

# Nature under Glass: The Case Study Houses Redefine the “Landscape”

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## Introduction

The natural landscape has served as a reference for American national identity since the foundation of the country, from Thomas Jefferson’s ideal of the agrarian society to Frederick Jackson Turner’s “frontier thesis.” This paper is part of a larger work which looks at how the natural landscape has been represented in significant American architecture and planning projects of the twentieth century; that is, projects which were supported and instigated by both government and business interests. If we accept, as Homi Bhabha has argued, that the “nation” is “narrated,” we can then explore how architecture might play a constitutive role in such a narration of nation.<sup>1</sup> While Bhabha looks at foundational texts — stories and histories — here, the focus is on architectural rhetoric, how buildings and landscapes “speak” of the citizen’s relationship to nature.

The suburbanization of the United States that occurred after World War II was a phenomenon at a wholly new scale and one which included, for the first time, the vast majority of the country’s inhabitants. The suburbs generated a new attitude to the natural landscape: one which sought for each citizen communion with nature in their backyard.<sup>2</sup> With the G.I. Bill and the provision of mortgage guarantees through the Federal Mortgage and Housing Administration, the U.S. government in the post war period effected an enormous transformation in the nation’s landscape as the result of legislation aimed at individual homeowners. Each home would contain a bit of nature, and each citizen would have daily contact with it. As this essay unfolds, we will see that this privatization of nature in the middle class home held a kernel which would develop, through progressive stages of exclusion and paranoia, to the most extreme opposite of the glass house in the garden: the concrete bunker underground.

Sorting through the many “dream” houses and “model” houses that fill the national magazines of the mid 1940s, one house in particular stands out for the way it encapsulates this new relationship to the natural landscape. It was commissioned for the Case Study House program, a post war competition to design modern houses for the average “servantless” new home owner. Drawn up in 1945 by the young Minnesota architect Ralph Rapson, the “Greenbelt House” literally brought the open landscape of the prairie into the confines of the suburb. Designed for a small suburban lot, this

project, in one bold move, drew the wide open spaces of the American landscape into the house itself. Each room looks onto the central ribbon of landscape, which is both farm and courtyard as it flows through the house. In Rapson’s Greenbelt House, nature is in the house, not around it.

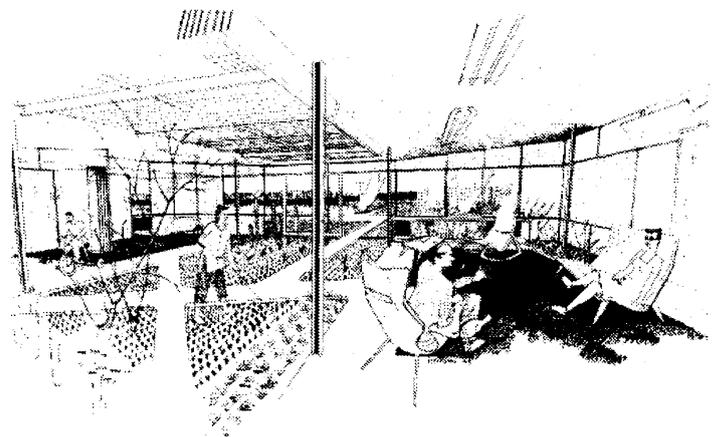


Fig. 1. CSH 4. The “Greenbelt House.” Ralph Rapson. 1945

The name of the project evokes the government-planned garden cities of the 1930s, such as Greenbelt, MD; Greenhills, OH and Greenfields, NJ. These schemes with their shared public open spaces and community facilities represented the most progressive urban planning of their time, and were still very much present in the minds of architects in the post-war years.<sup>3</sup> Rapson’s “greenbelt” plays off these references, but also dramatically transforms the relationship between dwelling and nature. Rapson’s design incorporates a strip of nature inside the house, while it suggests that the pre-fabricated modular dwelling that stretches out on either side can be multiplied into the infinite horizon of the American grid.<sup>4</sup> Although this house was never built, it impressed a generation of architects with the way it captured, in one elegant solution, a new attitude to nature, an attitude that greatly influenced the Case Study Houses that followed.

As we look at this house, it seems to us that the first lesson it teaches is that the natural landscape can be appreciated from within the

confines of a single family house. The “greenbelt” that was invented to separate cities from industries and one town from another was, in Rapson’s house, put to work to separate bedroom from kitchen, and adult areas from children’s spaces. Yet as the Greenbelt House encloses nature within its envelope, it changes how that landscape is understood. When he brings farmland into the house as an object of visual beauty, Rapson severs it from its primary purpose of feeding the population. His prototypical family may indulge in a little hobby gardening, but the main point of his project, he states, is to provide “a view — a place where children and adults alike might live and play in close association with nature.”<sup>5</sup> In this way, the American landscape become food for thought and an object of reflection, not a site of production.

The second lesson of Rapson’s house is that family life will benefit from contact with nature. Elaine Tyler May has shown that the post war family was “homeward bound,” in both senses of the word. Tethered to their acre of land with a mortgage, father, mother and children form a productive and reproductive unit of society; a “natural” unit, it was understood, that would best be ensconced in a natural setting, where healthy instincts could be satisfied free from the constraints and pollution of cities. Women could give free rein to their mothering impulses, tending toddlers and watering plants, and men could get in touch with their natural selves, mowing the lawn and providing for the household. Children would thrive, playing in a safe little stretch of backyard greenery. As the cult of the nuclear family reached a historical high in the post war period, we find that it serves as ground zero for all of the important national discussions, including the question we look at here: how Americans should live in their vast landscape. Rapson was unequivocal as he says of his house with its strip of internalized nature, “Here, the individual might grow and develop.”<sup>6</sup>

In this essay, I will first discuss the architectural devices that were used in the early Case Study Houses to open the house up to the garden, and then I will explore some of the reactions and anxieties generated by this suburban “over-exposure,” leading to the “shelter craze” of the early 1960s and, ultimately, to a totally “contained” landscape shaped by individualism and made up of private spaces and left-over space. This dynamic, played out partly in the high art designs of the Case Study Houses and partly in the popular imagination that fed the shelter discourse, reveals the double bind of expansion and paranoia that infuse the Case Study House idea.

## EXPANSION: A NEW SENSE OF SPACE IN THE POSTWAR HOUSE

### Moving out of the city and out of doors

The Greenbelt House was one of nine houses commissioned by John Entenza, editor of *Arts & Architecture* Magazine for his Case Study program of 1945. In the years to follow, this program became one of the most effective initiatives to promote modern design in the country. The driving aesthetic was modern but casual, and it attracted notice nation-wide as the “California Look”: indoor-outdoor living made possible by year-round sunshine, modern materials and manufacturing techniques adopted from Los Angeles’s avia-

tion and shipbuilding industries. And the packaging and promotion of the Case Study Houses also showed they came from the media capital of the United States: these houses were glamorously lit, peopled with models and beautifully photographed. Media icons, they reflected and magnified a mass-market ideal.

“Californian living” represented a nation-wide enthusiasm for moving out of the city and out of doors. While the average post-war house relied on picture windows or wallpaper of nature scenes to open up the space of the house, the Case Study architects could take advantage of the modernist architectural idea of the “open plan” invented by Frank Lloyd Wright and developed in Europe by Mies van der Rohe and Le Corbusier. They could also draw on the regional precedents of outdoor rooms, open air sleeping porches and open wall houses found in the work of Bernard Maybeck, Rudolf Schindler and Harwell Hamilton Harris. And with the advent of the sliding glass wall, this new generation of modernist houses could “borrow” the extra space of the garden and make it part of the house in all seasons, as Julius Ralph Davidson did in CSH 1, with a living room floor that seems hardly cognizant of the glass envelope as it shoots out to the terrace and beyond. Richard Neutra, of course, is the Californian architect most associated with the refinement of the sliding glass wall, but we could argue that the Case Study House program as a whole canonized the sliding glass wall as an essential feature of 1940s modern, with each of the first nine Case Study Houses employing this architectural device.<sup>7</sup>

Living and dining terraces, kitchen courtyards and garage patios were all ways of taking advantage of California’s mild climate to increase the usable floor area of the small post-war house. Whitney Smith’s CSH 5 managed to suggest that the whole house was a sort of encampment in nature, described by him as “living islands under one roof.” Trees and shrubs are sprinkled liberally around this plan, which provided a number of small enclosures linked by an amorphous indoor-outdoor space. In all of the Case Study Houses, we see living space opened up, becoming more aerated and extending into the outside, as if it were necessary to reassure returning war veterans they would not be confined to four walls after years in the field and in the company of men.

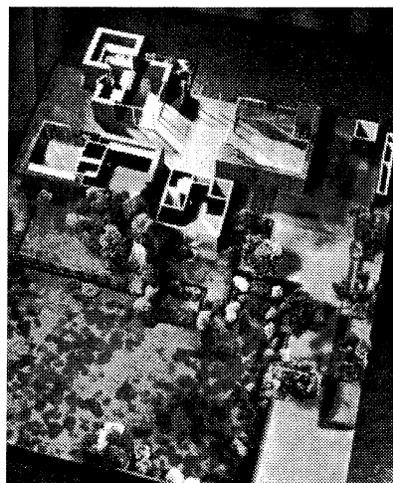


Fig.2. CSH 5. Whitney R. Smith. 1945-6

Not only did the Case Study Houses take advantage of outdoor space, but their interiors began to look like gardens as well. While Rapson's Greenbelt House is probably the most extreme expression of this tendency, all of the early Case Study Houses bring greenery inside with potted plants and free-form planters, and employ ground treatments traditionally associated with outside areas, like brick pavers and tiles, in the domestic spaces. For Rapson, the benefits are visual and therapeutic, "drawing nature inside the house," he believed, "would help overcome the disadvantages of the city lot; it would offer a built-in view while giving a space in which to pursue healthful leisure-time activity."<sup>8</sup> By bringing nature inside the house, the view of the garden is internalized and the leisure activities that take place there are privatized. At the same time, domestic life is re-invested with the primal experience of communing with nature. The house becomes a glass enclosure around the nurtured kernel of family in nature.

As the living spaces opened up to the outside, the garden changed too. Manicured, artfully arranged, and lit, it began to be considered as part of the whole composition of the house. Garrett Eckbo, writing for *Arts & Architecture*, was the foremost proponent of this new style of landscape design. For Eckbo, the modern garden should be designed like the modern house, that is, as a three-dimensional space, the only difference being that "one discipline produce[s] roofed space and the other spaces open to the sky."<sup>9</sup> His garden designs echoed the modernist designs of the houses and extended the "space" of the house to include the whole suburban lot.<sup>10</sup> Is the garden-house relationship one in which "indoor" becomes "outdoor" or is it the other way around? he queried. Rejecting the traditional middle-class conception of the backyard as a place of work, Eckbo's gardens are spaces of relaxation, peopled with young adults, occupied children, and thriving plants carefully tended by the housewife in her "leisure" moments.

All of these architectural devices — the glass wall, the introduction of greenery inside the house, and the design of the garden to extend the space of the house — reinforced the link between open spaces of modern architecture and the new-found cult of gardening promoted by journals such as *Sunset* magazine. While opening the house up to views of nature, they helped to promote openness and visibility in the home as positive values in their own right. Transparency in the home was a watchword for a more modern, more democratic, and more emotionally satisfying family life.

#### People who live in glass houses

By the 1950s, the constant pressure required to keep up appearances began to be recognized as a source of tension, anxiety, possibly even unhappiness for the woman at home. Open plans and glass walls created a uniform and perpetual regime of vision, in which everything is visible, potentially under scrutiny, and exposed to evaluation. It is then perhaps not surprising that concerns began to be voiced about the visibility of suburban home life. In his *Crack in the Picture Window* of 1956, John Keats condemned the stifling conformity felt by housewives who were simultaneously isolated and exposed in the suburbs.<sup>11</sup> With suburban houses going up cheek

by jowl in new subdivisions, with no intermediate planting, new residents found that the visual transparency of suburban life took some getting used to. While the lawn and the picture window were signs of belonging to this new community, they also began to trigger anxieties about conformity and the associated social pressures and pretense required to "fit in." Next-door neighbors could sneak the occasional peek in from a ground level window or through sliding glass doors. Picture windows enjoyed for their view onto the world became "problem windows" that needed to be covered with curtains, blinds or shrubbery to avoid the "fish bowl" effect. The view was ideally a one-way view.

Even in the Case Study Houses, we see increasing anxiety about the openness of suburban life. In Craig Ellwood's work for the program from 1952 to 1958, translucent panels replace the sliding glass windows favored a decade earlier, while Pierre Koenig wraps the public faces of his CSH 21 (1958) in steel, reserving the open walls for the most intimate areas of the house. One might speculate that with the rise of McCarthyism, what was once seen as neighborliness might contain the threat of surveillance. Or it may have been that the suburban homemaker increasingly felt the need for some "down time", away from the scrutiny of others.

Nature as well, once the epitome of benign communion, acquired in the atomic age new and threatening overtones. Smog alerts in post-war Los Angeles spawned new fears about the air and were accompanied by visible evidence of rusting plants and withering gardens. And of course fallout was on everybody's mind as an omnipresent danger, leading to popular hysterias about pitted car windshields and contaminated milk.<sup>12</sup>

The Case Study Houses, as icons of American domestic expansion in the post war era, reveal two fundamental aspects of a changing attitude to the natural landscape: first, that contact with nature as a part of everyday life was within reach of the middle class majority of the nation's citizens; and second, that nature enclosed within the suburban lot was a private realm for the nurturing of family life, ideally sheltered from scrutiny, preserved and protected as part of the American way of life. Both of these attitudes fed directly into the home shelter program. As the long-standing dream of home ownership was made available to a much larger segment of the population, it re-affirmed and strengthened the sense that each home was sacrosanct, a family fortress. And as the house was brought into a closer relationship with nature, the family backyard stood in for the protective buffer of the wide-open wilderness. Again, Craig Ellwood's inward-looking translucent-paneled houses communicated that sense of fragility and foreshadowed the completely inward-turning psychology that produced that other atomic age phenomenon — the family fallout shelter in the suburban backyard.

#### CONTAINMENT: THE BACKYARD BUNKER

##### The Cold War ideal: a fortress of solitude

When we consider that the Case Study House program was being realized at a time when atomic anxiety was at its height, it becomes intriguing to explore these open, transparent houses in the leafy

suburbs of Los Angeles in juxtaposition to a rising popular awareness of the threat posed by the atomic bomb. If we see the GI Bill and the interstate highway program as elements of a national housing strategy which directed new growth into the suburbs, it is intriguing to explore the next big housing initiative of the Federal government — the home “shelter” program — as both an extension of and a reaction to post-war expansion.

As the U.S. developed multi-megaton hydrogen bombs in the mid-1950s that could “take out” any size of city, and the Soviets followed suit shortly after, the U.S. shifted its civil defense planning from cities to suburbs. The early scenarios for urban evacuation and the provision of collective underground shelters had been replaced by the idea of the “family fallout shelter” — in which every house would be a fortress against the “enemy threat.” Well adapted to the increasing suburbanization of the country, this approach to civil defense also corresponded to the individualism of American society, asking every citizen to invest in a home shelter and provision it for the impending apocalypse. Federal pamphlets such as *By, For and About Women in Civil Defense: Grandma's Pantry belongs in your Kitchen* exhorted responsible citizens to practice the pioneer values of their forefathers, stocking up for adversity, taking responsibility for their own protection and survival. In this sense, the idea of the “family fallout shelter” played directly into the American myth that the suburbs were merely a continuation of a long-standing national tradition of independent, self-reliant homesteaders.

Yet the suburbanite of 1961 was not isolated on a rural farmstead. Rather he or she was watching nightly broadcasts and reading daily newspapers which described escalating Soviet-American hostilities over Berlin and Cuba, practicing Civil Defense drills, listening to radio shows that were interrupted by emergency broadcast system tests. Their houses were equipped with NEAR repeaters plugged into household outlets, which would trigger an alarm the moment the Soviet missiles were determined to be heading toward American soil. On October 5, 1961, President Kennedy went on nation-wide television to exhort every American family to build a home fallout shelter, and authorized FHA home loans to be used for shelter construction. A week later, all commercial and private flights over the U.S. and Canada were banned from 11 am to 11 at night (2,100 flights) and 1,800 NORAD fighter planes, 250 Strategic Air Command B-47s, B-52s and RAF bombers flew sorties over Eastern seaboard cities simulating bombing runs.

While it was initiated and instigated by the Federal government, the “shelter craze” that swept the country in 1961 was fundamentally a popular reaction to a feeling that the American family was exposed and vulnerable to forces beyond their control. In this sense, it was a reaction to the expansionism of the post war period. This is how Margaret Mead understood the “shelter craze.” Writing for the *New York Times Magazine* in 1961, she reminds her readers that “ever since we dropped the first nuclear bomb on Hiroshima... we were no longer protected by fixed boundaries. This recognition,” she continues, “activated many kinds of expansion,” from extended defenses around the world and the exploration of new frontiers in outer space, to support for trans-national activities such as the United

Nations, bilateral aid programs and the Peace Corps. Mead sees this expansionist activity as a “reaching out into membership in the human race, in a planetary community that existed de facto though not yet in theory.” She then proposes that “this centrifugal movement” has spawned a countervailing “centripetal pull of fear”: fear of mass destruction, of distant and alien peoples, and suggests that Americans who were “unprepared to take these unexpected giant steps turned inward, ... back in space and time, hiding from the future and the rest of the world, they turned to the green suburb, protected by zoning laws against members of other classes or races or religions, and concentrated on the single, tight, little family.”<sup>13</sup>

If, as the government had argued, the suburbs scattered over the face of the land were a strategic advantage in civil defense, Americans began to see the corollary — that it was in the suburbs that they would ultimately encounter the fallout from a nuclear war. Thus, the view from above takes on an additional symbolic importance. Descending on the Angeleno house like industrial smog or the ashes that followed one of the many hillside firestorms of those decades, danger, in the nuclear age, would rain from above.<sup>14</sup> The horizontal expansion of the postwar era, that Margaret Mead described as a centrifugal movement outward to a planetary community, is replaced by a vertical relation to nature: one which looks up to the sky in terror and down to the ground for salvation. The home no longer relates to nature as a horizon into which one expands (as Rapson's Greenbelt House suggests), but rather as a vertical axis which must be guarded and fortified in retreat. Contact with nature, in this instance, is realized by digging into the ground. The family lawn provides the sod for the family fortress. The home fallout shelter is the ultimate expression of this paranoid protective impulse. (insert Figure 3 here)

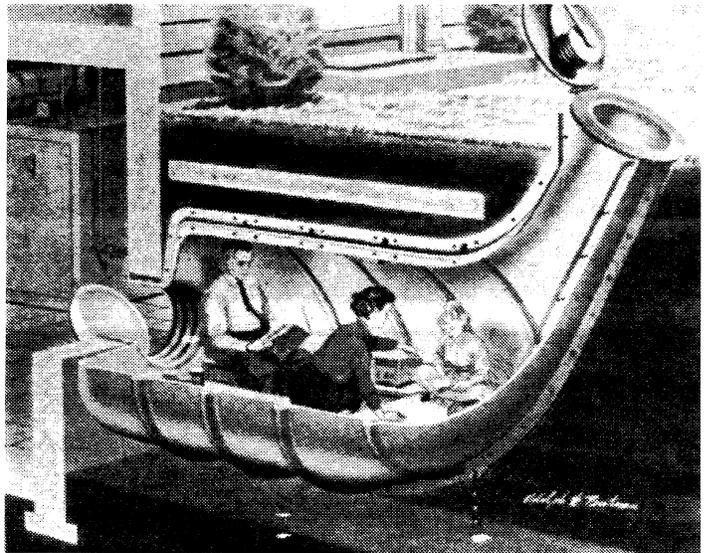


Fig.3. Pre-fabricated plastic home shelter designed by Arthur Bascomb. Life, 18 March 1957.

Like Superman's isolated Arctic hideout (created during these years), the fallout shelter is an impregnable space dedicated to preservation of a “super” way of life. Shelters, survival enthusiasts were

told, had peacetime uses as well: they could serve as a teen hide-out, a hobby space, and a second pantry — all suggestions which mirrored Superman's activities in his fortress — “getting away from it all,” doing his hobbies like squeezing coal into diamonds and engraving metal with his x-ray vision, and mostly, storing his memories of his earthly achievements and his family origins (the city of Kandor protected under a glass jar).

The shelter is also the final solution to the “visibility problem” of the over-exposed suburban house, replacing the “space” of the suburb with the “security and containment” of the shelter. Thus, the open house, so prized in the idea of “Californian living,” engendered, in the short space of fifteen years, an almost complete reversal as the nation scurried into the dark, private and contained underground spaces of the backyard shelters. Writing of that other post-war icon, the flamboyant and media-savvy Howard Hughes, the journalist James Phelan asked, “why did he let himself become a man that couldn't stand to be seen?”<sup>15</sup>

*At the head of [Hughes's] bed, there was a projector, and on the side near his hand, the control mechanism with which he projected his films, always the same ones, while he always ate the same dishes. We find here a metaphor for vision, the Socratic myth of the cave (a dark chamber), which, carried to its conclusion, required everyone to turn their gaze toward the source of light ... to contemplate the real which is invisible.<sup>16</sup>*

Nestled in its shelter, the model family becomes the “real” to be protected, while the world outside is shut out, populated, in the imagination of the shelter dwellers, by demons, threats, and contagion.

### Architecture underground

By the end of the 1950s, the decade-long love affair of Americans with the “transparent” suburban house had run its course. While the suburbs ensured that domestic life continued to be nestled in a green setting, the visibility (and vulnerability) of large sheets of glass had led modern architects to turn to translucent rather than transparent glazing, inward-turning gardens and tastefully-designed fences around private greenswards.

One of the last Case Study Houses, CSH 24 by A. Quincy Jones and Frederick Emmons, fuses the containment of the shelter with the indoor-outdoor relationship that had become a hallmark of the Case Study Houses. Published in *Arts & Architecture* the same month that Kennedy gives his fallout speech, this project for a 260-home tract on a former hobby farm near Northridge in the San Fernando Valley was meant to be the Case Study House “program's foremost statement about multiple suburban housing.”<sup>17</sup> Working for the developer Joseph Eichler, architects Jones and Emmons developed a master plan and one of five prototype houses that would make up the subdivision.

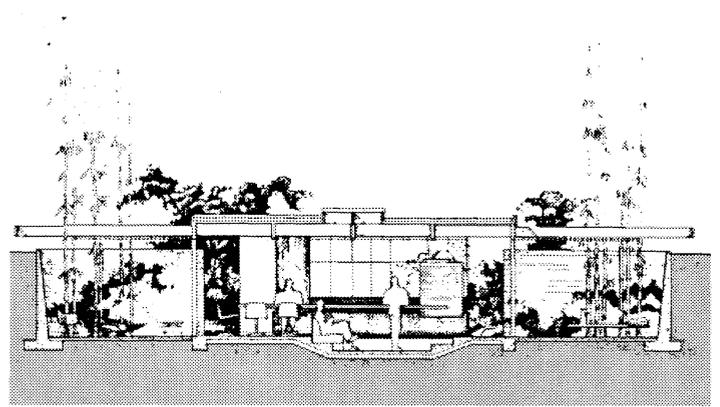


Fig. 4. CSH 24. Model for a 260-home Eichler tract. A. Quincy Jones and Frederick Emmons, 1961

The prototype house, consisting of four bedrooms and a small living area extended by “sun gardens” and “shade gardens” on each side, is almost entirely below grade. Excavated earth is piled on three sides of the house, leaving only the carport easily accessible from the ground plane. The result is a case study house that offers total visual privacy. It is ironic that this project, which was the program's most ambitious community development, is made up of houses that are completely isolated from each other. Their below-grade “gardens” and earth-bermed walls were meant to visually and acoustically buffer each family from others in the neighborhood. The clerestory windows that surround the house read like a page taken from the FCDA shelter manual.<sup>18</sup> The small living room in the center of the house descends even deeper into the ground, in a conversation pit, mirroring the indoor pool (an emergency reservoir?). There is one exit only from the four bedrooms, and that is past the “multi-purpose room,” a surveillance station positioned at the entry which is either a home office or in-law suite. The roof, not incidentally, offers protection from brush fires. Even the gardens are buried, and only the roofs hover above the endless sea of the surrounding landscape.

### LEFT OVER LANDSCAPES

In the 1960s, we see the process of “containment” carried through all the levels of the American landscape: roads become limited access freeways, shopping streets become limited access “malls,” renovated downtowns become inward looking “megastructures” (as in Victor Gruen's plan for Dallas-Fort Worth), and neighborhoods are set up as restricted communities according to class, race, and often religion. The psychology of “containment” begins with protecting the house and garden, but once unleashed, it infects all aspects of public lands and landscapes. To contain the threat, whatever it may be, one must first identify difference, and then isolate one use from other. Like conservation before it, “containment” is a scientific paradigm applied to social values.

In closing, we move up into the air, like Charles and Ray Eames in their film *Powers of Ten*, and look down on the landscape that has been created by “Californian living.” From the air we see each of the many contained and privatized realms of the urban infrastructure — backyard, house, suburb, downtown mall, shopping center, freeway — fed and supported by the proliferating agri-business and military-industrial complex. As piece after piece of the public, civic, and national space becomes contained, protected and policed through the 1950s and 1960s, the rest of the national space is abandoned to “wasted” space, lost space, the transformation of “public space” into a no-man’s land. It is in this “leftover” space that we see the consequences on the larger landscape of the abstract and individual relation to nature so well represented by the Case Study Houses. Space abandoned and neglected becomes a site for the proliferation of chemical dumpsites, parking lots, and junk yards. The aerial view allows us to criticize both the isolation and the environmental consequences of the suburbanization exemplified by post war Los Angeles. “Californian living” had indeed swept across the nation in the 1950s and ‘60s, and its legacy endures today.

## NOTES

- <sup>1</sup>Homi K. Bhabha, ed., *Nation and Narration* (London and New York: Routledge, 1990), 1-7.
- <sup>2</sup>And with their front lawn. See Beatriz Colomina, “The Lawn at War” and Mark Wigley, “The Electric Lawn,” both in *The American Lawn*, ed. Georges Teyssot (New York: Princeton Architectural Press, 1999).
- <sup>3</sup>Frederick Gutheim, “Greenbelt Revisited,” *Magazine of Art* (January 1946).
- <sup>4</sup>In her essay originally published in 1979, Rosalind Krauss remarks on the dual nature of the grid: first, “a tiny piece arbitrarily cropped from an infinitely larger fabric,” and second, “an introjection of the ... world into the interior of the work ... a mode of repetition.” See Rosalind E. Krauss, “Grids,” *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge, MA: MIT Press, 1985), 18-19.
- <sup>5</sup>CSH 4 by Ralph Rapson, *Arts & Architecture* (August 1945), 32.
- <sup>6</sup>Rapson, *Arts & Architecture* (August 1945), 33.
- <sup>7</sup>Sylvia Lavin has analyzed in some depth Neutra’s “intense concentration on dismantling conventional barriers between inside and out.” The Avant-Garde is Not at Home: Richard Neutra and the American Psychologizing of Modernity,” *Autonomy and Ideology*, ed. R.E. Somol (New York and Montreal: Monacelli Press / Canadian Centre for Architecture, 1997), 189.
- <sup>8</sup>Jane King Hession, Rip Rapson and Bruce N. Wright, *Ralph Rapson: Sixty Years of Modern Design* (Afton, MN: Afton Historical Society Press, 1999), 37.
- <sup>9</sup>Marc Treib and Dorothée Imbert, *Garrett Eckbo: Modern Landscapes for Living* (Berkeley, Los Angeles, London: University of California Press, 1997), 21.
- <sup>10</sup>Esther McCoy says of Eckbo’s gardens, “What was exciting at the time about the landscaping was that it looked designed.” Esther McCoy, “Arts & Architecture Case Study Houses,” *Blueprints for Modern Living: History and Legacy of the Case Study Houses*, ed. Elizabeth A.T. Smith (Los Angeles and Cambridge, MA: MOCA / MIT Press, 1998), 23.
- <sup>11</sup>John Keats, *The Crack in the Picture Window* (Boston: Houghton Mifflin, 1956).
- <sup>12</sup>Spencer R. Weart, *Nuclear Fear: A History of Images* (Cambridge, MA and London: Harvard University Press, 1988), 187, 190. Weart cites Nahum Z. Medalia and Otto N. Larsen, “Diffusion and Belief in a Collective Delusion: The Seattle Windshield Pitting Epidemic,” *American Sociological Review* (1958): 180-6.
- <sup>13</sup>Margaret Mead, “Are Shelters the Answer?,” *New York Times Magazine* (November 26, 1961), 124.
- <sup>14</sup>Disastrous summer brush fires blazed through the new suburbs of Los Angeles throughout the 1950s and ‘60s, aided by large, unprotected windows and wood siding, the lack of clearance between houses and native shrubs, and the narrow streets of the hillside communities. In 1955, the Refugio fire between Santa Barbara and Ojai burned 7,000 acres; in 1956, 44,000 acres burned in Orange and San Diego counties; 1958’s Lake Elsinore fire consumed 68,000 acres. In 1961, two fires swept through the most exclusive districts of Los Angeles, destroying 43 houses in Laurel Canyon and the Hollywood Hills and 500 houses in the Santa Monica hills, Bel Air and Brentwood. See Richard Lillard, *Eden in Jeopardy: Man’s Prodigal Meddling with his Environment: The Southern California Experience* (New York: Alfred A. Knopf, 1966), 109.
- <sup>15</sup>Journalist James Phelan, *Howard Hughes* (Paris: Éditions Internationales Alain Stanké, 1977). Cited in Paul Virilio, *The Art of Disappearing*, 28.
- <sup>16</sup>Virilio, *Disappearing*, 31.
- <sup>17</sup>Amelia Jones and Elizabeth A.T. Smith, “The Thirty-six Case Study Projects,” *Blueprints*, 75.
- <sup>18</sup>Indirect daylighting like this would find its most widespread application in the California school system a few years later, when the Board of Education stated its preference for “distraction-free” school environments, forcing a generation of California school children to be educated in fluorescent-lit, air conditioned, viewless classrooms in the sunniest state in the nation.