mindset appears to be that methods of architecture that are not yet tried are all positive; that independence can replace innovation, that "interesting" can replace "beautiful." This produces designers that create pieces of work with more thought of startling or surprising the view or occupant rather than how well the project is truly designed in terms of deeper use and acceptance to the public. There is always a chance that an architect will create a piece of work and the public will cling to it, loving it and beginning its manifestation into all of architecture to create a brand new movement—a revolution in design. When one takes a walk down many streets these days those designers can be pulled out with ease. Almost always, what one sees is an attempted fad that never came to be and the result is a scattered mismatch of design that craves for an underlying fabric of even subtle unification.

This eager quest for discovery alone is not beneficial to the development of architecture. As said before, looking at the present and the future to assess the needs of buildings and spaces is vital to their success in the world, but failing to look back at what

architecture was built on is only doing a disservice. All too often the sights of architectural education programs are focused with lenses that only gaze forward. History classes are minimal as they sweep through centuries worth of amazing work and cannot help but miss a wealth of talent and useful ideas. Students can leave school without ever seeing the Gamble House or knowing anything of the movement of Arts and Crafts. Buildings such as the Niagara Mohawk building are all but non-existent to most graduates along with the period of Art Deco that spent its years in the eyes and hearts of the country and world beyond. With the exception of a case study in early years, the horizon of history in a studio setting ends at the dawning of Le Corbusier, Louis Kahn, and Mies Van de Rohe. The process becomes cyclical. With designers armed with visions that consistently look only ahead the buildings that rise from the ground are shackled to a narrow vision that ignores the wealth of possibility that is already written and recorded in books or present on street corners close by.

Despite the grim scene this discussion has painted, architecture is not at an impasse. We have not encountered an unfixable dilemma. Instead, the world of design is faced with an opportunity. Through a close study of historical design we can realign the continuum of architectural development as a whole and return its acceptance, respect and success to their appropriate levels.

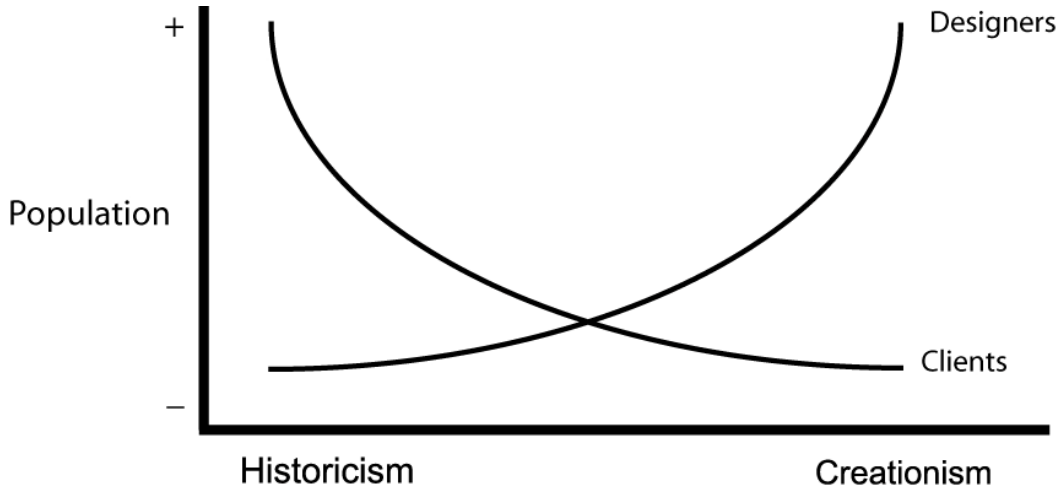
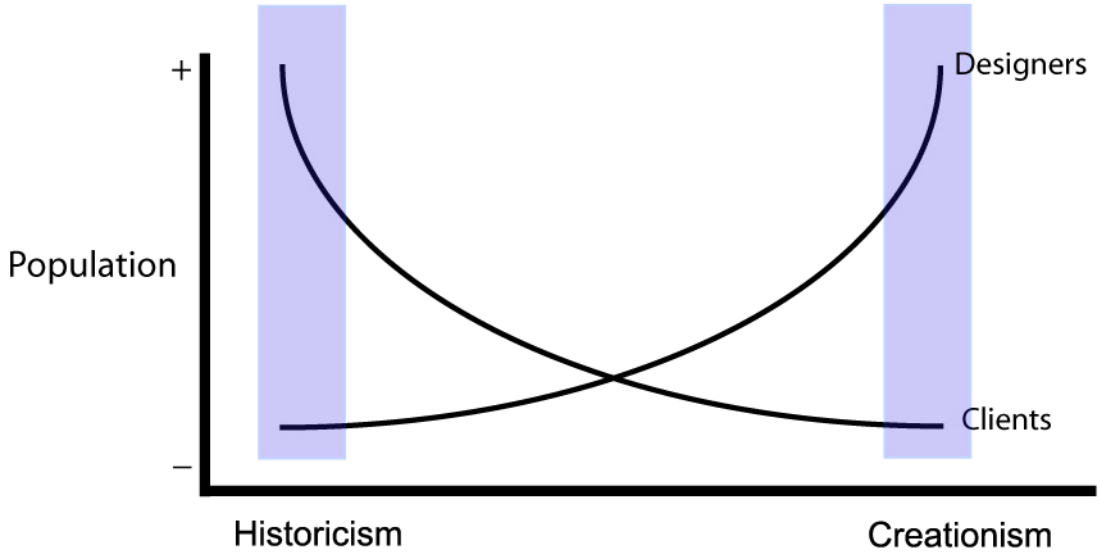


Chart 1

The relationship between architects and clients can begin to guide the direction we should be taking, consistently focusing on how designs are being received and what kinds of spaces people want. To do this we can look at the populations of both architects and designers against the continuum of Historicism to Creationism. (Chart 1) It can be hypothesized that the majority of designers in the world lean towards a Creationistic base on the continuum. The desire to be innovative and fresh with ideas is encouraged from the beginning of a design education—and rightly so. When not countered by a historical base however, this ends up putting a great deal of emphasis on creating new images, forms, relationships and experiences and not as much on its relation to architecture of the existing environment. To the contrary, it is likely that if the population of clients were poled—"clients" encompassing all of those who build a structure in the world—the majority most likely feel more comfortable with something that they have already seen or lived with previously in their life. Robert Zajonc's Attitudinal Effect of Mere Exposure aligns with this. The average family will be growing up in a suburban or rural setting (those touched minimally by the driving force of Creationism.) There, they will

experience traces of history from a number of different ages—some in towns and villages that may not have even constructed new buildings in years. Overall, completely uprooting these people from their comfort zone would not provide positive results. This produces a

Chart 2

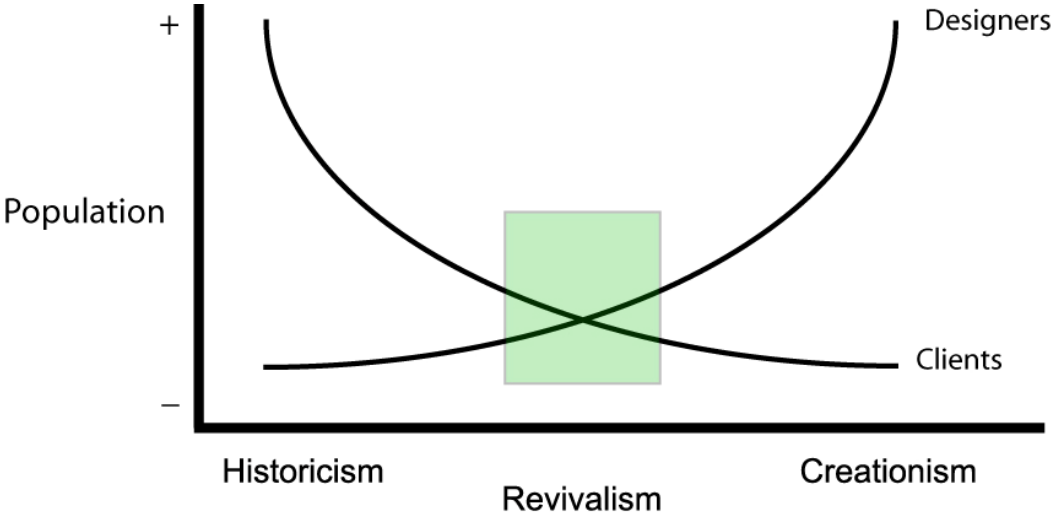


relationship of opposition for clients and architects alike.

The result is a pair of polarized conditions. (Chart 2) The majority of architectural sentiments of designers end up being directed towards a much smaller population who is seeking completely novel works. The fewer number clients and high number of designers create a highly competitive market where a client is forced to choose amongst a horde of possible people for his or her design. This renders a highly Creationist (and ultimately Revolutionist) concentration of designing with many architects fighting for a limited number of clients; each trying to impress a prospective client with a novel or 'innovative' proposition. Conversely, the majority of the clients create a market that cannot be

ignored, even if it only appeals to a small number of architects. The result we see here is the creation of the residential "development" or suburban strip malls. A handful of designs that stand as all but replicas of older forms and homes are further replicated, to satisfy this craving for some basis of familiarity. Of course this represents an entirely historical group of design, almost void of innovation.

Chart 3



Ultimately, both architecture and the population of clients are suffering from this polar arrangement of intent and result. The simple economics of supply and demand points to the answer for the direction that the populations should take. The goal lies where the sentiments of these two groups meet, a compromising ideal that finds itself in the middle of a pure Historicism and pure Creationism. (Chart 3) This is Revivalism. Once again we see the possibility a combination of more historical ideas and those that respond more accurately to the needs of today. This area of overlap can capture a majority of clients and architects instead of segregating the groups to opposing ends of a silent battle. The more often this ideal is achieved, the closer both sides will be to bridging the common

gap between architects and clients—the desire to be creative while controlling the direction of that creativity and a desire for a service that produces a design that responds to all aspects of the client's needs that leaves him or her feeling comfortable within it.

Frank Lloyd Wright represents a figure that should be emulated for architects and designers everywhere. This does not mean that his language and style should be replicated, or that his method of diagramming was the best way that it can be done, or that the precedents that he chose were the best and only choices he could have made, but rather his talent for taking a field of work that spanned over centuries and sift through to find a foundation on which his own innovation could grow. Wright's work was not revered in its time or treasured now because of his talent as a creator, but rather his talent of creating new ways to bridge yesterday's work into the present. Historian Joseph Siry gives an amazingly accurate and complete sum of Wright's work and method.

> *"Wright did not invent a new type of room for worship, nor did he apply a new concept of expression in the exterior legibility of its interior spaces. Instead… his process of design was perhaps to condense typological models known from historical and contemporaneous architectural culture into a formal synthesis that bears the stamp of the distinctive individual style"*[52]

[52] Siry, Joseph. Frank Lloyd Wright's Unity Temple and Architecture for Liberal Region in Chicago 1885 -1909. *Art Bulletin* 73:2 (June 1991) p. 274

Siry finds the single strongest reason that facilitated Wright's success in the architectural world and brought so much demand and praise to his work. He spanned the desires of a wide range of clients while he operated with a Revivalistic tendency for the majority of his career. There was also never a part of his design left to chance or indecision. His works continued to represent examples of complete design; worked, considered and tooled down to the most intimate of scales. Whether viewing a Wright building from across the street, from ten paces away or from sitting at a dining room table, his work continued to promote interest in all manners of occupants. This careful attention made him one of the best Revivalists in architectural history for most of his career.

Wright shows us that the key to these efforts is not stepping backwards, but looking backwards. Architecture must reinvest itself in itself. A wealth of knowledge and experience lay in countless places waiting to be taken advantage of and used to improve the built environment around us. This glance backwards may also include the International Style. During its time in the limelight of society, despite its shortcomings, it brought new ideas, concepts and possibilities that can be valuable. This, and all of architecture, should recollect itself into the unified whole that it once was. The rewards for these efforts will be a more thoroughly informed and connected architecture in the built environment, a closer gap between the minds and hearts of the greater populace and the architects of the world, and perhaps most importantly of all, enhanced designs.

Perhaps the defining point of this glance at a series of historical movements and styles is that no where can we draw lines between them. Arts and Crafts was not removed

from the efforts of craftsmen or architects on a certain date. Art Nouveau did not suddenly appear and was not spontaneously replaced by Art Deco. Their overlap makes them separate parts of an encompassing whole and one that extends back far beyond Arts and Crafts to the Beaux Arts, Baroque, Renaissance, Medieval and times before. Similarly, the minds and wishes of people do not spontaneously change and architecture as a whole cannot force or guide them to, nor should it try. Architecture is a service to and function of the public, not a small faction whose purpose is to dictate the desires and tastes of the world.

Bibliography

Bayer, Patricia. Art Deco Architecture. New York: Thames & Hudson. 1999

Borsi, Franco and Paolo Portoghesi. Victor Horta. New York: Rizzoli New York, 1991.

Dictionary.com. The American Heritage Dictionary of the English Language, Fourth Edition. Houghton Mifflin Co. 2000. http://dictionary.reference.com/search?q=modern

Eisenman, Peter, et al. Five Architects. Rowe, Collin. Introduction. New York: Wittenborn & Company, 1972, fifth printing 1979.

Frampton, Kenneth. Modern Architecture: A Critical History. New York: Thames & Hudson Ltd. Reprinted 2002.

Frank Lloyd Wright and Madison: Eight Decades of Artistic and Social Interaction. Ed. Paul E. Sprague. Madison: University of Wisconson, 1990: Ch. 11, The Jacob's House.

Gabriel, Cleota Reed. The Arts and Crafts Ideal: The Ward House. Syracuse: The Institute for the Development of Evolutive Architecture, 1978

Gropius, Walter. The New Architecture and the Bauhaus. Cambridge: The MIT Press. 1965, seventh printing 2002. P. 19

Hiller, Bemis and Stephen Escritt. Art Deco Style. London: Phaidon Press Limited. 1997, Reprinted 2000.

Hotler, Hecibert. Movements in World Art: Art Nouveau. Methuen & Co. 1965

Lenning, Henry F. The Art Nouveau. Netherlands, The Hugue. 1951

Levine, Neil. The Architecture of Frank Lloyd Wright. Princeton: Princeton University Press, 1996.

Loyer, François. Victor Horta Hotel Tassel 1893-1995. Bruxelles: AAM Productions, 1986.

Mackintosh, Charles Renee. Untitled Paper on Architecture Charles Renee Mackintosh, Ed. Pamela Robertson. Charles Renee Mackintosh: The Architectural Papers.

McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994.

McCarter, Robert. Frank Lloyd Wright Architect. London, Phaidon Press Ltd, 1999.

PBS VIDEOdatabase. Frank Lloyd Wright, Part 2; Volume #281. <http://pbsvideodb.pbs.org/programs/chapter.asp?item_id=10731&chap_id=2>

Roth, Leland. American Architecture. New York, Westview Press, 2003.

Ruskin, John. The Seven Lamps of Architecture. London: Dover Publications, Reprint Edition 1989

Siry, Joseph. Frank Lloyd Wright's Unity Temple and Architecture for Liberal Region in Chicago 1885 -1909. *Art Bulletin* 73:2 (June 1991)

Trachtenburg, Marvin and Isabelle Hyman. Architecture – from Pre-History to Post Modernism. B.V. Netherlands, Prentice Hall Inc. and Harry N Abrams Inc, 1986 Harry N. Abrams.

Tschudi, Stephan. Sources of Art Nouveau. New York: DeCapo Press, 1975

Turgeon, Kitty and Robert Rust. Arts and Crafts. New York: Friedman/Fairfax, 1997.

Walters, Thomas. Art Deco. New York: St. Martin's Press, 1973

Zanjonc, Robert B. "Attitudinal Effects of Mere Exposure." Journal of Personal and Social Psychology, June 1968, Volume 9, No. 2 Part 2.

Photograph List

p.8 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 305

p.21 – Tinniswood, Adrian. The Arts & Crafts House. New York: Watson-Guptill Publications, 1999. p.15

p.25 – http://www.motherflash.com/graphics/church/pulpit_sm.jpg&imgrefurl=http://www.motherflash.com/sermons/sermonsa9/trinitya.html&h=297&w=180&sz=25&tbnid=EBplipgBoVgJ:&tbnh=111&tbnw=67&start=18&prev=/images%3Fq%3Dtrinity%2BChurch%2Bpulpit%26hl%3Den%26lr%3D%26safe%3Doff%26sa%3DG

p.28 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 308

p.29 - McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 310

p.30 - McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 315

McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 316

p.31 - McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 314

p.32 – Maddex, Diane. 50 Favorite Houses by Frank Lloyd Wright. New York: SMITHMARK, 2000. p. 13

p.34 – Larkin, David and Bruce Brooks Pfeiffer, eds. Frank Lloyd Wright: The Masterworks. New York: Rizzoli International Publications, 1993. p. 19

p.35 – Larkin, David and Bruce Brooks Pfeiffer, eds. Frank Lloyd Wright: The Masterworks. New York: Rizzoli International Publications, 1993. p. 17

p.41 - http://www.chez.com/fransforprojets/fransforparis/P16MetroDauGui.jpg

p.43 - Frampton, Kenneth. Modern Architecture: A Critical History. New York: Thames & Hudson Ltd. Reprinted 2002. p.70

- http://www.samlindsey.com/images/SteamExpo/b0082.jpg

p.49 - Loyer, François. Victor Horta Hotel Tassel 1893-1995. Bruxelles: AAM Productions, 1986. p.41

p.50 - Loyer, François. Victor Horta Hotel Tassel 1893-1995. Bruxelles: AAM Productions, 1986. p.81

p.51 - Loyer, François. Victor Horta Hotel Tassel 1893-1995. Bruxelles: AAM Productions, 1986. p.79

p.52 - Loyer, François. Victor Horta Hotel Tassel 1893-1995. Bruxelles: AAM Productions, 1986. p.89

p.53 - McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 300

p.55. – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 298

p.56 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 305

p.57 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 301

p.58 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 299

– McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 297

p.63 – Bayer, Patricia. Art Deco Architecture. New York: Thames & Hudson. 1999. p.86

p.65 - http://www.bridgeandtunnelclub.com/bigmap/manhattan/midtown/rockefellercenter/geentrance.jpg

- Bayer, Patricia. Art Deco Architecture. New York: Thames & Hudson. 1999. p.186

p.69 – http://www.syracusethenandnow.net/Dwntwn/ClintonSq/NIMO/NiMo_2004.jpg&imgrefurl=http://www.syracusethenandnow.net/Dwntwn/ClintonSq/NIMO/NIMO.htm&h=532&w=870&sz=82&tbnid=K_cOlNoxjgsJ:&tbnh=88&tbnw=144&start=24&prev=/images%3Fq%3DNiagara%2BMohawk%2BBuilding%26start%3D20%26hl%3Den%26lr%3D%26safe%3Doff%26sa%3DN

p.70 - http://www.roadsidenut.com/nmoh7032.jpg

p.71 - http://artemis.austincollege.edu/acad/art/faculty/Fontana/Niagara%20Mohawk%20med.jpg

p.72 -http://archrecord.construction.com/projects/lighting/archives/images/0011mohawk.jpg

p.74 - http://reality.innedez/attachment.php/11376490/aiou35813fghijkkipqwcdefgxy/su/w2m/lloyd.jpg

p.76 - Levine, Neil. The Architecture of Frank Lloyd Wright. Princeton: Princeton University Press, 1996. p.157

p.85 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 324

p.86 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 322

p.87 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 326

p.88 – McLean, Alex in McAlester, Virgina and Lee McAlester. Great American Homes and their Architectural Styles. New York: Abbeville Press, 1994. p. 328

p.90 – Larkin, David and Bruce Brooks Pfeiffer, eds. Frank Lloyd Wright: The Masterworks. New York: Rizzoli International Publications, 1993. p. 168

p. 92 - Larkin, David and Bruce Brooks Pfeiffer, eds. Frank Lloyd Wright: The Masterworks. New York: Rizzoli International Publications, 1993. p. 167