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Richard Neutra, Biorealist

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Abstract

Richard Neutra, Biorealist

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Over the course of his long career, architect Richard Neutra developed his notion of biorealism, a theory distinct from the modernist movement. Biorealism was no mere aesthetic approach; it applied the biological and psychological sciences to foster solutions for the built environment. Influences from Neutra's formative years led him to believe that biorealistic design was the only way the human race would survive. He spent his life and career devoted to this single cause.

This thesis explores Neutra's definition of biorealism, using his many published works as evidence. It delves into Neutra's formative years, looking at the influence of his brother, Wilhelm Neutra, the internist Schrötter von Kristelli, Sigmund Freud, Wilhelm Wundt, and Hippocrates. Turning then to Neutra's built works, it looks at the effects of biorealism on three of his commissions: the Lovell Health House, the VDL Research House, and the Kaufmann Desert House. Each house demonstrates biorealistic design in its own way. Finally, this work scrutinizes why the literature on Neutra has been virtually void of a discussion of biorealism, and why scholars have largely overlooked this

important aspect of his work. A following chapter analyzes the current and past literature on Neutra as they relate to biorealism.

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Richard Neutra, Biorealist

Life-realism, biorealism, yearly fed by so many scientific research papers, is a new and growing humanism. Withering away and sickness, pathology—for this, the individual and a people have to pay most dearly. The architect is a physiotherapist and an economist; he can certainly support vitality and health, without which each individual life and each living in togetherness becomes depraved.¹

~ Richard Neutra

At least from the time of Hitchcock and Johnson's 1932 MoMA exhibition on modern architecture, scholars have considered Richard Neutra one of the leading International Style modernists. Every appearance of Neutra's biography highlights his birth and youth in Vienna, Austria—the cradle of modernism—and his proximity to two architectural masters, Otto Wagner and Adolf Loos. Historians note his later work in the 1920s under Erich Mendelsohn in Berlin, and, once in the United States, his short time under Frank Lloyd Wright at Taliesin, and his brief partnership with Rudolf Schindler. The name-dropping that occurs in his biography truly makes it impossible not to align him with the modern movement.

Neutra, however, strove to set himself apart from modernism. His priorities were not in forging architectural styles, which he knew came quickly in and out of fashion. Instead, he strove to design salubrious architecture in the hopes of preserving the human race against a world of dangerous environments. Influenced by his family and early personal exposures to physiology and psychology, Neutra integrated the biological and psychological sciences into an applied architectural program, therefore distinguishing his career from other modernists. He called his original perspective biorealism, and it was in

accordance with biorealistic principles that he designed and published throughout his career.

Neutra's architectural publications provide the clearest and most direct way to understand his distinctive architectural approach; therefore, his own words comprise the first section of this thesis, which seeks to define Neutra's original concepts.² Central to Neutra's philosophy was biorealism, a four-fold approach to architecture.

First, for Neutra biorealism was based on the assumption that environments, good or bad, made an impact on the human race. Biorealism was necessary to counteract a negative environment and ensure the survival of humankind. Second, biorealism was to employ physiology in the service of design. Neutra referred to this as "the art of building as applied physiology."³ As a scientific discipline, it ensured verifiably healthy design. Third, to achieve physiological balance, architecture must be nature-near. As the origin of humanity and an environment well adapted to physiological needs, nature would assist biorealism in combatting the polluted environment. Finally, biorealism held that architects have a duty to protect the human race through nurturing design. Architects are the physicians that hold their client/patients' needs above all else.

The second section of this thesis explores Neutra's family and early influences for thinking about physiology and psychology. Though some influences are greater than others, Neutra identifies each of them in his autobiography, *Life and Shape*. Some of the strongest inspiration came from family. His oldest brother, Wilhelm Neutra, was a medical student and later a distinguished psychiatrist in Vienna and New York. Neutra's exposure to Wilhelm's education and Wilhelm's later extensive work in neuroses showed Neutra the great cost of a negative environment, which he strove to overcome through biorealistic design.

Other formative influences came from Neutra's voracious literary appetite. Although his interests varied widely, he focused primarily within the fields of medicine and psychology. He identified the literature of Hippocrates and Wilhelm Wundt as particularly impactful. Indeed, Neutra's careful architect-client/patient relationships clearly demonstrate strength of Hippocrates's influence. As for Wundt, significant parallels exist in Neutra's published writings and how he approached his design method.

Still other influences come from personal exposures in Neutra's youth. Neutra identified, for example, the healing of his brother, Siegfried, by the internist Schrötter von Kristelli, as a profound event. The physiological diagnostics Schrötter employed resembled the technique Neutra eventually recommended to all architects in their practice. Neutra had more frequent and impactful exposure to Sigmund Freud. The Neutras and Freuds were family friends, and Neutra claimed that he was often in Freud's office, among his disciples. Yet, Freud is a paradoxical influence. On the one hand, Neutra mimicked Freud's psychoanalytical methodology with his clients, first instructing them to complete a self-analysis and then analyzing them during the interview process. On the other hand, Neutra admitted opposition to Freud, saying they fundamentally disagreed on the impact of the environment on the mind and body.

No matter the strength of the influence on Neutra, it is significant that many of them were medical or scientific. In this respect, Neutra stood apart from other architects. The influences not only affected his writings but also were apparent in his designs. Neutra's biorealism was especially perceptible in three buildings that I analyze in the third section of this thesis. The first building that expressed biorealistic design was the Lovell "Health" House (1927-29). The client, Dr. Philip Lovell, practiced a homeopathic lifestyle that paralleled Neutra's biorealistic principles. The resulting design, which many authors and critics hailed as an exemplary International Style building, in fact represented

Neutra's first embodiment of biorealism. The second incarnation was the VDL Research House (1932). As Neutra's personal dwelling, it presented the perfect opportunity for him to test the physiological and psychological effects of any and all elements of his biorealistic design. The third building was the Kaufmann Desert House (1946). The client, Edgar Kaufmann, Sr., sought from Neutra a light and open house for the high Colorado Desert near Palm Springs. Neutra applied the biorealistic principles from the Health and Research houses to the Desert House, resulting in a potentially healthful environment for the mainstream client.

Neutra's published material and architecture clearly show biorealism's influence, which is in itself a product of formative influences from Neutra's youth. The conclusion, however, questions where Neutra belongs within the architectural canon. Did he stand alone in his architectural approach and practice? Has his biorealism demonstrated a lasting impact on architectural history? The great tragedy, in fact, is that despite Neutra's efforts, his biorealistic approach never escaped the shadow of modernism under which scholars have always placed him.

BIOREALISM DEFINED

Richard Neutra's biological approach to architecture ultimately distinguished him from any other architect of his day. His philosophy of design was a sort of modern humanism, a perspective he referred to as "biological realism," or "biorealism" for short. Although each of his books more or less reveals his philosophy, there is one quote that particularly expresses his views. In his 1956 monograph, *Life and Human Habitat*, Neutra wrote:

It seems to me that in principle as well as generally, what fits best into this and the subsequent periods is, above all, biological understanding of human existence and

survival under the technically prevailing circumstances. The life and well-being of the human organism has occupied my mind during the last thirty years, ever since in the Twenties I undertook to work with much devotion on the many careful details of the design for the “Health House” at Griffith Park, Los Angeles. The art of building as applied physiology has stuck in my mind since that time long past when, still a boy searching for enlightenment, I hit on an old heavy volume by William Wundt, fascinatingly titled “Physiological Psychology”. Perpetually refined human-life-knowledge of body and soul became to me one, and the building of human habitat its most essential application. Perhaps the most appropriate adequate expression for this devoted, humanitarian, and thus profoundly practical, approach is Biological Realism.⁴

Neutra’s biorealism was not an aesthetic approach to design. Instead, it was essentially a four-fold principle. First and foremost, biorealism was the key to the survival of human kind. Neutra posited that the environment significantly affects human beings. A negative environment over a long time-span leads to serious physical and mental problems and a culture where people seek physicians and psychiatrists to cure their ills. “The lasting formative influence of the environment on our physiological and psychological health is no less urgent a concern than the debilitating, even lethal contaminants that have been set loose in the life cycles and food chains of the natural world.... Such fatigue-prone, nerve-wracking surroundings, seething with stressful impulses and fraught with neurasthenic friction, can literally make us sick.”⁵ When Sandy Isenstadt wrote about this aspect of biorealism, she claimed Neutra was trying to shock the world into taking design seriously. Architecture was no longer an issue of style, and what Neutra had to say was critical. She wrote, “The old problem of matching formal expression with industrial capability paled beside the new one he posed: extinction.”⁶ Biorealism—not aesthetics—was the way to anticipate and prevent these problems.

A second distinguishing factor of Neutra’s biorealism was its scientific and medical approach to architecture. Specifically, Neutra maintained that the application of physiology was important to gain a deeper understanding of the client and the effects the

building would have on the client. Physiological analysis produced results that could be experimentally verified. Referring to architecture as “the art of building as applied physiology,” Neutra believed that physiology was the key to truly understanding the individual client’s biological needs. He stated, “The vital signs of our original human nature, including our acute sensorial responsivity to the environmental stimuli impinging on us from all sides, must be monitored, analyzed, and interpreted.”⁷ Raymond Neutra further emphasized the importance of physiological analysis in his father’s practice: “My father was unique in his belief that the ideal architecture was informed by physiology...[which] held the key to successful design. He hoped that scientific knowledge would enable him to create environments where the probability of certain definable results would be increased...”⁸ In order to design biorealistically, Neutra looked beyond the client’s desires for temporary aesthetics to their primitive physiological needs.

Many of the client’s primitive physiological needs relied on a nearness to nature, which was the third factor of Neutra’s biorealism. Neutra proclaimed: “Our living space should not be separated too much or too long from the green world of the organic!”⁹ He did not simply desire nature for its obvious aesthetic benefits; rather, he saw nature as essential to the survival of the human race. Too many cities were polluted, traffic-ridden, filled with ugly signs and constant noise. The result was physical and mental stress. Because humans originated in nature and near nature, and because the human physiology is adjusted to that natural environment, Neutra argued that the continued connection with nature was the only way in which the built environment could be “in the minutest detail life-sustaining.”¹⁰ The biorealistic home, surrounded by nature, with a strong connection to nature, would benefit the client’s body and mind.

The role of the architect was the fourth, most important, and most distinguished factor of Neutra's biorealism. For Neutra, the architect was not simply a designer. The tools of his trade were not merely drafting paper and innovative materials. His goal was not only to design an aesthetically pleasing building. Instead, Neutra wrote, "it is in this era of brain-physiological research that the designer, who wields the tools of sensory and cerebral stimulation professionally, can perhaps be recognized as a perpetually and precariously active conditioner of the race and thus acquire responsibility for its survival. He acts, in a way, as a guardian of such survival."¹¹ It is interesting and important that Neutra referred to the architect as a guardian of the human race. He often compared architects to those in other service careers, such as clinicians, physiotherapists, psychiatrists, family practitioners, pharmacists, and scientists. "The architect must deepen and target his empathy," he wrote, "by becoming more intimately aware of such sensory detail, imagining what his client's experiences will be like in the setting he is creating."¹² In this way, he made it clear that architects must use physiological and psychological research as the tools of their trade, and they have the utmost duty to the client, not the architecture itself.

As founder and practitioner of biorealism, Neutra took its four aspects very seriously. Upon first meeting a client, he distributed a questionnaire for his clients to fill out, describing their "needs and habits."¹³ Over the course of the meeting, he interviewed (analyzed) the clients (fig. 1). He also instructed them to keep a diary of all their actions for the entire week, from rising in the morning to going to bed in the evening. These diaries had to be individual, so the clients—often a husband and wife—would not present a unified front. Dione Neutra described a typical client meeting:

Let's say somebody would telephone. They had seen a publication, and they said, 'We would like a small house. We haven't decided yet who our architect would

be, but would it be possible to talk to you?’ ... They would come, and Mr. Neutra would try to talk to them maybe for two, three hours, try to find out what their project was, try to find out why they wanted to build a new house, what they didn’t like about their old house, how they visualized their living, and he would ask them to write down what they did from Monday morning to Sunday evening.¹⁴

From the consultation interview, the questionnaire, and the diaries from their week, Neutra “prescribed” the appropriate environment. Each home incorporated individual design elements according to the clients’ backgrounds, routines, and physiological and psychological needs. The product was meant to supersede stylistic desires and to serve the clients for as long as they owned the home.

In the practice of biorealism, Neutra reached far and beyond the duties of other architects and attempted to distinguish himself from the limitations of modernism. His designs may appear traditionally modern, but the principles by which he designed were far from traditional. Indeed, it was the formative influences from his youth that led him to think differently from most of those in the modernist movement.

THE ORIGINS OF BIOREALISM

Just as Neutra’s biorealism was incomparable, so were the kinds of influences that Neutra pointed to in his autobiography and other books throughout his career. As an architect, it would not be unusual for him to write about the influence of other architects. Nevertheless, he wrote far more about scientists and medical figures, whom he discovered during his formative years. Of the many that he named, a few stand out as particularly influential: Wilhelm Neutra, his eldest brother and psychiatrist; the physiologist Wilhelm Wundt; the internist Schrötter von Kristelli; Sigmund Freud; and Hippocrates. In fact, there is an undeniably strong correlation between their theories and his own that went into the shaping of his biorealistic approach to architecture.

When considering what kind of negative impact the environment could have on people, Neutra was strongly influenced by his eldest brother Wilhelm Neutra (1876-1947). Neutra claimed in *Life and Shape* that, “from the earliest memories, half subconscious and half unconscious, the greatest influence was that of my older brothers.”¹⁵ From an early age, he observed Wilhelm’s academic education: “He often smelled of carbolic acid,” Neutra remembered.¹⁶ “He operated a terrifically valuable microscope, and had a large flat black case in which he placed scores of histological and pathological slides...”¹⁷ Neutra’s detailed observation of his brother’s medical equipment was, at the very least, evidence of his interest.

It was likely Wilhelm’s later work as a psychiatrist, however, that had a more significant impact on Neutra. Wilhelm’s specialty was in the diagnosis and treatment of neurosis, hysteria, and drug addiction. He wrote prolifically. By 1909, he had already published his first book, *Briefe an nervöse Frauen* (Letters to Neurotic Women). Wilhelm published another book in 1920, titled *Seelenmechanik und Hysterie (Psychodystaxie) Vorlesungen über allgemeine und medizinisch-angewandte Lustenergetik (Psychosynthese)* [Soul-mechanics and Hysteria (Psychodystaxie). Lectures on Generically- and Medically-Applied Pleasure-striving (Psychosynthesis)]. A third book on neuroses from Wilhelm appeared in 1935, called *Rationalpsychagogik: kritisch-autosuggestive Behandlung der Neurasthenie und Angstneurose* (Rational Psychagogy: Critical-autosuggestive Treatment of Neurasthenia and Anxiety Neurosis). Because of his close relationship with his brother, Neutra doubtless knew a great deal about his brother’s writings and understood the depth of his work.

Besides publishing, Wilhelm held psychiatric positions at various medical facilities, most notably at the Gainfarn Hydropathic Institute in Baden bei Wien, a clinic designed for the treatment of nervous disorders (he was its director by 1920). Called

Wasserheilanstalten, these types of hydrotherapy clinics were numerous in late nineteenth and early twentieth-century Europe and only grew in number as neuroses increased. As Edward Shorter has explained, “The majority of sufferers who crowded into the spa towns and their in-patient water-cure clinics did not suffer from organic [bodily] nervous diseases but rather from diseases diagnosed at the time as ‘hysteria’ and ‘neurasthenia.’”¹⁸

As if the pervasiveness of neuroses were not horrifying enough, Wilhelm—along with a neurologist, Fritz Kaufmann—developed an electrotherapeutic technique for treating war anxiety around the year 1916.¹⁹ They called it *Überrumpelungsmethode* (the “Surprise Method”). Holger Steinberg described it, saying, “Soldiers having returned from war as ‘hysterics’...were consciously submitted to pain and torture...by means of electricity in order to pass the treatment off as somatic. Basically this treatment was intended and widely used to discipline psychophysical functions.”²⁰ He added that the surprise method often resulted in the death of the soldier.²¹

Observing the prevalence of nervous disorders and Wilhelm’s disturbing treatment for them, Neutra realized there had to be a better, gentler solution. Biorealism was his answer for the treatment of nervous disorders and, more importantly, the prevention of such problems. The way to achieve this goal was with the help of physiological psychology, made famous by Wilhelm Wundt.

Wilhelm Wundt (1832-1920) began his education in physiology. He first studied in Berlin under Johannes Müller, “the father of experimental physiology.”²² As a young academic, Wundt applied the scientific approach he gained from physiological studies to psychology. While working in Heidelberg, Wundt gave lectures on “psychology from the standpoint of natural science,” later compiled and published as *Vorlesungen über die Menschen- und Thierseele* (Lectures on Human and Animal Psychology).²³ These

lectures explored a wide range of physiology and psychological issues, from sensation and vision to perception and consciousness. His technical, physiologically based explanations appear astoundingly similar to the way in which Neutra analyzed the impact and experience of architecture on the human body and mind.

Despite the similarity with Wundt's *Lectures*, Neutra's first documented contact with the work of Wundt in his teenage years came when he encountered Wundt's book, *Principles of Physiological Psychology* (1874), in the university library. Neutra admitted the title of the book immediately attracted him.²⁴ *Physiological Psychology* was, for Wundt, part of the continuing attempt to transition psychology from the field of philosophy into its own provable, scientific discipline. As Daniel Robinson pointed out, "it was Wundt's aim to base psychology on the publicly observable facts of consciousness, and to explain psychological outcomes through laws admitting of experimental verification."²⁵ In the introduction to his book, Wundt wrote, "Now physiology and psychology...are auxiliary disciplines, and neither can advance without assistance from the other. Physiology, in its analysis of the physiological functions of the sense organs, must use the results of subjective observation of sensations; and psychology, in its turn, needs to know the physiological aspects of sensory function, in order rightly to appreciate the psychological."²⁶ "Experimental verification" was key for Wundt, just as it would be for Neutra upon reading *Physiological Psychology*.

When approaching architectural design, Neutra accepted the Wundtian connection between physiology and psychology. He demanded the use of physiological testing in design, in order to exactly fit the needs of the client. To cure neuroses and other psychological disorders, human physiology had to be understood and addressed—cure the body to cure the mind. Michael Ostwald recently stressed Neutra's affinity towards Wundt's work, saying Neutra was an "experimental psychologist, tuning his spatial

laboratory to achieve excitation control.”²⁷ In this way, Wundtian physiological psychology played a huge influence in the practical application of Neutra’s biorealism.

Part of applying physiological psychology into the biorealistic design required Neutra to be attentive to all of the clients’ needs. Neutra considered everything, from necessary storage space to the habitual movements of his clients around the house, to their daytime and sleeping habits and physical and mental ailments. He had no instruments by which to scientifically measure physiological and psychological aggravation or assuagement; instead, he relied on his observation and diagnostic abilities.

Neutra may have learned his diagnostic technique from Schrötter von Kristelli, whom he said made a “deep impression” on him.²⁸ Their first and only encounter was during Neutra’s older brother, Siegfried’s, medical emergency and subsequent healing. Neutra wrote of Siegfried returning home from Prague—likely in 1897—when he suffered a lung hemorrhage. Neutra’s eldest brother, Wilhelm, contacted Schrötter. Schrötter came without any medical tools, and proceeded to diagnose and cure Siegfried’s hemorrhage over the next thirty or forty minutes. Though not in the room, Neutra was amazed by the “physiognomic diagnostics” Schrötter employed, and he credited the situation with being “one of the significant experiences that guided me early in this direction.”²⁹

Practicing without medical tools—using only physiognomic diagnostics—would have been one of the aspects of Schrötter’s specialties as an internist. After earning his Doctorate of Medicine from the University of Vienna, Schrötter spent six years as an assistant to Joseph Skoda, whose method of physical diagnosis through auscultation and percussion enjoyed world-renown. Serving as primary physician, department head, and full professor at various institutions throughout his career, Schrötter passed on his diagnostic methodology to future generations. “As a true disciple of Skoda,” Erna Lesky

clarified, “Schrötter paid special attention to methods of physiological diagnosis in his department, and he taught his students what one can hear, see, feel, and smell with one’s own senses during the examinations of a patient.”³⁰

Neutra brought the same intentions to the design process. Upon meeting new clients and later reading their diaries, he analyzed their movements throughout the house, noting where the design of their current home was insufficient to meet their physical needs. He even, for example, paid attention to how the smells within the house affected the clients. He also studied their physical features to discover peculiarities, not to diagnose in the way a doctor might, but to fit his design perfectly to the clients.

Yet, the client interview process was not influenced by Schrötter’s physiological diagnostics alone. Neutra also relied heavily on interpreting the self-analysis of the clients, which he likely learned from Sigmund Freud (1856-1939).

Eventually lauded as the father of psychology, Sigmund Freud began his studies in 1873 at the University of Vienna medical school, eventually switching in 1876 to physiological research under Ernst Brücke, the founder of the Austrian physiologists’ school.³¹ Despite his beginnings in physiology, Freud quickly transitioned to the study of the unconscious, first through hypnotism and then into psychoanalysis.

By the time Neutra reached young adulthood, he had already had considerable exposure to Freud. The Neutra and Freud families were friends, and Neutra was quite close to Freud’s son, Ernst. It is likely that Neutra received quite a lot of influential ideas through personal contact with Sigmund Freud. Furthermore, Neutra also admitted an early influence from reading Freud’s 1901 book, *The Psychopathology of Everyday Life*. Thomas Hines recounted that Neutra’s diary was “sprinkled with Freudian concepts and terminology,” noting Freud’s impact on Neutra.³²

Sylvia Lavin, in *Form Follows Libido: Architecture and Richard Neutra in a Psychoanalytic Culture*, attempted to strengthen the connection between Neutra and Freud. “The facts remain,” she wrote, “that Neutra knew Freud himself, knew Freud’s work, and developed a professional interest in psychoanalysis. The biographical link between Neutra is well known.... As an authority both to be followed and to resist, Sigmund Freud is a touchstone for Neutra and appears with great frequency as a formative figure in writings produced throughout Neutra’s life.”³³

As Lavin suggested, Neutra both followed and resisted Freud’s influence. The greatest connection to Freud’s work appeared in the client interview process, prior to design. Although Neutra made his own observations, he also relied heavily on the clients’ self-analysis. This type of analysis, both in an interview style and in thorough diaries from the clients’ week, proved just as clarifying as the physiological diagnostics Neutra employed. The diaries were a chance for the clients and Neutra to gain genuine insight into their daily lives, their conscious and unconscious desires, their habits, their personal and interpersonal struggles and triumphs, and their deepest thoughts and feelings. Neutra understood how the environment made a psychological impact on their lives, and from there he was able to formulate a physiologically curative design.

On the other hand, though he used Freudian psycho-self-analysis in the initial interview, Neutra opposed its continued use throughout the design process. He understood that the clients could manipulate their diaries and verbal statements. In this way, Neutra relied on physiology to fortify the design, looking past the clients’ “wants” and designing for their “needs.” “The writer,” he wrote of himself in 1954, “has long felt tempted to put into words the fact that at this day and age no speculative philosophy, no deductive method alone, no talking-it-out can yield us all the principles of design. In our time new instruments and obligations have come to us from research penetrating into

life's performance. Physiology is a pursuit and a science which opens the door to broad and intensive application."³⁴

While Neutra limited his application of Freudian psycho-self-analysis to the initial interview process, he kept a nurturing relationship with the clients throughout the design and completion of the house. He saw himself as a modern humanist in the likeness of Hippocrates, holding the needs of the patient-clients above all else.

The influence of Hippocrates on Neutra is undeniable. In each reference to Hippocrates, Neutra referred to him as the clinician whose practice most closely paralleled Neutra's own. In *Nature Near*, Neutra compared biorealism to Hippocrates's work, saying, "The principle I was discerning involved the sustenance of life, defining a sacred trust was as basic to architecture as Hippocrates was to medicine."³⁵ In *Life and Shape*, Neutra further clarified his connection to Hippocrates. "I have gathered [much clinical information] from a medley of individually diagnosed and prognosticated little clients," he wrote, "after the hand to mouth fashion of Hippocrates."³⁶ Neutra saw himself as a Hippocratic architect, sustaining life just as Hippocrates had.

Hippocrates strove to establish medicine as a distinct field apart from philosophy. He believed that medical conditions were not a product of religious wrongdoing—and thus punishment from the gods—but rather a result of the body and its environment. It is Hippocrates that can be credited with heightening medicine to "the nobility of an art whose purpose seems to have been linked in Greek thoughts from the very first to the survival and happiness of humanity."³⁷

Hippocrates had significant influence in Neutra's conceptualization of biorealism. Interestingly, he was the inventor of the physiological diagnostics that Schrötter employed on Siegfried. He insisted that the most important thing in medical practice was that "the physician mobilize all the means of knowledge available to him, corresponding

to the five senses (sight, touch, hearing, smell, and taste) in addition to the understanding.”³⁸

Far more important to Neutra’s biorealistic practice, however, were Hippocrates’s patient-centered ethics. Hippocrates contributed greatly to the ethics of medicine, demanding “gentleness in treatment, courtesy toward the patient, and conversation with the patient.”³⁹ Neutra, likewise, established a client/patient-centered architectural practice, developing therapeutic architecture through extensive conversations with the clients. Reminiscent of the Hippocratic Oath, Neutra reminded architects that it was the “supreme commandment...not to torture human beings, the most precious material daily trusted into our hands, and to respect their subtle strains and stresses.”⁴⁰

Jacques Jouanna, author of a 1992 monograph on Hippocrates, epitomized both Hippocrates’s and Neutra’s practices when he wrote, “The patient’s response therefore served as a guide for the physician in the course of treatment—but only on the condition that the physician knew how to interpret it. Where he did, an attentive dialogue came to be established that marked the beginning of an authentic partnership between physician and patient in fighting illness.”⁴¹ Neutra’s biorealistic practice centered on this attentive dialogue between him and the clients, and his biorealistic design was produced from everything he saw, heard, smelled, felt, and analyzed.

Clearly, the medical influences from Neutra’s formative years led him to biorealism. From his brother, Wilhelm, he learned how desperately the human race needed therapeutic design in order to survive. He knew from Wundt that physiology was the key to a physiologically curative environment. To design for the physical and mental needs of each client, he employed the human-centered attentiveness of Schrötter and Freud. Above all, biorealism was a kind of humanism, *à la* Hippocrates, that elevated the well-being of the patient-client to utmost importance.

BIOREALISM INCARNATE

Neutra's biorealism was not simply a reason to write books, nor was it purely a philosophy. Instead, it was truly an applied architectural approach. He implemented biorealistic principles into his architecture and expected it to improve the health and well-being of the client. Architectural experience was, for him, measured entirely on the physiological and psychological impacts on the client, not by preference for architectural style. One passage in *Life and Human Habitat* revealed how Neutra thought about the minutia of architectural experience:

In an introductory way, we might consider for a moment how we experience such a home, standing free on a gardened lot. We approach the house after having parked our car at the curb. We step along the entrance walk taking in a wealth of sense impressions from the faint smell and exhalation of organic microbiotic life in the soil, the lawn, and the scent of the shrubs in the front yard, some of which may be in bloom while others have shed their petals and abandoned them to decomposition. All this time a slight breeze from one side or the other is a noticeable token of the "microclimate". The evaporation of secreted moisture on our exposed skin, face and hands, lets us know through thermal impression as much about the broad or limited scene in which we find ourselves as do the smells, or the minute nervous reports of our leg and foot musculature while we walk and rise a few steps to the entrance. The greatest awareness, however, is linked to our visual impression of the house which we "see not merely to see" but see in order to act upon vision. As we approach we raise our head to recognize the house number, and in the motion we possibly glance over the roof, its configuration and skyline. As we tilt our head upward, the equilibrium or inner ear organ immediately functions and combines the manifold record of our body position with pure vision and its ever-changing perspectives. We roll our eyes by means of that ingenious muscle cluster around our eyeballs which is intricately and neurally tied up with those tools which we use unconsciously for turning and tilting the head.⁴²

Of all the buildings Neutra designed throughout his career, three particularly aligned with his biorealistic agenda: the Lovell Health House (1927-29), the VDL Research House (1932), and the Kaufmann Desert House (1946). These three buildings

proved the existence of Neutra's biorealism, but they expressed biorealism in different ways. The Lovell Health House was the first commission by Neutra designed outright according to biorealism for a health-conscious client. Its biorealistic strength lay in the easily comprehended and soothing design. The design satisfied the programmatic desires of the client and required minimal physiological and psychological expenditure. The VDL Research House was just as its name clarified: a research laboratory in which Neutra and his family lived and worked. Neutra's own home was the ideal habitat to experiment with the ideals of biorealism. It was not only a soothing environment, but was also expressly "nature-near." Neutra additionally designed for physiological and psychological stimulation. Finally, the Kaufmann Desert House represented the type of client who did not demand healthful living, but whose home incorporated those ideals. Neutra also claimed that the Kaufmann Desert House was his best work, and as such, contained some of his strongest biorealistic principles.⁴³ For the Desert House, Neutra drew upon the biorealistic lessons he learned from the previous commissions and perfected the nearness to nature, physiological ease, and psychological satisfaction for the ultimate architectural design.

The Lovell Health House, built for Dr. Philip Lovell, along with his wife and three sons, was one of Neutra's first large commissions in the United States. Philip Lovell was originally Morris Saperstein—of Jewish origin—and he hailed from New York City.⁴⁴ A young progressive thinker and proponent of socialism, he yearned for California, an exotic land full of similarly free thinkers. After obtaining a chiropractic degree in Missouri, he arrived in Los Angeles in the early 1920s, quickly changing his name to Philip M. Lovell.⁴⁵ He established himself as a "drugless practitioner" by 1923, and he began writing his famous "Care of the Body" column in the *Los Angeles Times* Sunday magazine, beginning in 1924.⁴⁶ Through his clinic and column, Lovell was

dedicated to spreading his naturopathic ideas about healthful living, drugless remedies, and a whole-food diet. He had a large clientele by the time he approached Neutra to design his city home.

The Health House was the perfect opportunity for Neutra to implement the biorealistic ideas he had been formulating since his youth. Lovell shared his desire for architecture that would provide a physiologically- and psychologically-sound environment. Lovell described his requirements for the house in a letter he wrote in 1969, writing, “Believing firmly then and now that only in Natural forces lies men’s happiness—i.e. we needed and wanted sun, air, harmony of lines, and the ability to do many health things which I advocated, such as outdoors sleep, nude sunbathing, a pool that was never to be chlorinated, light, air, sunshine, clean lines, no hodge podge jungle of ideas...”⁴⁷ He and Neutra were a perfect match.

The Health House sat on a steep hillside above Griffith Park near Hollywood (fig. 2). The front door on the street level opened to an antechamber (fig. 3). From there, Dr. Lovell’s study lay directly ahead and the stairway to the left descended to the main floor. On the top level, each of the three bedroom suites sat behind closed doors, arranged in a pinwheel (fig. 4). Each suite included a bedroom, bathroom, and open-air sleeping porch.

Accessed by the staircase from the top floor, the public area of the house featured a single, long, rectangular space (fig. 5). Vision was unhindered from the dining room on the west end to the library on the east end (fig. 6). An open porch sat just to the north of the dining room. The north half of the public floor was dedicated to the kitchen and two guest rooms, all isolated from the living room.

The bottom floor included the service elements of the house, such as the laundry room, non-chlorinated swimming pool, a shower, and a nursery porch (fig. 7). The pool

extended halfway from under the body of the house, allowing partial shade and partial sun areas (fig. 8). This floor afforded access to other outdoor recreation areas as well.

Neutra's design for the house relied on physiologically- and psychologically-therapeutic principles. Physiological economy was one main requirement. To achieve this, Neutra designed long, narrow, low-ceilinged spaces with minimal floor level changes. The lack of stairs on the public floor—requiring only two stairs descending to the library—demanded the least muscle activation of the leg and foot muscles, reducing strain on the body.⁴⁸ Low ceilings benefit the inner ear, activating it less because of the diminished need to move the head up or down at a great angle. Keeping the head level also improved balance. The rectangular shape of the space safeguarded eyestrain. Neutra learned about eyestrain especially from Wundt, who wrote, “Owing to its physiological structure, when the eye moves freely, it follows a straight line in vertical and horizontal directions, but it travels in an arc when moving in every oblique direction.”⁴⁹ From this, it followed that it takes less eye muscle activation when observing a continuous straight line, something that Neutra strove for in his designs.

Psychological economy was a second main requirement in Neutra's design for the Health House. One aspect of this was ensuring a mild color palette, as demonstrated by a recent color photograph taken by Tim Street-Porter (fig. 9). The gray carpet and mild neutral walls offered the ultimate calming environment. Apart from the earth tones of the fireplace, there were no shocking or unnatural colors in the entire space. For Neutra, “shocking” design elements were appealing at the moment but detrimental to the nerves over a long period of time. He therefore championed subtle, soothing design, stating, “All appeals should be graded with respect to their duration or rather *the duration of our receptivity to them* [original emphasis].”⁵⁰ Along with the limited color palette, Neutra provided indirect lighting from the fifty-two-foot light trough, which offered a constant

light source to complement the ever-changing natural light from the living room windows.

The result of Neutra's design, according to the standards of both architect and client, was quite successful. In his 1929 column, titled "The Home Built for Health," Lovell wrote of his utmost approval of the design. "We have built...a home premised on the fundamental health principles and construction ideas which I have presented in my writings in the past."⁵¹ He went on to mention the plentiful opportunities for nude sunbathing, ultra-violet light-emitting glass, bathrooms with hydrotherapy equipment, the modern ventilation and lighting, and the hygienic and sanitary kitchen for preparing healthful foods. Towards the end of the article, Lovell exclaimed that his house "incorporates more designs of household efficiency, social and private welfare, physical and cultural development, than any house known to us."⁵²

Beyond that, in a letter from February 1969, the Lovells wrote to Neutra about their continuing satisfaction with his design. "With Dundee Dr. [the Health House], your creation, I did not have a single complaint. Everything I represented you produced for me—and it seemed that it was your philosophy as well as mine. Not only did you create a masterpiece, but you did it so economically that I was surprised and pleased.... The city house for nearly 2 decades became a house of comfort, happiness, and above all, radical drugless health."⁵³

The teachings of his formative influences indeed proved instrumental in Neutra's design success. He first observed the Lovells' daily lives, interactions, and habits in a Freudian manner. Lovell wrote, "[Neutra] not only spent a year in the preparation of plans, but also made an intensive study of the social uses to which this house is to be put. He diligently ascertained the living habits of this family—our likes and dislikes—our prejudices and idiosyncrasies—and conformed his architecture accordingly," giving the

home “his constant supervision.”⁵⁴ Holding the clients’ needs above his own design desires, Neutra paralleled Hippocrates, making sure to include some of the design elements that the Lovells requested. Like Lovell, Neutra knew that the success of the design would shape the lives of the young boys, and based on the research of Wilhelm Neutra, Neutra wanted to avoid a negative environment.

Although the Health House was the perfect opportunity to test out some of the physiological and psychological principles that he learned from his formative influences, Neutra continued to develop biorealism in his own house on Silverlake Boulevard. Upon completion of the Health House, Neutra lectured throughout Europe and Asia, ultimately presenting at an International Congresses of Modern Architecture (CIAM) conference in Brussels in 1930. It was at that time that he met Cornelius H. Van der Leeuw, a Dutch industrialist, who later financed Neutra’s own home.

Van der Leeuw was a philanthropist with a significant fortune and no stranger to modern technology and design. Working with the architect Leendert van der Vlugt, Van der Leeuw designed an ultra-modern, physiologically conscious factory for the production of coffee, tea, and tobacco. Prior to its conception, he had traveled to America and visited many factories, studying the best technologies and approaches to ergonomic seating, lighting, and assembly lines.⁵⁵ Barbara Lamprecht highlighted how similar Van der Leeuw’s approach was to Neutra’s biorealism, writing, “He believed that architecture would further the physical and mental health of his employees, and apparently had his workers tested to prove the efficacy of his theories. Like the Lovell house, the Van Nelle Factory (1931) won immediate international acclaim.”⁵⁶ Their common design approach attracted the two men to each other, prompting an invitation to Van der Leeuw’s home in Rotterdam, which Neutra praised.⁵⁷

After months of continuous correspondence, Van der Leeuw flew to Los Angeles to visit the Health House. Upon discovering Neutra was renting a property but had no home of his own, Van der Leeuw offered to loan Neutra \$3000 to build a home and studio. Neutra graciously accepted the money and dedicated the house to him. His main objective was to “*prove that man is stable, that new architecture is no passing fashion, and that, unaltered, it could still be good a generation later if well suited to human responses. It was possible to make an enduring design while watching with love and clinical knowledge our senses.... Their perpetuity of needs would supersede mere passing fashion [original emphasis].*”⁵⁸ The “health” of the Health House was overshadowed by the world’s love of its Modern qualities; in the Research House, Neutra finally had the opportunity to emphasize the enduring healthfulness and aesthetic of biorealism.

The VDL Research House was situated on the edge of Silverlake Reservoir, northwest of downtown Los Angeles (fig. 10). Its sixty-by-seventy-foot plot held a working studio and residence for Neutra, his employees, and his growing family.⁵⁹ The ground floor of the main house was primarily dedicated to the working office to the north of the main entrance, with plenty of space for meeting with clients and draftsmen (fig. 11). To the south of the main entrance was a lobby with access to a bathroom and bedroom. Up a grand staircase lay a private portion of the house, complete with a living room with adjoining terrace, a kitchen, dining space, and two bedrooms (fig. 12). A ship’s ladder connected the terrace to the rooftop solarium above (fig. 13).

A generous courtyard, added to the site in 1939, provided a green transition between the main house and the garden house (fig. 14). The new building considerably enlarged the living space of the site. It contained a living room, kitchen, a small bedroom, and a playroom.

The Research House was an experiment in spatial economy and in the principles of biorealism. Nearness to nature was the way to achieve both. Many of the living areas achieved absolute continuity to nature, such as the garden house living room. Its entire interior wall slid open to connect the room to the garden courtyard, thereby essentially doubling the living area and making it seem considerably larger on a psychological level (fig. 15). Neutra designed the same openness for the garden house playroom, which had a swing-up garage door to seamlessly connect the room to a planted area along Edgewater Terrace. The main house living room connected to an outdoor terrace that folded back accordion style to combine the two spaces (fig. 16). Neutra also designed two roof terraces, one above the main building and the other above the garden house.

Where direct connection to nature was not possible, abundant windows ensured a readily available view. Windows—not walls—enclosed the main house living room, offering panoramic views of Silverlake Reservoir (fig. 17). Even at night, when interior glare on the windows would have blocked any exterior view, making the room appear smaller, recessed lighting in the soffit broke the glare and continued the view from inside to outside. Appropriately placed mirrors also psychologically enlarged the space.

Aside from the obviously beneficial spatial economy that came with connection to nature, the Research House was an experiment to find physiological and psychological perfection. As in the Health House, Neutra used neutral colors throughout the house, allowing only minimal color accents in the seat cushions and pottery. The neutral colors drew attention to the outdoors and limited visual stress from the interior. Vegetation planted in every open area of the plot provided an aural buffer, blocking excessive noise from the surrounding city and creating a relaxing, quiet environment. Neutra also introduced sound-insulated cork floors and carpets around the house. The result of the

tranquil visual and auditory effects was a psychologically soothing environment, healthy—not harmful—to the occupants.

In some ways the Research House was not so different than the Health House. For both, Neutra designed neutral interiors, plenty of visual and physical access to the outdoors, and a quiet, healthy, soothing environment. In the Research House, however, Neutra also integrated subtle but constant physiological and psychological stimulation. He claimed the lighting was meant to be “*an emotive stimulant* [original emphasis]” to change the occupant’s biochemistry throughout the day.⁶⁰ The variety of materials covering the floors and seating offered different visual and physical texture. Each room had a different affective environment. Neutra also relied on the strong connection to nature to contribute to the ever-changing stimulation by means of varied daylight and weather conditions.

The Research House truly excelled through biorealistic design. All design elements were in the service of the physiological and psychological well-being of Neutra and his family. He was able to effectively demonstrate spatial economy, tranquility, healthfulness, and stimulation in a mere 1200 square feet. At the same time, he also challenged broader modernism, insisting that biorealism was not only healthy but would always be modern. Modernism was a vogue fashion and would pass out of the public’s favor; biorealism would be forever current and surpass any style. Neutra enforced this position by writing years later, “the house has shown no sign of depreciation or obsolescence.”⁶¹

Years later, in 1946, Neutra was given an opportunity to further perfect his biorealistic design. He was contacted by Edgar J. Kaufmann, Sr. to design a house for him and his wife in Palm Springs, California. There is no published material regarding the relationship between Neutra and Kaufmann; neither is it clear why Kaufmann chose

Neutra to design his desert house instead of another Californian architect. Kaufmann could have chosen any architect he wanted. He was a wealthy merchant and philanthropist from Philadelphia and no stranger when it came to modern architecture. Nearly a decade before, in 1936, Frank Lloyd Wright designed the Kaufmanns' vacation home, the house that became known as Fallingwater. However, instead of again commissioning Wright, Kaufmann wanted to avoid the cavernous environment he knew Wright would design for his home in Palm Springs. He thus hired Neutra, who would give him the "lightness and openness" he desperately desired.⁶²

The house Neutra designed appropriated 3800 square feet of the Colorado Desert (fig. 18). Centrally located were the living and dining rooms, and from them extended the more private areas of the house in three directions (fig. 19). The west arm of the house contained the staff's quarters, to the north of the core were the guest rooms, and the east arm held the master suite, to which a pool connected (figs. 20 and 21). Above the core of the house floated a partially open gloriette. Neutra employed glass for almost the entire perimeter of the house, thereby granting Kaufmann's wish for lightness and openness.

For Neutra, the Kaufmann house was an occasion to expand the biorealistic principles from his own VDL Research House on a much larger scale. The most basic principle was the house's connection to nature. The overwhelming use of glass and silver paint emphasized the floating quality of the house. The house protected the clients from the elements but did not cut them off from their natural origins. Each of the larger glass doors, especially those in the living room and the master bedroom, glided completely open to ensure a continuous transition from indoors to outdoors. Covered walkways and patios guaranteed that no matter what path the client took through the house, the view of nature was never far removed. The gloriette, designed with vertical metal louvers on the north and west side, offered a prospect of the surrounding landscape and direct

connection to nature, while still maintaining protection from any unwanted weather elements (fig. 22).

The famous Shulman image accentuates the lightness and openness that the Kaufmann house achieved (fig. 23). From the edge of the pool, there appears to be no solidity inside the house; the viewer does not know where the landscape ends and the house begins. The interior's brightness also matches the surrounding horizon, giving the appearance that there is only a roof held up by barely-visible pilotis. As Barbara Lamprecht pointed out, the silver paint was a physiological trick Neutra used, in order to reduce the "visual impact" of those elements, so that "the eye was less likely to be deflected from its trajectory out to nature, to landscape and sky."⁶³

The silver paint also served to dematerialize the Kaufmann house and focus the eye on the nature; however, Neutra also intended to create a dynamic environment. Several elements, including the silver color, intentionally heightened the dramatic changes that happened throughout the day and night and with the varying weather conditions (fig. 22). The pool, as a large portion of the site, added variety to the desert climate. It reflected the puffy clouds, and the sun- and moonbeams danced off its lively surface onto the house. The louvers of the gloriette were adjustable, depending on the physiological and psychological needs of the client. As the building participated with the surrounding landscape, reflecting and emphasizing the changes of the environment, the client thereby felt a greater healthful impact. In fact, the dynamic nature of the house was the most important element that Neutra wanted Shulman to capture in his pictures. The house was not meant to be "static...Do not take all pictures showing pool at the same hour, as the ripple or quiet reflection of water changes, clouds vary, and especially shadows and reflections on metal fascias do."⁶⁴

The physiological and psychological satisfaction Neutra designed into the Kaufmann house was undeniable. From a physiological standpoint, the house offered a healthful environment. Though the house was already somewhat secluded in the Colorado Desert, the high flagstone wall surrounding the property further buffered noise from the neighborhood (fig. 24). Glass admitted salubrious sunshine while sheltering the body from the dry wind. Radiant heating and cooling inside the house floor and around the pool prevented any uncomfortable temperature changes to the feet. Straight, easily perceived lines drew the eye smoothly from near to far and back. Because the house was a physiologically soothing environment, it became a psychologically fulfilling place for the client.

Neutra, also, was pleased with his biorealistic design. Both Dione and Raymond Neutra testified that the Kaufmann House was his favorite.⁶⁵ It seemed to incorporate each of the biorealistic elements of his two previous biorealistic buildings—the Health House and the VDL House—in a more beautiful and effective way. He designed the house according to the individual physiological and psychological needs of the client, but he also captured the more broader human needs for the home sanctuary.

NEUTRA'S PLACE IN ARCHITECTURAL HISTORY

Neutra made it his life's work to convince the world that biorealism was the answer to its problems. Throughout his career, he published no fewer than eight books detailing his biorealistic principles; even more unpublished manuscripts lie in his archive at UCLA. He lectured around the world. Of the nearly two hundred private houses he designed and built, each was perfectly suited to the individual client's physiological and psychological needs.

So determined was Neutra to promote biorealism that he established the Neutra Institute for Survival Through Design in 1962. Neutra, along with his son Dion, sought to continue and expand his client/patient-centered biorealistic approach to a broader audience and larger variety of issues. Their objectives, as of 2001, involved communication about their doctrine, interdisciplinary research in the environmental sciences, application of the “newest scientific advances, methods, and concepts,” education of the public, and the preservation of Neutra’s work.⁶⁶

Despite Neutra’s hard work and the dedication to his biorealism, his portrayal within architectural history has always been different than he intended. Until recently, few authors gave any credence whatsoever to his distinctive method. He was always simply labeled a “modernist.” Henry-Russell Hitchcock and Philip Johnson championed the Lovell Health House to be exemplary International Style architecture, and they reduced it to a conversation of steel, glass, and concrete. Their description, in fact, was not even that complimentary: “The design, though complicated by the various projections and the confusing use of metal and stucco spandrels, is based on a visible regularity of structure.”⁶⁷ Many architectural dictionaries and encyclopedias also disregard Neutra’s biorealistic approach, categorizing him only by the style of architecture in which he appeared to build. Even Thomas S. Hines, the eminent scholar on Neutra, titled his book *Richard Neutra and the Search for Modern Architecture*, emphasis on modern. What he wrote, though overwhelmingly thorough and well researched, completely lacks anything but a few brief references to biorealism.

The complete misrepresentation of Neutra’s work proved to be frustrating in at least one documented case. Esther McCoy’s book on Neutra, published in 1960, discussed little more than the materials and new technologies he implemented in his buildings. Despite citing *Survival Through Design*, she devoted only a single paragraph

to biorealism and did not even call it by name. According to Dione Neutra, Neutra was unhappy that McCoy had “completely underplayed his interest in biorealism” prior to the book’s publication.⁶⁸ He undoubtedly struggled with other non-biorealist portrayals from other authors as well.

To be sure, Neutra’s biorealism is difficult to understand and even more difficult to discuss. For all the books Neutra wrote, there are but a few quotes that comprehensively sum up what biorealism really was, and none can condense to a single sentence.

At the same time, Neutra’s biorealism was far ahead of its time within the architectural field. He concerned himself not about design, or aesthetics, or any particular style, but focused instead on human beings and their needs. His hope was not merely to provide housing for the human race, but to prevent the extinction of the human race. Biorealism required extensive knowledge of the biological sciences, something that not many (if any) architects possessed. Neutra knew biorealism would not be popular for a long time, if ever. In his autobiography, published in 1962, Neutra admitted, “My health and biological writings did not seem to belong on an architecture library shelf, and perhaps to this day they have hardly found a legitimate place there.”⁶⁹ It is a tragedy that Neutra’s prediction proved correct for so many years.

Fortunately, the tide is changing. Since the rising popularity of “green” architecture and sustainability, there has been fresh interest in Neutra’s work and new attempts to research and negotiate biorealism. Scholars are starting to realize the sense of his biorealist approach, especially with regard to healthful mass housing and nature-near design. Other authors have even begun crediting Neutra’s formative influences, such as Sigmund Freud and Wilhelm Wundt. Each author’s opinion varies to a great degree,

but it is a start. Perhaps one day Neutra will be known as more than just a modernist.
Maybe one day Neutra will be known as a biorealist.

Notes

¹ Neutra, *Building with Nature*, 222.

² It is important to note the emphasis I have made between published and unpublished. While I realize that Neutra may have written falsities to present a certain picture to the reader, I believe that what he presents to the reader represents the core of his practice. Therefore, I present his writing not as the ultimate truth, but as the truth that he presented.

³ Neutra, *Life and Human Habitat*, 29.

⁴ Ibid.

⁵ Neutra, *Nature Near*, 32.

⁶ Isenstadt, "Architectural Consumption," 102.

⁷ Neutra, *Nature Near*, 32.

⁸ Raymond Neutra, "Neutra Territory," 176.

⁹ Neutra, *Building with Nature*, 25.

¹⁰ Ibid., 222.

¹¹ Neutra, *Survival Through Design*, 244.

¹² Neutra, *Nature Near*, 38.

¹³ Leet, *Richard Neutra's Miller House*, 65.

¹⁴ Dione Neutra, *To Tell The Truth*, 250.

¹⁵ Neutra, *Life and Shape*, 44.

¹⁶ Ibid., 46.

¹⁷ Ibid.

¹⁸ Shorter, "Private Clinics," 170.

¹⁹ Steinberg, "Electrotherapeutic Disputes," 12. Steinberg cites the first usage of the term in Kaufmann's article, "Die planmässige Heilung komplizierter psychogener Bewegungsstörungen bei Soldaten in einer Sitzung" in *Münchener Medizinische Wochenschrift* 63 (1916): 802-4.

²⁰ Steinberg, "Electrotherapeutic Disputes," 12.

²¹ Ibid.

²² Boring, *Experimental Physiology*, 318.

²³ Ibid., 321.

²⁴ Neutra, *Life and Shape*, 88. He wrote, "Wilhelm Wundt's book title attracted me greatly."

²⁵ Robinson, *Toward a Science of Human Nature*, 169.

²⁶ Wundt, *Principles of Physiological Psychology*, 10.

²⁷ Ostwald, "Modern Interior," 32.

²⁸ Neutra, *Life and Shape*, 52.

²⁹ Ibid., 61.

³⁰ Lesky, *Viennese Medical School*, 296.

³¹ Ibid., 228.

³² Hines, *Richard Neutra*, 12.

³³ Lavin, *Form Follows Libido*, 17-18.

³⁴ Neutra, *Survival Through Design*, 7.

³⁵ Neutra, *Nature Near*, 30.

³⁶ Neutra, *Life and Shape*, 360.

³⁷ Jouanna, *Hippocrates*, 125.

³⁸ *Ibid.*, 292.

³⁹ *Ibid.*, 131.

⁴⁰ Neutra, *Life and Shape*, 242.

⁴¹ Jouanna, *Hippocrates*, 135-6.

⁴² Neutra, *Life and Human Habitat*, 13.

⁴³ Raymond Neutra, "Neutra Territory," 180. When pushed to choose his best work, Raymond wrote, Neutra "chose the Palm Springs winter vacation house that he designed for Edgar Kaufmann... He characterized it thus: 'The problem in its purest form. Just a question of human response to mystery of the site. Can I make it fit in terms of human response?'"

⁴⁴ Marmorstein, "Steel and Slurry," 241.

⁴⁵ *Ibid.*, 243.

⁴⁶ *Ibid.*, 244. "By 1923 Dr. Philip M. Lovell had hung his 'Drugless Practitioner' shingle in the Chamber of Commerce Building...."

⁴⁷ Philip Lovell to Richard Neutra, 9 February 1969. Cited in Thomas S. Hines, *Richard Neutra*, 305.

⁴⁸ At the time when Neutra was designing the Health House, work was more physically demanding and the home was a place to rejuvenate the body. Though Lovell made it a point to exercise, there were specific areas of the home in which to do that; otherwise, Neutra wanted to require the least amount of movement possible.

⁴⁹ Wundt, *Lectures*, 80.

⁵⁰ Neutra, *Survival Through Design*, 121.

- ⁵¹ Philip Lovell, “The Home Built for Health,” F26.
- ⁵² *Ibid.*, F27.
- ⁵³ Philip Lovell to Richard Neutra, 9 February 1969. Cited in Hines, *Richard Neutra*, 306.
- ⁵⁴ Philip Lovell, quoted in Hines, *Richard Neutra*, 90-1.
- ⁵⁵ Lamprecht, *Richard Neutra*, 36n5.
- ⁵⁶ *Ibid.*
- ⁵⁷ Hines, *Richard Neutra*, 94.
- ⁵⁸ Neutra, *Life and Shape*, 264.
- ⁵⁹ The original VDL Research House—with its garden house (added in 1939) and solarium (added in 1944)—is the subject of this thesis. Although the building burned down in 1963 and was subsequently rebuilt, only VDL I can be credited entirely to Neutra (Dion designed most of VDL II, albeit with most of the same biorealistic principles of his father, Richard).
- ⁶⁰ Neutra, *Life and Shape*, 266.
- ⁶¹ *Ibid.*, 267.
- ⁶² Hines, *Richard Neutra*, 200.
- ⁶³ Lamprecht, *Richard Neutra*, 34.
- ⁶⁴ Neutra, quoted in Hines, *Richard Neutra*, 201.
- ⁶⁵ Dione Neutra, *To Tell The Truth*, 294; Raymond Neutra, “Neutra Territory,” 180.
- ⁶⁶ “Richard and Dion Neutra Architecture—Aims and Purposes,” last modified April 23, 2001, accessed January 7, 2013, http://www.neutra.org/Aims_Purposes.html.
- ⁶⁷ Hitchcock and Johnson, *The International Style*, 193.
- ⁶⁸ Dione Neutra, *To Tell The Truth*, 443.

⁶⁹ Neutra, *Life and Shape*, 259.

Literature Review

Each of Richard Neutra's books read much like variations on the theme of biorealism. Whether addressing individual needs of the client or social architecture, Neutra's biorealism applies to all. The books, both individually and together, serve to explain biorealism. Some are more concentrated in areas of physiology or nature-near design; others read like manuals for architecture and design students; many are philosophical. All, however, contribute to the idea and practice of biorealism that Neutra strove to accomplish throughout his career.

The most rounded, overarching resource on biorealism is Neutra's autobiography, *Life and Shape*. It is the best work for those desiring to know Neutra on a more personal—as well as professional—level. Published in 1962, it is an old man's remembrances of his life and career, beginning with crawling on—and tasting—the floor. Neutra explores certain critical events throughout his life, veering from one story to the next. That being said, the events he relates clarify the way he thought about the world, his personal influences and relationships, and his career. In fact, the autobiography is almost more of an architectural treatise and medical journal than his life story. Weaved in and around personal stories are Neutra's theories on psychology, physiology, nature-nearness, and biorealism. *Life and Shape* is undoubtedly the strongest book for learning Neutra's self-proclaimed influences, especially considering his statements regarding his brother Wilhelm Neutra, Sigmund Freud, and Wilhelm Wundt. The book also greatly clarified how he came to thinking about architecture through the biological sciences, thus strengthening one's understanding of biorealism. Though some would argue that Neutra "staged" the circumstances of his life for the book, Neutra published the portrayal

of himself that he wished the public to see. The book, therefore, though perhaps not entirely factual, is highly valuable.

While *Life and Shape* is critical in determining Neutra's formative influences, the book that most thoroughly explains biorealism is *Survival Through Design* (1954). Often thought to be his most famous literary work, it is the book that nearly every author cites. Neutra himself referred to this book as "both a manifesto and a manual" for achieving the survival of mankind.⁷⁰ Formatted as a collection of forty-seven essays spanning his career, each essay broaches a specific aspect of biorealism. Topics include rationalism and naturalism, destiny in design, 'beauty' and quality in architecture, architectural ornament, spatial awareness by kinesthesia and stereognostic abilities, consciousness and unconsciousness, habituations and motivations of humans, ownership, and even shop fabrication. Neutra was more architectural in *Survival* than *Life and Shape*, many times directly addressing designers, planners, and architectural students. Particularly clarifying to understanding Neutra's applied biorealistic design approach is the way in which he described architecture and architectural experience by including scientific and medical expertise.

Two years later, Neutra published *Life and Human Habitat* (Mensch und Wohnen). Just as the title suggests, the book illustrates through pictures and short essays the problems and solutions of the world and its architectural environment. Many times throughout the book, Neutra mentions conditions that are and are not physiologically-sound for the human being, and he recommends how to achieve survival in a dirty, overcrowded world. He actually includes a brief essay titled, "Examining, Diagnosing, Prescribing and a Cordial Wish for a Happy Home in the Long Run."⁷¹ The essay reveals his determined and distinct philosophy—an aspect of biorealism—that the architect

should be like a medical practitioner, heeding the client's physiological and psychological needs.

Despite the great value of *Life and Human Habitat*, more valuable to research into biorealism is *Nature Near: Late Essays of Richard Neutra* (1989), edited by William Marlin. It is similar in format and content to *Survival Through Design* and includes topics related to biorealism. Each essay on nature, the senses, architecture (on personal and global scales), and architectural practice is relevant to Neutra's architectural theory. Though there are only thirteen chapters, he takes the time to discuss the topics in detail, particularly the physiological senses of the body, and he includes many examples of architectural experience. These examples in particular demonstrate to the researcher of biorealism how Neutra saw his designs for the Lovell, VDL, and Kaufmann houses.

Two of Neutra's books consider the nature-near aspect of biorealism greater than any other: *Building with Nature* (1971) and *Bauen und die Sinneswelt* (1977). Both books stress the detrimental effects of a polluted, overcrowded environment and offer biorealistic nature-near designs as the solution. Neutra gives illustrated examples of houses and explains how nature benefits the clients. He emphasizes the healthful qualities of transparency, view, direct connection to the outdoors, and good circulation within the house. Quality landscaping was additionally important to the nature-near aspect of biorealism. All of these design elements are evident in the Lovell, Research, and Kaufmann houses, proving the two books' contribution to the comprehension of biorealistic principles.

Neutra's *Mysteries and Realities of the Site* (1951) addresses the nature-near aspect of biorealism on a much more individual scale. A mixture of text and pictures, he uses some of his own projects (including the VDL Research House and the Kaufmann Desert House) as examples of using the site properly. He references the sun, wind,

climate, ground, soil, vegetation, and other factors in choosing a site, and maintains that proper selection is gravely important to humans' biological satisfaction. Neutra demonstrates his technical and scientific tendencies in the book's details, which reinforce why he implemented more of Wundt's experimental—rather than Freud's philosophical—psychology in designing his buildings.

Apart from the individual, Neutra's biorealism also concerned the larger society, and a few of his books explain his social theories therein. His *World and Dwelling* (1962) encompasses the broader setting of community and global architecture and shows his dedication to the human race on a larger scale. He primarily discusses public architecture, like schools, hospitals, and large meeting spaces (e.g. theaters, churches, malls, businesses), using a few of his own commissions as examples. Neutra's *Architecture of Social Concern in Regions of Mild Climate* (1948) also addresses the social responsibility and benefit of biorealistic design. It, too, includes his suggestions for public architecture like schools, public housing, health facilities, and city planning. For research on biorealistic design in private houses, these two books remained outside the scope; however, they still remain significant as part of Neutra's oeuvre.

WHAT OTHERS WROTE ABOUT NEUTRA

It is clear that Neutra contributed a great deal to his own image, and he tried throughout his career to educate the public and future students of architecture about the proper, healthful architecture that would save the human race. However, scholars writing about Neutra did not often see the value in furthering his ideas, instead focusing on his architecture within the canon of modernism. Fortunately, in recent years, authors have begun realizing the importance of seeing Neutra as not just a modernist, but as an

architect with a distinct and important design approach. Of all the scholars who did or did not participate in the discussion of biorealism, there are six authors whose books and articles are markedly significant. Taking each of their work as an indication of the broader scholarship on Neutra reveals the definite change over time in the depiction of Neutra and his works.

Esther McCoy published *Richard Neutra* in 1960 as part of the Masters of World Architecture series under editor William Alex. She wrote a short biography on the highlights of Neutra's early life, followed by a brief discussion and a catalogue of images of some of his more famous architectural works. Her biography is by no means thorough. Like others before her, she merely introduces some of the main influential architects in his life, only going up to his time at Schindler's Kings Road House. Her building descriptions reveal her background as a draftsman, for they are highly technical and focus entirely on the materials and technologies that Neutra used. Furthermore, she examines only the buildings, limiting or excluding discussion of the details surrounding them, like the clients, costs, design process, social considerations, and so on. Most importantly, McCoy says almost nothing about Neutra's biorealism, only writing, "His philosophy of design grows out of his interest in the biological sciences, whose researches in man's responses to a multitude of stimuli furnish him a new basis for the understanding of the individual."⁷²

McCoy's book is valuable in three ways. First, her technical building descriptions, though brief, are some of the most lucid analyses in all the literature on Neutra's works. Secondly, her omission of Neutra's biorealism affirms the fact that authors were misreporting him and his theories. Most importantly, it was from McCoy that Thomas S. Hines took up the torch and published his biography of Neutra.

Thomas Hines's *Richard Neutra and the Search for Modern Architecture* (1982) is, to this day, the chief source on Neutra. Structured chronologically, it details every facet of Neutra's life, including his family, personal relationships, formative influences, education, travels, and professional career. The architectural analyses are slightly heavy on the materials and technologies, like McCoy, but Hines does a good job of exploring other aspects surrounding the projects.

One of the greatest merits of Hines's book is the way in which he achieves alternative perspectives of Neutra. Admittedly, the entire book (and its title) aligns Neutra within the modernist canon. However, Hines's study is more erudite and multifaceted than any other. For example, in the chapter on Neutra's youth, he gives the reader an encompassing portrayal of Viennese culture, politics, and social customs, and how Neutra fit into it. His chapter on Neutra's youth is particularly valuable to research on Neutra's formative influences, as he presented a factual accounting of the circumstances that Neutra included in *Life and Shape*.

Nonetheless, like McCoy, Hines still offers an incomplete—practically nonexistent—picture of Neutra's biorealism. Although he introduces influences like Sigmund Freud and Wilhelm Wundt, he does not explore their impact on Neutra's design approach. Only once does the word "biorealism" appear in the entire book; otherwise Hines portrays Neutra as an ordinary modernist. It is clear Hines did not consider biorealism significant enough to distinguish Neutra from other architects. Therefore, as a source for his personal life and architecture, Hines's book is without match; as a source for examining Neutra's biorealism, it is regrettably lacking.

In 2004, Sylvia Lavin saw a gaping hole in McCoy and Hines's omissions of biorealism and strove to fill it with her book, *Form Follows Libido: Architecture and Richard Neutra in a Psychoanalytic Culture*.⁷³ It was the first major non-modernist

perspective of Neutra and his works, and is drastically different than those published by McCoy and Hines. Lavin uses part of Neutra's biorealism as the tenor for her analyses. In the book, she examines the implementation of psychology into his architecture. She credits the early influence of Freud, Otto Rank, and Wilhelm Reich and attempts to prove the existence of their theories in a select few Neutra buildings. Most importantly, Lavin distinguishes Neutra and his biorealistic approach from other architects.

Unfortunately, Lavin's ruminations about Neutra's buildings are largely eccentric. For example, she at one point uses Rank's theory of birth trauma to explain the spider-leg outrigging as the birth canal of a Neutra home. In analyzing another building, she compares the richness of Neutra's materiality to Wilhelm Reich's orgone box, saying that being in a Neutra home could increase the energy (sexual and otherwise) of the client. At no point does Lavin speak directly of Neutra's architecture, nor of his definition of biorealism; instead her ideas are so far-fetched as to be unbelievable.

It is significant that Lavin does not cite Neutra's definition of biorealism or his endless writings, aside from selectively quoting him. If she had taken the time to do so, she would have realized that Neutra's perception of Freud was often more negative than positive. Neutra and Freud fundamentally disagreed about the impact of the environment on the human being—Freud believed there was no impact at all, but Neutra believed there was a crucial effect. Neutra instead preferred the philosophy of Wilhelm Wundt, whom Lavin expeditiously dismisses, despite admitting that Wundt is the most mentioned influence in all of Neutra's books. Because of her insistence on highlighting only the psychological—not the physiological—portion of Neutra's biorealism, Lavin's book still does not truly characterize the originality of Neutra's architectural approach.

Falling somewhere between McCoy, Hines, and Lavin is Barbara Lamprecht, who published her monograph, *Richard Neutra: Complete Works*, in 2000. Lamprecht devotes

the majority of the book to cataloguing every work by Neutra, realized and not realized, complimenting them with large black and white and color photographs by Julius Shulman and images from the Neutra archives. In spite of her exhaustive inventory, her building descriptions do not compare to those by McCoy and Hines. Also unlike Hines, Lamprecht does not strive to write a complete biography of Neutra's life. These two reasons are probably why her book is not included in more bibliographies and studies of Neutra.

Nevertheless, Lamprecht's book is precious for its contribution to examining Neutra's biorealism. She investigates the influences on Neutra, the definition of biorealism, the different facets of it, and how he implemented it in his architecture. Of all the authors before and after her, Lamprecht most clearly condenses Neutra's entire biorealistic approach into a single succinct chapter.

Lamprecht and Lavin represent the first scholarship in a new wave of authors who recognized Neutra was not just another modernist architect. Particularly in the last two years, authors have begun taking Neutra's biorealism more seriously, perhaps because they realize Hines and McCoy did not do him justice, or maybe because biorealism is so closely related to the recent sustainable architecture movement. Todd Cronan and Michael J. Ostwald are two of these authors who seem to have found balance in writing about Neutra's biorealism.

Todd Cronan published his article, "'Danger in the Smallest Dose': Richard Neutra's Design Theory," in July 2011. Though he does not attempt to do a comprehensive study of Neutra's biorealism, he presents a new and concrete examination of certain parts of it. Using numerous quotes from Neutra's books, Cronan attempts to explain the essence of biorealism and explore its origins. Oddly—and perhaps

unfortunately—he never uses the word “biorealism,” instead forcing the reader to make the obvious connections.

Following the path set by Lavin, Cronan attends more to the psychological aspect of biorealism. Looking at the floor plans from Neutra’s earlier and later houses—they transition from open to more restricted—he argues there was a shift from architectural “interaction to [architectural] therapy,” with the result of affecting the clients.⁷⁴ Because of his basis in architectural analysis, Cronan’s theory ends up more believable than the argument presented by Lavin.

Cronan also presents a groundbreaking proposition about biorealism. He claims that biorealism was a way for Neutra to control the psychological affect on the client while hiding his intentions. He further argues that the scientific basis of biorealism allowed Neutra to remove himself from any evaluation over the meaning or import of his architecture. This original idea was conceivably something that other authors had considered, but Cronan deserves credit for writing it first.

The same year as Cronan published his article, Michael J. Ostwald explored biorealism in a different way. In 2011 and 2012, he published a series of articles, the most valuable to research into biorealism being “The Modern Interior and the Excitation Response: Richard Neutra’s Ocular-centric Phenomenology.” His perspective of biorealism is original because he is the first author to accept “prima facie” the influential role of Wundt’s theories in Neutra’s biorealism. He presents a strong argument on the visual aspects of biorealism, using Neutra’s words and analyzing his architecture.

An earlier article by Ostwald, “Lines of Sight, Paths of Socialization: An Axial Line Analysis of Five Domestic Designs by Richard Neutra,” contains an even stronger biorealistic analysis. As the title suggests, Ostwald uses an axial line analysis to prove that Neutra designed in such a way as to choreograph and control the movements and

psychological responses of the client. His physiological approach is the first of its kind to scientifically prove the existence of biorealism.

Ostwald's only weakness is his proclivity to include only the visual aspect of Neutra's biorealism in his discussion. In a way, Ostwald leans too far on the spectrum towards the physiological aspect of biorealism like Lavin leans too far toward the psychological aspect of it. Neutra's own conception of biorealism involved far more than mere visual aspects; it encompassed all of the physiological and psychological senses in the experience of architecture.

The literature on Neutra has not yet fully grasped the true nature or import of his biorealistic approach to architecture. Perhaps no author can better discuss it than Neutra himself. However, much has been discovered and revealed about biorealism between McCoy's book in 1960 and Ostwald's articles in 2011 and 2012. The literature will certainly improve in the coming years, with more in-depth research of Neutra's writings and a greater capacity for analyzing architecture in different ways. One day, the world will understand Neutra's biorealism as he intended it to be understood.

Notes

⁷⁰ Neutra, *Nature Near*, 101.

⁷¹ Neutra, *Life and Human Habitat*, 313.

⁷² McCoy, *Richard Neutra*, 8.

⁷³ Lavin's article, "Open the Box: Richard Neutra and the Psychology of the Domestic Environment," published in 1999, addresses the same issues that she explores further in the book.

⁷⁴ Cronan, "Danger in the Smallest Dose," 165.

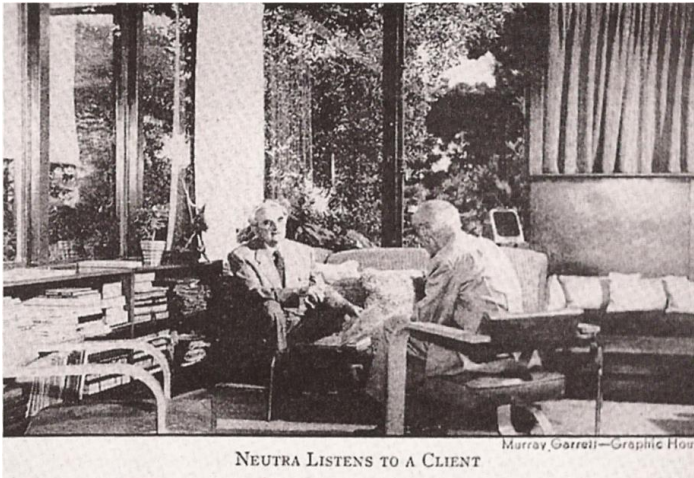


Figure 1. *Neutra Listens to a Client* shows Neutra in a Freudian-style, biorealistic interview. (Lavin, *Form Follows Libido*, 48.)



Figure 2. Lovell Health House, Los Angeles (1927-29). (Hines, *Architecture of the Sun*, 311.)

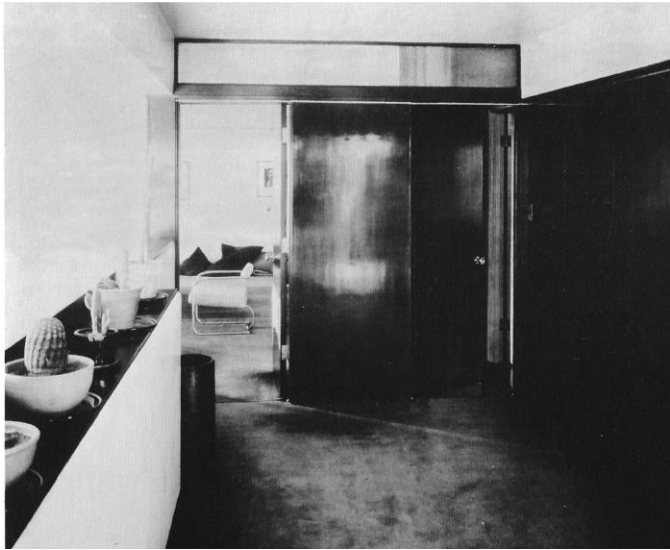


Figure 3. Lovell Health House. View from the antechamber into Dr. Lovell's study. (Hines, *Richard Neutra*, 86.)

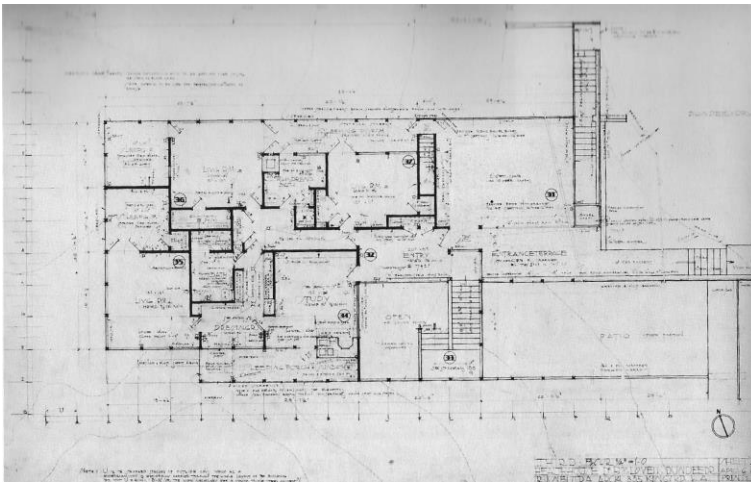


Figure 4. Lovell Health House. Top floor plan. (Hines, *Richard Neutra*, 82.)

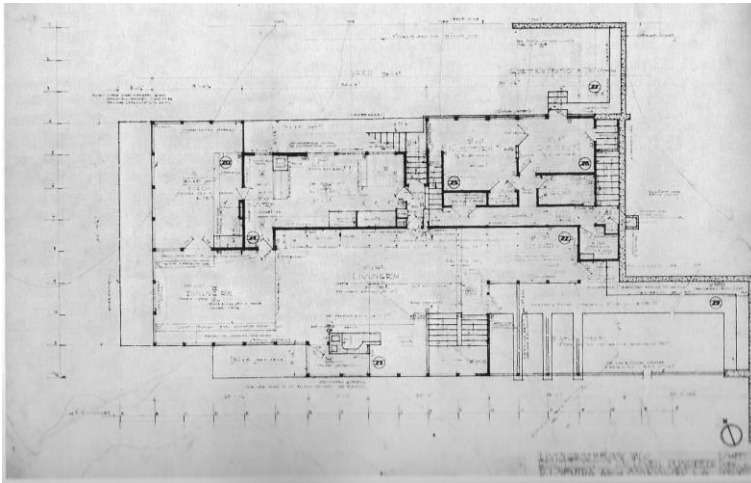


Figure 5. Lovell Health House. Middle floor plan. (Hines, *Richard Neutra*, 82.)



Figure 6. Lovell Health House. View of the library from the living room. (Hines, *Richard Neutra*, 87.)

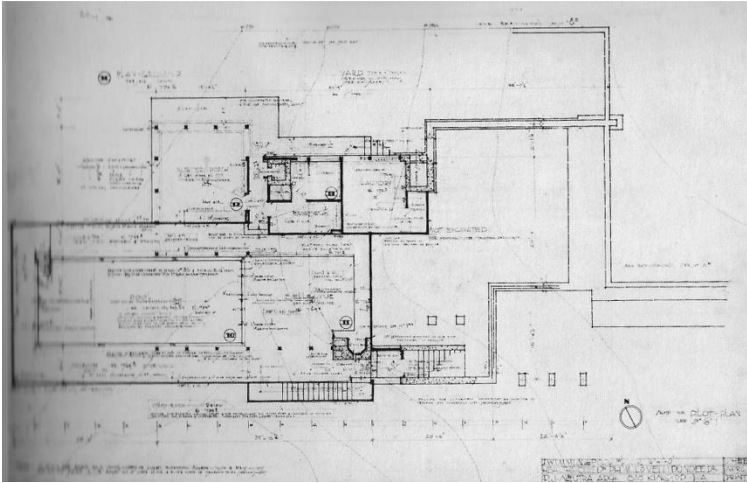


Figure 7. Lovell Health House. Bottom floor plan. (Hines, *Richard Neutra*, 83.)



Figure 8. Lovell Health House. View of the non-chlorinated pool. (Lamprecht, *Richard Neutra*, 94.)



Figure 9. Lovell Health House. Neutral colors, orthogonality, and varied lighting add to the physiological and psychological economy of the main floor. (Street-Porter, *L.A. Modern*, 67.)



Figure 10. VDL Research House (1932). View from Silverlake Boulevard. (Hines, *Architecture of the Sun*, 367.)

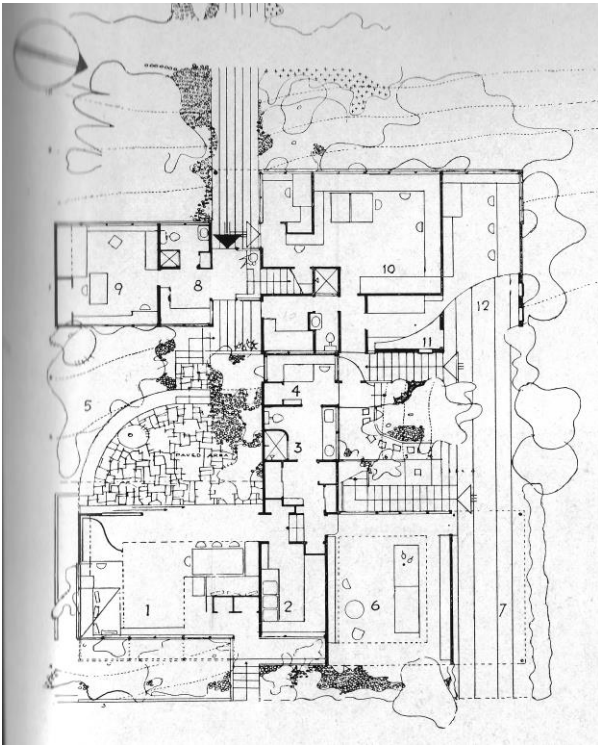


Figure 11. VDL Research House. Ground floor plan. (Boesiger, *Buildings & Projects*, 27.)

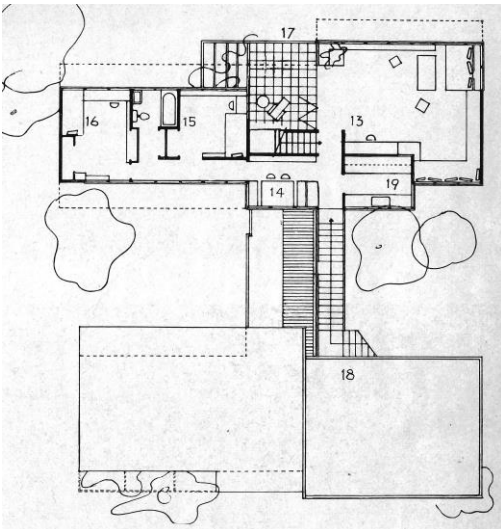


Figure 12. VDL Research House. Second floor plan. (Boesiger, *Buildings & Projects*, 27.)



Figure 13. VDL Research House. "Gloriette" (rooftop solarium). (Lamprecht, *Richard Neutra*, 100.)



Figure 14. VDL Research House. Interior garden patio. (Hines, *Richard Neutra*, 114.)

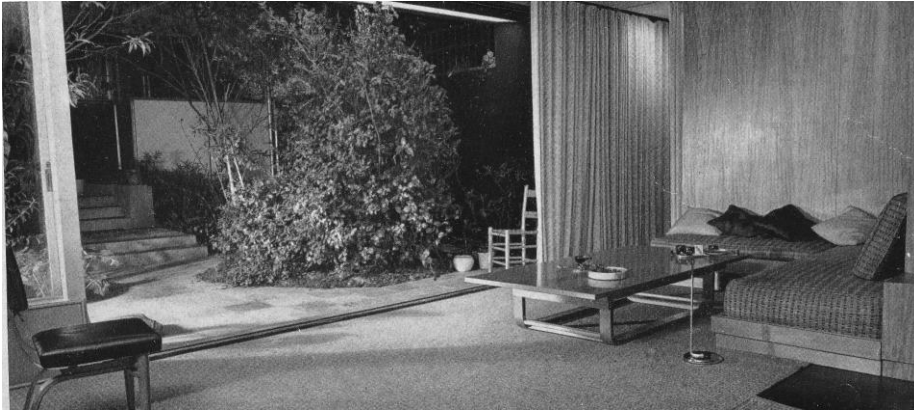


Figure 15. VDL Garden House. Living room open to garden patio and inner courtyard. (Boesiger, *Buildings & Projects*, 28.)



Figure 16. VDL Research House. Folding doors open the space between the living room and terrace. (Hines, *Richard Neutra*, 113.)



Figure 17. VDL Research House. Living room overlooking Silverlake Reservoir. (Hines, *Richard Neutra*, 113.)



Figure 18. Kaufmann Desert House (1946). Entrance. (Street-Porter, *L.A. Modern*, 81.)



Figure 19. Kaufmann Desert House. View of living and dining rooms. (Lamprecht, *Richard Neutra*, 187.)

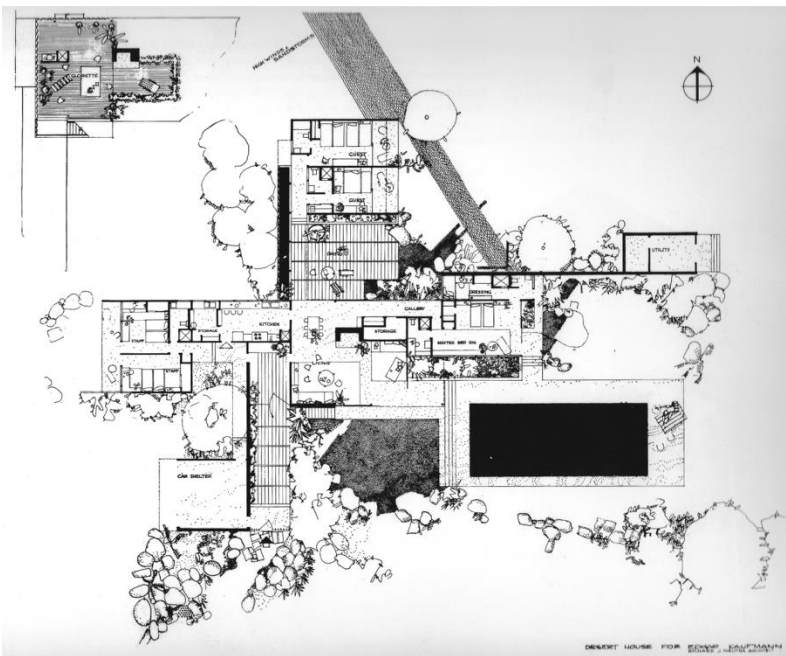


Figure 20. Kaufmann Desert House. Plan. (Hines, *Architecture of the Sun*, 564.)



Figure 21. Kaufmann Desert House. View of master bedroom open to the pool. (Lamprecht, *Richard Neutra*, 186.)



Figure 22. Kaufmann Desert House. Gloriette with vertical, moveable metal louvers. (Street-Porter, *L.A. Modern*, 94.)



Figure 23. Kaufmann Desert House at dusk. (Photo by Julius Shulman. Hines, *Architecture of the Sun*, 567.)



Figure 24. Kaufmann Desert House. A high stone wall surrounds the property. (Lamprecht, *Richard Neutra*, 183.)

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The following bibliography is only a list of the most important sources available on the subjects of Richard Neutra, his architecture, his formative influences, and his biorealistic principle. For the reader's convenience, I have divided the bibliography into three sections. The first section—"Sources by Richard Neutra"—includes sources written and published by Neutra and sources edited by others but containing writings by Neutra. The second section, "About Neutra" contains secondary sources, written by other authors about Neutra. They deal with the whole gamut of subjects pertaining to Neutra, his life, and his works. The third section, "On Physiology and Psychology," encompasses those sources having to do with Neutra's formative medical and scientific influences, including the work of and about Wilhelm Neutra, Sigmund Freud, Wilhelm Wundt, Joseph Skoda, and Leopold Schrötter von Kristelli.

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