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Richard Neutra: The Idealization of Technology in America

by

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ABSTRACT

Richard Neutra's 1927 book *Wie Baut Amerika?* chronicles his search for an architectural vision based on American construction, zoning and transportation practices. Its central theme was the emergence of a new beauty, conditioned by the Austrian émigré's belief in the heroic technological promise of America. Two notable designs of this period realized this emergent beauty: the *Lovell Health House* (1927) and the unbuilt urban design project *Rush City Reformed* (1925-30). As a result of Neutra's particular definition of beauty, these projects actualized a simultaneous conception of modern architecture as an avant-garde project, and its complete translation within the realm of practice. This thesis, which draws from hitherto unpublished sources, explores how this synthesis defined a critical juncture in architectural history at a time when technology became questioned as a valid means to manifest modern architecture's utopian agenda. Consequently, new perspectives into the relationship between technology and architecture will emerge, and Neutra's relative significance within this context.

PREFACE

Historical perspectives on modern architecture have changed radically from the propagandists of early modernism known as the first pioneers, to the more objective and distanced scholarly work of the second generation of architectural historians, including Reyner Banham, and finally to a third generation of architectural historians. These third generation scholars applied a post-modern critique in questioning modernism's earlier evolutionary argument in favor of a more inclusive and complex lineage of architectural thought during the modern period.

In reflecting on the last few decades of scholarly work, wherein postmodernist thought pursued a critique of all bodies of knowledge and assumed facts, we can surmise that critique, although a valuable tool of inquiry, does not in itself project a future, but merely cautions that culture is relative and constructed. Mindful of this caution, this thesis examines an episode in the history of modern architecture as a vehicle to project new interpretations and contributions to the scholarly understanding of architecture. Architectural history, conceived in this way, delves deeper into specific issues and ideas related to the making of our built environment, and supported by the critical distance that time has afforded, can identify themes that have consistently and powerfully affected how architecture as a cultural activity unfolds and creates meaning. One such theme is the relationship between architecture and technology.

The history of modern architecture, from the perspective of our critical distance, has been influenced by its relationship to technology. The first known use of the term modern architecture, in Otto Wagner's 1894 lecture entitled "Moderne Architektur", detailed the importance of a symbiotic relationship between advancements in technology and materials, and that of architectural form. All subsequent efforts by the pioneers of modern architecture, from the initiatives of

the *Deutsche Werkbund*, through the evolution of the Bauhaus, were dedicated to the provision of appropriate cultural forms for a society that was being so radically changed by the emerging industrial and productive forces of the twentieth century.

In the introduction to his 1960 book *Theory and Design in the First Machine Age*, Reyner Banham stated that "...one Machine Age is more like another Machine Age than any other epoch the world has ever known. The cultural revolution that took place around 1912 has been superseded, but it has not been reversed."¹ The same can be said in regards to technology. Our present society and culture, although different in nature than both the first and second machine age, still must deal with the inheritance from these eras. Contemporary architecture, in any form, must address the impact of the homogenization effected by our productive forces in defining the elements, products, technologies and materials from which architecture is formed. That we, as architects and architectural historians, are less conscious of this force on our work than were the architects and historians of the modern movement, merely underlines the importance of the reflection on this particular theme: the relationship between architecture and technology. This thesis explores this theme, specifically through the historical evaluation of the built work and the theoretical writing of Richard Neutra.

Neutra was among the many modern architects who believed that technology was one of the critical factors defining an emerging international or universal style. Historical accounts of modern architecture from the last thirty years have laid bare the rhetoric and propaganda that the early modern architects used to align themselves within the modern *Zeitgeist*. In these earlier historical accounts, the emerging technology at the beginning of the twentieth century was seen as a means to legitimise a new architecture, and to distance this new architecture from the perceived burden of the styles of the past. And though for many modern architects new tech-

nology was used simply as a rhetorical position, Neutra was unique in the manner and energy in which he pursued his concern with the “factualness” of technology in the realization of an architectural project.

An even more crucial factor that distinguishes Neutra from other modern architects who were concerned with technology and its expression was the fact that he occupied a middle ground between architecture and building. It is clear from his writing that he did not support the idea of the architect as artist/genius. To this end, Neutra distanced himself from the perceived individualism of architects like Le Corbusier who understood architecture as an art form. However, how was Neutra different from those architects who were seemingly more objective in their approach to architecture? Certainly, Neutra was not a pure functionalist, the type of which is perhaps best represented by Bauhaus master Hannes Meyer. Meyer rejected architecture and the idea of the architect as creator, and in their place advocated building as a collective enterprise. Although both Meyer and Neutra distrusted subjective means of form-making, Neutra, unlike Meyer, still pursued the idea of beauty, albeit a new definition, whereas Meyer rejected the idea of beauty in its entirety. And for Meyer, architecture was a politically charged endeavour, whereas Neutra’s work was entirely apolitical, propagating an architecture derived from a conceptual transparency to existing American technical practices, therefore furthering the difference between the two. However, this transparency to American technology and its products was not unqualified. For example, compared to the work of the American Albert Kahn, whose reputation rested on his factory designs utilizing prefabricated elements to their fullest capacity, Neutra idealized these same products as the key to a new universal architecture, whereas the pragmatic Kahn held no such preconceptions.

Consequently, Neutra inhabits an interesting juncture in the history of modern architecture,

imparting to him and his work a particular significance. Neutra linked the European idealist tradition, which romanticized the machine and hypothesized its function as an utopian instrument, with the power of the American industrial engine. These two worlds, one with a polemical basis removed from fertile grounds for implementation, the other, devoid of a theoretical basis for modern architecture, were woven through the work of Neutra. Two projects in particular, the Lovell Health House (1927) and the urban vision of Rush City Reformed (1925-1935), epitomized the link between these two worlds, translating the polemical European project into a technological reality through the productive forces of America. This thesis is centered on these projects as a means to investigate the larger theme of the relationship between architecture and technology.

A critical assumption made by this research is the perception of modern architecture's harmonization by 1927 as symbolized by the *Weissenhofsiedlung* in Stuttgart of that year. Concurring with Reyner Banham's assessment that this housing exhibition was crucial in crystalizing an international modernism, this thesis suggests that the *Weissenhofsiedlung* represents an important juncture in architectural history for two reasons. Firstly, the apparent unification of different strands of modern architectural experiments investigating the idealization of technology presented a new legibility of modern architecture, and secondly, the *Weissenhofsiedlung* was situated at the start of a philosophical shift characterized by a growing suspicion of technology's role in the creation and manifestation of a new utopian modern society. These two ideas help structure the assessment of Neutra's contribution to modern architecture, and the related relationship between technology and architecture during this period.

Fundamental to Neutra's capacity to believe in and undertake this synthesis was his upbringing and education within the culture of Habsburg Vienna. This influential context, though rarely

referred to explicitly by Neutra, was critical in developing his rejection of individual expression and his subsequent search for an universal architecture. It can be argued that the Zeitgeist of Vienna at this time was instrumental in shaping the Zeitgeist of the modern world. Here, great individuals such as Ludwig Wittgenstein, Adolf Loos, and Sigmund Freud amongst others, posed the essential questions of an emerging consciousness: what is culture, what is meaning, and how do these become structured through language (including art and architecture)? The vastness of this subject matter makes it impossible to pursue here, however, the contribution of Loos, a primary protagonist in defining this consciousness in terms of architecture, will be discussed in more detail. Loos played a fundamental role in exposing the young Neutra to a philosophical structure aimed at abstracting architecture into its perceived essential and natural form, and was also pivotal in introducing America as the site for the emergence of this universal architecture. Therefore, two key ingredients defining Neutra's architectural significance evolve from his relationship with this cultural temperament: the belief in an essential, *natural* and universal cultural form, and the critical role America's industrial might would play in manifesting this universality.

The methods of research for this thesis have included a literature review and primary research at the UCLA Archives on Rush City Reformed. Critical to the interpretation of Neutra's work has been the translation of two key publications of Neutra's written work: *Wie Baut Amerika?* (1927) and *Hoch-, Mittel- und Flachbau unter amerikanischen Verhältnissen* (High, Medium and Low Building Construction under American Conditions) in the Congrès Internationaux d'Architecture Moderne (CIAM) 1930 publication (1931). This translation work was achieved under the supervision of Christina Nikolic, a registered German Landscape Architect, here at the University of Calgary. In addition to this work, key interviews were completed in Los Angeles

with Dion Neutra, Richard Neutra's son, who is a practising architect, and Thomas Hines, the architectural historian who in 1982 authored *Richard Neutra and the Search for Modern Architecture*. Three trips to the Los Angeles area, in 1989, 1991 and 1998, provided the opportunity to conduct selected visits to Neutra building sites.

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I wish to thank my supervisor, Geoffrey Simmins, for his intellectual rigor and guidance, encouragement born from wisdom and care, and enthusiasm for the significance of art and architecture that have made this work meaningful as an experience, as a body of thought, and as a means to further research and speculation.

I would also like to thank my parents, Rejean and Denise, who have instilled in me a belief in the value of dedication, education and the need to question. Finally, I would like to thank Allison, my wife, for her selfless and loving support, care, and patience in all those times when my absence was all she could count on.

DEDICATION

This thesis is dedicated to Allison, my wife, and my sons Josep and Maurice.

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INTRODUCTION

One of the most evocative images of Richard Neutra is offered in Esther McCoy's 1960 book *Richard Neutra*, where she describes Neutra inspecting every bolt hole drilled into the structural steel prior to it being erected on the Lovell Health House site. It is an image reminiscent of the modern hero in Ayn Rand's *Fountainhead*— an obsessive and messianic prophet, driven by the potential salvation of modern architecture and its moral cleansing, utterly devoted to his task of forging an idea into an utopian reality. This image also introduces the main objective of this thesis: the investigation into modern architecture's struggle to translate idea into reality, a struggle that essentially rests on the relationship between architecture and technology. Specifically, I will focus on the early work of Richard Neutra as the vehicle to investigate one historical development of this struggle.

Critical to Richard Neutra's work was his search for an universal architecture founded on the potentials of American industrial and planning practices in a pivotal period during 1924-1930. This search was conditioned by and manifest in the creation of the 1927 book *Wie Baut Amerika?*, the Lovell Health House (1927), and the urban project Rush City Reformed (RCR), designed between 1924 and 1930. Though these works occupy a relatively short span within Neutra's forty-year professional career, they are arguably the most important in terms of his significance to the history of modern architecture, and certainly central to the issue of an architecture conditioned by technology. All three works were produced during Neutra's first six years in America after his emigration from Austria; a fertile time when his modernist education and heroic ambition absorbed the wonders promised by the American new world.

This crucial interchange of ideas and their translation was identified by historians researching the work of Richard Neutra. Most important among these historians are Thomas Hines and Reyner

Banham, both of whom have assessed Neutra as a critical architectural figure who synthesized European polemical thought within an American context. Referring to Neutra's early work, Banham suggested that "[t]here is a sense in which both Rush City [Reformed] and the Lovell [Health] House are European dreams that could be realized only in North America, and both can stand up to any European comparisons."¹ However insightful a comment, the supporting material to substantiate this claim has not been provided to date. And many questions remain. How did the context of America contribute to the success of Neutra's early work? What were the critical European sensibilities that structured Neutra's interpretation of American practices? Why was Neutra's later work less highly regarded by architectural critics? And how was Neutra able to bridge the European and American worlds in his search for a universal architecture, most particularly in the Lovell Health House and Rush City Reformed? The answers to these questions arise out of the understanding of the larger machinations of the social, cultural and technological forces at play during this very crucial historical period of modern architecture; a time when Neutra was preoccupied by and designed his universal architecture.

This history of modern architecture is the history of the idealization of technology. The importance of technology in the conception of modern architecture is evidenced in the ontological basis of the definition of modern architecture. Otto Wagner's 1894 inaugural lecture at the Vienna Academy entitled *Moderne Architektur* is understood as the first reference to the term modern architecture. In his presentation, Wagner argued for the creation of forms that drew their expression from the technical and structural developments of modern society, and an honest use of materials. Essentially, Wagner argued for an architecture conditioned by technology: to him, this was the definition of modern architecture.

Given the symbiotic relationship between modern architecture and technology, the history of

modern architecture is the history of architecture's attempt to harness the changing technological base of an ever-expanding industrial society. Unlike other cultural expressions, modern architecture's self-referential formalism was intimately related to the industrial forces of society. As dictated by the ideology of modern architecture, its necessary autonomy required an idealization of technology. And it was this idealization that guaranteed technology's role in the anticipation of a new utopian society.

In 1911, Hermann Muthesius, a founding member of the *Deutsche Werkbund*, clearly articulated the idealization of technology with the term *Industriekulture*. This concept of "The Spiritualization of German Production", discussed in Muthesius's manifesto for the *Deutsche Werkbund*, advanced the idea that architects and artists should strive for the creation of new forms that respond to the new technical and industrial conditions. During the next fifteen years, movements in modern architecture were consumed by this message. Exponents of Futurism, Constructivism, Purism, De Stijl, and Expressionism all investigated the potentials of Muthesius's challenge,

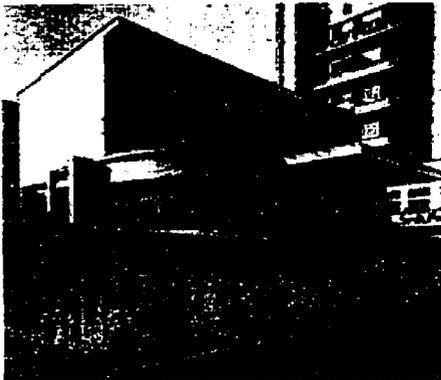


Figure 1. Hans Scharoun, house at *Weissenhofsiedlung*, Stuttgart, 1927.

producing a body of theory and work that was arguably the most tumultuous and energetic in the history of modern architecture. The architects and theorists of these movements, seeking a formal language derived from the idealization of technology, consequently developed a fairly uniform expression by 1927, a condition symbolized by the *Weissenhofsiedlung* housing exhibition in Stuttgart of that year (fig. 1).

The *Weissenhofsiedlung*, conceived and planned by Berlin architect Mies van der Rohe, featured

the participation of architects from across Europe, which lent legitimacy to the perception that this housing exhibition was in fact representing a mature international architecture. Commenting on the significance of the exhibition and of the contribution of Mies van der Rohe, Reyner Banham stated that "...Mies also effected an even bigger feat there; he made the Modern Movement visibly international. Le Corbusier, Oud, Stam, and the Belgian, Victor Bourgeois all contributed buildings to the scheme...However, visitors to Weissenhof could not but notice that the buildings designed by non-Germans were quite at home with their close neighbors designed by members of the *Ring*, and that a conspicuous harmony of style pervaded the whole *Siedlung*."²

Photographs of the completed projects reveal white, cubic forms, abstract in nature, and demonstrating a wide acceptance of flat roofs, a horizontal window expression, and a penchant for severe detailing. This apparent visual triumph of modern architecture as a coherent international initiative, however, hid a larger crisis that was beginning to surface at this time.

But before discussing this crisis, it is important to introduce a model that outlines the currents of architectural thinking that were at play at this time. Since 1911, when Muthesius had demanded architects to create appropriate forms reflective of the substantial changes that were occurring through industrialization, architecture had struggled with the idealization of technology. This idealization was in fact *anticipating* technology in the pursuit of an utopian ideal that would revolu-



Figure 2. Le Corbusier, Villa Savoye, Poissy, 1928-9.

tionize society. This anticipation reflects modernism's necessity to be avant-garde and in being so, instantiating the future in the present. It is with this in mind that we appreciate Le Corbusier's Villa Savoye (fig. 2) and its *projection* of a machine aesthetic, as opposed to its fulfillment of a truly

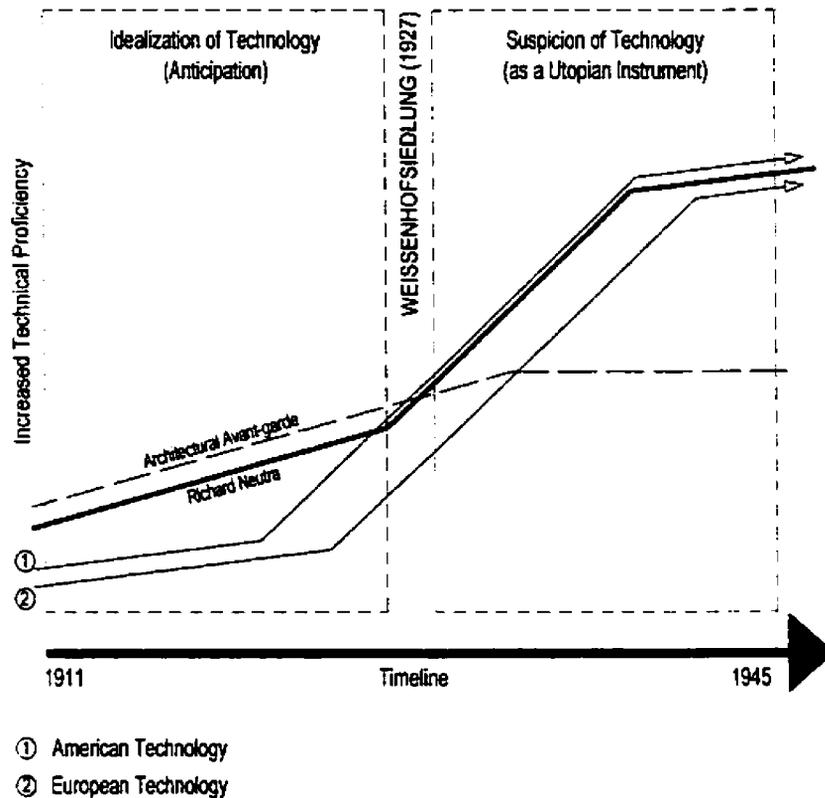


Figure 3. Proposed historical model leading and subsequent to the *Weissenhofsiedlung*, Stuttgart, 1927.

machined form. Within the historical model being proposed here, this first trajectory represented the avant-garde anticipation of technology (fig. 3).

As well, simultaneously occurring during this architectural phenomenon, a second condition was being defined by technology itself. Industry, its products for construction, and construction practices themselves, were developing at a rapid pace, seemingly attempting to fulfill the promise projected by the architectural avant-garde. Standardization and optimization, existing merely as a dream in 1911, was becoming more commonplace by the late 1920's, *especially* in

America. As England and Germany had done before her, America, by the 1920s, emerged as the dominant industrial power. And so, it is reasonable to assume that this second condition of the proposed model, that of technology, had two parts, one reflecting the technological condition prevalent in Europe, and the other representing American conditions. Both share the accelerated growth characteristic of technology at this time as it increasingly realized the images of technology projected by the architectural avant-garde. Given America's more suitable conditions for industrial growth and development at this time, however, its vector accelerates at an earlier date than that of its European counterpart.

The difference between these two technological vectors in terms of their relative time lag play a critical role in understanding Neutra's contribution to the history of architecture. Certainly, at the time when Neutra contemplated emigration to America, the European avant-garde, in their pursuit of machined, technologically advanced forms, looked to America as a land of promise and fulfillment. Consequently, a confluence was perceived between the European avant-garde's *projection* of a technologically-advanced future, and the *reality* of existing American practices. In relation to this condition, Neutra played a critical role in the history of modern architecture. As well, this condition was related to the crisis evident at the 1927 housing exhibition in Stuttgart, to which I will now return.

This emerging crisis had two constituent causes. The first was technological in nature and centered on the relative success and failure evident in the *Weissenhofsiedlung* exhibition. However uniform and legible the collection of designs in the exhibition seemed, modern architecture's larger social and technical agenda of efficient, affordable, and technically-advanced building was not achieved. Modern architecture at this point in history had succeeded in *projecting* an image of a technologically-advanced expression, but had not *realized* the idea in built

form. Le Corbusier commented on this condition of incompleteness, suggesting that "...it is now a matter of leaving the realm of theory and entering that of facts."³ The second condition of this crisis was more philosophical in nature and resided in architects' loss of faith in the technological as a means to realize an emerging utopia. Technology was beginning to be seen as an agent of homogenization, and not harmonization. Consequently, Muthesius's call for the standardization of form through the forces of the technological and the industrial was seen as not the only means for the expression of a modern society, but one of among many possible avenues for form-making.

It is paradoxical that at the specific point in history when a mature expression of modern architecture was evident, for example at the *Weissenhofsiedlung*, the entire premise upon which that expression was built, the idealization of technology, was put into question. The subsequent effort of the avant-garde thereafter pursued other means of expression in order to mediate the perceived optimizing forces of technology.

It is my contention that this historical juncture, so critical in the understanding of modern architecture, and in fact the understanding of the relationship between technology and architecture, is uniquely exemplified by Neutra's work. Armed with an ambitious and obsessive personality, educated in the European modern polemic, and seduced by the perceived modernness of America, Neutra bridged the European and American worlds through his definition of a new beauty conditioned by existing American technical practices. Neutra achieved this fusion of the European avant-garde and American technology through his appropriation of the time-lag evident in the technological condition during the time of the *Weissenhofseidlung*. And from this compression of time, two master-works emerged: the Lovell Health House and the urban project Rush City Reformed. These projects presented a synthesis of the ideal and the real, thereby addressing the first condition of modern architecture's crisis at this time. Simultaneously, these projects

revealed the limitations of their conception based on a beauty conditioned by the factual-witnesses and victims to a changing conceptualization of technology, that is, the second condition of modern architecture's crisis evident at the *Weissenhofsiedlung*. Before studying these works more closely, I will discuss the evolution of Neutra's sensibilities leading to his search for a universal architecture, and the historical context from which this universal architecture emerged.

CHAPTER ONE: THE FORGING OF RICHARD NEUTRA'S INNER CALLING

The architect who designed Rush City Reformed and the Lovell Health House expressed his mature architectural sensibility in *Wie Baut Amerika?* With the publication of this book, Neutra synthesized an emerging consciousness that brought to fruition perspectives gained in Europe and focussed through the context of America. Two principal factors helped him achieve this synthesis; his European training that included the figures of Otto Wagner and Adolf Loos, and his American experiences between 1923 and 1927.

Richard Neutra's European sensibilities were defined by a series of conditions that underlined his fundamental ideas on architecture. Neutra had enjoyed the cosmopolitan lifestyle represented by imperial Vienna at the turn of the century. As a young architect, he was both fascinated and captivated by the talent and personality of Otto Wagner, who was both city architect for Vienna at this time, and founder of the elite and influential *Wagnerschule*. Although Neutra was not able to attend this prestigious school before Wagner left his teaching position there, Wagner's influence would inform him in other ways. In particular, Wagner's influence on Neutra was threefold: Wagner's determination in the advancement of progressive ideas, his teachings related to the new architecture, and his buildings that reflected these ideas.

By the 1890s, Wagner was working on several extensive commissions for the remodeling and expansion of the public works of Vienna. These projects included new government offices, museums, schools, libraries, hospitals, and streets and public spaces. However, from the numerous proposals made, Wagner was only successful in realising the designs for the Danube Canal dams and the stations and infrastructure for the metropolitan rail network. Wagner's lack of success in realizing his grand projects taught Neutra two lessons: the significance of great

architectural space, and the almost heroic determination necessary to manifest this quality of work. Thomas Hines observes that it “was the series of rail stations of the late 1890s that attracted young Neutra and that marked in Wagner’s oeuvre an important transition from his early neoclassical commitment to a later “new” architecture with minimal historical references. The forms of his relatively abstract and stripped-down later building would increasingly reflect and celebrate their structural anatomy and the nature of their materials as well as their programmatic intentions and functions.”⁴ Rail stations and transportation centers of all types preoccupied Neutra, and found expression in both his first book *Wie Baut Amerika?* and *Rush City Reformed*. Neutra articulated their importance and influence at this stage in his career, stating “... when I was eight years old without thinking clearly, I must have decided to become an architect. My unspoken decision was the result of a ride in the new, much-talked-about subway, the stations of which were designed by Otto Wagner.”⁵

Later influences on Neutra’s sensibility grew out of the published message of Wagner’s lecture entitled *Moderne Architektur*, which advanced the premise that “the new architecture must take

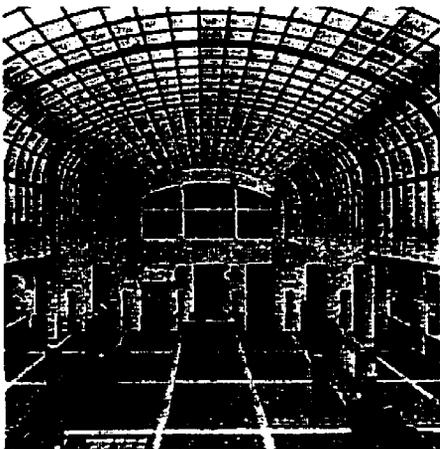


Figure 4. Otto Wagner, Postal Savings Bank, Vienna, 1905.

the requirements of modern life as its point of departure, and find adequate forms to express them.”⁵ Most representative of this message was Wagner’s Post Office Savings Bank of 1904 (fig. 4), where he developed a clear and restrained language of steel construction. The design also demonstrated a detailing of machine-age simplicity and expression where the marble panels were rhetorically supported by their expressed aluminum rivets, and the interior structure had been left to

reveal the unadorned riveted steelwork.

Apart from the influence of Wagner's work, and perhaps more important to the development of Neutra's sensibility and temperament, were Wagner's progressive but unrealised projects. Neutra later lamented this loss to the built environment of Vienna, but found inspiration in the architectural vision behind it, stating "[i]n a very short time I was enamored of him, his buildings and his fights against strong opposition and public ridicule. He was Hercules, Achilles, Buffalo Bill, all rolled in one: he stood for a missionary and one who was breaking with a worn-out past."⁷ This statement not only predicted the zeal and commitment Neutra was to invest in the pursuit of his interpretation of modern architecture, but it also underlined a realization that was increasingly preoccupying Neutra: the future of modern architecture would not play itself out in Europe, where the burden of history and economic stagnation existed as roadblocks to a truly progressive new architecture. This thinking, of course, was clearly expressed by another of Neutra's influences during his years of formal architectural training; that of the polemical Adolf Loos.

In contrast to Wagner, whose tangible effect was felt throughout imperial Vienna, the immense influence of Loos was wielded through an active critical position that found its expression in numerous publications and manifestoes. The most famous of these articles, provocatively entitled *Ornament and Crime* (1908), took exception to the perceived excesses of Secession, the florid alternative to the establishment style of this period. Loos also energetically disseminated his message in small informal coffee house sessions with students and other architects, events in which Neutra was a regular participant throughout 1912. During this time, Neutra was greatly influenced by Loos's philosophy and architectural theory; a body of thought that sowed the seeds for the ideology of Neutra's first major written work *Wie Baut Amerika?*

Loos argued that a modern society would produce a contemporary culture without the intervention of the artist/architect. This position suggested that there existed a certain “naturalness” of form that emerged from the requirements of things and the means to their construction. In their book *Wittgenstein’s Vienna*, Allan Janik and Stephen Toulmin detail the context from which this philosophy would seem justified, a place where “decoration was “applied” from the outside to everything from beer mugs to doorknobs. In this, Loos perceived a mixture of fact and fantasy that was highly detrimental to both. The principles of designing objects for use should be purely factual and determined by the functions that the objects are to serve. Such artifacts ought to be so “rational” that any two artisans faced with the same task would produce identical objects.”⁹ For Loos, the work of the Secessionist architects was unworthy of modern culture and society. Only a work divested of ornament was representative of pure and lucid thought and a high degree of civilization. But perhaps most important in terms of its influence on Neutra was Loos’s determination that good form emerged *naturally* from the degree of usefulness it expressed. This idea that architectural form would evolve in parallel with the evolution of a civilization is a critical factor in understanding both Neutra’s formal investment in the technological and his conception of America as a modern utopia. Neutra later expressed a conception of “natural” form as the emergence of a new beauty in *Wie Baut Amerika?* In this case, the emergence of Neutra’s new beauty arose out of a conceptual transparency to the existing American technological and planning practices, dismissing the need for the idealizing mediation of the architect in favor of affirming the existing conditions of modern America.

Neutra’s interpretation of Loos’s philosophy was also informed by the latter architect’s architectural theories. In particular, Neutra was influenced by Loos’s conception of the spatial planning of the *Raumplan*, and the belief in the honest expression of a technical and material logic. In the *Raumplan* or ‘plan of volumes’, Loos conceived an ordering system of

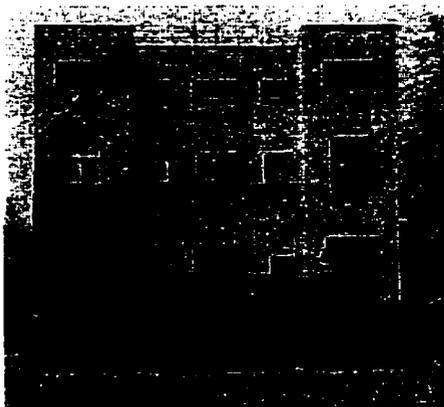


Figure 5. Adolf Loos, Steiner House, Vienna, 1910.

interconnected volumes, effectively creating spatial continuity through sectional and planimetric interpenetrations. The various heights of the rooms related to their use, and these different rooms were organized within a singular volume. His investigations into this theory evolved between 1910 and 1930, commencing with the Steiner House in Vienna (1910) (fig. 5), and culminating in the Moller and Müller houses of 1928 and 1930

respectively. Loos's advocacy for an architecture divested of ornament obviously reflected the earlier reductivist views of American Louis Sullivan, an architect for whom he held much respect. But of course Sullivan's work never rejected ornament entirely. Loos's work, by contrast, employed a more restricted material and detail palette, and Neutra adopted this stance as well.

Neutra accompanied Loos to his construction sites where his "nude" architecture was being built and where its creator stressed a new progressive architecture born out of an honesty to methods and materials. A page from Neutra's 1912 diary reveals what they spoke about on these tours: "I was with Loos and I'm hearing 'internal construction' and 'knowledge of materials' with him."⁹ Loos believed in a pure architecture that was beyond style and reflected the new modern world. It was an architecture that did not pay a stylistic homage, but grew honestly out of new techniques and materials. Neutra echoed this sentiment when he observed "[t]he thing about Loos that stayed with me the most was his faith in and almost cult of 'lastingness', as compared with the passing fashion. He was reaching out for some contact with history, to produce this 'lastingness' despite the fashion of the day."¹⁰

The concept of “lastingness” sponsored fundamental realizations in Neutra. For the idea that the new architecture emerged from an honest expression of the factual and therefore was timeless, imbued in Neutra a belief in a new golden age of an universal architecture. This belief helped shape Neutra’s resolve that his future actions would be of historic proportions and importance. It also found material manifestation in *Wie Baut Amerika?*, as the expression of the potential of the steel frame expressed in a flexible and economical structural system.

For example, the expression of this rational structural system was clearly manifest in the final phase of the design process for the Lovell Health House. Here, articulated in three dimensions, the design of the steel-frame referenced Loos’s conception of the *Raumplan*. Neutra’s interpretation of this theory clearly distinguished his particular contribution to the history of modern history. Neutra radically systematized the inherent volumetric idea of the *Raumplan* into a two dimensional organization, processing Loos’s spatial language into a system reflective of modularity and pre-fabrication. The result of Neutra’s interpretation was a flexible planning system based on prefabrication that, combined with his intimate knowledge of the potential of the steel frame, accommodated various rooms and functions within one volume. And its realization was the creation of the Lovell Health House.

Loos’s other critical influence on Neutra was his passion for the future of America and its role in modern architecture. Therefore, as Thomas Hines suggests: “It was largely Loos’s faith in the promise of American life that ultimately propelled Neutra to the United States.”¹¹ Loos had lived in America between 1893-96, where he had worked as a mason and floor-layer. Even more importantly, Loos had experienced first-hand the formal and technological innovations of the Chicago School by architects such as Sullivan, William Le Baron Jenney, Daniel Burnham and John Root. Loos convinced Neutra that it was in America, unfettered by the weight of history and

buoyed by industrial might, that a true universal architecture was to arise.

Neutra also believed that some architects, such as Frank Lloyd Wright, were doing some important work in America. Having already been exposed to Adolf Loos's descriptions of America and its industrial potential, Neutra's knowledge of the publication of Frank Lloyd Wright's work in the Wasmuth portfolio (1910-11) solidified his resolve to fulfill his career in America. When Neutra left Europe in the fall of 1923, he possessed a solid grounding in the polemical doctrines of modernism that was destined to manifest itself not in a post-war Germany crippled by the repercussions of the Versailles Treaty, but in the new world and its new industrial society. His two primary experiences in America, prior to working on his own in Los Angeles, substantiated his belief that the new universal architecture was indeed to be created in America.

Before discussing Neutra's experiences in Chicago, through the office of Holabird and Root, and at Taliesin, in Frank Lloyd Wright's studio, it is important to understand what Neutra described as his "inner calling". Neutra disembarked in New York City after a long period of waiting required of all German and Austrian war veterans. He both embraced American culture, yet also understood that his acceptance into American culture was conditional. This realization led to contrasting values in Neutra. The first was perhaps created by Neutra's more imperial Viennese attitude that promoted both a formality in his dealings with clients and employees alike, and a penchant for the belief in a vision of historic proportions. In the case of the modern hero Richard Neutra, this attitude translated into the unquestioning and moral pursuit of an universal architecture. The second characteristic was created by his desire to be accepted as an American. He took as his model Henry Ford, a self-made man whose ingenuity revolutionized the automobile industry and indeed industrial production in general. Harwell Harrison suggested that "[i]t would not be far-fetched to think Neutra came to America because America was the home of Henry Ford."¹²

Neutra's desire to be American is evidenced by the following rationalization contained in a 1932 letter to Henry-Russell Hitchcock, where Neutra states "[m]y way as a naturalized citizen and architect...has not been so clear and easy. Still I could not have made equally specific progress with European materials and for European purposes and in this sense, one may be permitted to consider me an American..."¹³

These personality traits, manifested in Neutra's determination to be recognized as an historically relevant architectural figure, came to be regarded as both his strongest and weakest assets. His closest collaborators echoed this interpretation. Gregory Ain, who worked on projects like the Lovell Health House and Rush City Reformed, understood Neutra as changing radically during this period from a shy youth to someone who "...gritted his teeth and went out and conquered the world." Neutra, to Ain, seemed always the immigrant who was determined to "make it in the most American way, but who still somehow retained a European presence."¹⁴ Harwell Harris, who like Ain had been a collaborator with Neutra since his earliest practice and had also worked on both the Lovell Health House and Rush City Reformed, indicated that what bothered him the most about Neutra was "...that his frequently rigid and difficult temperament shrouded his own remarkable achievements and got in the way of the important ideas and goals he was trying to promote. When Neutra sensed he was failing to convince a client, for example, it was because he had not made his points clearly enough and would thus proceed to pour it on even more insistently."¹⁵ These personality traits were reinforced by Neutra's experiences in New York and Chicago, solidifying his belief in the importance of an universal architecture and his role in creating it.

In New York Neutra found work and acquainted himself with the North American methods of project documentation. The work was not interesting in itself, but Neutra understood it as a

necessary step to his future goals as an architect in America. For Neutra, it was a time to reinvest in his determination to work harder to achieve these goals, stating “[w]ith great persistency I have to tunnel my way here through a mountain. Now there is no time for reflection but to keep on going and fulfill one's inner calling.”¹⁶

This “inner calling” led Neutra to Chicago in the spring of 1924, where he acquired a position with Holabird and Root, the largest architectural firm in America at the time. His position there as a site supervisor and draftsman on the Palmer House (fig. 6) provided Neutra with critical experience in steel frame construction. Hired to administer the construction of this vast multi-use

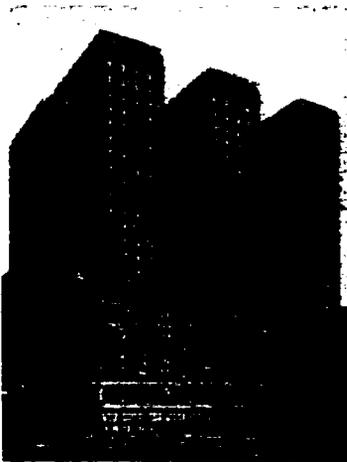


Figure 6. Holabird and Root, Palmer House, Chicago, 1925.

building, Neutra became so fascinated by the technology that was being applied to the building practices that it became the main subject for his first book *Wie Baut Amerika?* Neutra documented in minute detail every step of the construction process in his diary and through photographs, recording what was for him an unprecedented use of a structural steel skeleton system. The virtuosity of the steel frame, its efficiency in accommodating program (fig. 7), and the speed of its erection thrilled Neutra, and he saw it as the embodiment of the promise of America, and of the new universal architecture based on the factual.

His fascination with this technological innovation, the type of innovation which Loos had discussed was to be the nexus of modern architecture, was unfortunately short-lived. Reflecting on the situation, he later remarked that “[i]n *Amerika* I spoke of American industrialized architecture, and, following the enthusiasm of Tacitus for his exemplary *Germania*, so slanted my descriptions

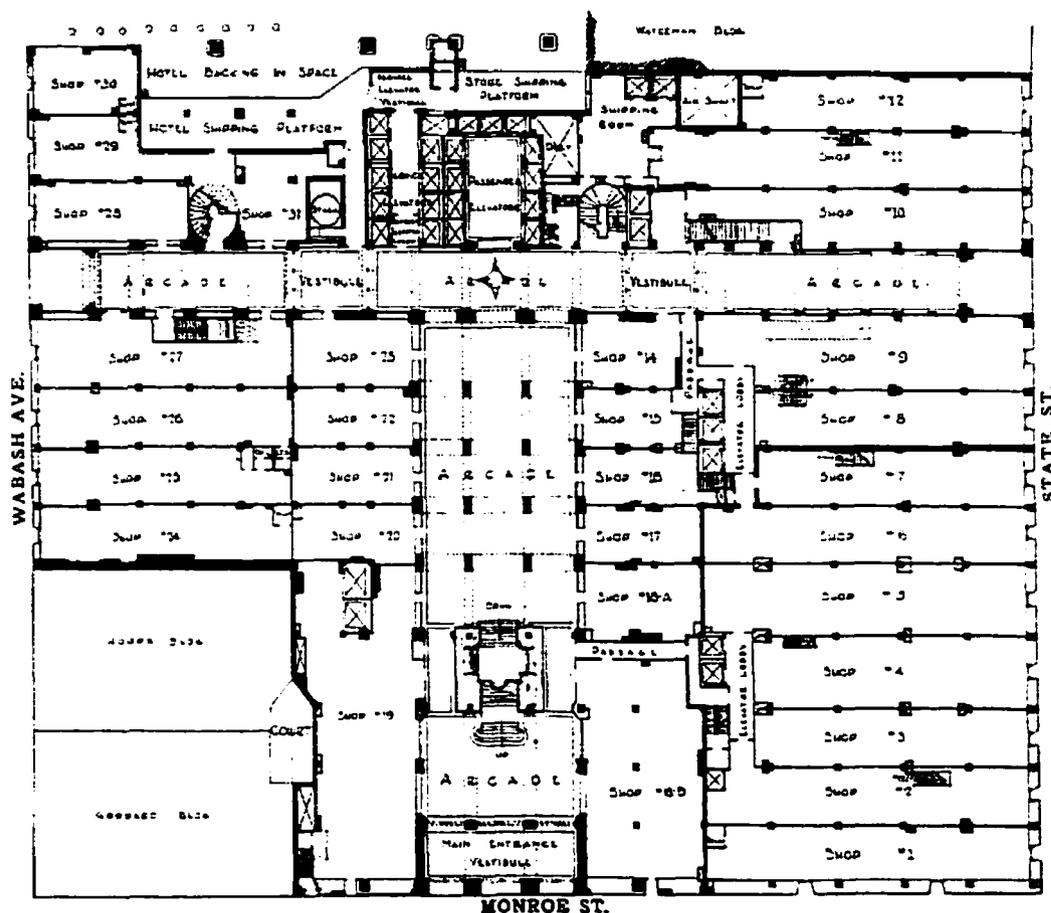


Figure 7. Holabird and Root, Palmer House, ground floor plan, 1925.

that all the world thought there was much here to be taken to heart and that, in 1926, there was an American vogue for modern architecture. This was, of course, a downright untruth, I must now admit: I was terribly lonely, and was just whistling in the dark. One need only look at the magazine illustrations of that bygone age!"¹⁷ What Neutra discovered to be culminating with the completion of the Palmer House was not a new and brave modern architecture but a neo-Palladian monument that echoed classical formalism. Disappointed by the outer expression of the building facade, Neutra had to be forced by his German publisher to include a photograph of the finished building. The result of this experience was Neutra's resolution that technology had

yet to be addressed in modern American architecture. And while still wrestling with the manner in which this task was to be completed, Neutra accepted an offer from Frank Lloyd Wright, in September 1924, to come work with him at Taliesin.

After an initial period of employment, Wright, satisfied with Neutra's talents, offered him full-time work in his office. However, although Wright had promised room and board for both Neutra and his family in exchange for his services as an architect, Neutra could not see a future at Taliesin, due to his realisation that his maturing architectural sensibility had evolved away from Wright's more organic and personal language. Neutra's change in attitude towards Wright, from his earlier idolization to his new found distaste of Wright's perceived overly individualistic expression, underlined the severity of his own design philosophy and his determination to define a new architecture based on the factual.

After his brief six month stay with Frank Lloyd Wright in Taliesin, Neutra decided to continue his journey to Los Angeles, the city that he felt demonstrated the most potential for the establishment of an architectural practice. When he left Taliesin, Neutra's position within the larger architectural context of the modern movement had matured into a strong sympathy towards technology and its role in the creation of a new universality in architecture. His meetings, discussions, and collaboration with some of the best architects of the world over the previous twelve years had created his own desire to aspire to similar success. From each of these associations, Neutra refined his own architectural sensibility, sometimes absorbing their strengths, and at other times reacting against what he understood as definite weaknesses. His Palmer House experience had taught him both the potential of the steel skeleton frame, and its misuse by the existing architectural culture. This experience, more than any other, formed Neutra's architectural sensibility, a sensibility that saw in technology the ability to fulfill the promise of modern architec-

ture in the provision of a new golden age. Neutra sent this message out to the world in *Wie Baut Amerika?*, arguing that a new, impersonal architecture with a strong relationship to prefabrication, was the only manner by which architecture could meet the needs of the emerging modern world. Neutra understood his position in the history of architecture not as an architect who generated more ideas, but as an architect who fulfilled these promises through an architecture conditioned by technology in the servitude of humanity. He would create an architecture not based on “one-offs, which he deemed as immoral”, but conceived as a “general language, built for production, speed, and the provision for living affordably and comfortably.”¹⁸ This would be the architectural vision described in *Wie Baut Amerika? Wie Baut Amerika?* was a seminal text that synthesised Neutra’s experiences from the past fifteen years into an ideological and perhaps prescriptive framework for a new universal architecture. It could be argued that the message from *Wie Baut Amerika?* culminated in the designs for the Lovell Health House and Rush City Reformed. And the three projects could not have been more interrelated. In fact, projects from Rush City Reformed were used to illustrate the text of *Wie Baut Amerika?*, the two developing simultaneously, while the design for the Lovell Health House evolved and manifested the potentials of the steel frame and prefabrication advanced in the book’s discussion. Yet despite all the specific ideas discussed within its pages, the primary message of the book was the emergence of a new beauty formed from a conceptual transparency to the existing American construction and planning practices— *bejahung der Gegenwart* or an affirmation of the present. In other words, Neutra’s universal architecture was derived through the affirmation of existing practices found in the American construction industry.

Neutra’s use of the word *present*, here, is significant. As discussed previously, the architectural avant-garde sought to anticipate the future in the present. Neutra advocated the opposite. Returning to the proposed model of architectural history during the period *Wie Baut Amerika?*

was published (fig. 3), Neutra misinterpreted the time lag between the European and American technological trajectories as the basis for an architecture. In other words, Neutra saw in the *existing* American technological practices the ideas that were *projected* by the European avant-garde. In *Wie Baut Amerika?*'s message was a crucial *embedding* of Neutra's search for the factual and universal into the real and existing conditions of America. The resultant message and work, therefore, became inseparable from the existing American conditions, and evolved parallel with these.

In its matter-of-fact text and its surprisingly reserved tone, *Wie Baut Amerika?* formulated an argument for the rational and factual understanding of the problems of modern life, and their related solutions. Neutra stated that past architectural issues such as aesthetics, monumentality, and formal expression had disappeared, and in their place had evolved a broader social and technical context for the creation of the built environment. This new and modern milieu was one where industrial forces, construction methods, modern materials, and the engineer played a greater role than the architect in the shaping of the modern world. The first section of the book was dedicated to the problems facing the modern city, and the articulation of possible solutions. The second section described the construction of the Palmer House and elaborated on the potential of the steel frame as a construction system. Finally, the third section discussed building systems and materials that developed the steel frame into an universal architecture.

Neutra's investigation into the set of problems facing of the modern city subsequently developed into a solution based on the advocacy of existing American planning practices. For Neutra, the major problem facing the modern city was over-crowding, a condition manifesting issues such as rising housing costs, electrical power loss, and the inevitable traffic jam. The observation is interesting, easily explained by both Neutra's experience of the European city, which was in

transition during this time, and his months spent living in a small rental accommodation in New York. For Neutra, the solution was the provision of living space through a decentralized urban strategy. The justification for this argument came from a comparison of technological developments, the first being the rail and the telegraph, technology that Neutra suggested facilitated a centralized urban form, while the car and the telephone led to a decentralized urban morphology. Neutra's essentially suburban proposition was facilitated by an argument for an efficient circulation network, incorporating both public and private transportation, and a zoning policy that separated different land uses and organized building density and height.

That these solutions were not original was of no importance to Neutra. He illustrated and argued his points with examples taken directly from the New York and Chicago zoning bylaws (fig. 8), and substantiated his ideas on traffic and circulation with precedents from Los Angeles. In fact, in prefacing his section on the modern city, he suggested that in some advanced societies, the emergence of new scales of development and technologies had created the potential for new settlement patterns that were the basis of the true modern city.¹⁹ Effectively, Neutra's conception of modern urban form was the mid-western American city. With ten times the ground coverage of

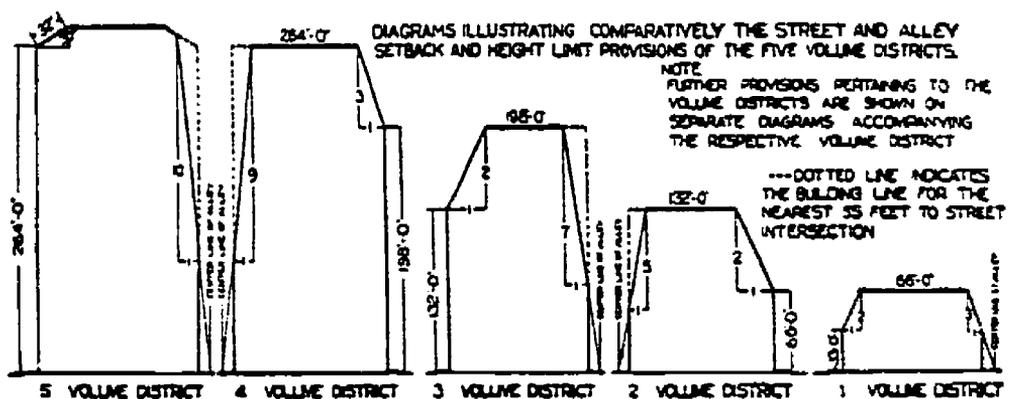


Figure 8. Chicago Zoning Diagram, as published in *Wie Baut Amerika?*

the comparably-sized European city, it thereby afforded sufficient space for living, a gridded circulation system that efficiently accommodated large numbers of vehicles, and clear, mono-functional zoning practices. It is understandable that Neutra interpreted these as the models for all future development.²⁰

Neutra refined this existing model, separating it into two development types: the downtown business district and the outlying suburban zones, each with very different scales of measurement. In the downtown business district (fig. 9), Neutra designed a dense rectilinear

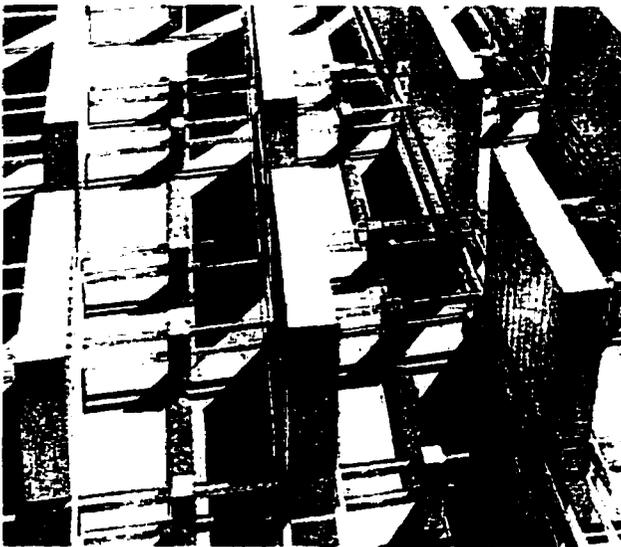


Figure 9. Neutra, Rush City Reformed, Downtown Business District, 1920s.

organisation of office blocks based on the need for *menshiliche Maßstab* or “human dimension”²¹, arguing that people did business by walking to and from different meetings and social engagements. This pedestrian circulation was carried by multi-storey bridges spanning between the office blocks, while the ground level of the office blocks was reserved for vehicular traffic only. In contrast,

the second development type, most accurately described as suburban (fig. 10), featured the car as the frame of reference for its understanding. Here, all dimensions, orientation, and organization of these low-density zones reflected the mobility of the car and the inherent need for the separation of vehicular and pedestrian traffic in an interrelated whole.



Figure 10. Neutra, Rush City Reformed, Rowhouses, 1920s.



Figure 11. Neutra, construction photos of the Palmer House, 1925.

Neutra's affirmation of the present in the generation of his urban vision was also his *modus operandi* in the determination of an universal architecture. In the second section of *Wie Baut Amerika?*, Neutra argued for the presence of an emergent beauty from the potentials of the structural steel frame. He provided one principal example: the construction of the Palmer House. The energy and specificity with which he described the process revealed his fascination with technology and also his belief in its key role in the search for an universal architecture. Both the description and the photographic survey were exhaustive (figs. 11, 12). He informed his readers that the Palmer House consisted of 17,000 tons of iron, prefabricated and bolted on site, and that the construction crew of 140 workers operated five cranes at one time.²² But Neutra reserved his most passionate words for the description of the project's logistics. Reflecting the philosophy of Henry Ford that advocated efficiency through planning, prefabrication, and specialization, Neutra emphasized the value of the project management utilized during the construction of the Palmer House. In this regard,



Figure 12. Neutra, construction photos of the Palmer House, 1925.

Neutra marveled at the construction statistics: one floor was completed per week, the concrete pouring occurred on two shifts (one during the day and the other at night), the delivery of steel sections came directly to the site from the manufacturing plant to avoid the cost of storage, and its route to the site, planned so that there existed only one turn, occurred on Sunday nights to avoid traffic (fig. 13, 14). The intention behind the detailed description used here is to reinforce the idea that Neutra understood steel frame construction as more than just an image or material or method. From

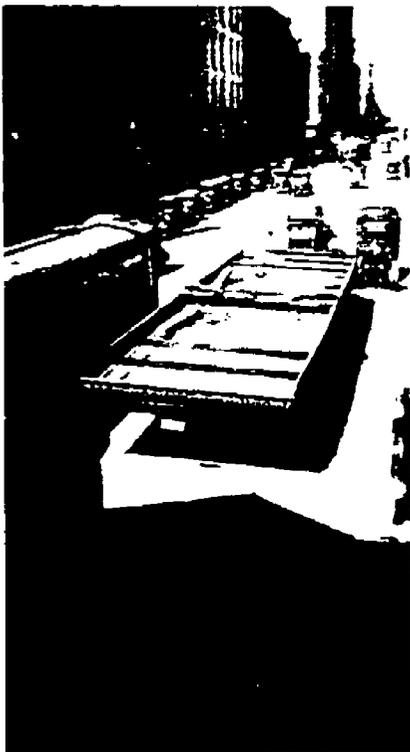


Figure 13. Neutra, delivery of steel sections, Palmer House, 1925.



Figure 14. Neutra, delivery of steel sections, Palmer House, 1925.

Neutra's perspective it afforded the modern architect an universal architecture, based on a complete system for the making of form and space, with material acquisition, construction procedures, site management and finally architectural expression all "naturally" emerging from the fundamental logic of the object. Neutra's philosophical transparency to the steel frame's logic, echoing Loos's arguments for the design and crafting of functional artifacts, also grew out of Neutra's appreciation of the complexity of modern buildings and the intricate processes required to construct them.

Neutra admired the diverse technological and constructional systems at play in the construction of modern buildings, and the multitude of trades and contractors required in this process. The recognition of these complex and numerous factors provoked him to comment that the new architecture was a "creature,"²³ not forged by a single author, but determined and influenced by unforeseen and yet positive contributions. It was a creature, then, that was not designed through the aesthetic and creative genius of the architect, but that grew out of an inherent logic deep within the nature of building. Similar to Loos's example of the two artisans making the identical functional object, where the logic of that object determined its form, Neutra's interpretation of the Palmer House experience suggested that this same self-determination defined architecture's "natural" style— a style born out of a new beauty.

This new beauty was interpreted in the conclusion of the second section as manifesting into *Skelettkonstruktion* or steel frame construction. Gleaned from the potentials of the steel frame of the Palmer House, *Skelettkonstruktion* became the basis of Neutra's universal architecture.²⁴ Neutra argued for the potential of this system to be applied to all building types, including residences, foreshadowing the design of the Lovell Health House that was to be the first modern steel-built house in America.²⁵ The argument Neutra presented was based not only on an

emergent beauty, but was also grounded in a financial logic. Neutra demonstrated that the steel frame was not only practical and economical in 1927, but also provided cost projections into 1970 that outlined the trend of diminishing costs of steel construction. *Skelettkonstruktion* had arrived as the basis of an architecture, and its universality was conditioned by the existing technology that dictated it was an architecture of the present and of the future.²⁶

The third section developed the *Skelettkonstruktion* as the basis of an universal architecture, and incorporated related building systems integral to this architecture, including the influence of prefabrication and new building materials. These building systems were presented as extensions of *Sachlichkeit im Bauen*²⁷ or objectivity in building, a sensibility that Neutra stated would address the challenge that "present tasks demand a rational point of view."²⁸ This objectivity was paradigmatic of Neutra's definition of a new beauty, in this case a conceptual transparency to the

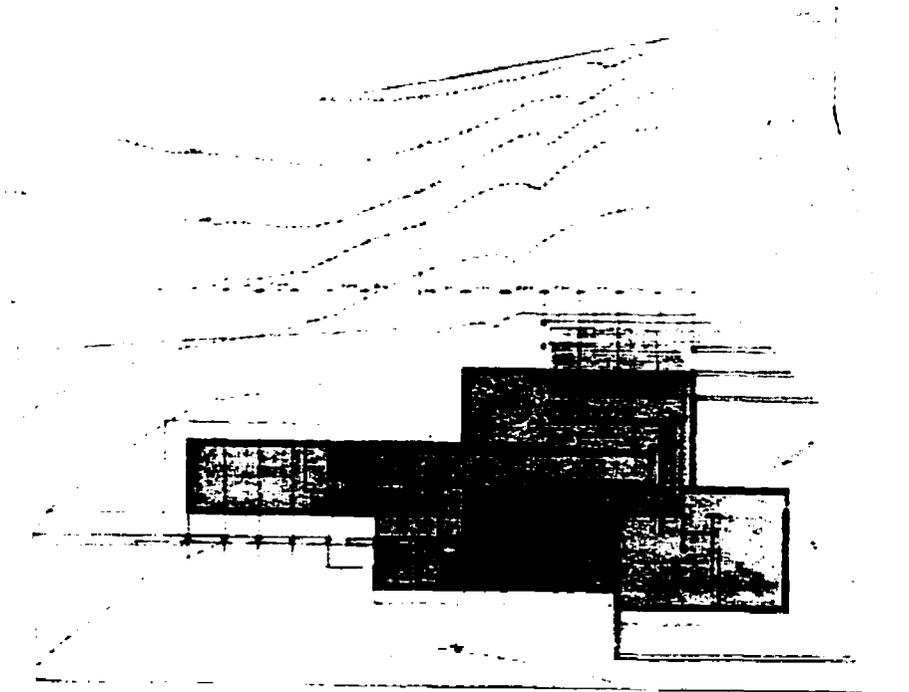


Figure 15. Neutra, plan of prefabricated panel house, 1926.

“natural expression”²⁹ of new construction processes, materials formed by these processes, and the expression facilitated by prefabrication.

Illustrative of both Neutra’s demand for objectivity in building and his belief in its related beauty was a house design (fig. 15) derived by the logic of a manufactured pressed gypsum panel (fig. 16). Describing the modular wall panel, Neutra was careful to compare its characteristics of fire-safety, lightness, rigidity, and insulating properties with traditional materials. Even more impor-

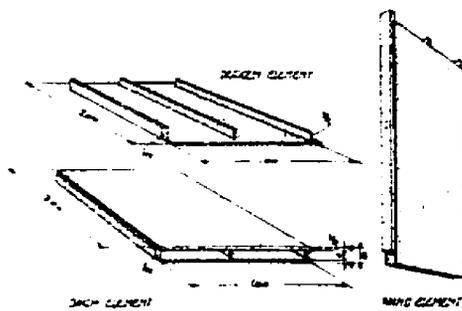


Figure 16. Neutra, prefabricated panel design, 1926.

tantly, Neutra emphasised the panel’s inherent expressive qualities, both as a material, and as a planning system. Neutra discussed the material’s modular representation of the underlying structural order—the *Skelettkonstruktion*, as an honest expression of its construction and logic, and noted that the panel required no exterior finish,

ensuring an honest reading of the logic of the building process and the underlying structure. The form of the panel house was determined by the synthesis of the prefabricated wall panel, as a precise and modular space-enclosing element, and the steel frame, as a flexible and efficient three-dimensional grid. Neutra termed this synthesis *schachtel-aufgaben* or box construction exercise,³⁰ its evolution resting firmly on the interpretation of the Palmer House as a single volume incorporating many different functions and spaces, and Loos’s *Raumplan*. The plan of panel house illustrated a series of partially-enclosed and interlocked rectangles explicitly determined by the grid, with corresponding openings and doorways similarly ordered. Modulation of these spaces was created by the pushing or pulling of the enclosing elements within the order of the grid, anticipating the design process and ultimate volumetric composition of the

Lovell Health House. Whereas the *Raumplan* developed a formal spatial weaving through sectional and plan-based overlap, Neutra erased Loos's sectional complexity through his dedication to prefabrication and its standardisation of the vertical dimension. As well, Neutra edited the carefully composed plan-based interpenetrations evident in the *Raumplan* into an adherence to the explicit geometry of the grid, opting for an order that "was easily understood because it naturally emerged from the structure, and was not composed."³¹ Neutra's rejection of *composition* and advocacy for a *natural* expression, be it related to a material, a construction process, or the entire building, defined his pursuit of a new emergent beauty. And yet this new beauty was not limited to constructed entities, but also included the utilization of prefabricated elements in architecture.

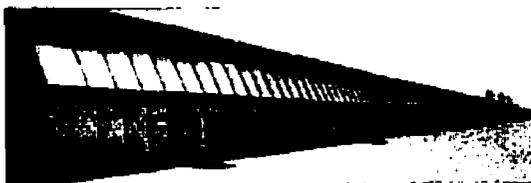


Figure 17a. industrial doors and walls, as illustrated in *Wie Baut Amerika?*

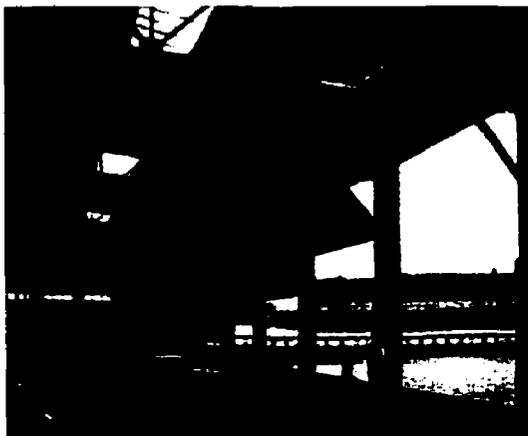


Figure 17b. industrial doors and walls, as illustrated in *Wie Baut Amerika?*

Neutra dedicated numerous pages in this final section of *Wie Baut Amerika?* to carefully argue for the use of prefabricated elements in architecture. Illustrating the point through facts and images of a diverse range of elements from factory windows to ironing boards (fig. 17a, 17b, 18), Neutra underlined the importance of prefabrication to the cause of an universal architecture. Certainly, as represented by the American publication *Sweets Catalogue*, a construction industry compendium of building products, America's modernness was clearly manifested by such products.

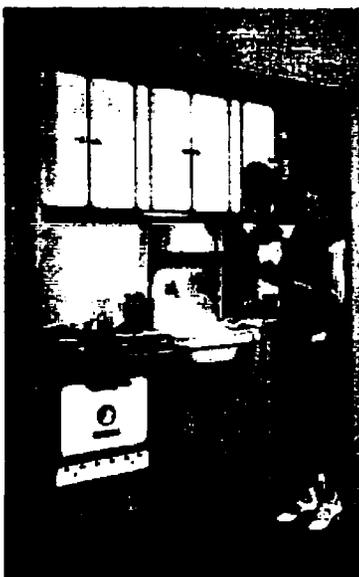


Figure 18. prefabricated kitchen, as illustrated in *Wie Baut Amerika?*

Neutra perceived these products as categorically representing efficiency and optimization in both their manufacturing and in their value to the customer. Neutra understood the *Sweets Catalogue* as “the perfect instrument for the architect,”³² wherein it was simply a matter of the “selection of elements and their recombination,”³³ from this an annual publication in order to make architecture.

This *bejahung der gegenwart*, or affirmation of the present, best defined Neutra’s first mature architectural sensibility.

Throughout *Wie Baut Amerika?*, Neutra pursued this ideology in both his urban vision and his universal architectural language. In synthesizing his European and American experiences, *Wie Baut Amerika?* not only defined Neutra’s emerging architectural consciousness, but provided a strong foundation for his two early canonical works, Rush City Reformed and the Lovell Health House. The conception of these projects, so embedded in the development of *Wie Baut Amerika?*, completely evoked, as we shall later see, Neutra’s definition of a new beauty.

It is interesting to note that Neutra’s new beauty, generated by a conceptual transparency to existing *American* conditions, was interpreted through *European* polemical thought. For example, Neutra recognised that modern architecture was a complex enterprise, not created by the single hand of the architect but involving many different types of expertise, and stated that only eight percent of projects involved architects.³⁴ This thought paralleled Bauhaus Master Hannes Meyer’s assertion that building was a collaborative activity and was objectively determined. The difference between the two views arise out of Neutra’s belief that beauty, albeit a new definition of

beauty, exists, whereas Meyer refuses any such subjective terminology, and that Neutra's *objectiveness* arises out of his essentially non-political conceptual transparency of existing conditions, whereas Meyer's objectivity was politically constructed.

A second historical parallel emerges in Neutra's argument for the *Skelettkonstruktion* as a new universal architecture. In the advocacy of this architecture, Neutra suggested that the system defined not only a new sense of quality and beauty derived from its machine fabrication, but that this quality was also financially more economical. This expression of superior quality and economy from industrial processes echoed earlier statements made by Hermann Muthesius in his role as advocate for standardization in the *Deutsche Werkbund*.

The idea of the *Skelettkonstruktion* also evokes another historical comparison. Neutra attached the same importance to the steel frame and its grid of columns that Le Corbusier did to pilotis. However, from this point of departure, the interpretation pursued by the two architects is opposite in intention. Le Corbusier would stress the *plan libre* as the most powerful expression of this structural condition, accentuating a formal freedom through the use of non-rectangular compositions of walls, openings and objects. In contrast, Neutra demanded the recognition of the steel frame's inherent *flexibility*, not *freedom*, and warned against confusing combinations of the steel frame's potential for variety. Neutra's architectural manifestation of the potentials of the steel frame was an easily understood space through a disciplined and "natural" expression.³⁵ That Neutra defined an architecture from a conceptual transparency to American conditions and yet in the process developed so many theoretical and polemical parallels with European thought necessitates the exploration into the relationship between Neutra's philosophical foundation, *Wie Baut Amerika?*, and the larger context of modern architecture.

CHAPTER TWO: LEGIBILITY THEN CRISIS IN MODERN ARCHITECTURE

Neutra's definition of beauty is clarified through an understanding of the historical context surrounding this vision. A key concept in this understanding is the relationship between technology and modern architecture that emerged at the onset of the twentieth century. For the next thirty years, modern architects explored the relationship between technology, as the leitmotif of the new industrial world, and the idealizing function of architectural expression in the creation of appropriate modern cultural forms. The fruition of this exploration can be said to be the 1927 *Weissenhofsiedlung* Housing Exhibition in Stuttgart. Here, international architects generated a body of work that displayed a harmonious expression to the degree that a unified legibility could, for the first time, be discussed and debated. The date of this housing exhibition coincided with the publication of *Wie Baut Amerika?*, the construction of the Lovell Health House, and Neutra's most intensive investigation into Rush City Reformed. This historical coincidence invites a critical reinterpretation of Neutra's work. Behind the projected legibility of the modern project as expressed at *Weissenhofsiedlung*, lay a crisis in modern architecture that was perhaps best addressed by Neutra's work of this period.

If the history of modern architecture is the history of the idealization of technology, then Hermann Muthesius, founder of the *Deutsche Werkbund*, played a key role in theorizing modern architecture. The *Werkbund* was founded in 1907 with the objective of revitalizing German craft education and production through an integrated exchange between artists and industry. Ideas propagated through its debates and exhibitions became one of the cornerstones in German modern architecture, and their influence was felt well beyond Germany. Within the confines of the *Werkbund*, Muthesius sought to define the essential nature of a new industrial age. And he understood that

this definition would require, as had all great ages before it, the search for and the creation of new and appropriate cultural forms.

In 1911, Muthesius presented a lecture entitled “Wo Stehen Wir?” – “Where Do We Stand?” to a *Werkbund* congress audience that included Walter Gropius, Le Corbusier, and Ludwig Mies van der Rohe. Muthesius called for all the arts to search collectively for a new and modern expression, stating “...the re-establishment of an architectonic culture is a basic condition of all the arts...it is a question of bringing back into our way of life that order and discipline of which good form is the outward manifestation.”³⁶ Even more importantly for Muthesius, the search for a cultural expression of the new industrial age included the search for generally applicable standards.

Hermann Muthesius’s chosen role then, in the context of the *Deutsche Werkbund*, was to promote the concept of an *Industriekulture*, one that advanced the idea of a spiritualized aestheticization of German industry, and of *Typisierung*, which spoke of the harmonization and standardization of form. These concepts easily developed out of the larger idea of a modern *Zeitgeist*, in which cultural producers such as artists and architects would seek to reflect the spirit of the industrial age. For Muthesius, these two concepts were the prerequisites for the cultural forms of a new industrial age.

As an important part of the *Deutsche Werkbund* initiative, the idea behind *Industriekulture* also formed a crucial element within the history of the modern movement. The emergence of *Industriekulture* represented western culture’s acceptance of the transition from a pre-modern to a technified society. The term *Industriekulture*, as Muthesius understood it, suggested that advancements in technology and the means of production required a parallel and equal investment of cultural energy in the creation of the built environment. In this capacity, culture

accepted the mediating role between technology and the human condition, leading to the concept of the idealization of technology. This concept represented the two critical components of modern architecture: its abstract self-referentiality, and its immersion within the industrial forces of modern society. Therefore, the ideology of modern architecture dictated that the necessary autonomy of architecture required an idealization of technology and its role in the anticipation of this new utopian society. As Alan Colquhoun states, "there was in modern architecture an overlap between nineteenth-century instrumentalism and modernist formalism which did not occur in any of the other arts."³⁷ These two positions allow for two differing readings of modern architecture. Firstly, its formalism existed as a *pure art*, without exterior references for significance, and with meaning tied conceptually and literally to its own internal rules. Secondly, it also existed as a *pure instrument* or methodology: a utopian vision where its formal strategy as an abstracted architectural language revealed a harmonious and efficient functionality that proclaimed a new consciousness in a progressive technological world.

The ideality of technology could be maintained by modern architecture only as long as the industrial forces of society were unable to translate these ideas into reality— in this way the ideas maintained their value as symbols for the anticipation of a utopian society. Alan Colquhoun maintains that this ideality was best represented by the work of the early heroic architects of the 1920s: "In the 1920s a series of unique solutions stood as symbols for a universal idea which could not be put into practice."³⁸ Le Corbusier's villas of the 1920s, for example the 1929 Villa Savoie in Poissy (fig. 2), illustrate Colquhoun's unique solutions. Colquhoun's statement suggests that the idealization of technology, and the related ability of modern architecture to sustain itself as an art form and as a symbol for a new society depends on a *distance* maintained between this ideality and the ability of the industrial forces of society to realize these proposed technologies.

Modern architects pursued the idealization of technology throughout Europe and America. Futurists, Constructivists, Purists, Expressionists, and architects of De Stijl amongst others all sought a modern cultural expression through the formal translation of technology into architecture. And although the degree to which each movement mediated technology varied, along with the relative means of this mediation, the idealization of technology became an avenue of investigation that united all modern movements in architecture. Walter Gropius offers one

example of this thematic consistency between 1911 and 1927.



Figure 19. Walter Gropius and Adolf Meyer, detail of the Fagus Factory, Alfeld-an-der-Leine, 1911.

The 1911 design for the Fagus shoe-last factory located in Alfeld-an-der-Leine (fig. 19), by Gropius and Adolf Meyer, represented the intentions behind Muthesius's *Industriekulture*. However, upon his return from World War I, the Expressionist Gropius distanced himself from *Industriekulture* and pursued instead the *Gesamtkunstwerk*, or total work, replacing a concern for industrial production with that of handcraft. Although this Expressionist agenda also dictated the first four years of the Bauhaus curriculum,

the *Bauhütte* origins of the Bauhaus were soon replaced by a reinvestment into industrialization, under the slogan of 'Art and Technology: A New Unity!', declared in 1923. Here, in this declaration, and explicitly expressed in the resultant Bauhaus art and architecture, were evident the influences of a diverse spectrum of architects and artists including Theo van Doesburg and Wassily Kandinsky. Therefore, Gropius's participation in the *Weissenhofsiedlung* personified a Bauhaus sensibility that had synthesised influences from De Stijl, Constructivism, and

Suprematicism. By 1927, sixteen years after Muthesius had delivered his seminal lecture, all three European giants of modern architecture, Gropius, Mies van der Rohe and Le Corbusier,



Figure 20. Ludwig Mies van der Rohe, apartment building, *Weissenhofsiedlung*, Stuttgart, 1927.

reassembled to participate in an expression of this unity.

The 1927 *Weissenhofsiedlung* housing exhibition, located in Stuttgart and organized by Mies van der Rohe, became one of the first important signs of an emerging international architectural movement.

Architects from around the world gathered and designed a stylistically uniform group of buildings (fig. 20). In some ways, it represented the culmination of the architectural explorations of the machine age, within which the idealization of technology was a

dominant theme. Banham wrote that this exhibition was a kind of coming-of-age in modern architecture: "That maturity was confirmed at Weissenhof when the buildings were seen, and seen to be internationally unanimous in style, and with its international maturity the style became explicable, to some extent, in verbal terms, with the result that Weissenhof triggered off a spate of books by German authors that aim to deal encyclopaedically with the materials, the history or aesthetics of the new style."³⁹

The uniformity in architectural expression was a result of a synthesis of many smaller artistic and architectural movements gravitating towards one style. Giorgio Ciucci suggested that this

synthesis was the development of an international architecture, stating that “[b]etween 1925 and 1928, in only three years, there emerged in Europe the idea that in the field of architecture an “irreversible” transformation had taken place, one which no longer concerned only small avant-garde groups but had actually taken shape in the public mind in numerous countries.”⁴⁰ This apparent visual triumph of modern architecture as a coherent international initiative, however, hid a larger crisis that was beginning to surface at this time, one that allowed Neutra’s unique contributions in modern architecture to become evident.

This emerging crisis had two constituent causes. The first was technological in nature and centered on the relative success and failure evident in the *Weissenhofsiedlung* exhibition. Though the designs featured an uniform expression, the exhibition’s social agenda of affordable, efficient and technologically advanced housing was incomplete. The taut, white planar surfaces, so streamlined in their perfection, lacked the practicality they symbolized. Modern architecture at this point in history had succeeded in *projecting* an image of a technologically advanced expression, but had not *realized* the idea in built form. Le Corbusier commented on this condition of incompleteness, suggesting that “...it is now a matter of leaving the realm of theory and entering that of facts.”⁴¹ This incomplete state of modern architecture, which was contingent on the absence of a factual universality, is understood as the first critical component to the assessment of Neutra’s contribution to modern architecture.

Across the ocean, another architectural development was being conceived based on the success of the *Weissenhofsiedlung*, which also underlined Neutra’s importance *vis a vis* modern architecture. With the 1932 publication of *The International Style*, Henry-Russell Hitchcock and Philip Johnson seized the advocacy of modern architecture from the hands of European architects. Hitchcock and Johnson’s work resulted in a retooling of machine age architecture for its

American audience. Stripped of its social agenda and political connotations, and presented as a formal and efficient aesthetic based on three principles, the International Style was described as developing from emerging technical conditions. Closer examination, however, revealed that the projects presented as exemplars of this style were for the most part unconditioned by technical determinants, and fell into loosely defined formal categories, more or less paralleling Le Corbusier's earlier aesthetic admiration for Mediterranean vernacular architecture: cubic, white, and flat-roofed.

The text of the 1932 publication *The International Style: Architecture Since 1922* by Henry-Russell Hitchcock and Philip Johnson was therefore plagued by the contradictions between an advocacy of rational methods of design and the simultaneous declaration that functionalism was not enough. Hitchcock's statement that "[t]echnics only form a part of architecture; and as has been stated, the architecture of the New Pioneers reposes more centrally upon an aesthetic"⁴² further exacerbated modern architecture's inability to actively engage technology, and therefore established as the status quo a modern architecture born of merely stylistic formulations. This growing malaise that developed between modern architecture and technology was Neutra's point of departure in *Wie Baut Amerika?*, and was also poignantly criticised by Reyner Banham. In 1955, Banham wrote the seminal article 'The Machine Aesthetic' in *Architectural Review* where he argued that "[t]he 'Machine Aesthetic' of the Pioneering Masters was...selective and classicizing, one limb of their reaction against the excesses of Art Nouveau, and it came nowhere near an acceptance of machines on their own terms or for their own sakes."⁴³ Le Corbusier, Gropius, Mies van der Rohe; these pioneering masters had only been able to accept the machine and technology on a superficial and stylistic level. Their lack of understanding and oversimplification allowed them to misinterpret a temporal condition for the culmination and synthesis of art and technology— the form of the post-World War I car.

In contrast to the International Style's formalistic interpretation of technology, Neutra's book outlined an architecture grounded in the factual, rejecting stylistic concerns in favor of more objective concerns. Pauline Schindler, who read *Wie Baut Amerika?* while the Neutras and Schindlers were sharing the Chase/Schindler Residence in Los Angeles, remarked on Neutra's universal architecture derived from industrialization in her review of his book. In it she states that "[d]evelopment of the new style is characterized by an impersonal generality. It is being created not mainly by the professional architect, but by manufacturers of building materials and specialties. These factors, catering to and controlling a nation-wide demand, necessitate mass production by extensive machinery, improving the output, raising the standards, creating a new quality type of great vitality."⁴⁴

Neutra was therefore uniquely positioned to address the first constituent cause of modern architecture's crisis in 1927. Whether the crisis was related to the *Weissenhofsiedlung* and its incomplete project, or the formalization of modern architecture through Hitchcock and Johnson's writing, Neutra's insistence in an architecture conditioned by technology realized the idea of the technologically advanced built form. This architectural spirit, manifested in the Lovell Health House and Rush City Reformed, anticipated the three principles of the International Style through their technical virtuosity. However, the second constituent cause of the crisis in modern architecture would not be so assertively engaged by Neutra.

This second condition was more philosophical in nature and resulted from architecture's loss of faith in the technological as a means to an emerging utopia. There evolved a growing concern that technology was an agent of homogenization and not of harmonization. Consequently, Muthesius's call for the standardization of form through the industrial process was understood as

not the only means for the expression of modern society, but one of many possible avenues for form-making. Mary McLeod, writing as recently as 1980, suggested that “[b]y 1929, the formal vocabulary of the Modern Movement – white planar surfaces, simple cubic forms, flat roofs, strip windows- had become largely a stylistic formula. The underlying ideology of rationalism and functionalism might still retain power as an antidote to the academicism of the Beaux Arts or even as propaganda for leftist governments, but as a basis for formal articulation it had begun to be suspect...The shift in perspective is characterized by Le Corbusier’s own reply in 1929 to Karel Teige, the Czech critic. Rejecting *Sachlichkeit* (the new objectivity) and his former prescription ‘the house is a machine for living,’ [he] declared: ‘the function of beauty is independent of the function of utility.’ Henceforth, he and many of his contemporaries tend to elevate the poetic and artistic; implicit is a search for a new, more intuitive formal approach.”⁴⁵

For Le Corbusier, a more intuitive approach included a reinvestment into the primitive and the vernacular, illustrated by his projects for Mme. de Mandrot at Le Pradet, of 1931, and in his Errazuriz house of the same date in Chile (fig. 21). This change in ideology, away from the

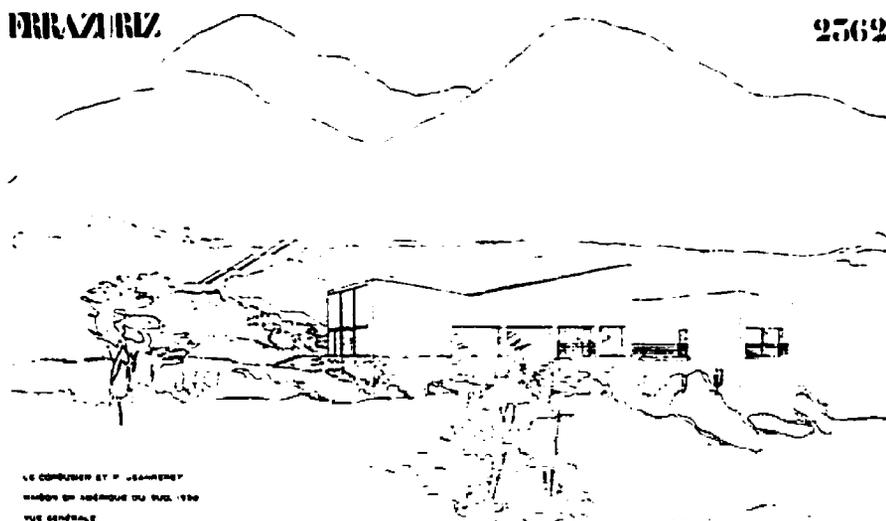


Figure 21. Le Corbusier and Jeanneret, Errazuriz House, Chile, 1930.

machine aesthetic and towards the poetic and primitive, was also reflected in Le Corbusier's urban schemes, and was particularly well represented by his South American projects that were inspired by his flight over Rio de Janeiro. After a three-month sojourn in South America, the discoveries from which grew the 1930 book *Précisions*, Le Corbusier noted: "I believe that these ten Buenos Aires conferences will be the last ones for me on the subject of '*the architectural revolution created by modern technology*'."⁴⁵

The two interrelated causes of the crisis in modern architecture in and around 1927 were complex. They reflected a series of events: the culmination of modern architecture into a legible expression, the realization that this expression was incomplete, the shift away from the technological by the avant-garde, and the dilution of modern architecture's European foundation due to the emergence of right-wing governments. This paper will not further examine these events. Suffice it to say that it was these same circumstances that framed not only a fundamental change in modern architecture, witnessing a shift of its main theatre for discussion from central Europe to America, but also the relative significance of Neutra's work at this time.

Neutra's work clearly addressed the incompleteness of the modern project, as defined above, by actively pursuing the factual, as had been demanded by Le Corbusier. The message contained in *Wie Baut America?* advocated not the "why" or "what" of modern architecture, but the "how", explicitly with reference to existing American technological practices. And the projects that directly emerged from this message, the Lovell Health House and Rush City Reformed, manifested its thesis: an architecture and urbanism not merely of projection, but of realization.

If the significance of Neutra's work is directly connected to the incompleteness of the modern project, its limitations may be tied to the second cause of the crisis in modern architecture.

Perhaps because of Neutra's unique position as an émigré in America, fulfilling an European dream in the land of opportunity, the shift away from technology per se by the avant-garde did not sway Neutra from his course. Neutra remained a machine-aesthetic modernist throughout his career. A unique overlap of conditions occurred, therefore, that simultaneously propelled Neutra's work to the forefront of the architectural debate, and simultaneously relegated it to limited architectural significance.

These contradictory conditions form the context for the evaluation of Neutra's work. Most significantly, however, these conditions defined Neutra's significance in 1927, when during an active period in his career, Neutra realized two masterworks from the message of *Wie Baut Amerika?* The volatility of this period, witnessing fundamental changes in the conception and making of modern architecture, was condensed and most clearly represented in the design of the Lovell Health House and Rush City Reformed, the subjects of the following two chapters.

CHAPTER THREE: RUSH CITY REFORMED AND THE AMERICAN CITY

Rush City Reformed was critically related to *Wie Baut Amerika?* Neutra's urban vision developed as a means to illustrate his book *Wie Baut Amerika? or How America Builds?*, clearly suggesting that the constituent projects of Rush City Reformed were representative of existing urban and building practices in America, repackaged for an European audience. This condition resulted in Rush City Reformed being conceived, not as a single plan, but as a series of fragments representing practices prevalent to American cities during this time. In this conception, Neutra's vision was in stark contrast to the majority of other modern urban visions, visions that tended towards the authoritarian. As William Curtis suggests, "[t]he numerous ideal city plans of the 1920s suggest an ambition to build the world anew, to start fresh, to rid culture once and for all of the detritus of 'dead forms'".⁴⁷ This building anew necessitated the singularity of the *tabula rasa* concept presented in projects like Le Corbusier's Plan for a City of Three Million Inhabitants of 1922. More significant, however, is that the conception of Rush City Reformed and its favorable reception by the European architectural community, reflected the two separate but related conditions represented by Europe, as the locus of the architectural avant-garde, and America, as the perceived brave modern world. In other words, Rush City existed simultaneously as an avant-garde, utopian urban conception, and as a series of urban projects that were completely immersed within the existing planning and building practices of America.

That Rush City Reformed is situated in this unique position in 1927 is not, however, surprising. Given the alarming rate at which European cities were growing from continued industrialization and urbanization, and the reconstruction required in post-World War I, the issue of how to deal with this onslaught and the related inability of the pre-modern city core to accommodate change was of major importance in architectural circles. The Congrès Internationaux d'Architecture

Moderne (CIAM) attempted to address exactly this condition by developing modern strategies for the restructuring of the city.

In contrast, America, because of the relative youthfulness of its cities and their historic development based on the grid, urban form developed a natural "modernness." This was especially true of Chicago and Los Angeles (for different reasons), where Neutra spent a large part of his time while forming his views, writing *Wie Baut Amerika?*, and designing *Rush City Reformed*. Essentially, these American cities evolved from diverse conditions such as new planning practices based on the grid and the abundance of land, the emergence of the car and the telephone to facilitate the definition of new urban and suburban space, and finally, the industrialization of products and methods. The resultant built form was *physically* if not *conceptually* modern, yet to European eyes these existing American practices nonetheless seemed prophetic. Neutra sought to address these existing conditions and practices through *Wie Baut Amerika?*, and therefore through *Rush City*.

As I have already discussed, a central theme to *Wie Baut Amerika?* was Neutra's argument for the emergence of a new beauty derived from the factual. In the case of *Rush City Reformed*, as detailed in his book, Neutra's inspiration for this beauty was, in particular, developed from the existing planning systems and infrastructure present in New York and Chicago, and the car-determined morphology already apparent in Los Angeles. Two dominant themes emerge in the analysis and interpretation of *Rush City*: these two themes will structure the discussion of this urban vision.

The first theme is *planning versus the plan*. This approach differentiated Neutra's urban work from contemporary polemical European designs. Neutra marginalized the conception of a singular

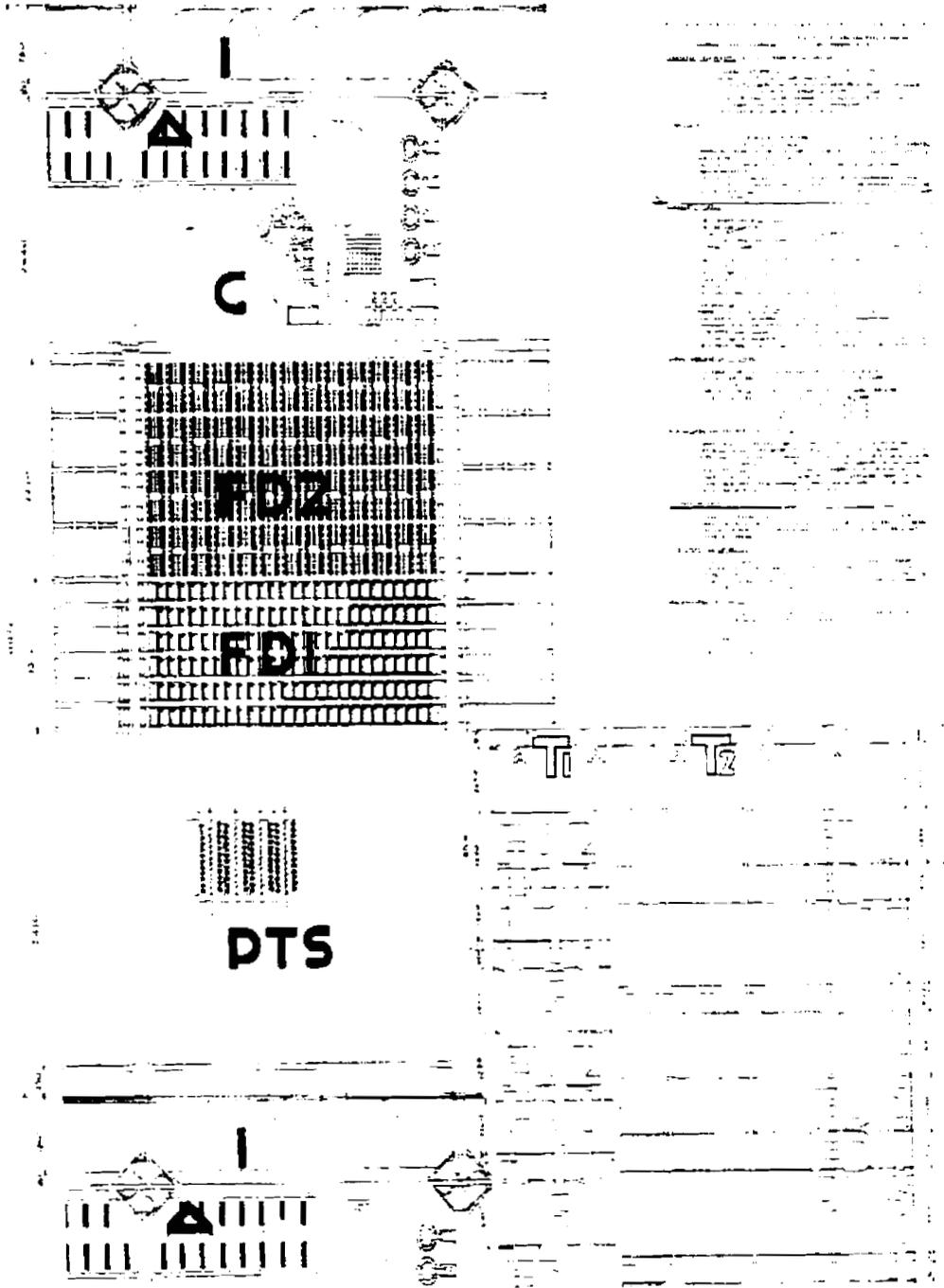


Figure 22. Neutra, Rush City Reformed, plan fragment showing different development areas.

vision embodied in a well-composed plan, and instead emphasized an urban design that, through planning practices, resolved a number of perceived issues related to modern cities (fig. 22). The design methodology effectively dismantled the city into a series of fragments, shedding any utopian, formal or compositional coherence, and instead interwove these disparate parts through the ruthless efficiency of circulation systems.

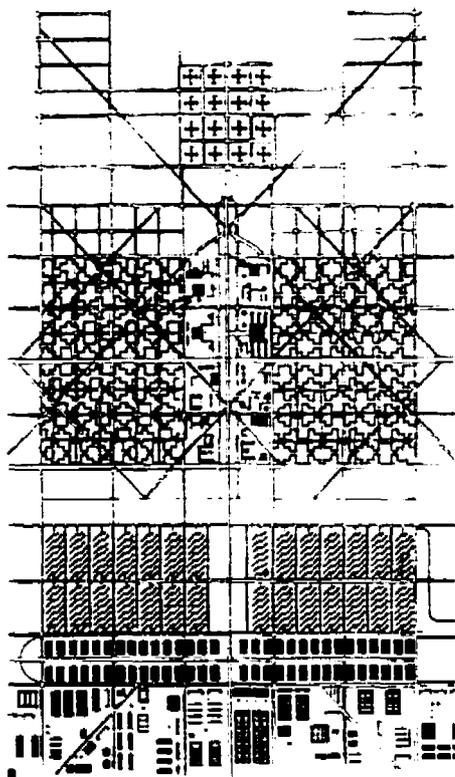


Figure 23. Le Corbusier and Jeanneret, Ville Radieuse, plan, 1931.

Unlike Le Corbusier's La Ville Radieuse (fig. 23), which is depicted as an entire city image in plan, there is no such reductive plan for Rush City Reformed. The lack of such an overall plan suggested that to Neutra's interpretation of the modern city, and its emphasis on the importance and impact of the automobile's mobility as a generator of form, a complete or "closed" city vision was inappropriate. Rush City was conceived as a series of fragments that could expand, transform, and restructure to address the changing demands of the automobile. From this perspective, the hierarchical plans of both La Ville Contemporaine and Ville Radieuse, representing a

closed city vision to different degrees, were entirely unrealistic, and could not have supported Neutra's interpretation of the modern condition of the city. This trait of being grounded in the factual and the everyday set Neutra's work apart from all other contemporaneous city plans. The key to avant-garde modern urban visions had less to do with the material presence of the plan, than with their ability to represent conceptual and ideological forces. And yet, for Neutra, the

grounding in the factual and the existing structured Rush City's development.

This was a natural phenomenon given that Neutra's urban project was an illustrative parallel to existing conditions. Its form, therefore, evolved in relationship to the evolution of the American city. To describe the characteristics of Rush City accurately is not as easy as describing the contemporaneous urban works of Le Corbusier. The separate titles of Le Corbusier's urban works correctly indicate the specific evolution of his thoughts on urbanism, synthesized into very different and specific plans. Neutra's urban visions of the same period were all contained under the same title, and their evolution was less a *redirection in conception* than an *evolution in realization*. Neutra's own words can shed some light on this matter. He saw his vision as a "growing cluster of studies on urban affairs, on downtown and suburban communities, on housing and traffic, on recreation and education in the picture of a township. Rush City did not base itself on an abstract and theoretically rigid scheme, [rather, it was] a series of efforts a quarter century ago, to study urban problems in a scientific manner, expressing belief in the wholesome flexibility of city planning."⁴⁸

Thomas Hines tends to interpret this position as an understatement by an aging Neutra in a more reflective period in his career, and seems more inclined to suggest that Rush City Reformed was indeed a complete urban vision similar to La Ville Radieuse. It is quite logical, though, to assume that Neutra had indeed conceived of the city as a series of independent studies, since CIAM at this time advocated the understanding of the city as a problem of four functions: shelter, leisure, work, and circulation. CIAM, like Neutra, sought the application of science and technology to the social and economic problems of urban life. Given this type of investigation, the most common conceptual framework of this time was the infatuation with the mono-functional city, as discussed below. Here, modern thinking advocated the separation of the city into

functional zones. This conceptual direction, and indeed that of CIAM between 1928 and 1933, was really the culmination of more than thirty years of evolution in urban form.

During the Town Planning Conference of 1910 at The Royal Institute of British Architects in London, Paris city architect Eugène Hénard had presented his *Proposed Street of the Future*. The design integrated proto-helicopter landing pads, as well as parking, underground services, transportation networks of local and cross-town freight lines, passenger trains, and electric tramways. By 1930, in Le Corbusier's *Ville Radieuse*, "[e]ach element of Hénard's formulation of the street was detached from the axis of the street and treated independently. They were connected by the axis of a great highway which led to the core of the city. The multi-layered mechanical section of Hénard, which had been buried beneath the surface of the street, was brought out into the sunlight as an object of beauty."⁴⁹ This segregation of the city's constituent parts continued under the direction of CIAM, which requested that each element "be studied in its historical development, then to be segregated and projected into the future as an independent urban element."⁵⁰

The rational analysis of the modern city, and the emphasis on a mono-functional model, continued under the leadership of Cornelius van Eesteren, chief architect of the 1933 CIAM 3 Conference. CIAM 3, focussing on city planning, requested major cities of the world to be investigated in standardized forms of analysis. These included land-use plans of recreational, residential, and industrial zones, traffic networks, and the relation between the city and its region. This reliance on the analysis of the existing conditions, and their projection into the future, essentially paralleled Neutra's own development of *Rush City* from the existing planning practices of New York, Chicago, and Los Angeles. The connection between the two is not surprising since Neutra attended CIAM 1933 as the delegate for the USA, and subsequently presented the analysis of

Los Angeles to the conference attendees. In this way, Rush City Reformed was in constant dialogue with existing conditions, transforming as the city transformed, a conscious mirroring that facilitated the evolution of Neutra's design towards the metropolis that present-day Los Angeles represents.

Though Neutra too developed an urban vision based essentially on the mono-functional city model, contrary to other plans, Rush City presented no singular or authoritarian hand in its order or ideology. In contrast to La Ville Contemporaine, Neutra's city features no symbolic center reserved for the bureaucratic elite. Moreover, unlike La Ville Radieuse, no plan hierarchy or civic central axis is presented. In fact, there are no civic or religious buildings or spaces within the conception of Rush City Reformed, nor is there the presence of a symbolic structure to the whole. Instead, Rush City reflected and facilitated the operations of the American capitalist system, an open city designed for and heralding the emergence of a new consumer society, and dictated by that society's most prized object of desire: the car.

The second theme to emerge from the design of Rush City Reformed was Neutra's interpretation of the automobile as a *new modus operandi* to recalibrate distance as it pertained to the city and its related built form. In Rush City, the car became the instrument to manifest the unity of rural and urban worlds; a synthesis that had characterized ideal city plans since before the turn of the century. However, unlike the visions of Ebenezer Howard or Tony Garnier, this synthesis was created by the uninterrupted mobility of the car, not from the free movement of the pedestrian. In addition, these city plans were almost exclusively dictated by an ideal population density and size, whereas in contrast, Neutra designed an open city, based on the infinite spatial extension symbolized by the car. And, specific to Rush City as well, the significance of the car resided not only in its value as a product— in a machine that moves people and goods, but also as a pro-

cess, that is, the precise and systematic operational logic of Henry Ford's assembly line.

In his 1980 article "Designing for the Motor Age", Hines elaborates on the significance of this operational logic, a type of Taylorism, suggesting that "[w]hat Neutra appreciated most about Henry Ford was not so much the styling of his cars as the way he put them together in prefabricated, assembly-line mass production— a method, a process, an effect that Neutra strove to translate into architecture."⁵¹ The operational logic of Henry Ford also found its way to Neutra's urbanism. Neutra described that he had found cities to be "profoundly in need of a methodology, of a rationale, of a systematic approach to wholesale planning and reconstruction."⁵² For Neutra, urban form and the distribution of people and goods needed to reflect the same rigor, and it was the car that structured this rigor. This practical, value-less interpretation of the car contrasted sharply with the poetic and rather naive interpretation demonstrated by La Ville Radieuse on the one hand, and the mythical dimensions of the automobile as an instrument of democratic individualism as represented in Frank Lloyd Wright's Broadacre City (1934-58) (fig. 24).



Figure 24. Frank Lloyd Wright, Broadacre City Project, 1934-58.

In La Ville Radieuse, Le Corbusier maintained the poetic idea of the continuous ground-plane for pedestrians, while vehicular traffic was suspended in the air. The car, within this conception, was more a symbol of the modern machine aesthetic than a noisy, dangerous, and polluting entity. Le Corbusier revealed this idealism towards the car when he observed from his hypothetical patio in La Ville Radieuse that "[f]rom time to time we glimpse the graceful silhouette of a highway amongst the foliage of the trees; the cars are driving along it quite silently (rubber against cement) at whatever speed they choose."⁵³ The incorporation of the car within La Ville Radieuse was reflected in the way the car was completely interwoven within its larger urban scheme. Unlike Rush City Reformed, where Neutra ruthlessly separated automobile and pedestrian traffic, Le Corbusier treated the automobile as a poetic, almost sublime object and therefore equal to the pedestrian; both had free access throughout the plan, with only a sectional condition to separate the two forms of circulation. Reflecting the car's symbolic role in the progressive modern city, Le Corbusier expressed the car as yet another democratic and liberal element within the composition of the city plan. Accessibility for Le Corbusier was an idea that resolved itself symbolically regardless of its logic or incompatibility. In contrast, Neutra's definition of accessibility recognized the demands of a mobile society, and therefore required planning in order to maximize its potential and minimize the hazards that accompanied accessibility as a modern necessity.

Understood in this way, the car's value as an urban design determinant resulted from its existing, although underdeveloped, contribution to modern society's mobility, not upon a symbolic role. As an European émigré, Neutra was more than aware of his European counterpart's idealist conceptions of the car and its role in the machine age. For example, the iconographic use of the Delage "Grand Sport" in Le Corbusier's *Towards A New Architecture*, or in his staged photo-

graph of the Villa de Monzie in Garches, 1927, legitimize Le Corbusier's designs within the modern Zeitgeist. As well, Neutra understood the importance of the car to the American ethos. But unlike Wright's democratic idealism, Neutra's interpretation of the car's potential was significantly more pragmatic. As Kenneth Frampton has stated, Wright's city vision, in recognition of emerging technologies, suggested the disappearance of the city.⁵⁴ For example, Wright predicted that entertainment facilities outside the private home would soon no longer be needed due to the advancing sophistication of radio and television. In contrast, Neutra, based on his American experiences to date, felt that the relationship between the car and society would always require an expression in built form. Neutra found that in America the car's role in projecting a machine-age aesthetic had been more than manifest in its explicit and existing influence on built form. Focussed on the understanding of this phenomenon, Rush City Reformed facilitated its realization.

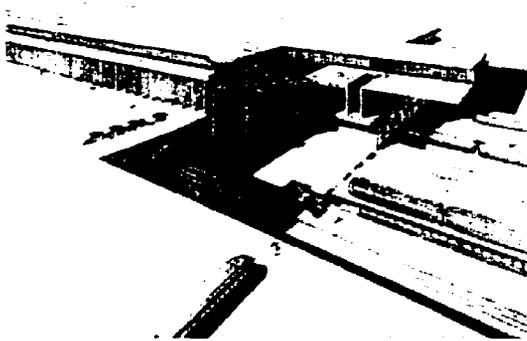


Figure 25. Neutra, Rush City Reformed, Sectional Perspective of the terminal building, 1920s.

In Neutra's 1930 *Architectural Record* article "Terminals? Transfer!", the mobility of the car as the central priority for city planning can be easily discerned. His description of the terminal building design (fig. 25), stressed that "continuity must be considered the primary characteristic of traffic flow [and] speed and fluidity in the transition from air to ground vehicular is what is

needed more than a grand cour d'honneur in any terminal building."⁵⁵ Neutra sought to extend this logic of mobility into the logic of urban form. Therefore, although Rush City Reformed corresponds with most other urban visions of this period in its separation of functions, the

delineation between pedestrian and vehicular traffic, and in the elevation of both the concept and value of speed in the modern city, it went beyond other schemes in the manifestation of these ideas. It developed urban form that is astonishing in its capacity to predict a city like Los Angeles at the end of the twentieth century. And so, more than any other modern architect, Neutra facilitated the modern city's development as it transformed to respond to the particular needs of the car.

Coinciding with Neutra's preoccupation with the car came a natural desire to address its impact on the city center and the peripheral residential communities. To this end, the design of transportation systems and the related traffic management dictated the urban form of Rush City Reformed (fig. 26). The following description of Rush City's major characteristics, taken from the CIAM 3

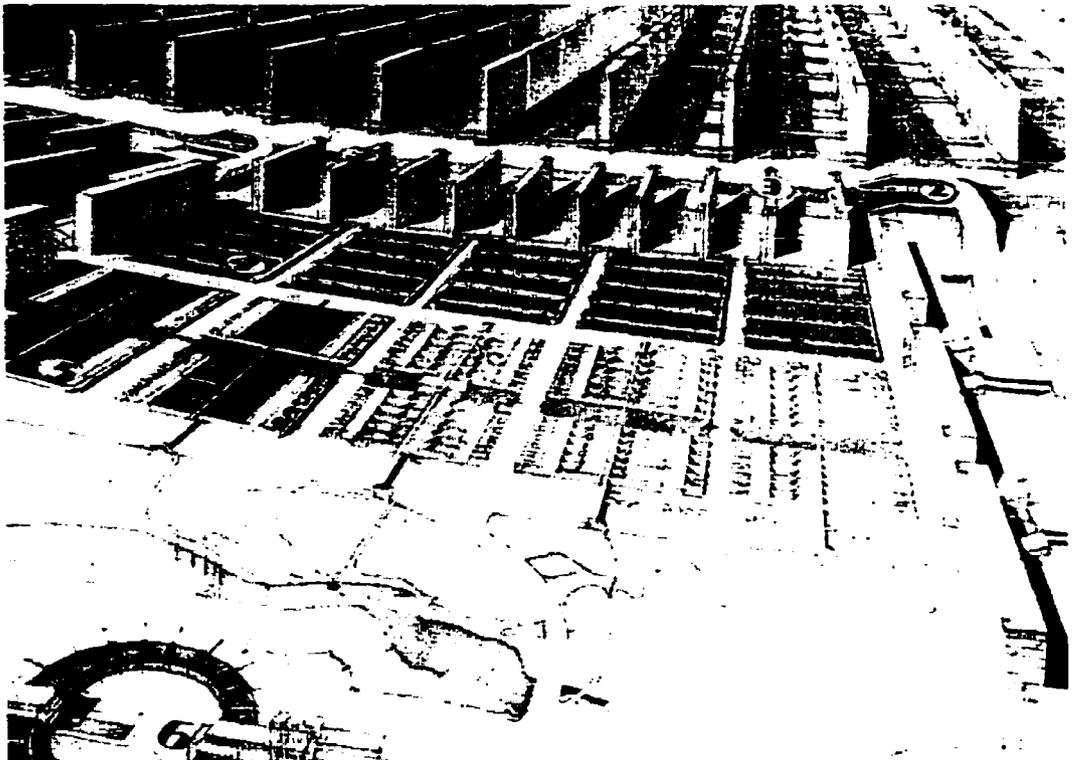


Figure 26. Neutra, Rush City Reformed, general aerial perspective, 1920s.

design panels, is presented here verbatim because of the value of its prose:

The thinning of habitation density is almost in exact inverted proportion to congestion of rolling traffic vehicles converging at distribution and production centers. Employment markets should be so located that irrational commuting of employees is minimized and so that industrial areas do not block the natural exfoliation of urban dwelling zones into the vital suburban landscape. In the dwelling zones the more outlying housing blocks will grow to enlarged specific size and only a minimum of through traffic streets will remain, that is, feeder arteries and radial avenues. The traffic is thus diminished in proportion to its distance from the center. Local business areas with local lanes and parking bays serve two adjacent neighborhoods by straddling non-intersected sunken speedways that cross through habitation areas and lead to the core of the metropolitan region. Trading centers rhythmically placed along speedways are not really centers, but form links or clefts between landscaped residential neighborhoods penetrated by a minimum of rolling traffic clubhouses. Four different habitational zones which are reflective of certain living habits [these zones were derived from a census of the Los Angeles area] in order to eliminate annoyance to one category of dwellers by the other:

- Division 1: Adult individuals living alone.
- Division 2: Adult in couples: before kids or after kids leave.
- Division 3: Families (growing) First decade.
- Division 4: Families (advanced) Adolescents who frequent the educational institutions and recreational facilities.⁵⁶

Within this structured and “interrelated whole”, created by the mechanics of the travelling automo-

bile, Neutra developed the individual buildings that make up Rush City. Neutra's vision, a manifestation of the two emergent themes, presented an open city. It was a city unstructured by the authoritarian modern hand, but dictated by a *laissez-faire* attitude to the processes of American society and emblematic of the recalibration of distance and urban form based on the mobility of the automobile. Featuring a mono-functional office core, Rush City's extension outward was suburban, with all facets of society and culture defined by the car. The constituent buildings in the design did not necessarily coincide with other elements of Rush City, but always fit into the looser interrelated whole based on Neutra's evolving universal language of prefabrication and the mobility of the car. Seven building types developed by Neutra in Rush City Reformed will be discussed in light of these intentions.

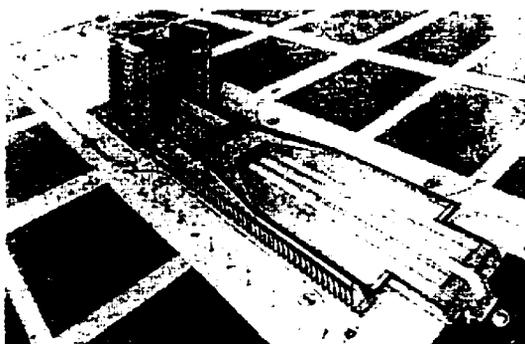


Figure 27. Neutra, Rush City Reformed, terminal building, 1920s.

Neutra's design for what he termed a transportation terminal or "transfer" (fig. 27), clearly reflected his views on the importance of transportation, as the building form was essentially a shell through which networks connect. As such, it can be appreciated as a microcosm of Rush City's urban intentions. This particular project

witnessed numerous evolutions, but always integrated Neutra's belief that "[f]or the modern traveler, a long distance trip had to bring him not to an ultimate destination but to a link within a well-arranged regional transportation system."⁵⁷ Therefore, each design integrated rapid transit, underground trains, vehicular traffic, airplanes, roof-top helicopter pads, waiting areas, shopping areas, and restaurant, ballroom and hotel facilities within a sectional configuration that coordinated five different levels. Similar to the design intentions of Rush City, all programmatic and transpor-

tation functions were carefully designed and integrated to deliver maximum service to the passenger while separating the major lines of transport in order to avoid the delays that intersections may create. Details included the separation of arriving and departing planes to take advantage of the prevailing winds, parking for 4,500 cars, the design of night signage and lighting, and the coordination of fire suppression and field maintenance.

The final design development of the terminal building for Rush City brought together the arguments presented in *Wie Baut Amerika?*, both in the building's function and its architectural language. The plans and the sections evolved out of careful studies related to transportation movement and the knowledge of the related passenger functions. Earlier designs of the terminal retained neo-classical attitudes and proportions, including bilateral symmetry, and tended to straightjacket functions into a formal, monumental whole. Neutra's later development was characterized by a statement translated from *Wie Baut Amerika?*, suggesting that "[m]onumental design should be replaced by a more modest attitude until the problem in hand is practically well defined and solved."⁵⁸ Neutra's insistence on the practical resolution of transportation systems above all other design considerations for the terminal building was also of central importance in the creation of Rush City's downtown zone.

The downtown district of Rush City (fig. 9), connected to its outlying areas with sunken speedways, was characterized by an infinite grid extension of approximately thirteen-storey office slabs. The ruthless efficiency of the downtown's modernist spatial extension was translated to the manner Neutra programmed its spaces and networks. His placing of the office slabs reflected design studies by Walter Gropius, conducted for CIAM 3, that designated the relationship between building height and available ground for the provision of maximum amounts of natural light. This desire for natural light was also manifested in the depth and width of each office

building's floor plate. Neutra designed the office floor plans for improved access to natural light, a decision that allowed him to dispense with the inner light court usually required due to the large depth of more conventional floor plates such as the Palmer House. The plans of the slabs delineate compact service cores of exit stairs, elevators, and washroom and mechanical spaces, while maximizing open plan office space. Their simplicity and elegance prefigure later office tower developments, culminating in landmarks such as the Lever House of 1951 by Skidmore, Owings and Merrill.

Neutra's conception of the ground level most clearly distinguishes Rush City's downtown zone from other urban visions of the time. The entire ground level below and around each office tower was dedicated to rolling traffic and parking, while the first and second stories were reserved for commercial activities that were interconnected to other buildings via two levels of elevated pedestrian walkways. These walkways permitted pedestrians to circulate over the traffic and parking, and were in turn connected to the ground level by elevator and stair towers. The radical nature of appropriating the entire ground-plane for the use of the automobile testified to the priority Neutra placed on the car as a design determinant. The concept, however, was sharply criticized by Le Corbusier. In Le Corbusier's book *The Radiant City*, he suggested the inhabitants would blow up the catwalks: "This is a picture of anti-reason itself, of error, of thoughtlessness. Madness. And all the solutions come to the same thing: separation of traffic according to speed. The pedestrian, from now on, will be confined to raised walks built up above the street, while traffic lanes remain at their present ground level. Madness."⁵⁹ However, Neutra considered Le Corbusier's more poetic notions of the groundplane reserved as a park for the enjoyment of people less important than the pressing need to resolve traffic congestion issues; issues gave rise to the design of the next three building types.

As critic Williard Morgan announced in *American Builder* in 1929, “[a] completely new architectural form has been ushered into service with the building of drive-in markets to serve modern motor-driven America. Such a development has been the direct result of the increasing traffic congestion which is clogging up the main metropolitan centers of our larger cities. With this increasing confusion during the business hours, thousands of prospective customers are going to the suburban marketing centers to do their shopping. Such a trend in the buying centers is only natural as thousands of new automobiles are placed on the highways every month.”⁶⁰ Neutra was well-positioned to manifest these new conditions into form, given his belief in the importance of the car and its influence on the built environment.

One such new form in Rush City Reformed, entitled Business Center/Speedway (fig. 28), grew directly from Neutra’s contemplation of the transportation intersection. The vehicular links that connected Rush City mediated between the speedways they contained and the adjacent residential districts. They therefore physically separated express traffic that linked remote areas of the metropolitan region in a sunken speedway, from slower ground traffic dedicated to accessing



Figure 28. Neutra, Rush City Reformed, Business Center/Speedway, 1920s.

the immediate surrounding area. Each Business Center/Speedway was comprised of a sunken expressway, access ramps up to the ground-level, bridges over this expressway to service pedestrian movement and ground level streets, and a business centre building that bordered the expressway. This business centre building, in the shape of a thin bar, provided local employment and shopping within easy access to adjacent residential areas, and mediated the noise of the expressway from the neighboring community.

Another version of the Business Center/Speedway suggested a more independent form. The Rush City Ribbon Developments (fig. 29) expanded the basic Business Center/Speedway parti into a type of linear city, spanning between terminal buildings. The design foreshadowed linear city ideas advanced by Soviet architects like Vitaly Lavrov in the late '20s (fig. 30), and by Le Corbusier in the project design for Zlin, Czechoslovakia in 1935. Though the Ribbon Development spine remained constant in these proposals, always relating directly to the automobile in its form, the adjacent bordering development evolved through the years. This evolution developed from a more diagrammatic delineation of slab-like buildings, reflecting the strict morphology of

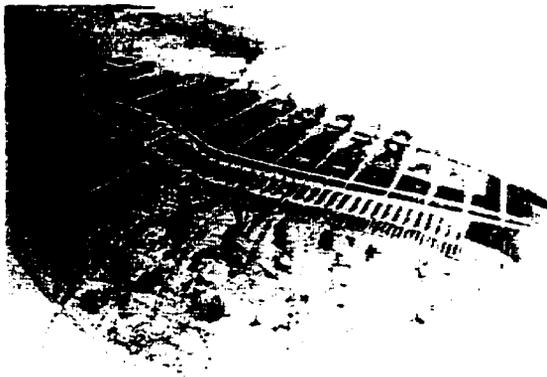


Figure 29. Neutra, Rush City Reformed, Ribbon Developments, 1920s.

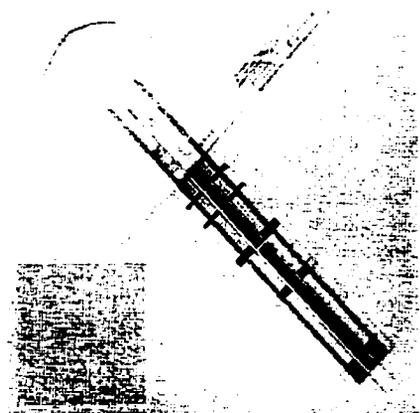


Figure 30. Vitaly Lavrov, linear city proposal, late 1920s.



Figure 31. Neutra, et al., Avion Village, Grand Prairie, 1941.

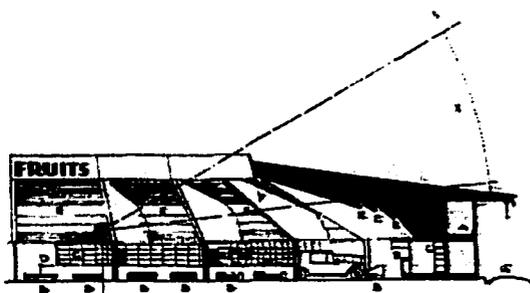


Figure 32. Neutra, Rush City Reformed, drive-in market, 1920s.

the downtown core, to the more picturesque configurations of cul-de-sac suburban single family development. These cul-de-sac projects began to appear in Neutra's subsequent built work, such as Avion Village Housing Project, Grand Prairie, Texas (1941) (fig. 31) and Channel Heights, San Pedro, California (1942).

Neutra also envisioned a third type of commercial building to service ground traffic in specific suburban contexts. This project anticipated the conventional shopping mall, developing an intimate relationship between street, car, parking, and

signage, and allowing for both drive-through shopping or a park-and-shop service (fig. 32).

Again, the design reflected a causal relationship between existing conditions in America and built form. As Williard Morgan has stated, "[a]s a result of new motoring demands in every traffic congested area throughout America, Richard J. Neutra of Los Angeles has just completed the plans for a new market which embodies the most revolutionary features in modern merchandising. The new markets...will fit into the modern traffic whirl as completely as the latest 1929 streamline motor car."⁶¹ In designing the markets, Neutra explained at that time, "I have been able to incorporate a number of important features which are of direct appeal to the busy motorist who is anxious to make his purchase in attractive surroundings and with the greatest speed."⁶² Each building was conceived of as an inhabited billboard, and therefore operated at the scale of

the moving car, permitting each driver to assess their shopping needs without interruption of their schedule. This consideration of convenience was also manifested in the planning of the drive-in, which, like the terminal building, grew out of the automobile's movement and indeed became an extension of it. The detailed drawings of the project indicate Neutra's reliance on the mixed-use program he had used for the terminal building, incorporating shopping, restaurants, business services, and exterior terraces for both employees and shoppers. The design served as the programmatic hinge for a mobile American society, situated between the place of work and the place of residence— suburbia.

The residential areas and their related community and educational facilities were the final major investigation in the Rush City project. Housing forms in Neutra's urban vision, as in the other building types, reflected the dominance of the car and the belief in an universal language based on prefabrication. Given these concerns, Rush City Reformed presented an essentially suburban and infinite mode of development, significantly shifting it away from contemporary European urban visions, which still reflected traditional hierarchies. While Le Corbusier advocated tall and compact multi-use buildings as the most appropriate form of housing in the Radiant City, and Ludwig Hilberseimer, in his *Hochhausstadt* (1927), placed living areas above the work place, essentially advocating pre-modern ideas of the city, Neutra allowed the mobility of the automobile to redefine distance and home, resulting in the realization of the suburban model. It is important to note that, as early as the mid-nineteenth century, Los Angeles was already 'suburban' in nature, populated with one-story, flat-roofed housing (fig. 33). It is easy to argue, then, that Neutra's contribution in terms of the housing designs represented by Rush City was to reinterpret the existing housing type in terms of modern technology and materials, and to reorganize public space into a matrix of community green spaces and a rationalized transportation grid. The studious and reasoned manner of Neutra's harmonizing of precedents into a



Figure 33. Image of Los Angeles in the 1850s.

modern iteration has led Esther McCoy to suggest that “his essential boldness does not lie in forms created but in correct and imaginative procedure; as a result, his forms have a universality.”⁶³

Neutra designed four different types of housing to suit four different divisions of “dwellers.” The commonality between these different housing types stemmed from Neutra’s belief that a residence should orient itself towards a community green space, whereas the car remained in a zone adjoining the street and separate from the main living and social spaces. The common green spaces were designed to be human-scale, or what Neutra called “face-to-face” scale, and conceived as linkages between the individual private exterior spaces and patios, and a community building located within the common green space. At a larger scale, the green space typically extended in a series of pedestrian paths to outlying green belts that commonly contained other community buildings of a type illustrated by his Ringplan School.

Aside from the influence of the car, Rush City’s housing was also conceived in terms of the ideas of prefabrication expounded in *Wie Baut Amerika?* Neutra stated in a 1932 article for *Die Form* that his housing designs in Rush City were prefabricated and designed for an “automotized

society".⁶⁴ Perhaps most illustrative of this initiative was the design for a single family house entitled ONEPLUSTWO. This house was prefabricated in three sections and erected on four columns from which the enclosing elements were hung. This means of support anticipated Neutra's later work on the Lovell Health House, where he used a suspension system to allow the building cantilevers to defy gravity visually. The three parts of the house consisted of a pavilion that can be added to accommodate the children's bedroom, a central area that featured the building services and social spaces, including the main bedroom, and a third pavilion for the automobile. The remaining housing types developed for Rush City Reformed all demonstrated the same planning and construction logic reflective of prefabrication.

Two of the housing types, designed for Neutra's Division 4: Families with Adolescent Children,

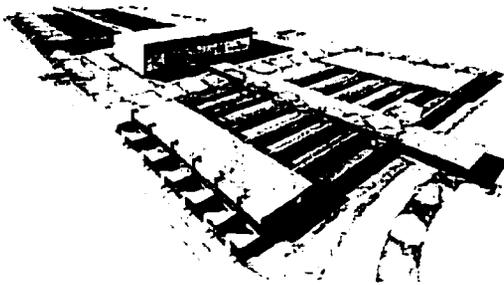


Figure 34. Neutra, Rush City Reformed, patio housing with community centre, 1920s.

were created as patio houses (fig. 34). The basic parti of these designs owed much to the house type prevalent in Los Angeles at the turn of the century. Each house had 875 square feet of living space on a 100 foot x 35 foot lot, and featured three bedrooms, one bathroom, a separate dining

room, cross ventilation, and a covered pedestrian walkway to the Community Center. As with all the housing designs, the configuration of the spaces addressed the strict separation of automobile and pedestrian.

The third housing type was conceived as two-storey row houses enclosing a play court for Division 3: Families with Growing Children. All vehicular traffic and associated parking were restricted to the periphery of the housing compound. Here, the inhabitant was provided a

covered parking area and a glazed entry that contained stairs to an elevated corridor and access to their suite. Each row contained 48 units. The unit was provided with two bedrooms, a kitchen, dining, and living room, a roof terrace, and an outdoor deck. The layout, form, and scale of this project owed much to the experimentation of the architects of the *neue Sachlichkeit* in Germany of the same time period, for example, the rationalized housing at Dessau-Torten by Walter Gropius (1928). In Gropius's design, the strict linear layout of the housing units expressed the movement of the cranes that transported and then assembled the prefabricated elements of the housing. Neutra's design, however, was not as radical a conception as evidenced at Dessau-Torten. Instead, Neutra's row houses were designed with existing American steel and wood frame building practices in mind.

The final housing type designed by Neutra for Rush City was an eleven-storey slab apartment building that housed two divisions of dwellers: Division 1: Adult Individuals Living Alone, and Division 2: Adults Before Children or After Children (fig. 35). Very little specific information about this building type exists: all that can be understood must be gleaned from general drawings. It is interesting to speculate whether the lack of information on this housing model resulted from archival material lost over the years, or is reflective of Neutra's distrust of this particular type of housing. In his presentation for CIAM 3 in Brussels, entitled *Hoch-, Mittel- und Flachbau unter amerikanischen Verhältnissen* (High, Medium and Low Building Construction under American Conditions), he concluded with his support for low, suburban development, citing five reasons for its superiority over high-rise design. These included construction speed and cost, ease of sale and resale, zoning flexibility, adaptation to market conditions, and the obsolescence of high buildings and their complex heating and ventilating systems.⁶⁵ As discussed, this conclusion was in direct opposition to contemporary opinion, but mirrors conditions unfolding in American cities at the time. The existing drawings of this housing type indicate the residential slabs tended

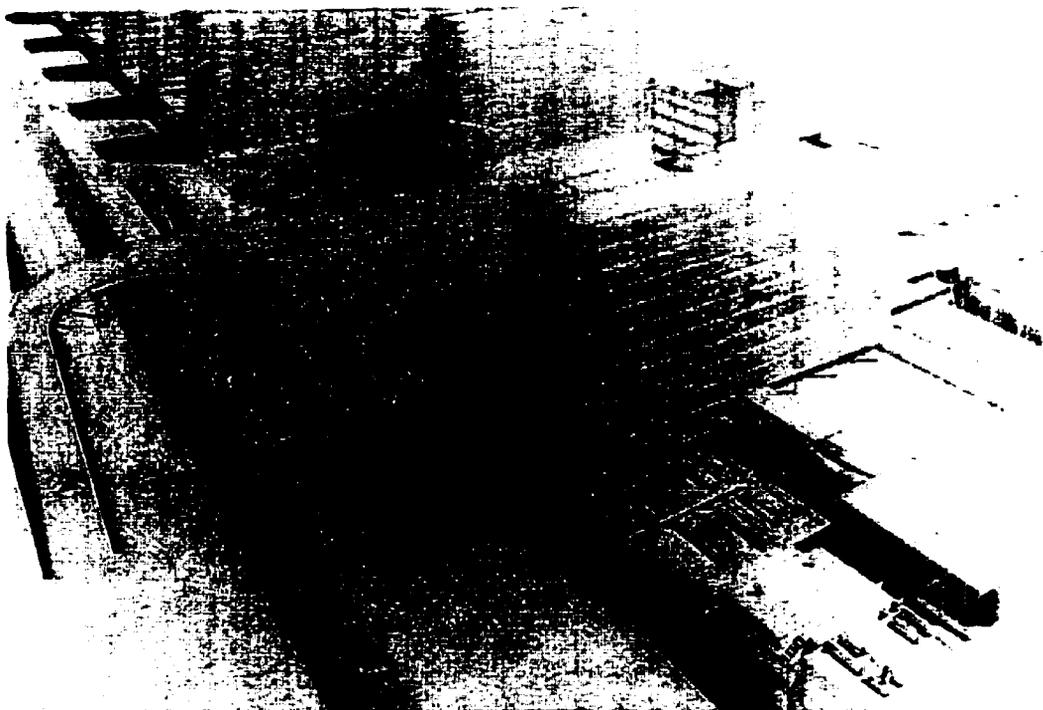


Figure 35. Neutra, Rush City Reformed, apartment buildings, 1920s.

to be used as a secondary buffer between the speedways and both the city center and the lower density residential districts. Their connection to the larger public greenbelts was more tenuous than the housing for other divisions, reflecting Neutra's belief that the occupants of these buildings required a less intimate relationship to community facilities, of which the green space was an essential component in Neutra's philosophy and in modernist theory generally.

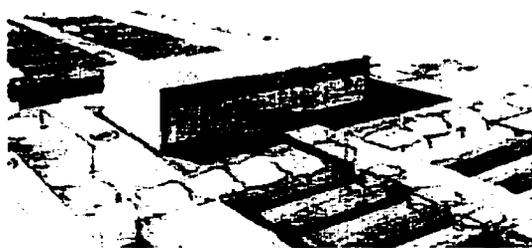


Figure 36. Neutra, Rush City Reformed, community center, 1920s.

Within these green spaces were situated public facilities like the community center (fig. 36). The design of this pristine rectilinear glazed pavilion anticipated the minimalist aesthetic of Mies van der Rohe developed in the '40s and '50s, in projects

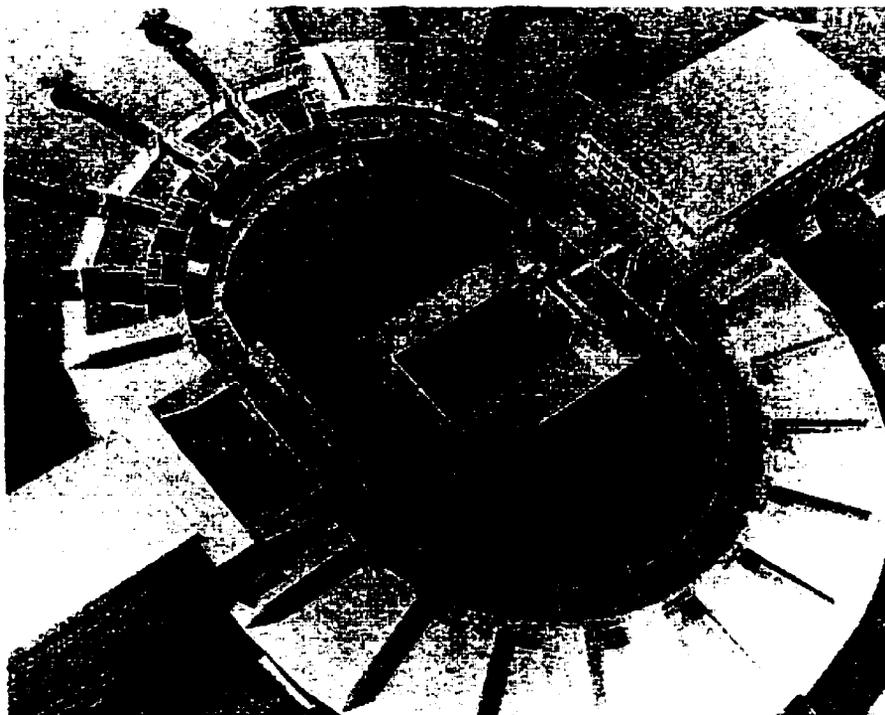


Figure 37. Neutra, Rush City Reformed, Ringplan School, 1920s.

like the campus buildings for the Illinois Institute of Technology. The most developed community building in the Rush City portfolio was Neutra's Ringplan School (fig. 37). Neutra had stated in the same *Die Form* article that the reluctance of the populace in America to live in prefabricated homes was not due to technical circumstances, but was a matter of sentiment. He continued to suggest that there was no reason why prefabrication could not govern the design of the school building. This idea was completely tested by his design for this model school.

The school design clearly reconciled Neutra's emerging universal language of prefabricated elements and industrial materials, developed by a scientific reevaluation of a building's functions for a modern world. The prefabricated classrooms were grouped in a ring enclosing a common space that was vehicle-free and could be used in off-hours for community meetings. The inner

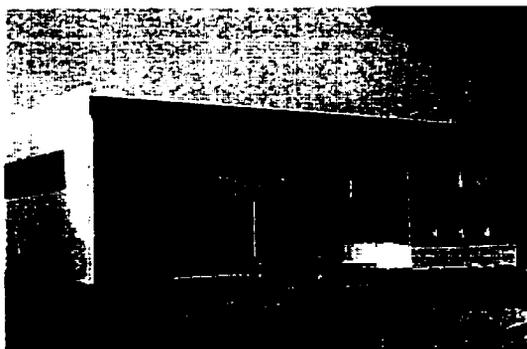


Figure 38. Neutra, Corona Avenue School, Los Angeles, 1935.

perimeter of the classrooms was entirely glazed and had the ability to fold away, opening the interior spaces to the benign Los Angeles climate, as was later manifest in Neutra's Corona School (1935) (fig. 38). As an extension of this sensibility, which may well have been influenced by Neutra's experience of Rudolf Schindler's Chase/

Schindler Residence, the corridors that service the school were exterior covered spaces, lending the architecture a transparency unheard of in contemporaneous school designs in Los Angeles. Although separate elements of this school had precedents in other architect's work, such as Bruno Taut's 1927 Municipal school in Berlin where entire walls folded away, Neutra took these fragments and ideas and synthesized them into a systematic whole.

In this, Neutra reflected his belief in the cultural and social resonance of existing American practices; a resonance which suggested that merely facilitating the realization of these practices would constitute a progressive and modern world. Common elements such as central green spaces and enclosed courts become unifying elements in his work for Rush City, derived from the two themes that Neutra used to structure Rush City Reformed: the mobility of the car and the logic of prefabrication. For example, the intimate relationship between the Ringplan School's classrooms and the outdoors is essentially the same as the relationship between his housing's social spaces and the outdoors. As well, the important separation of vehicle and pedestrian circulation is also a constant design consideration in both building types. The Ringplan school was the only design within the Rush City portfolio to be built, becoming the Richard J. Neutra School in LeMoore, California (1960) (fig. 39). However, the work invested in Rush City Re-



Figure 39. Neutra, Richard J. Neutra School, LeMoore, 1960.

formed conditioned all subsequent work, and can be seen to be influential even in Neutra's last works of the 1970s.

Throughout the discussion of *Rush City Reformed*, a comparison between Neutra's urban work and that of Le Corbusier has illuminated important differences between the two urban visions. In his 1928 review of

Wie Baut Amerika?, Henry-Russell Hitchcock observed that "...with the architect of 'Rush City' as with the architect of Pessac, of Dessau, or of Rotterdam, architecture is the crystallization of the engineering solution of the building problem. Creation is again, as in the time of great structural architectures of the past, a possibility, and nowhere more so than in America."⁶⁶ It is important to separate what is of importance from this quote within the context of this paper. The reference to America's contribution to Neutra's inclusion amongst the most important modern urban schemes is of critical importance, and points to a strong distinction between Le Corbusier and Neutra.

In another contemporary review, the definition of this distinction becomes clearer. The *Swiss Magazine for Politics and Culture* observed that in comparison to the highly literary and utopian quality of Le Corbusier's "aesthetic manifestoes", one saw in Neutra "a man who proceeds with utmost logic. He is a worker who says only what he can prove, who creates only projects that can be built."⁶⁷ This statement, made in 1927, underlines the consistent theme that surfaces when a comparison between Le Corbusier and Neutra is made, whether the subject matter is architecture or urbanism. Both architects were their countries respective delegates at CIAM 3 in 1930, the focus of which was city planning. The description of their contributions by Hines

underlines the difference in approach and sensibility that each architect had: “Le Corbusier and Neutra reiterated in the conference papers the thrust and tone of their earlier, longer books. In his poetic affirmation of the functional beauty and power of high-rise towers in park-like green space, Le Corbusier’s paper echoed many of the sentiments of his *Vers une Architecture* (1923) and his later writings on the “Radiant City”. Neutra’s less visionary, more pragmatic call for a combination of low and high rise buildings likewise recalled his arguments from *Wie Baut Amerika?* In both his book and his paper at Brussels, Neutra regaled his audiences with descriptions of what was then still considered the new and amazing phenomena of large-scale, high-rise American building practices.”⁶⁸

This observation by Hines is not entirely precise, as understood from Neutra’s CIAM 3 presentation, for Neutra directly opposed the design and construction of tall residential towers. More important however, are the different contexts from which the urban visions emerged. Le Corbusier understood the density of high buildings as a means to release precious ground space for use as parkland. This emphasis on continuous green space was essentially a European paradigm, addressing the inherent pre-modern urban conditions of the European city: cramped, dark, and polluted. The car, within this urban conception, was merely symbolic in nature, another icon of the progressive machine aesthetic, presented without the knowledge of its potential repercussions to built form. And in fact, it was not until the end of World War II that Europe witnessed these repercussions. In contrast, Neutra addressed the emerging American condition of the car, with its systematic recalibration of urban form: open, suburban, and infinite.

Lewis Mumford once proclaimed that “the car was the sacred cow of America’s technological dream—no one dared to tamper with the belief that no amount of sacrifice in the quality of life or extravagance for its enhancement was too great a price to pay.”⁶⁹ Ruthlessly prophetic, this

statement underlined the indebtedness of Rush City Reformed to its American context. And in the examination of this urban vision, the statement also encapsulates Neutra's willingness to be both paradigmatic of its ethos, and completely evasive of its implied responsibility.

Whether we discuss *planning versus the plan or the conception of the car*, Neutra's work pursued the "how" of an urban vision. By contrast, works like La Ville Radieuse portray Le Corbusier's insatiable quest for the ephemeral "ideal". Even prior to completing the plans for his Ville Radieuse, which fell within his Purist sensibilities, Le Corbusier had already broadened his palette of conceptual urban ideas with the 1930 proposals for 'Plan Obus' for Algiers (fig. 40) and the extensions to Rio de Janeiro of the same year. Both projects had developed in a radically different trajectory from La Ville Radieuse.

Illustrative of this new sensibility, Le Corbusier, in a 1953 retrospective exhibition at the Musée National d'Art Moderne in Paris, juxtaposed his Plan Obus with the acoustique Sculpture no. 4,



Figure 40. Le Corbusier and Jeanneret, 'Plan Obus' for Algiers, 1930.

representing the critical fusion of art, architecture, urbanism and poetry. This work represented another plateau in his search for ideal form, in this case sponsored by the inspiration obtained while flying over Rio de Janeiro in 1930. The initial inspiration gained here was extended through his investigations in contour and composition developed by tracing postcards of young Algerian women he had found while in Algiers, also in 1930. These more artistic explorations

were in conjunction with Le Corbusier's search for a contemporary expression of the automobile and its spirit of mobility. In reference to these influences, Boyer states that "Le Corbusier had seized upon the road as a work of art, a sculptural element, and upon mobility as a powerful force, a generator of urban morphology and territorial form."⁷⁰ Of course, Neutra too had aspired to the automobile as the generator of his urban vision.

In *Survival Through Design* (1954), Neutra elaborated on his version of *celebrating* the car, stating "[t]he circulation of the automobile should proceed unimpeded: it was an irritation on one's nerves to be forced to continually stop and start, waiting for traffic bottlenecks which the archaic pattern of gridiron streets inevitably produced. There should never be more than two turns to be made to the left or right when one traversed an entire metropolitan region, for the rolling machines must cross the city on sunken arteries passing between, not through, neighborhoods, a concealed vascular connecting system where distances were suddenly reduced to nothing."⁷¹ The contrast in scale and texture of thought between these two architects is startling, and begins to reveal the essential differences between the visions of their authors.

Most modern utopian plans, Le Corbusier's being exemplary, sought to synthesize emerging sensibilities into a cohesive whole. In contrast, Neutra's Rush City effectively rejected the ideal singular conception and instead projected particular existing conditions into the typical. That is, he reiterated the existing as prototypes. The critique of Le Corbusier's urban visions centered on its misguided utopianism based on the idealization of politics, technology, and people. Singular, authoritarian, uncompromising and modern, the momentum of its force influenced two generations of architects in the re-thinking of the city. In the final evaluation, it is difficult to really determine the relative success or failure of this urban vision, since there are no built examples. As Curtis has stated, "[t]he ideal city was bound to remain on paper without a society and without

a consensus in favor of the values it represented.¹⁷² However, the opposite is true in Neutra's regard. His model of the open suburban city, manifested through a factual transparency to the *laissez-faire* economics of American capitalist society and the domination of the car, is all around.

At a specific junction in time, Rush City Reformed crystallized an emerging consciousness in form and its possible realization. However, the promise of the existing American technical practices, so tangible and seemingly prophetic to European minds in the late 1920s, and indeed to Neutra himself, was systematically erased by its own mediocrity. Neutra's contribution to this realization was developed in a series of fragments that, from an insight held seventy years after, has materialized almost completely into the city that North America has inherited. From the position that this critical distance has created, it can be understood that in the generation of an "ideal" based on the "factual", Neutra produced less of a vision than the commencement of a process that can only be called the inevitable progression of technological and economic development. Neutra never questioned this "reality" through the proposition of an alternate, and possibly more poetic and humane, model of the city.

CHAPTER FOUR: THE LOVELL HEALTH HOUSE AND THE RHETORICAL FRAME

The Lovell Health House (fig. 41) was Neutra's most important built project of the 1920s. Its significance in the history of modern architecture results not only from the house's value as an architectural *object*, but perhaps more centrally on its architectural *process*, given the period in history in which it was designed. As in the case of Rush City Reformed, the Lovell Health House addressed the incomplete European project, that is, it realized a technologically-advanced architecture, as well as bridging the schism between architectural expression and building technology in America at this time. The Lovell Health House, in fact, stands as the realization of



Figure 41. Neutra, Lovell Health House, Los Angeles, 1927-9.

a system of structure attempting to define a new universal architecture. In this, the house went beyond the architecture of the *Weissenhofsiedlung*. Reflecting on the qualified success of the *Weissenhofsiedlung*, Le Corbusier had stated that “the research into the application of the house to current social and economic conditions should not lead to the chimeric fixation on a type-plan, but onto the application of a new structural system conceived of in such a manner as to allow for all the combinations imaginable and thus to respond to the varied needs of numerous categories of individuals.”⁷³ In Thomas Hines’s assessment the design was “[r]hetorically echoing its Chicago School origins, the frame was the house; the house was the frame. Structurally and esthetically, it gave the house its meaning.”⁷⁴ This synthesis of technology and expression was derived from ideas discussed in *Wie Baut Amerika?*, including the potentials of the steel frame learnt from the construction of the Palmer House, prefabrication as a modern necessity, and the synthesis of these two notions expressed in Neutra’s *Schachtel-Aufgaben* exercises. I will now discuss in further detail the relationship between the design of the Lovell Health House and *Wie Baut Amerika?*, and the emergence of the International Style as a means to assess the significance of Neutra’s work of this period.

The extent to which Neutra embraced the factual emphasizes the importance of *Wie Baut Amerika?* as the foundation for the Lovell Health House. In the description of a course he was teaching at the Academy of Modern Art in Los Angeles at the time, he wrote “[t]he draftsman of today is the architect of tomorrow. Everything that will be practiced tomorrow as vital in building art will have its roots in today’s technical experience because modern architecture has its feet on the structural ground of practical considerations.”⁷⁵ Here, Neutra’s intentions suggested that not only was architecture based on the factual, but that the future of architecture was grounded in the conditions of the present. This was clearly the message posited in *Wie Baut Amerika?*.

Based on this point of departure, Neutra's first built work after the completion of *Wie Baut Amerika?* strove to prove that technology could be both *idea* and *fact* simultaneously, a synthesis achieved through a transparency to the perceived progressive American construction practices. Interestingly, the synthesis effected by Neutra in the Lovell Health House can be argued as one of the unique works of modern architecture that refutes Alan Colquhoun's later assertion that "the new technology was an idea rather than a fact. It became part of its content as a work of art and not merely or principally a means to its construction."⁷⁶ For Neutra, the position defined by a conceptual transparency to existing technical practices was not one of philosophical choice, rather it was understood as the fate of modernity. Speaking of this modern condition, Neutra suggested that "[t]he inventiveness of the American building supply market exacts the most intimate influences on contemporary style formation. Compared with this deeply rooted influence of mass production and world wide marketing of building materials, the activity of even the most gifted progressives in architecture might be considered as secondary in importance..."⁷⁷

Throughout the text of *Wie Baut Amerika?*, Neutra argued for the importance of industry to architecture, and sought to establish this condition as the basis for an universal architecture. As previously discussed, this position was already represented by the *Sweets Catalogue*, a building-industry catalogue of prefabricated building systems and materials, which Neutra described as detailed, exact, and reasonable. The architect's task, according to Neutra, was no longer the contemplation of aesthetic and compositional matters, but to select and combine existing industrial elements. As an extension of this thinking and central to the design of the Lovell Health House, Neutra argued for the use of the steel-frame construction system and its applicability to all building types including the house.⁷⁸ Using a steel-frame, Neutra wrote, brought a new sense of quality and economy to the housing construction market; it created a

new definition of beauty derived from the machine. Neutra considered the steel-frame to be an exemplar of progress, and supported this view by comparing it to more conventional wood-frame construction. He observed that in terms of its speed of erection, durability, and precision, the steel frame was superior to other construction systems.

But most importantly, Neutra insisted that the potential of the steel-frame went beyond its economic and time-saving characteristics. In *Wie Baut Amerika?*, Neutra wrote that the steel-frame had an inherent ability to structure and define space through its explicit order, modularity, and spanning capability, the result of which was the foundation for an universal architecture. This assertion was explicitly developed in a series of exercises entitled *Schachtel-Aufgaben*, or box construction exercises.⁷⁹ The primary motivation in these exercises was the systematic definition of space and function based on the steel-frame's modularity. This system was presented as objective and not based in aesthetics, from which a new beauty emerged truthfully from a structural logic and the resolution of functional needs. The steel-frame at once existed as structure, defined space, and was the architecture.

Developing the steel-frame as the foundation for his universal architecture, and as the final step towards laying the theoretical groundwork for the design of the Lovell Health House, Neutra discussed the importance of building materials. As with the steel-frame, the primary motivation behind the materials described in *Wie Baut Amerika?* centered on their ability to foster an objective architectural expression. Neutra illustrated this potential with a design exercise for a prefabricated drywall panel house that was entirely planned based on a modular system. In this exercise, he stressed modular rectangular planning properties that evolved into room-making strategies.⁸⁰

Although Loos's *Raumplan* has been discussed earlier, it is of sufficient importance to revisit its relevancy at this time. Loos developed his conception of the *Raumplan* in an effort to efficiently organize the internal rooms of the houses. Critical to Loos's idea was a sectional distribution of space that effectively defined the separation of rooms and also allowed for spatial movement and complexity. Although Neutra's spatial intentions were similar and based in the efficient distribution of interior volumes, his means to accomplish these intentions were entirely different. Whereas Loos relied on sectional properties to define and separate space, Neutra removed any sectional considerations from his spatial equation by relying on the industrial module of eight feet to define vertical height. And whereas in Loos's conception a spatial complexity naturally emerged from the displacement of volumes in section, complementing the programmatic compactness in plan, all spatial modulation in Neutra's work was directly related to the distribution of spaces inherent in the grid of the steel frame and the modules of prefabrication. Due to Neutra's belief in an emergent universal architecture gleaned from existing American industrial practices, he created an architectural experience that was dictated by those very practices, and argued for its acceptance as a new definition of beauty.

Based on this objective of realizing a new beauty, the arguments developed through *Wie Baut Amerika?* and articulated in the drywall panel house design synthesized the contributions that objective and factual means and processes played in the creation of Neutra's universal architecture. In this way, the drywall panel house anticipated the creation of the Lovell Health House. In fact, in its architectural intentions and formal manifestation, perhaps due to a reliance on the same universality, the design study shared a lineage of ideas that directly translated into the design and articulation of the Lovell Health House. This shared foundation became explicitly manifest during the design process of the Health House; the Lovell Health House's design process reveals the evolution of Neutra's search for his universal architecture. And for the first

time, Neutra's search had to address the realities associated with an actual client, program and site.

The Lovells were in some way polemical modern clients. Their advocacy of natural methods to health including water treatments, sleeping outside, and nude sunbathing, demanded the design of their house/office to stress an intimate relationship between indoor and outdoor space. Neutra responded favorably to the Lovells' unique demands as clients for the project, and remarked at the time: "I told myself that mankind, with a new health and population swell in store, would one day run out of level ground. It will have to build on steepness and on prefabricated stilts, with the living area pendant from the roof! Dr. Lovell wanted to be a patron of forward-looking experiment. He would be the man who could see "health and future" in a strange wide-open filigree steel frame, set deftly and precisely by cranes and booms onto this inclined piece of rugged nature; he would love marrying it through view, air, and radiation."⁹¹ In order to address these spatial and programmatic requirements, Neutra drew from the lessons in *Wie Baut Amerika?* The resultant design process can perhaps best be described as *the rationalization of the irrational*. In its methodology, Neutra shed any particularities related to the generation of architecture, including the individualism of the architect, and cleansed the building form through the universality of the steel-frame.

A comparison of the drawings of the preliminary studies and the final design outlined this process of rationalization. The first scheme (fig. 42) illustrated a composition of additive forms that anticipate Schindler's contemporary work, including the McAlmon House, Los Angeles, of 1933-35 (fig. 43). Programmatic elements and their relationship to the site are individually expressed, lending a one-to-one correspondence between intention and form, idea and expression. These individual forms are read as being brought into a whole through an architectural language of

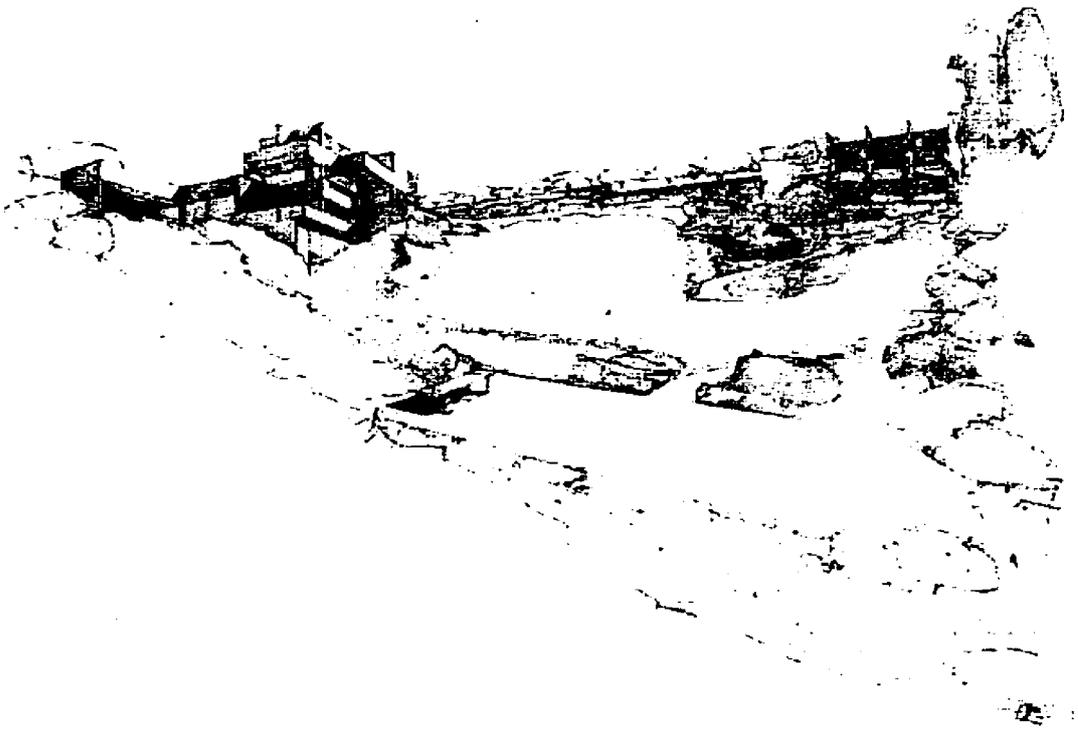


Figure 42. Neutra, Lovell Health House, early perspective design study, 1927.



Figure 43. Schindler, McAlmon House, Los Angeles, 1933-35.

asymmetrically ordered horizontal planes, hovering above the landscape (fig. 44).

Interestingly, Neutra had argued against this very language, or more precisely this means to a

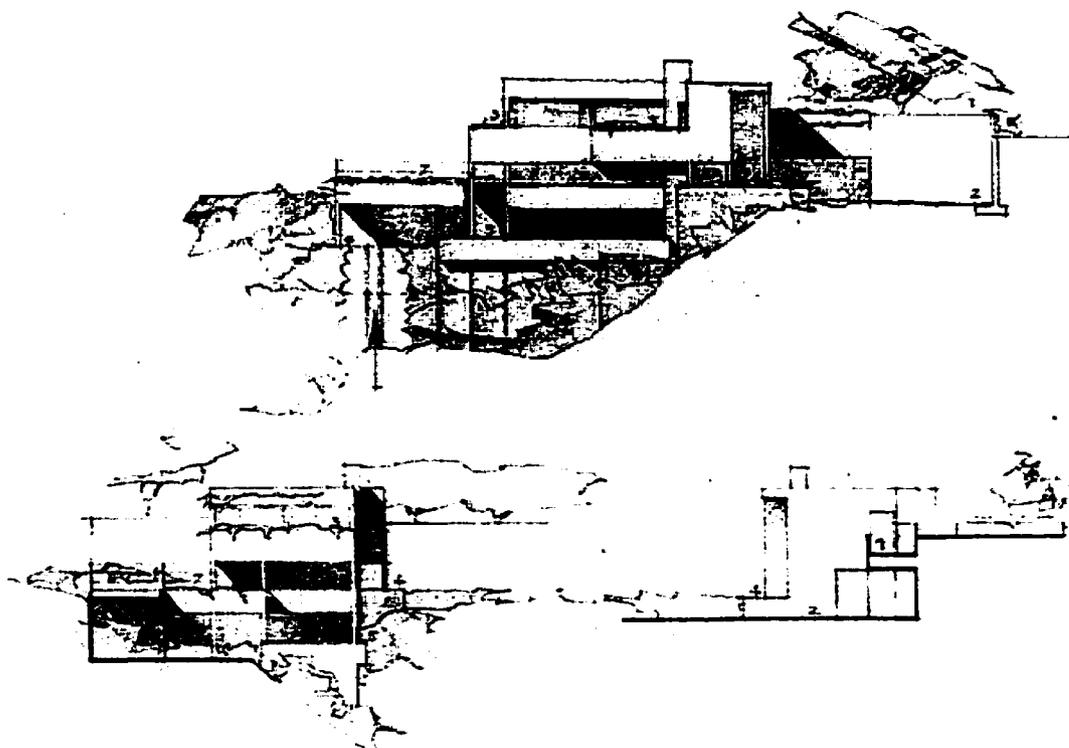


Figure 44. Neutra, Lovell Health House. early design study, 1927.

language, in *Wie Baut Amerika?* And so the history of the design process from this preliminary scheme to the final design described a transformation of the building form through the means of the steel-frame. Certainly, in the comparison of the preliminary scheme to the final project, similar elements appear, such as the hovering horizontal planes. However, whereas the first scheme's order depended on compositional criteria determined by the architect, the order of the final scheme was determined by the box-like quality of the steel-frame (fig. 45). Specifically, in the first scheme it can be argued that the structure and the form are in fact separate consider-



Figure 45. Neutra, Lovell Health House, perspective view of final design, 1927.

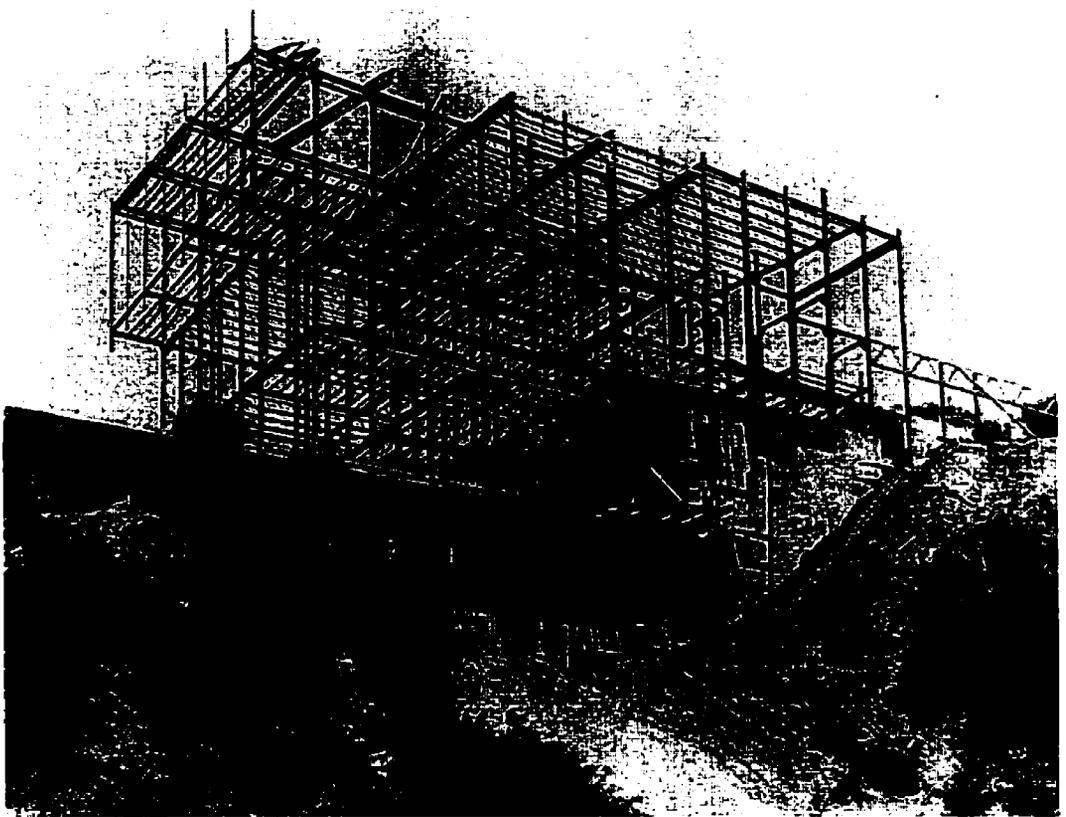


Figure 46. Neutra, Lovell Health House under construction, 1928.



Figure 47. Neutra. Lovell Health House. view of the pool, 1927-9.

ations, or at least the structure is merely subservient to the formal and visual qualities of the architecture. In contrast, the final building's expression and structure are inseparable: the structural frame is the building form, and the building form is the structural frame (fig. 46). And finally, if the early scheme was characterized by a romantic play of additive compositional elements, the final building's articulation was based on the push and pull of spaces within the inherent structural order of the steel-frame. Based on the logic of the Health House's grid, subtractions from and projections through the box of the steel-frame satisfied the Lovells' demand for the integration of inside and outside, and for fresh air and sun (fig. 47).

It is clear that, given certain formal similarities between the first design studies and the final development, the key to Neutra's design process and the resultant critical architectural transformations was the coming to terms with the ability of the steel-frame to structure an universal architecture. His design process addressed two separate but related initiatives. The first was the rationalization of the particularities of the site and the program. Here, as in the case of the exercises in *Wie Baut Amerika?*, programmatic space and the relationship to site were accommodated by the inherent modularity of the steel-frame and the vertical dimension of prefabricated construction materials. In effect, the process essentially reversed the usual method of design, moving from type to architectural object, or from the universal to the particular. Neutra instead took the complexities of the site and program and systematically processed them through the modularity of the steel-frame. The plans of the Lovell Health House (figs. 48, 49, 50),

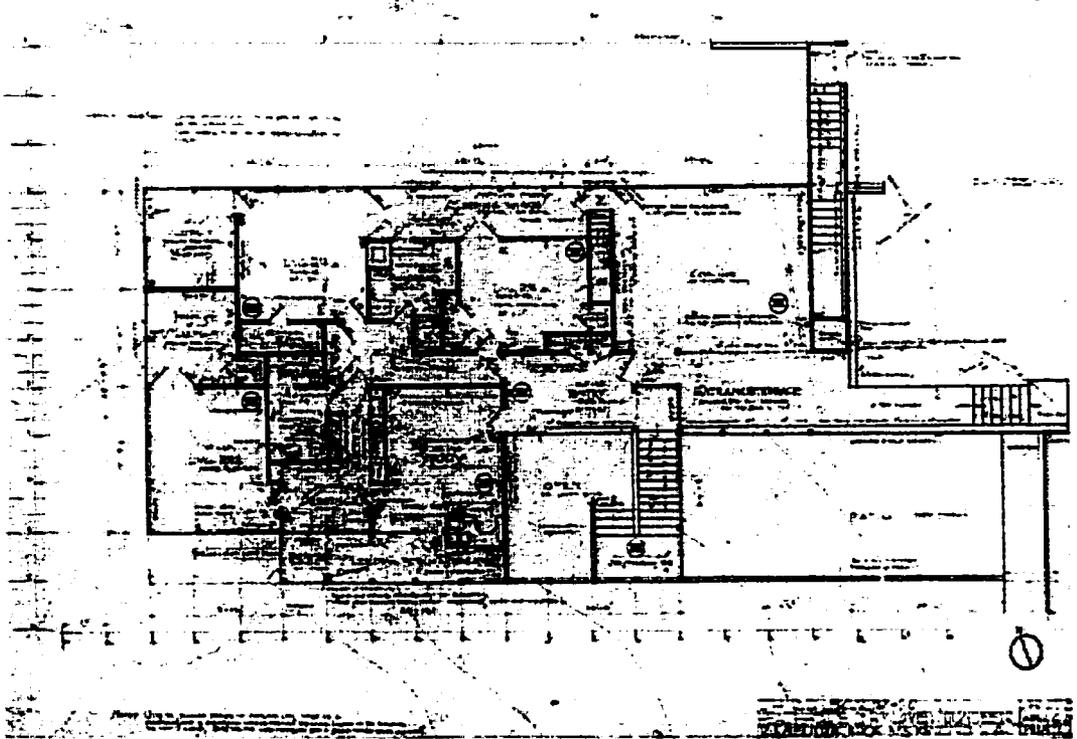


Figure 48. Neutra, Lovell Health House, upper floor plan, 1927-9.

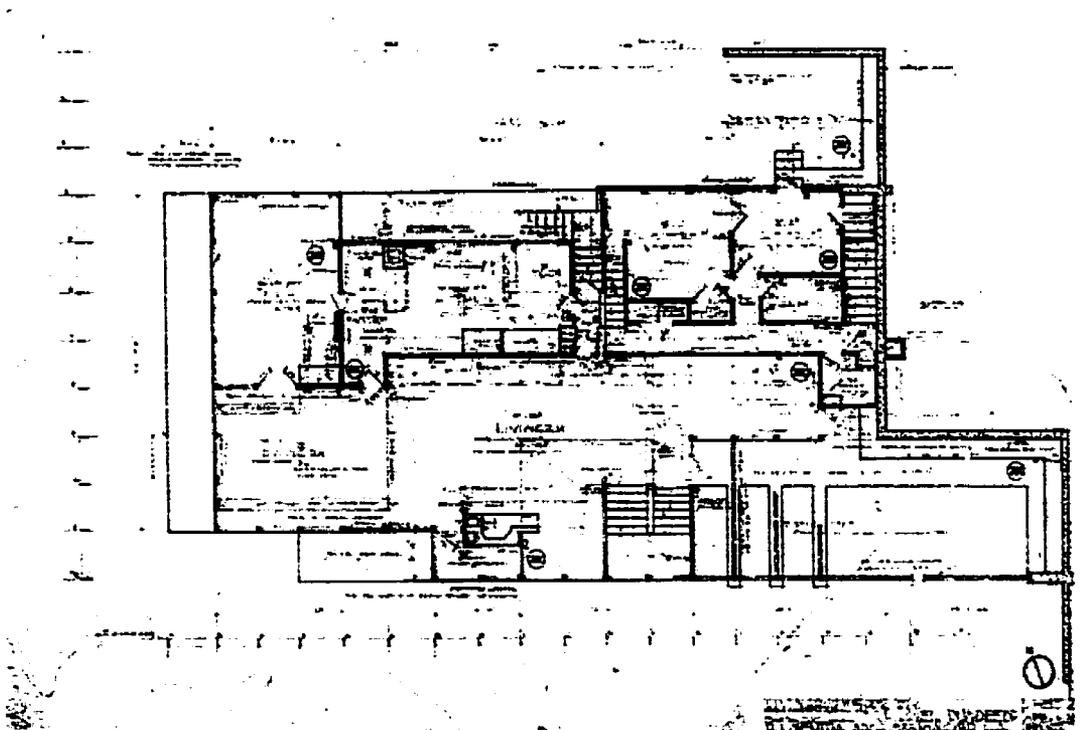


Figure 49. Neutra, Lovell Health House, entry floor plan, 1927-9.

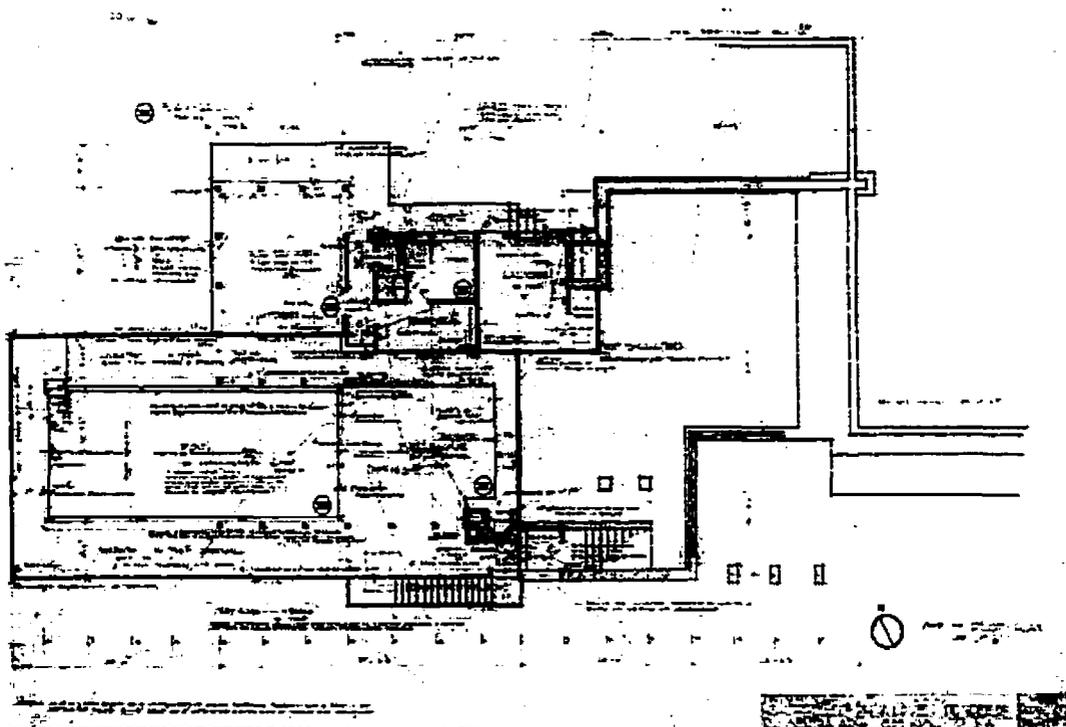


Figure 50. Neutra, Lovell Health House, lower floor plan, 1927-9.

read as a series of rectangles ordered by the grid, do not exploit the more celebrated potentials of the grid as articulated by Le Corbusier's *Plan Libre*. Sigfried Giedion, referring to the Villa Savoye and its expression of a skeleton construction, suggested that the strength of Le Corbusier's design was "latent in the skeleton system of construction, but the skeleton had to be used as Le Corbusier use[d] it: in the service of a new conception of space. That is what he means when he defines architecture as *construction spirituelle*."⁹² But it was clear that Neutra was suspicious of such perceived mediating artistic methods as that of the *Plan Libre*'s Purist foundation. The spatial delineation of the Lovell Health House reflected this suspicion, as did the main argument contained in *Wie Baut Amerika?*: the advocacy of a transparency to the factual, which in this case was the modularity and regularity of the steel-frame.

The second initiative, the rationalization of the individualism of Wright's and Schindler's spatial and formal language, was also facilitated by Neutra's mastery of the steel-frame. The preliminary scheme suggested Neutra's knowledge of the subtleties of Wright's spatial language and his familiarity with Schindler's compositional sensibility. But as discussed previously, Neutra had rejected what he interpreted as Wright's overtly personal aesthetics. Neutra had left Wright's atelier in 1926, principally for this reason. And although the work of both Wright and Schindler were discussed in *Wie Baut Amerika?*, it is clear that Neutra's agenda of the factual defined how this work was discussed. In the case of Wright, Neutra's writing focussed on that architect's use of the "Knitlock" system of masonry units (figs. 51, 52). Here, Neutra praised the material and its related construction process as a means to a new and natural beauty wherein the material was truthfully expressed. Similarly, in the case of Schindler's La Jolla Housing (1927), Neutra presented this project in *Wie Baut Amerika?* as an affirmation of a new construction process using

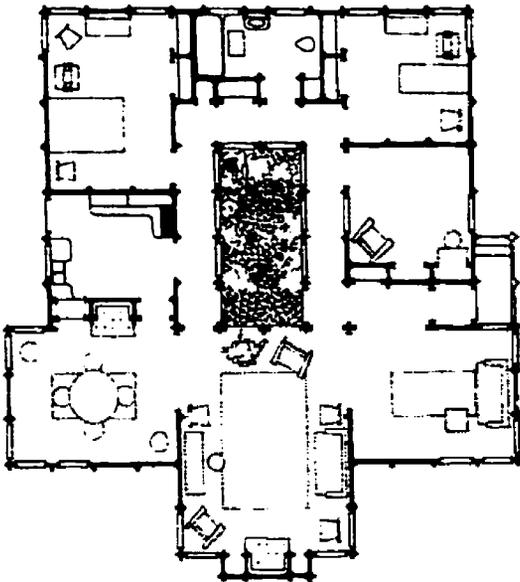


Figure 51. Wright, Knitlock House, floor plan, 1926.

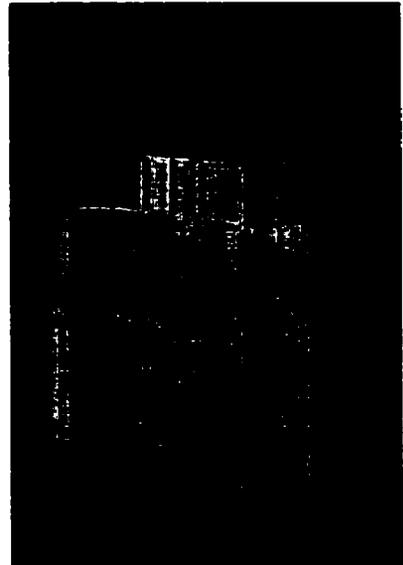


Figure 52. Wright, Knitlock Block.

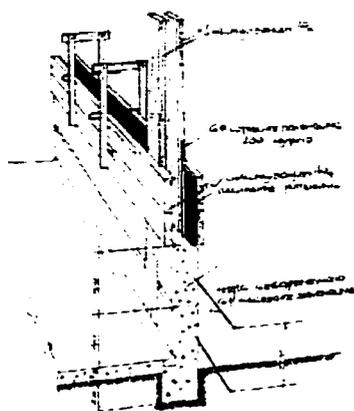


Figure 53. Schindler, La Jolla Apartments, La Jolla, concrete construction detail, 1926.

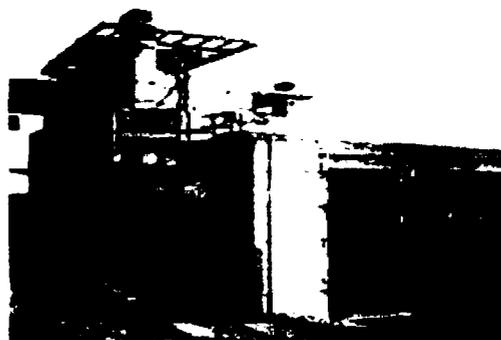


Figure 54. Schindler, La Jolla Apartments, La Jolla.

innovative concrete formwork (figs. 53, 54). Again, as in the “Knitlock” system, it was deemed a construction process that revealed its inherent beauty both as a material and a process. It is clear that at the time of writing *Wie Baut Amerika?*, Neutra perceived the work of Wright and Schindler from a very specific perspective; he was unsympathetic to their formal or personal language, but supportive of their innovative use of construction materials and methodologies.

Still, in the preliminary design of the Lovell Health House, Neutra’s ideological bias was undeveloped: the building demonstrating obvious formal derivations of Wright’s and Schindler’s architectural languages, while the logic of the steel-frame, a central point in *Wie Baut Amerika?*, was not present. However, this situation changed quickly, and its transformation fulfilled the technical intention underlying the title Neutra placed on the Lovell House: the steel, glass, and shot-concrete residence. Wright’s penchant for horizontal, organic forms extending into the landscape, and Schindler’s romantic assemblage of architectonic parts, was made subservient to the steel-frame. Similar to the design intentions of Rush City, where recalibrating space in response to the design challenge posed by the automobile became the project’s point of

departure, in the Lovell Health House, the modularity of the steel-frame reconstituted modern space as it was practiced in California. The steel-frame's inherent structural spans, cantilevers, and the possibilities present in compression and tension redefined space and form. Positioned on a concrete base, the steel box became the dominant form—solid, self-referential, and imposing. The secondary articulations manifested the logic of the steel-frame: subtractions from its box-like volume to allow light and air into the interior building spaces, and structural



Figure 55. Neutra, Lovell Health House, 1927-9.

projections from its perimeter cantilevering the occupants into the building's surroundings (fig. 55). Due to the rigor of its systematic absorption of formal or 'personal' languages through the steel-frame, Neutra succeeded in the creation of an universal architecture transparent to the existing technological practices.

Obviously, the success of the Lovell Health House was based on the most American of construction techniques, the steel-frame. Reflecting back to when Neutra was occupied with the construction of the Palmer House in Chicago, he experienced what must have seemed like the natural American tendency for steel construction. Indeed, as suggested by Kevin Harrington, architectural historian at the Illinois Institute for Technology, Chicago at that time was home to the largest and most powerful steel manufacturers in America.⁶³ And so, Neutra, the young Austrian émigré, had witnessed a technological wonder, embodied in the fabrication and erection of the steel-frame, at a time when he was desperately searching for the fulfillment of America's promise.

This American phenomenon was not lost to other European architects as well, including Mies van

der Rohe. Harrington also documented the changes in the work of Mies upon his arrival in Chicago in the 1940s and investing as he did in the potentials of the steel-frame through his concept of *bauen*, or building. However, although both architects focussed on the steel-frame and its inherent potential, Mies sought a *transcendental connection* to meaning and experience through its detailing and expression, whereas Neutra approached the steel-frame as a *given fact*, rigorously facilitating its development within its own structural laws. For Neutra, the steel-frame was another constituent element central to his factual trajectory that, in 1927, anticipated the shift of modern architecture from Europe to America in the form of the International Style. This anticipation of the International Style becomes an important mechanism to assess Neutra's design for the Lovell Health House, and his subsequent work.

A worm's-eye perspective of the Lovell Health House (fig. 56) is an effective means of understanding the relationship between the formal intentions of



Figure 56. Neutra, Lovell Health House, view from the workout area, 1927-9.

standing the relationship between the formal intentions of the International Style and Neutra's factual intentions. Now found in the collection of drawings Neutra used in designing the Health House, this particular view and representation was the most prolifically studied as a tool to explore form and structure during the design process. And it is easy to see why. From this perspective, both the aura of the International Style and the structural exploits of the steel-frame are explicit and tangible. Cantilevered from its cliff-top position and spreading horizontally above its site, the house was paradigmatic of the International Style: taut, white cubic forms, extending outward, expressing the precision of machine-age processes and imagery. The overall

appreciation of the building's form was characterized by the three principles of the International Style: *architecture as volume, concerning regularity, and the avoidance of applied ornament.*

Similarly, this perspective view clearly revealed the structural potential of the steel-frame applied to this project: a filigree of vertical steel elements, logically and economically arranged to maximize structural spans and accommodate secondary structural infills, with projecting elements intelligently resolved through tension members hung from upper cantilevers in order to minimize the use of transfer beams and therefore the total weight of the steel-frame. The house expressed a close affinity between the intentions of the International Style and Neutra's universal architecture.

However, although a certain technical correlation united the architectural language of the International Style and Neutra's factual means to an universal architecture, crucial differences set these two ideologies apart. The International Style, particularly in the U.S., for the most part was an amalgamation of derived principles, its major unifying feature being the liquidation of any social or ideological basis articulated by previous architectural manifestoes. This neutering of architectural theory, in preparation for its acceptance by an unsophisticated and apolitical American public, essentially shed architectural theory's ontological basis as an emerging mechanism for a future utopia, and rendered it into a mere style. It is difficult to know if Neutra was aware of or concerned about this transformation implicit and explicit in architectural theory's transatlantic migration to America. Certainly other European architects were dissatisfied with both the selection of architects to represent the exhibition and related book, and the criteria used in the selection process.⁶⁴ But most importantly in the context of this paper was the presence of the theme that conditioned the creation of the International Style. For beneath the projected objective foundation to this style, Hitchcock and Johnson also argued for the presence of an intermediate, undefinable aesthetic sensibility: that of the architect/genius.

Therefore, the multifarious threads that defined the principles of the International Style wove a complex and perhaps contradictory framework for the evaluation of the Lovell Health House, and by extension, Neutra's strictly factual methodology. The proponents of the International Style and Neutra agreed on the advancement of an "universal" language of modern architecture. For example, in *Wie Baut Amerika?* Neutra had quoted steel sash windows selected from the *Sweets Catalogue* to illustrate his belief in the form-making potential of prefabricated parts, while Hitchcock had advanced the same windows as examples of one of the most important *architectural* developments in American architecture. Neutra, it seemed, found himself positioned to become an exemplar of the International Style. Hines substantiates this interpretation stating that "[w]hile pursuing his goals of replicable, prefabricated, mass-produced, low-cost, high-quality building, available and attractive to all classes, Neutra came to rely on simpler, lighter, more modular, more skeletal, more industrial means and effects than any of his contemporaries. His work, in short, more than any other architect's, reified the theories of what the International Style was supposed to be."³⁵ Neutra's technological sensibility, defined by the advocacy of structural steel-frame construction and his use of new materials and construction techniques, as in the light steel-framing and stucco skins, collectively and precisely represented the three principles of the International Style. The following section will trace in more detail the parallels between the International Style and the Lovell Health House, and therefore enable a clearer evaluation of Neutra's contribution to modern architectural history.

The first principle of the International Style espoused by Hitchcock and Johnson was *architecture as volume*. Their description of this principle relied heavily on a technological rationale: "[c]ontemporary methods of construction provide a cage or skeleton of supports..the walls are merely subordinate elements fitted like screens between the supports or carried like a shell

outside them."⁸⁶ Given this technical description and the resulting cage or box effect, the Lovell House, as a manifestation of Neutra's universal architecture, clearly adhered to and indeed exemplified the stated principle. The steel-frame expressed in the Lovell House suggested the primary development of a thin, light outer membrane, wrapped around the vertical and horizontal structural elements, and enclosing a volume or a series of volumetric spaces. The prefabricated



Figure 57. Neutra, Lovell Health House, 1927-9.

steel sash windows were appropriately coordinated within the module of the steel supports and made to read as an extension of the outer skin (fig. 57). Therefore, both solid and transparent elements of the Lovell Health House were conceived and constructed within the order of the steel-frame to further the effect of *architecture as volume*.

However, other secondary statements made by the authors of the International Style begin to qualify the success of Neutra's design as an example of the International Style. Echoing two of Le Corbusier's own principles of a new architecture (*le plan libre* and *la façade libre*), the authors stated that "[p]lans may be worked out with far greater freedom than in the past. Entire facades are frequently cantilevered and the screen walls set some distance outside the supports. The European functionalists conform unconsciously to this principle of the international style without accepting its validity as an aesthetic discipline."⁸⁷ Implicit in this quote is the reference to the architectural potential of objective factors like structure and construction practices. Similar to the emergence of Le Corbusier's *Les cinq points d'une architecture nouvelle* which evolved from the technical issues surrounding *Les Maisons Dom-ino*, Hitchcock and Johnson argued for an

aesthetic sensibility to arise from contemporary methods of construction; construction methods were a means and not an end in themselves.

Neutra, of course, argued for the primacy of the method as an end in itself. In terms of the first principle of the International Style, the differences between these two positions became clear. And central to this difference were the authors' criticism of the Lovell House within their text. In referring to Neutra's project, Hitchcock and Johnson stated that "[t]he design, though complicated by the various projections and the confusing use of metal and stucco spandrels, is based on a visible regularity of structure."⁹⁸ The criticism, aimed at the projected balconies and rooms that had been conceived and built in no small part due to Neutra's understanding of and expertise on the steel-frame's structural potential, is clarified in another statement by the authors elucidating *architecture as volume*: "[t]he architect who builds in the international style seeks to display the true character of his construction and to express clearly his provision for function. He prefers such an organization of his composition, such a use of available surface materials, and such a handling of detail as will increase rather than contradict the prime effect of surface of volume. The clarity of the impression of volume is diminished by any sort of complication."⁹⁹ And so while the International Style apologists argued for the ephemeral effect of volume in architecture, the Lovell Health House expressed the logical development of volume as inherent in the steel-frame. The so-called complicated projections, considered antithetical to the International Style's conception of *volume*, spoke most eloquently of the Lovell House's containment and release of space as dictated by the principles of its own construction. And although these projected balconies were suggestive of "elements fitted like screens between the supports or carried like a shell outside them,"⁹⁰ as suggested by the tenets of the International Style, the matter rested squarely on what Hitchcock and Johnson termed a consciousness of an aesthetic discipline. This becomes clear in comparing the authors' comments on Le Corbusier's Villa Stein (1928), a

project that also used different colours in its spandrels. But unlike the criticism that the coloured spandrels solicited in Neutra's design, here it is aesthetically justifiable in order to "emphasize the planes."⁹¹ This continued qualification of technology, and therefore Neutra's own sensibility, characterized the remaining two principles of the International Style as well.

In relation to the second principle of the International Style, *concerning regularity*, Hitchcock and Johnson again substantiated their theory with a technical foundation. Referring to contemporary construction practices, the authors stated that regularity in architecture emerged naturally because "[t]he supports in skeleton construction are normally and typically spaced at equal distances in order that strains may be equalized. Just as the aesthetic principle of surface of volume has been derived from the fact that architecture no longer has solid supporting walls, the second principle, that of regularity, depends on the regularity typical of the underlying skeleton of modern construction."⁹² This technical or factual means to architectural expression, or at least to the International Style's demand for regularity, reflected Neutra's own arguments contained in *Wie Baut Amerika?* regarding standardization. And the rigorous delineation of both space and the enclosing wall and roof systems in the Lovell Health House had clearly manifest these ideas in built form. As such, Neutra and the authors of the International Style agreed that "[m]odern standardization gives automatically a high degree of consistency in the parts. (as opposed to axial symmetry) [and that t]he mark of the bad modern architect is the positive cultivation of asymmetry for decorative reasons."⁹³ Throughout the text of *Wie Baut Amerika?*, Neutra too had argued against this subjective cultivation of form,⁹⁴ albeit in Neutra's case, his criticism extended to any subjective form, and was not limited to asymmetry.

However, as was the case in earlier comparisons between the theory of the International Style and Neutra's own views on architecture, the interpretation of technical practices and their specific

responsibility towards architectural expression developed a schism between the two perspectives. Although Hitchcock and Johnson had already argued against the “cultivation of asymmetry for decorative reasons”, they also suggested that “[a]s an end, regularity is modified by the equal necessity, understood in all aesthetic organization, of achieving a proper level of interest. What constitutes a proper level of interest is hardly to be determined in theory.”⁹⁵ Here again, the idea of “aesthetic organization,” even within the seemingly objective ideals of modern architecture as it was presented in the International Style, determined the relevancy of the Lovell Health House and by extension, Neutra's work.

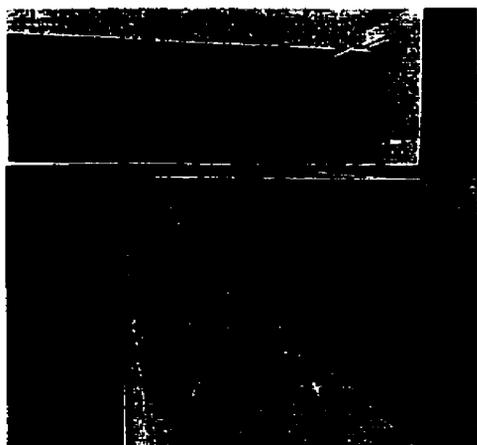


Figure 58. Neutra, Lovell Health House, detail of parapet, 1927-9.

As for the third principle of the International Style, *the avoidance of ornament*, Neutra's design again exemplified the technical intentions posited by this principle, but fell short on its less definable symbolic and aesthetic concerns. As in the previous two principles, the authors of the International Style defined their principle in a manner that completely reflected the message in *Wie Baut Amerika?* Paralleling Neutra's concept of *Sachlichkeit im Bauen*,⁹⁶

wherein he discussed ornamentation as a new beauty arising out of the marks, patterns, and form defined by the construction process (fig. 58), Hitchcock and Johnson suggested that “[a]rchitectural detail, which is required as much by modern structure as by the structure of the past, provide[d] the decoration of contemporary architecture.”⁹⁷ The two positions diverge here, for the International Style clearly elevated the symbolic interpretation of this idea, as exemplified by the precise machine aesthetic of the Villa Savoye's smooth, white, machine-finish, whereas

Neutra held quite a different view.

Neutra privileged process over image. In contrast to the technical *image* projected by the finish of the Villa Savoye, which was obtained by the pre-modern technique of applying plaster over masonry units, the technological feat of using shot-concrete in the Lovell Health House resulted in a less than perfect finish. Neutra, therefore, created a finish that was truly machined, but not the image of a *machined finish*. Contrary to Neil Jackson's assertion stating that Neutra was probably forced to use this method of finishing due to the site restrictions, the condition at the Lovell House site suggested the opposite. A plastering technique and its related scaffolding, the most conventional exterior finish application system, would more easily attach to the existing house structure and therefore present a comparatively easier system to the use of long and cumbersome hoses required to shoot or spray the cement finish onto the house's metal lathe. Consequently, Neutra's choice of this finish, which produced a very rough and perhaps unmachine-like finish, underlined his belief in the importance of a process's technical merits and its resultant beauty; a new beauty that recognized a material or process's potential without the imposition or imprint from the architect's formal sensibility.⁹⁶

Given their own formal agenda however, Hitchcock and Johnson were unconvinced by the noble intentions of Neutra in this matter. Their comments on a different project that featured a similarly treated finish, a Zurich apartment house by Max Ernst Haefeli (1929), clearly pointed to their bias related to image versus process: they remarked that "the rough stucco [broke] the effect of surface."⁹⁹ Therefore, although the International Style professed to be founded on the new and emerging modern technological conditions, it is clear that these facts were not enough. Contrary to Neutra's assertion, the International Style argued that an intermediate and idealizing sensibility was required in order to bring forth these facts into an architectural presence. As if commenting

on the work of Neutra himself, Hitchcock and Johnson stated: “[t]he work of the best functionalists is never thus slipshod, but it seldom passes beyond the attainment of common consistency. The great architects, who still consciously practice architecture as an art, add a more interesting and usually more personal expression to the simplification and unity of design, which even the functionalists achieve.”¹⁰⁰ In their elevation of “personal expression” as the means to architecture, the proponents of the International Style came to question the validity of Neutra’s objective arguments contained in *Wie Baut Amerika?*, and therefore his resultant work. Significantly, the International Style’s implicit and explicit criticism of Neutra’s definition of a new beauty, based on the affirmation of existing American practices, defines a framework from which to assess the importance of Richard Neutra’s work, and ground his contribution within a specific period of architectural history.

The question remains as to why the Lovell Health House was included in the International Style exhibition and related publication. Although it clearly made manifest the technical foundations of the three principles as presented by the International Style, and in fact anticipated them by five years, its interpretation in the criticism was mediocre at best. In contrast, Le Corbusier’s work is consistently quoted as being paradigmatic of the intentions of the style, even though the projects cited only superficially explored technical matters supposedly central to the International Style’s foundation. Of course, the contrast between the two architect’s work could not be more different. As discussed, the Villa Savoye expressed a utopian vision of the future through an image of technologically advanced planar construction; of a machined finish and a machine-like efficiency, liberating in its creation of a spatial freedom based on the free plan and the free facade. The machine image was, however, skin-deep. Its appearance was derived not from a planar construction that hung or hovered free of structural dependency and therefore liberated to be formally and spatially manipulated (as in the case of the Lovell Health House). This schism

between idea and realization was also extended by the philosophy wherein the emphasis was on the idea, rather than the fact: issues of material or constructional translations were of less importance to Le Corbusier, who was content to speak through his drawings and models. This point was suggested by Stanislaus von Moos, stating that “Le Corbusier’s attitude is comparable to Alberti’s: he too tends to regard architecture as a conceptual matter to be resolved in terms of a perfect plan, whereas questions of execution are of secondary, merely technical relevance.”¹⁰¹ The Villa Savoye, therefore, best represented an idea which spoke of a conception of form and space that symbolically anticipated a new spirit within a technified society. It did not serve to reveal *how* this society would be realised in its architecture or the related technology. Similar to the underpinnings of the International Style, technology merely acted as a starting point for the conception of a machine aesthetic within a Purist philosophical structure. The resultant architecture from this abstraction necessarily remained at a distance from the industrial processes, maintaining its formal autonomy as a symbolic work of art. Stanislaus von Moos has observed that in this conception, “[form was] regarded as autonomous with respect to the techniques which [brought] it to life: the accidents resulting from workmanship, the grain of the wood, the brilliance of metal or the rough surface of concrete— all these might well be enlivening elements, but they [were] not considered to be part of the “idea” behind a work of art.”¹⁰²

Unlike Le Corbusier’s villas of the 1920s, the Lovell Health House was able to reveal *how* to build a new technological spirit, not just project an image. A more recent review of the design by Esther McCoy also has commented upon this synthesis of idea and actuality. “Brilliant as the structure was in conception,” McCoy stated, “it is doubtful whether it could have been executed without Neutra’s familiarity with the methods of contractors and sub-contractors, acquired through his work with Holabird and Roche. He was quite aware that it is easier to be daring on paper than to deal with the building trades.”¹⁰³ And so, wherein one architect grounded his work within

the limits of the technical, and indeed defined a new beauty based on a conceptual transparency to the factual, the other defied the factual in favor of the ideal. And yet both architects are represented in the International Style, whose theoretical framework became central to the redefinition of modern architecture in the 1930s.

This very spirit, the spirit of change occurring in architecture and architectural theory between 1927 and the time of the publishing of *The International Style*, suggests the relative importance of the Lovell Health House. During this period, as discussed previously, modern architecture was in the midst of a crisis. And although the publishing of *The International Style* was not directly connected to this crisis, its authors' failure to advance the ideals or potential of modern architecture was intimately tied to its inability to grasp the changes that were occurring at this time. Instead, *The International Style* offered to the architectural world a reconstituted formal language devoid of any political or social basis, becoming the establishment style for the next twenty years. The relative importance of the Lovell Health House acknowledges the manner in which this building and especially its process addressed the incomplete European project evident at the *Weissenhofsiedlung*: the inability of utopian modernism to translate its social agenda through technological and economic means. Indeed this was the success of the Lovell Health House, defined in the manner in which it embraced existing American industrial and construction practices and translated them into an architecture completely attuned to this crisis. Conversely, in light of the second part of the crisis in modern architecture, which hinged on architecture's loss of faith in the role of technology as a mechanism for the creation of a utopian future, the Lovell Health House, because of its complete investment in the factual, retained only limited resonance as an architectural model for an alternate world view. In contrast, although the work of Le Corbusier was moving away from the machine aesthetic during this time, even his buildings within this sensibility, such as the Villa Savoye, could be appreciated on many levels,

including within an artistic and therefore alternative perspective.

As such, the Lovell Health House embodied a current of thinking that characterized modern architectural culture during the period of the *Weissenhofsiedlung*. It addressed the first cause of the crisis in modern architecture evident at the *Weissenhofsiedlung* by seamlessly merging within the aesthetic harmonization of modern architecture apparent at this housing exhibition. More importantly, it achieved this harmonization not through merely *projecting* the image of a technically advanced design, but by *realizing* an universal architecture, based on the affirmation of existing American technical practices. Through this process of realization, Neutra was able to anticipate the three principles of the International Style. However, this period in architectural history was also marked by a fundamental shift in the thinking and making of modern architecture— the second cause of the crisis in modern architecture, and specifically a shift away from technology and its perceived homogenizing tendencies. Therefore, due to the precision and unmediated manner by which the Lovell Health House embodied particular technical intentions, its vision did not survive this shifting intellectual climate, a climate that was apparent even before the steel of the Lovell Health House had been erected.

CHAPTER FIVE: CONCLUSION

In his determined search for a new universal architecture, Neutra addressed the 'world of facts' through the definition of a new beauty. Translated through his early work in America, this new beauty illustrated a critical development of the relationship between architecture and technology. In this, Neutra's significance to the history of modern architecture becomes clarified. Two projects emerged from this new understanding of beauty, derived from a conceptual transparency to the existing American technical conditions. The Lovell Health House and Rush City Reformed were to complete the European modern project, as projected by the *Weissenhofsiedlung* housing exhibition, realising the *idea* in the realm of *reality*.

As a reflection of this realization, the significance of these projects, illuminating both the importance of Richard Neutra as an architectural figure and his contribution to the relationship between architecture and technology, is determined by a series of related factors. The first factor is defined by the specific moment in history in which these projects were conceived. Neutra practiced architecture at a point when the completely factual was both possible *and* avant-garde (see fig. 3). In advocating an architecture derived from technology and new materials, Neutra reveals himself to be heir to the lineage of Sullivan, Wagner, and Loos. However, unlike these other architects, Neutra's contribution to this lineage occurred at a time when standardization and prefabrication were established conditions in America. Therefore, Neutra's conception of his universal architecture emerged from a condition that necessitated not a conceptual *abstraction* in the making of architecture, a strategy that characterised the work of Sullivan, Wagner and Loos, but a conceptual *transparency* to this existing technological condition.

This historical junction, contingent on the time lag between the proficiency of American and

European technological practices, was short-lived. The idealized concept of standardization and prefabrication, conceptualized as the *idealization of technology*, soon lost its avant-garde quality when it became realizable. And in becoming a reality, standardization was no longer a key to an universal style as had been advocated by Neutra, but rather an agent of homogenization perpetuated by the optimizing tendencies of the capitalist production system. This juncture, according to Alan Colquhoun, signaled that "...architecture's ideality, both as an art and as a projection of utopia, began to disappear. Instead of foreshadowing a system of production and a form of society, modern architecture became a mere instrument of the actual production process."¹⁰⁴ When in 1911 Hermann Muthesius articulated standardization as *Typisierung*— the key to the development of a harmonious style, industrial development was an emerging force that promised unlimited potential for the emancipation of the economic and social, and was therefore idealized within modern culture as an agent of the spiritual life of an epoch. Only twenty years later, the magnitude of industrial development and its optimizing tendencies was seen by architects such as Le Corbusier as not an agent of salvation but one that needed to be reconciled with mankind.¹⁰⁵

That Neutra forced a representational burden on the technological does not in itself place him in a unique position in the history of modern architecture. This one-to-one relationship between technological developments and architectural creation was evident in the work of other architects like Hannes Meyer and Walter Gropius. However, Neutra's particular self-image as a prophetic figure, another key to the significance of his work, created circumstances that bring us closer to understanding his unique contribution to modern architecture. Because of his belief in the ascendancy of an universal architecture whose forms expressed a new golden age, the idea that the factual necessitated cultural redefinition and was not in itself timeless, was unacceptable. His obsessive desire to achieve at an historical level, perhaps at the root of his achievements,

paradoxically created an inability to critically distance himself from his work and its larger cultural context. Because of this determination, Neutra did not deviate from his preconceptions and perhaps misconceptions of America's existing technical practices, but worked increasingly harder to translate these perceptions into reality. Modernism insists on being avant-garde and therefore projects the future in the present. In contrast, Neutra affirmed the present as a future.

This condition, evolving out of Neutra's relationship to America, was perhaps the most important factor in contributing to Neutra's significance to modern architecture and the relationship between architecture and technology. Neutra was part of a long lineage of Europeans who were dissatisfied with Europe's perceived inability to manifest its own architectural promises and believed America to be the key to the modern world. Yet America's perceived *modernity*, at the time of Neutra's immigration, was generated from simple ideas that were essentially non-architectural: the separation of building zones, a new and therefore efficient infrastructure for services and transportation, the development of economical steel buildings that used prefabrication. As opposed to other European architects who romanticized America from afar, Neutra's *specific* situation relative to this condition arose out of his adoption of America as the place to create his own definition of architecture. This intimate philosophical and material investment in America, fueled by Neutra's obsessive nature, facilitated the misconception of America as an avatar of the modern utopia.

By misunderstanding America's objective developments as both modern and architectural, and thereby advocating a conceptual transparency in their representation, Neutra lost what was essential about architecture. He forfeited architecture's ability to translate and idealize these objective forces into something that is culturally significant. By advocating a position of transparency to these technological forces, his work gained immediate recognition at a very specific

time in the history of modern architecture when a machine aesthetic, represented through the technological, existed as an ideal and as an avant-garde initiative. However, when the architectural avant-garde began to question the underlying principles of the machine aesthetic, Neutra's misconception of existing American practices as a timeless architectural condition prevented him from recognizing a need to reinterpret technology's role in modern society.

The result was predictable. Both Rush City Reformed and the Lovell Health House existed as significant and seminal designs of the twentieth century in the manner in which they realized the potentials of American technology and planning practices in an architectural and urban manifestation. They in fact witnessed *and* symbolized the culmination of the idealization of technology as a modern architecture. However, precisely at this moment of realization, perhaps best represented by the Lovell Health House and Rush City Reformed, architectural thinkers began to question the very value and meaning of this intimate relationship with technology and came to understand that architecture necessitated a step beyond the factual and into the symbolic. For, as Colquhoun argued, "[i]f buildings are to retain their quality of uniqueness as symbols, how can they also be the end product of an industrial system whose purpose is to find general solutions?"¹⁰⁶ As the cultural conception of technology changed and required a more critical interpretation of technology's role in society, architecture, especially its avant-garde elements, moved away from the machine aesthetic and searched for other less linear and objective relationships with technology.

Neutra was unable to come to terms with this new architectural agenda— especially one that attempted to reconcile new aesthetic sensibilities in defiance of the universalizing and homogenizing tendencies of industrialization, tendencies that he had struggled so long to address in his architecture. His subsequent projects would still be committed to the new beauty,

but by this time such beliefs were quickly losing their status as an idea. In their loss of ideality, the work exemplified technology as an end in itself, not as a means to an end. However intense the explorations into the American industrial context, these subsequent projects were not able to emulate the success of the Lovell Health House and the Rush City Reformed project, both of which displayed a unique synthesis of the polemical and the factual. In a critical and transitional period of modern architecture, Neutra's Lovell Health House and Rush City Reformed project arrested in a particular place and time the projection of a new universal aesthetic sensibility, its manifestation in reality, and the realization that its ideality had already been lost.

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102. S. von Moos, *Ibid.*, p. 47.

103. E. McCoy, *Richard Neutra*, (New York: George Braziller, Inc., 1960), p. 13.

104. A. Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historicism*, p. 14.

105. For an elaboration on the concept of Le Corbusier losing faith in the "inevitable triumph of the machine age," see Kenneth Frampton, "Le Corbusier and the Ville Radieuse 1928-46" in *Modern Architecture: A Critical History*, 3rd. ed. (London: Thames and Hudson, 1992), pp. 183-84.

106. A. Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historicism*, p. 29.

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