

THE MODEL KITCHEN:
DOMESTICATING MODERNISM IN THE AMERICAN HOME, 1942-1966

Juliana Rowen Barton

A DISSERTATION

in

History of Art

Presented to the Faculties of the University of Pennsylvania

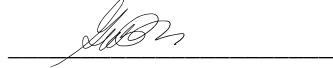
in

Partial Fulfillment of the Requirements for the

Degree of Doctor of Philosophy

2020

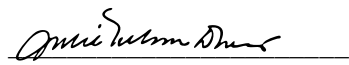
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ACKNOWLEDGMENTS

This dissertation has been years in the making. The initial idea for the project surfaced ten years ago when I was a curatorial intern in the Architecture & Design Department at the Museum of Modern Art. There, I spent a summer shadowing curators Juliet Kinchin and Aidan O'Connor as they organized the ingenious exhibition *Counter Space: Design in the Modern Kitchen* (2010). Over three short months, Juliet and Aidan opened my eyes to the possibilities of a career spent studying and caring for the objects and spaces of everyday life. Without their inspiration, I would never have had the courage to write a dissertation on such a humble subject.

I was extremely fortunate to learn from a group of incisive and brilliant thinkers at the University of Pennsylvania. First and foremost, my advisor David Brownlee who helped guide and inform this project from its inception and whose keen editorial eye made me a better writer. I am also deeply appreciative for Daniel Barber, who pushed me to confidently claim my arguments and interventions. Gwendolyn DuBois Shaw deserves special thanks for making me feel seen and heard in ways I didn't realize I needed. The example she set in speaking and standing up for her values profoundly transformed the way I use my own voice, in my scholarship and beyond. I am also grateful for the entire History of Art Department for their support and encouragement, with particular thanks to André Dombrowski, David Young Kim, Karen Redrobe, and the irreplaceable and all-knowing Darlene Jackson, without whom I would have been lost. I had the immense privilege of being a Graduate Research Assistant at the Wolf Humanities Center and owe great thanks to the Graduate, Faculty, and Regional Fellows who pushed me to embrace

the interdisciplinary lines of inquiry my research demanded. WHC Director (and ARTH Faculty) Karen Redrobe deserves rousing appreciation for cultivating a deeply thoughtful, respectful, and generative space for discourse, both inside and outside the classroom. I have been touched by the generosity of scholars outside of Penn, including Kate Crawford, Matt Hedstrom, Eric Lott, Sarah Mullen, and Christine Poggi. For the past decade Carmen Higginbotham has provided me with the delicate balance of openness and toughness and without her I would not have developed the intellectual curiosity I have today.

This dissertation would never have come into being were it not for the funding of various institutions and organizations who supported my work over the past seven years. I could not have completed the project without generous support from multiple Penn sources, including Benjamin Franklin Fellowships, McCoubrey-Campbell and Latner Travel Fellowships, the Mellon Humanities+Urbanism+Design Initiative Student Research Award, the Wolf Humanities Center, and the Penn/Philadelphia Museum of Art Mellon Fellowship in Object-Based Study. I was also fortunate to receive vital funding outside the University, including a Dean's Fellowship in the History of Home Economics at Cornell University's College of Human Ecology and an Alisa Mellon Bruce Predoctoral Fellowship for Historians of American Art to Travel Abroad through CASVA/National Gallery.

Researching American kitchens in the mid-twentieth century proved to be a demanding quest. My search led me to seven repositories across the United States, and I am indebted to the many librarians, archivists, and curators who have aided my

endeavors: Eileen Keating at the Division of Rare and Manuscript Collections, Cornell University Library; Sara Beth Mouch at the Ward M. Canaday Center for Special Collections, University of Toledo; Tori Vanden Bos at Wright State University Libraries and Special Collections; Bill Whitaker at the Architectural Archives of the University of Pennsylvania; and staff at the Getty Research Institute, the Museum of Modern Art Archives, and the University of California, Los Angeles Library Special Collections.

The University of Pennsylvania provided me with some of the best peers, colleagues, and friends any graduate student could have hoped for. Their wisdom, generosity, insight, and criticism has not only created a dynamic intellectual environment but has imparted a sense of collegiality that will follow me throughout my career. Without them, there would be no dissertation. I entered graduate school with an immensely talented and supremely supported group of women: Alisa Chiles, Jeanne Dreskin, Miriam Stanton, and Rachel Wise. Jeanne and Miriam, in particular, have always offered the utmost encouragement and their friendship buoyed me. I will be forever grateful for the friendship and guidance of peers outside of my cohort, who made the journey all the more enjoyable. My deepest gratitude to Megan Boomer, Lee Ann Custer, Iggy Cortez, Heather Hughes, Alex Kauffman, Jeannie Kenmotsu, Patricia Kim, Charlotte Ickes, Marina Isgro, Serena Qiu, Jill Vaum Rothschild, and Erin Wrightson.

My intellectual community beyond Penn has been through fellowships, programs, and friendship. I have the utmost appreciation for this group of thought partners for their support and encouragement throughout the years: Jamin An, Nicole Cook, Erica DiBenedetto, Michelle Millar Fisher, Leila Anne Harris, Charles Kang, Clare Kobasa,

Alexandra Letvin, Christine Robinson, Allison Turner, and Sarah Van Anden. This project benefited greatly from Allison's skills as an elegant grammarian. Clare and Jamin proved to be the most inspiring and supportive dissertation completion buddies. And Michelle has, in a short time, become one of my fiercest advocates and her insights have pushed me to new levels in my thinking and capacity for collaboration. I must also extend my deepest thanks to close friends outside academia, whose presence has for decades shaped my thinking and continues to sharpen my outlook beyond graduate school.

I am privileged beyond words to have a family that doubles as an intimate intellectual community. Scott A. Barton was a constant source of inspiration as he worked tirelessly to become the first Dr. Barton in 2016. I followed fellow architecture enthusiast Karina Rowen Bishop from Charlottesville, to Brooklyn, to Philadelphia and her presence throughout my academic career has helped ground me. I developed my eye for and love of architecture and design from my parents, who put great care into the spaces we lived in and the objects that filled them. Together, they have offered endless encouragement to pursue whatever inspires me. I am keenly aware that this kind of support is rare. Nicky Barton has demonstrated his good humor countless times as he endured parents and sisters who got deep into the architectural weeds. And Nathalie Barton is my strongest and most enthusiastic advocate and her support as a thinker and a confidante were invaluable to the development of this project and my wellbeing. I will forever be grateful to be surrounded by family that not only appreciates, but fosters my love of architecture, design, and culture.

ABSTRACT

THE MODEL KITCHEN: DOMESTICATING MODERNISM IN THE AMERICAN HOME, 1942-1966

Juliana Rowen Barton

Gwendolyn DuBois Shaw

The kitchen, located at the heart of the American home, became a compelling site of domestic debate in the mid-twentieth century. This dissertation explores moments in the history of the American kitchen from the early-1940s to the mid-1960s, when modernism gained prominence and popularity in mainstream architecture and design in the United States. It was in the kitchen that architectural debates about modernism, the shaping of space, and the determining role of technology and standardization intersected with dynamics of cultural change. Presented at World's Fairs, trade shows, museum exhibitions, and other sites of display, model kitchens were cultural texts that revealed how race and ethnicity were negotiated, which often entailed the coding of constructions of gender and motherhood with – or against – constructions of race. However, questions of race have figured minimally in architectural studies of the modern kitchen, and this dissertation aims to reposition these social debates in the scholarship. As this study shows, these spaces represented ideals that stood in stark contrast to contemporary reality.

Each chapter analyses model kitchens that were produced in institutional and cultural contexts, positioning them alongside representations in film, television, magazines, and exhibitions in order to paint a clear but complex picture of the modern American kitchen. The varied contexts in which the modern kitchen was created are

considered in turn: the home economics department of a research University; the technocratic visions of the future at trade shows; and finally, the iconic demonstration houses of the Case Study program. Whereas scholars have previously studied the spatial contours of the kitchen within the modern home as a barometer of aesthetic and technological change, this dissertation puts pressure on the intersections of kitchens and their representations, addressing the ways that ideas about gender and racial identities were communicated and circulated through these designs. To do so, it unpacks how words, images, objects, and spaces operated – and perhaps continue to operate – to construct a gendered and racialized depiction of the past, present, and even future. Together, the chapters trace how the design of model kitchens cultivated conformity and gave material reinforcement to ideological constructions of American identity.

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INTRODUCTION

The Kitchen Debate

“I want to show you this kitchen,” said Richard Nixon, gesturing towards a dishwasher (Figure 1). “It’s like those houses in California.”¹ So began the famous confrontation, known as the “Kitchen Debate,” between Nixon, then-Vice President of the United States, and Soviet Premier Nikita Khrushchev in the General Electric kitchen at the opening of the American National Exhibition in Moscow in July 1959.² There, at the height of the Cold War, Nixon and Khrushchev locked horns over spin cycles, in-house intercom systems, and American domesticity in general. As propaganda, the domestic display in Moscow offered compelling, tangible evidence of the American capitalist system that so casually spewed labor-saving appliances, frozen dinners, and tastefully designed kitchens. In the Moscow exhibition, the public virtues of democracy were seen to be woven into the fabric of private life, and rendered in the brand new,

¹ There is no complete sound recording of this portion of the event, and wording varies from account to account. My reconstruction depends on a variety of published stories. For transcripts of the debate, see “‘Better to See Once’,” *Time* (August 3, 1959), 12-14; “Encounter,” *Newsweek* August 3, 1959, 15-17; “The Two Worlds: A Day Long Debate,” *New York Times* July 25, 1959.

² Created under the provisions of a 1958 protocol agreement on the exchange of expositions of “science, technology and culture,” the \$5 million American show had suffered from congressional parsimony. As a result, many details, including the golden geodesic dome by the visionary architect Buckminster Fuller, through which Russian visitors entered the grounds, were borrowed from successful American presentations at earlier international trade fairs. A Whirlpool kitchen, for example, had already appeared at a 1958 product show in Milan, while other planned attractions, like a fashion show that presented as a series of vignettes from American life, had been tried out at the Brussels World’s fair of the same year. Inside the Fuller dome, a new IBM computer, programmed to answer questions about American life, was overshadowed by a series of seven giant TV screens that showed in living color and material specificity what printed words on a punch card could never capture. A twelve-minute film by Charles and Ray Eames, called “Glimpses of America,” traced the American workday in 2,000 flashing images. A second film, by Hollywood director Billy Wilder, celebrated weekend leisure. For the history of the American exhibition in Moscow see Karal Ann Marling, *As Seen on TV: The Visual Culture of Everyday Life in the 1950s* (Cambridge: Harvard University Press, 1994), chapter 7; Greg Castillo, *Cold War on the Home Front: The Soft Power of Midcentury Design* (Minneapolis: University of Minnesota Press, 2010); Ruth Oldenziel and Karin Zachmann, eds., *Cold War Kitchen: Americanization, Technology, and European Users* (Cambridge, Ma: MIT Press, 2009).

1959-model textures, colors, and shapes of the American kitchen. Strong in his convictions, Nixon challenged Khrushchev, “Would it not be better to compete in the relative merits of washing machines than in the strength of our rockets?”

At first glance, the General Electric kitchen may seem an unlikely political set piece or contender in the Russian-American engineering race for superior cars, computers, and nuclear missiles. It was not designed as a “dream kitchen” but to show off the reality of what the average American could expect to find in a new home. Located in a full-scale ranch-style house, all the kitchen’s component parts—from the full roster of technological marvels and the pleasing pastel hue to the integrated plumbing and unbroken flow of countertops and cabinets—worked harmoniously to create a unified, modern American experience. For Nixon, this model modern kitchen proved a suitable stage from which to extol the basic tenets of the American way of life: Freedom. Freedom from drudgery. And democracy, the opportunity to choose the very best model from the limitless variety of colors, features, and prices the free market had to offer. “We hope to show our diversity and our right to choose,” Nixon asserted with a note of triumph. “We do not want our decisions made at the top by one government that all houses should be the same...Let the people choose the kind of house...the kind of ideas they want. We have many different manufacturers and many different kinds of washing machines, so that housewives may have a choice.”³

Responding to Nixon’s claims about the American kitchen and way of life, the newspaper *Izvestia* asked “What is this? A national exhibit of a great country, or a branch

³ “Encounter,” *Newsweek* August. 3, 1959, 16.

department store?”⁴ To Khrushchev, the U.S. Exhibition was a display of wretched excess and bourgeois trivia. Where were the scientific displays, the American sputniks? As the debate in Moscow continued, Khrushchev countered, posing rhetorical questions that cast aspersions on Nixon’s central thesis. “And this is one of the greatest nations? I feel sorry for Americans, judging by your exhibition. Does your life really consist only of kitchens?”⁵

This dissertation explores Khrushchev’s question, examining moments in the history of the American kitchen during modernism’s rise and popularity in architecture and design of the United States, from the early-1940s to the mid-1960s. It recovers the many meanings with which a range of actors, from architects and designers to home economists and corporate executives, invested all aspects of the kitchen—its design, the objects that lined its walls and filled its cabinets, and the people that labored within it. It was in the kitchen that architectural debates about modernism, the shaping of space, the determining role of technology, and standardization intersected with the dynamics of social and cultural change in America. Presented at World’s Fairs, trade shows, museum exhibitions, and other sites of display, the model kitchens that are the subject of this study were spaces within which debates about gender, race, class, and nationalism were negotiated. As exhibitions, these kitchens conveyed these issues to a wider public and instilled them substantively in American public life.

⁴ Stephen J. Whitfield, *The Culture of the Cold War* (Baltimore: Johns Hopkins University Press, 1991), 73; “‘Made in USA’—in Red Capital,” *U.S. News and World Report*, August 3, 1959, 38. Gereon Zimmerman and Bob Lerner, *Look* (July 21, 1959), 52-54. *Izvestia* quoted in Marling, *As Seen on TV*, 245.

⁵ “‘Made in USA’—in Red Capital,” 38.

In other words, the model kitchens defined expectations for modern American life by articulating the boundaries of the spaces of daily life and the objects and surfaces that filled them. Representations of these kitchens joined the spaces themselves to define their expected, rightful, and hoped-for owners in postwar American society.

Because these kitchens have broad implications for American society in this period, this dissertation takes a national, rather than regional approach, using the framework of model kitchens and a set of correlated themes to structure the analysis.⁶ Methodologically, this offers the best vantage point from which to observe the formation of American notions of race and gender in the kitchen, particularly as these ideas and ideals circulated in the mass media. Unlike standard narratives of architectural history, which prioritize well-known architects, wealthy clients, and their sensational houses, this study gives the same attention to equally innovative, but overlooked projects.⁷ By considering canonical projects from the Case Study House program alongside lesser known contemporaries, such as “The Cornell Kitchen,” this dissertation aims to tell a richer and more nuanced history of the American kitchen.

⁶ For examples of national culture constituted through domestic space, see Castillo, *Cold War on the Home Front*; Deborah Cohen, *Household Gods: The British and Their Possessions* (New Haven: Yale University Press, 2006); Oldenziel and Zachmann, *Cold War Kitchen*; and Christine Varga-Harris, *Stories of House and Home: Soviet Apartment Life during the Khrushchev Years* (Ithaca, NY: Cornell University Press, 2016).

⁷ The study of vernacular architecture is vast and stretched back decades. The Vernacular Architecture Forum was created in 1979, crystallizing an already strong movement whose foundation in America was the study of seventeenth century farmhouses. At this same moment, Roberti Venturi and Denise Scott Brown were celebrating the “ordinary” in architecture through their publications and designs. See Roberti Venturi, Steven Izenour, and Denise Scott Brown, *Learning from Las Vegas* (Cambridge, MA: MIT Press, 1972). For recent examples of this focus on less-canonical designs see Elizabeth Cromley, who embraces the study of American vernacular architecture and Dianne Harris defines the typological scope of her study as “the ordinary postwar house.” Cromley, *The Food Axis: Cooking, Eating, and the Architecture of American Houses* (Charlottesville, Va: University of Virginia Press, 2012) and Dianne Harris, *Little White Houses: How the Postwar Home Constructed Race in America* (Minneapolis: University of Minnesota Press, 2013).

Each chapter is devoted to examining model kitchens produced that were created in various institutional and cultural contexts, positioning them alongside representations in film, television, magazines, and museums to paint a clear but complex picture of the modern American kitchen. The varied contexts in which the modern kitchen was created are considered in turn: the first, in the home economics department of a research University; second, in the consumerist techno-utopia of corporate sponsored trade shows; and third, in the demonstration houses of the Case Study program. While this dissertation highlights the shared themes that link the projects, it also attends to their varied scale, which ranges from a modular cabinet system, to full-scale dioramas and a complete demonstration house. Balancing comparison and contrast, the chapters offer a history of how the kitchen was situated in architectural discourse during a time of enormous change in American social and cultural life.

The opening chapter examines the kitchen as a site of debate about domestic reform and the goals of architects and home economists who strove to create spatial and social change. This section focuses on “The Cornell Kitchen,” a research-based kitchen design developed by the Center for Housing Research in collaboration with the College of Home Economics at Cornell University in DATES. Infused with a user-centric philosophy and characterized by the desire to “fit” and be flexible for its female users, the project was developed through the marriage of social scientific methods and design practice.

The Cornell Kitchen emphasized the female body and female experience in the design of rational work centers. This attention to the female body was not inherently

progressive, as it was inflected by conformity to a white, heteronormative ideal of gender. Circulated widely in the “shelter” magazines of the period, this embodied approach to architectural design produced a kitchen that neutralized differences among its users rather than embracing and responding to their diversity. By deconstructing the implementation of ergonomics, the use of built-in storage, and the flexible arrangement of parts, the analysis of the Cornell Kitchen presents the opportunity to develop an alternative model for examining modernism in American architecture and design, one that centers the female user but recognizes the pitfalls of gender and racial normativity. The chapter begins to untangle the complex relationship between the modern kitchen and the modern woman and consider her shifting position in the family and in society at large.

The next chapter considers the kitchen as a site of discourse about the promises and paradoxes of modern technology in the domestic realm: the “kitchen of tomorrow.” This section begins to untangle the knotted corporate interests at play in the kitchen by exploring two industry-sponsored prototypes: the Libbey-Owens-Ford “Kitchen of Tomorrow” (1944) and the General Motors/Frigidaire “Kitchen of the Future” (1956). These designs offered different visions of the future, united by a shared ideological foundation of American technological utopianism. However, as this chapter shows, while kitchens of tomorrow promised a utopian future that offered the possibility of female emancipation from domestic labor, emancipation continued to be deferred. Further, these promises implied a transcendence of kitchen labor by coding objects as representing progress itself and by alluding to other spaces and times. This chapter explores the futuristic replacement of maids by “electronic servants,” and considers whether

technology, domestic or otherwise, was compatible with normative constructions of gender and race.

The concluding chapter considers the kitchen as the literal and figurative heart of the mid-century American home, where the modernist manipulation of space met the reconfigured postwar family. Shifting attention toward the kitchen within the “open plan” homes of that era, this section centers on the Case Study House program, which was organized by the Los Angeles based *Arts & Architecture* magazine in 1945-1966. The program was founded to propose model solutions for the postwar housing needs.

In promoting the modern open plan, the participating Case Study architects also centralized the kitchen and opened it up to the other public spaces of the home. Referred to as the “living kitchen” by the editors of *Architectural Forum* in May 1945, this formula reflected the new social ideal of integrated work and sociability, personified by the housewife who performed dual roles of domestic servant and household mistress. Centered on the figure of the woman who inhabited it, the kitchen came to be defined as the sanctuary of the American nuclear family—one that was overwhelmingly middle-or upper-middle-class and white. Such representations conflated the centrality of the kitchen in the private home and its centrality in a collective, national public imagination. By examining the Case Study project kitchens and related publications, this chapter examines what happened when the kitchen, previously understood as a private space, became public. Just as they embodied norms of American femininity, these kitchens were cultural texts that revealed how the meanings of race and ethnicity were negotiated, often by coding constructions of gender and motherhood with—or against—constructions of

race. However, questions of gender and race figure minimally in the existing literature on the Case Study House program, and this chapter aims to position these social issues more prominently in the scholarship.

Towards the Modern Kitchen

Today, amidst a culture saturated with Pinterest boards and HGTV home renovation shows, the phrase *modern kitchen* sounds unremarkable and does not suggest the radical meaning that it denoted a half century ago. However, the modern kitchen was a complex social, political, and technological artifact that warrants consideration alongside paintings, computers, and civic buildings. As is evident from Nixon and Khrushchev's exchange, the kitchen is inextricably bound to national and cultural identities-- and has been throughout history. For instance, Thomas Jefferson once advised his friend and ally the Marquis de Lafayette that in order to understand a culture "you must go into people's homes, look into their pots and eat their bread."⁸ Extending Jefferson's observations about the relationship between food, culture, and domestic space, this study examines how the kitchen embodies the ideologies of the culture to which it belongs. In her survey of the American kitchen from the seventeenth-century to the present, Elizabeth Cromley employs the phrase "food axis" to denote the layout and intersection of spaces related to the preparation, eating, and storage of food.⁹ Building upon this useful conception, it is necessary to acknowledge the larger systems to which the kitchen belongs. Kitchens are part of the vast systems that came to define the

⁸ Thomas Jefferson to Marquis de Lafayette, 25 September 1783, Jefferson Quotes and Family Letters, accessed January 12, 2018, <http://tjrs.monticello.org/>.

⁹ Cromley, *The Food Axis*.

twentieth century. Electrical grids, gas networks, water systems, and the food chain all came together in floor plans that connected the kitchen to the house, the street, the city, and the nation.

While the kitchen as a space is at the heart of this study, it focuses on model and exhibition kitchens. Typically, these were not inhabited, but designed for display, as prototypes, or as part of demonstration houses. The word “model,” notably, has many meanings. The Oxford English Dictionary variously defines the noun “model” as “a representation of structure,” “an archetypal image,” or “an idealized conception of a particular system or process that is put forward as a basis for theoretical or empirical understanding.”¹⁰ As a verb, the term means to give shape or form to; to fashion; to display by wearing; or to use as an example to follow.¹¹ Here, I employ the word specifically because of its multivalence, as model kitchens offer valuable information about how architecture is interwoven with representations and reflections of society. In the context of this dissertation, it is used to suggest the ways in which ideas are shaped or fashioned, and to analyze the spaces and systems that were produced to encourage imitation, assimilation, and conformity.

Although the focus is on kitchens in the mid twentieth century, by then connections between identity and domesticity had existed for decades. In fact, most of the relevant issues can be traced back to the nineteenth century, if not earlier, and a fairly large body of multidisciplinary scholarship links the architecture and domestic space to

¹⁰ *Oxford English Dictionary*, s.v. “Model,” accessed January 13, 2018, <https://www-oed-com.proxy.library.upenn.edu/view/Entry/120577?rskey=eYYnRI&result=1&isAdvanced=false#eid>.

¹¹ *Oxford English Dictionary*, s.v. “Model,” accessed January 13, 2018, <https://www-oed-com.proxy.library.upenn.edu/view/Entry/120578?rskey=eYYnRI&result=2&isAdvanced=false#eid>.

the construction of identity.¹² Architectural historians Dolores Hayden and Gwendolyn Wright have established the strong historical links between architectural design and social reform stretching back to the nineteenth century, oriented towards a feminist history and constructions of gender identities through space.¹³ Beyond architectural history, scholars of cultural geography and anthropology have acknowledged consistently that, as James Duncan and David Lambert have written, homes “are primarily sites in which identities are produced and performed in practical, material, and repetitively affirming ways.”¹⁴

¹² Excellent studies of nineteenth century and early-twentieth century domesticity and American domestic architecture include John Archer, *Architecture and Suburbia: From English Villa to American Dream House, 1690-2000* (Minneapolis: University of Minnesota Press, 2005); Clifford Edward Clark Jr., *The American Family Home, 1800-1960* (Chapel Hill: University of North Carolina Press, 1986); David Handlin, *The American Home: Architecture and Society, 1815-1915* (Boston: Little, Brown, 1970); Jessica Foy and Thomas Schlereth, *American Home Life, 1880-1930: A Social History of Spaces and Services* (Knoxville: University of Tennessee Press, 1992). For examples of identity formation in domestic space see Eric Avila, *Popular Culture in the Age of White Flight: Fear and Fantasy in Suburban Los Angeles* (Berkeley: University of California Press, 2004); David M. P. Freund, *Colored Property: State Policy and White Racial Politics in Suburban America* (Chicago: University of Chicago Press, 2007); Harris, *Little White Houses*; Becky M. Nicolaides, *My Blue Heaven: Life and Politics in the Working-Class Suburbs of Los Angeles, 1920-1965* (Chicago: University of Chicago Press, 2002); Suzanne Reimer and Deborah Leslie, “Identity, Consumption, and the Home,” *Home Cultures* 1, no. 2 (July 2004): 187-208.

¹³ Dolores Hayden, *The Grand Domestic Revolution: A History of Feminist Designs for American Homes, Neighborhoods, and Cities* (Cambridge, Ma: MIT Press, 1981); Hayden, *Redesigning the American Dream: The Future of Housing, Work, and Family Life* (New York: W.W. Norton, 1984); Sandy Isenstadt, *The Modern American Home: Spaciousness and Middle Class Identity* (New York: Cambridge University Press, 2006); Gwendolyn Wright, *Moralism and the Model Home: Domestic Architecture and Cultural Conflict in Chicago, 1873-1913* (Chicago: University of Chicago Press, 1980); and Wright, *Building the Dream: A Social History of Housing in the United States* (Cambridge, Ma: MIT Press, 1983).

¹⁴ James S. Duncan and David Lambert, “Landscapes of Home,” in *A Companion to Cultural Geography*, ed. James S. Duncan, Nuala C. Johnson, and Richard H. Schein (Malden, Mass.: Blackwell, 2004), 387. See Pierre Bourdieu, *Distinction: A Social Critique of the Judgement of Taste*, trans. Richard Nice (Cambridge, Mass.: Harvard University Press, 1984); Clare Cooper Marcus, *House as a Mirror of Self: Exploring the Deeper Meaning of Home* (Berkeley, Calif.: Conari Press, 1995); Pauline Hunt, “Gender and the Construction of Home Life,” in *The Politics of Domestic Consumption: Critical Readings*, ed. Stevi Jackson and Shaun Moores (London: Prentice Hall, 1995), 301-13; Linda McDowell, *Gender, Identity, and Place: Understanding Feminist Geographies* (Cambridge: Polity Press, 1999); Doreen Massey, *Space, Place, and Gender* (Cambridge: Polity Press, 1994); J. Macgregor Wise, “Home: Territory and Identity,” *Cultural Studies* 14, no. 2 (2000): 295-310; Tony Chapman and Jenny Hockey, eds., *Ideal Homes? Social Change and Domestic Life* (London: Routledge, 1999).

The decades that frame this study are especially well suited for an examination of the relationship among the kitchen, domestic space in general, and formations of gender, racial, and class identities. Architecturally, changes in the spatial structure of the kitchen reflected and reinforced the social positions of women both in the house and outside it, as well as shifting attitudes and understandings of racial identity. From a socio-political perspective, scholars have convincingly demonstrated that the unrest and activism of the 1960s—where this project leaves off—did not simply “erupt.” They have pointed to lines of continuity between liberal and left-oriented activism concerned with race and gender in the 1960s and the challenges that a variety of groups mounted in the 1950s and earlier. To understand the social and political culture of the 1960s—the rise of second wave feminism and the heights of the civil rights movement—historians have argued, one must attend to political, intellectual, cultural, and social resistance prior to that period.¹⁵

Moreover, understanding this cultural moment of the 1960s requires attention to the conservative countercurrent of the apparently progressive discourse of that turbulent era. If the more positive political, cultural, and social changes of the 1960s had roots in earlier decades, so too did some of the regressive aspects of the era. Histories of postwar suburbs in particular demonstrate how these communities fostered the conservative political ideology of the “Silent Majority,” which championed individualism, private

¹⁵ See for example Susan Lynn, *Progressive Women in Conservative Times: Racial Justice, Peace, and Feminism, 1945-1960* (New Brunswick, NJ: Rutgers University Press, 1992); Leila Rupp, *Survival in the Doldrums: The American Women's Rights Movement, 1945 to the 1960s* (New York: Oxford University Press, 1987); Daniel Horowitz, *Betty Friedan and the making of the Feminine Mystique: The American Left, the Cold War, and Modern Feminism* (Amherst: University of Massachusetts Press, 1998) ; Joanne Meyerwitz, *Not June Cleaver: Women and Gender in Postwar America, 1945-1960* (Philadelphia: Temple University Press, 1994).

property rights, and meritocracy.¹⁶ These contradictions marked the kitchens that are studied here, as the progressive ideology of domestic reform that surrounded them was consistently, and potentially, undermined by contrarian elements of the designs and their representations.

While numerous studies have focused on the history of the kitchen, the history of modern domestic architecture, and the history of housing segregation, no previous scholarship has examined model kitchens and the specific ways in which they communicated ideas about gender and racial identity and impacted American culture.¹⁷ This project seeks to do so, by examining a public texts, images, media, and the kitchens themselves. Moreover, it analyses how words, objects and spaces operated—and perhaps continue to operate—to construct a gendered and racialized depiction of the past, present, and even future. As W.J.T. Mitchell wrote in *Picture Theory*, we must not simply ask

¹⁶ See Matthew Lassiter, *The Silent Majority: Suburban Politics in the Sunbelt South* (Princeton, NJ: Princeton University Press, 2006); Lisa McGirr, *Suburban Warriors: The Origins*; Robert O. Self, *American Babylon: Race and the Struggle for Postwar Oakland* (Princeton, N.J.: Princeton University Press, 2003); Sugrue, *The Origins of the Urban Crisis*.

¹⁷ For histories of American kitchen see, for example, Sarah Archer, *The Midcentury Kitchen: America's Favorite Room: From Workspace to Dreamscape, 1940s-1970s* (New York: W.W. Norton, 2019); Cromley, *The Food Axis*; Sherrie Innes, ed. *Kitchen Culture in America* (Philadelphia: University of Pennsylvania Press, 2001); Steven Gdula, *The Warmest Room in the House: How the Kitchen Became the Heart of the Twentieth-Century Home* (New York: Bloomsbury, 2008). The scholarship on histories of housing and segregation is vast. Examples include Freund, *Colored Property*; Margaret Garb, *City of American Dreams: A History of Home Ownership and Housing Reform in Chicago, 1871-1919* (Chicago: University of Chicago Press, 2005); Harris, *Little White Houses*; Richard Harris, *Building a Market: The Rise of the Home Improvement Industry, 1914-1960*, Historical Studies of Urban America (Chicago: The University of Chicago Press, 2012); Dolores Hayden, *Building Suburbia: Green Fields and Urban Growth, 1820-2000*, 1st ed. (New York: Pantheon Books, 2003); Jeffrey M. Hornstein, *A Nation of Realtors: A Cultural History of the Twentieth-Century American Middle Class* (Durham: Duke University Press, 2005); Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985); Nicolaides, *My Blue Heaven*; Gail Radford, *Modern Housing for America: Policy Struggles in the New Deal Era* (Chicago: University of Chicago Press, 1996); Adam Rome, *The Bulldozer and the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (Cambridge: Cambridge University Press, 2001); Richard Rothstein, *The Color of Law: The Forgotten History of How Our Government Segregated America*; Wright, *Building the Dream*.

what representations mean, but “what do they *do* to a network of social relations” in order to understand the ways representations “work in our culture.”¹⁸

With the increase in popular communication directed at new and prospective homeowners, particularly housewives, in the postwar period, the media and housewives became inextricably related actors: the media informed and housewives performed conceptions of race, gender, and class that were recursive and mutually constitutive. As Dianne Harris has demonstrated, in this period, a pervasive iconography of white, middle-class domesticity pervaded the media and became instantiated in millions of homes across the United States.¹⁹ Like Harris and the growing number of scholars studying architecture through the dual lenses of feminist and critical race theories, I seek to understand how the modern American kitchen became a representation of whiteness, conservative and resilient gender roles, affluence, democracy, and belonging. Located at the intersection of several thematic trajectories in the history of architecture and design—modernism, housing, and technology—the model kitchen is an ideal but overlooked site for the study of contemporary notions of class, race, and gender.

Race in Three Dimensions

No study of postwar domestic space should exclude race, even if racial difference is seldom actually pictured in representations of domesticity from the period. Its very absence, as Harris’s study shows, speaks remarkably loudly. Indeed, in any history of the

¹⁸ W.J.T. Mitchell, *Picture Theory: Essays on Verbal and Visual Representation* (Chicago: University of Chicago Press, 1994), 184, 420-23.

¹⁹ Harris, *Little White Houses*, in particular chapter 3.

United States, race is a central concern; to write it out of the history of architecture and design is to sever architecture from those who made it, used it, and consumed it. Indeed, a growing body of scholarship has worked to closed the gap between history, critical race studies, and architecture.²⁰ As Adrienne Brown has observed of the skyscraper, like most things developing in the late-nineteenth into the mid-twentieth centuries, race and racial difference shaped the material and aesthetic evolution of the kitchen.²¹

Here and throughout I use the term “race” to indicate a set of socially-constructed categories that are, like the built environment, based in human experience, historically contingent, and bound to questions of identity formation. As a social construct, race is a fluid concept and Matthew Frye Jacobson has proposed a more complicated, nuanced, and fluctuating white/non-white binary.²² Indeed the production and construction of racial binaries in the United States is both ongoing and messy, but what matters for this

²⁰ See Craig Barton, ed. *Sites of Memory: Perspectives on Architecture and Race* (New York: Princeton Architectural Press, 2001); Adrienne Brown, *The Black Skyscraper: Architecture and the Perception of Race* (Baltimore: Johns Hopkins University Press, 2017); Anne Cheng, *Second Skin: Josephine Baker & the Modern Surface* (Oxford: Oxford University Press); Irene Cheng, Charles L. Davis, Mabel O. Wilson, *Race and Modern Architecture: A Critical History from the Enlightenment to Present* (Pittsburgh: University of Pittsburgh Press, 2019); Davis, *Building Character: The Racial Politics of the Modern Architectural Style* (Pittsburgh: University of Pittsburgh Press, 2019); William Gleason, *Sites Unseen: Architecture, Race, and American Literature* (New York: New York University Press, 2011); Harris, *Little White Houses*; Lesley Naa Norle Lokko, ed., *White Papers, Black Marks: Architecture, Race, and Culture* (Minneapolis: University of Minnesota Press, 2000); Wilson, *Negro Building: Black Americans in the World of Fairs and Museums* (Berkeley: University of California Press, 2012).

²¹ Brown, *The Black Skyscraper*, 20.

²² Matthew Frye Jacobson, *Whiteness of a Different Color: European Immigrants and the Alchemy of Race* (Cambridge, Ma: Harvard University Press, 1999), 6. A note on terms and capitalization. I write this over a month into the uprisings brought about by the death of George Floyd in Minneapolis on May 25, 2020. In the midst of these events, a growing number of news sources have followed the National Association of Black Journalists in integrating capitalization into communications whenever a color is used to describe a race. Throughout this dissertation I use the term “Black” to refer to people of African descent born or living in the United States. Though I preserve the capitalization in original style when cited, I believe capitalizing the B in “Black”, similar to the capitalization of Jewish, best conveys elements of shared history and identity without flattening said identity into a monolithic category. For the purposes of this study, I have chosen not to capitalize “white”. Though doing so would emphasize white people as racialized subjects (a central theme in this study), the grammatical gesture would do more to acknowledge and affirm power as proponents of white supremacy have taken to this capitalization.

study are the roles played by kitchens played—within the larger context of the house—and by the associated visual and material culture in the production of racial thinking. The kitchen, historically and materially was bound with race in many ways, from the enslaved laborers who worked tirelessly in hidden cooking spaces of nineteenth-century homes, to the discourse about domestic hygienics that coded dirty, cramped spaces as black, and the architectural debates about streamlining, which drew on eugenics to optimize kitchen spaces and surfaces.

That the home is a crucial site of racial identity formation has been demonstrated by the work of multidisciplinary scholars such as Harris, whose study of postwar suburbia shed new light on whiteness in domestic space; David Freund, who has examined the links between home ownership and white identity; and Karyn Lacy, whose ethnographic research found that middle-class Black subjects all believed that “black social spaces and residential places [are] critical sites for the construction of black racial identities.”²³ In situating the kitchen at the center of these debates, this dissertation joins the scholarship that has untangled the spatial dimensions of race, including the hardening racial boundaries through the demarcation of space, changing perceptions of race as a consequence of the transformation of the built environment, and the performance of race through domesticity.²⁴ This will also contribute to the growing body of research that

²³ Freund, *Colored Property*; Karyn R. Lacy, *Blue-Chip Black: Race, Class, and Status in the New Black Middle Class* (Berkeley: University of California Press, 2007), 156.

²⁴ For studies of race and spatial boundaries, see for example Mary Ting Yi Lui, *The Chinatown Trunk Mystery: Murder, Miscegenation, and Other Dangerous Encounters in Turn-of-the-Century New York City* (Princeton, N.J.: Princeton University Press, 2005); Thomas J. Sugrue, *The Origins of the Urban Crisis* (Princeton: Princeton University Press, 1996). For the perception of race and the built environment, see Brown, *The Black Skyscraper*. For the performance of race through leisure, see Avila, *Popular Culture in the Age of White Flight*; Chad C. Heap, *Slumming: Sexual and Racial Encounters in American Nightlife, 1885-1940* (Chicago: University of Chicago Press, 2009); Kevin Mumford, *Interzones: Black/White Sex*

explores racial formation through everyday life, particularly through spatial practices. "It is at this level [of everyday life and 'everydayness']" historian Thomas Holt argued, "that race is reproduced via the marking of the racial Other and that racist ideas and practices are naturalized, made self-evident, and thus seemingly beyond audible challenge."²⁵

Although not all the kitchens in this study were occupied and used, they were conceived of as elements of privately owned, single-family homes. Overwhelming evidence collected and examined by historians in many fields indicates that this typology was associated with a specific racial, gender, and class identity—white identity—which was likewise inextricably linked to cultural authority. Building on the methods of these earlier works that explore the racialization of the single-family home, this dissertation examines the nexus of race and domesticity in the kitchen in postwar suburban America.

Yet, race-related questions in architectural discourse have, until recently been, tended to arise most frequently when non-white subjects—for example, non-white architects, designers, or consumers—are studied. As scholars in a variety of disciplines have argued in recent years, whiteness, far from being a neutral or natural state, is itself a racial identity carefully constructed through social, political, economic, and aesthetic forces.²⁶ To acknowledge that whiteness in the United States is a complex, constructed racial identity intertwined with class and gender, is to emphasize that race may play a

Districts in Chicago and New York in the Early Twentieth Century (New York: Columbia University Press, 1997).

²⁵ Thomas C. Holt, "Marking: Race, Race-Making, and the Writing of History," *American Historical Review* 100, no. 1 (February 1995): 7.

²⁶ See, for example, Eric Arnesen, "Whiteness and Historians' Imagination," *International Labor and Working Class*, 60 (2001); Martin Berger, *Sight Unseen: Whiteness and American Visual Culture* (Berkeley: University of California Press, 2005); Harris, *Little White Houses*; David Roediger, *Working Toward Whiteness: How America's Immigrants Became White* (New York: Basic Books, 2005).

more pervasive role in American architectural and design history than has hitherto been examined.

Thus, this project builds from a rich body of scholarship on white racial formation to insist that the paradoxes, dualities, and expansions specific to whiteness in the mid-twentieth century not only were matters of social reorganization, as scholars have importantly foregrounded, but were also shaped by the expanding physical and visual landscapes remaking the conditions of its apprehension.²⁷ As Stuart Hall has written, racism is a “structure of knowledge and representations” that are based on ideas about and that are used to generate understandings of a fixed “us” in opposition to and in a separate space from “them.”²⁸ Identity construction is a complex process but it relies at least in part on “negotiations with representational economies” and determinations about what one is not.”²⁹ Since all identities remain in flux, any such determination depends on the creation of stereotypical images that defy individuation.³⁰

In keeping with this concept, Harris’s study offers a generative framework for uprooting these tensions and this dissertation follows this two-fold method to analyze the construction of race in examining how whiteness was defined both positively and

²⁷ Richard Dyer, in acknowledging whiteness’s historical fungibility, importantly acknowledges that this fungibility has been key to its operation, insisting that the “instabilities of whiteness also constitute its flexibility and productivity, in short, its representational power.” Richard Dyer, *White: Essays on Race and Culture* (New York: Routledge, 1997). The scholarship on whiteness is expansive and ever growing. See for example: Berger, *Sight Unseen*; Brown, *The Black Skyscraper*; Grace Elizabeth Hale, *Making Whiteness: The Culture of Segregation in the South, 1890-1940* (New York: Vintage, 1998); Jacobson, *Whiteness of a Different Color*; Roediger, *Working Towards Whiteness*.

²⁸ Stuart Hall, “Race, Culture, and Communications: Looking Backward and Forward in Cultural Studies,” *Rethinking Marxism* 5, no.1 (1992): 16.

²⁹ Harry Elam, Jr., “Reality Check,” in *Critical Theory and Performance*, ed. Janelle G. Reinelt and Joseph R. Roach (Ann Arbor: University of Michigan Press, 2007), 174.

³⁰ Paul Gilroy, *The Black Atlantic: Modernity and Double Consciousness* (Cambridge, Ma: Harvard Mass, 1993).

negatively.³¹ In other words, how whiteness depends on the ability of white people to identify what they are not in equal measure to deciding what they are.³² Indeed, Karen Brodtkin positions the suburbs as the site in which Jews, who were not considered white in the United States until sometime after the immediate postwar period, learned “the new ways of whiteness” through the help of “radio, magazines, and the new TV.”³³ Significantly, they also learned those lessons in the kitchen—the space in the house in which they lived every day.

In expanding on this two-fold methodology, this dissertation also follows more recent work putting pressure on whiteness’s presumed invisibility as the universal position against which all others are delineated but attending to what Hamilton Carroll describes as “the extraordinary labor” required to sustain its unmarkedness.³⁴ “Whiteness is only invisible,” as Sara Ahmed further notes, “for those who inhabit it,” foregrounding its hypervisibility to those denied its privileges. “Seeing whiteness,” she continues “is about living its effects, as effects that allow white bodies to extend into spaces that have already taken their shape, spaces in which black bodies stand out, stand apart.”³⁵ To Ahmed’s formulation that space not only is the setting where whiteness’s effects are realized, I add that it also shapes the material life and effects of whiteness. In the chapters that follow, I attend to model kitchens both as sites ripe for the production of racial

³¹ Harris, *Little White Houses*, 19.

³² Harris, *Little White Houses*, 30.

³³ Karen Brodtkin, *How Jews Became White Folks* (New Brunswick, NJ: Rutgers University Press, 1998).

³⁴ See Sara Ahmed, “Declarations of Whiteness: The Non-Performativity of Anti-Racism,” *Borderlands* 3.2 (2004); Hamilton Carroll, *Affirmation Reaction: New Formations of White Masculinity* (Durham: Duke University Press, 2011); and Robyn Weigman, “Whiteness Studies and the Paradox of Particularity,” *boundary 2* 26.3 (1999): 115-150.

³⁵ Ahmed, “Declarations of Whiteness.”

identities and within the wider field of representation, display, and reproduction within which they circulated.

CHAPTER 1

“Built to Fit Your Wife”: Reimagining the Efficient Kitchen

In September 1953, *Popular Science* featured a new “woman-friendly” kitchen in between a tutorial for a Do-It-Yourself safety helmet and a column on rigging equipment. The article, titled “New Kitchen Built to Fit Your Wife,” outlined the revolutionary formula a team at Cornell University’s Housing Research Center had developed (Figure 1.1).¹ Under the direction of economist Glenn Beyer, the team of both men and women included architects, home economists, engineers, and sociologists, each contributing expertise in their fields to design a kitchen system that aspired to take into account both “human and technological requirements.”² Overall the project sought to offer a model of kitchen design driven by social scientific methods to solve the problems of storage, labor, and satisfaction in middle-class domestic life.

Boxed in between the article title, main illustration, and tagline—“tall, short, or medium sized, she’s bound to save energy in this kitchen”—a white housewife floats at the center of the first page of the feature (see Figure 1.1). Awash in a muted palette, with a selective use of blue hues, she wears a shirtdress with a generous skirt. Through her clothes and accessories, she projects a prim and proper manner: her bright apron shows no signs of use, her dark hair is neatly coiffed, and an assortment of bracelets adorn her wrist. She gazes softly down at the cake in her hands, iced rather rustically. Beyond the graphic components of the title page, she is grounded only by open blue-grey calipers. With one tip touching her heel and the other grazing the peak of

¹ Gardner Soule, “New Kitchen Built to Fit Your Wife,” *Popular Science* (September 1953): 172-175.

² Glenn H. Beyer, ed., *The Cornell Kitchen: Product Design Through Research* (Ithaca: New York State College of Home Economics in association with the Cornell University Housing Research Center, 1952), foreword.

her head, the calipers size her up. In sum, she is rendered to be the model housewife: well-proportioned, well-dressed, well-mannered. Once the calipers gauge her measurements, the design of her kitchen can begin. As a model housewife, she is in need of a model kitchen. The Cornell Kitchen was designed to fit these needs.

The focus of much media coverage in the early 1950s, the kitchen was promoted as saving the housewife time and lauded for its design to fit her equipment and supplies, her family, and most importantly her body. To that end, the Cornell Kitchen was organized into five free-standing and modular work centers: sink, mix, range, oven-refrigerator, and serve (Figure 1.2). This system, which grouped storage, equipment and work surfaces around particular activities following a logical pattern of food preparation, was determined to offer the maximum flexibility in providing for the maximum variety in kitchen arrangements. The sink center, which would ideally be located in front of a window, included a chair to accommodate seated work such as peeling vegetables; this center also came equipped with a swing-out compartment below the countertop to keep the garbage out of sight. The mix center stored ingredients and appliances related to baking, including built-in containers for flour and sugar, as well as a dedicated drawer for bread, cake, and pie. The range center had four electric burners, separated from the oven and oriented in a single row rather than a grid. The oven-refrigerator center featured a custom General Electric waist-level horizontal refrigerator, in addition to a waist-level electric oven. Finally, the serve center provided storage for dishes, flatware, linens, and less frequently used items.

Together, all five work centers could be installed to a cohesive effect in rooms that differed in size, shape, or orientation, to create what Cornell termed an “optimum” kitchen. Each work center, complete and fully functional in and of itself, could also be used with existing

equipment and furnishings to form a “composite” kitchen.³ As built in the university’s laboratories, the Cornell Kitchen work centers were arranged in a U-shape with the sink at center—below a window—and the remaining four units stretched out as arms from either side of the sink (Figure 1.3).

Though originally conceived as having various finishes—from natural wood to several options for painted colors—the prototype kitchen came in only one-color combination. The aluminum cabinets were painted white and accented with orange doors and chrome fixtures and appliances, which made for a bright, clean look. Additionally, the color palette evoked the cheerful, colorful aesthetic of mid-century designers including Charles and Ray Eames and Alexander Girard (Figure 1.4). In contrast to some other contemporary model kitchens, such as the “kitchens of the future” discussed in chapter two—which suggested a “streamlined” aesthetic of fast-moving planes, trains, and automobiles with shiny, metallic, and curvilinear forms—the overarching geometry of the Cornell Kitchen was decidedly rectilinear, echoed in the sharp angles of the countertop corners and the steep inward slope of the upper cabinets.

To develop the standards for this kitchen system, Cornell’s home economists believed that housewives should be studied *en-masse*, their habits tracked and movements measured, and standardized kitchen design criteria developed from the aggregate results. In spite of this standardization, Cornell emphasized that the approach would still allow for variety, assuring that an individual housewife could vary the contents of each work center depending on their own “fancy and experience.”⁴ The foundational principles for the Cornell Kitchen, as articulated by Beyer in an accompanying publication and promoted in publicity, echoed this sentiment: build

³ Beyer, *The Cornell Kitchen*, 25.

⁴ Beyer, *The Cornell Kitchen*, 57.

the cabinets to fit the woman, build the shelves to fit the supplies, build the kitchen to fit the family.⁵

This emphasis on “fit” clarifies Cornell’s user-centric approach to design that grew out of collaboration, contrast, and compromise between the home economists, architects, engineers, and sociologists involved in the project.⁶ Much debate revolved around the position of the user in the design process. According to Bill Moggridge, design historian and former director of the Cooper Hewitt National Design Museum, “Engineers start with technology and look for a use for it; business people start with a business proposition and then look for the technology and the people. Designers start with people, coming towards a solution from the point of view of people.”⁷ And while it may seem logical for the user to be always at the center of design, design historian and curator Ellen Lupton has traced the varying historical, social, and financial factors that drive the design of objects and spaces to highlight the rise of user-centered planning from the late-nineteenth century through the twentieth in both architecture and design history.⁸ In openly centering the user—here, the housewife—in their design and process, the researchers behind the Cornell Kitchen engaged in this design methodology, as well as the parallel effort in home economics to elevate white women’s status in society through the professionalization of household labor.

⁵ Beyer, *The Cornell Kitchen*, foreword.

⁶ The glossary in *Beautiful Users: Designing for People* provides useful context and history of the term “user” in architecture and design. This definition traces the “user” back to the 1610s, when it was employed interchangeably with the term “citizen” to imply the individual’s potential instrumentality and to refer to the status, rights, and responsibilities of a person in literature related to planning and architecture. In the twentieth century, the Museum of Modern Art’s 1944 exhibition *Design for Use* featured works that “underlined the relationship between function, technology, and form as shown in some typical products.” László Moholy-Nagy, one of several designers invited to participate, wrote that the project’s goal was to “make the user realize the importance of design.” Notably, philosopher and sociologist Henri Lefebvre, among others, has argued that the term “user” dehumanizes people, reducing them to functional objects by discounting their agency. See Tiffany Lambert, “Glossary: Users Speak” in *Beautiful Users: Designing for People*, ed. Ellen Lupton (New York: Princeton Architectural Press, 2014), 128-139.

⁷ Quoted in Lupton, *Beautiful Users*, 35.

⁸ Lupton, *Beautiful Users*, 20-31.

Additionally, the Cornell Kitchen can be positioned as part of a postwar period as “the era of the expert,” in which the in which the popularity of advice figures such as home economists and literature including women’s and shelter magazines indicated a prevailing faith in expertise.⁹ From this position, home economists, in tandem advice literature such as women’s and shelter magazines, played a significant role in racial and ethnic assimilation, offering instruction to non-white families in a particularized image of American identity by describing and illustrating appropriate modes of participation—that is to say, according to a specific set of norms—in American culture. With each set of instructions for homemaking, home economists defined a way of living that, if followed, promised implicitly to erase traces of non-whiteness. In doing so, these instructions created a world of idealized Americans – especially of American women – who all happened to be white, heterosexual, clean, well-organized, and financially comfortable.

With its emphasis on flexibility alongside “fit,” the Cornell Kitchen promised its users the luxury of individualized design, suggesting that difference could be accommodated in the design. In Beyer’s words, “There is no ‘typical’ woman; therefore, there can be no ‘typical’ kitchen most satisfying to all, or perhaps to a majority of, women.”¹⁰ However, once built, the design of the Cornell Kitchen did more to neutralize differences between users, reinforcing conformity to a specific set of social standards. Though it claimed not to have a “typical” user, the design did assume a universal user for whom space was monolithically and homogenously conceived. The kitchen also assumed this user to be white, and middle-class. Despite its user-centric approach that suggested an embrace of individual female identities, the design assumed a

⁹ See Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1988), 26-27.

¹⁰ Beyer, *The Cornell Kitchen*, 15.

unitary and collective identity—one that suppressed individualism, non-conformity, and difference.

Housewives and Home Economists

Architectural and design historians have attributed a postwar turn to flexible planning and ergonomic design to the rise of systems theory.¹¹ Implicitly, the user at the center of these developments was understood to be a white, able-bodied man, and the overall goal to optimize either his performance during wartime or his profit-making potential in times of peace.¹² As a field, home economics shaped an alternative to this vision of design, in which the goal was less optimization and more independence and adaptation. Thus, the history of home economics suggests a parallel trajectory for the rise of flexible, user-centric design, one rooted in the domestic realm and with female bodies at its heart.

Throughout the nineteenth and early-twentieth centuries a range of social actors, from home economists and domestic reformers to architects and builders, often in partnership with federal and state agencies, spent an enormous amount of energy producing guidelines, standards, and architectural plans detailing what a kitchen was to look like, how it was to be organized, and what the housewife was to do in it. Alongside architects, home economists had a stake in shaping the ideological and physical manifestations of reform efforts. The specific role, agenda, and even name of the field of home economics shifted with the generations. It can be loosely traced in four

¹¹ See for example, Dolores Hayden, *Building Suburbia: Green Fields and Urban Growth, 1820-2000* (New York: Vintage Books, 2004); Lupton, *Beautiful Users*; Mary McLeod, "'Architecture or Revolution': Taylorism, Technocracy, and Social Change," *Art Journal* (Summer 1983): 132-147; Terry Smith, *Making the Modern* (Chicago: University of Chicago Press, 1993); Gwendolyn Wright, *Building the Dream: A Social History of Housing in America* (Cambridge, M.A.: MIT Press, 1983).

¹² John Harwood, "The Interface: Ergonomics and the Aesthetics of Survival," in *Governing by Design: Architecture, Economy, and Politics in the Twentieth Century*, ed. Aggregate Architectural History Collective (Pittsburgh: University of Pittsburgh Press, 2011), 70-92.

overlapping narratives stretching over a century from the 1840s into the 1960s: one that emphasized the work of Catharine Beecher and judged home economics as part and parcel of the nineteenth-century “cult of domesticity”; a second that explored the formal home economics movement launched by Ellen Swallow Richards in the early-twentieth century and shed light on the intersection of gender and professionalization; a third that focused on the careers of Lillian Gilbreth and Christine Frederick to underscore the relationship between home economics and scientific management; and a fourth, heavily influenced by Betty Friedan, who in *The Feminine Mystique* charged home economics with the creation of the “happy housewife heroine” of the 1950s.¹³

Beginning with her highly influential 1842 *Treatise on Domestic Economy*, Catharine Beecher carved out a social role for middle-class white women by synthesizing political, philosophical, and religious discourses with those concerning domestic labor, architecture, and design. Beecher wrote *Treatise on Domestic Economy* and its companion volume *The American Woman's Home* (1869) to ameliorate the specific problems that American housewives confronted in a democracy, putting forth a conception of “domestic economy” that promised to preserve and protect women's bodies. For Beecher, the symbolic value of domestic economy

¹³ The “cult of domesticity,” also known to as the “culture of domesticity” or the “cult of true womanhood,” refers to the roles upper- and middle-class women played during the nineteenth century in the United States and United Kingdom. Under the “cult of domesticity,” the woman was expected to conform to four foundational virtues (piety, purity, domesticity, and submissiveness) in order to maintain their status as the center of the family and domestic life. Betty Friedan, *The Feminine Mystique* (New York: Norton, 1963). For examples of negative treatments of home economics, see Barbara Ehrenreich and Deirdre English, *For Her Own Good: 150 Years of Experts' Advice to Women* (Garden City, N.Y.: Anchor Press, 1978); Susan Strasser, *Never Done: A History of American Housework* (New York: Pantheon, 1982); Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983); Laura Shapiro, *Perfection Salad: Women and Cooking at the Turn of the Century* (New York: Farrar, Straus and Giroux 1986); Glenna Matthews, *Just a Housewife": The Rise and Fall of Domesticity in America* (New York: Oxford University Press, 1987); and Bettina Berch, *The Endless Day: The Political Economy of Women and Work* (New York: Harcourt Brace Jovanovich, 1982). For a notable exception, see Dolores Hayden, *The Grand Domestic Revolution: The History of Feminist Designs for American Homes, Neighborhoods, and Cities* (Cambridge: MIT Press, 1981); Sarah Stage and Virginia B. Vincenti, eds. *Rethinking Home Economic and the History of a Profession* (Ithaca: Cornell University Press, 1997).

was located in and measured by the housewife's health. Its function was to eradicate the signs of labor that marked women's bodies, particularly for those whose social status would usually protect them from such labor.

Beecher's ideas about domestic architecture are most fully articulated in *The American Woman's Home*, which although coauthored with her sister, abolitionist Harriet Beecher Stowe, is primarily Beecher's work.¹⁴ The book opens with a precise and detailed plan for the perfect Christian home, with meticulous and exacting diagrams outlining key features such as windows for light, consistent counter heights, and clearly delineated storage spaces in the kitchen.¹⁵ By careful economizing, Beecher hoped to avoid needless activity, arguing that such an arrangement as the one she suggested "saves nearly one half the fatigue that housekeeping demands, when the nursery is in one story, the parlor in another, and the kitchen in the basement."¹⁶ She reasoned that this approach to architecture would create a house where the housewife could "exercise her ministry" and "provide the best manner for health, industry, and economy, those cardinal requirements for domestic enjoyment."¹⁷

Beecher's work is exemplar of the Victorian era "cult of domesticity's" most strongly held beliefs and contradictions, including the formulation and promotion of gender as the

¹⁴ *The American Woman's Home* was basically an "enlarged edition of the earlier book [*Treatise on Domestic Economy*] with some quotations from Mrs. Stowe's House and Home Papers and some material that was entirely new," as well as incorporating some of Beecher's early newspaper and magazine articles. Megan J. Elias, *Stir It Up: Home Economics in American Culture* (Philadelphia: University of Pennsylvania Press, 2008), 53. See also Kathleen Ann McHugh, *American Domesticity: From How-To Manual to Hollywood Melodrama* (New York: Oxford University Press, 1999), 15-60.

¹⁵ Catharine Beecher, *A Treatise on Domestic Economy For the Use of Young Ladies At Home, and At School*. (New York: Harper, 1842), 279 and 3; Beecher and Harriet Beecher Stowe, *The American Woman's Home, or Principles of Domestic Science: Being a Guide to the Formation and Maintenance of Economical, Healthful, Beautiful, and Christian Homes* (New York: J.B. Ford and Company, 1869), 29.

¹⁶ Beecher, *Treatise on Domestic Economy*, 289.

¹⁷ Beecher and Stowe, *The American Woman's Home*, 28

dominant social difference at a time in the nineteenth century when the construction of racial difference intensified with the increasing social conflict over slavery. Still, Beecher's writing challenged both the dominant Victorian image of the delicate, dependent feminine wife and mother, and the ideological construct that all work is masculine. Beecher's writing thus overlapped with feminist and abolitionist discourses, while also contributing to the formation of a gendered political economy—a pattern that would burden the field of home economics into the twentieth century. In addition, the format of her work, its vision, and its import help explain how nineteenth-century constructions of domestic femininity, deriving from specific class (middle and upper), regional (Northeast), and religious formations, were generalized across the entire United States population and reproduced across generations.

The home economics movement, led by Ellen Swallow Richards, began with the Lake Placid conferences (1899-1907) and resulted in the creation of the American Home Economics Association (AHEA) in 1909. During this turn-of-the-century period the pioneers of home economics struggled to define the field, a task that was fraught with tension and confusion, necessitating compromise. Along with the settlement house movement, home economics moved women into public policy under the rubric of social change and municipal housekeeping, positioning it as part of a broader movement for progressive reform. This approach to reform marked a different direction from the domestic economy advocated by Catharine Beecher, as home economists urged women to use their skills in “that larger house – the city.”¹⁸

At the first Lake Placid meeting in 1899 a primary order of business was the selection of a name. “Household arts,” “domestic economy,” “domestic science,” “home economics”—each

¹⁸ "Report of the Special Committee on the Lake Placid Conference on Home Economics in Elementary and Secondary Schools, 1901," Appendix in Lake Placid Conference on Home Economics, *Proceedings of the First, Second, and Third Conferences* (Lake Placid, N.Y., 1902), p. 8-9.

term indicated different goals and different emphases, and each had its champions. “Household arts” implied cooking and sewing and was tied to manual training in public schools and cooking schools like the one popularized by Fannie Farmer in Boston. “Domestic economy” harked back to Beecher, echoing the title of her influential *Treatise on Domestic Economy*. Many of the activities—from trying to upgrade domestic work, providing better training for immigrant girls, and putting employers in touch with employees—pursued under the rubric of domestic economy in the 1890s sought to address the “servant problem.” The concept of “domestic science” tied the kitchen to the chemical laboratory, emphasizing nutrition and sanitation. It was the term preferred by Richards, the engineer of the modern home economics movement, who trained in chemistry at Vassar College and Massachusetts Institute of Technology (MIT) and saw domestic science as a way to move women trained in science into employment in academics and industry.¹⁹ The term “home economics” shared its perspective with the emerging social sciences and most clearly positioned the home in relation to the larger polity, encouraging reform and municipal housekeeping. After much debate, the Lake Placid group selected that final term. By neatly tying the notion of the home as women’s traditional sphere to the cachet of new social sciences, “home economics” represented a compromise acceptable to the diverse factions.²⁰

¹⁹ Richards wished to move home economics beyond cooking and sewing and finding better servants. What she had in mind was a professional field for educated woman. At MIT she championed “domestic science,” her preferred term for the field, but she recognized that “home economics” better suited the liberal arts curriculum of elite Eastern women’s colleges. At the center of her plan for the discipline was the “provision for the higher education of some elected young women who shall be fitted by the best training for higher leadership.” She accepted the term “home economics” because she hoped that under the label the subject would “find a logical place in the colleges and university course [of study] and not . . . be confused with the mere ‘household arts.’” Richards, never happy with “home economics,” tried unsuccessfully to substitute “ecology.” In time, this would win support and in the 1960s and 1970s several prominent home economics schools, including the prestigious College of Home Economics at Cornell, changed their name from “home economics” to “human ecology.” See “History and Outline of the First Conference.” *Proceedings of the First, Second, and Third Conferences*, 3-7.

²⁰ In practice, the Lake Placid group adopted a tripartite terminology: “household arts” described work in primary school, “domestic science” fit courses taught in secondary school, and “home economics” applied to college and graduate work. Thus, the choice of “home economics” in 1899 as the umbrella term for the Lake Placid conferences actually grew out of short-term contingencies, establishing a troubling pattern of allowing short-term goals to

Prior to the Lake Placid conferences, Richards had founded the New England Kitchen of Boston (1890), “an experiment to determine the successful conditions of preparing, by scientific methods, from the cheaper food materials, nutritious and palatable dishes.”²¹ Building on the experiments of the New England Kitchen, Richards was charged with the exhibition of the Rumford Kitchen, named after the inventor of the first commercially available kitchen ranges, Sir Benjamin Thompson, Count von Rumford, at the World’s Colombian Exposition in 1893. An opening statement to the *Guide to the Rumford Kitchen: An Exhibit made by the State of Massachusetts in connection with the Bureau of Hygiene and Sanitation* explains:

The exhibit known as the Rumford Kitchen is the outgrowth of the work, in the application of the principles of chemistry to the science of cooking, which has for three years been carried on as an educational agency by Mrs. Robert H. Richards, with pecuniary assistance from certain public-spirited citizens of Boston... The purpose of the exhibit in the Rumford Kitchen is two-fold: First, to commemorate the services to the cause of domestic science rendered by Count Rumford one hundred years ago... [and] second, to serve as an incentive to further work in the same direction, as he expressed it, to provoke men to investigation.²²

Thus, the kitchen played a central role in the establishment of home economics as a discipline and a force for change.

When scientific management came into vogue in the 1910s and 1920s, home economics quickly joined its cause (discussed in greater depth later in this chapter). At the same moment,

influence the definition and direction of the field. A committee on nomenclature continued to search during the next decade for a better alternative—an indication that tension existed among those who viewed home economics as primarily sociological and economic, those who viewed it as more closely tied to the sciences and the laboratory, and those who judged it in more traditional terms as related to women’s domestic duties. The scientific faction, led by Wilbur O. Atwater of the U.S. Department of Agriculture, pressed for “home science.” Yet it is striking that in justifying the change, Atwater argued on religious rather than scientific grounds, stating that he objected to “economics” because it “related to the work of the conference to a too material basis and left out the soul.” See *Fourth Annual Conference on Home Economics* (Lake Placid, N.Y., 1903), 84.

²¹ Ellen Richards, ed. *The Rumford Kitchen Leaflets: Plain Words About Food* (Boston: Home Science Publishing, 1899).

²² Richards, *The Rumford Kitchen*.

the field shifted to focus less on social ills and more on the individual. In the process, professionalization, once tied to social service, became increasingly defined in masculine terms as female “experts” like Christine Frederick chastised the housewife for her inefficiency. Along with Frederick, Lillian Moller Gilbreth and Georgie Boyton Child were among those in the United States who actively campaigned to rationalize work in the kitchen by applying the principles of scientific management to the home. For example, in the 1920s Frederick—author of the highly influential book *The New Housekeeping* (1912)—established and directed the Applecroft Home Experiment station from her home in Greenlawn, New York, where she carried out tests of step-saving food preparation processes and investigated 1,800 different products, from household appliances to food stuffs. As gender mediators smoothing the interaction between American women and private companies in the 1920s and 1930s, this pioneering group of women experts both introduced homemakers to new timesaving products and outlined new household responsibilities that would absorb the time saved by these new technologies.

The Cornell Kitchen came about in a fourth “phase” of home economics, in the post-World War II era after women had entered the workforce in large numbers. In addition, the project arose amid efforts to restabilize the nuclear family through consumer culture and a push for gendered domestic labor that was met with resistance by the second wave feminist movement. Ultimately, as became clear in the 1940s into the 1960s, the very fluidity and lack of structure that helped home economics find adherents also kept it from developing a central core identity. Home economics could be whatever anyone wished it to be—conservative or reform, traditional or innovative, scientific or domestic. In an effort to expand women’s opportunities and gain some measure of gender equity, home economists proved willing to trade on traditional views of women’s place—to use traditional terms to cloak untraditional activities often tainted

with distinct class and racial biases. Furthermore, home economists' desire to set standards and define material and emotional components of a healthy family life, particularly in the postwar period, had the effect of stifling racial and ethnic diversity to promote a culturally homogenous, distinctively white world.²³ As is clear in the history, design, and dissemination of the Cornell Kitchen, previous generations of home economists and domestic theorists left marks on the field that contributed to a complex, sometimes contradictory approach to designing for women and their space.

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The goals and objectives of the home economics movement were never entirely clear or consistent. University-based home economics formed part of the broader movement for vocational training which gained adherents in the decades following the Civil War. Educational and social reformers demanded changes in curriculum to move away from classical Greek and Latin towards subjects better suited to train workers and farmers. Manual or vocational training for boys formed the core of the new practical curricula as part of the Morrill-Land Grant Act of 1862, establishing land-grant colleges in each state with a pedagogical mission focused on technical and applied subjects.²⁴ Many argued that girls also needed training to prepare them for the tasks of homemaking and should have the same opportunities afforded to boys in manual

²³ The extent to which the social control model fails to capture the reality of the interaction between home economists and the women they served becomes apparent in Carmen Harris's work on Black home demonstration agents in South Carolina. These "fairy godmothers and magicians" worked against the odds to make a better life for Black families. The reminiscences of Genevieve W. Thomas, a Black home economics educator who worked in Georgia and Florida, confirm the pattern Harris outlines. See Carmen Harris, "Grace Under Pressure: The Black Home Extension Service in South Carolina, 1919-1966," in *Rethinking Home Economics*, 203-235.

²⁴ Land grant institutions were primarily based at public schools, providing working classes with a liberal, practical education. Until that time, American higher education had focused largely on teaching the classics and on preparing young men for white-collar professions such as medicine, law, and the ministry. The major emphasis was on agriculture, given that the United States was at that time still a predominantly agrarian society. Land grant institutions were also established throughout the country to serve Black communities. Elias, *Stir It Up*, 30. For extension programs in the South see Rebecca Sharpless, *Cooking in Other Women's Homes: Domestic Workers in the South, 1865-1960* (Chapel Hill: University of North Carolina Press, 2010).

agricultural programs. Although at one time advocates urged cooking courses for boys as well as girls and woodworking for both sexes, manual training and home economics soon became sex segregated, much to the dismay of women labor leaders who urged that girls should be trained in ways that would lead to paid employment in industry. Strong traditional beliefs concerning women's place worked to further the most conservative view of home economics. Legislators appeared willing to fund training for girls only if it promised to reinforce gender stereotypes. As a result, the land-grant schools were only open to women insofar as they intended to promote domestic roles for young women.²⁵

A second series of legislative measures in the early-twentieth century further set the agenda for the field of home economics for decades. As Ruma Apple points out in her essay "Liberal Arts or Vocational Training? Home Economics for Girls," the legislation that most benefited the field financially in supporting academic programs also disadvantaged it in the long run.²⁶ Land-grant laws tied training for women to traditional notions of domesticity well into the mid-twentieth century. Early home economics educators acquiesced, seeing in their departments something very different from the buttress to traditional female roles envisioned by male legislators. Several pieces of legislation passed in the 1910s further set the parameters for home economics, prominently illustrated in the programing and curriculum at Cornell's prestigious College of Home Economics. Most notably the 1914 Smith-Lever Act, designed to improve life in rural America, provided funds for home economics through the Extension Service program of the Department of Agriculture, calling for land-grant institutions to disseminate advances in farm business and home management directly to rural communities. Smith-Lever did much to improve

²⁵ Katherine Jellison notes that by 1905 nearly all of the country's land-grant colleges had established home economics departments. Katherine Jellison, *Entitled to Power: Farm Women and Technology, 1913-1963* (Chapel Hill: University of North Carolina Press, 1993), 16.

²⁶ Stage and Vincenti, eds. *Rethinking Home Economic and the History of a Profession*, 83.

the lot of farm women, but at the very moment when the country was becoming increasingly urban, the Act tied home economics to rural life. Projects like the Cornell Kitchen, rooted in home economics research, attempted to bridge that gap and expand beyond rural communities while still reinforcing gender norms.

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The Extension Service program marked one of the clearest and most sustained efforts by Cornell's College of Home Economics to circulate information about their research and establish productive dialogues with constituents who could then implement this research in their daily lives. As such, by the mid-1940s, the College's Department of Housing and Design was focused on remodeling the rural housing stock in New York, where the majority of houses were over forty-five years old.²⁷ In 1947 alone, the department's extension agents, including a dedicated architect, helped over fifteen hundred families improve their homes through demonstrations, courses, lectures, and clinics.²⁸ Despite the individualized appeal of these efforts, it was not enough to address the scale of the issue; thus with state funding, the staff began to assess housing needs more systematically through surveys and compilations of census data.²⁹ In hopes of further developing this data-driven approach, the department hired Glenn Beyer as a professor of housing and design in 1947.³⁰ Three years later, he was named the founding director of the

²⁷ "1947 Annual Report of Extension Activities, Department of Housing and Design, College of Home Economics, Cornell University, New York" (1947), 3, in Department of Design and Environmental Analysis Records (23-16-1472), Box 1, Cornell University Library Division of Rare and Manuscript Collections, Ithaca, New York.

²⁸ In clinics, families would tell extension architect Ruby M. Loper about their housing needs and she would draw up remodeling plans. Some families then allowed their renovated houses to be used for demonstration. "1947 Annual Report of Extension Activities, Department of Housing and Design, College of Home Economics, Cornell University, New York" (1947), 18.

²⁹ Flora Rose, *A Growing College: Home Economics at Cornell University* (Ithaca: Cornell University, 1969), 166–67.

³⁰ Before coming to Cornell, Beyer spent ten years in the Federal Housing Administration and the National Housing Authority. See "Cornell University Agricultural Experiment Station, Final Report on Housing and Design State

University's Housing Research Center, which was established in 1950 with dedicated federal funding for housing research from the Housing Act of 1949.

As director, Beyer steered the Center's interdisciplinary collaborations and reoriented research efforts towards market and mass-production based solutions for housing issues, beginning in the kitchen.³¹ By 1950 when the Center was founded, the field of kitchen research was packed, as other home economics departments, government agencies, and even public health organizations undertook high-profile studies. As Beyer surveyed the field, he recognized that most existing studies worked towards the goal of establishing minimum space requirements that improved kitchen plans for homeowners, architects, and builders to use on their own. Yet few built actual kitchens. With the Cornell Kitchen, Beyer opted not only to design an optimized kitchen, but also to build one.

Product Design Through Research

The Cornell Kitchen began as part of a larger federally sponsored program, *Study of Space, Facility, and Structural Requirements for Farm Houses in the Northeast Region*. Undertaken cooperatively by the United States Department of Agriculture and the Agriculture Experiment Stations at land-grant institutions in Connecticut, Maine, Massachusetts, New Jersey, Pennsylvania, Rhode Island, West Virginia, and New York, this larger project aimed to develop design standards for rural houses that would improve “efficiency in household operation,

Project No. 8, Farm House Storage Facilities for Food Commodities and Related Equipment,” 1 (n.d.), in New York State College of Home Economics Records (23-2-749, henceforth referred to as NYSC), Box 22, folder 3.

³¹ For more on Beyer's investment in mass-production and manufacturing see Barbara Penner, “The Cornell Kitchen: Housing and Design Research in Postwar America,” *Technology and Culture* 59, no 1 (2018): 48-94.

livability, and economy in construction.”³² This official federal study ran from 1947 until 1958, but Cornell’s participation ended in 1952. At that point, Beyer broke off to expand the research to prototype design and field testing not undertaken by the other institutions.

Between 1947-1949, the collective of institutions began their research by conducting surveys of families on owner-operated farms in twelve northeastern states to determine their space requirements and preferences for meal preparation, serving, laundering, clothing storage, and farm business.³³ Beginning in 1949, they worked to establish space dimensions and arrangements based on the needs identified in the survey. It was during this part of the project that each participating state was assigned a different area of the home for closer study. For example, the Agricultural Experiment Station in Rhode Island was given “activities related to the cleaning of the house” and the Penn State Agricultural Experiment Station was allocated “activities related to the care of clothing and household linens.”³⁴ Cornell, the New York State Agricultural Experiment Station, was assigned “activities related to food,” initiating the research that would become the Cornell Kitchen.

“Activities related to food” was the most substantial area of the research project, which Cornell was able to manage because of the combined expertise of its two land-grant colleges: College of Home Economics and the College of Agriculture. For the project, Beyer divided the responsibilities according to the various skills of the team. While faculty in the College of Home Economics studied kitchen space requirements, use, and planning, those in the College of

³² This project, “Study of Space, Facility, and Structural Requirements for Farm Houses in the Northeast Region,” was set into motion by the chief of the USDA Bureau of Home Economics, Hazel K. Stiebling. Hazel K. Stiebling to Dr. C. E. F. Guterman [New York State Agricultural Experiment Station at Cornell] (August 29, 1947). See NYSC Box 21, folder 70.

³³ Led by Beyer, the Cornell team analyzed and wrote up the results of the 607 interviews which were published in *Farm Housing in the Northeast* (1949).

³⁴ “Research and Marketing Project” (“Determination of space and facility needs . . .”) (c. 1947), in NYSC, Box 21, folder 70.

Agriculture were charged with examining fabrication methods, materials, and technology. Together, Cornell's team brought deep, thorough knowledge of rural life to the project.

Between November 1950 and June 1951, the Department of Housing and Design and the Agricultural Engineering staff designed and built a set of “trial run” wood prototypes based on the principles and dimensions from the earlier stages of the study in the Housing Research Center Laboratory (Figure 1.5). These designs were built and tested in a Lustron house constructed on campus specifically to allow full-scale studies for the farm housing study.³⁵ Their initial findings were then incorporated into a second set of wood-and-steel cabinets between January and March 1952. The kitchen went through one more design and testing iteration, with further fine-tuning and criteria taken into consideration based on hands-on testing with home economists and interdisciplinary research leading to the final design in 1954.

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The central principles of the project were most neatly and cohesively articulated in *The Cornell Kitchen: Product Design Through Research*. As required by the federal project, Beyer summarized his team's findings in this 1952 publication. Each of the six chapters was drafted by a different member of the research team, then edited significantly by Beyer to maintain a consistent voice and vision. In addition to outlining the research findings, he attempted to contextualize the research and design in his introduction, which traced the history of kitchen design in the United States. Accompanied by diagrams and illustrations to demonstrate proper

³⁵ The Lustron houses were purchased by the College of Home Economics in 1949: “Lustron Contract” (1949), in Center for Housing and Environmental Studies (henceforth CHES), Box 2, folder 7, Cornell University Library Division of Rare and Manuscript Collections, Ithaca, New York. For Lustron's history, see Thomas T. Fetters, *The Lustron Home: A History of a Postwar Prefabricated Housing Experiment* (Jefferson, N.C.: McFarland, 2002) and Barry Bergdoll and Peter Christensen, *Home Delivery: Fabricating the Modern Dwelling* (New York: The Museum of Modern Art, 2008).

posture and movements, the bulletin also provided analysis of what the researchers termed the “socio-psychological” aspects of the kitchen to highlight the relationship between the design, family dynamics, and general human behavior. By emphasizing these “socio-psychological” aspects of the kitchen, alongside the physical design components, the publication made clear that the design considered—and perhaps even prioritized—the impact of kitchen labor on a housewife’s emotional wellbeing.

Ultimately, Beyer hoped to lure manufacturers into partnership through this printed promotion for the project. Since its inception, the College of Home Economics had sought to empower rural homeowners to remodel and improve their homes themselves. Thus, these bulletins typically offered homeowners advice, working drawings, and sometimes tools such as plans with cut out furnishings to enable families to assess and design for their own needs. As *The Cornell Kitchen* had a different approach to presenting material, its chapters illustrate the competing interests of the different factions of the Cornell Kitchen’s team, which persisted through the design, testing, and promotion of the project.

The fourth and most extensive chapter covered the “technical aspects” of kitchen design. Written by staff from the Department of Agricultural Engineering, the text surveyed typical production methods and commercially available materials for cabinet construction, from plywood to plastic. As Barbara Penner’s research makes clear, the length and detail of this chapter speaks to Beyer’s desire to create a professionally designed and industrially manufactured kitchen.³⁶ Further, in spite of the home economists’ expertise in equipment testing,

³⁶ Penner, “The Cornell Kitchen: Housing and Design Research in Postwar America.”

the bulletin gave out no guidance to help homeowners make their own decisions about purchasing appliances.³⁷

Beyer's aim to get the Cornell Kitchen mass-produced was reinforced in an offhanded, but pointed remark that he did not expect builders to listen to home economists unless their ideas were translated through architects or engineers:

The home economists, engineers and psychologists did the basic research, but the architects designed the product. . . . You have to have the transition. The builder will not take home economists' advice, but he will take engineers' advice. The engineers have to take the home economists' advice.³⁸

With this in mind, Beyer hired Philadelphia-based architect Frank Weise in 1950 to draft perspective drawings for the bulletin, and more broadly to ensure that the kitchen's final design would be both impressive and practical (Figure 1.6).³⁹ For this task, Weise had a solid modernist pedigree, having trained at the University of Pennsylvania and Harvard University, where he worked under Walter Gropius and Marcel Breuer.⁴⁰

Weise's idealized drawing of the Cornell Kitchen cabinets in the bulletin, in an optimum L-arrangement that includes all five work centers, depicts a kitchen with space for socializing and a table for gathering around at mealtime (Figure 1.7). A sleek, pleated George Nelson

³⁷ Without fanfare, an electric refrigerator, range, and oven were built into the second version of the kitchen, with room left for a dishwasher if funds allowed. Contrary to the goals of the federal study, the high running costs of these electrical appliances made them a harder sell for rural families. Ronald R. Kline, *Consumers in the Country: Technology and Social Change in Rural America* (Baltimore: Johns Hopkins University Press, 2000), Table A.16 and Table A.17, on 298.

³⁸ "Minutes of Annual Meeting, Northeastern Farm Housing Technical Committee, January 15-6, 1953, Atlantic City, New Jersey," 5, in NYSC, Box 22, folder 5.

³⁹ Weise acted as consulting architect and draftsman for the remainder of the project. His correspondence with Beyer shows he was particularly active in the final phase of the design process, as the data from the research took shape in architectural form. For example, he is credited as the co-inventor on all the patent applications Beyer submitted for the project.

⁴⁰ Before forming his own firm, Weise also worked for leading American modernist practices including Skidmore, Owings & Merrill, George Howe, and Louis I. Kahn, among others. Emily T. Cooperman, "Frank Weise," https://www.americanbuildings.org/pab/app/ar_display.cfm/18955

inspired pendant lamp is drawn hanging above the kitchen table, adding a decisively modern design attribute to the kitchen. Although it was not fully articulated at this stage, Weise's drawing presented the kitchen through the lens of modern architecture, with clean lines, minimalist, rectilinear forms and no ornamentation or traditional décor in sight. Though removed and abstracted from the home as a whole, the drawing emphasizes the unified aesthetic that owning all five work centers would lend a remodeled kitchen. This unified look was further reinforced in the monochrome red background of all illustrations in the bulletin, such that any differences in materials either in the kitchen units or from the existing room would be erased. Thus, the reader could project themselves into this modern, electrified kitchen regardless of the style of their house—a marketing promise that was ultimately unfulfilled by the design.

Overall, the design as presented in the drawings spoke more to the modern houses of Southern California (discussed at length in the third chapter) than to the rural farmhouses of upstate New York.⁴¹ Ever image conscious, Beyer was mindful of the impressions Weise's drawings of the design would make to the general public, of particular significance because they were created before the Cornell Kitchen's design had actually been finalized. Commenting on Weise's first efforts to illustrate a kitchen, Beyer urged him to "Pep it up as much as possible," and include a "better looking girl."⁴² By including Weise's illustrations of the kitchen that imagine it set in a suburban context reminiscent of modernist developments in California, Long Island, and Chicago among others, when the data and research supporting the design firmly located the project in the rural regions of the Northeast, Beyer ensured that the design could reach homeowners—prospective consumers—beyond its rural origins. In Beyer's attempts to "universalize" what was in fact a regional project, he further foregrounded the "fit" of the

⁴¹ Beyer, ed., *The Cornell Kitchen*, 19, 52, 72.

⁴² See Letter from Glenn H. Beyer to Frank Weise (January 25, 1953), in CHES, Box 11, folder 26.

kitchen. If, as Beyer had suggested in the bulletin, the cabinets were built to fit a housewife, the shelves to fit her supplies, and the kitchen to fit her family, the Cornell Kitchen could, in theory, fit in any American's home.

A Place for Everything

At its core, the Cornell Kitchen was fundamentally a storage system. Designed to be used individually, but ideally as a whole, the kitchen work centers were conceived based on research into storage solutions for farm housing. The researchers' goal was clear: in the kitchen "there must be a place for everything and everything must have its place."⁴³ As the team at Cornell set out to design storage spaces, they used data from earlier studies that had established helpful standards.⁴⁴ Each item was then allocated for a specific work center, adhering to the principle of "storage at first point of use," whereby each work center contained items required for the work performed there.⁴⁵ Thus, pots and pans were stored at the range center, dinnerware at the serve center, baking supplies at the mix center, and so on. This concept for organizing storage, too, grew out of substantial and internationally recognized research by Cornell's Department of Household Management in the 1930s-1940s. Most notably, Beyer and his team adopted the work station, or work center, concept that had been advocated prominently by Christine Frederick in the 1910s-1920s and was a key feature of the college's past efforts at kitchen planning led by

⁴³ Beyer, ed., *The Cornell Kitchen*, 58.

⁴⁴ For tables of the typical possessions the kitchen was to hold, see Beyer, ed., *The Cornell Kitchen*, 83–85, 90–94. For instance, a 1948-1949 farm housing study found that 95 percent of farm families stored twelve pounds of potatoes and a minimum of six bread-and-butter plates. Accordingly, the Cornell Kitchen made room for any item owned by 20% of surveyed families and quantities reflected the usual amounts stored

⁴⁵ Beyer, ed., *The Cornell Kitchen*, 70.

renowned home manager Mary Koll Heiner.⁴⁶ Kitchen labor, as theorized by home economists in the first half of the twentieth century and later Heiner at Cornell, was composed of discrete stages, each of which could be accomplished with maximum efficiency only if all the necessary supplies for that stage were located at that workstation.

Once every item had been appropriately allocated, Beyer's team found the most effective placement for the contents within each unit using Heiner's "work curve" chart that illustrated a user's shoulder and elbow reach (Figure 1.8). Thus, heavily used items were to be located within the work curve, but less frequently used ones were placed above or below it. In addition, each work center also included all necessary appliances, wiring, lighting and ventilation, as well as relevant built-in equipment including a paper towel holder, bread box, can opener, and cutting board.

In order to keep a kitchen clean and tidy, a housewife would need to keep kitchen goods and their byproducts—including aforementioned equipment, noises, and smells—well contained. Rather than using book-like swing cabinet doors proposed in earlier Cornell studies, the Cornell Kitchen's upper cabinet could be closed with sliding doors that concealed all the contents. The design also employed "pocket" doors for the base cabinets that could be tucked out of the way when not in use. Practically speaking, both the sliding and pocket doors solved the problem of heads and shins bumping into open cabinet doors. They also had the aesthetic effect of lending whatever home they were installed in a clean, efficient appearance. Furthermore, the sleek

⁴⁶ For a summary of the evolution of rational kitchens, see Ellen Lupton and J. Abbot Miller, *The Bathroom, the Kitchen and the Aesthetics of Waste* (Princeton: Princeton Architectural Press, 1992), 43–49 and Elizabeth C. Crowley, *The Food Axis: Cooking, Eating, and the Architecture of American Houses* (Charlottesville, V.A.: University of Virginia Press, 2010). For an example of an earlier application of the work center concept at Cornell, see Ella M. Cushman, "The Development of a Successful Kitchen."

cabinets had the appeal of minimizing the appearance of work by literally hiding the working machines and other kitchen contents.

In this way, storage space in the Cornell Kitchen was carefully calculated to conceal certain elements while revealing others. This balance, which characterized much postwar home design, reinforced value systems. Cabinetry, then, assumed significance since a closed cabinet implied capacity and proper management of the goods inside. Additionally, this aesthetic balance between revealing and concealing was classed, as working-class women took pride in displaying their appliances while middle-class women preferred to conceal them.⁴⁷

Although it may seem contradictory to imagine concealed storage systems as part of the transformation of the kitchen into a showplace, Dianne Harris has argued that built-in storage, alongside storage walls, embodies the same tensions as those associated with the picture window: the desire for display that facilitates status mobility and identity confirmation versus the desire for concealment that allows for privacy and the requisite uncluttered aesthetic.⁴⁸ Built-in storage units, which were among the most commonly advocated solution for storage problems, resolved this tension because when closed, swinging panels and sliding doors, as Harris has shown, still revealed their subtle outlines without precisely revealing the nature of the goods within. Moreover, when properly designed, built-in storage units blended in with the surrounding surfaces.

Built-in storage was not a postwar invention. American houses of the turn-of-the-century, particularly bungalows, included storage units that were built into the architecture to reduce

⁴⁷ See Dianne Harris, *Little White Houses: How the Postwar Home Constructed Race in America* (Minneapolis: University of Minnesota Press, 2013).

⁴⁸ More detailed discussion of picture window in chapter three. See also Sandy Isenstadt, *The Modern American Home: Spaciousness and Middle-Class Identity* (Cambridge; New York: Cambridge University Press, 2006).

domestic clutter.⁴⁹ In the kitchen, turn-of-the-century cabinet manufacturers like the Hoosier Manufacturing Company in Indiana responded to Catharine Beecher's call to consolidate and organize storage with furniture designed specifically for kitchen spaces and accessible to middle- and working-class housewives (Figure 1.9).⁵⁰ Hoosier advertisements claimed that its cabinets offered storage for all the tools and supplies essential to the turn-of-the-century cook. Some ads bragged that the Hoosier cabinets had a place for "four hundred articles all within arms' reach."⁵¹ The provision of a variety of container sizes within the cabinet was key to the Hoosier's capacity to consolidate and disclose large numbers of items. Large shelves and drawers housed items such as pots, pans, kettles, and nests of mixing bowls and smaller divided drawers held cutlery, kitchen linens, and packaged goods. Sliding dust-proof bins with dispensers held sugar and up to sixty pounds of flour alongside special metal boxes that stored breads and cakes. Hooks and tiny shelves were arranged for additional small containers and kitchen tools to line the doors, in addition to a revolving rack for little glass spice jars.

The variety of storage areas and sheer number of goods that could be accommodated in such a cabinet, as architectural historian Mary Anne Beecher has shown, is reminiscent of the features of the roll-top desk and cabinet office secretaries found in offices around the same turn-of-the-century period (Figure 1.10).⁵² Office furniture manufacturers in the early-twentieth century created filing systems and cases for organizing the ever-increasing paperwork generated

⁴⁹ Elizabeth Cromley, "Domestic Space Transformed, 1850-2000), in *Architectures: Modernism and After*, ed. Andrew Ballantyne (Oxford: Blackwell, 2004), 182, 185.

⁵⁰ Many Hoosier advertisements included testimonials by women who used installment payment plans to pay for their cabinets at a rate of \$1.00 per week. The total prices of cabinets ranged between \$20 and \$50, so paying in installments made them affordable to a much broader group of consumers. In this way, the Hoosier also consolidated women into a collective consumer group that was both invested and investing in the quality of the household condition. For more on Hoosier cabinets see Mary Anne Beecher, "Promoting the 'Unit Idea': Manufactured Kitchen Cabinets (1900-1950)," *APT Bulletin* 32 (2001): 27-37.

⁵¹ *The House Beautiful* 41:4 (April 1917): 34.

⁵² Beecher, "Promoting the 'Unit Idea'," 29.

by industry and commerce. Produced first in wood and then in steel, these modular filing systems maximized office efficiency by offering a multitude of formats and sizes. Cabinets containing file drawers could be stacked, mounted on rolling bases, or arranged side by side. Beecher points specifically to the Globe-Wernicke Company, with offices in Boston, Chicago, Cincinnati, and New York, as a pioneer in the manufacturing of vertical filing systems based on sets of tabbed folders that could be rearranged, moved, or added to the system at any time. This so-called “unit idea,” as Beecher refers to it, could be adapted both to portable and built-in cabinets and was, by the 1920s, applied to manufacture and market standardized kitchen units.⁵³ Just as office manufacturers claimed that their desks could act as portable offices, these kitchen cabinet manufacturers asserted that everything a housewife needed could be contained within their products, thus marketing their cabinets as though they were kitchens in and of themselves.

A similar dynamic played out in the postwar era. Perhaps the clearest formal indication of both the changed status of housework and the influence of office furniture was the gradual introduction into the kitchen of a desk or other work surface dedicated to paperwork – essentially a housewife’s home office. Just as husbands were moving away from their blue-collar upbringings into a white-collar working world, so too the hopeful executive’s wife had to appear as though from the same economic class and social standing. A desk in the kitchen conveyed the proper atmosphere of white-collar authority.⁵⁴ The desk, along with abundant storage, contributed to the appearance that kitchen labor was professional labor and, more importantly, that it was white labor.

⁵³ Beecher, “Promoting the ‘Unit Idea’,” 27. For more on the concept of the “unit” in architectural discourse see Andrew M. Shanken, “Unit: A Semantic and Architectural History,” *Representations* 143, issue 1 (August 2018): 91-117.

⁵⁴ In her study of “ordinary” postwar homes, Harris has analyzed the ways in which storage systems permitted notions of class, race, gender, and sexuality to be metaphorically built into a house, as well as being symbolically constructed through many careful choices midcentury families made about storage and display. See Harris, *Little White Houses*. Also for detailed discussion of desk as “command post,” see chapter three.

As such, the kitchen, on paper and in its constructed form, provided both a representation and a realized ideal—a model for the fetishization of the tidy, well-ordered and carefully measured appearance of a white, middle-class lifestyle. It was the kitchen that contained nearly all the features considered important to postwar domesticity, and thus it served as a perfect arena in which to fashion identities predicated on consumption and a particularized notion of display. As Andre Hurley notes, the kitchen was “supposed to be a showcase for the material possessions, the modern appliances...and amenities that signified attainment of the good life and one’s arrival in the wonderful world of consumer abundance.”⁵⁵ After all, only people who could afford china needed china cabinets. The Cornell Kitchen’s storage and built-ins signaled status and therefore identities of those who might own such kitchens. Built into the Cornell Kitchen, then, was not only an agreed upon notion of an optimized kitchen, but also an unspoken consensus about what it meant to be the user of such a kitchen.

Designing for Consumption and Conformity

To learn more about the relationship between the female body and the space of the kitchen, the home economists at Cornell “borrowed a method right out of a football team’s bag of tricks” by photographing and filming women at work on different tasks in various kitchen arrangements.⁵⁶ In fact, home economists had historically relied on this method of memomotion study, in which the movement of the body is recorded by time-lapse photography to rationalize the female body in space. Cornell’s household managers used memomotion filming to evaluate and analyze various criteria – strain, relative effort, time spent at areas, number of jobs, space

⁵⁵ Andrew Hurley, *Diners, Bowling Alleys and Trailer Parks: Chasing the American Dream in Postwar Consumer Culture* (New York: Basic Books, 2001), 231.

⁵⁶ Gardener Soule, “New Kitchen Built to Fit Your Wife,” 173.

used in front of cabinets, floor-travel distance, and number of trips—during the testing phase of design development. In addition, these time-motion studies of kitchen labor efficiency were designed, like the well-known precedents on which they drew, to make housework a white-collar endeavor for a generation that had no hired help.

Cornell's home economists were not alone in this effort. Mary and Russel Wright's popular *Guide for Easier Living*, first published in 1951 a year before the Cornell Kitchen bulletin, provides another example of the midcentury obsession with efficiency in the domestic sphere and its links to race and class distinction. As a guide intended to help families cope in the postwar world of homeownership without servants, the Wrights' book contained chapters on the "housewife-engineer" that included time-and-motion studies, as well as appendices and charts on housekeeping routines and products, all together providing lessons on how to appear solidly middle-class by keeping the house spotlessly clean, orderly, and efficient—language that Harris has compellingly argued formed a lexicon of whiteness to code objects and spaces as white.⁵⁷

Furthermore, this type of analysis built upon contemporary research in the field of ergonomics and its use of anthropometry to optimize human interaction with equipment and workplaces. In the Cornell Kitchen, the "sit-down sink" essentially functioned as a kitchen desk for peeling vegetables and washing dishes, in line with the Wrights' recommendations to "sit down to work whenever possible,...Have chairs or stools of the right height for your various tasks."⁵⁸ And again, like the aforementioned inclusion of a desk in the kitchen (analyzed in greater detail in chapter three), the sit-down sink allowed housewives to comport themselves like white-collar workers controlling their households. The illustrations for this feature, included in

⁵⁷ See Harris, *Little White Houses*, chapter 2.

⁵⁸ Mary Wright and Russel Wright, *Guide to Easier Living* (New York: Simon and Schuster, 1951), 106.

the bulletin and in magazine articles, support this point, presenting a member of the household management department whose outfit suggested she could easily work as a secretary in a corporate office (Figure 1.11). White women were not to be seen stooping, bending, or sweating while at work in the home, and the sit-down sink or vegetable desk, among other features of the Cornell Kitchen, confirmed this status-conforming image. Pictured and displayed thus, the housewife was clearly figured as an important worker whose ergonomic needs were worthy of consideration.

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At its most basic level ergonomics is a technical discourse that emerged from a perceived problem of making the human being at home in an ever-more mechanized environment. This is a familiar problem in the history of modern architecture and design, and thus a recurring theme in several of its most famous accounts – from Lewis Mumford’s *Technics and Civilization* (1934), Siegfried Giedion’s *Space, Time and Architecture* (1941) and *Mechanization Takes Command* (1949) to Reyner Banham’s *Theory and Design in the First Machine Age* (1960), William Jordy’s “The Symbolic Essence of Modern European Architecture of the Twenties and Its Continuing Influence” (1963) and more recently Thomas Hughes’s *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970* (2004).⁵⁹ These histories and critiques, all of which sought to understand the development of modern design from the nineteenth century to World War II as the creation of a so-called machine aesthetic, narrated

⁵⁹ See Lewis Mumford, *Technics and Civilization* (New York: Harcourt, Brace and Company, 1934); Sigfried Giedion, *Space, Time, and Architecture: The Growth of a New Tradition* (Cambridge: Harvard University Press, 1941); Giedion, *Mechanization Takes Command* (New York: Oxford University Press, 1949); Reyner Banham, *Theory and Design in the First Machine Age*, second edition (New York: Praeger, 1972); and William Jordy, “The Symbolic Essence of Modern European Architecture of the Twenties and Its Continuing Influence,” *Journal of the Society of Architectural Historians* 22, no. 3 (October 1963): 177–87.

designers' growing awareness of the threat posed by unbridled, disorganized mechanization. The machine—whether symbolized by the airplane, the automobile, the printing press, the steel beam, the jig, or the radio—was to be both the archetype of new architecture and a threat to be ameliorated by the humanism of the architect.

Despite their many important differences, a common trope of these narratives—whether the histories of the designs or manifestos upon which they were based—was one of integration. Writing against the backdrop of mechanized warfare, frequent industrial accidents, and the problems posed by urban life, these authors argued that the human being simply could not survive an oppositional relationship with the machine. As Mumford put it in 1934: “Our capacity to go beyond the machine rests in our power to assimilate the machine. Until we have absorbed the lessons of objectivity, impersonality, neutrality, the lessons of the mechanical realm, we cannot go further in our development toward the more richly organic, the more profoundly human.”⁶⁰ In other words, for the human being to be at home in this brave new world, the human being would have to become more machine-like, a “new man” possessed of objective qualities. Conversely, the machine would need to be humanized, given qualities of subjectivity that would allow it to interact meaningfully with people. At the site of the interaction between human being and machine—what John Harwood refers to as the interface—the goal was not pain, but comfort.⁶¹

Ergonomics did not just apply to machines, but also to space. As the man who coined the term “ergonomics,” K.F.H. Murrell, put it in his first textbook on the discipline:

Ergonomics has been defined as the scientific study of the relationship between man and his working environment. In this sense, the term environment is taken to cover not only

⁶⁰ Mumford, *Technics and Civilization*, 363.

⁶¹ Harwood, “The Interface: Ergonomics and the Aesthetics of Survival,” 80.

the ambient environment in which he may work but also his tools and materials, his methods of work and organization of his work, either as an individual or within a working group. All these are related to the nature of man himself; to his abilities, capacities and limitations.⁶²

The two-pronged program of ergonomics was thus to both define the human being through an analysis of “work” as encompassing all activity, and to reshape an ideal model of space (the “environment”) around the working subject.

Architecture had long engaged with the study of mathematical proportions in the human body to improve both the appearance and function of space. In the twentieth century, the research of German architect Ernst Neufert, a student of Walter Gropius at the Bauhaus in the 1920s, is most cited in connection to the development of ergonomic theory.⁶³ Embracing the era’s fascination with global standards for design and manufacturing, Neufert sought to coordinate measurements for objects, rooms, and buildings with the dimensions of typical bodies. Neufert’s book, *Bauentwurfslehre (Architects’ Data)*, first appeared in Germany in 1936. Initially, Neufert employed the classical proportions of the Golden Section to diagram the ideal human body. As design historian Nader Vossooughian has pointed out, Neufert later adjusted his data on human dimensions to reflect a standardized unit he called the “octametric brick.”⁶⁴ This brick was the basis of a universal grid that could generate dimensions for any part of a building, from construction materials to furniture and appliances. His treatment of the body as an industrial component broke with the classical notion that “man is measure,” memorialized in

⁶² K.F.H. Murrell, *Ergonomics: Man in His Working Environment* (London: Chapman and Hall, 1965), xiii.

⁶³ Le Corbusier also created an anthropometric scale of proportions called “The Modular,” based on the height of a man with his arm raised. He developed it to bridge the gap between the imperial and metric systems. See Le Corbusier, *The Modular: A Harmonious Measure to the Human Scale, Universally Applicable to Architecture and Mechanics* (Basel & Boston: Birkhäuser, 2004, originally published in two volumes in 1954 and 1958).

⁶⁴ Nader Vossooughian, “Standardization Reconsidered: Normierung in and after Ernst Neufert’s *Bauentwurfslehre* (1936),” *Grey Room* 54 (Winter 2014): 34–55.

Leonardo da Vinci's iconic cosmological diagram of man's body inscribed in a circle and square (Figure 1.12). Leonardo visualized a passage from Vitruvius's *Ten Books of Architecture*, in which he wrote that buildings and cities should be fashioned in units that relate to the scale of the body, yielding environments well suited to human habitation and locomotion.⁶⁵ Though Neufert's publication helped establish standard dimensions for a wide range of products, his approach sought to make the body conform to industrial norms rather than deriving such norms from the body.⁶⁶

Ergonomics in design is perhaps most famously rendered in industrial designer Hendry Dreyfuss's anthropometric charts, which can be seen on the wall behind a home economics student at Cornell conducting time-motion studies (Figures 1.13 and 1.14). Dreyfuss's chart—issued first in the early-1950s as a pamphlet accompanied by a collection of large format charts and figures, then later in increasingly massive tomes—is the first and most comprehensive collection of “human engineering” or “ergonomic data” produced explicitly for architects and industrial designers. In his introduction to *The Measure of Man* (1960), Dreyfuss describes its genesis in an idiosyncratic collection of data from various sources:

Shortly after the war, our office was working on the interior of a heavy tank for the arm. We had tackled a huge life-size drawing of the tank driver's compartment on the wall. The driver's figure had been indicated with a thick black pencil line and we had been jotting odds and ends of dimensional data on him as we dug into the data out of our files. Surrounded by arcs and rectangles, he looked something like one of the famous dimensional studies of Leonardo. Suddenly it dawned on us that the drawing on the wall was more than a study of the tank driver's compartment: without being aware of it, we had been putting together a dimensional chart of the average adult American male.⁶⁷

⁶⁵ Toby Lester, *Da Vinci's Ghost: Genius, Obsession, and How Leonardo Created the World in His Image* (New York: Free Press, 2012).

⁶⁶ Vossooughian, “Standardization Reconsidered,” 42.

⁶⁷ Henry Dreyfuss, *The Measure of Man: Human Factors in Design*, second edition (New York: Whitney, 1960), 4.

This epiphany—that the capacity to redefine the average human being was the function not of some inherent set of dimensions, or even of the gathering together and averaging of the dimensions of a statistical sample of bodies, but rather of inscribing those normative dimensions in “arcs and rectangles” within the compartment of the war machine—gave rise to Dreyfuss’s invention of a new, wholly posthumanist model of the human being, entirely contemporaneous to the invention of ergonomics as a discipline of applied science. Dreyfuss named his new male—drawn by his associate Al Tilley—“Joe” and his female counterpart “Josephine.”

Joe and Josephine became the spur for his first book on “human engineering,” *Designing for People*, in 1955—a charming and disarming book, written in layman’s terms and illustrated with lighthearted cartoons. Joe and Josephine are barometers registering the degree of pressure exerted upon them by the “environment”—a point Dreyfuss was explicit about: “Joe and Josephine have numerous allergies, inhibitions, and obsessions. They react strongly to touch that is uncomfortable or unnatural; they are disturbed by glaring or insufficient light and by offensive coloring; they are sensitive to noise, and they shrink from disagreeable odor.”⁶⁸

Dreyfuss’s charts follow in a tradition of anthropometric studies conducted by social scientists, as well as home economists, to establish standardized “norms” or “types” for categorizing humans, which design historian Christina Cogdell has traced alongside the history of eugenics in the 1930s. As Cogdell has shown, displays of such “types”—whether in charts, illustrations, or sculptures—reinforced the existence of these “norms” to the public in racialized

⁶⁸ Dreyfuss, *Designing for People* (New York: Simon & Schuster, 1955), 27. It is also worth noting that in ergonomic discourse Dreyfuss constructed the “normal human” body in his self-image. Dreyfuss is hardly alone in this. For example, Charles Eames modeled his famous leg splint on a mold of his own leg. On the Eames splint see John Neuhart, Marilyn Neuhart, and Ray Eames, *Eames Design: The Work of the Office of Charles and Ray Eames* (New York: Harry N. Abrams, 1989), 27-29.

terms.⁶⁹ Two such sculptures, fittingly named *Normman* and *Norma*, embodied anthropometric studies of “native white Americans” (Figure 1.15).⁷⁰ Posed with their arms at their sides, shoulders back, posture erect, gaze directly forward, and facial expression neutral but focused, the figures stood as if at military attention. Their feet rested on a pedestal topped with the base of a classical column, symbolizing their supposed evolutionary ancestry in Greek civilization. As these classically posed, athletic, “universal Caucasian” types showed, a racial norm often simultaneously functioned as an “ideal.”⁷¹ Often motivated by fears of loss of “racial purity,” these anthropometric studies contributed to the public’s perceptions of both racial and ideal “types.”

The problem of defining types, and the corollary aspiration of defining perfection, continually plagued eugenicists, scientists, and designers for a variety of reasons. As Cogdell has argued, if society were ever made up of completely ideal types, their advocates failed to consider who among this intellectually, physically, and economically fit group would perform menial labor.⁷² Ultimately, after filling volumes with explanations of the need for, means for attaining, and characteristics of an ideal human, many eugenicists returned to the goal of scientists to be able to produce various “types” at will in order to preserve a differentiated capitalist economic social structure led by the “fittest.” In addition, the anthropometric sculptures and charts communicated to the public physical forms for statistically average “types” that in actuality did not exist or correlate with any one specific individual, despite attempts to locate one. As

⁶⁹ Christina Cogdell, *Eugenic Design: Streamlining America in the 1930s* (Philadelphia: University of Pennsylvania Press, 2004).

⁷⁰ Created in 1942 by Dr. Robert Latou Dickinson in collaboration with a sculptor, *Normman* and *Norma* were created with data gathered from a recent study by the Bureau of Home Economics of 15,000 white females for sizing ready-made garments. In addition, Dickinson compiled additional information from the WWII army recruit statistics, studies of college men and women at both elite and state universities, and data from measurements of visitors to the Chicago World’s Fair, among other sources.

⁷¹ Cogdell, *Eugenic Design*, 195.

⁷² Cogdell, *Eugenic Design*, 216.

historian George Stocking, Jr. points out, anthropologists conducting anthropometric research began by assuming the existence of “pure” races in which each individual race member supposedly manifested the same assemblage of traits without variation owing to time or different circumstances. By selecting and measuring individuals who visually appeared to belong to a certain “race” and whose genealogical record suggested as much, they created statistical “types” that gained a life of their own. Yet, as no single individual of that “race” exactly matched the “type,” why Stocking asks, had anthropologists “settled on one combination of traits rather than another to describe the “type”? In doing so, they were assuming a “fixity in relationship of the several racial traits” that their data did not substantiate.⁷³ Even though viewers could not see a living person who literally embodied “Joe” or “Josephine,” however, they could use their forms as a basis by which to judge others and as an ideal toward which to strive.

As the first designer to make use of such standardized “norms,” Dreyfuss argued passionately at the outset of both *Designing for People* and the later *Measure of Man* that the “art” of design was entirely dependent on the success of reforming people themselves through their design equipment, their spaces, their experiences: “The industrial designer’s task is twofold—to fit a client’s wares to Joe’s and Josephine’s anatomies, and to explore their psychology and try to lessen the mental strains of this age. It is not enough to seat them comfortably at their work. There is a responsibility also to remove the factors that impair digestions, cause headaches, backaches, fatigue, and give them a feeling of insecurity.”⁷⁴ The establishment of a set of norms for human dimensions was most explicitly not a simple matter of descriptive anatomy. Instead, the images of bodies that Dreyfuss and his associates produced were—in their

⁷³ George Stocking, Jr., *Race, Culture, and Evolution* (Chicago: University Press, 1982), 163-165.

⁷⁴ Dreyfuss, *Designing for People*, 42-43.

very essence—images of biological and psychological processes. In this way, he proposed to design bodies that could be designed for.

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Through this research methodology—integrating time-motion studies and principles of ergometrics—the home economists at Cornell tested for the amount of energy expended during basic tasks with the prototype cabinets, as German architect Margarete Schütte-Lihotsky had done in developing the Frankfurt Kitchen discussed later in this chapter. In order to measure relative effort, researchers cross-referenced the worker’s filmed arm reaches and body bends with an index of oxygen consumption to confirm that the least fatiguing spaces for most women to use are between twenty-seven and sixty-three inches from the floor (Figure 1.16). Thus, the design incorporated adjustable counter tops to be determined by the user. “Women are of different heights...” Beyer remarked. “The range of flexibility [for the counters] is...to adjust from the short woman to the very tall.”⁷⁵ Together with consulting architect Frank Weise, Beyer invented a system of vertical stackers that allowed the work center counter heights to be adjusted from thirty-two to thirty-eight inches, at a time when the industry standard was fixed at thirty-six inches.⁷⁶ The system was designed such that the housewife could make these adjustments herself, without any outside—male—help, as demonstrated in a promotional film for the kitchen where the model is seen making the counter heights taller (Figure 1.17).⁷⁷

This accommodating feature of the kitchen—along with others such as modular units that could be arranged to account for individual needs and universal fittings so shelves could be used interchangeably—illustrate the ways the architecture of the Cornell Kitchen incorporated

⁷⁵ Beyer, ed. *The Cornell Bulletin*, 130.

⁷⁶ Beyer and Weise obtained a patent for their design of this system. (US D173923 S). CHES, Box 5, folder 19.

⁷⁷ Vitali V. Uzoff, dir., *The Cornell Kitchen* (1955 film).

adaptations for a variety of human requirements, or in ergonomic terms, how it was intended to “fit” its users. The kitchen design further reinforces an American preoccupation with individualism, one that allows space for flexibility, but simultaneously necessitates that the architecture and its users continue to conform to an accepted social order and hierarchy of the White, middle-class nuclear family.

In addition to drawings and photographs, the ergonomic features of the kitchen were presented through diagrams and graphs in *The Cornell Kitchen* and circulated broadly in magazine features. For instance, a bar graph illustrated oxygen consumption—measured in cubic centimeters per minute on the y-axis—correlated with movements such as reaching, stepping, pivoting, and bending (Figure 1.18). As expected, the more onerous the movement the more oxygen consumed in the process. The graph has a large “X” marked through the highest oxygen consuming tasks and we learn from the caption that these movements have been eliminated from the Cornell Kitchen, leaving only the “easy” gestures. To accentuate the human component of the data being presented, a small female stick figure adorns the top of each bar of the graph, demonstrating the movements being analyzed.

Through this type of diagram, the researchers instruct the housewife both textually and visually to keep body parts aligned, to use muscles effectively (smaller muscles for smaller tasks and larger ones for larger tasks) and to be mindful of oxygen used in various individual gestures (the pivot, the reach, the bend) as an indicator of energy expenditure. In the context of energy expenditure, these charts—and their manifestation in the kitchen design—also condition the housewife to become an active consumer. But in this case, the kitchen trains women to properly consume oxygen rather than material goods. In doing so, these charts reinforce how the rationality and efficiency built into the physical kitchen was expected to be met by a rationalized

female worker with the self-discipline to manage her own tasks and movements. Yet, in spite of such detail, the accompanying texts in the bulletin make no mention of if and how the kitchen would function for women whose bodies did not conform to the standard established by Dreyfuss, among others, and implemented by the home economists.

While the conversation around the project promoted the idea that the kitchen could be built to fit any woman, another dimension of the kitchen's attempts to "fit" its users underlies this claim, and undermines these flexible, individualized goals. Specifically, the design of the kitchen necessitated that users modify their behavior to fit the configurations of the space. Although the kitchen could be adapted to the physical requirements of its users, these users had to, at the same time, adapt to the new domestic conditions mandated by the space—specifically the proper behaviors and movements modeled in illustrations throughout *The Cornell Kitchen*. The regulation of the female body was part of a mass-customized and ergonomic approach to design, which Cornell advertised would reduce fatigue and result in greater happiness.⁷⁸ And ultimately, the ability to "fit" in the kitchen promoted discipline, female self-management, and conformity to established norms of gender and labor.

Domesticating Efficiency

Home economists and other professionals believed that rationalizing the space of the kitchen in ways consistent with the rationalization of the factory was in the best interest of housewives. Most immediately, they subscribed to an ideology that prioritized encouraging women to maximize their efficiency in doing housework so as to make kitchen labor less tiring

⁷⁸ Beyer, ed., *The Cornell Kitchen*, 60.

and time-consuming, leaving women with time for other work and projects. They were also attempting to professionalize kitchen labor, to construct it as important work that was “separate but equal” to men’s work—reflecting and contributing to a postwar construction of gender roles as parallel and complementary.⁷⁹ In this respect, a rationalization of feminized kitchen labor and the kitchen itself was an attempt to validate women’s work and to apply to it the same professionalized discourses of industry that were applied to men’s work.

This emphasis on efficiency in kitchen design was an attempt to translate the logic of Taylorism, or scientific management, to women’s labor in the kitchen. Scientific management, as defined in Frederick Winslow Taylor’s 1911 book *The Principles of Scientific Management*, involved the fragmenting of production tasks into their component parts and the assignment of these individual components to workers stationed along the assembly line, each performing a segment of the work at a regulated tempo and with specific standardized motions.⁸⁰ As Thomas Hughes has recounted, beginning in 1882, first Taylor and then an assistant began using a stopwatch to do the time studies of workers’ motions.⁸¹ Timing was not a new practice, but Taylor did not simply time the way the men worked: he broke down complex sequences of motions into what he believed to be the elementary ones and then timed these as performed by workers he considered efficient in their movements. Having done this analysis, he synthesized the efficiently executed component motions into a new set of complex sequences that he insisted must become the norm. He added time for unavoidable delays, minor accidents, inexperience, and rest. The result was a detailed set of instructions for the worker and a determination of time

⁷⁹ Considering the classed implications of this “professionalization,” Dianne Harris discussed the housewife as a “white-collar manager” with the kitchen as the office space (particularly when kitchens physically included desks). See Harris, *Little White Houses*.

⁸⁰ Frederick Winslow Taylor, *The Principles of Scientific Management* (New York: Harper, 1911).

⁸¹ Thomas P. Hughes, *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970* (Chicago: University of Chicago Press, 2004), 189.

required for the work to be efficiently performed. In short, Taylor's fundamental concept was to systematize workers as if they themselves were components of a well-designed, well-oiled machine.

As Hughes's research reveals, modern technology has historically been associated with objects, not systems. However, to associate modern technology solely with individual machines and devices overlooks the deeper currents that Hughes brings to light.⁸² In creating a system defined by control and order, Taylor was not content to redesign machines, men, and their relationships; he was set upon the reorganization of the entire workspace or factory as a machine for production. But Taylor's analysis did not take into account worker independence. Many workers, especially the skilled ones, were unwilling to give control of their bodies and their tools to the scientific managers—or in short, to become components in a well-planned system. Even an increase in pay did not compensate for their feeling of loss of autonomy.

Moreover, in the face of the rigors of operating machinery that pushed the worker beyond his or her physiological and psychological limits during WWII, the Taylorist model was plainly insufficient. Instead of fitting the worker to the job, a new applied science would do just the opposite: “fit the job to the worker.”⁸³ Having identified the “natural” limits of human ability or performance, the designers of these machines needed to learn how to design equipment that would compensate for these shortcomings and allow human beings to operate successfully in situations in which they would otherwise be overtaxed.

As Taylor's principles of scientific management spread across industries and around the globe, proponents took to adapting his methods to better fit their, and their clients' needs. Frank

⁸² Hughes, *American Genesis*, 184.

⁸³ O.G. Edholm, *The Biology of Work* (London: Wiedenfield and Nicolson, 1967), 3.

and Lillian Gilbreth were among those who consulted on scientific principles, gaining prominence for their 1912 *Primer on Scientific Management*.⁸⁴ Where Taylor worked to reduce the time it took to complete a task more efficiently, the Gilbreths focused their attention on reducing the motions involved, distilling tasks into 18 fundamental motions they referred to as a “therblig,” or Gilbreth spelled backwards.⁸⁵ They did so through their pioneering use of a motion-picture camera, as opposed to still images, to prepare time-motion studies.⁸⁶ The Gilbreths also applied their research findings to domestic spaces, circulating images of women working in kitchens, alongside ones of industrial workers using their methods, to make clear that the Gilbreth system was far-reaching, accessible, and humane.⁸⁷

The Gilbreths’ writing on scientific management illustrates Lillian Gilbreth’s active role and influence in their adapted system. Gilbreth, who earned a doctorate in psychology in Brown, believed strongly that workers should not be seen simply as components in a Taylorized system. After her husband’s death, she went on to focus her research on the kitchen—a space where efficiency and knowledge of women’s psychology intersected. In her kitchen designs of the 1920s, Gilbreth recognized women not as uniform consumers, but as creative individuals contributing valuable services. A 1929 model design called “Kitchen Practical,” was intended to showcase the sponsor’s new gas-fueled appliances, as well as her research on labor saving techniques (1.19). To prove the efficiency of her design, Gilbreth conducted a test where the same cake was baked in two kitchens, one traditionally, haphazardly organized and the other using the same equipment and utensils arranged in her new kitchen according to her systems of scientific management. The results were so startling as to almost be unbelievable: the number of

⁸⁴ Frank B. Gilbreth, *Primer on Scientific Management* (New York: D. Van Nostrand, 1912).

⁸⁵ Gilbreth, *Primer*, 34.

⁸⁶ Julie Des Jardins, *Lillian Gilbreth: Redefining Domesticity* (New York: Routledge, 2013), 85.

⁸⁷ Des Jardins, *Lillian Gilbreth*, 85.

steps taken had been cut from 281 to 45.⁸⁸ In making kitchen labor less taxing, Gilbreth sought to equip housewives with information to help themselves, further conceiving of her work as “tailoring” housework to meet their needs and wants.

Gilbreth’s psychologically informed approach to scientific management highlights the flaws in applying Taylorism to the kitchen. In his idealistic commitment to the propositions that efficiency—such that the mechanical and human parts of a machine were virtually indistinguishable—could benefit all Americans, Taylor, as Hughes has shown, proved naïve in his judgments about human values, motives, and behavior.⁸⁹ As Ellen Lupton and J. Abbot Miller observe in *The Bathroom, The Kitchen, and the Aesthetics of Waste*, the metaphor of kitchen as factory, or other type of industrial workroom, was simply inappropriate in many ways to the work done by women in kitchens.⁹⁰ It implied that the kitchen, in which a single worker generally performs myriad different tasks, is the functional equivalent, albeit on a smaller scale, of a factory, in which a number of workers each repeats a few specific tasks. If the kitchen counter evoked the assembly line—the body who becomes the work and the assembly line itself was that of the housewife. This is important not only because it was the woman who completed all the tasks at each station of the assembly line, requiring her to move through the space and staff the whole assembly line while the line itself remained fixed, but also because it implied that cooking and clean up were not heterogeneous operations. Kitchen work encompasses far more than cooking, demanding a number of tasks that interrupts whatever “smooth production line” established through Taylorization.⁹¹

⁸⁸ Des Jardins, *Lillian Gilbreth*, 85.

⁸⁹ Hughes, *American Genesis*, 201.

⁹⁰ Lupton and Miller, *The Bathroom, The Kitchen and the Aesthetics of Waste*, 41-7.

⁹¹ Lupton and Miller, *The Kitchen and the Aesthetics of Waste*, 41-7.

Rationalized kitchen designs, like that of the Cornell Kitchen, suggested that if the ideal workspace was achieved, kitchen labor would take care of itself; but the success of these layouts depended on the housewife being trained to assume the role of factory worker and streamline her own motions in a hyper-efficient interface with the workstations. In this respect, the guidelines for efficient use of space and of women's bodies developed, produced, and promulgated through the Cornell Kitchen by the team of home economists, architects, and sociologists, were also producing a system of bodily discipline that extended from women's broadest to most minute gestures. In the end, regardless of whether women followed these guidelines, the production of such discourses of efficiency and managerial ideologies not only mimicked those applied to the factory; by asserting that efficiency was a value appropriate and proper to the American home, they contributed to a generalized culture of efficiency and internalized rationalization as a value appropriate to all realms of American life.

Models of Reform

In a Taylorist environment, the problem of space is central: of making it as small as possible, bringing related "functions" into as close a proximity as possible so as to reduce time and labor and increase efficiency. Thus, Taylorist principles had a profound impact on architectural and industrial design, and Mary McLeod traced their impact specifically on European modern design of the 1920s, including the Frankfurt kitchen.⁹² After reading Frederick's book on household efficiency, translated into German by Irene Witte, the Austrian architect Margarete "Grete" Schütte-Lihotsky became convinced that "women's struggle for economic independence and personal development meant that the rationalization of housework

⁹² McLeod, "'Architecture or Revolution': Taylorism, Technocracy, and Social Change," 132-147.

was an absolute necessity,” and “the problem of organizing the daily work of the housewife in a systemic manner is equally important for all classes of society.”⁹³ The most prominent and consequential application of Taylorism in the kitchen, the Frankfurt Kitchen was the result of Schütte-Lihotzky’s attempt to reduce the burden of women’s labor in the home (Figure 1.20). Schütte-Lihotzky shared the Cornell home economists’ goal of rationalization and reform, in post-World War I Germany rather than post-World War II America. Further, the Cornell and Frankfurt projects share an overarching interest in adopting scientific methods to solve spatial and social problems in the domestic sphere.⁹⁴ Together these projects help to illustrate the converging and diverging approaches to standardization and customization of kitchen spaces and labor; in particular, they center and impact the female body.

Schütte-Lihotzky organized the core components into a compact, regular room—a space less than thirteen feet long and seven feet high—such that all the necessary implements and appliances were a simple extension of the housewife’s hand.⁹⁵ A row of plywood cabinets lined the upper level of one wall, with the sink and surrounding linoleum work surfaces below. In accordance with principles of efficiency that mandated the fewest possible steps, the oven and range were placed alongside one another on the wall opposite from the sink. With minimal distance between the two workstations, the configuration allowed for the housewife to move back and forth with relative ease, speed, and effort. Adjacent to the sink on the lower level,

⁹³ Quoted in Juliet Kinchin, *Counter Space: Design and the Modern Kitchen* (New York: The Museum of Modern Art, 2010), 20; and quoted in Mary McLeod, “Domestic Reform and European Modern Architecture: Charlotte Perriand, Grete Lihotzky, and Elizabeth Denby,” in *Modern Women: Women Artists at the Museum of Modern Art* (New York: The Museum of Modern Art, 2010), 181-2.

⁹⁴ For more on how American scientific management principles were applied internationally see Recent scholarship has tracked how American scientific management principles, see Ruth Oldenziel and Karin Zachmann, eds. *Cold War Kitchen: Americanization, Technology, and European Users* (Cambridge, M.A.: MIT Press, 2009).

⁹⁵ These dimensions based on the Frankfurt Kitchen in the Museum of Modern Art’s collection, which was the most compact, popular, and cheapest of the three prototypes designed. McLeod, “Domestic Reform and European Modern Architecture,” 183.

labeled and built-in aluminum storage bins provided tidy organization and easy pouring for staples like sugar and rice. Each kitchen also came complete with a swivel stool, a fold-down ironing board, built-in cabinet lighting, and an adjustable ceiling lamp.

Schütte-Lihotzky's aesthetic choices—the glass cabinet panes and molding-less cabinet frames, aluminum sink and drawers, tiled floor and splashboard, and linoleum counter tops—all reinforced this image of an efficient, hygienic workspace.⁹⁶ While the kitchen appears in black and white in the iconic and oft-published photograph from *Das neue Frankfurt* (1927), the most popular color for the wooden frames of the cabinet doors was a grayish blue, chosen specifically because it repels insects (Figure 1.21). However, with its enameled wood cabinetry and framing, the Frankfurt Kitchen projected a model of modernity more modest than its contemporaries, for instance Charlotte Perriand's model kitchen displayed at the Salon d'Automne in 1929, with its reflective surfaces, chrome fittings, built-in appliances, and modular storage units (Figure 1.22).⁹⁷

Like many designers seeking optimal efficiency in the home, Schütte-Lihotzky was conversant with the discourses of domestic reform and household management, articulated in Frederick's *The New Housekeeping* and by Erna Meyer in her popular manual for the home *Der Neue Haushalt* (*The New Household*, 1926).⁹⁸ Both authors—like their contemporaries grappling with the same questions—analyzed the bodily movements and circulation patterns of housewives as they engaged in daily work in order to arrive at new principles for household design and labor.

⁹⁶ See Codgell, *Eugenic Design* and Wright, *Building the Dream*. The specifications about materials comes from V&A conservation report (<http://www.vam.ac.uk/content/journals/conservation-journal/issue-53/frankfurt-kitchen-patina-follows-function/>)

⁹⁷ McLeod, "Domestic Reform and European Modern Architecture," 182.

⁹⁸ Susan R. Hendersen "A Revolution in the Women's Sphere: Grete Lihotzky and the Frankfurt Kitchen," in *Architecture and Feminism*, eds. Debra Coleman, Elizabeth Danze, and Carol Henderson (New York: Princeton Architectural Press, 1996), 22.5

Following this model, Schütte-Lihotzky conducted detailed time motion studies and interviews with housewives and women's groups.⁹⁹ This analysis was then reflected in her design such that the positioning of each component of the Frankfurt Kitchen minimized unnecessary steps, while design features aimed to reduce labor and provide physical comfort. For example, the work table for preparing food was placed under a window for natural light and adjacent to the sink with a stool for seated work; the metal storage bins with pouring spouts for dry ingredients eliminated the need for steps such as opening cupboards and jars, then scooping out contents; and the drop-down ironing board omitted the need for assembly and storage of additional household equipment.

Furthermore, the labor-saving philosophy extended beyond the layout of the Frankfurt Kitchen and into its production and pricing. Schütte-Lihotzky's interest in kitchen design dated back to the early 1920s, when she studied low-cost housing while working for Adolf Loos in Vienna. There, she proposed a concrete kitchen that was to be factory assembled and mounted by crane. She later translated these ideas into the Frankfurt Kitchen, which she conceived as one unit that would be serially produced to reduce costs, and thus be made affordable to as many people as possible—a crucial component of the project's aims to enact social reform.¹⁰⁰ Like the Cornell Kitchen, the Frankfurt Kitchen was born of a postwar housing crisis. In Germany, the response to this crisis was an ambitious program known as “the Neue Frankfurt,” or the New Frankfurt, which encompassed the construction of affordable public housing and modern amenities throughout the city under the direction of the chief city architect Ernst May. Within

⁹⁹ McLeod, “Domestic Reform and European Modern Architecture,” 181-2.

¹⁰⁰ An entire kitchen unit cost approximately fifty dollars, whereas the individual components, if purchased separately would have cost about ninety dollars. To enable residents to buy a kitchen, the government arranged special loans that could be paid off slowly over time, along with the monthly rent. Catherine Bauer, *Modern Housing* (New York: Houghton Mifflin Company, 1938), 198. For more on Schütte-Lihotzky and mass-production see Hendersen, “A Revolution in the Women's Sphere,” 234.

five years, more the ten percent of Frankfurt's population was living in housing and communities that were newly designed and approximately 10,000 of Schütte-Lihotzky's kitchens were built as an integral element of these new units.¹⁰¹

Through these reformatory programs and in response to the upheaval of the First World War, rational, planned order was to replace the senseless chaos of the world. This notion of a regularly constructed environment—popularized by Meyer and others, including Bruno Taut in his book *Die Neue Wohnung* (*The New Dwelling* 1924)—corresponded to the principles of functionalism and rationality conditioned by industrial production processes and propagated through Taylorism. In order for the effects of these reforms to take root, it was imperative that both spaces and people conformed to these principles. As part of this social and housing initiative, the Frankfurt Kitchen was conceived as one of the first steps toward building a better, more egalitarian world in the late 1920s. In this way, the design became a standard reference model for kitchen debates throughout the rest of the twentieth century, especially for issues surrounding efficiency, mass production, and standardization of the domestic realm in the postwar American building boom. Specifically, in the context of mass production and standardization, the Frankfurt Kitchen is frequently hailed as an early and successful “fitted” kitchen, a phrase referring to its matching, standardized, and built-in units.

Significantly, in spite of its historical significance, public reaction to the Frankfurt Kitchen varied. Most modern architects and critics praised it and a report by the Frankfurt government on kitchen design cited it as the best solution for servant-less households.¹⁰² Yet, others, including kitchen reformer Erna Meyer and sociologist Ludwig Neundörfer, criticized the

¹⁰¹ McLeod, “Domestic Reform and European Modern Architecture,” 183.

¹⁰² McLeod, “Domestic Reform and European Modern Architecture,” 182. See also Oldenziel and Zachmann, eds., *Cold War Kitchen*.

design for being too rigid.¹⁰³ Housewives in interwar Frankfurt, too, took issue with the kitchen's rigidity, protesting against the rules and ideas that were inscribed in Schütte-Lihotzky's design.¹⁰⁴ Instead, working-class housewives tinkered with the kitchen and other technological arrangements to make them work better in their personal routines.¹⁰⁵ As part of the larger housing project for the New Frankfurt, Schütte-Lihotzky prioritized standardization of the system above the needs of the individual. Thus, despite its "fitted" design, the Frankfurt Kitchen did not fit the needs of many users.

Standardizing Flexibility

It was just this backlash against standardization that the researchers at Cornell sought to address with their participation in the design and its adjustable components. While the built-in and standardized design characterized the Frankfurt Kitchen, the "fit" of the Cornell Kitchen alluded to customization and individualization. With this approach, the team at Cornell was in line with Americans' expectations in the postwar era, as stated in a 1949 issue of *American Builder*: "women prefer...a room expressive of their taste and individuality."¹⁰⁶ At Cornell, the collaborators all agreed that a scientific approach would benefit the users, but they fundamentally disagreed over how these benefits should be realized. The team from the New York State College of Home Economics at Cornell based their work in a strong tradition of diffusing functional design directly to the public—in their case the rural population of the region—so that constituents could improve home environments themselves. In other words, the home economists sought to share agency with users, such that they too are active participants in the design and

¹⁰³ Hendersen, "A Revolution in the Women's Sphere," 238

¹⁰⁴ Hendersen, "A Revolution in the Women's Sphere," 251.

¹⁰⁵ Kinchin, *Counter Space*, 22.

¹⁰⁶ R.J. Alexander, "Built-in Features for the Kitchen," *American Builder* 71, no.4 (1949): 162.

could engage the research to fit their own needs. This methodology resulted in an abundance of literature that provided users, mostly housewives, with space requirements or templates for remodeling, along with guidelines for how to work in these spaces. For home economists working on the Cornell Kitchen, this meant producing such written guidelines to articulate research, rather than product design for manufacturing. As such, this passive approach offered flexible models of rational consumption, work, and behavior.

By offering affordable installation with enough options to create a sense of customization, Beyer sought to address the individuality of users—considering the project’s modular assembly as a way to counter, or at least accommodate, mass production’s homogenizing effects.¹⁰⁷ He believed that for maximum impact researchers had to implant scientific principles into mass-market products. “If kitchen research is to be of the ultimate benefit to the consumer,” he insisted, “it must be translated into form and substance.”¹⁰⁸ As Penner’s research compellingly claims, Beyer employed social-scientific methods to improve the marketability of the design, as well as the livability, based on his conviction that the market was the best means to disseminate the research findings.¹⁰⁹ In this way, Beyer advocated for a more active practice of enhancing the spatial and psychological components of kitchen life translating research into objects, products, and spaces that mandated standardized behavior by users.

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The balance of individuality and conformity was a common topic of domestic design discourse for generations, particularly as Americans increasingly relied on their homes as

¹⁰⁷ See Chad Randl, “‘Look Who’s Designing Kitchens’: Personalization, Gender, and Design Authority in Postwar Remodeled Kitchens,” *Landscapes: Journal of the Vernacular Architecture Forum* 21, no. 2 (Fall 2014): 57-87.

¹⁰⁸ Beyer, eds., *The Cornell Kitchen*, 56.

¹⁰⁹ Penner, “The Cornell Kitchen,” 60.

vehicles of self-expression, morality, and patriotism.¹¹⁰ In her 1914 book *The Efficient Kitchen*, home economist Georgie Boyton Child described efficiency as “the very antithesis of the selfish and narrow individualism that insists upon considering every problem of the home as a ‘personal matter.’” She lamented “the somewhat petty insistence on individual preferences and prejudices that often reared like a solid wall in the way of progress in this important field.”¹¹¹ Two years later, the Cornell University journal *Reading Course for the Farm Home* stated, “Any home maker should be able to plan a kitchen intelligently, just as she should know how to sew up a seam or balance her accounts. This does not mean a kitchen that seems convenient merely because it expresses certain pet whims, or ideas, but one that measures up to some standard tests on general essential points.”¹¹²

Even proponents who had once championed a strict approach to efficiency in the kitchen had a change of heart. By the late 1940s, Lillian Gilbreth—a consultant on scientific management just two decades earlier—was rethinking her earlier ideas, moving away from the optimizing concept of efficiency to advocate for flexibility. Flexibility meant many things for Gilbreth. It was consistently a guiding principle of her designs, applied through height adjustability and moveable furnishings. She also conceived of flexibility less literally and more broadly as a pathway to freedom and creativity, and as a liberating approach to housework. In her 1954 book *Management in the Home: Happier Living Through Saving Time and Energy* she admonished her readers: “The person who clings too closely to his standards becomes rigid. . . . You must keep the ability to change when it becomes necessary. This is being

¹¹⁰ See Gwendolyn Wright, *Moralism and the Model Home: Domestic Architecture and Cultural Conflict in Chicago, 1873-1913* (Chicago: University of Chicago Press, 1980).

¹¹¹ Georgie Boynton Child, *The Efficient Kitchen: Definite Directions for the Planning, Arranging, and Equipping of the Modern Labor-Saving Kitchen: A Practical Book for the Home-Maker* (New York: McBride Nast, 1914), 2.

¹¹² Helen Binkerd Young, “Planning the Home Kitchen,” *Cornell Reading Courses for the Farm Home*, no 108 (1916).

flexible...[Flexibility] means freedom from hidebound tradition. It means you can use your imagination and your creative ability ... to meet changing situations.”¹¹³ In both conceptions of flexibility, Gilbreth was in sync with the prevailing ethos of home economists at Cornell, as well as those in universities across the country, who had long emphasized physical adaptability and customization. For them, a “dream kitchen” was not a standardized space, but a tailored one, designed around a specific homemaker’s budget, needs, and most importantly her body.

By the 1950s, when the Cornell Kitchen was in development, consumers’ expectations had shifted. In 1952 Youngstown kitchens told consumers “Planning your kitchen is easy, and you’ll have a lot of fun doing it!”¹¹⁴ Because consumers selected from the company’s line of steel cabinets and were free to arrange them as desired, promoters hoped to convince consumers that they could be amateur designers and that the result of their efforts would be a new, personalized cooking space. In the rhetoric around kitchen design, specifically remodeling, manufacturers promoted their products not just through customization, but also conservative, gendered division of domestic labor, as Chad Randl’s study has shown.¹¹⁵ These manufacturers promised that improved kitchens, customized to one’s own personal needs and space, would

¹¹³Lillian M. Gilbreth, Orpha Mae Thomas, and Eleanor Clymer, *Management in the Home: Happier Living through Saving Time and Energy* (New York: Dodd, Mead, 1954), 223, 225, 227. Ultimately Gilbreth understood flexibility as a means to increase personal satisfaction and to rethink the gendered division of labor. Being flexible meant having the freedom to distribute domestic tasks across all members of the family, according to inclination and aptitude rather than “hidebound tradition.” As Lancaster writes, Gilbreth’s views were shaped by her increasing concern about the status of women workers. As research chair for the Business and Professional Women’s Club, in the 1930s, she initiated a national survey to determine the extent of the discrimination against older women in the workplace, and found evidence of discrimination against women workers of all kinds. Gilbreth blamed this on the general devaluing of female labor. Women’s responsibilities such as housework and child-rearing, she said, are seen “either as an unpaid benefit to humanities, as free as air — or as being paid for in appreciation, love for service or some other intangible coin.” The way that women’s labor could be restored to its proper value, she argued, was to reject conventional gendered divisions, blurring the historical distinction between public (productive) and private (reproductive) spheres and the greater value assigned to work in the former. Jane Lancaster, *Making Time: Lillian Moller Gilbreth, a Life Beyond “Cheaper by the Dozen”* (Boston: Northeastern University Press, 2004), 293-94.

¹¹⁴ *The World’s Newest Kitchen Ideas* (Warren, OH: Mullins Manufacturing Corporation, 1951), 20.

¹¹⁵ Randl, “Look Who’s Designing Kitchens,” 63.

fulfill a housewife's dream, alleviating physical aches and strains, freeing up leisure time, and ensuring the happiness of the whole family. The focus on flexibility in the Cornell Kitchen, particularly with Beyer's goals of manufacturing in mind, actually yielded homogeneity that, in effect, neutralized difference between housewives to fit a specific model of domesticity in both their spaces and bodies.

Put to the Test

What ultimately set the Cornell Kitchen apart was the radical step of installing its prototypes in homes for field testing beginning in 1955. This process put the project's third principle—build the kitchen to fit the family—to the test, as Cornell's researchers received feedback about how the design functioned and fit housewives and their families in the real world. This field testing was made possible through Reynolds sponsorship of the program, since by 1955.¹¹⁶ The company invested heavily in the publicity of the project, by underwriting the cost of *The Cornell Kitchen* bulletin—which allowed it to be printed in color—and paying for a fourteen-minute promotional film featuring the kitchen.¹¹⁷ More significantly, they agreed to supply aluminum for up to six sets of cabinets, along with technical advice about construction and assistance in finding a fabricator.¹¹⁸ Supported by this corporate collaborator, among others, six kitchen units were shipped to Ithaca in early 1954, flat-packed in crates and ready for installation in five homes in the region.

¹¹⁶ For more on corporate sponsorship of the Cornell Kitchen see Penner, "The Cornell Kitchen," 75.

¹¹⁷ Vitali V. Uzoff, dir., *The Cornell Kitchen* (1955 film).

¹¹⁸ Reynolds sponsorship meant that the kitchen systems were fabricated in aluminum, rather than steel which was more common at the time. Pittsburgh Paint Glass Company then enameled the exterior cabinet panels vivid salmon red or yellow, an anomalous choice given that white cabinets were still the norm at the time. See Beyer, *The Cornell Kitchen*, 90.

In order to conduct field-testing with these units in the real world, the Cornell researchers had to find suitable families willing to have model kitchens installed in their homes. Selection criteria for the families was strict: first, they had to have farmhouses in good condition located within fifty-five miles of Ithaca. They also had to be middle-class, as Cornell required the families pay \$500 towards the kitchen manufacturing costs and cover all costs of installation, which involved extensive construction work ranging from demolition of existing cabinets to remodeling floors and ceilings.¹¹⁹ Families also had to agree to record their activities; to be studied and photographed by a Cornell observation team; and allow manufacturing representatives and others researchers to visit their kitchens. Given the demands placed on the families, potential participants were first identified through discussions with Cornell home economists. For instance, Margaret Potter was suggested as a cooperative participant because she had previously taken part in extension programming. Upon visiting Mrs. Potter's home and meeting her family with the Cornell assessment team, Beyer approvingly wrote:

The wife appeared to have a good foundation in home management principles, having her kitchen well arranged...The family emphasizes convenience, comfort and modern living.¹²⁰

Above all, though, the participants needed to be “family-centered” in the judgment of an assessment team according to the “value orientations” outlined in the bulletin. The Cornell Kitchen team utilized the four “value orientations”—social standing, aesthetics, physical convenience, and family-centered—established by other researchers from the Housing Research

¹¹⁹ The Hawley kitchen renovation cost \$2,433 (including the \$500 payment to Cornell), comparable to what an average modular steel kitchen cost at this time. Clough & Elliott, “Estimate Evaluation: Third Visit to Families, Hawley, Harold, Weedsport, New York” (21 July 1953), in CHES, Box 11, folder 25

¹²⁰ Quoted in Glenn H. Beyer, “Mr. and Mrs. Bernard Potter: Tuesday, May 12” (May 16, 1953), in CHES, Box 11, folder 25. The initial list of potential participants comprised 400 families. Glenn H. Beyer to Mrs. Heiner, Miss Warren, Mr. French, Mr. Boyd, Mr. Elliott, Mr. Weise, “Summary of Farm Kitchen Research Advisory Committee Meeting—April 22, 1953,” in NYSC, Box 22, folder 6.

Center who analyzed cultural background, education, habits, and experience to determine the factors that motivate home buyers.¹²¹ According to the findings, a housewife whose emphasis is “social standing” saw her kitchen largely in terms of what others would have had and was heavily influenced by advertising; ones with aesthetic interests saw their kitchens in terms of visual characteristics like pleasantness of color, texture, light, and view from their windows; emphasis on “physical convenience” referred to housewives who prioritized labor-saving arrangements above all. In the eyes of Beyer and his team, the “family-centered” housewife was the target demographic for the Cornell Kitchen—as she had a “close and psychological relationship to other members of her family....[and] a kitchen design most satisfying to her will emphasize features permitting close family relationships when she is working in this center of the house.”¹²² More anecdotal than scientific, this discussion of values did not go much deeper than this, and Beyer acknowledged that women were likely to combine in varying degrees some aspects from multiple value patterns described. Notably, their analysis lacked substantial correlation to architectural or design principles.

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Once rambling farm kitchens comprised of separate furnishings and appliances, the installation of the Cornell Kitchen system gave way to more unified spaces. While the work centers were configured differently in each home depending on the existing space constraints and each family’s needs, some elements of the installation were consistent. For instance, all the renovations integrated a picture window above the sink centers to fill the kitchens with natural

¹²¹ This research was published as Glenn H. Beyer, Thomas W. Mackesey, and James E. Montgomery, *Houses Are for People*. See also Beyer, *Housing and Personal Values*.

¹²² Beyer, ed., *The Cornell Kitchen* 15

light and clear views to the outdoors.¹²³ Regardless of available space for installation in each home, all of the kitchen units were arranged compactly, adhering to the principles of rational design, to minimize steps. But researchers were sure to also allow for dining tables and social spaces within the installation, in hopes of arranging the kitchens to enable both efficiency and sociability.

The publicity photographs of the test kitchens in use presented a tableaux of family-centered activity that seemed intended to reassure rural audiences that farm wives could enjoy the advantages of a rational workspace while staying connected to family, as Barbara Penner has shown (Figure 1.23).¹²⁴ The photographs of the Hawley family, for example, present the kitchen as a command post, from which the neatly dressed Mrs. Hawley supervised the operation of her household and the care of her children (Figure 1.23b).¹²⁵ This type of promotional imagery, Penner also compellingly argues, appears to offer proof of Beyer's grandiose claims that the kitchen could act as a buffer against outside influences that might otherwise destroy traditional farm life.¹²⁶ In depicting not just an efficient but also an emotionally satisfying environment, these images supported claims that both physical and "socio-psychological" advantages gained from the Cornell Kitchen could extend beyond the housewife to the family as a whole.

During the nine-month testing period, participants had numerous opportunities to provide feedback on their experiences through questionnaires and unstructured interviews. In order to capture their "true" emotional responses, Beyer also put an observation team in place to read past

¹²³ For more on picture windows see Sandy Isenstadt, *The Modern American Home*, and chapter three.

¹²⁴ Penner, "The Cornell Kitchen," 80.

¹²⁵ See note 53 as these images also support Diane Harris's argument that housewives during this period were typically portrayed as white-collar managers. Harris, *Little White Houses*, 195-209.

¹²⁶ Beyer, ed., *The Cornell Kitchen*, 10.

user bias and gauge “how much the homemakers criticism is based on custom or tradition.”¹²⁷

The families had the most enthusiastic responses to the built-in lighting, the countertop range, and the kitchen’s flexible features, including the variable counter heights, pullout trays, and adjustable shelves.¹²⁸ But the participants also offered their critiques, many of which stemmed from issues with storage and maintenance. Of the maintenance issues, several of the participating housewives commented on difficulty cleaning the kitchen—not an element that Cornell’s researchers had actually tested for—describing the sliding trays and towel drying components as particular “dirt catchers.”¹²⁹ Almost all the test families agreed that the flour and sugar bins were too small and too messy. On these points, Mrs. Kellogg, the star of the *Cornell Kitchen* film and a 1956 feature in *Look*, made the sharpest critique:

I cannot get my every-day dishes for our family of 8 packed away on shelves...Back part of bread box for cake and pies are unused here – cannot get any of our standard sized tins in – not big enough for layer cakes etc.¹³⁰

While the housewives generally seemed content with their kitchens, Mrs. Kellogg’s comments about her storage concerns exposed the limitations of designing a kitchen for an “average” family’s needs and to a standard set of specifications. Even if, as her comments suggest, the Cornell team had simply made incorrect measurements, there would still be limits to how far features like interchangeable drawers could compensate for evolving storage needs. In other words, the shelves were not actually built to fit the supplies, or for that matter the needs of

¹²⁷ Glenn H. Beyer, “Field Observation Technique in Housing Research,” Tentative Draft of Paper Prepared for Housing Research Methodology Conference (July 30-31 and August 1, 1953), 7, in NYSC, Box 22, folder 4.

¹²⁸ Glenn H. Beyer, “Evaluation of the Cornell Kitchen after Nine Months Use” (March 19, 1955), in CHES, Box 5, folder 22

¹²⁹ Glenn H. Beyer, “Evaluation of the Cornell Kitchen after Nine Months Use” (March 19, 1955), in CHES, Box 5, folder 22

¹³⁰ Glenn H. Beyer, “Evaluation of the Cornell Kitchen after Nine Months Use” (March 19, 1955), in CHES, Box 5, folder 22; and “Questionnaire—The Cornell Kitchen Families, Nine Month Evaluation Report” (1955), 3–4, in CHES, Box 5, folder 22.

the family, as had been promised. As built, the Cornell Kitchen's design ended up awkwardly situated between Beyer's market driven approach to prescriptive standards and the home economists' philosophy of providing homeowners tools for self-improvement.

Also missing from the test study reports were any assessments of how the housewives *felt* physically or emotionally in their Cornell Kitchens. Thus, the evaluations prioritized how the technology functioned over how the female bodies functioned in the space. Some participants, though, did offer unprompted commentary on their feelings about being in the kitchens. Notably, contradictory to the "family-centered" objectives of the design, one housewife claimed that her kitchen worked best when she was alone in it, not when she was surrounded by her family, in the conditions desired by the Cornell team. But the housewives were never asked about changes to their manual or mental labor as a result of the kitchen, for example if they actually spent less time preparing meals or if they experienced less fatigue.¹³¹ Despite the promise that the kitchen would be built to fit its user, the field testing for the prototypes paid little attention to this question in evaluating the design.

Reviews of the Cornell Kitchen came in from the public as well. Regionally, the kitchen was exhibited at Cornell's Farm and Home Week, where several thousand visitors responded to researchers' questionnaires. The project was on display at various stages of its development in 1951, 1952, and 1954, during which time attendance peaked at eighteen thousand visitors.¹³² Only a quarter of the roughly 2,800 visitors surveyed indicated that they would purchase the whole system, while more than half expressed interest in some but not all of the work centers;

¹³¹ Glenn H. Beyer, "Evaluation of the Cornell Kitchen after Nine Months Use" (March 19, 1955), in CHES, Box 5, folder 22; and "Questionnaire—The Cornell Kitchen Families, Nine Month Evaluation Report" (1955), 3–4, in CHES, Box 5, folder 22.

¹³² By displaying their model kitchen to the public for feedback and promotion, Cornell continued the long tradition of home economics and architects harnessing public displays for broader reach, significantly those at World's Fairs and trade shows. *Cornell, A History, 1940-2015*, 28

approximately ten percent conveyed no interest in buying any of the kitchen units.¹³³ As the kitchen project went on display to the public, its audience and originally envisioned user diverged. While the initial federally funded study and the project's test phase were aimed at rural farm families, the majority of the visitors at Farm and Home Week listed their occupation as "non-farmer," instead identifying as clerical or skilled workers.¹³⁴ This demographic shift illustrates the ways in which the project, as realized, developed multiple constituencies—at once delivering technological parity to rural communities while offering suburban families re-engineered kitchens that maintained the status-quo of their family roles and values.

The kitchen also received a significant amount of national media coverage, particularly in the wake of publication of *The Cornell Kitchen* in 1952. In addition to displays locally, the project was presented at the Modern Living Exposition in New York City in 1954.¹³⁵ Print and video publicity circulated the Cornell Kitchen outside of New York state, with feature articles appearing in the *Boston Globe*, *Chicago Daily Tribune*, *Detroit Free Press*, *House & Home*, *LOOK*, *New York Times*, and *Washington Post*, and *Popular Science*.¹³⁶ And Cornell received hundreds of letters from across the United States, further proof of the project's wide dissemination and additional evidence of its reception.¹³⁷ While a good portion of the messages came from various industry professionals, most were from members of the public requesting

¹³³ Surveys conducted at 1952 and 1954 displays and responses referenced above from 1954. "Results of Questionnaire—The Cornell Kitchen" (September 22, 1954), in NYSC, Box 21, folder 70.

¹³⁴ Kitchen displays and related programming had been a staple of Farm and Home Week since its inception. Begun in 1911, the event brought farmers and families to campus from all over New York State to celebrate farm life with state-fair like agricultural and animal displays, workshops, symposia, lectures, and traditional rural fun, such as greased pigs and tractor towing. *Cornell, A History, 1940-2015*, 28

¹³⁵ For more on the Modern Living Expositions, see David Smiley, "Making the Modified Modern," *Perspecta* 32 (January 2001): 38-54.

¹³⁶ Feature articles on the kitchen appeared in: *American Builder* (June 1953), *Daily Boston Globe* (19 April 1953), *Chicago Daily Tribune* (22 and 23 March 1953), *Detroit Free Press* (3 May 1953), *House & Home* (June 1953), *Look* (21 September 1954), *New York Times* (13 July 1952; 26 March and 26 April 1953), *Popular Science* (September 1953), and *Washington Post* (4 October 1953).

¹³⁷ The kitchen also received a fair amount of international attention and the archive also contains letters from Canada, England, and Israel.

information about, or working drawings for, the kitchen. Although a few mentioned the kitchen's attention to "family-centered" values, more seemed drawn by its promise to save time and energy—notably the feature of the kitchen most consistently emphasized in its coverage. One correspondent, who described herself as from an "average family," wrote with hopes that the kitchen would improve her domestic work and overall home life:

I just saw a sample of the new kitchen installed in a farm home...It was mentioned in the T.V. program that it saved a lot of walking which I could use. We are an average family...I would be the happiest person in the world if...I could have a university like yours reconstruct our kitchen and show the people around our city what a modern kitchen looks like.¹³⁸

The field study evaluations marked the end of the Cornell Kitchen project. By 1954, funding for the kitchen had run out. After the last round of field study assessments, Beyer never wrote a report on his findings or published a final account of the research. Rather than informing future iterations of the design, the user feedback served more as market research to convince potential licensees of the kitchen's feasibility, as Penner has observed.¹³⁹ Additionally, the findings were used to demonstrate the value of social scientific methods to the housing industry more broadly.

Can One Size Fit All?

But what was a housewife to do if the Cornell Kitchen did not fit her needs, and more importantly, if she could not fit into its idealized vision of the female body? The idea that housewives should adapt or reject principles according to their own needs was a fundamental

¹³⁸ Mrs. Richard Wiedman to Glenn H. Beyer (April 17, 1957), in CHES, Box 6, folder 19a.

¹³⁹ Penner, "The Cornell Kitchen," 85.

tent of Cornell's College of Home Economics and it was meant to reflect its "democratic" nature. Yet Cornell's failed to address this possibility, instead forging ahead with misjudged assumptions about the supposed diversity of the kitchen's potential users.

Recent studies of immigrant housing clearly indicate the range of cultural differences that housing in the United States tend to negate. For example, Renee Chow's study of Chinese immigrants who purchased suburban houses in Madison, Wisconsin, found that expectations for accommodation and multigenerational and extended kinship living styles were thwarted by the American domestic architecture.¹⁴⁰ Chinese houses typically have less room specialization, such that a single interior space may serve multiple functions. The spaces therefore accommodate greater capacity defined by Chow as the flexibility inherent to the design of a house that allow its residents a variety of uses and living patterns without necessitating structural changes.¹⁴¹

American kitchens, in particular, are not well suited to Chinese cooking practices, which rely on ranges more powerful than typical American ones to cook traditional Chinese food well; these ranges also require more efficient ventilation for the smoke. Moreover, typical American kitchen cabinets are not big enough to store the very large bags of rice Many Chinese American families purchase. Therefore, many Chinese American and immigrant families in the United States converted their laundry rooms or garages into auxiliary kitchens for additional food storage and to prevent oil fumes from entering the main living spaces. But, as Chow notes, because of their desire to conform, these homeowners tended not to alter the exteriors of their homes, instead maintaining signs of their ethnicity only on the inside.¹⁴² Thus, the homeowners

¹⁴⁰ Renee Y. Chow, "House Form and Choice," *Traditional Dwelling and Settlement Review* 9, no.2 (Spring 1998): 51-61.

¹⁴¹ Renee Y. Chow, *Suburban Space: The Fabric of Dwelling* (Berkeley: University of California Press, 2002), chapter 7.

¹⁴² Chow, "House Form and Choice," 55.

were responsible for accommodating cultural differences, which often required subversion of social order imposed by the forms of the kitchens and by the designs of those kitchens. While the researchers promised the Cornell Kitchen would meet the needs of its imagined, universal user, they failed to acknowledge and afford for the substantive cultural variations that mark Americans.

Cornell's ethos of customization and flexibility did not extend to users whose bodies did not conform to the kitchen's standards. Significantly, Lillian Moller Gilbreth's kitchen research of the 1950s demonstrates that researchers were capable of acknowledging and engaging a full spectrum of users of varied abilities, whose movements and activities could not be standardized. Even more significantly, she argued that these non-standard bodies—not the able-bodied norm that underpinned modernist design thinking and the Cornell Kitchen—were the users that designers and home-economics should center.

Gilbreth laid out the stakes of flexible, user-centric design in stark terms, mixing economic factors with emotional and social costs. Citing the statistic that more than four million housewives had disabilities such as faulty vision, arthritis, paralysis, or circulatory disease, she put it plainly: "When a housewife is unable to perform her duties, an economic benefit to the nation is lost. Far worse, the family upon which she has focused all her efforts will suffer or even disintegrate."¹⁴³ This conviction led Gilbreth to reevaluate and reconceive of her earlier designs for efficiency with differently-abled bodies in mind, seen most prominently in her "Heart Kitchen." A demonstration project for female cardiac patients for the New York Heart

¹⁴³ Mary E. Switzer, "Introduction," in Elizabeth Eckhardt May, Neva R. Waggoner, and Eleanor M. Boettke, *Homemaking for the Handicapped: A Resource Book in Home Management for People with Physical Limitations and Their Families and for Professional Personnel Concerned with Rehabilitation* (New York: Dodd, Mead & Company, 1966), xiii.

Association, the flexible aspects of the Heart Kitchen were not presented as remedial, but rather preventative. In this way, Gilbreth stressed that the project's proposal would benefit all users, regardless of their disabilities.¹⁴⁴

Her calls to accommodate non-standard bodies, and the claim that it would benefit all users, served to lay the foundation for the Independent Living and universal design movements that gained momentum in the 1960s and 1970s. Yet scholars are careful to highlight the practical and conceptual limitations to this tendency to idealize such bodies. In *Building Access*, a landmark contribution to the history and politics of disability, the historian Aimi Hamraie gives a forceful critique of their emphasis on normalcy, performance, and productivity as a default condition of citizenship:

Despite claims that accessibility benefits all users ... barrier-free design was firmly situated in 20th-century notions of productive citizenship, which defined liberal belonging through the capacity for productive labor, as well as through the evident fruits of that labor: wealth accumulation, home ownership, and consumerism.¹⁴⁵

The Cornell Kitchen research and design was situated in similar discourses, particularly as the project struggled to balance several competing, but not always mutually exclusive, narratives through its final design and user-centric process. It was part prefabricated kitchen kit, part labor-saving kitchen, part socially-oriented family kitchen, but above-all it was a housewife approved kitchen. Underlying all of these visions of the kitchen was the primary principle to build a

¹⁴⁴ The Heart Kitchen proved immensely influential. The project was exhibited at the Museum of Natural History during "National Employ the Handicapped Week," and soon it was being taken up as a model across the country. As historian Laura Micheletti Puaca notes, "Throughout the 1950s, state heart associations widely adopted their own heart kitchens, while graduate students and professors connected to home economics departments undertook lengthy studies." Laura Micheletti Puaca, "The Largest Occupational Group of All the Disabled: Homemakers with Disabilities and Vocational Rehabilitation in Postwar America," in Michael Rembis, ed. *Disabling Domesticity* (New York: Palgrave Macmillan, 2016), 84.

¹⁴⁵ Aimi Hamraie, *Building Access: Universal Design and the Politics of Disability* (Minneapolis: University of Minnesota Press, 2017), 10.

kitchen to fit its user, not the other way around. Despite the efforts to democratize the design of the Cornell Kitchen, the project did not live up to its promise. Instead, it serves as another example of the rhetorical and persuasive power of mid-century kitchen design held in fashioning and conforming American identities.

CHAPTER 2

Kitchens of Tomorrow: The Promises and Paradoxes of Technological Progress

In 2015, “Eater”—a website known for food news and dining guides—published an essay entitled “Why the Kitchen of the Future Always Fails Us.”¹ Writer Rose Eveleth asked her reader to imagine the home of the future. What does it look like? What objects or technology fill the rooms? Who lives there and how do they use it? She painted a picture of a living space enclosed by walls of glass and curved-ergonomic furniture, with a robot doing chores and a drone surveilling the property. Moving into the kitchen, though, Eveleth imagined a slightly less progressive picture, with a “future wife” making dinner. “She always seems to be making dinner,” Eveleth noted in slightly exasperated tone. “Because no matter how far in the future we imagine, in the kitchen it’s always the 1950s, it is always dinner time, and it is always the wife’s job to make it.”² As Eveleth’s essay astutely acknowledges, these contemporary architecture and consumer projects were driven by a nostalgia for the idealized simplicity of the mid-twentieth century. Yet, the contradictions latent in this nostalgic futurism are not unique to the contemporary moment, but in fact produced and reinforced through continued attempts to envision the future in the decades around World War II. By reconsidering mid-twentieth century kitchens of tomorrow, this chapter shows how the futuristic visions of the kitchen revealed a set of promises and paradoxes about the role of women and their labor in postwar America.

Technological innovation in kitchen design and gadgetry held out the possibility of women’s liberation from the demands of domestic labor. At the same time, the design and development of

¹ Rose Eveleth, “Why the Kitchen of the Future Always Fails Us,” *Eater*, September 15, 2015, <https://www.eater.com/2015/9/15/9326775/the-kitchen-of-the-future-has-failed-us>.

² Eveleth, “Why the Kitchen of the Future Always Fails Us.”

new household appliances continually re-inscribed women's roles within the home, while also defining the space of the home as emphatically white and middle class.

From the 1950s to today, “kitchens of tomorrow” have helped to support a balancing act between the promise that technology would liberate women—specifically white women—from kitchen labor and a widespread, paradoxical commitment to conservative gender roles and racial social order. The counternarrative to the promises of tomorrow's kitchen, in which women are liberated from the labor, but family structure remains perfectly intact, was most vividly illustrated by that most reliable futuristic corporate propaganda machine, Disney, and specifically by the Carousel of Progress (Figure 2.1). Sponsored by General Electric and produced for the 1964 World's Fair in New York, the Carousel of Progress, an early audio-animatronic attraction that featured talking mechanical humans, animals, and appliances, is both a “play” and a “ride.”³ While maneuvering across these forms of entertainment, it manages to cultivate nationalism, nostalgia, progress, family values, and corporatism as part of a sustained view of American family life. The narrative follows the life of one family in scenes set in kitchens of the 1890s, the 1920s, the 1940s, and the “present day” (the 1960s in the original version). In each era, the family itemizes the new electrical appliances in their home and the quality-of-life improvements these appliances have brought. The point of the play, not surprisingly, is to showcase the wonders of progress as brought to us by General Electric over

³ After display in New York the Carousel of Progress was moved to Disneyland's Tomorrowland and finally, in 1975, to the Tomorrowland at Walt Disney World. For more on Disney and the Carousel of Progress, see James H. Bierman, “The Walt Disney Robot Dramas” in the *Yale Review* 66.2 (1976): 223-236; Alan Bryman, *Disney and His Worlds* (New York: Routledge, 1995); Li Cornfeld, “Expo Afterlife: Corporate Performance and Capital Futurity in the Carousel of Progress,” *Women & Performance: A Journal of Feminist Theory*, 27.3 (2017): 316-333; Michael Sorkin, “See You in Disneyland” in *Variations on a Theme Park: The New American City and the End of Public Space*, ed. Michael Sorkin (New York: Hill and Wang, 1992), 205-232; Mike Wallace, “Mickey Mouse History: Portraying the Past at Disney World,” *Radical History Review* 32 (1985): 33-57; and Alexander Wilson, “Technological Utopias: World's Fairs and Theme Parks” in *The Culture of Nature: North American Landscape from Disney to Exxon Valdez* (Cambridge, MA: Blackwell, 1992), 157-90.

the previous century or so. Progress is thus equated specifically to technological progress, electricity more broadly, and domestic appliances in particular.⁴

The beneficiary of this progress, and the primary consumer required to benefit from the progress, is the white, heteronormative, suburban, American nuclear family: Mother, Father, Daughter, and Son. Father narrates the show, reinforcing his position as head of the household and mediator between the public and domestic spaces. In the 1890s, Mother observes that the new wash table cut her laundry time to five hours, leaving her more time for “canning and polishing the stove.”⁵ Disney, clearly, is not afraid to declare that one of the main projects of its targeted technological trajectories was to reinforce the structure or balance of power in the American family: Mother will keep doing her work; she’ll just be able to accomplish more of it. Thus, the message was, technological progress carries with it no threat whatsoever, in fact change to the social order is resisted, at least on the domestic front.

History of the Future on Display

At World’s Fairs and Expositions, in department stores, and in shelter magazines, American consumers witnessed an endless parade of predictions about the shape of homes to come. Whether designs, models, or actual prototypes, these visions of the home of tomorrow had a certain consistency. They represented ideals, ones that often stood in stark and purposeful contrast to contemporary reality. Their creators were a sizable group of architects, engineers, and companies who, acting partly out of a conviction that the housing industry had been too long

⁴ By comparing representations of technological progress in the Carousel of Progress with those on display at Epcot center, agriculture, virtual reality, and a range of communications-oriented technologies, it is clear that GE’s vision of the miracles of technology is a limited one even within Disney’s paradigm of corporatist techno-nationalism.

⁵ By the 1970s refurbishment of the show, Mother was using some of her spare time to volunteer on the “Clean Waters Committee.” See Bierman, “The Robot Dramas,” 234.

mired in tradition, partly in response to the perceived aesthetic dictates of the machine age, and partly from a desire to stimulate consumption, espoused the ideal of the house as a technologically perfected artifact.

In the late 1920s these various parties began using the phrase “the house of tomorrow” to describe the ideal home for future living. Spanning into the post-World War II period, the phrase “house of tomorrow” became a kind of code for architects and engineers—a way of identifying their intentions and their broader motivations. A visionary design or model might be used as a device for physically symbolizing a wider vision of the future. Some architects and designers held the conviction that they were, in fact, modeling the future. For others, the phrase connoted a critique of the present. Professedly futuristic designs could also be effective demonstration pieces for new materials or improved building methods. And the phrase could also be used in signifying work that engaged aesthetically and ideologically with modernism. While the house of tomorrow is foremost a phenomenon of the twentieth and twenty-first centuries, the roots of the concept go back at least a century.

As early as the 1840s, a variety of domestic advice literature included plans and designs for ideal homes. In influential books such as *The Architecture of Country Houses*, Andrew Jackson Downing urged Americans to build homes in simple, but picturesque styles. For Downing, the honest expression of materials inherent in such unpretentious styles reflected and reinforced the high moral character of the American family.⁶ Downing was not alone in moralizing the home through domestic guides. Sisters Catharine Beecher and Harriet Beecher Stowe instructed their readers in *The American Woman’s Home* (1869) with practical and moral

⁶ Gwendolyn Wright, *Moralism and the Model Home: Domestic Architecture and Cultural Conflict in Chicago, 1873-1913* (Chicago: University of Chicago Press, 1980).

advice on how to manage and maintain a gracious home.⁷ They discussed how to select the architecture of a house, how to install the most effective heating and ventilation systems, how to decorate rooms to achieve maximum refinement, and, significantly, how to organize and equip a kitchen for efficient food storage and meal preparation.

The idea that housing changes were essential to the future social and moral health of the family, and thus the nation, continued into the late-nineteenth and twentieth century. In the late 1880s, Edward Bellamy linked new housing arrangements to the attainment of utopia in his novel *Looking Backward*. Set in twenty-first century Boston, Bellamy envisioned elegant public restaurants that made home kitchens obsolete.⁸ Instead, professional chefs—members of Bellamy’s “industrial army”—prepared food for the masses using methods adapted from industry. Charlotte Perkins Gilman, one of the leading theorists and proponents of the women’s movement at the turn of the twentieth century, also advocated for removing the kitchen from future homes.⁹ The moral agenda for Gilman’s home of tomorrow, however, was distinct from Bellamy’s. In texts such as *Women and Economics* (1898), Gilman argued that traditional domestic work, particularly kitchen labor, imposed undue burdens on women and isolated them from one another and from the outside world.¹⁰ In this history of the house of tomorrow, architects, designers, and reformers struggled to reconcile notions of a design idiom appropriate to the age with tradition-bound sentiment.

⁷ Catharine Beecher Beecher and Harriet Beecher Stowe, *The American Woman’s Home, or Principles of Domestic Science: Being a Guide to the Formation and Maintenance of Economical, Healthful, Beautiful, and Christian Homes* (New York: J.B. Ford and Company, 1869). For more on the Beecher sisters contributions in the kitchen, see chapter 1.

⁸ Edward Bellamy, *Looking Backward, 2000-1887* (Boston: Ticknor and Company, 1888).

⁹ For thorough study of Gilman alongside other experiments in collective housekeeping, see Dolores Hayden, *The Grand Domestic Revolution: A History of Feminist Designs for American Homes, Neighborhoods, and Cities* (Cambridge, Mass: MIT Press, 1981).

¹⁰ Charlotte Perkins Gilman, *Women and Economics* (Boston: Small, Maynard & Company, 1898).

In the twentieth century, model houses of the future cannot be understood apart from a series of interrelated phenomena. First, though housing construction boomed to unprecedented levels in the 1920s, the demand far exceeded the supply. This frustrating disparity only deepened with the coming of the Depression and World War II. The expansive economy and rising standards of living in the 1920s also had heightened the already considerable demand for consumer goods. At the head of the list of suddenly indispensable symbols of middle-class status—automobiles, radios, home appliances—was the most durable and elusive good of all: the single-family home.¹¹

Second, modernism in architecture, design, and art was flourishing in Europe in the wake of World War I. In architecture, proponents of modernism identified their aim as a renunciation of past forms and solutions, instead insisting emphatically that design reflect their perception of reality.¹² As appeared to be racing toward a future of rationality, freedom, and unity in a mechanized, industrial environment, architects and designers conceived of dwellings fit for such a future. In doing so modernist architects always implicitly, and often explicitly, demanded a total reconsideration of the form and function of a house. One of the clearest statements of this revolutionary goal came from Swiss architect Le Corbusier who pronounced “the house is a

¹¹ See Gwendolyn Wright, “The New Suburban Expansion and the American Dream,” in *Building the Dream: A Social History of Housing in America* (Cambridge, Mass: MIT Press, 1981). For emergence of homeownership ideal in the nineteenth century and the institutionalization of home ownership through federal policy see David M. P. Freund, *Colored Property: State Policy and White Racial Politics in Suburban America* (Chicago: University of Chicago Press, 2007); Margaret Garb, *City of American Dreams: A History of Home Ownership and Housing Reform in Chicago, 1871-1919* (Chicago: University of Chicago Press, 2005); Dianne Harris, *Little White Houses: How the Postwar Home Constructed Race in America* (Minneapolis: University of Minnesota Press, 2013); Richard Harris, *Building a Market: The Rise of the Home Improvement Industry, 1914-1960*, Historical Studies of Urban America (Chicago: The University of Chicago Press, 2012); Dolores Hayden, *Building Suburbia: Green Fields and Urban Growth, 1820-2000*, 1st ed. (New York: Pantheon Books, 2003); Jeffrey M. Hornstein, *A Nation of Realtors: A Cultural History of the Twentieth-Century American Middle Class* (Durham: Duke University Press, 2005); Jackson, *Crabgrass Frontier*; Nicolaides, *My Blue Heaven*; Radford, *Modern Housing for America*; Rothstein, *The Color of Law*; Andrew Wiese, *Places of Their Own: African American Suburbanization in the Twentieth Century* (Chicago: University of Chicago Press, 2004).

¹² See Henry-Russell Hitchcock and Philip Johnson, *The International Style* (New York: W.W. Norton & Company, Inc., 1966); Reyner Banham, *Theory and Design in the First Machine Age*, 2nd ed. (Cambridge, Mass: MIT Press, 1980).

machine for living in.”¹³ A modernist architectural vocabulary and an accompanying rhetoric also took root in the United States. Many of the designs by European modernists were interpreted by American critics and publics as legitimate predictions of the future.¹⁴

A third element, World’s Fairs made a significant contribution to the architectural interest in futuristic housing. Model homes were a regular feature of the fairs in the late-nineteenth and early-twentieth century, the fairs of the 1930s in Chicago and New York were particularly notable for their presentations of the future of domestic architecture. Architectural historian Lisa D. Schrenk has explored the pivotal role of the 1933-34 Century of Progress International Exposition in modern architecture in the United States, including Chicago architect George Keck’s House of Tomorrow (Figure 2.2). Keck’s house offered a hopeful vision of a brighter, easier future through the modern home, with floor-to-ceiling glass walls, central air conditioning, an open floor plan, the first General Electric dishwasher, an “iceless” refrigerator, and a hanger for the family airplane.¹⁵ But not all visions of the future on view at World’s Fair was quite so futuristic. A different, equally evocative lure of tomorrow was epitomized in the Town of Tomorrow, the residential showcase at the 1939-40 New York World’s Fair. The Town of Tomorrow featured a set of fifteen houses, most of them traditional in design, some an “updated” traditional,” and two or three clearly modern. The entire assembly stood against the backdrop of looming industrial pavilions that swooped upward in smoothed cliffs of white plaster, with ramps and slots like streamlines come alive. Architectural historian Kristina Wilson has demonstrated that this juxtaposition of modern and traditional forms were apparent to any visitor but not often

¹³ See Le Corbusier, *Towards a New Architecture*, trans. Frederick Etchells (New York: Dover Publications, 1986), 95.

¹⁴ Perhaps best seen Hitchcock and Johnson, *The International Style*, the book based on their 1932 exhibition at the Museum of Modern Art. Both the exhibition and the publication pay special attention to housing.

¹⁵ Lisa D. Schrenk, *Building a Century of Progress: Architecture of Chicago’s 1933-34 World’s Fair* (Minneapolis: University of Minnesota Press, 2007), ch.5.

seen as incongruous.¹⁶ Rather, the whole assembly was pitched as a future settlement that repeated the scale and imagined intimacy of the past, a proleptic projection of a colonial-era village as a marketplace replete with choice among things that were much handicraft as the result of machine production. Visiting the Town of Tomorrow thus entailed a tour through divergent form worlds, which for the fair's planners and for many visitors was a higher ideal than stylistic concord.

Additionally, the “housing futures” offered during this period were firmly linked with machines, mass production, and middle-class consumer culture, particularly during and immediately following World War II. While the war might have dampened dreams about the home of tomorrow, by 1943-44 Americans began to again speculate about life in the postwar era. Much of this speculation dealt with the things of tomorrow—with airplanes, automobiles, cities, and houses of the future.¹⁷ Magazines and newspapers wrote about these subjects as a tantalizing cornucopia of consumer goods, the most euphoric of which featured kitchen appliances and technology. Although the house of tomorrow was still a frequent theme in post-war culture, excitement and energy surrounding the future of domesticity had notably been distilled into a single room—the kitchen.

Despite the obvious corporate connections and often socially conservative agendas, architects, designers, and corporate spokespeople often promoted futuristic homes in relation to utopian ideals of democracy and liberation. For example, Buckminster Fuller promoted his Dymaxion Dwelling Machine (which was intended to be sold as a kit) as a do-it-yourself democratic dream house chock full of new technologies and available to everyone at affordable

¹⁶ Kristina Wilson, “Designing the Modern Family at the Fairs,” in Robert W. Rydell and Laura Burd Schiavo, eds., *Designing Tomorrow: America's World's Fairs of the 1930s* (New Haven: Yale University Press, 2010), 141-158.

¹⁷ See Beatriz Colomina, *Domesticity at War* (Cambridge, Mass: MIT Press, 2007).

prices (Figure 2.3). Yet, although American consumers were fascinated by futurist visions, that interest did not translate into a desire to live in the mass-produced dwellings. In the kitchen, however, it was easier to envision a future of living *with* machines, rather than in them.

The identification of the home, specifically the kitchen, as a package of appliances also reflected the growing influence of white women as consumers, and it was notably in the postwar period that women's status as housewives took hold. Furthermore, this gendered status was also taken advantage of as part of a national contract, according to which, through their roles as mothers as well as homemakers, white, middle-and-upper-class women were recognized as central to American greatness and exceptionalism. In her study of postwar mass consumption, historian Lizabeth Cohen traces the development of this gendered dynamic.¹⁸ According to Cohen, the postwar "consumer's republic" reformulated the relationship between consumption and citizenship. In her account, the ideal consumer was a "purchaser as citizen," whose personal consumption served both the postwar economy and national interests.¹⁹ But as her study shows, men and women fulfilled their responsibilities as consumers, and thus as citizens, in distinct arenas. Further, historian Elaine Tyler May situates this discussion of consumerism and domesticity in the context of Cold War ideology. In *Homeward Bound: American Families in the Cold War Era*, May analyzes popular culture alongside social scientific studies to illustrate how

¹⁸ Lizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York: Knopf, 2003). For study of gender and citizenship more broadly, see Alice Kessler-Harris, *In Pursuit of Equity: Women, Men, and the Quest for Economic Citizenship in 20th-Century America* (New York: Oxford University Press, 2001). For mid-twentieth century reinvestment in domestic and family life see Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1988); and *Fortress America: How We Embraced Fear and Abandoned Democracy*, First edition. (New York: Basic Books, 2017), chap. 1.

¹⁹ Cohen, *A Consumer's Republic*, ch.4.

widespread access to homeownership mitigated the threat of women leaving the home, thus reinforcing gender roles.²⁰

Following strictures of nineteenth century domesticity, the domestic sphere was thus understood as separate but equal to the male-dominated public sphere, and white women positioned as equal partners in the postwar national project. In doing so, they traded their access to paid labor for the knowledge that domestic and homemaking issues were of vital public concern. As full and equal partners they would also enjoy the spoils of postwar prosperity and the advances in science and production technologies that improved Americans' quality of life after the war. A major component of this realization of the benefits of technological progress would free women from the drudgery of household labor, a drudgery that crystalized in the relentlessness of kitchen work. In this context, kitchens of tomorrow were material vehicles of expressing postwar dreams of transcendence, but they also worked to obscure the fact that such dreams would never materialize.

The equation imagined in kitchens of tomorrow seemed simple enough: technological progress would liberate women from kitchen labor, a change they would welcome with open arms. But this equation was significantly more complex than it seemed. First, notwithstanding the fact that displays of kitchens of tomorrow toured the country and the world, featured at venues like department stores and trade fairs, and notwithstanding the glorification of technological progress as self-evidently worthwhile, women were not uncritical consumers of the products or ideologies kitchens of tomorrow promoted. Second, even as domestic technological progress was promised to women over and over again, other pressures ensured that kitchen work did not, and would not, disappear. Although presented otherwise, new domestic technologies did

²⁰ May, *Homeward Bound*, ch.3.

not lessen women's work in the home; rather, these new technologies produced new kinds of labor.²¹ Kitchens of tomorrow held out the promise that women's labor could be reduced to the task of pressing the occasional button. In reality, these new technologies served to retether women to the domestic sphere. And, thirdly, as was true of the women's liberation movement in the 1960s (discussed at length in the third chapter) this equation excluded non-white women from the purported benefits of technological progress, further suppressing racial and ethnic difference to construct a cultural homogenous and distinctively white world. The project to liberate women was therefore doomed from the start.

Kitchens of tomorrow, in other words, sold conservative gender roles disguised as an escape from them. In obscuring these traditional norms, these kitchens also whitewashed labor in a way that positioned the whiteness of a housewife in opposition to the non-whiteness (often explicitly Blackness) of domestic workers. The ideological climate supported contradictory aims in which the idea of white women being freed from kitchen labor held a powerful appeal, yet the performance of domestic labor was seen as their most important contribution to society.

Promotion of these model kitchens, in particular, had to construct the possibility of emancipation while continually deferring it. To do so, the media surrounding these kitchens had to reframe the story of technological progress as one of romance or consumerist satisfaction. These marketing efforts encouraged women to derive pleasure from their kitchen labor by purchasing and using commodities that signified and contained the promises of a future that transcended the kitchen.

²¹ For more on the effects of improvements in household technology on women's labor, see Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology From the Open Hearth to the Microwave* (New York: Basic Books, 1983) and Susan Strasser, *Never Done: A History of American Housework* (New York: Holt and Company, 1982).

Placing kitchens of tomorrow in narratives in which their use was contextualized among other settings, characters, and expressions of gendered, racial, and nationalist values enabled the negotiation of these paradoxes.

This spectacle of domestic futurism plays out in the designs and representations of the Libbey-Owens-Ford Glass Company's Kitchen of Tomorrow, designed and circulated between 1942-1945, and the General Motors/Frigidaire Kitchen of the Future, exhibited nationally in 1956. To untangle these complexities, I use the language of promises and paradoxes. Here, a *promise* is a gesture towards the future. In this mid-century moment, promises to women merged the rhetoric of technology with that of women's liberation. A *paradox*, then, is the qualification, or self-contradiction of the promise. While promises attempted to couple representations of tomorrow's kitchen with an inevitable and desirable technological progress—paradoxes reveal the inconsistencies of this logic. Structured simultaneously by both promise and paradox, Kitchens of Tomorrow, and the consumerist technology that they promoted, played an important role in suturing ideologies of American femininity, racial identity, and domesticity.

The Day-After-Tomorrow Kitchen

By 1945, approximately 1.6 million Americans had seen the Libbey-Owens-Ford Glass Company's "Kitchen of Tomorrow" as it traveled across the United States (Figure 2.4).²² Three full-scale models of the kitchen, fully equipped with innovative appliances and gadgets, and staffed by a female advertising employee, toured forty-five department stores, opening at Macy's

²² Press release for the Kitchen of Tomorrow (1943) in MSS-066, Box 58, Folder 11, Libbey-Owens-Ford Glass Company Records, 1985-1991 (henceforth referred to as LOF), The Ward M. Canady Center for Specially Collections, University of Toledo.

in New York in 1944. Architectural historian and critic Sigfried Giedion was among those to “behold what the future had in store” in the kitchen on display in New York.²³ Recalling his experience in *Mechanization Takes Command* (1948), Giedion remarked: “When we went to visit this ‘dream kitchen’ in one of the large New York department stores, we heard the young ladies’ explanation amid spectators five and six rows deep.”²⁴

With its sleek surfaces and built-in technologies, the Kitchen of Tomorrow was a tantalizing display that conditioned an eager body of consumers for the glittering prizes that awaited them at the war’s end. Developed in 1942 under the direction of H. Creston Doner, head of the design department at Libbey-Owens-Ford (L-O-F), the kitchen not only showcased the company’s glass products, but debuted appliances and furniture for a new, servant-less mode of American family life.²⁵ As a “design for better living,” it promised a “peaceful revolution of convenience and comfort.”²⁶ Spatial organization alongside technological amenities intended to ease labor—all with a sleek finish—made the design fit for display.

As the prototypes traveled the country, the Kitchen of Tomorrow found a robust second audience in print. Featured in magazines and newspapers, this model was perhaps the most widely publicized vision of postwar life advertised in the 1940s. The kitchen was famously the subject of a glowing spread in *Life* in 1943, where the author detailed the inspiration for the design: the designer’s wife (Figure 2.5).

²³ Sigfried Giedion, *Mechanization Takes Command* (New York: Oxford University Press, 1948), 618.

²⁴ Giedion, *Mechanization Takes Command*, 618.

²⁵ There is minimal information about Doner’s background or training are available in the LOF archive and in secondary literature. A brief biography in his employee file recounts his time with LOF, beginning in 1937. From 1938-1967 he directed the design department, leading architectural and design initiatives and promotional campaigns for color and lighting effects. In addition, he supervised the design of warehouses, showrooms, offices, and retail stores, as well as corporate branding for trucks, building signs, stationary, and advertising. Other than the Kitchen of Tomorrow, he was best known as a consultant to architects and designs for the New York World’s Fairs in 1939-40 and 1964-65 and Expo ‘67. “H. Creston Doner, Resume of Professional Activities” n.d. Box 89, folder 2, LOF.

²⁶ “Kitchens of Tomorrow May Look Like This,” *Life* (August 9, 1943): 53.

Mrs. H. Creston Doner is the kind of woman who is all thumbs in a kitchen. She is tall, bangs her head on cabinets doors, burns her fingers when roasting, chips dishes on the faucets of the sink, gets runs in her stockings when she stoops down to fish things out of the cupboards, bruises her knees on cabinet walls when she sits on a stool to work.²⁷

As Doner studied the way his wife worked in their kitchen, he concluded such inefficiencies and clumsiness were not her fault; rather blame lay with the kitchen. The design solutions—in the form of spatial organization and gadgetry—aimed to eliminate the drudgery of work, but not to eliminate the work itself.

To this end, the design of the L-O-F Kitchen of Tomorrow merged food preparation and dining areas into one open space, made possible by a dining table that flipped up and attached to a wall (Figure 2.6). The refrigerator, which was accessible from both sides, formed a partition between the kitchen and a dining alcove. Based on the principle of the cold storage locker, the interior was separated into compartments, each with individual temperature controls. The refrigerator also served as a passthrough cabinet between the kitchen and eating spaces, with compartment shelves that revolved so food could be transferred from one side to the other. Enclosed in glass to make the contents visible, the refrigerator was advertised as holding four times the capacity of current models. Although this design signaled the abundance anticipated in the postwar economy, it also remained attuned to the possibility of resource scarcity in its technological innovations: for instance, a cabinet attached to the refrigerator took advantage of excess heat to dry kitchen towels. In doing so, Doner's refrigerator joined together the values of efficiency and prosperity within a single appliance.

Perhaps the most radical feature of the design was the cooking center, placed along one wall of the kitchen to replace the traditional range-oven (Figure 2.7). This multi-use unit

²⁷ "Kitchens of Tomorrow May Look Like This," 53.

included an oven, a griddle, a barbecue/roisserie, a combination mixer-juicer-meat grinder, in addition to a built-in toaster and waffle iron. The oven had a sliding, heat tempered glass hood, so that when a roast was revolving on the motor-driven spit the housewife could look at it from all angles without opening the door. In addition to the large appliances embedded in the cooking-center, Doner developed smaller cooking wells, in which pre-cooked food could be reheated in their original glass containers. Together, as the rhetoric around the project professed, the components of the cooking center essentially eliminated the need for pots and pans, thus promising to eliminate the labor involved in storing and cleaning them. Ultimately though, as Ruth Schwartz Cowan's research makes clear, these design elements paradoxically resulted in "more work for mother."²⁸

Streamlining and the Myth of Saved Labor

A common design vocabulary united all the elements of the kitchen in a cohesive aesthetic. Sharp edges—on counters and cabinets—were rounded off into voluptuous shapes. Glass was used throughout the space to create glossy, shining surfaces. These aesthetic elements contribute to the overall streamlined design of the kitchen. "Streamlining has taken the modern world by storm," industrial designer Harold Van Doren observed in 1940. "We live in a maelstrom of streamlined trains, refrigerators, and furnaces; streamlined bathing beauties, soda crackers, and facial massages."²⁹ The term *streamline* first appeared in the late 1880s in a treatise on hydrodynamics—the study of fluid movement—from which streamline theory emerged.³⁰

²⁸ See Cowan, *More Work for Mother*.

²⁹ Harold Van Doren, *Industrial Design: A Practical Guide* (New York: McGraw-Hill Book Company, 1940), 137.

³⁰ By the end of the eighteenth century, an interest in hydrodynamics had spread across Europe as naval officers hoped to improve their fleets with more efficient ship designs. In the first decade of the nineteenth century, the British engineer Sir George Cayley — a leading figure in the field of aeronautics—identified the elongated sphere as

Streamlining reduced the amount of resistance on an object as it moved through space, allowing air or fluid to flow smoothly over its surface, minimizing drag. The ideal streamlined shape, identified by the British engineer Sir George Cayley in the early-nineteenth century based on his studies of fish and birds, was an elongated sphere or teardrop since sharp corners and protruding elements interrupted this flow. It is fitting, then, that the first application of streamlining was to ships.³¹

As new forms of technology developed, they too were subject to streamline theory. Pioneers of industrial design translated these aesthetic and conceptual features of streamlining for transportation—from Raymond Loewy’s PRR S1 class steam locomotive to Walter Dorwin Teague’s Marmon V-16 automobile—to domestic objects such as Loewy’s Coldspot refrigerator for Sears Roebuck and Teague’s “Bluebird” radio (Figures 2.8). The horizontality of trains surfaced in these domestic objects with low centers of gravity, pronounced bases, or embellished speed lines—for instance, in the series of horizontal bands visible on Teague’s radio design that mimicked the blurred lines of a body in movement. Other decorative elements on these objects subtly evoked movement: flat expanses of white echoed the color of ships; metal was left uncoated to gleam like trains; and chromed details caught the light like automotive grills and hubcaps. The L-O-F Kitchen of Tomorrow shared many of these attributes, including the curvilinear forms, metal detailing, and abundance of white surfaces on the cabinet interiors and

the ideal shape to minimize resistance in water or air based on his studies of fish and birds. Although streamlining would later be associated with industrial design, it originated from the close observation of nature and can be seen as part of the larger nineteenth-century scientific interest in cataloging the natural world. Eadweard Muybridge’s photographic studies of animal locomotion, for example, focus not only on the anatomical mechanics of movement but also recorded the ideal forms of bodies in motion. See John Stuart Gordon, “Streamline” in *A Modern World: American Design at the Yale University Art Gallery, 1920-1945*, ch.10.

³¹ In 1865 Samuel R. Calthrop submitted a patent for an “air-resisting train” that appropriated the form of a ship: the engine had a pointed nose cone that merged into a smooth passenger car with a rounded rear end. The train was not constructed but provided an antecedent for the streamlined locomotives of the 1930s. Aerodynamics then became increasingly important for the automotive industry during the years of rapid expansion in the first decades of the twentieth century. Gordon, *A Modern World*, ch. 10.

counters. These stylistic details did not usually emerge from a domestic object's structure or function. They were rather superficial adornments designed to evoke the speed associated with new transportation technologies. Streamlining had developed from a strategy of engineering into a design aesthetic itself. Its visual features signaled technological optimism more generally—a fast, frictionless trajectory towards a better future.

In effect, as designer Paul Frankl observed, this streamlining tended to “cover up the complexity of the machine age.”³² His comments refer to the tendency of streamlining to further conceal the more messily mechanical aspects of technology by wrapping appliances in unified, curvilinear shells. Accordingly, in the L-O-F Kitchen of Tomorrow the sink and stove had hinged tops that concealed their presence when not in use, as did the countertops that housed built-in appliances.³³ Design historian Penny Sparke has compared this arrangement to the Victorian parlor, where objects were draped or upholstered with coordinating textiles to create a cohesive space.³⁴ The act of covering gave the semblance of order, a value shared by both Victorians and modernists, albeit manifested in opposing ways. This conceptual link to Victorian design invites other comparisons. Unlike many modernist objects which used sharp angles, streamlining shared an interest in compound curves, molded profiles and other silhouettes commonly associated with mid-nineteenth century domestic design and the cult of domesticity. By covering over any complex machinery, the streamlined cabinetry of the L-O-F Kitchen of Tomorrow partook of a visual language that was more akin to feminine-coded domestic space than to the scientific, laboratory connotations often found in kitchen designs of the period.³⁵

³² Quoted in Miles Orvell, *The Real Thing: Imitation and Authenticity in American Culture, 1880-1940* (Chapel Hill, NC: University of North Carolina Press, 1989), 185.

³³ Press release, 1943, in LOF box 58, folder 11.

³⁴ Penny Sparke, *As Long As It's Pink: The Sexual Politics of Taste* (London: Harper Collins, 1995), 136.

³⁵ See chapter one on Cornell Kitchen.

Indeed, period magazines often evoked the “slenderness” of streamlined kitchens in a way that explicitly feminized them. For example, a *McCall’s* magazine feature titled “A Kitchen That’s Streamlined” describes its titular kitchen as “slim and glamorous as a fashion queen...a marvel of efficient planning.”³⁶ And just as language of the female form was used to describe streamlined forms, so too was the language of streamlining used to characterize the female body. An early appropriation of streamlining terminology from the 1920s described the ideal flapper as a “1923 model, a streamline body and a sporty carriage with sixty miles an hour guaranteed.”³⁷ This non-engineering use of the term still relied upon its association with automotive design, substituting the young woman for a speeding car, and foreshadowing the persistent identification of streamlining and femininity.³⁸

The streamlined style was not just coded as feminine; its curvilinear forms were both derived from and attuned to the female body. In this way, the counters in the kitchen were curved inwards to accommodate the presumed hourglass physique of the average housewife. Other elements of the design were similarly developed to ease women’s embodied work in the kitchen. To this end, the glass sink, activated by foot pedals, and food preparation areas were placed at a comfortable height for seated work. Though promotional stills often showed a model in standing positions, descriptions of the “scientifically” calculated countertops explained that these work surfaces were placed lower than usual to enable seated work and to avoid the bending and

³⁶ See, for example, “A Kitchen That’s Streamlined,” *McCall’s*, January 1959, which describes the title kitchen as “Slim and glamorous as a fashion queen...a marvel of efficient planning.” (102-103).

³⁷ “Ma, Not Flapper, To Blame, Says Mrs. Robertson,” *Chicago Daily Tribune* (February 1, 1922).

³⁸ Design historian Jeffrey Meikle further elucidates this duality embedded in streamlining design — that it can simultaneously connote a fast approaching future and design of the previous century. Of a streamlined style he writes: “Its dominant image, the rounded, womb-like teardrop egg, expressed also a design for a passive, static society, in which social and economic frictions engendered by technological acceleration would be eliminated.” Meikle’s argument highlights how the imagery associated with streamlining promised to resolve the gender conflicts created by technology and family structures of the time, the increase in the division of labor within the home, and the isolation of mother as housewife. See Jeffrey Meikle, *Twentieth Century Limited: Industrial Design in America, 1925-1939* (Philadelphia: Temple University Press, 1979), 185.

stooping that caused Mrs. Doner so much trouble (Figure 2.9). Developed with the female body in mind, these features promised to reduce women's labor, saving them both time and energy in the kitchen.

As the aesthetic of efficiency, streamlining was perceived as more scientific, and thus more rational than other styles of the time. Through its emphasis on gadgetry and its endorsement of technological progress, the streamlined kitchen participated in a broader discourse involving Taylorism (or scientific management), home economics, and the management of bodies in the workplace.³⁹ Indeed, the design of the streamlined kitchen depended as much on the efficiency of the female body in the kitchen as it did on the proper placement of appliances, utensils, and workspaces. Ultimately the responsibility lay with women themselves, who were expected to micromanage their gestures to perform labor that complemented the efficient design of their kitchens. Thus, in order to perform labor that matched their kitchens, women, too, became the target of streamlining. Such paradoxes circulated through representations, such as in the L-O-F Kitchen of Tomorrow, whereby women were simultaneously presented as the beneficiaries of streamlined kitchens, and as one component of a streamlined kitchen.

The material expression of the relationship between women and technology extended beyond individual appliances to the room as a whole, where “streamlining” began to refer to a more generic minimalism. As Gwendolyn Wright and others have chronicled, this trend had begun decades earlier as a move away from discrete furnishings—icebox, sink unit, hutch, for example—toward the so-called continuous kitchen consisting of two horizontal planes.⁴⁰ The

³⁹ For more detailed discussion of Taylorism in the kitchen see chapter one.

⁴⁰ See Wright, *Building the Dream* and Elizabeth Cromley, *The Food Axis: Cooking, Eating, and the Architecture of American Houses* (Charlottesville, VA: University of Virginia Press, 2012).

more individual appliances could be tucked behind or into other surfaces, the cleaner these lines would be. These continuous kitchens shifted the primary object of streamlining from the individual appliance to the kitchen as a whole, but they retained basic values of streamlining by stressing smooth, seamless surfaces and by evoking motion through sweeping horizontal lines. The focus in these designs also shifted from the individual appliances to the system or environment as a whole, where the kitchen's value was measured by the efficiency of the interacting components and the amount of space they occupied.

Streamlining, too, illustrated an aesthetic shift away from noisy, dirty, laborious machines of the present, towards quiet, clean, effortless machines of the future that appeared to operate through magical rather than mechanical principles. In the L-O-F Kitchen of Tomorrow, this shift further manifests in the proliferation of glass and gadgets that promised to sanitize domesticity by removing not only the filth, but also the stigma of hands-on labor. Electric, built-in appliances—seen at the cooking center—and easy-to-clean structural materials such as glass and plastic, facilitated a cleaner kitchen by design. These features eliminated the “dirty work” of household maintenance and replaced what essentially remained manual labor with emblems of a white, leisured, high-class patina.⁴¹

The hygienic powers ascribed to rational design and scientific planning were not limited to streamlining health and aesthetics, but were also imbued with the ability to rout poverty and cure the social ills that substandard housing naturally bred.⁴² Historian Cynthia Lee Henthorn

⁴¹ For more discussion of hygiene in mid-century kitchen and housing design, see Cynthia Lee Henthorn, “Hygienic Solutions for the “House of Tomorrow” in *From Submarines to Suburbs: Selling A Better America, 1939-1959* (Athens, Ohio: Ohio University Press, 2006).

⁴² The kitchen and bathroom received much attention from domestic reformers throughout the first decades of the twentieth century because in these rooms, higher standards in design and efficiency, as well as lowered costs, were thought to install an internal self-regulating ethic. Scientifically managed bathroom and kitchen designs were intended to naturally induce hygienic living practices. Ultimately, reformers argued, these sanitary improvements

traces the legacy of this social reform ideology that associated “proper” housing with “proper” character and genetic destiny to wartime discourse on the postwar house.⁴³ In his 1943 treatise “A Sane Prediction” written for *House Beautiful*, industrial designer Walter Dorwin Teague, known for his streamlined design and architecture, provides a glimpse into period narratives that sought to link social reform with healthy and hygienic homes and communities:

If a house is dilapidated, ramshackle, not equipped properly according to modern standards of living, it will be obliterated ruthlessly as we now eliminate any other plague spot. We shall insist that human dignity and the racial welfare require decent and adequate shelter for everybody, on the same grounds that we insist with growing firmness on proper education, diet and health service for everybody...At last the means will be available for maintaining such a standard.⁴⁴

Echoing the assumptions of earlier reformers, Teague believed that efficient housing design and rational planning were not merely superficial improvements but were essential for attaining societal health, what he called “racial welfare.” The intended market for these standardized, mechanized kitchens of tomorrow had to be convinced that these innovations would not only satisfy their basic domestic needs, but would also give the appearance, if not the reality, of middle class living. The standard built-ins, plastic prefab parts and factory stamped mechanical cores—incorporated into futuristic designs such as the L-O-F Kitchen of Tomorrow—were

through modernization and scientific housekeeping could be another conduit for social control. See Bettina Berch, *The Endless Day: The Political Economy of Women and Work* (New York: Harcourt Brace Jovanovich, 1982); Cowan, *More Work for Mother*; Cromley, *The Food Axis*; Barbara Ehrenreich and Deirdre English, *For Her Own Good: 150 Years of Experts' Advice to Women* (Garden City, N.Y.: Anchor Press, 1978); Hayden, *The Grand Domestic Revolution*; Ellen Lupton and J. Abbot Miller, *The Bathroom, the Kitchen and the Aesthetics of Waste* (Princeton: Princeton Architectural Press, 1992); Glenna Matthews, *"Just a Housewife": The Rise and Fall of Domesticity in America* (New York: Oxford University Press, 1987); Laura Shapiro, *Perfection Salad: Women and Cooking at the Turn of the Century* (New York: Farrar, Straus and Giroux 1986); Susan Strasser, *Never Done: A History of American Housework* (New York: Pantheon, 1982); Wright, *Building the Dream*.

⁴³ See Henthorn, “Wartime Skeptics and the ‘World of Tomorrow’” in *From Submarines to Suburbs*.

⁴⁴ Walter Dorwin Teague, “A Sane Prediction About the House You’ll Live in After the War,” *House Beautiful*, August 1943, 75.

designed to uphold the central moral values that embodied hygienic decorum: neatness, cleanliness, taste, and orderly control.

The rejuvenated American industries and newly developed materials and processes derived from the war made it possible for reformers, architects, designers like Teague, and companies like L-O-F to implement their ideal vision of the future—one in which few would suffer from the inadequacies of unsanitary living. While his writing in “A Sane Prediction” emphasized manifesting social control through a perfected environment, Teague’s planned utopia in “Design for Peace” reads like a housing bill of rights:

Provide for all the people housing that shall be as efficient, as attractive, as cheap, as easily acquired, and as readily renewable as the cars they ride in now...It means the replacement, largely, of our old-fashioned building craft by a scientifically directed factory craft [i.e. scientifically managed, prefabricated production]...See that every house in the country has a modern bathroom,...a modern kitchen, and those appliances that take the drudgery out of housework.⁴⁵

This human-engineered version of American democracy was also a process of cultural homogenization that would assist in assimilating racial and ethnic minorities into a predominately white hygienic standard of living. Every space and every body, in Teague’s vision, would be expected to conform to the “best” standards, and thereby the ethos of the white middle class. The L-O-F Kitchen of Tomorrow, then, and the hygienic gospel it preached, would reach far beyond the cleaned-up contours of new household products to “streamline” the social body into an acceptable middle-class mold.

⁴⁵ Walter Dorwin Teague, “Design for Peace,” *Studio International*, April 1943, 155-156.

Not surprisingly, design flaws within the “kitchen of tomorrow” bubbled to the surface as these kitchens circulated around the country in department store displays and the popular press. Ardent critics pounced on the irrational shortcomings, noting that the effort- and time-saving features of “miracle” products were well-garnished myths. A 1945 satirical pamphlet from an American plumbing equipment manufacturer, published in *Architectural Record* and reproduced in *Mechanization Takes Command*, expresses such sentiment (Figure 2.10).¹ The accompanying caption reads: “The housewife of tomorrow will find that her life not only continues to revolve about the kitchen but that it does so in a much more literal manner. Seated at the controls of the new Faucet-Kitchen she will whirl about her duties at a breakneck speed aided by the magic of electronics.”²

According to skeptics, advocates for the “kitchen of tomorrow” had failed to consider the extra attention their new designs and mechanical gadgets would require, from cleaning and storing to the electricity needed to power them. As historian of technology Ruth Schwartz Cowan has shown, most schemes for “improving” domestic progress would generate more housework, not less.³ In her seminal book *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (1985), Cowan explains how and why housewives ended up working longer hours in their homes in the century after 1870, despite the growing mechanization of household activity. Her research made clear that when the effort required to carry out an activity was reduced, or possibly just made less unpleasant, the volume of activity often expanded,

¹ Giedion, *Mechanization Takes Command*, 508.

² *Architectural Forum*, January 1945.

³ Cowan, *More Work for Mother*, 63-77.

thereby offsetting any labor-saving effects. Further, as is evident in the L-O-F Kitchen of Tomorrow, raised expectations about middle-class standards of cleanliness, health, and comfort added to the mid-century housewife's workload, as she was expected to meet these standards single-handedly when her counterparts a century earlier had a staff of two or three.

Writing in *American Home*, editor Jean Austin complains about theories of postwar planners "gone frenzied over the wonders of our postwar kitchens." In her 1944 article aptly titled "Postbaloney," Austin enumerates the charms of "all these wonderful gadgets I read about that will do everything but diaper the baby," and pointedly asks, "who's going to keep 'em clean?"⁴ Designers did not seem to actually operate the space-saving built-in appliances, such as those dreamed up for the L-O-F kitchen. Austin laments: "Somebody ought to tell them that too much compactness makes for more work, not less."⁵ In her estimation, a glass house—such as the one promoted by L-O-F in their kitchen design—was the housewife's modern nemesis, not her salvation. Admittedly, it looked highly hygienic, but Austin astutely argues that "first they've got to find a way for me to keep it clean...And, until they invent a gadget to make window washing easy, an all-glass house is not my idea of a house for the little woman to keep clean singlehanded."⁶ Columnist Shelby Davis adds to this critique of the "lone woman" concept when she lamented that paid "household servants" were "gone forever." Household technology may have promised to eradicate the burden of domestic labor, but

⁴ Jean Austin, "Postbaloney," *American Home* (September 1944): 20-21.

⁵ Austin, "Postbaloney," 20-21.

⁶ Austin, "Postbaloney," 20-21.

in reality, it could do no more than alleviate some of the hassles of drudgery, and in many cases, it would increase it:

Will streamlined housing and mechanical inventions eliminate the post-war need for servants? I doubt it... With too many gadgets you soon reach a point of diminishing returns where the time spent in taking them out of the cupboard, plus cleaning and replacing them after use, often outbalances any increase in efficiency over doing the job the old-fashioned way... Even the home of tomorrow is going to demand constant attention to keep it decently clean.”⁷

The ultimate paradox of the rhetoric around modernist, utopian kitchen design, thus, was that ease and relaxation were emphasized in the context of routine work. Despite its “futuristic” look, the L-O-F Kitchen of Tomorrow was not so different from yesterday’s standard domestic plan. Though it promised to eliminate drudgery, it was nominally a cosmetic veneer pasted over the same old chores.⁸

What Women Want?

The L-O-F Kitchen of Tomorrow was perhaps the most widely publicized vision of postwar life advertised in the 1940s. A glowing write-up in *Life* magazine, devoted most of its spread to photographs that captured the technological marvels from the kitchen in use (Figure 2.5). Both national and local newspapers reported on the model

⁷ Shelby Davis, “Household Servants are Gone Forever,” *American Magazine* (March 1945): 32-33, 89-92. Where appliances are concerned, the most significant transformation is from their status as “labor-saving” items to symbols of taste and class — a transformation brought about by advertising and design. Gideon links the mechanization of the home to the status of American women and domestic servants in *Mechanization Takes Command*. It was not, however, a straightforward relationship, as he was implying, but rather one in which the “cause and effect” is difficult to disentangle. Furthermore, writing in the 1940s, he failed to address the racial component to household labor and “mechanization,” which I give attention to in my study.

⁸ For more on shift from appliances as utilitarian objects to status symbols see Sandy Isenstadt, “Visions of Plenty: Refrigerators in America around 1950,” *Journal of Design History* 11, no.4 (1998): 311-321.

kitchen as they traveled. The *New York Times*, which wrote about the exhibition at Macy's at least three times, paid special attention to reception of the kitchen and its experimental features among eager audiences, citing a poll conducted to gauge user preferences as part of the installation.⁹ The *Times* reporting indicates the high level of engagement with the kitchen as an exhibition, an element of the project's publicity that contributed to its widespread appeal. Moreover, this participatory presentation furthered the kitchen's role in molding the look and technology of future American homes, as well as the tastes, desires, and habits of future consumers.

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In their 1943 "Kitchen of Tomorrow" contest, *McCall's*, a popular women's magazine, contrasted a kitchen of "established" design with a "revolutionary" model.¹⁰ The first, called the Tried-and-True Kitchen, featured an all-white layout and appliances widely available at the time. For the revolutionary design, labeled the Day-after-Tomorrow Dream Kitchen, *McCall's* presented the L-O-F Kitchen of Tomorrow. Unlike other publicity for the Kitchen of Tomorrow that favored photographic spreads to represent the design, *McCall's* illustrated the L-O-F kitchen and its competitor in black and white line drawings (Figure 2.11). The magazine reasoned that this presentation would allow the two kitchens to be "judged without the emotional entanglement of color

⁹ "Glass Doors on Ovens, Kitchen Cabinets And Refrigerators Favored by Women," *New York Times* (August 25, 1944): 16. At the department store exhibitions, visitors received a folder explaining the room's features, a postcard to send to a friend, and a mail-in ballot on which to register their preferences. An internal LOF company newsletter featured a sample ballot and some preliminary statistics on votes from visitors, in "Glassics," (April 1944), in LOF, box 11, folder 6.

¹⁰ In the context of the contest, "established" signaled that the kitchen had been on the market for a decade or longer.

schemes.”¹¹ These drawings, absent a model housewife, had the added benefit of allowing the white readers to more easily project themselves into the imagined kitchens, and the futures they represented. Unraveling representation of domestic progress in this contest calls into question the futurism implicit in the designation “Kitchen of Tomorrow” and exposes some of the complexities of attempts to invoke progress in order to reinforce constructions of American domesticity and identity.

The magazine invited readers to write a two-hundred-word essay choosing their favorite of the two kitchens. In a corner of the contest announcement, “Jane” and “Sally” model essay responses. Jane liked the Tried-and-True Kitchen because “everything in it has been tried out and tested...I’ve been dreaming for years about a new kitchen, and if I should win a prize in this contest, I’ll take my war bonds and hold them until the day I can remodel my old, outmoded cook room to look like this one. And then I’ll know that dreams come true.” For her part, Sally declares that “the war has already taught us that we must be open-minded and ready to adjust to changing times. This proposed [Day-after-Tomorrow Dream] kitchen suggests that the change can be exciting and that there will be fine, worthwhile things in the postwar world we are dreaming of.”¹²

In addition to writing an essay, entering the contest required contestants to fill out a ten-page survey asking them to elaborate on their preferences in kitchen design ranging from open versus closed floor plans to whether they liked oven lights and where on ranges they wanted the control panel to be. It also asked them to quantify the sense of urgency they felt about purchasing each of the appliances discussed in the survey: “I must

¹¹ Mary Davis Gillies, ed. *What Women Want in Their Kitchens of Tomorrow: A Report on the Kitchen of Tomorrow Contest* (New York: McCall Corporation, 1944), 11.

¹² Gillies, *What Women Want in Their Kitchens of Tomorrow*, 11.

have one and will buy as soon as possible,” “I like and may get but not sure,” and so forth. The results of the contest and survey were published in book form as *What Women Want in Their Kitchens of Tomorrow: A Report of the Kitchen of Tomorrow Contest*, which was directed at an audience of kitchen appliance manufacturers and advertisers.¹³

Although contestants recognized the favorable conveniences featured in both kitchens, the vast majority of contestants—62.6% of the 11,887 contestants—selected the Tried-and-True Kitchen over the L-O-F Kitchen of Tomorrow.¹⁴ In using the L-O-F Kitchen of Tomorrow alongside a contrasting “traditional” kitchen, the *McCall’s* contest deployed futurism to promise a reciprocal relationship between consumers’ and producers’ needs and desires. *What Women Want in Their Kitchens of Tomorrow*, then, reconfigured the contest as a competition between kitchens, not contestants. In a sense, those consumers who rejected L-O-F’s technocentric features were attracted to the nostalgic appeal of its competitor. One response articulates this sentiment with particular clarity, as the housewife paints a picture of her ideal kitchen of the future marked by wistful icons of an American past: “A Kitchen Early American in feel...with gay curtains framing a window garden and accented by braided rugs protecting vulnerable spots in the linoleum. A commodious breakfast table with Windsor chairs, a Dutch door to deliver garden meals, and a cuckoo clock a-ticking on a shelf.”¹⁵ In other words, as the director of the contest, architecture editor Mary David Gillies commented “[s]ome of the erstwhile traditionalist imagined this kitchen as ‘a place for building memories like my

¹³ Gillies, *What Women Want in Their Kitchens of Tomorrow*.

¹⁴ Gillies, *What Women Want in Their Kitchens of Tomorrow*.

¹⁵ Mrs. R.D.M. in *What Women Want in Their Kitchens of Tomorrow*, 33.

grandmother's kitchen.'"¹⁶ Significantly, this dichotomy of visions *McCall's* presented for their contest echoed broader trends in forecasts about the future of American housing and domestic life in the postwar period.

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Architects, designers, and companies were not in unanimous agreement on the extent to which technological progress would revolutionize and transform the interior or exterior *appearance* of the postwar house. Or at least, depending on the intent of the advertising, two types of formulas for “tomorrow’s house” prevailed. In business and trade magazines, “houses of tomorrow” aligned with popular science predictions, world’s fairs exhibits, and modernist demonstration prototypes, in which fantasy and experimentation governed what was possible, practical, or even desirable to the public. Designs following this fantasy formula borrowed liberally from the modernist, streamlined architectural vocabulary seen in the L-O-F Kitchen of Tomorrow: smooth contours, aerodynamic curves, speed-lines, and round chromed surfaces. Again, streamlining here read as an unarguable sign of an optimistic, fast, and frictionless trajectory into a better tomorrow. Moreover, as the visual manifestation of America’s obsession with efficiency, it was perceived as more scientific—and thus more logical and rational.¹⁷ These designs were not intended to solve the anticipated postwar housing crisis, but rather to code the design with features that suggested an efficient, clean, and

¹⁶ Gillies, *What Women Want in Their Kitchens of Tomorrow*, 326.

¹⁷See “The Growth and Scope of Industrial Design in the U.S.” *Journal of the Royal Society of Arts* (July 1959): 640-51. Found in Christina Cogdell, *Eugenic Design: Streamlining America in the 1930s* (Philadelphia: University of Pennsylvania Press, 2004), 165. For connection between physiognomy and design see Cogdell.

white family type.¹⁸ In addition, scholars have interpreted this streamlined aesthetic in a manner similar to the investigative methods employed by the pseudo-science of physiognomy, in which the human face functioned as an indicator of human character.¹⁹ Indeed, period texts suggest that designers of the era interpreted the look of homes—and their kitchens—with similar bias. In this way, the streamlined aesthetic indicated the “character” of the home, as well as the mental, moral, and physical attributes of the inhabitants.

Another formula for the house of tomorrow was rooted in conventional middle-class idioms derived from period styles.²⁰ But the traditional house of tomorrow signified the postwar future and evolution toward progress as much as the fantasies of streamlined designs. Trimming the house of tomorrow with conventional, quaint architectural features, as in the Tried-and-True Kitchen, was common particularly in war bond advertising that sought to link consumer support for the war effort with strengthened family security and middle-class values.²¹ Orthodox housing models were more likely to surface in women’s and general circulation magazines. Like advertising, articles in women’s magazines, such as *McCall’s*, and general-circulation media also tended to

¹⁸ For more on wartime technologies and housing see Beatriz Colomina, *Domesticity at War*. For more on relationship between companies, advertising, and anticipation of the future, see Henthorn, *From Submarines to Suburbs*.

¹⁹ See Cogdell, *Eugenic Design*.

²⁰ A modernist design vocabulary was frequently used in prototypes but not necessarily in houses for middle-class housing market. In magazines geared toward average consumers, traditional-style postwar “houses of tomorrow” were more common than modernist fantasies. For more on American responses to modernist architecture and the International Style, see Rosemarie Bletter, “The World of Tomorrow: The Future with a Past,” in *High Styles: Twentieth-Century American Design* (New York: Whitney Museum and Summit Books, 1985), 86-90. The disparity between modernist austerity and middle-class consumer taste for period styles is covered by Kristina Wilson in *Livable Modernism: Interior Decorating and Design During the Great Depression* (New Haven: Yale University Press, 2004). Wilson writes that modernist-trained designers of the 1930s developed a compromise that would help make their functional Machine Age aesthetic appeal to the average middle-class consumer’s taste and comfort. She dubs the “sympathetic model” “livable modernism” (3-4).

²¹ Henthorn, *From Submarines to Suburbs*, 156.

couch the “house of tomorrow” in socially acceptable clichés.²² Though they had different audiences and aesthetics, both types of postwar model—whether modernist or quaint—signified rational order, comfort, convenience and efficiency.

Despite the torrent of “world of tomorrow” publicity flooding newspapers and magazines since at least the 1939 New York World’s Fair, symbols of traditional, reliable home life remained viable contenders against more experimental visions. And contrary to some criticisms of conventional building types and their obvious limitations, these familiar forms represented psychological anchors to order and stability in a world thrown into chaos, as Gillies reports in her findings:

The contestants who choose the traditional [kitchen] regard it as a symbol of comforting, sheltered mode of life. It seems to them secure and lived-in...The traditionalists are far more anxious to protect their families against violent postwar changes. They...feel that continuity of decorating trend will be a stabilizing force for post-war America.²³

It is telling, then, that fictional Jane stresses the “dream” that will “come true” if she wins the contest, but in doing so does not refer to the design labeled “dream kitchen.” Sally’s response, which favors the L-O-F Kitchen of Tomorrow, is equally informative in how it stresses the importance of being open-minded and insists that the “things” in the postwar world will be “worthwhile.” These statements suggest that the “traditional-versus-

²² For example, Elizabeth Gordon and *House Beautiful* to be discussed at greater length in chapter three. For more on Gordon and her tenure at the magazine see Elizabeth Penick, *Tastemaker: Elizabeth Gordon, House Beautiful and the Postwar American Home* (New Haven: Yale University Press, 2017).

²³ Mary Davis Gillies, *What Women Want In Their Living Room of Tomorrow: A Report of the Living Room of Tomorrow Contest* (New York: McCall Corporation, 1944), 26. *McCall’s* also offered contests regarding the bedroom and dining room of tomorrow. Women entered these contests in order to win war bonds, which they could put toward the postwar house of their dreams. However, the data gained through the contest was ultimately intended for manufacturers of domestic products, furniture, and appliances. The *McCall’s* surveys also included demographic statistics, indicating that the majority of the women entering the contest came from working-class backgrounds with husbands who worked in skilled labor vocations.

futuristic” debate encouraged by the contest, as well as the larger media narrative surrounding houses of tomorrow, was obscuring other issues recognized by even the contest designers’ model housewives. In Sally’s words, for example, the possibility that in fact women did *not* assume the changes in household technology would be good or that new things would be worthwhile comes to light.²⁴

The frenzied postwar consumption that the *McCall’s* contest anticipated was also something that it helped to produce. By staging the interplay between “traditional” and “futuristic” models of the kitchen and then actively directing reader participation, *McCall’s* shaped the very consumers it hoped to engage. Seen in this light, the contest was only partly about futuristic advances in kitchen technology and design. Rather, this narrative of progress served as a convenient vehicle for an alternative motive: to survey women’s taste, to contribute to the construction of a taste culture around kitchen design, and to socialize women as consumers who actively participated in an exchange around consumption.

Whitewashing Consumer Culture

The “soft-power” of these kitchen designs aligns with the influence assigned to women’s magazines in this mid-century moment. As Nancy Walker’s study of women’s

²⁴ Gillies, *What Women Want in Their Kitchens of Tomorrow*.

magazines between 1940 and 1960 indicates, publications like *McCall's* had the “potential to both reflect and influence women’s lives” with their large circulation²⁵:

While it would be impossible to know precisely what role...these magazines play in the lives of American women during and after World War II, there are several important indications that they had a significant part in defining women’s aspirations regarding work and family, appearance, healthy, and happiness. One indicator is the magazines’ expanding readership...indeed, the relationship between the editors and readers was remarkably interactive, so that the editors’ decisions about regular features, special articles, and format were informed at least in part by express reader preferences. Some magazines regularly conducted polls of readers on selected topics...Magazines that were read by millions of women allow us to understand what society expected of them and...what women hoped for from American culture.^{26 27}

McCall's, for its part, was explicit about the pedagogical function of their contest, and in turn larger efforts for engagement and participation, asking readers to “Imagine [themselves] getting dinner, cleaning up after it; taking care of [their] family first in one [kitchen], then in the other” and telling women that they “will learn a lot” by entering the contest.²⁸ Contestants were not simply to choose the “classic” or “techno-” kitchen; they were to exercise their power as consumers, and in that exercise they were being interpellated as consumers, individuals with specific tastes but also members of an identifiable market and community with a responsibility to communicate their needs to the companies who could potentially satisfy them. In an era of a relatively new, rapidly differentiating market in appliances, this kind of survey assisted in socializing consumers

²⁵ Magazines such as *McCall's* and *Good Housekeeping* had circulations levels between two million and eight million, with actually readerships that were larger because women shared magazines. For connection between rise in subscriptions and suburban homeownership, see Harris, *Little White House*.

²⁶ Nancy A. Walker, ed. *Women's Magazines, 1940-1960: Gender Roles and the Popular Press* (Boston: Bedford/St. Martin's Press, 1998), 4, 5, 19.

²⁷ Nancy A. Walker, ed. *Women's Magazines, 1940-1960: Gender Roles and the Popular Press* (Boston: Bedford/St. Martin's Press, 1998), 4, 5, 19

²⁸ Gillies, *What Women Want in Their Kitchens of Tomorrow*.

to form a reciprocal relationship with these publications and companies wherein the model tastes, behaviors and even identities of tomorrow served to reinforce the existing social order.

In doing so, *McCall's* and other period publications, drew upon what architectural historian Dianne Harris terms “the lexicon of whiteness.” Publishers repeatedly relied on a rhetorical language with spatial and visual ramifications for the construction of an acceptable lifestyle while simultaneously contributing to the production of identities for those at whom the tests and images were aimed.²⁹ Writing on the construction of race in postwar housing, Harris identifies words such as *informality*, *casual lifestyle*, *leisure*, *individuality*, *privacy*, *uncluttered*, and *clean* as constituting a “lexicon of whiteness.”³⁰ To this list, *efficiency* and *convenience*, and *taste*, are deployed to similar ends specifically in the context of kitchen labor, technology, and promotion. Alongside this verbiage, the images that accompanied these words and articles formed an iconography of whiteness that reinforced and sometimes stood in place of the textual. In shelter and lifestyle magazines, as well as the design literature from the period, whiteness remains, as Valerie Babb has demonstrated for a range of texts in American literature, so “obvious and pervasive” that the racial aspect remains “essentially invisible.”³¹ Following Harris’s analysis, the representations of these kitchens of tomorrow illustrate that whiteness was everywhere and rarely challenged. This lexicon and iconography were not easy to detect, but not truly invisible to those who consumed these texts and images. Instead, as Harris

²⁹ Harris, *Little White Houses*, 60.

³⁰ Harris, *Little White Houses*, 60.

³¹ Valerie Babb, *Whiteness Visible: The Meaning of Whiteness in American Literature and Culture* (New York: New York University Press, 1998), 162-166.

argues, Americans both recognized and deeply understood this iconography of race and class even if they seldom questioned its role in the creation of cultural formations.³²

This pervasive whiteness is deeply embedded in both the *McCall's* contest and the broader presentation of the L-O-F Kitchen of Tomorrow. In the lengthy and thorough survey that accompanied the essay contest, *McCall's* asked contestants to provide standard demographic data: gender, age, marital status, height, and various details about current living conditions. Race and ethnicity are noticeably absent from the questionnaire and a breakdown of contestant demographics. Publishers and authors implicitly assumed and expected that new houses were designed and built for middle- and upper-middle class whites—a reality that, as Harris has argued, was both self-reinforcing and assured by government policies.³³

While *McCall's* illustrated the contest with line drawings, the photographs that accompanied the L-O-F Kitchen of Tomorrow in other publications reinforced this lexicon of whiteness visually.³⁴ When photographs or illustrations did include women, the imagery was consistent: young, elegantly groomed white women pictured performing housework with appliances, impeccably clothed in a dress and high-heels (but only occasionally donning an apron), hair neatly coiffed, and hands always manicured. By contrast, Black Americans were not featured *as consumers*. On the rare occasions that

³² Harris, *Little White Houses*, 61.

³³ See Harris, *Little White House*, ch.1.

³⁴ These same ideas were reinforced in the “live” interactions with the kitchen in department store displays, where a female employee from the L-O-F advertising department was on hand to lecture about the design and answer questions. In addition to the exhibition, the kitchen was also promoted through a short film produced by Paramount Pictures for national screen. I have not been able to locate or view this film, as it was unfortunately not in the L-O-F archive. I have also yet to find any advertisement for the L-O-F kitchen in the Black press. This aligns with other scholars’ findings about the scarcity of housing features in major Black publications such as *Ebony*, which began publishing in the fall of 1945.

images of nonwhites appeared in postwar shelter publications, it was generally limited to stereotypical portrayals such as porters, maids, and of course, cooks that valorized and reinforced racist beliefs.

Clinging to Mammy

The figure of the mammy occupies a central place in this stereotypical advertising strategy. The mammy, loosely defined as a Black woman who worked for a white family and often served as a wet-nurse for the white children, is deeply rooted in the history of chattel slavery in the United States.³⁵ In the early-twentieth century the mammy became immortalized as Aunt Jemima, the spokesperson for a line of ready-mixed breakfast products.³⁶ From the bandana covering her hair to the apron covering her dress, the imagery of Aunt Jemima was inspired by Reconstruction-era minstrel shows and thus meant to appeal both to a southern domestic ideal and a northern fascination with southern traditions (Figure 2.12).³⁷

³⁵ For more on the mammy figure see Kenneth W. Goings, *Mammy and Uncle Moses: Black Collectibles and American Stereotyping* (Bloomington, Indiana University Press, 1994); Micki McElya, *Clinging to Mammy: The Faithful Slave in Twentieth Century America* (Cambridge: Harvard University Press, 2007); Kimberly Wallace-Sanders, *Mammy: A Century of Race, Gender, and Southern Memory* (Ann Arbor: University of Michigan Press, 2008).

³⁶ Aunt Jemima's image got a makeover in 1989 that replaced the blatant mammy imagery with a "contemporary look" that included pearl earrings and a lace collar, evoking an update image of a "working grandmother." In June 2020 Quaker Oats announced it would retire the Aunt Jemima brand name and image, citing its racist origins.

³⁷ Micki McElya has analyzed the origins of Aunt Jemima in the theatrical In popular accounts of the story, Chris Rutt, one of the co-developers of the self-rising pancake flour, came upon the name in the autumn of 1889 when he saw the minstrel team Baker and Farrell perform the song "Old Aunt Jemima" in his hometown of St. Joseph, Missouri. One of the pair would sing the number as part of a cakewalk finale while wearing a dress, apron, and red bandana, as well as burnt cork blackface makeup. The song, which in this context was performed by a white man masquerading as a Black woman, had itself been composed in 1875 and performed thousands of times by Billy Kersands, a Black comedian and vaudevillian who also performed in blackface. The layers of racial and gender crossing, including blacking up of an already Black

Aunt Jemima made her debut in performances, played by Nancy Green, at the World's Columbian Exposition in 1893, placing the mammy figure, as part of larger narratives of the faithful slave, at the very heart of America's push toward modernity at the turn of the century. The R.T. Davis Milling Company, which first produced the pancake mix, capitalized on a mythic southern past to sell a thoroughly modern product made possible by technological advances displayed elsewhere at the fair. Aunt Jemima pancake mix would ride the leading edge of innovation in production, packaging, advertisement, and distribution for much of the twentieth century, while its supposedly essential characteristics – convenience, wholesomeness, and good taste – were deemed best represented by an enslaved woman and the Old South. Along with other popular images of faithful slavery in the twentieth century equated the Black American's place in modern life with servility, obedience, and joviality. Any other attitude on the part of Black people, from anger to aspiration, was considered symptomatic of a grouping contemporary "Negro problem" (discussed in the third chapter) that beset not just the white South, but the nation.

These faithful slave narratives emerged from a long history of white denials about the legitimacy of Black families and their emotional bonds under slavery. When celebrating the figure of the mammy, whites never referred to her own family. This

performer, were complex. They would only become more so when a formerly enslaved Black woman was asked to take on the fictional role of a formerly enslaved Black woman. For more on the Aunt Jemima origin story see McElya, *Clinging to Mammy*, ch.1. Of the twentieth century evolution of Aunt Jemima, M.M. Manring has recounted how advertising entrepreneur James Webb Young, aided by celebrated illustrator N.C. Wyeth, skillfully tapped into nostalgic 1920s perceptions of the South as a culture of white leisure and Black labor. See M.M. Manring, *Slave in a Box: The Strange Career of Aunt Jemima* (Charlottesville: University of Virginia Press, 1998). For more on the image of Aunt Jemima see Marilyn Kern-Foxworth, *Aunt Jemima Uncle Ben, and Rastus: Blacks in Advertising, Yesterday, Today, and Tomorrow* (Westport, CT: Praeger, 1994);

deliberate silence that allowed them to ignore the coercion that helped make possible this intimate relationship between Black female caretakers and their white charges, a narrative famously presented in the relationship between Scarlett and Mammy in *Gone with the Wind* (1939). Portrayed by Hattie McDaniel, Mammy stays with Scarlett after emancipation – a testament to the maternal bond embedded in the stereotype. These narratives also showed the fundamental lack of concern for Black women’s own lives, their families, and the material work they performed outside of the white domestic sphere. As Micki McElya has shown, this absence of concern was never nonchalant or careless; instead it revealed an overriding white desire not to perceive Black women as belonging to any other family at all.³⁸ After the Civil War, those who promoted sentimental narrative of the mammy located Black motherhood solely within the white home, in contrast to an earlier emphasis on the economic value of Black mothers who reproduced the slave labor force. By the nineteenth century, slavery in the United States depended on Black women’s reproductive labors to penetrate it. The system of slavery placed a monetary and labor value on Black women’s production of more laboring Black bodies.

When Black women’s work was appropriated by the white household, McElya has argued that their care-giving labor was reframed as motherly instinct and love in the figure of the mammy, thus not as work at all.³⁹ The emotional traits that defined maternal affection fell outside of Black women’s relationships with Black children in this framework. In turn, the domestic slave trade relied on the broad devaluation of Black

³⁸ McElya, *Clinging to Mammy*, ch. 3.

³⁹ McElya, *Clinging to Mammy*, 98.

families so that it could continue to divide them. This dynamic of disaffection in Black families continued into the mid-twentieth century (and is discussed at length in the third chapter). Douglas Sirk's 1959 remake of the film *Imitation of Life*, for instance, used an old story to comment on the relationship between maternal failure and race and to explore the negative effects that consumption had on the affluence of postwar society. A retelling of the 1934 film and based on the same Fannie Hurst book of the same title, Sirk's version replicated the central narrative of Black maternal failure: the Black woman's light-skinned daughter seeks to pass as white, repudiating her race and her mother. The Black protagonist dies in 1959 as painstakingly as she does in 1934, brokenhearted by her daughter's rejection.⁴⁰ According to historian Ruth Feldstein, Sirk's film was virtually the only Hollywood film of the era to contrast Black and white mothers.⁴¹ Moreover, it was unique in the ways it melded motherhood, gender, and race into one narrative under the rubric of consumption. The Black mammy figure, then, became a powerful icon of motherly affection and care, but this was not held to be an inherent attribute, innate to black women. Rather, promoters of the mammy narrative believed these traits to be the product of the supposedly civilizing environs of white domestic space. In popular narratives, close association with whites enabled the more rapid, more enduring assimilation of Black people to white norms.

As a white construction of Black identity and an enduring representation of the mammy figure, Aunt Jemima, offered white consumers an easygoing, nostalgic, and nonthreatening domesticated character. In addition to the imagery in advertising and on

⁴⁰ For analysis of racialized motherhood in *Imitation of Life* see Ruth Feldstein, *Motherhood in Black and White: Race and Sex in American Liberalism, 1930-1965* (Ithaca, NY: Cornell University Press, 2000), chapter 5.

⁴¹ Feldstein, *Motherhood in Black and White*, 114

products, in the 1950s-1960s actress Aylene Lewis portrayed Aunt Jemima at the Aunt Jemima Restaurant at Disneyland, where she served pancakes and posed for photographs with customers.⁴² Coupled with the products, M.M. Manring has shown how these presentations of Aunt Jemima offered mid-century housewives the next best thing to a Black servant: a "slave in a box" that conjured up romantic images of not only the food but also the social hierarchy of the plantation South.⁴³ These representations helped viewers understand and internalize whiteness through the depiction of its opposite, here the stereotypical mammy figure – in Aunt Jemima's image or in Hollywood films – rooted in the traditions of minstrelsy. Whiteness, then, was constructed against its opposite in narrowly defined, often visual, terms.

Such representations further clarified that white housewives pictured in promotional images were far from hired servants and further expressed their professional authority over the home.⁴⁴ Additionally, the repetition of these images constantly reinforced a message about the rightful owners and occupants of such spaces, and in displays of future domesticity, the world of tomorrow. In many cases, such representational choices were taken for granted as the only possible norm in the racially divided Jim Crow era of the 1940s and 1950s. Nonwhites, it was assumed, had little access to surplus income or homeownership, and were there for rendered invisible by

⁴² See company history: <http://www.auntjemima.com/our-history>. Aunt Jemima's image got a makeover in 1989 that replaced the blatant mammy imagery with a "contemporary look" that included pearl earrings and a lace collar, evoking an update image of a "working grandmother." In June 2020 Quaker Oats announced it would retire the Aunt Jemima brand name and image, citing its racist origins.

⁴³ Manring, *Slave in a Box*.

⁴⁴ Harris tracks this "professionalism" in the home through the inclusion of a desk in the kitchen. See Harris, "Built-Ins and Closets: Status, Storage, and Display," in *Little White Houses*.

advertisers, publishers, or network executives.⁴⁵ As Babb has written, because “whites are the only personifications of privilege, social mobility, economic security, and cultural refinement, experiences and products that appear race-neutral are implicitly racialized.”⁴⁶ Yet the formulaic repetition of images in the press ultimately both protected and perpetuated the notion that the American home—in the past, present, and future—occupied by a single nuclear family was inseparable from white ownership and occupancy, and was likewise seen as inherently valuable and desirable.

Black Purchasing Power and the Myth of Democratized Progress

The Black consumer’s absence from the mainstream visualizations and conceptions of the future raises questions about the racial progress at the time. The promise of democratized progress was held out to all in theory, but not in practice, as a 1946 editorial from *Ebony* attests:

In this new year of 1946 America has suddenly awakened to find that the housing problem has no color or complexion. The housing headache that has been the Negro’s up to now has become everybody’s headache...And because it’s white Americans, and not blacks, who are looking [for housing] scowling government brain trustors and breast-beating politicians are excited.⁴⁷

Launched shortly after the war ended, this new national Black magazine boldly revealed the hypocrisy behind the futuristic narratives of progress and stated what no mainstream

⁴⁵ Harris, *Little White Houses*, 61.

⁴⁶ Babb, *Whiteness Visible*, 162-6.

⁴⁷ “The House We Live In,” *Ebony* (January 1, 1946): 20.

publication made explicit, but often implied: not all Americans were invited to share in the world of tomorrow.

Ebony argued that American's perennial housing shortage only received adequate attention when it became "white." The author of this *Ebony* editorial denounced the status quo agenda inherent in visions of postwar progress: "Huddled in tenements, shacks and kitchenettes, jammed into ghettos and slums, the Negro has been living in hand-out homes."⁴⁸ Modern houses, suburban plots, bank loans, and domestic amenities on display in kitchens of the future, were placed beyond the reach of Black Americans either through discriminatory practices, or in some cases, lack of purchasing power. A columnist for the *Pittsburgh Courier* summed up these disappointing prospects: "We were needed once, now it's back to the kitchen."⁴⁹

Ebony's polemics were not limited to editorials exposing racial discrimination in housing or the substandard conditions that many Black Americans were forced to tolerate. Following a long-established trend in the Black press, *Ebony* juxtaposed these editorials and news articles concerning racial injustice with inspiring stories of Black achievement. In her study of Black women's magazines, Noliwe Rooks explains that these narratives were in large part ways to subvert stereotypes and generalizations, while also providing models of respectability in order to socially uplift their readers.⁵⁰ Dwight Brooks, then, interprets these narratives, arguing that they offered "readers a vision of

⁴⁸ "The House We Live in," 20.

⁴⁹ Horace A. Clayton, "Paging the Liberals," *Pittsburgh Courier* (September 8, 1945): 7.

⁵⁰ Rooks covers the "biographical sketches" of notable Black women in African American women's magazines (42-44, 52-55). Rooks also covers *Ebony*, 130-134. Noliwe M. Rooks, *Ladies' Pages: African American Women's Magazines and the Culture that Made Them* (New Brunswick, NJ: Rutgers University Press, 2004).

America as it should be—with Blacks and whites enjoying the recognition and benefits of a prosperous society. Moreover, the races were pursuing the American dream together.”⁵¹ By extension, in highlighting episodes of Black achievement, *Ebony* also articulated the contradictions embedded in the mechanism of American democracy.

The kitchen, in particular, came into this equation. In 1945, the magazine published a photograph of a streamlined kitchen in the Hollywood home of the Black entertainer Eddie Anderson, known as the servant “Rochester” on the Jack Benny radio show designed by Paul Williams.⁵² The photo portrayed two Black women working together in the kitchen (Figure 2.13). But this kitchen *belonged* to one of them, Mrs. Eddie Anderson, thus contradicting racist truisms about the Black women’s singular and “natural” role in the home as the maid.⁵³ Here, she is not only middle or upper class herself, but also the homemaker, enjoying the comforts and conveniences of the modern kitchen.

Before World War II, Black activists and leaders had encouraged their communities to take steps towards empowerment by conscientiously choosing the ways

⁵¹ Dwight Brooks, *Consumer Markets and Consumer Magazines: Black America and the Culture of Consumption, 1920-1960* (Iowa City: University of Iowa Press, 1991), 190.

⁵² “Maymie and the Maid...in the Elegant Anderson Kitchen,” *Ebony*, (November 16, 1945). Brooks refers to this editorial as well (“Consumer Markets and Consumer Magazines,” 164). Brooks notes that *Ebony* advertisements of “insurance and appliances were among those that signified the home as the primary domain of women...Implicit in these ads was a message that the home was incomplete for women if it did not contain the proper home appliances.” Brooks refers to a Hoover vacuum cleaner ad in *Ebony* showing “black women using the cleaner...and clothed in rather elegant dress” (Brooks, *Consumer Markets and Consumer Magazines*, 185-86). One could also argue that editorials like “Maymie and the Maid” also underscored this prevailing domestic construct for Black women.

⁵³ On the maid/mistress relations, see Judith Rollins, *Between Women: Domestic Workers and Their Employers* (Philadelphia: Temple University Press, 1985) and Rebecca Sharpless, *Cooking in Other Women’s Kitchens: Domestic Workers in the South, 1865-1960* (Chapel Hill, NC: University of North Carolina Press, 2013).

in which they spent or withheld their money.⁵⁴ Supporting Black business and boycotting stores that upheld racist practices formed part of a strategy to insist on the right to full citizenship.⁵⁵ Black women's magazines, in particular as Rooks' study indicates, had been advocating the concept that "purchase and consumption of the proper products would lead to societal acceptance and racial uplift" throughout the 1940s.⁵⁶ Interestingly, the mainstream corporate order maintained a similar mindset because its core value—free enterprise—perceived the growth of capital as a natural extension of American liberty. These companies framed patriotism and the fight for democratic freedom during the war in terms of consumer bounty made available to the "masses." Both groups—the Black community and the predominately white managerial class—understood that "progress" could advance through expanding mass consumer purchasing power.⁵⁷

Most Black Americans also found themselves not just implicitly excluded from the visions of tomorrow and associated narratives about progress but barred from higher-paying jobs and thus better economic opportunities that deliberately blocked them from benefitting from the democratizing effects of the postwar world.⁵⁸ Furthermore, Roi

⁵⁴ Brooks, *Consumer Markets and Consumer Magazines*, 63-76. Brooks details how Black activists and leaders in business established a tradition in the early twentieth century of using consumerism and capitalism as ways to attain full citizenship. See also Elizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York: Knopf, 2003), 41-61.

⁵⁵ Robert E. Weems, Jr., *Desegregating the Dollar: African American Consumerism in the Twentieth Century* (New York: New York University Press), 7-30.

⁵⁶ Rooks, *Ladies' Pages*, 108

⁵⁷ On the symbolic role of consumerism as an instrument for gaining equality, see Rooks *Ladies' Pages*, 108-111.

⁵⁸ Much has been written about the government efforts to exclude non-white Americans from partaking in the prosperity of the postwar period, particularly in relation to the Federal Housing Authority's discriminatory loan practices and redlining tactics. For racial and geographic discrimination in HOLC, FHA, and later GI mortgage programs that spurred suburban growth and homeownership among white residents, see Jackson, *Crabgrass Frontier*, chaps. 11, 13; Ira Katznelson, *When Affirmative Action Was White: An Untold History of Racial Inequality in Twentieth-Century America* (New York: W.W. Norton, 2005), chap. 5; Freund, *Colored Property*, chaps. 3—5; Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America*, First edition. (New York: Liveright Publishing

Ottley, writing in the 1940s, contends that Black Americans “wanted tangible assurances that the loud talk of democracy [was] in fact meant to include them.”⁵⁹ A vision of postwar progress for Black and other nonwhite Americans did not consist solely of material goods like streamlined kitchens, “miracle” plastics, and suburban houses. Rather, they wanted a form of progress that signaled deeper social change: the integration of public spaces and infrastructure, the end of infringements on freedom and the guarantee of civil rights.

Kitchens of tomorrow participated in the larger narrative of a postwar American landscape that included modern homes, suburban plots, bank loans, and technological amenities. These kitchens, and the domestic systems of which they were a part, both perpetuated and depended on a racialized hierarchy that equated whiteness and its prerogatives with the American identity itself. Just as architecture and furniture of the late-nineteenth century settlement houses assisted in the assimilation of immigrants, so the L-O-F Kitchen of the Tomorrow and its associated media are representative of the structures that whitewash difference in favor of conformity. Yet this conformity, and the tangible symbols of identity, progress, and success, failed to account for and address Black Americans as consumers.

Corporation, 2017), chaps. 4—6. For gender discrimination and the GI Bill, see Cohen, *A Consumer's Republic*. For homeownership and consolidation of whiteness in twentieth century see See Eric Avila, *Popular Culture in the Age of White Flight: Fear and Fantasy in Suburban Los Angeles* (Berkeley: University of California Press, 2004); Freund, *Colored Property*; Harris, *Little White Houses*; Nicolaides, *My Blue Heaven*.

⁵⁹ Roi Ottley, *New World A-Coming: Inside Black America* (Boston: Houghton Mifflin, 1943), 343.

A Labor of Love

“Tick tock, tick tock. I’m free to have fun around the clock!” exclaims a young ingenue as she twirls gleefully through the kitchen of her dreams—Frigidaire’s Kitchen of the Future on display at the General Motors Motorama in 1956 (Figure 2.14). In *Design for Dreaming*, a promotional film accompanying the model, the star sings and dances her way through the kitchen’s main features including the Electro Recipe File that selects, preps, and mixes together a cake for her, which she then places in the glass-domed oven to bake (Figure 2.15). “Don’t have to be chained to the stove all day, just set the timer and you’re on your way,” she continues. To prove her point, she then performs a quick dance routine complete with costume changes. One after the other, she appears in tennis, swimming, and golf outfits—signifying, of course, that her day is filled with leisure thanks to the Kitchen of the Future (Figure 2.16).

One of the classic advertising extravaganzas of the 1950s, General Motors’ “Motoramas” were like giant museum exhibits, trade fairs, or debutante balls for GM’s new products, presented alongside ideas about how the future might unfold. The 1956 Motorama, dubbed “Highways of Tomorrow,” drew 275,316 visitors during its six-day opening run at New York’s Waldorf Astoria.⁶⁰ The *New York Times* reported that “The crowd was so great...on Forty-ninth street that it pushed a wooden Police Department barrier through the large plate-glass window of the Waldorf’s men’s bar...The line of people jammed the sidewalk from the hotel’s forty-ninth street entrance, west to Park,

⁶⁰ Internal History of Frigidaire model kitchens (n.d.), MS-262, box 1B, folder 4, Frigidaire Historical Collection, Wright State University Special Collections (henceforth WSU).

and up to Fiftieth street.”⁶¹ That year there were 63 exhibits and 26 cars on display, sprawling across 26,000 square feet of the hotel.

Among the most hyped exhibits at the Motorama was the Kitchen of the Future. So hyped, in fact George M. Humphrey, then Secretary of the Treasury, visited and “took a brief course in home economics yesterday at the General Motors Motorama.”⁶² According to the *New York Times*, “His eyes sparkled at the gleaming...display of gadgets and gimmicks designed to eliminate drudgery for housewives in tasks ranging from dishwashing to cookery.”⁶³ In contrast to the Motorama’s main attraction, which showcased the latest crop of automobiles, the Kitchen of the Future was designed not to show off current products.⁶⁴ Although the appliances in the model kitchen were promised to be fully functional, the model kitchen itself was put on display as a spectacle of domestic futurism. Drawing attention to the ideas embedded in the design, the press release for the kitchen heralded that the “freedom to put original ideas into operation encourages our appliance engineers and stylists to thrust ahead into the future, advancing far beyond the immediately practicable to make dreams come true.”⁶⁵

On the face of things, it seems remarkable that a company like General Motors (GM), whose goal was to maximize purchasing in the present, attempted to do so with such a spectacle showcasing *future* kitchen commodities—after all, it could be expected

⁶¹ Bert Pierce, “Kitchen of Tomorrow Intrigues Humphrey at Motorama Show, January 22, 1956

⁶² Bert Pierce, “Kitchen of Tomorrow Intrigues Humphrey at Motorama Show,” *New York Times*, January 22, 1956.

⁶³ Pierce, “Kitchen of Tomorrow Intrigues Humphrey at Motorama Show.”

⁶⁴ In 1955 Frigidaire began presenting a “Kitchen of Today” alongside the futuristic models. They enlisted contemporary architects to submit proposals, including A. Quincy Jones and Frederick Emmons of Los Angeles. Their design is discussed in greater detail in the third chapter, in the context of Case Study House #24.

⁶⁵ Internal History of Frigidaire model kitchens (n.d.), MS-262, box 1B, folder 4, FHC.

that the Kitchen of the Future would discourage, not encourage, consumers from buying contemporary appliances that were already obsolete compared to futuristic ones. And yet, the 1956 Kitchen of the Future, created in partnership with GM subsidiary Frigidaire, was one of the company's most iconic models. Following its debut in New York, the display traveled to Miami (February 4-12), Los Angeles (March 3-11), San Francisco (March 24-April 1), and finally Boston (April 19-29). Later, its ten-minute promotional film, *Design for Dreaming* directed by William Beaudine and starring Thelma "Tad" Tadlock (Woman) and Mark Breaux (Man), would be seen by more than eight million people.⁶⁶

As the short film begins, a young woman is visited one night by a mysterious masked and tuxedo-clad stranger who magically transforms her pajamas into an evening gown and whisks her away to visit the Motorama. In *Design for Dreaming* (and at the Motorama itself) the promises of kitchen technologies are initially established through the showcasing of cars alongside kitchens, promoting a parallel between automobiles and major kitchen appliances. As Karal Ann Marling has shown, refrigerators, in particular, and cars share related histories of production, corporate configuration, and aesthetics.⁶⁷ This parallel was in place long before the Motorama: through bulbous streamlined forms, baroque chrome "gorp" trim, and color trends, appliances design echoed automobile design during much of the postwar period and dating back to the 1930s.

⁶⁶ *Design for Dreaming* (1956) was directed by William Beaudine and produced by Victor D. Solow, MPO Productions, for General Motors with Thelma "Tad" Tadlock (Woman) and Mark Breaux (Man). The figure of 8 million people comes from *Business Screen* magazine, cited in Rick Prelinger, *The Rainbow Is Yours*, vol 1. From *Our Secret Century*, CD-ROM series (New York: Richard Prelinger Software, 1995).

⁶⁷ On the parallelism between cars and kitchen appliances, see Karal Ann Marling, *As Seen on TV: The Visual Culture of Everyday Life in the Fifties* (Cambridge: Harvard University Press, 1994); Ellen Lupton and J. Abbot Miller, *The Bathroom, the Kitchen, and the Aesthetics of Waste: A Process of Elimination* (New York: Kiosk, 1992) and Penny Spark, *Electrical Appliances* (London: Unwin Hyman, 1987).

What is most visible in *Design for Dreaming* is the sense that the kitchen, or at least having the appropriate cutting-edge Frigidaire appliances in a kitchen, offered independence and personal freedom. Further this independence was set up as a parallel to automobile ownership, historically associated with the freedom of the open road.⁶⁸ GM made an effort to market cars to women with promotional tactics such as commissioning Christian Dior and other fashion designers to create outfits for the female models that matched automobile models—and narrating *Design for Dreaming* from the perspective of a young woman. Crucially, the effort to sell automobiles to women was also an effort to sell *second* cars to families, since the *first* car (the husband's) and the refrigerator were marked as essentials.⁶⁹ Although the attempt to market automobiles toward a female audience could seem like a means of liberating women from the home, the connection between the automobile and the refrigerator suggests a different ideological aim. Here, the car and the kitchen were promoted as complementary and parallel commodities. Furthermore, this car-kitchen parallel echoes the separate-but-equal spheres men and women were expected to occupy and the roles they were expected to embody. Yet their parallelism also offered a promise to female consumers and users of refrigerators: that on the corporate level, the same kind of energy was being put into producing cutting-edge kitchens as was being invested into automobiles. GM perpetuated the paradox of domestic innovation by offering up a liberatory vision of a future not in the kitchen: thanks to Frigidaire's research and development, a woman could envision herself driving down the highway instead.

⁶⁸ See Marling, *As Seen on TV*, ch.4.

⁶⁹ Marling, *As Seen on TV*, 133.

In the exhibition and film, visitors and viewers were introduced to a model kitchen that fully embraced technological innovation with the publicized goal of “achieving new summits of leisurely, light-hearted living for the homemaker and her family.”⁷⁰ In doing so, Frigidaire developed what they claimed to be “thrilling new automatic devices [that] make [the kitchen] a *pleasurable* work center with heretofore undreamed of conveniences.”⁷¹ In designing the Kitchen of the Future, they built upon the company’s previous forays into kitchen design, as well as the wealth of research from government agencies and university studies. An internal history of Frigidaire’s kitchen projects notes that, “Many conclusions by these groups [universities and government agencies] are quite valid and cannot be discounted. Our problem is to interpret them in terms of products that are being manufactured or might be manufactured by Frigidaire Division of General Motors.”⁷²

Following the example of these previous research studies, Frigidaire set about creating a kitchen, along with equipment that addressed two categories of objectives: the technological and the sociological/psychological. Under the umbrella of the kitchen’s technological aspects, the goal was to attend to sufficient adjustable working areas, seating facilities, phone and intercommunication facilities, methods for cleaning, pass-

⁷⁰ Press release (n.d.), MS-262, box 5, folder 6, FHC.

⁷¹ Press release (n.d.), MS-262, box 5, folder 6, FHC. Emphasis mine.

⁷² The company’s history of its model kitchens includes mention of influential research and predecessor projects, including the Cornell Kitchen analyzed in chapter one. “The U.S. Housing and Home Finance agency entered on a program of Housing Research and issued numerous publications over a period of more than 10 years covering most every phase of housing imaginable. The Department of Agriculture also studied the farm housing situation and issued publications. Even the Department of Labor showed some activities along these lines. Many of the Universities also undertook studies and issued publications some back by research in depth, notable among these was ‘the Cornell Kitchen’ prepared by Cornell University and first issued in 1952, followed by more reprintings. This particular publication was destined to have considerable influence on Frigidaire and GM activities as will be seen later.” Appendix A. Internal History of Frigidaire model kitchens (n.d.), MS-262, box 1B, folder 4, FHC.

through counters, and accessories for food preparation. Sociologically, Frigidaire at least superficially acknowledged concerns about balancing women's work in and out of the home, noting in a press release that the "Majority of customers are now servant-less, so women are responsible for more aspects of housekeeping, etc. but also...more women entering the workforce, leaving them less time to devote to these duties."⁷³ And like its predecessors, including the Cornell Kitchen, the Kitchen of the Future was organized into discrete work stations: the cooking station marked by the glass-domed oven and a marble topped range; the storage station with a round double-drum refrigerator and pantry; the food preparation station loaded with built-in gadgets to prepare meals; and the planning center that held other enchanting technological features to help the housewife manage her kitchen, home, and family (Figure 2.17).

The cooking station was located on a counter-height wall, parallel to the back wall of the room, with the glass domed oven at one end. Similar in concept to the streamlined glass oven in the L-O-F Kitchen of Tomorrow from the previous decade, this oven baked, broiled, and barbequed food in full view. Next to the oven was the built-in marble topped range, which the company claimed used induction heating units below the surface of the counter to boil water in a matter of seconds, without heating up the marble. Thus, the press release promised, the range top never got hot to the touch.⁷⁴ A cabinet adjacent to

⁷³ In addition to labor, the GM/Frigidaire team also stressed their consideration for the social role of the kitchen in the modern home. Because of the high cost of entertaining outside the home, they claim that the trend at the moment was to entertain at home. At the time, the typical kitchen/dining/living arrangement isolated the housewife from her guests. Thus, they saw a need for new products that would facilitate easier living and entertaining and integrate the kitchen with the rest of the home. GM/Frigidaire was not alone in this analysis, and this increased socializing of the kitchen — both physically and psychologically — will be the subject the third chapter. Appendix A. Internal History of Frigidaire model kitchens (n.d.), MS-262, box 1B, folder 4, FHC.

⁷⁴ Press release (n.d.), MS-262, box 5, folder 6, FHC.

the range rose automatically out of the countertop to provide more storage space, necessarily and easily hidden from view at the touch of a button.

Placed in the back-left corner of the space, the “Roto-Storage Center” had a rotating two-part refrigerator-pantry (Figure 2.18). Each drum-shaped section—the upper for dry storage and the lower for cold refrigerator —was four feet in diameter and subdivided into distinct compartments.⁷⁵ The refrigerator and pantry drums also had doors that provided access from inside the kitchen, as well as from outside the house. With its exterior access, deliverymen could load groceries into the fridge or pantry from outside.⁷⁶ When not in use, the storage station had a “rest” position that lowered the unit down in line with the cabinet countertops along the back wall, providing extra workspace if needed.⁷⁷ Like so many other features in the design, a push-button repositioned the fridge to waist-height. Push-buttons also controlled the interior rotation of the fridge and pantry units, rotating the various compartments into position, and opening and closing the curved sliding glass doors.⁷⁸

The food preparation station along the back wall of the kitchen, parallel to the cooking station, housed a collection of appliances. The standout feature of this station was the Electro-File Recipe maker highlighted in the kitchen scene from *Design for Dreaming* (Figure 2.19). Nominally, the design of this automated machine eliminated the majority of food preparation including selecting and measuring ingredients. With a color monitor mounted at eye-level, the housewife could select a recipe from the vast library of

⁷⁵ Press release (n.d.), MS-262, box 5, folder 6, FHC.

⁷⁶ Press release (n.d.), MS-262, box 5, folder 6, FHC.

⁷⁷ Press release (n.d.), MS-262, box 5, folder 6, FHC.

⁷⁸ Press release (n.d.), MS-262, box 5, folder 6, FHC

dishes just by pushing a few buttons and was able to preview images of the various dishes on the screen.⁷⁹ After making a selection, she could insert a coded card in a slot on the wall cabinet. Inside the machine, the card was “read” by an IBM computer unit that automatically registered all the ingredients. Finally, the touch of one more button then delivered the ingredients in the right order and amount called for by the recipe. The company touted that this would allow homemakers to utilize their own “skill and personal touch” in cooking and baking, but also guard against error.⁸⁰

The last station—the planning center—was situated as an island midway between the cooking area and the adjacent family room. Though the tasks completed in this area were not directly related to kitchen activities, the technologically dense station was designed to be a “control center” for the housewife.⁸¹ As such, the devices Frigidaire developed for this station were intended to help ease home management. Such gadgets included an A/V system that could be used to activate equipment all around the house and perform tasks like starting meals at the prep station or letting the dog out by remote control; a telescriber to send and transmit handwritten messages; and combined television-telephone that permitted her to see and surveille the front door, backyard, and nursery all from the comfort of her kitchen.

⁷⁹ Th seven *New York Times* articles that covered the Motorama (all by Bert Pierce, 8-25 January 1956) barely mention appliances other than those in the Kitchen of the Future — which in itself suggests that the kitchen was assumed to be significantly more interesting than actual, extant kitchens/technologies.

⁸⁰ Press release (n.d.), MS-262, box 5, folder 6, FHC.

⁸¹ See Harris, “Built-Ins and Closets: Status, Storage, and Display,” in *Little White Houses*.

At the Push of a Button

The look of this kitchen matched its futuristic ambitions, marked by a sleek, limited palette of black, white, and grey that gave the space what was described as a “clean, sophisticated look.”⁸² Like the L-O-F Kitchen of Tomorrow a decade earlier, the Frigidaire model fully embraced streamlining, pushing the aesthetic even further with more curvilinear forms and metal finishings to highlight futuristic connotations. And this aesthetic appeared to have the desired effect. Critics picked up on the streamlined components and projected futuristic fantasies onto the kitchen. In Los Angeles, one reviewer remarked even, that “a spaceship trip to Mars while dinner cooks is not too difficult to imagine as you contemplate the 1956 Kitchen of the Future[.]”⁸³

Much of the labor in the kitchen was purported to be saved “with the push of a button.” Critics, too, picked up on the significance and proliferation of push-buttons. “Judging from the 1956 Kitchen of the Future...women in the future will only need a strong index finger to cook, wash, bake, and serve coffee,” joked a review from *The Washington Post*.⁸⁴ Another in the *Los Angeles Times* highlighted both the ease and the fantasy embedded in a single button, “If you can find the time to push a button you can

⁸² Press release (n.d.), MS-262, box 5, folder 6, FHC.

⁸³ Marian Manners, “Kitchen of Future is Any Girl’s Dream: Tomorrow’s Housewife Won’t Have to Cook—She’ll Just Push Buttons” *Los Angeles Times*, March 7, 1956, B1.

⁸⁴ Olga Curtis, “Buttons Control Kitchen of Future,” *Washington Post and Times Herald*, January 22, 1956, F18.

cook in this marvel of convenience... the button soars to jet-propelled heights in this fantastic kitchen. A push here and a push there.”⁸⁵

Streamlining and push-button control panels that defined the Kitchen of the Future evoked modernity, and in turn, the future itself. In practice, however, they promised more than they could deliver. Such technology more often than not substituted for substantive progress, instead reinforcing conservative gender roles. For every development on the order of no-frost refrigerator-freezers, there were a dozen developments like the 1958 Hotpoint Electric Range, with a musical thermometer that played “Tenderly” when meat was cooked to the desired doneness. Despite the promise of a toaster to save time or the range to take the guesswork out of cooking, their distinguishing features were of little practical value; yet they also embodied the emancipatory possibilities of technological progress through their very flamboyance. In other words, the promises associated with the technology of the Kitchen of the Future reflected design priorities rather than practical labor saving. The Kitchen of the Future promoted interesting, attractive, and marginally convenient features that made cooking more pleasurable in the present rather than enabling women to spend significantly less time in the kitchen.

Likewise, if push-buttons did not actually enhance women’s speed in the kitchen, they symbolized speed themselves. Push-buttons were computers. They were industrial controls and popular science. And they offered a dazzling visual display of *more control*, not just of the food cooking in the oven but of the postwar universe. By looking different,

⁸⁵ Manners, “Kitchen of Future is Any Girl’s Dream.”

these new appliances suggested that the older ones were obsolete, a pattern of planned obsolescence epitomized by the automobile industry in the 1950s and 1960s. In this formulation, new technologies replaced older ones were either designed deliberately to have a short life span (to necessitate future purchases that would replace them) or they were designed in such a way that they become disgracefully unfashionable within a short period of time.⁸⁶

This emphasis on planned obsolescence suggests that kitchen technology might have been a stopgap measure designed to keep women happy while designers developed more substantive changes. As Elaine Tyler May discusses in her study of Cold War American families, the very idea of giving women the opportunity to abandon kitchen labor remained up for debate, even as the national contract of the postwar period promised them this outcome. Through analysis of the Kelly Longitudinal Study (a survey of middle- and upper-class families) May makes clear that Americans in the 1950s “felt a great ambivalence towards women’s employment—a legacy of the depression and the war. On the one hand, it was unfortunate if a wife had to hold a job; on the other hand, it was considered far worse if the family was unable to purchase what they believed to be necessities for the home.”⁸⁷ May’s argument is further supported by contemporary authors and activists associated with second wave feminism. Betty Friedan’s central argument in *The Feminine Mystique*, discussed at greater length in chapter three, advocates for a conception of American womanhood for white women distinct from

⁸⁶ See C. Wright Mills, “The Man in the Middle: The Designer,” in *Power, Politics, and People: The Collected Essays of C. Wright Mills*, ed. Irving Louis Horowitz (New York: Oxford University Press, 1963), 374-86.

⁸⁷ May, *Homeward Bound*, 159.

motherhood and the domestic space.⁸⁸ However, it was never entirely clear that the emancipation of housewives from kitchen labor would actually be a desirable outcome for appliance producers, magazines, or for that matter, family members.

A 1957 *Industrial Design* editorial conveys the degree to which technology was actually explicitly viewed as one solution to the “problem” of what women would do without household labor:

Automatic ranges and one-step washer-dryers leave the housewife with a precious ingredient: time. This has come to be regarded as both her bonus and her right, but not everyone regards it with unqualified enthusiasm. Critics belonging to the woman’s-place-is-in-the-sink school ask cynically what is she free *for*. The bridge table? Afternoon TV? Maybe lonely togetherness of telephone gossip? The analyst’s couch? Maybe. But is this the designer’s problem? Certainly, it is absurd to suggest that he has a moral responsibility *not* to help create leisure time because if he does it is likely to be badly used. More choice in how she spends her time gives the emancipated woman an opportunity to face problems of a larger order than ever before, and this *can* transform her life, even if good design can’t. In any case, the designer does have a responsibility to fill leisure hours, and *any* hours, with objects that are esthetically pleasing.⁸⁹

Significantly, the editorial does not deny that women might not make “good” use of free time yet abdicates responsibility for this potential social problem. Although the passage eventually seems to decide in favor of women’s’ right to benefit from domestic technology—and even hints at the possibility of a “larger order” role for women—it ultimately abandons this possibility and lapses back into the less overtly political terrain of the aesthetic. Although women’s access to emancipatory goods was limited in part by

⁸⁸ See Betty Friedan, *The Feminine Mystique* (New York: W.W. Norton, 1963), Chapter three analyzes *The Feminine Mystique* in detail, to highlight how her argument not only excludes Black women, but further perpetuates destructive narratives about Black motherhood.

⁸⁹ “Materialism, Leisure, and Design,” *Industrial Design* 4.12 (1957): 33-34, cited in Mary Beth Haralovitch, “Sitcoms and Suburbs: Positioning the 1950s Homemaker,” *Quarterly Review of Film and Video* 11 (1989): 61-83.

the fact that the technology was not available then, it was at least as constrained by concerns about what women should do with their time. Against this backdrop, a focus on the aesthetics and gadgetry of design obscured the broader question and controversy surrounding gender roles in postwar America.

Similar themes arise in the narrative of *Design for Dreaming*. When the protagonist and her dashing escort arrive at the Motorama, despite the extremely late hour, they find the showroom furnished and a crowd full of spectators milling around, admiring the new automobiles on display. While exploring the various GM cars, she is interrupted by the magical appearance of a striped apron around her waist and a male voice in the crowd calling “Hey lady! Your apron’s showing!” Her male companion responds by suggesting, “Better get her into the kitchen quick!” carrying her off and depositing her in the Kitchen of the Future. Though she expresses enthusiasm about car ownership, she is less interested in spending time in the kitchen, objecting “Just like a man: You give him a break / And you wind up in a kitchen baking a cake.” Yet she cheers up when, exploring the kitchen’s features, she finds that there is “no need for the bride to feel tragic / The rest is push-button magic.” This is no ordinary kitchen, but rather one that will enable her to be “free to have fun around the clock.” After leaving her cake in the bubble oven and enjoying her day of leisure, the woman returns to the kitchen to find the cake not only baked but also iced and adorned with lit candles; so, she makes a wish and blows out the candles.

Like the kitchens available for purchase in the 1950s and like the automobiles making their debut at the Motorama, the Kitchen of the Future was represented as

offering fun and freedom, and the narrative that GM/Frigidaire establishes seems straightforward enough: Women can look forward to kitchens that minimize work. In presenting images of women partaking in leisurely activities, such as dancing and sports seen in *Design for Dreaming*, this narrative, though, raises the subversive possibility that women will not actually do anything productive with their newfound freedom. If women are not in the kitchen, it suggests, there might be nothing for them to do—nothing worth their doing it—except to enjoy limitless leisure.

Virtually every narrative move after the protagonist tours the Kitchen of the Future and discovers that she is “free to have fun around the clock” is choreographed to balance the promise of total freedom from housework and the transgressive threat of total female unproductivity that accompanies that promise. After the protagonist blows out the candles on her cake, the smoke clears and she finds herself on a stage, where she declares, “Everyone says the future is strange / But I have a feeling some things won’t change!” The camera cuts to a large and appreciative audience, presumably spectators at the Motorama, who have now all gathered into neat rows. The audience begins clapping in rhythmic unison, and the protagonist performs a vampy “Dance of Tomorrow.” By placing the female character on a stage and having her voluntarily and publicly assert her commitment to the status quo, the narrative negates the argument that women would do anything useful with the time saved by kitchens of the future. That this unyielding conformity refers specifically to gender roles is supported by the dance she performs following her assertion, which suggests that if anything does in fact change, women will continue to be subservient to men’s needs. Rather, change would likely be conducive to men’s needs, with wives and mothers becoming more glamorous, more sexualized

creatures, presumably because they are not exhausted by their kitchen labor. For her part, the protagonist is rewarded for her commitment to conservative gender norms by earning the appreciation of the entire body of spectators at the Motorama: no longer milling around like visitors at an exhibit, they have cohered into a public that applauds her actions.

This Dance of Tomorrow is the only scene in the film that is not either a direct sales pitch or immediately and obviously relevant to the narrative of the film. It is the only scene that, on the surface at least, is completely disconnected from the goal of showcasing the Motorama. In fact, the gathering of the audience suggests that the heroine's dance is more interesting than any of the commodities on display and that, far from being gratuitous, the Dance of Tomorrow, framed by the dancer's declaration that certain things won't change, is the main attraction.

The reception of the Kitchen of the Future on display further illustrates these tensions at the heart of Frigidaire's project. Emphasizing an adventurous vision of the kitchen, one reviewer suggested that "as a woman charts her course around this kitchen [for] the first time, she will probably feel like explorer Magellan."⁹⁰ "What fun!" she concluded with enthusiasm. In finding the fun of the kitchen, this observation bolsters Frigidaire's claims to promote leisure through labor-saving devices. Yet, the film models how kitchen labor, aided by futuristic technology, can be fun, leisurely and not at laborious. Not all visitors were convinced. Women editors who saw the exhibit before its official opening "unanimously applauded the scientific research which made possible

⁹⁰ Marilyn Hoffman, "Now the Cook Needn't Even Think!" *The Christian Science Monitor*, January 25, 1956, 6.

ultrasonic dishwashers and rotating refrigerators. But they agreed that it was more of a laboratory than a happy place to make cookies[.]”⁹¹ Ultimately, this display of labor in the guise of leisure defined the relationship between the housewife and technology in the kitchen, and in society, as one where the promise of progress paradoxically fortifies an oppressive social order.

Electronic Servants and the Dehumanization of Labor

If examining the Kitchen of the Future leaves opens up the question of whether the relationship between women and technology was fundamentally friendly or antagonistic, representations and narratives derived from science-fiction offer more of insights. In spite of its interest in the relationship between humans and technology, science-fiction has been virtually silent on the subject of how food preparation is supposed to be accomplished in the distant future. When it appears at all, food tends to emerge fully formed from a wall or in the form of nutrition pills, sticks, or bars. In other words, food in these versions of the future is prepared by no one.

When futuristic projections of food preparation do address the question of who or what will do the work contemporarily performed by women, they tend to use two main models: the condensation of the technology into a single figure, the robot-maid; or the penetration of the technology into the surfaces of the kitchen, that is, the advancement of appliances so that they take over virtually every aspect of cooking. Both take recognizable form in *The Jetsons* (dir. Joseph Barbera, William Hannah, and Charles

⁹¹ Curtis, “Buttons Control Kitchen of Future.”

Nichols), the cartoon series that ran for a single season in 1962-63 and lived on for generations through syndication.

From the outset we learn precisely how difficult the people of the future have it, as the series took every opportunity to point out the pitfalls of reliance on technology. The Jetsons are presented as an average American cartoon family living in the twenty-first century. The future turns out to be a space-odyssey version of Levittown, as the creators incorporated elements of science fiction to present a heightened and fantastic version of suburban life. As with the Frigidaire Kitchen of the Future, there's perhaps nothing more Jetsonian than the push-button. Jane Jetson pushes buttons—similar to those designed for the Kitchen of the Future—to make dinner, to clean the home, and even to wake up her husband George. The running gag throughout the entire series is that the only thing George does all day at work is push a button.

Yet, while the Frigidaire Kitchen of the Future claimed push-button technology as positive and progressive, *The Jetsons* presents a more antagonistic and cynical view of human dependency on technology in the future. Notably, the first few episodes revolve around the failure and subsequent replacement of new technology with human labor. In the pilot, titled "Rosey the Robot," the family's push-button automatic meal maker—called the Foodarackasackle—constantly produces the wrong food, overcooks or undercooks the food it does make, and then finally explodes. By the second episode, an automatic meal maker operated by a punch-card of the type used by IBM to program old mainframes sends a pizza flying across the room, and in the third episode, a push-button breakfast bar produces uncooked frozen food. Overwhelmed by the malfunctions of the

Foodarackasackle and too many buttons, Jane wants a robot maid. Early on then, these narratives establish Rosey, the family's new robot maid complete with a vaguely working-class accent, as a simpler substitute for other cutting-edge technologies (Figure 2.20).⁹² The mere fact that Rosey is referred to with the female pronoun "she" rather than "it" speaks to what she represented. Rosey is high-tech, but she's also fallible—the humanoid robot helpers of our future, imperfect as we are and will be.

Perhaps not surprisingly, tales of technology's fallibility dotted write-ups about the Kitchen of the Future. Some stories projected relatively benign accidents to come, warning that the "that index finger will have to rest on the right button at the right time or refrigerators will go up like elevators and washing machines will start sudsing when you don't want them to."⁹³ Others critics took a more foreboding tone, as in this anecdote from the *Washington Post*, which warns of the threat of the new domestic technologies to children:

"A Frigidaire official who brushed against a marble slab stove that cooks by magnetic waves in the shiny gray, black, and white kitchen exhibit accidentally started the stove heating and the glass bubble over rolling. Everything had a safety device, he explained hastily, so that if your child crawled into that mechanism he wouldn't be crushed to death—just scared to death."⁹⁴

⁹² Readings of Rosey's race and ethnicity vary, with ambiguity being the only consensus. Laura Halliday interprets Rosey as working class and "vaguely white-ethnic," the abstraction of the maid to a racially "unmarked" category was essential in a science-fiction discourse that openly fantasized about robotic servants/slaves. Yet, the genre's fascination of robotic servants/slaves cannot be disassociated from the actual historical conditions in the US that produced Black Americans as slaves, and then, later as significantly more likely to be domestic workers. In this way, it is equally reasonable to view Rosey as implicitly Black. See Laura Scott Halliday, "Kitchen Technologies," *Camera Obscura* 47 (2001): 79-131.

⁹³ Curtis, "Buttons Control Kitchen of Future."

⁹⁴ Curtis, "Buttons Control Kitchen of Future."

Regardless of the safety features, several of the women editors who visited the Kitchen of the Future pronounced with alarm: ‘You can’t let a child loose in a place like that!’⁹⁵

The Jetsons, whose slapstick humor relies on all kinds of technological mishaps, distills many of the constructions of futuristic kitchens circulating during the postwar period: kitchen technology is awe-inspiring but also playful; automation is central to the coding of technological progress; the relationship between women and the kitchen is an complicated one; and the question of whether such a techno-kitchen is desirable is left unanswered. Of course, the fact that people of the year 2062 are living in the lap of luxury with their robots and push-buttons was intended as a joke, but it was also a subtle jab to those viewers at home who might complain about how difficult life is when all the modern conveniences of 1962 were at their disposal. In doing so, the show also presents families of the future, with their quotidian struggles, as not so different from contemporary audiences, contributing to a vision of progress that conformed to and reinforced the present.

It is not a coincidence that even in the future, the maid—either human or robot—emerges as the only figure who can function comfortably in the kitchen. The robot, especially in the popular imagination, is a machine that mimics human appearance and behavior. Since the 1920s, robots have functioned in popular culture in a variety of ways.⁹⁶ As the tireless, even slavish machine—like Rosey—it is an apt icon of automation. In other words, the robot encapsulates the promises of technological progress

⁹⁵ Curtis, “Buttons Control Kitchen of Future.”

⁹⁶ The word “robot” was first used in 1921 by Czech playwright Karel Čapek in his expressionistic R.U.R. (Rossum’s Universal Robots). See Joseph J. Corn and Brian Horrigan, *Yesterday’s Tomorrows: Past Visions of the American Future* (Baltimore: Johns Hopkins University Press, 1984), 74.

because it signaled the possible transcendence of human labor. Correspondingly, it can also be expressive of the fears and expectations about future relationships between humans and technology. In this way, the robot offers a human-shaped metaphor for dehumanizing modern conditions. Historically, robots have symbolized the rise of the machine and its replacement of workers; the alienation of humans from their work and from society in general; and the loss of control over the future. While this conception remained pervasive, by the end of the 1930s, basically benign, humanoid robots had begun to make appearances at World's Fairs and industrial expositions.

The emergence of electric appliances during the first half of the twentieth century is correlated in complex ways with the gradual disappearance of domestic servants.⁹⁷ Historians, most notably Ruth Schwartz Cowan, have variously argued that the appliance industry became financially viable because shortages of "good help" necessitated turning to "electronic servants" and that, on the contrary, owning appliances became one way to compete for good maids as they became increasingly hard to find or keep.⁹⁸ Magazines, too, refer constantly to appliances as "electronic servants," and article after article is devoted to the topic of appliances' superiority over their paid, human equivalents, how appliances can be used most efficiently so that they function as servants, and so on. When asked how they felt about appliances, for example, two delegates to *McCall's* first

⁹⁷ The numbers of servants in households in 1940 varied strongly by region. In 1940 in the Northeast, there were 73 servants per 1,000; in north central states, 53.1 servants per 1,000 families; in the West, 49.2 servants per 1,000 households; and in the South 105.5 servants for every 1,000 households. In other words, in the South there was a servant for every ten families; in the Northeast, one for every fourteen; and elsewhere one for every twenty. According to the National Bureau of Economic Research study published in 1946, "Since Negroes and immigrants have supplied a majority of servants, high levels in the South along the eastern seaboard are to be expected." In any case, as has been discussed, the work that had to be done by housewives themselves increased, and by 1950, middle-class white women had lost her servants and the working-class white women had houses of their own to look after. See Sharpless, *Cooking in Other Women's Kitchens*.

⁹⁸ See Cowan, *More Work for Mother*, especially 119-127. And Penny Sparke, *Electrical Appliances*.

Congress on Better Living in 1958 responded “I’d choose an appliance over a maid any time; you *know* when your appliance isn’t working” and “Appliances are people to me.”⁹⁹

The conversation around technological progress and domestic labor also had a racial dimension, as the majority of those disappearing domestic servants were women of color.¹⁰⁰ Discrimination on the job and education fronts had historically relegated Black American women to domestic servant roles in white-own houses—an occupation that most Black people considered a low-paid extension of slavery. Columnist Marjorie McKenzie asserted in the Black newspaper the *Pittsburgh Courier* that the high degree of automation planned for the “world of tomorrow” would clearly make the Black woman an obsolete fixture in white family households: “It is not necessary to sacrifice Negro women workers to the maintenance of American homes. American ingenuity is already at work developing commercial cleaning, cooking, and laundry services which will be cheaper and more efficient than the efforts of unwilling household drudges.”¹⁰¹

This discourse suggested that the disappearing maid reemerged in electronic form as new kitchen technologies, but the story is not so simple. The complex and uneasy triangulation between the maid disappearing from the mid-twentieth century domestic landscape, the dream of emancipation represented by futuristic kitchens and their technological amenities, and the homemaking women whose loss of the maid was supposed to be more than compensated for by these new technologies is symptomatic of a

⁹⁹ “100 Housewives Speak Their Minds,” *McCall’s*, March 1958, 139-144.

¹⁰⁰ In 1940, one out of every five working women — two million in all — was a servant and amongst the lowest paid of workers. Half of these women were Black or Hispanic. See Alice Kessler-Harris, *Out of Work: A History of Wage-Earning Women in the United States* (New York: Oxford University Press, 1982), 270.

¹⁰¹ Marjorie McKenzie, “Pursuit of Democracy” *Pittsburgh Courier* (8 September 1945): 7.

profoundly complicated relationship between gender, race, and technology in the midcentury popular imagination. The space of the kitchen was thus an ideologically charged field in which so-called technological progress played a powerful role in shaping and negotiating appropriate versions of feminine and racialized subjectivity.

The complex relationship between figures of women, race, and technology has deep roots; constructions of technology work alongside and through constructions of gender, race, and sexuality. The “feminine principle” has long been coded in Western cultures as natural, with science and technology aligned with the “masculine.”¹⁰² However, as Andreas Huyssen observes in “The Vamp and the Machine,” in the throes of industrialization, as technology began to be seen as more of a threat to human life, it began to connote the feminine. “Woman, nature, machine [became] a mesh of significations which all had one thing in common: otherness,” Huyssen writes. “By their very existence they raised fears and threatened male authority and control.”¹⁰³ Huyssen’s account suggests the contradictory and complexly gendered status of technology within human culture: on the one hand, a masculine-coded view of technology could represent humanity’s ultimate control over the universe; on the other hand, technology became increasingly associated with the feminine as it came to represent a potential threat to that control. The possibility that machines had or could surpass human control and demanded the reassertion of masculine authority. In the postwar United States, this dual alignment is

¹⁰² For examples and analysis of this trend see Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 2015); Hennefeld, *Specters of Slapstick and Silent Film Comediennes*; Elizabeth Nathanson, *Television and Postfeminist Housekeeping: No Time for Mother* (New York: Routledge, 2013); North, *Machine Age Comedy*; Robin Schuldenfrei, ed. *Atomic Dwelling: Anxiety, Domesticity, and Postwar Architecture* (New York: Routledge, 2012).

¹⁰³ Andreas Huyssen, “The Vamp and the Machine,” in *After the Great Divide: Modernism, Mass Culture, and Postmodernism* (Bloomington: University of Indiana Press, 1986), 70. Huyssen, writing in the 1980s, does not extend this analysis to a racial reading of otherness, which I intended to develop in revisions.

complicated by the presence of new domestic technologies and the conceptual bifurcation of future-oriented technology into at least two levels: the epic scale of nuclear-age technologies like those related to the Cold War and the space race, with all their simultaneously utopian and dystopian potential; and the more quotidian but equally profound transformation of everyday life by automobiles, televisions, and kitchens.

Representations of women played a critical role, though complex and contradictory, in staving off the danger of machines untethered from human life. Because they were aligned with the domestic sphere and the loving, nurturing, and natural qualities of the home, they could be called upon symbolically to mitigate the external threat of technology, to protect or compensate postwar America from the foreboding threat of nuclear war. Imagining women's kitchen labor as occurring in rooms filled with humming high-tech machines undermined this function. At the same time, images of technology in the home could be used to bolster the traditional power of the domestic sphere, particularly in an era in which technological progress seemed to offer cures for all the world's ills, including sickness, hunger, deprivation, and even labor. Domestic technologies touted as lightening women's workloads perfectly expressed the world-taming and securitizing potential of technology.

These inconsistencies and divergent representations raise a number of questions about the status of women, their labor, and the ideological force of technological change. Could femininity be harnessed by technology to promote a safe and mundane version of itself as a tool supportive of daily life? To what extent did this view of technology depend on a classed, raced, and gendered notion of the appliance as, not just an "electronic

servant,” but an electronic maid? Were the female supervisors of these electronic servants now to be understood as operating comfortably in a room full of machines? Or was technology still a fundamentally masculine force that was now available to serve women, but whose machinic qualities were to be downplayed in order to retain the image of women as organic creatures serving the bodily needs of their families?

Ultimately, the feminization of technology within the discourse of the kitchen of the future remained tethered to women’s subjection to the extent that it resisted the notion of women freed from their domestic duties. Indeed, one could reverse the roles between women and appliances, where women shift from being the controllers of the space to being the servants of the machines that are supposed to serve them. Technologies—gadgets, push-buttons, and robots—stand in as placeholders for social change. But their continuous gestures toward a future, in which women could transcend kitchen labor through the help of streamlined tools and technological gadgets, were useless as long as the terms of women’s liberation, as outlined by Ruth Feldstein in her study of race and American motherhood, remained circumscribed within their roles as wives and mothers.¹⁰⁴

The thematization of this message continues throughout *Design for Dreaming*: a liberatory future for women is predicted and then retracted or, more accurately, rerouted into glamour and sexual desirability. At the end of the film, she and her male companion drive off into the future in their Firebird II prototype car over the techno-utopian Highway of Tomorrow singing,

¹⁰⁴ See Ruth Feldstein, *Motherhood in Black and White: Race and Sex in American Liberalism, 1930-1965* (Ithaca, NY: Cornell University Press, 2000). For more detailed discussion of postwar motherhood in relation to the kitchen see chapter three. For period discussion, see Friedan, *The Feminine Mystique*.

Tomorrow, tomorrow
our dreams will come true.
Together, together,
we'll make the world new...
But our love will not change, dear,
it will be like a star burning bright
lighting our way
when tomorrow is today!

The film needs to reclaim the wonders of the future, and to do so it explicitly places the woman into a couple (though now outside of the domestic sphere), while the song the couple sings reiterates the insistence that things will not change, this time through the language of love, which reasserts the symmetry of gender roles in a context safely removed from the liberatory vision of the kitchen. Here, the film establishes a consonance between the romance of the kitchen and the possibility of escaping from it. This consonance, in turn, covers over the fact that romance itself, which tends to exert a conservative ideological pull, in this narrative seems to have become the only thing capable of keeping the woman in the kitchen. This sense of a future without change is the reigning paradox at the heart kitchen technology. The promotional discourses of companies like GM and Frigidaire take this one step further, implying that utopia is in fact that which is completely familiar, a constant procession of the technologically enhanced “‘same.’”

The Carousel of Progress

The concept of a future without change is also the prevailing theme of Disney's Carousel of Progress, illustrated both in its messaging and its design. Part-theatrical performance, part amusement park ride, the Carousel of Progress was created in collaboration with General Electric for the 1964 World's Fair in New York. Throughout the performance, the audience section of the carousel rotates around a central axis to reveal a new stage with each scene and decade (Figure 2.1). As the ride's narrator makes clear, this is no ordinary carousel: most carousels just go around and around without getting anywhere...on this one, at every turn, we'll be making progress."¹⁰⁵ Despite its attempt to simulate progress, the circularity of the ride and the vigorous control of the audience experience operate as an apt metaphor for the paradox of progress in kitchens of the future. Though it is obscured by the form of the show, there is no future here.

At the end of the fair, the Carousel of Progress was relocated to Tomorrowland, the themed section of Disneyland with attractions that depict views of the future. When positioned among these futuristic visions, the Carousel of Progress presents a nostalgic vision of the past that makes the paradox of progress even more explicit. Further, the combination of robotic auto-animatronic figures and enormous theatrical displays offer an illustration of technological prowess as substitute for envisioning the future of domestic technologies.¹⁰⁶ In "Mickey Mouse History: Portraying the Past at Disney World," Mike Wallace offers the following logic of temporal progression at Disney World: "History was made by inventors and businessmen; the corporations are legatees

¹⁰⁵ Quoted in Bierman, "The Robot Dramas," 224.

¹⁰⁶ More than one observer has noted the play's similarities to Thornton Wilder's *Our Town* (1938).

of such a past...this pedigree allows them to run Tomorrow.”¹⁰⁷ This retrospective in Tomorrowland is also what enables Disney and GE to suppress the potential controversy of “the woman question”—what will Mother do with her time—because, in fact Mother is already as liberated as she will ever get.

In the postwar period, exhibitionism seen through Disney, World’s Fairs and Expositions, and Kitchens of the Future displays were mechanisms for discerning connections between disparate items, places for framing world views, and celebrations of existing order of things in the guise of escape from them.¹⁰⁸ They worked to suture corporatism and consumption, technological progress at the expense of other kinds of progress, and nationalism clearly coded as anti-communism, democracy, freedom as enabled by emancipatory consumer goods, into a hegemonic vision of the “American Way of Life.” In a fairly literal sense, domestic appliances did represent the American lifestyle—in the 1950s, 75 percent of appliances sold worldwide were consumed in the United States.¹⁰⁹ At mid-century, U.S.-produced domestic technologies were usurping the central exhibitionist status formerly occupied by European colonies at the turn of the century, a correspondence that, taken at face value, suggests that the U.S. public propaganda was offering it for display and ideological sale. Through Kitchens of the Future, companies did not just claim ownership of the future; they could become emissaries of that future.

¹⁰⁷ Wallace, “Mickey Mouse History,” 47.

¹⁰⁸ Steven Rugare, “The Advent of America at EPCOT Center,” in *Cartographies: Poststructuralism and the Mapping of Bodies and Spaces*, ed. Rosalyn Diprose and Robyn Ferrel (Sydney: Allen & Unwin, 1991).

¹⁰⁹ Marling, *As Seen on TV*, 255.

Meanwhile, housewives of the future, the apparent beneficiaries of this American-style progress, were often represented at these exhibitions by actresses paid to hover among the futuristic appliances, not really doing nothing, but not doing anything either. Like Woman in *Design for Dreaming*, they open doors, maybe poured beverages, and pushed buttons. In the fantasy materialization of the promises of tomorrow's kitchen, these hovering women suggest that progressive approaches to technology would leave women with less to do, with the freedom enabled by "emancipatory consumer goods." Yet the conservative approaches to women's social roles will leave them with nowhere to go.

CHAPTER 3

The Open Kitchen: Framing Freedom in the Case Study House Program

“It’s like those houses in California,” promised then Vice President Richard Nixon as he ushered Soviet Premier Nikita Khrushchev toward the General Electric Kitchen on display at the American National Exhibition in Moscow in July 1959, promoting a vision of American exceptionalism that thrived in the sunny state on the west coast. Some of the most well-known, oft-photographed, and widely-published of “those houses” were designed as part of the Case Study House program in Southern California. Launched in January 1945 by John Entenza, who sponsored the initiative from his position as editor-in-chief of the Los Angeles based magazine *Arts & Architecture*, the Case Study program asked architects to envision new modes of modern living born both of the growing post-World War II housing boom and the assumption (or fear, as architectural historian and Case Study House chronicler Esther McCoy called it) that postwar architecture would return to its eclectic rut.¹ The program also sought to provide a forum for talented architects and designers, reasoning that their work would be best served by showing it in the context of furniture, floor coverings, lamps, textiles, and pots and pans. Thus, the mechanical systems were on the cutting edge and the kitchens fitted with the best of new designs in ranges and refrigerators. As McCoy would later report, in

¹ Esther McCoy, “Arts & Architecture: Case Study Houses,” in *Blueprints for Modern Living: History and Legacy of the Case Study Houses*, ed. Elizabeth A.T. Smith (Los Angeles: Museum of Contemporary Art, Los Angeles; Cambridge, MA: MIT Press, 1989), 27.

many respects the “popularity of the program exceeded all expectations. The first six houses to be opened (built between 1946 and 1949) received 368,554 visitors.”²

Entenza’s pitch for the program was threefold, confidently promising to deliver a world free from old domestic stereotypes: socially innovative because the houses would be suited to modern lifestyles; technically innovative because new approaches to construction techniques would be considered and new materials developed in wartime would be used; and aesthetically innovative, because the houses would be by distinguished modern designers including Richard Neutra, Charles and Ray Eames, and Pierre Koenig. Whereas the kitchens and houses of tomorrow, discussed in the previous chapter, paradoxically promised that technological innovations would offer labor-saving to housewives, the Case Study program made no such commitments to women despite the progressive ideology of the program and its participants. Rather, new technology was positioned to enhance structure and deliver on the aesthetic innovations. All thirty-six of the Case Study House designers were featured in the magazine between 1945 and 1966, though only twenty-four were built. As a whole, the program embodied the postwar period’s optimistic faith in the ability of modern design to shape human experience toward the creation of a better world, however unfounded and perhaps tyrannical that crusade appears in retrospect.

Examining the kitchens of these Case Study Houses makes clear the extent to which the concept and culture of openness, in particular, by way of the open plan, was a determining factor in the design of the American home in the mid-twentieth century.

² McCoy, “Arts & Architecture: Case Study Houses,” 16.

Such analysis also helps to clarify how these concepts link to the formation of personal and family identities, as questions about how openness was defined, for whom, and on whose terms also make evident that race too, was an equally significant factor in postwar domestic architecture. Openness, like race, is historically contingent and culturally constructed.³ Openness in architecture has not been universally prized, and attitudes towards it have varied historically and geographically. But in the United States, specifically in Southern California, after 1945, concerns regarding the cultivation and maintenance of openness became an increasingly pervasive theme in literature on house design and construction. Books and magazine articles, whether aimed at the middle majority or audiences who could afford custom houses designed by architects, repeatedly emphasized the need for open space through designs that would simultaneously adhere to architectural modernism's various aesthetic and stylistic imperatives.

Like images of whiteness, (as they connect to sanitary and tidy environments analyzed in previous chapters) openness—as a term applied to both architectural space and the human condition—was a rhetorical device, and a strategy for articulating and asserting specific values that were linked to gender, class, and racial identities. The varied mechanisms for attaining and maintaining openness, alongside the corollary concept of freedom, “define the limits and boundaries of the self” as David Sibley has argued, and thus are key to understanding identity formation within the kitchen and the home more

³ For study of “spaciousness” as historically contingent concept, see Sandy Isenstadt, *The Modern American House: Spaciousness and Middle-Class Identity* (Cambridge: Cambridge University Press, 2006). For more on “spaciousness” as racially constructed concept see Diane Harris, *Little White Houses: How the Postwar Home Constructed Race in America* (Minneapolis: University of Minnesota Press, 2013).

broadly.⁴ In order to develop a richer discourse on the open kitchen, this chapter situates the kitchen in the larger context of the home, using it as a jumping off point for a wide-ranging discussion of the deeply racialized Case Study House program, the open plan, and the construction and legacy of mid-century modernism. Through this balance of the kitchen and the overall house program, this chapter also offers a more nuanced discussion of the racialized contradictions of openness and the gendered gap between the representations and realities of a “modern” lifestyle.

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While based in Los Angeles and shaped by the ideals and realities of Southern California, the Case Study program was not restricted to either for its significance. Through the program Entenza sought, rather, to open up the question of postwar domestic design and lifestyle from a national, even international, perspective. As Reyner Banham contended in his 1971 study *Los Angeles: The Architecture of Four Ecologies*, “The Program, the magazine, Entenza, and a handful of architects really made it appear that Los Angeles was about to contribute to the world not merely odd works of architectural genius but a whole consistent style.”⁵ Still, it would be false to the history of the program to detach it completely from its immediate environment. Entenza and *Arts & Architecture* were located in Los Angeles, where progressive design thinking of the period was flourishing. At least half of the Case Study architects also had practices based in the city, with the other half spread loosely around Southern California.

⁴ David Sibley, *Geographies of Exclusion: Society and Difference in the West* (New York: Routledge, 1995), 94.

⁵ Reyner Banham, *Los Angeles: The Architecture of Four Ecologies* (Harmondsworth, England: Penguin Books, 1971), 225.

At its core, the Case Study program was fundamentally a way of looking at the future. This future-oriented thinking was invoked in the program's locale, a region that made the future happen through utopian planning and anticipatory exercises in prophetic development. California's futurism was also marketed very effectively by advertising in the postwar period, cultivating an aura of progress and progressivism beyond the state. For example, the Toledo-based Libbey-Owens-Ford (L-O-F) sold its Thermopane glass across the nation by matching representations of California houses with the idealistic maxim of an "open world" (Figure 3.1). "For OPEN WORLD living at its best...a sunny climate and L-O-F Glass," read one advertisement, accompanied by a diagram illustrating the varying amounts of sun exposure in different L-O-F products.⁶ The campaign centered on an "open world" clearly resonated with a sense of universalism woven into American culture as the postwar era bled into the Cold War period, from Edward Steichen's *Family of Man* exhibition developed at the Museum of Modern Art in 1955, to the "It's a Small World" attraction at Disneyland that originated at the 1964 World's Fair in New York.⁷

Propagandists of the modern house, too, spoke often of openness in relation to freedom, drawing poignant connections between design and the values associated with the recent war efforts. In September 1945, just a few months after the Case Study program launched, architectural historian Talbot Hamlin told *House & Garden* readers

⁶ Libbey-Owens-Ford advertisement feature Thornton Abell House, published in *American Home*, May 1963, 103. For study of relationship between architecture, energy and climate, see Daniel Barber, *A House in the Sun: Modern Architecture and Solar Energy in the Cold War* (Oxford: Oxford University Press, 2016).

⁷ For recent analysis on *Family of Man*, see Fred Turner "The Family of Man and the Politics of Attention Cold War America," *Public Culture* 24, issue 1(2012).

that modern architecture is part of a “continuing struggle for growing liberty.”⁸ Hamlin avoided the traditional cozy imagery of hearth and home in his language, seemingly convinced that if soldiers returned to old-fashioned houses with enclosed rooms, the fight would have been as good as lost. Designers George Nelson and Henry Wright expressed a similar sentiment in their 1945 book *Tomorrow’s House: How to Plan Your Postwar House Now*. “Where people were afraid of freedom, they try to give up,” they wrote. “What is a house...It is a perfect mirror of a society most of whose members are afraid of acting like individuals.”⁹ The authors argued that only through open-mindedness, and open planning, in the design of American houses could the ideals for which the war had been fought be fulfilled. Elizabeth Mock, curator of architecture at the Museum of Modern Art (MoMA), writing a year later, was more aware of the kinds of restrictions and high prices likely in the immediate postwar period, so she framed her argument for modernism on economy and liberty. “Therefore you will do well to recognize the fact that only the modern architecture is *free* to use every inch of space to your greatest advantage, *free* to use new and more efficient materials and structural techniques, and *free* to give you at least the feeling of spaciousness if the actuality is unattainable.”¹⁰

Architects, too, found ways to express the idea of the freedom of an open world in their work. Cliff May, based in Los Angeles, developed an affordable house model called the “Carefree Californian,” a variation on his basic ranch house, melding modern and traditional, like a mix of Tomorrowland and Frontierland, theme areas of Disneyland in 1955. This combination spoke to a persistent impulse in California culture of the period,

⁸ Quoted in Thomas Hine, “The Search for the Postwar House,” in *Blueprints for Modern Living*, 167.

⁹ George Nelson and Henry Wright, *Tomorrow’s House: House to Plan Your Postwar House Now* (New York: Simon & Schuster, 1945), 6.

¹⁰ Elizabeth Mock, *If You Want to Build a House* (New York: The Museum of Modern Art, 1946), 9.

and accordingly May advertised the houses by tying the design to the interlocking ideas of security, individualism, and freedom in its design.¹¹ The promotion of Eichler Homes—which, like Cliff May Homes, extended the comforts of a private, leisure-filled, indoor/outdoor lifestyle to a new class through the economies gained by building from a designer’s standard kit of parts—also encapsulated the push toward an open world and an open society. As desegregation became slowly more acceptable, Eichler positioned its neighborhoods as a model of social and racial harmony.¹² Perhaps no architect was more vocal than Gregory Ain about flexibility, a condition of open planning, and freedom as ethical values, not just formal strategies. In his essay “The Flexible Houses Faces Reality,” Ain drew a clear association between the freedom of postwar living and the value of spatial flexibility. “As people’s lives become freer,” he declared, “their homes must provide opportunities for greater enjoyment of the freedom.”¹³ In effect, Ain argued for imbuing flexible architectural elements such as a sliding wall, lightweight furniture, and the open plan with symbolic meaning as representations of a new social order. Adopting such a rhetoric allowed Ain to challenge the notion that modern housing was in any way unpatriotic. In the face of prominent sentiment that equated modernism with communism (discussed in depth later in this chapter), Ain’s rhetorical connection between patriotism and modernism is all the more significant.

¹¹ See Nicholas Olsberg and Jocelyn Gibbs, *Carefree California: Cliff May and the Romance of the Ranch* (New York: Rizzoli, 2012).

¹² For more on Eichler see Paul Adamson, *California Modernism and the Eichler Homes* (Salt Lake City: Gibbs Smith, 2002); Dianne Harris, ed. *The Second Suburb: Levittown, Pennsylvania* (Pittsburgh: University of Pittsburgh Press, 2010); and Annmarie Adams, “The Eichler Home: Intention and Experience in Postwar Suburbia,” *Perspectives in Vernacular Architecture* 5 (1995).

¹³ Gregory Ain, “The Flexible House Faces Reality,” *Los Angeles Times Home Magazine* (April 15, 1951): 5.

Forming Freedom in the Open Plan

With the near ubiquitous use of the open plan, the Case Study Houses similarly captured this ideology of openness, dwelling on the freedom of movement they allowed. One of modernism's most striking inventions, the "open plan" is itself wide open to interpretation. In its most elemental form—and in the context of domestic architecture—the term connotes a space free of barriers such as walls and doors, suggesting a continuous rather than cellular composition.¹⁴ Through this elimination of interior walls, open plans were intended to increase physical and visual mobility between spaces, thereby increasing living space and freedom of movement for inhabitants. Expressed conservatively, an open plan arrangement can simply mean implementing a passthrough connecting a kitchen to the living and/or dining areas of the house. Designers who more fully embraced the concept eliminated practically all walls or partitions such that the public (and sometimes even more private) spaces of the home were open to each other, perhaps most famously and radically articulated in Ludwig Mies van der Rohe's Farnsworth House in Plano, Illinois (1945-1951) or Philip Johnson's Glass House in New Canaan, Connecticut (1949) (Figures 3.2 and 3.3).

The open plan concept took on different form and meaning in different historical and geographic contexts, though it almost always implicated the kitchen spatially. Though closely associated with architectural modernism, the open plan is not strictly a twentieth century invention. For example, in his seminal study of the shingle style, architectural historian Vincent Scully outlined a distinctive style of domestic architecture

¹⁴ Here, I am referring to the open floor plan in domestic, or residential architecture. For study of the open plan in office setting, see Nikil Saval, *Cubed: A Secret History of the Workplace* (New York: Knopf Doubleday Publishing Group, 2014).

in the United States in the mid-nineteenth century marked by a freer, more open use of interior space and blurred distinctions formerly drawn strictly between public rooms of the house.¹⁵ The open plan also evolved in middle-class American suburbs of the later-nineteenth century; these houses required fewer interior partition walls and were much less costly to build.¹⁶ Larger spaces replaced the older pattern of smaller rooms with precisely identified functions, creating open areas for many activities of everyday life. In some instances, walls came down, in others, walls shrunk to archways—often filled with glass or sliding doors—that retained the symbolism of a room’s function while permitting more flexibility. Similarly, in inexpensive houses, merging dining activity with food preparation spaces could save money, so the kitchen became the location for serving as well as cooking meals. For example, a 1905 issue of *Craftsman* counseled the practicality of combining dining and kitchen functions, particularly in households without servants. Because modern kitchen appliances and plumbing are so easy to keep clean, they

¹⁵ It is worth noting that Scully argues that Wright adopted and manipulated the openness of the Shingle Style open plan. Vincent Scully, *The Single Style: Architectural Theory and Design from Richardson to the Origins of Wright* (New Haven: Yale University Press, 1955).

¹⁶ For the purposes of my study, I focus on single-family houses and the change in spatial arrangement within this typology of domestic architecture. Combining eating and cooking in one room also had a history in multiunit dwellings. Apartments usually had smaller spaces than freestanding houses, so designers had to be inventive with space-saving strategies. Small kitchenettes became popular in apartment hotels and efficiency apartments of the 1910s and 1920s. They had small dimensions and reduced counter space but still supplied a full sink and refrigerator, and a stove, hotplate, or warming oven. Small kitchen/dining arrangements, used in New York apartment buildings of the 1920s, placed dining at one end and cooking at the other of a single small room. See Paul Groth, *Living Downtown: The History of Residential Hotels in the United States* (Berkeley, CA: University of California Press, 1994), 84-5; Peter Ward, *History of Domestic Space: Privacy and the Canadian Home* (Vancouver: University of British Columbia Press, 1999), 97. Margaret Marsh also makes this point in her discussion of opening up the floor plans in Victorian homes in the United States. See March, “From Separation to Togetherness: The Social Construction of Domestic Space in American Suburbs, 1840-1915,” *Journal of American History* 76, issue 2 (1989): 517-8, 522, 524.

suggested a recess at one end of a kitchen “may well serve as the most comfortable and homelike dining room.”¹⁷

Separate from the plan, “open” also implied a spatial effect in the United States, connoting a perceptual result more than a formal possibility. To the extent that open plans promised spaciousness, rather than demonstrated the independence of plan from structure, they were conflated with other elements making similar claims. The commingling of terms, particularly open plan and glass walls and their mutual reinforcement of a sense of space were part of their appeal. Although some nineteenth century architectural precedents worked to open the living room and parlor to a greater degree, and/or created opportunities for more flexibility in the plan (e.g., through the use of sliding pocket doors), they were not associated with the kind of openness that would be implemented beginning in the twentieth century by architects such as Frank Lloyd Wright, Mies van der Rohe, and Le Corbusier.¹⁸

The desirability of the open plan, according to its proponents, was that it facilitated modern living by allowing multipurpose spatial definition and freedom of movement and view.¹⁹ Houses divided into warrens of small rooms lacking sunlight recalled tenements and old crowded apartments. By erasing the architectural barriers between spaces inside the house, architects and merchant builders transformed some of the living conditions for the family members, largely women, who inhabited those

¹⁷ “The Dining Room as a Center of Hospitality and Good Cheer,” *Craftsman* 9 (November 1905): 229-36.

¹⁸ In Le Corbusier’s conception the *plan libre*, or free plan, described the relationship between structure and interior space. Le Corbusier demonstrated this, in part, by varying plans from one floor to another in the same building, as he did in the 1928-1930 Villa Savoye. See Max Risselada, “Free Plan versus Free Façade,” *Raumplan Versus Plan Libre* (New York: Rizzoli, 1988), 55-64.

¹⁹ For more on open plan in relation to “views” see Isenstadt *The Modern American House*.

spaces, such that the open plan became a controversial design component.²⁰ Although most Americans never fully embraced the open plan in its fullest expressions, the majority of tastemakers, including Entenza and his cohort of architects, in the postwar era insisted on its superiority. All the design literature that recommended custom-designed houses and the use of a licensed architect advocated the open plan as stylish, efficient, light-filled, modern, and liberating—words that architecture and landscape historian Dianne Harris has clarified helped to form the lexical parameters for the accepted domestic tastes of the white, American middle-class majority.²¹

As floorplans changed even more emphatically to open up movement and visibility among various realms within the home, kitchens increasingly became the core of the home, particularly as few middle-class houses included a separate dining room. Having pioneered open plan kitchens at the turn-of-the-century, one of the signature features of Wright's Usonian plans of the interwar and post-World War II period, was the elimination of a separate dining room in favor of using one end of the living room for family meals, opening the kitchen to the main living space (Figure 3.4). As was increasingly common in the 1930s and 1940s, Usonian houses, such as Willey House in Minneapolis (1934), were arranged for servant-less living and designed to integrate the housewife into the social life of the home, even while she prepared meals in her "work room." Of the merger of kitchen and living room in Usonian houses, Wright reflected that this arrangement enabled the kind of family relationships from back in "the farm days

²⁰ For more on the "fraught" nature of the open plan see Harris, "Private Worlds: The Spatial Contours of Exclusion and Privilege," in *Little White Houses*, for her discussion of privacy and family friction.

²¹ Harris, *Little White Houses*, 83-110.

when there was but one big living room, a stove in it, and Ma was there cooking.”²² In a taped 1957 interview about Usonian designs, he further claimed, “We did a great deal in the open plan when we took the hostess out of the kitchen and made her attractive as a hostess. She was no longer a cook in the kitchen; we made her a feature of her establishment.”²³

An open kitchen, then, was an aesthetic choice, but also a practical one based on the sociology of postwar domestic life. Elizabeth Mock’s writing further enforce this analysis of kitchens in the open plan. In 1946, Mock wrote:

What about the current mania for hiding everything in closed cabinets, even to the extent of providing a collapsible top for the stove? Again, it is the superficial order of the slick, impersonal surface...A kitchen is more than the sum of its gadgets. It should be large enough for at least two people to work without tripping over each other...Indeed, if your life is completely casual and servant-less, perhaps you will want to expand the kitchen into one large cooking-dining-living room.²⁴

In these passages, Mock emphasizes both the importance of displaying newly acquired appliances and the importance of opening the kitchen up to the public spaces of the house.

Notably, the kitchen was not always considered a public space within the house. It became increasingly more public throughout the twentieth century in part because of the lack of domestic servants. Whereas servants and their work were frequently considered in need of concealment, the housewife and her labors were to be integrated into the daily

²² Frank Lloyd Wright, “The Natural House” (1954) in *The Essential Frank Lloyd Wright: Writings on Architecture*, ed Bruce Brooks Pfeiffer (Princeton, NJ: Princeton University Press, 2008). 355.

²³ Frank Lloyd Wright, May 1957 taped interview by Jeffrey Aronin, transcribed in *Frank Lloyd Wright: The Masterworks*, eds. David Larkin and Bruce Brooks Pfeiffer (New York: Rizzoli, 1993), 165.

²⁴ Mock, *If You Want to Build a House*, 12.

life of the house. As a result, the postwar kitchen became more integrated into what architectural historian Gwendolyn Wright refers to as the “public zones” of the home.²⁵ As Margaret Marsh has noted, both Wright and Gustav Stickley’s designs circa 1900 promoted open plans that facilitated togetherness and family activities rather than spaces for individual retreat.²⁶ The kitchen, especially, became symbolic of this ideal of family. By the 1950s, the notion of the family unit and American identity collapsed within design discourse. To design a kitchen was to design the family, and to design an open kitchen was to affirm values of freedom, individualism, and democracy in American identity.

Just as the term “open plan” has variations, the kitchens in these plans have variously been referred to as “the living-kitchen,” “the social kitchen,” the “multi-use kitchen” and the “merger model,” among other phrases and terms.²⁷ The term “open kitchen” is most appropriate for the scope of this project, as it focuses analysis on interpreting and untangling the concept of “openness” in the open plan. My framework for interpreting these open kitchens builds on historian Robin Bernstein’s theory of “scriptive things,” exploring these open kitchens as “scriptive spaces” to uncover how they might have modeled behavior, actions, and relationships that encourage aspiration and assimilation. In her book *Racial Innocence: Performing American Childhood from Slavery to Civil Rights*, Bernstein engages with theories of performances studies to

²⁵ See Gwendolyn Wright, *Building the Dream: A Social History of Housing in America* (Cambridge, MA: The MIT Press, 1983), 254. As spaces like the parlor and living room became less private, bedrooms and bathrooms became more private. For the establishment of private spaces within the American home, see Dell Upton. “Traditional House and Its Enemies,” *Traditional Dwellings and Settlements Review* 1, no. 2 (Spring 1990): 76.

²⁶ Marsh, “From Separation to Togetherness,” 515.

²⁷ The architect Almon Fordyce published his design for a house with a “Living-Kitchen” in 1945, where he merged the kitchen space and dining area, and used open shelves to signal a change in function.

propose a method by which to analyze items of material culture in order to discover otherwise inaccessible evidence of past behaviors.²⁸ The goal is not to determine with any accuracy what any individual did or did not do in a space, but rather to understand how a space, in its historical context, prompted or invited—scripted in Bernstein’s words—human actions.

Models of Model Houses

The Case Study House program was but one of many efforts to develop and promote new visions of the modern home, stretching back decades and across the Atlantic. The publicity given to custom, architect-built houses certainly helped to elevate the public’s understanding and appreciation of modernism. The challenge for anyone invested in building modernist homes was how to make designs that appealed to individual tastes and desires, while still making them accessible to a broad public. Though the Case Study program was unique in many aspects, it can still be located within a larger historical context.

In 1926, the city of Stuttgart invited the German Werkbund to build a model community as part of the municipal housing stock. “Well placed to take the initiative

²⁸ Robin Bernstein, *Racial Innocence: Performing American Childhood from Slavery to Civil Rights* (New York: New York University Press, 2011). The large body of scholarship in performance studies that considers the multiple registers on which bodies perceive and are themselves perceived, have linked the development of Western Enlightenment theories of aesthetics and perception to the emergence of racial hierarchies, while also recovering alternative modes of perception operating beyond the normative bounds of sense and sensation. See for example, Simon Gikandi, *Slavery and the Culture of Taste* (Princeton: Princeton University Press, 2011); Mark Smith, *How Race is Made* (Durham: University of North Carolina Press, 2007); Fred Moten, *In the Break: The Aesthetics of the Black Radical Tradition* (Minneapolis: University of Minnesota Press, 2003); Daphne Brooks, *Bodies in Dissent: Spectacular Performances of Race and Freedom, 1850-1910* (Durham: Duke University Press, 2006); Kyla Wazana Tompkins, *Racial Indigestion: Eating Bodies in the Nineteenth Century* (New York: New York University Press, 2012).

because it occupies a productive place between industry, architecture, and manual labor,” the Werkbund intended the colony as a testing station for new techniques and materials as well as new architectural concepts.²⁹ The Siedlung, named for its location on the Weisenhof, was funded in part by a new federal body.³⁰ The Weissenhofsiedlung consisted of twenty-one single and multifamily structures that together comprised sixty dwellings, designed by seventeen architects from five European countries (Figure 3.5). The permanent exposition was supplemented by a series of temporary displays in existing exhibition halls around Stuttgart, including examples of modern furnishings and related projects, the “International Plan and Modern Exhibition of the New Architecture,” and full-scale reproductions of standardized kitchens. Ultimately, the Weissenhof was not as economical as originally hoped, and some of the attempts to deploy new techniques were unsuccessful. However, the program proved incredibly influential in the architecture community overall, particularly as part of the 1932 *Modern Architecture: International Exhibition* at MoMA.

The conflict between desire for better living and the difficulty architects experienced in reaching middle-class buyers was on display even more clearly in MoMA’s “House in the Garden” program launched in 1949.³¹ The first house was

²⁹ Sigfried Giedion, “La Leçon de l’Exposition de ‘Werkbund’ à Stuttgart,” *L’Architecture Vivante*, (Spring/Summer 1928): 38. For more on Weissenhoff see Karin Kirsch and Gerhard Kirsch, *The Weissenhofsiedlung: Experimental Housing Built for the Deutscher Werkbund, Stuttgart, 1927* (New York: Rizzoli, 1989) and Christian F. Otto, *Weissenhof 1927 and the Modern Movement in Architecture* (Chicago: University of Chicago Press, 1991).

³⁰ Kirsch and Kirsch, *The Weissenhofsiedlung*, 43. The Kirschs discuss the site and its bordering street, named for the brother bakers, Philipp and Sebastian Weiss, who settled there. Since *weiss* also means white, the name of the Werkbund settlement is also, if fortuitously, appropriate, since black and white photographs of the project presented an image of overwhelmingly white buildings.

³¹ Frank Lloyd Wright had planned to install a demonstration house, after one of his Usonian designers, in the sculpture garden during his 1940 retrospective at MoMA, but the house was ultimately not constructed. Wright did display one of his Usonian designs at the site of the Guggenheim Museum in 1953 before

designed by Marcel Breuer, a former Bauhaus instructor, and drew significant public criticism for MoMA's elitist view of affordability (Figure 3.6). The Museum received dozens of inquiries and complaints about the project's building costs, and the press lambasted the sociological value of the house.³² As architectural historian and former MoMA curator Barry Bergdoll has recounted, to address that criticism, MoMA commissioned Gregory Ain for the second house, but ultimately its efforts to provide a model for middle-class design were unrealistic (Figure 3.7).³³

In an effort to develop a more practical and accessible design, the Case Study House program aimed to take the concept of the demonstration house to the next step. Upon completion, each house was on display to the public for six to eight weeks. Unlike other exhibition house projects, including those at MoMA, these houses were fully developed and move-in ready, and in many cases, they already had owners. Visitors could experience the complete domestic package, which included designed landscapes, advanced mechanical systems, state-of-the-art appliances, and modern furnishings, often designed by the architects. As part of Entenza's objective, the exhibition component of the initiative was meant to debunk the myth of the modern house as austere and

construction for that project began in earnest. See Peter Reed, William Kaizen, eds. *The Show to End All Shows: Frank Lloyd Wright and the Museum of Modern Art, 1940* (New York: The Museum of Modern Art, 2004). Earlier in the 1940s, the Walker Art Center in Minneapolis also constructed a series of exhibition houses, dubbed the "Idea House" program, but the program was not as well-known or influential as MoMA's "House in the Garden" program. See Alexandra Winton, "'A Man's House is His Art': The Walker Art Center's 'Idea House' Project and the Marketing of Domestic Design, 1941-1947," *Journal of Design History* 17, issue 4 (2004).

³² Mrs. Richard Thirbly to The Museum of Modern Art, May 12, 1950, Series 405, Folder 11, The Museum of Modern Art Exhibition Records, 1929-1959, The Museum of Modern Art Archives.

³³ Barry Bergdoll, "At Home in the Museum?" *Log* no.15 (Winter 2009), 43. Bergdoll's article surveys the study of domestic space at the Museum of Modern art, including a discussion of the "House in the Garden" program. The program only produced the Breuer and Ain houses during the years that Peter Blake was curator of architecture and design at the Museum.

unlivable. In short, the Case Study Houses were designed to be published, exhibited, *and* lived in.

Case Study Kitchens

If, as Dolores Hayden states, an architectural program is a measure of social conditions, then, at first, the Case Study program seemed a progressive one: a house for a two-paycheck couple.³⁴ When Entenza developed the profile for Case Study House #1 (CSH #1, designed 1945, built 1948), he commented: “it is only necessary to invent a fairly typical American family of the type that has, in large numbers, indicated its wish to enter the postwar building market.”³⁵ Let us then presuppose a Mr. and Mrs. X, both of whom are professional people with mutual business interests, the family consisting of a teenaged daughter away at school and a mother-in-law who is an occasional welcome guest in the house.”³⁶ This two-worker couple appeared again in the program: two designers for Charles Eames and Eero Saarinen’s CSH #8 (1949), a sculptor and a writer for Richard Neutra’s CSH #21 (1947, unbuilt), and a designer and biochemist in Buff Straub, and Hensman’s CSH #20 (1958).³⁷

³⁴ Dolores Hayden, “Model Houses for the Millions: Architects’ Dreams, Builders’ Boasts, Residents’ Dilemmas,” in *Blueprints for Modern Living*, 198.

³⁵ Case Study Houses will heretofore be referred to as CSH #X in text. CSH #1 was first designed in 1945, but that plan was unbuilt. A revised version of Davidson’s plans was built in 1948.

³⁶ “Case Study House No. 1,” *Arts & Architecture* (February 1945): 43.

³⁷ “Case Study House No. 8 and No.9,” *Arts and Architecture* (December 1945): 43. Only Case Study House #8, the Eames House (1945-49), provided a pattern for a two-designer couple that remains a model for working and living at home. In their design, the Eames’s planned for a substantial studio building for shared projects, as well as an outdoor courtyard, in what has become for combining home and creative work.

Entenza seemed to recognize and appreciate the shifting household types in the mid-twentieth century. In 1945 twenty-seven percent of American women were in the paid labor force.³⁸ What could be more visionary than jettisoning the old stereotypes of the prewar family on the way to creating the postwar house, Hayden asks.³⁹ But Entenza was not interested in working class or lower-middle class lifestyles; rather he was focused on the larger market of white, male, white collar workers and their families who would become the typical buyers of postwar houses. He did have a chance to write the architectural program for more affluent artistic and literary households whose life patterns suggested they would “understand the new,” even create the new. But race and class differences were not discussed in the magazine.

Arts & Architecture was a small magazine with an elite audience. The relatively narrow social and cultural context within which the Case Study House program operated contributed to a number of blind spots that prevented the designs from being as influential as was hoped. While they do not provide a full and accurate depiction of what actually happened at the moment, these publications do, nonetheless offer a reliable indication of the ideas promulgated about the postwar house and kitchen, alongside specific examples of ways in which those ideas were and could be applied. *Arts & Architecture*, in particular, offers among the most potent and engaging expressions of some widespread assumptions about the nature of postwar modern life.⁴⁰ And many of the designs simply assumed that they could generalize about “the American Family” from their own, and their clients’, racialized and classed vantage point.

³⁸ Hayden, “Model Houses for the Millions,” 204.

³⁹ Hayden, “Model Houses for the Millions,” 203.

⁴⁰ For more on *Arts & Architecture*, its audience, and its competitors, see Smith, “*Arts & Architecture* and the Los Angeles Vanguard,” in *Blueprints for Modern Living*.

At the level of the house, Hayden has shown how the Case Study architects missed a rare opportunity to deal with family forms creatively.⁴¹ For all the bold assertions at the outset, the social programs as first stated were usually not translated into physical designs, by and large born out in their kitchens. In the first design for CSH #1 (1948), designed for a professional couple who leave for the office together in the morning, Julius Ralph Davidson cast Mrs. X in the role of circus juggler: “The kitchen is adjacent to the dressing-bedroom wing, and by the arrangement Mrs. X can attend easily to the preparation of breakfast or quick meals while dressing or working at the bedroom desk” (Figure 3.8).⁴² Richard Neutra’s CSH #21 (1947, unbuilt), planned for a writer and a sculptor who both worked from home, was slightly more attuned to the wife’s work, but stopped short of designing dedicated creative space for her (Figure 3.9). Citing the husband’s writing as crucial to the family, Neutra designated three special spaces in the house for his activities, suggesting that the wife could sculpt in the utility room when she was free of other chores.⁴³

Other Case Study houses were programmed more directly for traditional families, with the husband/father as breadwinner and the wife/mother as housewife, reverting to earlier versions of family roles that remained dominant into the mid-century. Sumner Spaulding’s first design for CSH #2 (1945-1947) was organized around the woman envisioned as both hostess and servant (Figure 3.10). Speaking of the servant age as recently banished, Spaulding introduced his architectural innovation—a folding wall separating the kitchen and dining room, with these phrases: “it is easier for the mother to

⁴¹ Hayden, “Model Houses for the Millions.”

⁴² “Case Study House No.1,” *Arts & Architecture* (February 1945): 44.

⁴³ “Case Study House No. 21,” *Arts & Architecture* (May 1947): 30-32.

supervise family activities when the kitchen is open. When guests are present she can be with them and still have close supervision over preparations of food.”⁴⁴ William Wilson Wurster and Theodore Bernardi promised better in CSH #3 (1945-49), putting Louise Almack as “in charge of the project” for the office (Figure 3.11). A rendering by Almack showed both man and woman in the kitchen. Yet, in the kitchen and work area, “Mama is cooking dinner and Papa is puttering.”⁴⁵ In addition to cooking space, Wurster’s program provided her space designed for laundry, ironing, sewing, and flower arranging.

If Spaulding and Wurster were old-fashioned, Ralph Rapson was reactionary. With CSH #4 (1945, unbuilt), he sketched the postwar family that Hayden has compellingly argued was programmed for divorce (Figure 3.12). His popular project, the Greenbelt House, filled with spaces for gardening and growing one’s own food, was inhabited by lively figures: the husband commuted to work in a helicopter while the wife hung wash on a clothesline; the wife, in curlers, frowned at a child while leaning over the stove.⁴⁶ Rapson’s renderings married modern man and prehistoric woman, using physical design innovations to enforce rather than transcend gender stereotypes.

A Tale of Two Kitchens

Shortly after architect A. Quincy Jones died in 1979, architecture historian and writer Esther McCoy remembered him in an eloquent eulogy. “Jones was part of the reform movement seeking to change obsolete building codes and to relax regulations

⁴⁴ “Case Study House No. 2,” *Arts & Architecture* (April 1945): 99.

⁴⁵ Advertisement for Case Study House #3, *Arts & Architecture* (June 1945): 4.

⁴⁶ “Proposal for Case Study House No. 4,” *Arts & Architecture* (August 1945), 29.

which kept floor planning from keeping pace with changing lifestyles,” she wrote. “He offered more than talent as a designer; he eased the path from the old to the new.”⁴⁷

While these reform efforts can be traced throughout Jones’s decades-long career, they take distinct shape in Case Study House #24 (CSH #24). Deemed radical at the time, the project—ultimately unbuilt—illustrates Jones and his partner Frederick Emmons’ commitment to rethinking standardized developments with a design that sought to minimize environmental impact, required nominal custom construction, and emphasized quality of living standards.⁴⁸ Their approach to kitchen design in CSH #24 shows efforts to reflect this progressive perspective, though it ultimately did more to reinforce conservative gender roles, particularly as they were constructed in racialized terms.

Perhaps the most ambitious proposal included in the Case Study program, the master plan situated 260 single-family homes, recreation areas and greenbelts, and a retail center on a heavily wooded 148-acre tract in Southern California’s San Fernando Valley (Figure 3.13).⁴⁹ The plan was for the community to be incorporated, with each household owning a share of the corporation which maintained the community areas—an arrangement that had been successful at an earlier tract in Palo Alto, developed by Joseph Eichler for whom Jones and Emmons designed the houses.⁵⁰ Jones and Emmons called

⁴⁷ McCoy’s eulogy was photocopied and distributed at Jones’s memorial service in 1979 and later reprinted in *A. Quincy Jones: A Tribute*, the catalogue for an exhibition of Jones’s work at California State University, Dominguez hills, in 1980.

⁴⁸ A. Quincy Jones was the design leader in his partnership with Frederick E. Emmons. It was Jones who led the design within the firm, and while his practice was characterized by its collaborative approach, it is Jones’s contributions to the Case Study House, as well as the Eichler Developments and other projects, that are generally recognized. As such, I refer primarily to Jones as the architect for the project when describing design decisions. For more on the Jones and Emmons partnership see Cory Bruckner, *A. Quincy Jones* (London: Phaidon, 2002) and Adamson, *Eichler: Modernism Rebuilds the American Dream*, 116-118.

⁴⁹ Eichler owned the land, purchased from actors Robert Taylor and Barbara Stanwyck, see *House and Home* (April 1962): 54.

⁵⁰ Adamson, *Eichler*, 70.

for minimal grading and tree removal and positioned each structure within the contours of the topography. These elements of the design, however enterprising, were not in keeping with the city's uniform set back zoning law. Ultimately, their inventive approach to siting doomed the project: the city council's zoning committee vetoed the proposal.

By 1961, when the design was first presented in *Art & Architecture*, over twenty houses had been built as part of the program but the desired impact on the housing industry had not materialized. According to art historian Elizabeth A. T. Smith, the program's relationship to experimentation evolved, as priorities and clients shifted and in response to the perceived successes and failures of earlier projects.⁵¹ In tracing the program chronologically, Smith argues that a more improvisational spirit reigned in the 1940s when creative invention was often key to realizing a work of architecture. The steel-frame houses of the 1950s-1960s, which came to epitomize the program as a whole, then, moved away from the problem of housing the typical American family toward a greater emphasis on technological experimentation with materials and construction systems. With more affluent clients in support of the continuing advancement of technology in residential architecture, these houses, in Smith's words, "became expressions of a purist, avant-garde vision that was unwilling to compromise, only to push forward."⁵²

For his part, Jones described his experimental design strategy for CSH #24 in simple terms: "a hole is cut in the earth and the house is slipped in."⁵³ Resisting the usual

⁵¹ Smith, "Introduction," in *Blueprints for Modern Living*, 13.

⁵² Smith, "Introduction," in *Blueprints for Modern Living*, 13.

⁵³ Quoted in Elaine K. Sewell Jones quoted Jones as using this term in "A. Quincy Jones: The Oneness of Architecture," *Process Architecture* no41 (October 1983), 120.

“bumps along the road waiting for trees to grow,” he proposed embedding the homes and buildings in hillsides, situating them below the ground with the excavated earth employed to put berms on three sides of the house. These berms created an “earth sculpture,” as Jones referred to it, in which the house blends with the land, minimizing the visual and audible impact of neighborhood living.⁵⁴ The earth mounds would provide thermal insulation that, along with a rooftop water circulation system, comprised an innovative strategy for energy-efficient design.⁵⁵

Scholarship on Jones and the Case Study program has historically focused on CSH #24 for its novel siting and its master plan.⁵⁶ For Hayden, in his attempt to widen the scope of housing to include communal open spaces, Jones was the only architect in the program to address what she identified as its fundamental flaw: despite his goal of influencing American housing on a mass scale, Entenza did not attempt to define a model neighborhood in which the model houses would find their social and physical context.⁵⁷ “A house on its own, as an icon of style,” Hayden proclaims, “is an island.”⁵⁸ And yet, for all its radical planning, even this design conformed to and re-inscribed white, heteronormative ideals of domesticity and of specific gender roles, at minimum rhetorically at odds with the architect’s reform efforts. Ultimately, the project’s progressive approach to land use, energy conservation, and community development have in effect obscured, at times even serving as cover for, the conservative social order that

⁵⁴ Elaine K. Sewell Jones quoted Jones as using this term in “A. Quincy Jones,” 120.

⁵⁵ Adamson, *Eichler*, 187.

⁵⁶ See McCoy, “Arts & Architecture,” 19; Hayden, “Model Houses for the Millions,” 201; Bruckner, *Building for Better Living*, 15, 116; Brooke Hodge, ed. *A. Quincy Jones: Building for Better Living* (Los Angeles: Hammer Museum; New York: DelMonico Books/Prestel, 2013).

⁵⁷ Hayden, “Model Houses for the Millions,” 199.

⁵⁸ Hayden, “Model Houses for the Millions,” 199.

undergirds the project's plan. This tension is embodied in CSH #24's kitchen, allowing for a more nuanced analysis of these apparent contradictions.

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CSH #24's T-shaped arrangement derives from plans Jones and Emmons experimented with and published in their 1957 book *Builders Homes for Better Living* (Figure 3.14). The T-shaped plan, they argued, allows for "greater flexibility of layout, good separation of living and sleeping areas, and compact circulation."⁵⁹ With CSH #24, the shaft of the "T" houses the public spaces: an open living, kitchen, dining area at the center of the plan dividing the four bedrooms from the multi-purpose room and car port. An atrium, with a small rectangular pool, sits at the joint of the "T", serving as an intermediary between the public spaces and the private ones located in the perpendicular cross section of the plan.⁶⁰ The multipurpose room is at the opposite end of the plan from the bedrooms, providing space for an additional bedroom for guests, a formal dining room, or a children's play area. Partially shaded patios and gardens line the two long sides of the plan, visually increasing the appearance of spaciousness in the drawings and suggesting space for outdoor living.

Jones organized the central open living space into zones, roughly separated by function. A square relaxation and conversation pit—sunken 18 inches lower than the floor—form the main living area, with various types of seating lining three sides. A kitchen counter, extended into a dining table on one end and a refrigerator at the other, closes off the square on the fourth side. A four-burner range, electric barbecue and

⁵⁹ A. Quincy Jones and Frederick Emmons, *Builders Homes for Better Living*, 75.

⁶⁰ Atrium is a standard and iconic feature of Eichler homes. See Adams, "The Eichler Home."

surrounding cabinets occupy the only ceiling height wall in this part of the house, parallel to the kitchen counter in a galley-style arrangement recommended by architects and home economists for generations. Such open spaces oriented different areas of home life side by side, enabling the functions of different spaces.

When the kitchen opens up to the living room, as in CSH #24, a housewife, at her sink or stove, could become part of the social activity of the house, rather than segregated, like a maid in a closed-off kitchen. When carried out by hired help, domestic work remained invisible and solitary, and voices and odors from the kitchens stayed behind closed doors. Architects and designers of the postwar area worked to reframe these old distinctions—both social and spatial—between work and leisure. In the kitchen, labor was largely reinterpreted as a public activity, linked to the pleasures of dining and sociability. They did this through eliminating partition walls and constructing passsthroughs, which served as key components of a visual and spatial lexicon that marked the worker as mother and wife rather than servant. These features brought previously hidden housework nearer to the social atmosphere of the family's shared spaces and placed the housewife in a central, visible position.

While some elements of CSH #24's plan contradict this dynamic, the architects sought some resolution by providing two kitchens, rather than the one standard in single-family homes at the time. The openness of the kitchen affirms the position of the modern housewife—simultaneously all seeing and on view herself. The relationship between work and leisure, however, is distinctly more conservative in the plan, due in large part to the presence of two kitchens. Jones and Emmons referred to the kitchen described above

as the “exposed kitchen” in a study covering food preparation, dining and related functions in a September 1961 issue of *Arts & Architecture*. This space needed to be distinguished from the second kitchen area, labeled the “scullery” on plans, located around the corner.⁶¹

Like its larger, more exposed counterpart, the scullery is arranged like a galley, with a sink on one wall and a four-burner range on the other, though notably only the scullery has a dishwasher. Unlike the exposed kitchen—which occupies the hallway connecting the living area to the multipurpose room—the scullery has sliding pocket doors on either end to offer the option of closing it off from the rest of the house. If both the exposed kitchen and the scullery had almost identical equipment and similar layouts, it would be reasonable to assume the two spaces functioned similarly. Yet, closer examination reveals how the two spaces scripted distinct action and interaction for their users.

To understand how the scullery functions in CSH #24, it is useful to understand its place historically and how it came to be in this home. Scullery, from the Latin word “scutella” or platter, typically refers to a room adjoining the kitchen where cookware is cleaned and stored. In Victorian-era houses—both in the United States and England—the scullery was traditionally located in the back of the house along with the cooking area.⁶² The space is also closely associated with the people who work in it: scullery maids. Usually the youngest and least skilled servants, scullery maids did the most menial and humble tasks in the household. As Andrew Jackson Downing wrote in his influential

⁶¹ “Case Study House No. 24,” *Arts & Architecture* (September 1961): 12.

⁶² Elizabeth Cromley, *The Food Axis: Cooking, Eating, and the Architecture of American Houses* (Charlottesville, VA: University of Virginia Press, 2012), 40.

1850 pattern book “The Architecture of Country House,” the scullery was for “rough work.”⁶³

Notably, the design for CSH #24 did not always include a scullery. A series of preliminary, undated drawings from Jones’s archive illustrate the architect’s experimentation with various layouts before finally landing on the two-kitchen plan. In some earlier designs, the kitchen, arranged galley-style with two parallel counters, sits between a formal dining area on one side and a multi-purpose room on the other (Figure 3.15). Other plans position the kitchen—again galley-style—at the back of the house, arranged linearly alongside the dining and living spaces and adjacent to a terrace on the backside of the house (Figure 3.16). A third set of drawings most closely resembles the final plan: a centrally located kitchen, once again consisting of two parallel counters, lined on either side by outdoor patios, leads into a small dining space that then flows into a living area near the entrance of the house (Figure 3.17).

Several of these earlier arrangements recall designs for other kitchens Jones and Emmons designed in the mid-1950s as participants in a Frigidaire kitchen design program and for “House that *Home* Built,” an annual design competition sponsored by NBC’s popular television show *Home*.⁶⁴ As the design process for the Frigidaire progressed, Jones explained his thoughts on new features to the executives in charge. For example, in a May 1955 letter he described the new dining table layout (Figure 3.18): “The family dining table has a new concept of use by installing two-fold away ranges so that the

⁶³Andrew Jackson Downing, *The Architecture of Country Houses* (Philadelphia: G.S. Appleton, 1850), 157.

⁶⁴For more on *Home* see Harris, “The Home Show: Televising the Postwar House,” in *Little White Houses*.

person preparing the meal does not have to jump up and down to the range.”⁶⁵ Jones and Emmons also moved two burners to a compartment in the dining table in the kitchen design for their entry in “House that *Home* Built” that same year (Figure 3.19). A later version of this dining table design, one that extends out from the kitchen counter but without the additional burners, made it into the final design for CSH #24. All the plans, notably, positioned the kitchen in close proximity to other rooms in the home; always directly and logically adjacent to the dining area and occasionally a living room or more informal all-purpose room. In another written exchange with Frigidaire executives, Jones justified his use of the open plan: “The kitchen is located so that it can serve directly to the family room, to the all-purpose room, the living room, the roofed porch and the open terrace. I think this is terribly important in a servant-less house.”⁶⁶ So, while the architects tinkered with various layouts during their design process, they remained committed to an open plan.

Yet, only the final design included a scullery. Jones and Emmons explained some of this reasoning when they expressed their desire that these two kitchen spaces would offer the family “multiple experiences.”⁶⁷ The exposed kitchen, they imagined, could be used for everyday activities, as well as for entertaining. Beyond hosting and dining, the architects did not describe many specific functions for the exposed area. For the scullery, by contrast, they saw several specific purposes. Practically, providing the option of closing the scullery off from the rest of the house could help eliminate kitchen odors and

⁶⁵ A. Quincy Jones to Frigidaire May 17, 1955, UCLA 1692, box 4392, folder 5, A. Quincy Jones Papers, University of California, Los Angeles Special Collections (henceforth UCLA).

⁶⁶ AQJ to Frigidaire March 31, 1955 UCLA 1692, box 4392, folder 5, A. Quincy Jones Papers, UCLA.

⁶⁷ “Case Study House No. 24,” *Arts & Architecture* (September 1961): 13.

noise from seeping into the living spaces. Moreover, the architects argued that the separation of the scullery from the exposed kitchen eliminated “the necessity of seeing into an untidy area and...the after-dinner clean-up operations.”⁶⁸

The prescribed functions of the scullery space, in turn, confers the function on the exposed kitchen: where the scullery enables the obfuscation of messy, unruly labor, the exposed kitchen was for only the orderly work. This relationship between the two spaces and their functions deems some labor, tasks, activities—and ultimately behaviors—worthy of visibility, while relegating others to an invisible realm. In this way, the exposed kitchen served as a stage, scripting highly performative behavior with the housewife on display. Thus, the activities of the scullery serve as a foil, drawing a line between what should be visible and what should be unseen.

Domesticity and Dirt

In keeping the dirty work out of sight, the presence of the scullery emphasizes the cleanliness of the house’s public spaces. The design was presented three times in *Arts & Architecture*, in July, September, and December 1961. The kitchen features prominently in the interior drawings, including three illustrated sections that present the open plan living, dining, and kitchen (though not scullery) from reverse angles.⁶⁹ The section drawings share a unifying minimalism: the furniture pictured mimics the smooth, clean lines of the architecture and all surfaces, including the kitchen counter and dining table,

⁶⁸ “Case Study House No. 24,” *Arts & Architecture* (September 1961): 13.

⁶⁹ An axonometric diagram/drawing of the kitchen and scullery was also published and is discussed in a later section of this chapter.

clear of clutter (Figure 3.20).⁷⁰ Nothing in the house was out of place or lying about, or overgrown in the glimpses of outdoor living spaces. The appearance of these drawings, as part of a larger system of representation in the period, is remarkably homogenous: clean, tidy, orderly, and shiny.

The resultant order and neatness are expressed textually, as discussed, but also visually in the pages of *Arts & Architecture*, working to code CSH #24 and its inhabitants—however hypothetical—as white. In this way, these drawings repeat a graphic formula using visual clues that seized upon a set of cultural codes for racial and class identity formation. In this formula, houses and gardens were typically portrayed as clutter free environments (though in actuality they were usually jammed full of new consumer goods), as cluttered untidy environments signaled a lower class and an ethnic identity for the occupants. As geographer David Sibley has noted, “Exclusionary discourse draws particularly on color, disease, animals, sexuality, and nature, but they all come back to the idea of dirt as a signifier of imperfection and inferiority, the reference point being the white, often male, physically and mentally able person.” Further, he observes: “In the same system of values, whiteness is a symbol of purity, virtue, and goodness and a color which is easily polluted. Thus, white may be connected with...an urge to clean, to expel dirt and resist pollution, whether whiteness is attributed to people or to material objects.”⁷¹

To be sure, the correlation of cleanliness and tidiness with the good, white, middle-class house was not new to the postwar period. Nineteenth-century home

⁷⁰ The chairs depicted in the drawings were designed by Case Study Program participants, including an Eames molded plywood.

⁷¹ Sibley, *Geographies of Exclusion*, 14, 24.

economists published books and manuals extolling the clean and tidy house as virtuous and middle-class while criticizing the dirty, messy house as ungodly, immoral, and lower-class.⁷² Aesthetically, this style of rendering interior space undoubtedly derived, at least in part, from the presentation of European modernism of the 1920s and 1930s through black and white photography, including precedents such as the Wiesenhoffseidlung and its contemporaries that were characterized by a sterile and laboratory aesthetic (Figure 3.5).

Additionally, late-nineteenth and early-twentieth century photographs of urban America depicted trash-strewn, crowded, and ramshackle spaces of black and immigrant life—the spaces of the poor in cities such as Washington, D.C. and New York, perhaps most famously captured by Jacob Riis in *How the Other Half Lives: Studies Among the Tenements of New York* (Figure 3.21).⁷³ In Chicago, turn-of-the-century real estate agents used these stereotypical correlations to influence housing sales in specific neighborhoods by encouraging and even paying African Americans recently arrived from the South to occupy dwellings in white neighborhoods and to embody and perform racist stereotypes in white neighborhoods where the agents hoped to provoke white homeowners to sell. Among the “objectionable” behaviors performed by these paid occupants and noted in the Chicago newspapers were sitting on front porches, congregating noisily on sidewalks, and keeping overcrowded and untidy dwellings.⁷⁴ And the famous Farm Security Administration photographs produced between 1935 and 1942 further cemented—

⁷² Among the best-known works in this corpus of literature is Catherine Beecher and Harriet Beecher Stowe, *The American Woman's Home*, discussed at greater length in chapter 1.

⁷³ Jacob Riis, *How the Other Half Lives: Studies Among the Tenements of New York* (New York: Garret Press, 1904).

⁷⁴ Margaret Garb, *City of American Dreams: A History of Home Ownership and Housing Reform in Chicago, 1871-1919* (Chicago: University of Chicago Press, 2005), 186-187.

especially through their mass circulation in *Life* and *Look*—the notion that dirt, crowding, trash, lack of privacy, and untidy spaces signaled poverty and insecure racial identities (Figure 3.22).⁷⁵ In contrast, clutter-free and clean environments, such as those depicted in the renderings of CSH #24, were constructed as belonging to middle-class, white occupants.

Mary and Russel Wright's *Guide to Easier Living*, first published in 1951, offers another example of the postwar obsession with cleanliness in the domestic sphere and its link to race and class distinction. Although most scholars have examined it as a design handbook, Harris argues that *Guide to Easier Living*, which was widely read and published in multiple editions, equally served to educate first-time homeowners about how to live as white middle-majority members.⁷⁶ The book provides detailed instructions for housewives about how to clean their houses as white-collar professionals and how to distinguish themselves from their lower-class or ethnic servants (Figure 3.23). For instance, the Wrights wrote that bedrooms should be kept functional to avoid the following scene in "the cold light of morning:"

Bedcovers cascade to the floor, and lamp shades hang askew; the housewife must stumble over assorted shoes, slippers, and oddments of clothing that litter the carpet. Drawers and closets are open-mouthed, mute witness of the frantic hunt just made within their disordered depths. The elegant dressing table lewdly bares its skinny legs, and lint is a dingy film over everything. From coast to coast, in rich homes and poor, the American bedroom at 8:00 Am looks the same...like an Okie camp.⁷⁷

⁷⁵ For a study on the ways these FSA images and their circulation in popular magazines shaped American attitudes and understandings of poverty, see Cara Finnegan, *Picturing Poverty: Print Culture and FSA Photographs* (Washington, DC: Smithsonian Books, 2003). For more on the correlation between privacy and race, see Harris, *Little White Houses*.

⁷⁶ Harris, *Little White Houses*, 167.

⁷⁷ Mary Wright and Russel Wright, *Guide to Easier Living* (New York: Simon and Schuster, 1951), 50.

The message was clear: if you don't keep an uncluttered house, you look like an "Okie," a Depression-era image of itinerant poverty most Americans sought to escape or avoid.⁷⁸ As a guide intended to help families learn to cope in the postwar world of servant-less living, the book includes time-motion studies, as well as appendices and charts on cleaning routines and products, instructing readers on how to appear solidly middle-class by keeping the house spotlessly clean.⁷⁹ While the Wrights drew on a range of well-known precedents, as leading participants in the production of the all-white majority culture that constituted midcentury homeownership, they responded to the implicit concerns of their audiences.

Jones addressed this issue of the servant-less home by cordoning off the unsightly work to the scullery. In this way the design for CSH #24 acknowledges the significance of cleanliness, with the scullery's primary purpose of hiding the unsightly elements of kitchen labor. This, in turn, reinforces the performative whiteness of the exposed kitchen. Such open kitchen designs imparted a sense that the women laboring within the space would comport themselves and were regarded as middle to upper-class women. They were not to be mistaken for immigrant, nonwhite, or blue-collar servants. The clean, shiny, bright, and well-organized kitchen was among the most potent symbols in the house of confirming the identities of all family members, particularly those of women.

⁷⁸ Indeed, Okies were imagined as not quite "white," in the way that those described as "white trash" are configured as possessing a tainted form of whiteness. See Matt Wrayle and Annalee Newitz, eds., *White Trash: Race and Class in America* (New York: Routledge, 1997).

⁷⁹ For analysis on time-motion studies and charts with respect to kitchen labor, see chapter 1.

Through such images and drawings, postwar Americans were presented with representations of domestic life that appeared ubiquitous through their publication in magazines and newspapers, in films, and on television. And those representations invited readers to project themselves, their lives, and their families' lives into an imagined realm, a mirror against which they were asked to compare and construct themselves. Further, these images also prompted housewives to confront the relationship between their own lived experiences and the tidy homes depicted in magazines and other public forums. In 1949, a woman named Ann Griffith wrote about the obsession with cleanliness in American women's magazines, noting that nothing ever seemed to be clean enough. Everything was supposed to be "white-like-new," and she complained that "there is no end in sight, no hint that there is an optimum whiteness to which you can bring your clothes and then relax."⁸⁰ In this way, such depictions also brought attention to the optimum whiteness of the owners. To follow a magazine's instructions on home decorating, entertaining, and lifestyle, which for readers of *Arts & Architecture* was decisively invested in the gospel of modernism, was to hedge against troubling questions about belonging and identity.

Illusions of Space and Race

Architectural drawings further emphasized the gendered and racialized dimensions of these spaces. Like numerous scholars in the field of visual culture studies and visual rhetoric, cinema studies scholar Richard Dyer has noted that representations

⁸⁰ Ann Griffith, "The Magazines Women Read," *American Mercury*, March 1949, 273.

deeply affect our feelings, thoughts, and cognition of and about that which is represented.⁸¹ Popular representations of houses that circulated to a national audience, as Harris's study shows, likewise confirmed the valorized accepted norms associated with race, class, status, and gender and offered lessons for new and aspiring homeowners, who may have also been newly identified as "white" or "middle-class."⁸² The drawings provided a kind of promise, depicting spaces that, if emulated in built form, could also help to strengthen the identity and status many viewers and homeowners has so recently attained. These representations of spaces were a lens through which notions of class, race, and gender could be identified, established, and/or affirmed.

Because the project was never built, the drawings of CSH #24 play an outsized role in shaping public understanding and interpretation of the design. The *Arts & Architecture* features presented an array of drawings, and thus perspectives, of CSH #24 to the magazine's readership, including a site plan for the full development, a house plan, cross-sections from differing angles, sound and light diagrams, and an axonometric view of the open kitchen, dining, living space (Figure 3.24).⁸³ These architectural renderings are a specific form of two-dimensional representation. In addition to serving a didactic purpose, architectural drawings can also prompt viewers to imagine the spaces rendered as if they were inhabitants—a mental projection that is seldom disconnected from desire.

⁸¹ Richard Dyer, *White* (London, New York: Routledge, 1997), xiii

⁸² See Harris, "Rendering Whiteness," in *Little White Houses*.

⁸³ Though photography was the preferred method of displaying built works, it did not lend itself well to the representation of more modestly scaled homes. Thus, many magazine features on houses at this moment continued to include drawings rather than photograph, as drawings offered them the ability to be more selective and because they frequently depicted unbuilt work.

Harris provides a critical framework for analyzing such representations of postwar houses, ranging from photographs and perspectives to architectural drawings, to demonstrate the ways in which they contributed to an iconography of a racially based spatial exclusion in the residential sphere.⁸⁴ She calls the cognitive realm of architectural renderings equal parts map and dreamworld: “We imagine ourselves, our family members, our neighbors, and a newly acquired and idealized life that is completely dependent on an image of a space and its surroundings.”⁸⁵ In spite of little evidence concerning reception of such images, scholars have persuasively argued that these drawings were based in the deployment of a uniform set of representational practices that created a framework for viewing among the magazine-reading public, and they likewise contributed to a set of dominant cultural values about race, class, and gender in the postwar period. These dominant cultural values provided a consistent background against which visual culture of all kinds was produced and consumed, despite individual viewers’ beliefs or particular perceptions.

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One drawing, an axonometric projection of the living, dining, kitchen space, is particularly helpful in parsing the illusions of space and race at play in the house (Figure 3.25). The black and white axonometric drawing depicts the central public area of the home as if seen by a viewer hovering above the house. Five figures, all faceless but rendered as white nonetheless, occupy various corners of the room, from men at the recessed relaxation center and dining table, to women at work in the scullery and at the

⁸⁴ Harris, *Little White Houses*, 85.

⁸⁵ Harris, *Little White Houses*, 87.

exposed kitchen's sink. The drawing was annotated in *Arts & Architecture* to identify essential features, mostly in the kitchen. In addition to showing off the functioning space, the view offers a glimpse of the house's outdoor terraces and gardens flanking either side of the central room. The relationship to nature, as well as the aerial perspective, is further emphasized by the abstract vegetal or cloud forms that float above the space and suggest the world beyond the walls of the house. As is typical with axonometric projections, this drawing offers a simultaneous view of the space in plan, section, and a hint of the elevation. In architectural terms, there is no foreshortening in axonometric projections, and unlike a perspective, all dimensions can be measured on the same scale. As a result, it is an intellectual abstraction, one which cannot be viewed in real space. Where plans and blueprints are notoriously difficult to read, an axonometric projection gives an illusion of reality that is almost as convincing as a model.⁸⁶

Around the 1920s, architects increasingly embraced axonometry as symbolic of cultural modernity. Inspired by the architectural historian August Choisy, Le Corbusier, along with his fellow pioneers in modern architecture including those associated with De Stijl, championed the axonometric projection.⁸⁷ According to Choisy, axonometry is advantageous because in this system "a single image, animated and dynamic like the building itself, takes the place of abstract figuration through plan, section, and elevation. The reader has before his eyes, at the same time, the plan, the exterior of the building, its

⁸⁶ On the iconography of bird's-eye or aerial perspectives, and on the relationship between perspective and scopic knowledge, see David Harvey, *The Condition of Postmodernity* (Cambridge, Mass.: Blackwell, 1990); Michel de Certeau, *The Practice of Everyday Life*, trans. Steve Randall (Berkeley: University of California Press, 1984), 92-93; Lucia Nuti, "The Perspective Plan in Sixteenth Century: The Invention of Representational Language," *Art Bulletin* 76, no.1 (March 1994): 128.

⁸⁷ For more on De Stijl see Nancy Troy, *The De Stijl Environment* (Cambridge: The MIT Press, 1986).

section, and its interior disposition.”⁸⁸ Further, as Dorothee Imbert, landscape historian and practitioner, has noted, this “reductive precision” of the axonometric drawing, combined with its facilitation of a viewpoint that is both “everywhere and nowhere” made it a representational form ideally suited to the depiction of modernist spaces and forms.⁸⁹ Axonometric views were ideal because they facilitated perceptual legibility while also lending a sense of aesthetic and perhaps a touch of technological modernity.⁹⁰ In the postwar era, these views provided potential consumers with a system of visualizing freedom in which the eye was unconstrained by either a single viewpoint or any boundary other than the edge of the page. Moreover, these perspectives promote a form of embodied viewership, reserved for an assumed universal viewer for whom vision is monolithically and homogeneously conceived. Because no viewer is defined or specified, they are assumed to be white and middle class, an assumption of collective identity that suppresses otherness.

Art historian Yves-Alain Bois has clarified the ways in which axonometric drawings are useful tools for seeing the modern house because there is “no limit or stopping point of space,” and this results in a feeling of visual “liberation.”⁹¹ The overhead, hovering axonometric or aerial view grants the viewer a kind of perceptual command of space that was also distinctly racialized—that is, a privilege reserved primarily for white people. By making this power a feature of its visual form, the

⁸⁸ Choisy quoted in Alberto Pérez-Goméz, *Architectural Representation and the Perspective Hinge* (Cambridge, Mass.: MIT Press, 1997), 317.

⁸⁹ Dorothee Imbert, *Between Garden and City: Jean Canneel-Claes and Landscape Modernism* (Pittsburgh: University of Pittsburgh Press, 2009), 59, 61.

⁹⁰ For further analysis on the tension and ambiguity imbued in axonometric drawings see Anthony Vidler, *Warped Space: Art, Architecture, and Anxiety in Modern Culture* (Cambridge, MA: MIT Press, 2000).

⁹¹ Yves-Alain Bois, “Metamorphosis of Axonometry,” *Daidalos*, no.1 (September 1981): 45, 48.

drawings in effect grafted the racial dynamics of the everyday life of the early civil rights era onto the domain of architectural desire and consumption. Unrestricted movement, whether of the eye or the body, was implicitly linked to whiteness and class identity, so that axonometric representation not only conveyed aesthetic and architectural modernity, but also subtly reinforced racial constructs. Though all artistic representations to some extent are an expression of control over reality, this expression is particularly potent in axonometric projections. The very aesthetic of modernity in domesticity further reinforced these constructs, with its emphasis on cleanliness, lack of clutter, and spaciousness, features that can be directly linked to the open plan. In other words, in addition to depicting the forms of domestic worlds, these drawings are images of a white culture that privileged the spaciousness, cleanliness, and order of architectural modernism. In doing so they subtly offered a persuasive visual rhetoric about the purchase of culturally constructed white identity.⁹² Images of stylistically modern homes were therefore about both containing and eliminating the signs of ethnic difference and attaining higher class status.

Motherhood in Black and White

Not all household labor in CSH #24 was intended to be done in the confines of the scullery. As the nature of domestic labor changed shape, so did associated spaces. In her survey of modern homes, mid-century author Kate Ellen Rogers noted that the disappearance of domestic servants—whose presence dictated an enclosed kitchen so the

⁹² Annie Gilbert Coleman, “Unbearable Whiteness of Skiing,” *Pacific Historical Review* 65 (November 1996): 586.

family could have privacy and vice versa—necessitated the opening of the kitchen to integrate it more fully with the rest of the house. Rogers observed, “It is quite evident as we look over kitchen design by experts—architects and home economists—that the kitchen in today’s house is planned for a member of the family and not for a servant.”⁹³ The kitchen became a site symbolic of a woman’s worth within a family’s daily operations.

The changing shape of a housewife’s job required a small office in the center of her working domain, the kitchen. In the words of one *House Beautiful* writer: “A good housewife, like a good executive, needs a good office, and the kitchen is the logical place for it.”⁹⁴ Formally, the new status of housework culminated in the kitchen desk, which did not commonly appear in suburban homes until the 1970s. But as Harris has shown, the roots of this element lie in the 1950s with both the notions of kitchen as command center and of the housewife as a white-collar worker.⁹⁵ Furthermore, architectural historian Annmarie Adams’s study of Eichler development houses, including ones designed by Jones and Emmons, demonstrates how postwar kitchens manifested characteristics that derived from turn-of-the-century ideas about the “progressive house,” a concept that was linked to the professionalization of women’s labor to the status of housewife.⁹⁶ Open kitchens manifested some of these characteristics, including features such as the “command center” that put a professional veil on household labor.

⁹³ Kate Ellen Rogers, *Modern House, U.S.A.: Its Design and Decoration* (New York: Harper, 1962), 166. For more on decrease in domestic service see chapter 2.

⁹⁴ “First postwar house,” in *House Beautiful* (April 1953): 114.

⁹⁵ Harris, *Little White Houses*, 202.

⁹⁶ Adams, “The Eichler Home,” 170.

In CSH #24, as they had done in their previous kitchen designs for Eichler developments, Jones and Emmons placed the kitchen in the center of the floorplan, open to and commanding of all other areas of the house—visually, psychologically, and operationally. The position in the kitchen from which she did this work, the kitchen counter—a desk of sorts—was commonly referred to as the “command center.”⁹⁷ In the axonometric drawing of CSH #24, the housewife, assumes this supervisory position—standing in front of the sink at the kitchen counter with a view of the conversation pit directly in front of the kitchen, the outdoor living space to either side, and the general circulation spaces in between. Before the prevalence of the kitchen desk, this open kitchen engendered the appearance that women’s housework was professional labor and that it was distinctly white labor. In such an open kitchen, the housewife was also to be integrated spatially into the home, so that she did not appear to be a hired hand and so that she could carry out a supervisory role over her family. Furthermore, the opening up of the kitchen to the living areas of the house—through the elimination of partition walls as in CSH #24 or through the construction of passthroughs—served as part of the visual and spatial lexicon that marked the woman and worker not as a servant, but rather as a wife and, most importantly, as a mother.

In this way, the kitchen was intended not only as a place to prepare meals, but also as a virtual command post for a person—a woman—whose full-time job was watching. In its position at the center of the house, the open plan kitchen also placed a new emphasis on the importance of motherhood in the design of houses during the baby

⁹⁷ For development of “command center” (particularly terminology) see Cromley, *The Food Axis*, ch. 5.

boom era.⁹⁸ In her discussion of Eichler's kitchens, Annmarie Adams has directly connected the kitchens' centrality to the patterns of childrearing developed postwar.⁹⁹ Dr. Benjamin Spock, in his 1946 best-selling *Common Sense Book of Baby and Childcare* had convinced parents (mostly women) to adopt a more "instinctual" approach to mothering. Dr. Spock told mothers that their behavior carried enormous consequences for children and placed particular emphasis on the closeness of mother and child. This approach, whereby the mother was a constant, close companion, demanded architectural accommodations that would allow her to observe every gesture, hear every whim, and respond immediately to her child. The open kitchen in CSH #24 facilitated this instinctual mode of mothering.

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"Oh, how Dr. Spock could make me feel so guilty!" feminist writer Betty Friedan opined of the doctor and his parenting advice.¹⁰⁰ Friedan discussed the repercussions of such a relationship to motherhood in her 1963 polemical *The Feminine Mystique*, arguing that the world should view women in terms of their "humanity" as opposed to their femininity and sexuality. Women afflicted with the "feminine mystique" did not meet this standard of humanity; they were trapped in the private sphere of home, domesticity and family and this entrapment eroded their capacities for political self-definition and citizenship. "By some fascinating paradox," Friedan asserted, "the massive evidence of

⁹⁸ See Ellen Lupton and J. Abbot Miller, *The Bathroom, the Kitchen, and the Aesthetics of Waste: A Process of Elimination* (New York: Kiosk, 1992). On the shifting dynamics of gender and domesticity in the face of the baby boom, see Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1988), ch. 6.

⁹⁹ Adams, "The Eichler House," 175.

¹⁰⁰ Betty Friedan, *The Feminine Mystique* (New York: W.W. Norton, 1963), 253.

psychological damage done to boys and girls by frustrated mothers who devoted all their days to filling children's needs was twisted by the feminine mystique to a summons to the new generation of girls to go back home and devote *their* days to filling children's needs."¹⁰¹

Significantly, according to Friedan, the feminine mystique was not simply an abstract concept. She identified elements of "the problem with no name" in domestic architecture, specifically in both the open plan and the kitchen:

But is [the] domestic trap an illusion, despite its all-too-solid reality, an illusion created by the feminine mystique? Take, for instance, the open plan of the contemporary 'ranch' or split-level house...which has been built in the millions from Roslyn Heights to the Pacific Palisades. They give the illusion of more space for less money. But the women to whom they are sold almost *have* to live the feminine mystique...There are no true walls or doors; the woman in the beautiful electronic kitchen is never separated from her children. She need never feel alone for a minute, need never be by herself. She can forget her own identity in those noisy open-plan houses.¹⁰²

Friedan supports her generalizations with a specific example: the story of her friend, a writer turned housewife, who had "her suburban dream house designed by an architect to her own specifications." The house, she writes, "was almost literally one big kitchen." While the design included a separate studio space for her photographer husband, "there wasn't any place where she could get out of the kitchen, away from her children, during the working hours."¹⁰³

¹⁰¹ Friedan, *The Feminine Mystique*, 345.

¹⁰² Friedan, *The Feminine Mystique*, 348-9.

¹⁰³ Friedan, *The Feminine Mystique*, 351.

The open plan thus enforced architecturally the feminine mystique. Only by breaking free of the feminine mystique, Friedan argued, could women “fulfill their human potential.” To substantiate her claims of women’s humanity, Friedan positioned women in the public sphere as independent and professional, and therefore as equal citizens. She hoped that with this framework, the value of distinct gender roles that evolved out of traditional family arrangements would go “out the window.”¹⁰⁴ As is clear, Friedan’s constructions of professional womanhood ran counter to the version being promulgated in seemingly progressive domestic architecture of the Case Study Houses; in the contemporary world of kitchen design, architects were instead creating spaces that would fix women to a set of gender roles reminiscent of the Victorian-era cult of domesticity.¹⁰⁵

Friedan sought to expand citizenship by freeing women from definitions of femininity that were oppressive. At the same time, she relied on racialized conceptions of motherhood to do so. These were conceptions of motherhood that did not so much bar black mothers from inclusion but rather defined the very virtues of motherhood in opposition to what she perceived as the failures of black mothers (as I discuss in the next section). By the mid-1960s, as the Case Study program wound down, women’s desires could no longer be contained as readily as they had in the previous decades. Some experts in the field of child development and female psychology continued to defend full-time stay-at-home motherhood as the only way that women could raise healthy children fit for

¹⁰⁴ Friedan, *The Feminine Mystique*, 60, 345.

¹⁰⁵ Friedan, *The Feminine Mystique*, 348. For study of the relationship between the cult of domesticity and residential architecture, see Gwendolyn Wright, “Domestic Architecture and the Cultures of Domesticity,” *Design Quarterly*, no.138 (1987).

citizenship and find personal fulfillment.¹⁰⁶ But this view was losing the ideological dominance it held in the 1940s when Dr. Spock published his book and into the 1950s. Yet, the notion that certain kinds of women and mothers, specifically black ones, posed dangers to American citizens continued to shape gender roles, even as they underwent reforms and second wave feminism gained prominence.¹⁰⁷

During the postwar period, government agencies, academics, and social reformers continued to paint a picture of Black families defined by the failures of their matriarchs, an image that developed over the previous decades.¹⁰⁸ In March 1965, Daniel Patrick Moynihan, then assistant secretary of labor and director of the Office of Policy Planning and Research, submitted to President Lyndon B. Johnson a report on Black families. Moynihan's seventy-eight-page report, *The Negro Family: A Case for National Action*, focused on problems that Black Americans faced, across the country with a focus on the urban north. The central premise of the report was that "family structure" was the "fundamental problem." Black families ensnared in poverty and discrimination were "approaching complete breakdown"; they were the "principle source" of the "aberrant, inadequate, or anti-social behavior" among Black Americans. Moynihan, ever the social scientist, amassed evidence to document this alleged deterioration of families and

¹⁰⁶ See, for example, *Washington Post*, 24 May 1961, C24.

¹⁰⁷ Whereas first-wave feminism focused mainly on suffrage and overturning legal obstacles to gender equality, second-wave feminism broadened the debate to include a wider range of issues including reproductive rights, sex and sexuality, family and workplace structures, and other official legal inequities. In all of these issues, the movement was focused on critiquing the patriarchal institutions and cultural practices throughout society. The term "second-wave" feminism itself gained prominence in common parlance after it was used in a March 1968 *New York Times* article titled "The Second Feminist Wave: What do These Women Want?". In the article, journalist Martha Weinman Lear noted, "proponents call it the Second Feminist Wave, the first having ebbed after the glorious victory of suffrage and disappeared, finally, into the greater sandbar of Togetherness." See Martha Weinman Lear, "The Second Feminist Wave: What Do These Women Want?" *The New York Times*, March 10, 1968.

¹⁰⁸ On this development see Ruth Feldstein, *Motherhood in Black and White: Race and Sex in American Liberalism, 1930-1965* (Ithaca, NY: Cornell University Press, 2000).

analyzed the historical roots of this breakdown. He argued that even the civil rights movement, “the most important domestic event of the postwar period,” would not help “the Negro family,” which was “in the deepest trouble.”¹⁰⁹

Throughout, Moynihan maintained that Black “matriarchs” perpetuated the “tangle of pathology” in which Black families were trapped. For Moynihan, as for so many progressive politicians and reformers before him, women’s behavior had crucial social, political, and economic repercussions. As women’s studies scholar Ruth Feldstein has shown, images of Black women in the report reflected the cumulative effects of a liberal race relations discourse that had distorted the maternal capacities of Black women.¹¹⁰ For example, Moynihan argued, using scholarly data and charts, that matriarchal households, primarily headed by Black women, were characterized by “disorganization.” “Disorganization” was also, notably, a trait that architects and designers at mid-century worked to help their clients avoid practically through, for example, added storage and figuratively through representations of cleanliness.¹¹¹ He also warned about maternal deprivation, particularly in his critique of working mothers who deprived children “of the kind of attention...which is now a standard feature of middle-class upbringing.” To highlight the social ramifications of deprivation, the report quoted authorities who claimed that children “reared in a disorganized home without a father” sought “immediate gratification” as a result of their neglect. Authorities then tied this

¹⁰⁹ Lee Rainwater and William Yancey, eds. *The Moynihan Report and the Politics of Controversy* (Cambridge, MA: The MIT Press, 1967), 18, 43, 51, 76, 47, 50.

¹¹⁰ Patricia Morton, *Disfigured Images: The Historical Assault on Afro-American Women* (New York: Praeger Press, 1991), 4.

¹¹¹ For more detailed discussion of storage in the kitchen, see chapter 1.

impulse to “immature, criminal, and neurotic behavior.”¹¹² Essentially, *The Negro Family* argued that Black women who worked for wages and reared children could not succeed in either enterprise and thereby hurt their families.

Friedan’s construction of white femininity, motherhood, and gender identity relied on this image of Black matriarchs. Where Black mothers could only fail at their parental responsibilities when working outside of the home, in *The Feminine Mystique* Friedan maintained that white women could find independence and self-worth under the same circumstances. As scholars have noted, in rejecting Freudian theories of femininity and motherhood, Friedan drew on ideas associated with humanistic psychology that gained support and credibility in the late 1950s and early 1960s.¹¹³ Humanists like Abraham Maslow argued that psychologically healthy individuals were those who developed their own individual human potential. The “self” was their subject; liberating the individualistic self from sources of oppression—be they irrational fears or emotions like frustrations and aggression, or irrational social systems and family relationships—was their goal.¹¹⁴ An earlier generation of progressive thinkers who employed Freudian theory in their psychosocial analyses, like Lillian Smith or Marynia Farnham and Ferdinand Lundberg, had assumed that the right kind of family was a precondition to a healthy citizen, a strong democracy, and harmonious race relations. By contrast, Friedan

¹¹² Rainwater and Yancey, eds. *The Moynihan Report*, 73, 71, 85.

¹¹³ See Mari Jo Buhle, *Feminism and Its Discontents* (Cambridge, MA: Harvard University Press, 1998), 208; Ellen Herman, *Romance of American Psychology: Political Culture in the Age of Experts* (Berkeley: University of California Press, 1995), 290-92; Daniel Horowitz, *Betty Friedan and the Making of the Feminine Mystique: The American Left, the Cold War, and Modern Feminism* (Amherst, MA: University of Massachusetts Press, 1998), 205-7.

¹¹⁴ Herman, *Romance of American Psychology*, 264-66.

adapted humanistic theories to expose the ways that the family was a source of oppression, especially for women seeking to find their true and equal selves.

Yet, Friedan repeatedly asserted that women's frustrations and maternal failure were problems with implications for the nation's well-being. The woman who freed herself from the feminine mystique was a far better mother *and* a better citizen; indeed, as she wrote in the final pages of the book, the feminine mystique took "a far greater toll on the physical and mental health of our country than any known disease." She elaborated: "If we continue to produce millions of young mothers who stop their growth and education short of identity, without a strong core of human values to pass on to their children, we are committing quite simply, genocide, starting with the mass burial of American women and ending with the progressive dehumanization of their sons and daughters."¹¹⁵

Fundamentally, Friedan inverted earlier models of "good" and "bad" mothers: successful mothers were those who were fully human rather than fully feminine, whereas many who failed were insufficiently human and could not answer the question "who am I?"¹¹⁶ However, in revising maternal success to refer to those women who were "complete and fully part of the world," and by counterposing motherhood to citizenship, *The Feminine Mystique* retained a fear of bad mothers.¹¹⁷ In important ways, this foundational text of the women's liberation movement launched its challenge to domestic wifehood and femininity and endorsed female selfhood on the grounds of a revised and revitalized notion of women as mothers.

¹¹⁵ Friedan, *The Feminine Mystique*, 351.

¹¹⁶ Friedan, *The Feminine Mystique*, 326.

¹¹⁷ Friedan, *The Feminine Mystique*, 351.

Friedan may well have helped launch women's liberation with her analysis of the "problem with no name," but hers was a strand of feminism that was profoundly race and class specific. *The Feminine Mystique*'s crucial distinction—between the human self who could realize her full potential as a citizen through meaningful work and the mother in the domestic sphere—was in fact a racial argument. As feminists would repeatedly point out in the coming decades, by placing so much value on women's work outside the home, *The Feminine Mystique* ignored the realities of working women's lives; it dismissed for example, the "extreme economic exploitation the most Black women are subject to day by day," as Frances Beale wrote.¹¹⁸ Linda La Rue, another activist who was concerned with "the depth, the extent, the intensity, the importance—indeed the suffering and depravity of the *real* oppression blacks have experienced," had little patience with "women who heretofore have suffered little more than boredom, genteel repression, and dishpan hands."¹¹⁹ bell hooks, distilling decades of criticism when she wrote "Friedan's famous phrase 'the problem with no name,' often quoted to describe the condition of women in this society, actually referred to the plight of a select group of college-educated, middle- and upper-class, married white women—housewives bored with leisure, with home, with children, with buying products, with wanting more out of life."¹²⁰ Black feminists and others made clear that Friedan's call for reform had a foundation that did not accommodate Black women.

¹¹⁸ Frances Beale, "Double Jeopardy: To be Black and Female," in *The Black Woman: An Anthology*, ed. Toni Morrison (New York: New American, Inc., 1970), 98.

¹¹⁹ Linda La Rue, "The Black Movement and Women's Liberation," *Black Scholar* 1, no. 7 (May 1970): 38.

¹²⁰ bell hooks, excerpts from *Feminist Theory: From Margin to Center* in *Words of Fire: An Anthology of African American Feminist Thought*, ed. Beverly Guy-Sheftall (New York: W.W. Norton, 1995), 270.

Pitfalls of Progressivism

The defeat of the CSH #24 development in April 1962 came as a blow to potential buyers, who had reserved a third of the lots precisely because of the community concept and their inability to afford the purchase and maintenance of houses on larger lots.¹²¹ A statement of protest issued by 26 university professors intending to live in the community demonstrated their support of the plan: “We are a heterogenous group: artists, economists, educators, historians, psychologists...Through the planning [of this community] we see a proper environment for the emotional and social development of our children. We believe it offers a way of life for our families, rather than mere housing.”¹²² As their statement shows, the plan, in many respects, might have actually fulfilled the promises of the Case Study program.

However, in spite of their grand ambitions, architects social and aesthetic critiques fundamentally failed to address the basic gendered division of labor. Where Jones and Emmons proposed the advantages of providing more community facilities and shared spaces, they did not challenge the Victorian programming at the heart of American domestic culture. In this template of the patriarchal family, all emphasis on community facilities were ultimately in service of strengthening the same idealized family. Even Lewis Mumford, the most trenchant of urban critics rhapsodized, “who can doubt that Victorian domesticity, among the upper half of the middle class, was encouraged by all

¹²¹ Smith and Jones, “The Thirty-Six Case Study Projects,” in *Blueprints for Modern Living*, 76.

¹²² Smith and Jones, “The Thirty-Six Case Study Projects,” *Blueprints for Modern Living*, 76.

the comforts and conveniences, the sense of internal space and peace, that brought the Victorian father back nightly to his snug household.”¹²³

Thus, the competing ideologies about motherhood were not only or simply about the domestic sphere. In the construction of domestic space, designers like Jones and Emmons employed the strategy of presenting the kitchen as a home office in an attempt to elevate the status of the housewife to that of a professional. This strategy relied heavily on the presentation of the kitchen as a command center, a space free from clutter and disorganization, traits central to the depiction of both maternal failure and non-white otherness. In this moment when the status of the stay-at-home mother was being challenged in the public discourse, designs for open kitchens like that of CSH #24 contributed to women’s further confinement within the home, even if that home sometimes masqueraded as a professional space. This process of re-inscription could easily be obscured by the progressive ideology of the designers or the superficial emphasis on domestic design innovations. Likewise, much has been made of the power white women were thought to gain in the open kitchen, as they assumed a position of control and supervision. Yet, any “power” gained was offset by the ways in which this position, as scripted by the architecture, did more to reinforce a woman’s role as wife and, most importantly, as mother.

¹²³ Lewis Mumford, *The Urban Prospect* (New York: Harcourt, Brace & World 1968), 34-5.

The Important House

In April 1948, a short story, titled “The Important House” ran in *The New Yorker*. Featuring an image-conscious couple named the Blakeleys, the story followed the husband and wife as they prepared their newly built modernist home, designed by renowned architect Mr. Aidan, to be photographed for *House & Garden*. The Blakeleys were eager to put their best face forward: Mrs. Blakely commissioned a new custom woven upholstery for her couch; Mr. Blakeley had proudly acquired a new French lamp; all of the couple’s finest silver had been polished and put out on the table for display.¹²⁴ Upon the unnervingly delayed arrival of their newly glamourized couch, Mrs. Blakely “looked around the room and was pleased. It *was* an important house. She had noticed that the modern houses were finding their way to the front of the magazines...the Cape Cods were being pushed back among lawnmower ads.”¹²⁵

However, when the nameless, but prominent architectural photographer arrives, he and Mr. Aidan go about rearranging the house, removing the Blakeley’s belongings in favor of a neighbor’s tropical plants and more “suitable” modern furniture. Mr. Aidan goes so far as to gather tree branches and snip ivy from the neighbor’s yard and affix the greenery around the exterior of the home to present the illusion of a more matured landscape. When Mrs. Blakeley tries to bring a stray two-year-old *Fortune* magazine back to the study, she discovers it has been taped to the living room coffee table. The

¹²⁴ Esther McCoy, “The Important House,” *The New Yorker* (April 17, 1948): 50-56.

¹²⁵ McCoy, “The Important House,” 52.

photographer liked the “excellent blue” on the cover and Mr. Aidan thought the subject would signal a good message to readers.¹²⁶

Mrs. Blakeley is most distressed when Mr. Aidan pushes all the drapes open to one side, “leaving the house open to the camera.” With the drapes pulled back, she finds it gives the space “an unpleasantly exposed look” and for that reason she would never arrange the drapes that way herself. When she shares this thought with Mr. Aidan, he responds gently, with a touch of condescension: “A person unfamiliar with the house could only understand it if he saw the way the glass is used to form the whole wall. If the glass is broken up by curtains it just becomes any wall with some glass doors in it. Do you see?”¹²⁷

The story’s author doesn’t describe the architecture of the house in great detail, but multiple references to glass—doors, panels, and walls—make clear that the transparent material was used liberally around the house, offering views from the inside out, and significantly, from the outside in. As evidenced by Mr. Aidan’s comments, what matters most in the end is what the public sees, more than the sentiments of domesticity staged by the house’s occupants. In other words, as architectural historian Alice T. Friedman has argued, the success or failure of modern architecture lay as much in the image and experience delivered as in its function or use.¹²⁸

“The Important House” was written by Esther McCoy, noted critic and promoter of the Case Study program. Armed with this knowledge, the nameless photographer in

¹²⁶ McCoy, “The Important House,” 54.

¹²⁷ McCoy, “The Important House,” 55.

¹²⁸ Alice T. Friedman, *American Glamour and the Evolution of Modern Architecture* (New Haven: Yale University Press, 2010), 6.

question comes into focus as a thinly veiled caricature of her close friend, Julius Shulman. The architect featured then, could have been the fictional doppelganger for any number of modernists participating in the Case Study program. Though exaggerated, McCoy's story foreshadows—in remarkable detail—some events surrounding Shulman's week long session in May 1960 photographing CSH #22, designed by Pierre Koenig (down to Koenig's ad hoc landscaping and purposeful magazine placement).¹²⁹ The resultant images from that photoshoot came to define CSH #22, the Case Study program, the aesthetic of modernism in California, and the aspirations of millions of white middle-class families looking for an ever improving future through their homes.¹³⁰

While Shulman's most iconic photograph of CSH #22 is a shot looking into the cantilevered living room at night, he captured equally important images of the house's open plan kitchen, dining, and living space (Figures 3.26, 3.27, and 3.28). Like the nocturnal photograph, these images rely on the formal properties of the image to create views of the house and its architecture that are distinct from—and in excess of—what the space achieves through its own material effects. By actively representing the space as a framing device for apprehending views of the outside world, the photographs helped to create the perceptual affordances that the house then seemed to invite. Perhaps more

¹²⁹ Both Koenig and Shulman have recounted their version of the photo shoot in multiple interviews and oral histories. See Peter Kirby, Elizabeth A. T. Smith, Edward A Killingsworth, and Esther McCoy, *The Case Study House Program, 1945-1966: An Anecdotal History & Commentary* (Los Angeles: Museum of Contemporary Art, 1989); and Julius Shulman and Peter Gössel, *Architecture and Its Photography* (Köln: Taschen, 1998).

¹³⁰ Shulman's ledger indicates that the shoot took place on May 9, 1960. There are no additional dates listed. His client index cards confirm this date. See 2004.R.10, boxes, 190, 195, 198, 199, 200, 1053-1054, and 1110, Job 2980: Case Study House No. 22, Julius Shulman photograph Archive, Getty Research Institute (henceforth Getty).

significantly, they offer a means of assessing how the architecture structures views for and of its occupants and in turn scripts modes of looking—at one another and at the world. Referring to such open floor plans, furniture designer George Nelson wrote “when the walls disappear, the only place left for furniture is out in the open. Hence silhouette becomes important, and most traditional designs for seating become unusable.”¹³¹ He continued: “In this...the chair remains as one of the unassimilable objects and in consequence becomes very conspicuous. It becomes as much a piece of sculpture as an object of utility. One might now compare it to a girl in a Bikini suit, who has to pay more attention to her figure than the ladies in the bathing costumes of the...era.”¹³² Nelson’s observations make clear the correlation between furniture and women as objects of display in domestic settings.¹³³ Thus, in CSH #22, the open kitchen became a site where women’s bodies in particular could be displayed to family members, guests, and even magazine readers in ways that perpetuated conservative gender roles and contributed to the class and racial categories to which the family aspired.

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CSH #22 originated as the Stahl house, named for owners C.H. (Buck) and Calotta Stahl.¹³⁴ The couple hired the young Los Angeles architect Koenig to design their house in 1958, several years after purchasing the property and after rounds of interviews

¹³¹ George Nelson, ed. *Chairs* (New York: Whitney Publications, 1953), 7.

¹³² Nelson, *Chairs*, 7.

¹³³ For more see Kristina Wilson, “Like a ‘Girl in a Bikini Suit’ and Other Stories: The Herman Miller Furniture Company, Gender and Race at Mid-Century,” *Journal of Design History* 28, issue 2 (May 2015).

¹³⁴ Coincidentally, or perhaps an act of kismet, the family’s surname *stahl* translates to “steel”—the material that defines the house’s design—in German.

with architects who balked at the difficult site conditions.¹³⁵ At the top of a precipitous drop, the Stahls had envisioned a modern, low-budget, south-facing house with a butterfly roof. The most important feature of their vision was an unobstructed 270° view, a non-negotiable element, which most of the architects the couple interviewed were unwilling to attempt, especially given the challenges of the site.¹³⁶ Koenig, armed with the knowledge of steel-frame construction from the recently completed CSH #21 (Bailey House), was undaunted by the task (Figure 3.29). His concept for CSH #22 was a pavilion-type structure. “In this project, a happy combination of site, soil, height, and location,” he wrote, “combined to suggest a solution in which it was possible to take advantage of all elements without the necessity of compromising the design.” Moreover, he maintained that by “understanding the structure a balanced relationship...[could be] established between house, pool, sky, and view.”¹³⁷

Koenig laid out the plan in an L-shape, the width of one room, devised to separate the living from the sleeping quarters (Figure 3.30). The master bedroom and a large children’s bedroom, which could be divided into two with a sliding panel, occupies the arm of the house, whose solid wall (the only exterior solid wall in the house) faces the street on one side, with fully glazed walls on all of the other. The pool and the city stretch beyond the glass. He placed the carport at the far western end of this private wing,

¹³⁵ First working drawings for the project are dated July 1958. Working drawings, Residence for Mr. and Mrs. C.H. Stahl, 3 July 1957, Getty 2006.M.30, flat files 20, 21, Pierre Koenig Papers and Drawings.

¹³⁶ In the 1989 documentary *The Case Study House Program, 1945-1966: An Anecdotal History & Commentary*, Koenig recalled how Buck Stahl insisted on these panoramic views, adding “...and I could do it.”

¹³⁷ Untitled typescript, n.d., Pierre Koenig Papers and Drawings. (2006.M.30). Box 1A, folder 1. Getty Research Institute.

establishing the doorway from the carport as the main entrance to the family's private realm. A processional exterior route, then, leads from the carport, past the master bedroom and across a set of footbridges outside the master bath and kitchen core where the arms of the "L" meet. At this point, the plan turns sharply to the right on the north-south axis of the "L" into an open plan that proceeds from kitchen to dining areas, then to the living room marked by a free-standing fireplace, and finally to the view. Here, the transparency of the glass walls allows for both cross views as well as distant ones. Thus, a sense of horizontality and expanse, enabled by the deep beams, stretches beyond the steel frame and glass panes. From within the house, as *Arts & Architecture* noted, "the total effect is one of a free-floating span of roof...oriented to an expansive and spectacular panorama."¹³⁸

The kitchen's arrangement, too, was designed to preserve and emphasize sightlines. Two cabinet units define the kitchen area (see Figure 3.27). On the northern end, the refrigerator and two stacked ovens bookend a solid wall of cabinet. A cabinet unit also demarcates the end of the kitchen, with an open passthrough between the top row of cabinets lined with translucent doors and white countertops. The counter extends to the other side of the cabinet unit to the dining area. This seating arrangement facilitated easy flow of movement for both food and people from the kitchen to dining spaces.

The Stahls' desire for panoramic views of the city "unobstructed by any exterior wall or sheer wall, or anything at all" structured most design decisions for the house.¹³⁹ The large spans of glass and the cantilevering of the structure, essential elements of the

¹³⁸ "Case Study House No. 22," *Arts & Architecture* (February 1960), 26.

¹³⁹ Koenig interview in *The Case Study House Program, 1945-1966: An Anecdotal History & Commentary*.

design that facilitated the necessary vistas, precluded traditional wood-frame construction. Thus, Koenig turned to steel, which would also provide greater stability than wood in the likely event of an earthquake. In chronicling the program, McCoy wrote extensively about both the dreams and the frustrations steel offered designers in the Case Study program: “Steel promised to lead domestic architecture to the factory after the end of World War I....One might have hoped that out of this brave beginning, out of the need for mass housing, and because of the rapid industrialization in all other fields, that the standard factory-built frame was an inevitability.”¹⁴⁰ Inspired by such promises, born of wartime production methods, Koenig exploited the maximum potential of the material by designing a minimal steel cage spanned by sheets of glass. Aesthetically, the thin lines of the steel looked incidental compared to their strength. Programmatically, steel became essential for executing an open-plan, fully glazed arrangement that, too, could offer the uninterrupted views.

Passthrough as Picture Window

The openness that pervades the living space is further emphasized by the way in which two fixed items in the plan—the kitchen and the fireplace—are defined by a steel frame of their own (see Figures 3.28 and 3.31). In effect, both are aedicules, or shrines, within the space. Both freestanding structures are placed on the central axis of the room with open circulation around them, crucially, minimizing the obstructed view from the kitchen out to the city and the ocean in the far distance. Visually, the kitchen’s

¹⁴⁰ McCoy, *Modern California Houses: Case Study Houses, 1945-1962* (New York: Reinhold Publishing Corp., 1962), 69-70.

individuated steel frame does more to demarcate the space within the CSH #22's otherwise open plan. In particular, the lowered ceiling, which is prominently visible from the side and front of the kitchen, signals a spatial distinction from the rest of the house. With this spatial distinction comes a symbolic one that affects the behavior prompted, or scripted to use Bernstein's phrase, on either side of the kitchen.¹⁴¹ Notably too, as originally built and visible in Shulman's photographs, the kitchen pavilion could be closed off with sliding panels on either end. Though no archival documents suggest the materials used for the doors, the detailing in the drawing indicates it is unlikely they were made of glass. When closed, any opaque, or even translucent doors would leave the passthrough as the sole visual connection between the housewife in the kitchen.

Significantly, the balance of visibility in and through the kitchen passthrough is not equal. Even with the sides closed off, a housewife still had a relatively commanding view of the dining and living areas looking out from the passthrough, in a position similar to that of the housewife in CSH #24 (Figure 3.32). Scholars have variously argued that, though negligible by today's standards, in granting the housewife this ability to surveille those around her, this type of kitchen design actually empowered and elevated housewives, and by extension women in society. For example, in asserting the progressive ideology embedded in Gregory Ain's domestic architecture, historian Anthony Denzer notes that Ain used the term "surveillance" to describe the relationship that the kitchen facilitated between the housewife and her family, further arguing that this language indicated that Ain conceived of the kitchen as a location of visual control that

¹⁴¹ Bernstein, *Racial Innocence*.

conferred social importance on the housewife.¹⁴² Design historian Lesley Jackson likewise interprets this relationship as an acknowledgment of the more prominent and assertive role that women would seek to play in the future, both in the home and in the workplace.¹⁴³

However, neither of these readings take the inverse view, that of the family looking into the kitchen, into account. The physical contours of the passthrough frame the housewife, capturing her image at work (see Figure 3.28b). From this perspective the inverse effects of her “commanding position” are made clear, as her body, movements, and work come into view. While Koenig’s use of steel framing, combined with glass, was largely deployed to facilitate views beyond the walls of the house, the design also established an optical infrastructure of the “visibility principle”—coined by urbanist William Mann Dobriner in his study of class in suburbia—that scripted viewing oriented inward.¹⁴⁴ “The *visibility* principle is a characteristic suburban feature: suburbanites can observe each other’s behavior and general life far more easily...there is no escaping the omnipresent eye of the community.”¹⁴⁵ In other words, Dobriner saw surveillance as a constant feature of suburban domestic life. As architectural historian Sandy Isenstadt describes in the context of suburban development in the United States, the word “suburban” conjures a picture of open space—“the suburbs *are* open and spacious and because of that life is more visible.”¹⁴⁶ This visibility principle, akin to Tony Bennett’s

¹⁴² Anthony Denzer, *Gregory Ain: The Modern House as Social Commentary* (New York: Rizzoli, 2008), 152.

¹⁴³ Lesley Jackson, *Contemporary: Architecture and Interiors of the 1950s* (London: Phaidon Press, 1994), 88.

¹⁴⁴ William Dobriner, *Class in Suburbia* (Englewood Cliffs, NJ: Prentice-Hall, 1963), 9.

¹⁴⁵ Dobriner, *Class in Suburbia*, 9.

¹⁴⁶ Isenstadt, *The Modern American House*, 180.

exhibitionary complex, is a condition of postwar domesticity, born out prominently in kitchen design.¹⁴⁷ In spaces like CSH #22, family members can observe, as well as regulate, as Bennett would assert, each other's behavior more easily. Under these conditions of near constant visibility, family members were in a position to witness themselves upholding and perpetuating a white, heteronormative familial and societal structure.

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This mode of looking echoes that associated with the picture window. If the open plan signaled the modernity of a house's inhabitants, the picture window was its exterior counterpart. In *The Modern American House: Spaciousness and Middle-Class Identity*, Isenstadt traces the emergence of the picture window and related spatial phenomena in mid-century domesticity. He locates the form's early development and popularity in the early 1930s when the glass manufacturing company Libbey-Owens-Ford began advertising "The Picture Window Idea" in home magazines.¹⁴⁸ Defined as both a window and a view beyond it, the modern form of the picture window came about from the intersection of nineteenth-century discussions of spatial perception in the home, visual relations with landscape, commercial interests of window makers, class ambitions of homeowners, and formal tenets of modern architecture.¹⁴⁹ In its favor, the picture window allowed increasing amounts of sunlight into the home, and offered the promise, if not the reality, of an every changing pastoral view, one that signified wealth for its

¹⁴⁷ Tony Bennett, "The Exhibitionary Complex," *New Formations* 4 (Spring 1988).

¹⁴⁸ Isenstadt, *The Modern American House*, 180.

¹⁴⁹ Isenstadt, *The Modern American House*, 200.

links to an Acadian, romantic past. Thus, it promised an environment of shared values and democracy.

At the same time, the picture window was regularly objected to on the grounds that it was banal, repressive, and self-deceptive in suburban American. The pressure to realize so many ideals has made, as John Keats put it in the title of his 1956 book of social criticism, a “crack in the picture window.” In the book, Keats called it a “vast and empty eye” that stared across the street at an identical aperture that reflected and looked vacantly back again. He wrote that his suburban heroine, Mary Drone, “moved by subconscious need...lowered the venetian blinds across her picture window to shut out the ghastly view of the mirror of her empty life staring at her across the treeless unpaved street. Listlessly, she picked up a woman’s magazine and began to read.”¹⁵⁰ Even more troubling to Keats was the role he believed the picture window played in the loss of individuality. He wrote: “In the American house, the picture eye in the tokonoma reflects the outside world; instead of representing the family, it represents people’s activities. It is specifically designed to turn attention outward, away from the home.”¹⁵¹ In his history of the form, Isenstadt outlines these conflicts that resulted when the picture window, a form that had its origins in the ribbon windows of International Style modernism became “Demonized as emblematic of pretty much everything wrong in architecture, America, or both.”¹⁵²

As picture windows became popular, they were increasingly incorporated into house planning. Home owners were offered views where there was nothing to see and

¹⁵⁰ John Keats, *A Crack in the Picture Window* (New York: Houghton Mifflin, 1957), 21, 58-9.

¹⁵¹ Keats, *A Crack in the Picture Window*, 167.

¹⁵² Isenstadt, *The Modern American House*, 181.

compelled to give up their privacy where they wanted it.¹⁵³ Daniel Boorstin's polemical 1961 book, *The Image: A Guide to Pseudo-Events in America*, was meant to describe "how we hide reality from ourselves."¹⁵⁴ Boorstin ends the book by describing a picture window, which he argues is tainted by a "remarkably dense scrim of delusion": self-deception and failed visions, leisure turned to boredom, technology gone out-of-control, living environments ruined by their owners' attempts to improve them and degraded by nothing more heroic than bad taste.¹⁵⁵

In an earlier age, the architectural symbol of small-town, growing America was the friendly front porch. In our day, the architectural symbol of domestic life is the picture window. The picture window is as much to look into as to look out of. It is where we display ourselves to ourselves. When from the outside you look in, what you usually see is not people going about their business, but a large, ornate, tasteless electric lamp, which during the day prevents natural sunlight from coming in. When we look out our own picture window, if we do not see our neighbor's garbage pail, we are apt to see our neighbor himself. But he too is apt to be doing nothing more than looking at us through *his* picture window...How to escape? How to avoid a life of looking in and out of picture windows?¹⁵⁶

It is not surprising that the picture window rose to prominence through advertisements from glass manufacturers. Optical clarity of the glass and scope of the view remained important qualities. "THE PICTURE WINDOW...steadily gaining popularity in residences everywhere," trumpeted another glass manufacturer's brochure, was "without cross sash to interfere with vision."¹⁵⁷ Earlier advertisements had demonstrated clarity by showing scenes of neighboring houses or leisure activities, with ad copy saying that

¹⁵³ See "Private Worlds," in Harris, *Little White Houses*.

¹⁵⁴ Daniel Boorstin, *The Image: A Guide to Pseudo-Events in America* (New York: Harper Row, 1961), 259.

¹⁵⁵ Boorstin, *The Image*, 259.

¹⁵⁶ Boorstin, *The Image*, 259.

¹⁵⁷ L-O-F a12-13. Libbey-Owens-Ford Company Records, 1895-1991 (MSS-066). Box 8, Folder 21. The Ward M. Canady Center for Specialty Collections, University of Toledo.

“whatever lies beyond” would appear sharper through glass.¹⁵⁸ Libbey-Owens-Ford, one of the nation’s largest glass manufacturers used its ads to explain the two main functions of window glass: “From within, it must give you a clear, sharp picture of whatever lies beyond it. From the outside...it must present even, regular reflections to passersby and guests about to enter.”¹⁵⁹ Clearer window glass in the home was likened to wearing better eyeglasses: both conferred on the user “clear vision” or “perfect vision.” The company was also an enthusiastic supporter of modern architecture, especially when it featured entire walls made of glass. In 1937, early on in its picture window campaign, L-O-F ran full page ads featuring the VDL Research House in Los Angeles by Richard Neutra, a decade before he designed his first Case Study House in 1948 (Figure 3.33). The ads exuberantly praised Neutra’s generous use of glass.

Like a picture window, the kitchen passthrough in CSH #22 was a part of the design that capitalized on such a view. Both made the position of the spectator explicit just as they both formalized the proper object of display—viewers on either side of the frame. And through them it was easy to overlook some of the cruelest aspects of American life: an acquisitiveness and attachment to material goods, the resilience of conservative gender stereotypes, an intolerance of difference and racism that was invisible only through their frames, and the hypocrisy of individualism amid the fear of nonconformity.

¹⁵⁸ Building on Isenstadt’s study, Diane Harris demonstrated that working against the picture window were notions related to privacy and the maintenance of class values. Despite its status as marker of wealth and high-class, Harris shows how window walls and large amounts of glass also received criticism because they required constant maintenance. A dirty window could reflect poorly on a housewife and her family, especially because of the classes and raced iconography associated with dirt. She cites period commentators Mary and George Catlin who explained, large areas of glass were hard to keep clean, and “the servantless housewife is harassed and oppressed by a job which always seems to need to be done: getting at washing those pesky windows.” Quoted in Harris, *Little White Houses*, 133.

¹⁵⁹ L-O-F Advertisement featuring Neutra’s VDL House, *House & Garden* (May 1934), 25.

Where picture windows blended interior and exterior domestic spaces in a manner that created an air of spaciousness, the kitchen passthrough, particularly as part of the Koenig's open plan design, similarly promised increased freedom of movement and access. Yet in practice both ultimately facilitated an exhibitionary complex that encouraged the aforementioned conformity. Thus, the picture window and the passthrough became an ironic symbol of vision set free only to collide with its confinement in a web of social expectations that encircled the single-family house.

The View It Frames

Both the trope of the framing window and a self-conscious focus on the activity of looking were recurring themes in the architecture culture of the postwar period, as Friedman has discussed in her study of modern architecture through the lens of “glamour.”¹⁶⁰ Beginning with obvious examples including the glass walls of Johnson's

¹⁶⁰ Friedman, *American Glamour*, 25. The notion of art as a fictive window is the subject of much scholarship in the history of art and architecture, with seemingly limitless temporal and geographic bounds. Perhaps most famously, in *De Pictura* (1435), Leon Battista Alberti instructed painters to consider the frame of the painting as an open window. See Leon Battista Alberti, *De Pictura (On Painting): A New Translation and Critical Edition*, trans. and ed. Rocco Sinisgalli (Cambridge: Cambridge University Press, 2011). For studies of early modern art that contend with the Albertian window see Victor I. Stoichita, *The Self-Aware Image: An Insight into Early Modern Meta-Painting*, trans. Ann-Marie Glasheen (Cambridge: Cambridge University Press, 1997); Patricia Simons “Women in Frames: The Gaze, The Eye, and The Profile in Renaissance Portraiture,” *History Workshop* 25 (Spring 1998): 4-30; Adrian Randolph, *Touching Objects: Intimate Experiences of Italian Fifteenth-Century Art* (New Haven: Yale University Press, 2014); David Young Kim, “Lotto's Carpets: Materiality, Textiles, and Composition in Renaissance Painting,” *The Art Bulletin* 98 (2016):181-212. In *The Virtual Window*, Ann Friedberg takes Alberti's window as a starting point for a cultural history of the metaphoric, literal, and virtual window. See Ann Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge, MA: The MIT Press, 2006). In art of the United States, the Peale family offers a rich body of work with which to examine “deception” as a corollary concept to the fictive window. See, for example, Carol Eaton Soltis, *The Art of the Peales: Adaptation and Innovation* (New Haven: Yale University Press published in association with the Philadelphia Museum of Art, 2017). For studies of “framing” as a theme in modern art see Kristina Wilson, *The Modern Eye: Stieglitz, MoMA, and the Art of the Exhibition* (New Haven: Yale University Press, 2009); Christine Poggi, *In Defiance of Painting: Cubism, Futurism, and the Invention of Collage* (New Haven: Yale University Press, 1993); Alex

Glass House or Mies's Farnsworth House (Figures 3.2 and 3.3), Friedman finds a number of quite literal examples: from an illustration of Breuer's Wellfleet House (1944) seen through a car window, published in July 1946, to the multiple television shaped screens of the Eames's multimedia installation "Glimpses of America" presented in Moscow in 1959 (Figures 3.34 and 3.35).¹⁶¹ Koenig's design for CSH #22 was similarly oriented to various views, not only outward beyond the glass walls towards the Los Angeles cityscape but also inward through the passthrough-as-picture window towards the housewife.

Isenstadt, too, describes the concept of "the view" framed by a window as an expression of a modern notion of domestic character: it was evidence of an orientation toward nature; it visibly registered physical distance from work; and it provided therapeutic opportunities for those made anxious by the city or otherwise in need of physical calm. It was also, significantly, a good that had to be purchased—that is to say, its aesthetic and therapeutic benefits came at a price determined by the market, just as other goods formerly homemade had been replaced by manufactured goods.¹⁶² Views came to acquire real cash value in the real estate market beginning in the 1940s, when "view" began to appear as a line item on appraisal forms."¹⁶³ To be able to claim a view

Potts, *Experiments in Modern Realism: World Making in Postwar European and American Art* (New Haven: Yale University Press, 2013). For discussion of television as a fictive window see note 161.

¹⁶¹ On the Eames's installation see Beatriz Colomina, *Domesticity at War* (Cambridge, MA: The MIT Press, 2007). For study of both the automobile and the television as dominant features of American popular and visual culture of the mid-twentieth century see Karal Ann Marling, *As Seen on TV: The Visual Culture of Everyday Life in the 1950s* (Cambridge, MA: Harvard University Press, 1994). For discussion of television, domesticity, and the modern home, see Lynn Spigel, *Welcome to the Dreamhouse: Popular Media and the Postwar Suburbs* (Durham, NC: Duke University Press, 2001); Spigel, *TV by Design: Modern Art and the Rise of Network Television* (Chicago: University of Chicago Press, 2008).

¹⁶² Isenstadt, *The Modern American House*, 178.

¹⁶³ Isenstadt, *The Modern American House*, 178.

outside one's picture window, then, also signaled wealth in the real terms of market value.

To live in the "glass age" was to embrace the bright sparkle of the unimpeded view from the picture window. In describing the history of the picture window, Isenstadt finds that art and views have long been intertwined, particularly as they have a common purpose in creating visual diversity and diversion from a room's dimensions.¹⁶⁴ During the postwar period, having already been likened to art throughout the nineteenth century, views were now said to replace art: "Instead of having a solid wall with a large picture on it, the post-war home will have a wall of glass that is in itself a natural, true-to-life picture."¹⁶⁵ Emphasizing a lush landscape could ameliorate other shortcomings of modernism such as the commonly expressed criticism that it was an antiseptic style. Johnson understood this when gesturing toward the walls of his glass house, he was heard to say: "People call this house sterile, but it isn't. Look at my wallpaper."¹⁶⁶ And as Isenstadt has argued, it was a picturesque conceit to make a landscape look like a picture, but it was a commonplace in the mid-twentieth century to say that one was as good as the other.¹⁶⁷

Views, in other words, were subsumed within a concept of ornament. Views were not just compared to paintings, photomurals, and scenic wallpaper; they were akin: all

¹⁶⁴ Isenstadt, *The Modern American House*, 178.

¹⁶⁵ *A Preview of Tomorrow*, n.p., Views were frequently referred to with some variation of this trope as "living picture," or paintings as themselves "artificial substitutes" for actual views, as in Charles Moore, et al., *The Place of Houses* (New York, 1974), 104.

¹⁶⁶ Cited in Cranston Jones, *Architecture Today and Tomorrow* (New York: McGraw-Hill, 1961), 158.

¹⁶⁷ Isenstadt, *The Modern American House*, 233.

were media that organized visible light into a brand of scenery available to enhance a sense of interior space. Le Corbusier, for example, famously defines architecture as:

the masterly, correct, and magnificent play of masses brought together in light. Our eyes are made to see forms in light; light and shade reveal these forms; cubes, cones, spheres, cylinders or pyramids are the great primary forms which light reveals to advantage; the image of these is distinct and tangible within us and without ambiguity. It is for that reason that these are *beautiful forms, the most beautiful forms*. Everybody is agreed as to that, the child, the savage and the metaphysician. It is of the very nature of the plastic arts.¹⁶⁸

In this way, modernism was guided by this notion of an interpenetration both of media and experience, according to György Kepes. With modern architecture in particular, all optical effects “are carefully calculated and organized to focus divergent spatial vistas in one visual grasp.”¹⁶⁹

A vivid statement of architecture’s contribution to this modern way of seeing appeared in a 1952 feature in *House and Home* on Marcel Breuer: “A lot of Breuer houses look like cameras: rectangular boxes perched on a small stone base as if on a tripod, one large glass wall focused on a straight view.” The house was like a camera because it was shaped like a large-format view camera and because it framed a picture of a landscape (Figure 3.36). Breuer, here called an “architect’s architect”, liked to look: “Breuer’s attitude toward nature is that of an observer, of the man behind the camera: he likes to look at it.” In turn, his architecture was a platform for viewing: “His houses are

¹⁶⁸ Le Corbusier, *Towards a New Architecture*, trans. Frederick Etchells (New York: Dover Publications, 1986), 29.

¹⁶⁹ György Kepes, *Language of Vision* (Chicago: P. Theobald, 1944), 77-79. For more on Kepes in the discourse of modern architecture, see Colin Rowe and Robert Slutsky, *Transparency* (Boston: Birkhäuser, 1997); Anna Vallye, “György Kepes’s ‘Universities of Vision’,” in *Emigré Design Cultures: Histories of the Social in Design*, ed. Elana Shapira (London: Bloomsbury Publishing, 2017), 175-190; Vallye, “The Middleman: Kepes’s Instruments,” in *A Second Modernism: MIT, Architecture, and the “Techno-Social” Moment*, ed. Arindam Dutta (Cambridge: MIT Press, 2013), 144-185.

observation posts from which to admire what no man can imitate.”¹⁷⁰ Like a scientist, Breuer observed nature. Like an artist, he framed it, and like a spectator he enjoyed looking at it. As a design strategy, the article continued, “This disarmingly simple idea seldom fails.”¹⁷¹ Breuer himself distinguished “the house that sits on the ground and permits you to walk about the landscape” from “the house on stilts that is elevated above the landscape, almost like a camera on a tripod. This will give you a better view, almost a sensation of floating above the landscape, or of standing on a bridge of a ship. It gives you a feeling of liberation, a certain élan, a certain daring[.]”¹⁷²

Breuer also employed the camera metaphor in kitchen design. When he was invited to design an ideal modern house for a middle-class family by MoMA in 1949, Breuer placed the kitchen at the center of his open plan house, with the dining area and living room on one side and the utility room and playroom on the other (Figure 3.6). To facilitate the housewife’s supervision of children both indoors and out, he positioned a “view panel”, a feature whose name recalls camera components (Figure 3.37). Additionally, Breuer’s words find strong resonance in CSH #22, from the passthrough form recalling a camera lens to the perched siting of the house, like the tripod Breuer describes, offering occupants a better view. Following Breuer’s formulation, with the house as camera and architect or occupant as photographer, views of each other and of the outside world, are framed.

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¹⁷⁰ “Marcel Breuer, Teacher and Architect,” *House and Home* 1 (May 1952), 104-115.

¹⁷¹ “Marcel Breuer, Teacher and Architect,” 104-115.

¹⁷² Marcel Breuer, *Sun and Shadow: Philosophy of an Architect* (New York: Dodge, Mead, 1955), 40.

Julius Shulman's photographs of CSH #22 reify the framing devices built into Koenig's design. Shulman's ability to photographically translate modern architecture into a lifestyle attracted the attention of John Entenza, who commissioned Shulman to photograph 18 of the 28 houses featured in the Case Study program.¹⁷³ Through features in *Arts & Architecture* and his own subsequent marketing efforts, his images became the driving force in ensuring broad exposure and appreciation of this architecture to the world beyond California. Furthermore, Shulman's 1960 photographs of CSH #22 are some of the most famous architectural photographs of the twentieth century, embodying the ideals of postwar optimism and virtuoso design. Nearly all published commentary on these photographs positions them as utopian images that depict the promise of California lifestyles and of architectural modernism.¹⁷⁴ Shulman himself wrote that the photograph was intended, in part, to help "allay the public's fears about the structural capabilities of modern architecture."¹⁷⁵ His photos were made, like many others created by Shulman and his contemporaries such as Ezra Stoller, Maynard Parker, and the Chicago firm of

¹⁷³ Shulman created brilliant and evocative images of the Case Study Houses; yet, in his autobiography he expressed an ambivalence to the project as a whole. Although he approved of the program's response to provide a "boost for living standards of low and middle-income families," he criticized Entenza's narrow selection of architects based on who reflect his personal preference for flat-roofed, modular, steel-framed structures. Shulman claimed that Entenza precluded architects whose designs would have been more proper to the program's initial aim to "experiment with design and structural techniques. Gregory Ain, for instance, who had developed many innovative designs for low-income housing in Southern California, was not invited to participate. Shulman suspected that Entenza disliked Ain's far-left politics and feared it would alienate the Case Study Program's only moderately progressive audience. See *Julius Shulman: Architecture and Its Photography*, 12.

¹⁷⁴ See, for example, Joseph Rosa, *A Constructed View: The Architectural Photography of Julius Shulman* (New York: Rizzoli, 1994), 54; Gary Gand, *Julius Shulman: Chicago Mid-Century Modernism* (New York: Rizzoli, 2010), 10; Michael Stern and Alan Hess, *Julius Shulman: Palm Springs* (New York: Rizzoli; Palm Springs, Calif.: Palm Springs Art Museum, 2008), 11, 12, 13; Paul Goldberger, "When Modernism Kissed the Land of Golden Dreams," *New York Times*, December 10, 1989; Andy Grundberg, "Julius Shulman, Photographer of Modernist California Architecture, Dies at 98," *New York Times*, July 17, 2009; and Susan Freudenheim, "The Man Who Made California Dreams Look the Way They Do," *New York Times*, March 6, 2005.

¹⁷⁵ Julius Shulman, "The Fear of Architecture," in *The Architecture of Fear*, ed. Nan Ellin (New York: Princeton Architectural Press, 1997), 131.

Hedrich Blessing, to sell a building to a client, an architect to potential clients, and architectural modernism to the general public—a public imagined and, indeed, constructed by the architectural, building, and lending communities as largely white, middle class, and settled in or moving to suburbia.

Of all the views Shulman captured of CSH #22, one image has come to define the house (see Figure 3.26). The picture shows two young women perched in a living room that seems to be cantilevered over a vibrant carpet of lights that spread across Los Angeles beneath their crystalline aerie. Above the darkened landscape, the house seems to float, like a brightly lit beacon.¹⁷⁶ As depicted by Shulman, the contrasts of light and shadow highlight the spare lines of the house to a dramatic effect: they create a bold frame for the objects inside the house—the globe lamps suspended from above, the low coffee table on which a pair of binoculars and a cigarette box have been set, and of course, the women’s bodies and full skirts—and also draw attention to the twinkling trajectories of light etched against a black background that stretches toward the horizon. Overall, the image evokes the blurred line between indoor and outdoor living that speaks to an American obsession with wide-open spaces.¹⁷⁷ This was Koenig’s intent when he sited the house according to the Stahl’s mandate, to visually extend it into the Los Angeles cityscape.¹⁷⁸ As reinforced in the contrast of light and dark in the image, the dominant symmetry also enhances the connection between the house and the land.

But considering that Shulman was hired to make photographs that would showcase the house, it is striking that the most famous one includes so little of the

¹⁷⁶ Shulman describes his process in Rosa, *A Constructed View*, 82-3.

¹⁷⁷ For more on indoor-outdoor living see Harris, *Little White Houses*, ch1. 8.

¹⁷⁸ Koenig quoted in McCoy, *Modern Houses*, 155.

residence in the frame. The photograph reveals only a corner of the living room interior, the structural frame that holds the floor-to-ceiling glass windows, the eaves of the roof that extend beyond the walls, and the enticing glimpse of the structure that supports the house. A chaise lounge and two potted plants occupy the terrace in the foreground, the angle and striations of the chair mirroring the lines of the beams that support the roof projecting over the city below and that occupy the upper third of the image. Without drawings of the plan or elevation, it is impossible to understand the form of the house itself. Yet this photo remains the iconic image of the house. While it is true that no single photograph can fully express or represent the form or entirety of a building, it is worth asking why this particular photograph—which represents so little of the house itself—has come to stand for its broader cultural significance. It would seem that something other than the house and its architectural features is in fact this photograph's subject.

Shulman did create a suite of photographs for the house—some in color and the majority do a better job than this one of describing the space and its forms. In one shot aimed at the kitchen from a corner of the living area, an elegant white woman stands at the kitchen counter in the background pouring a drink for her husband, seated at the round dining table on the other side of the passthrough (Figures 3.28a-b.). Meanwhile, in the foreground Shulman positioned signs pointing to the couple's worldliness: the same pair of binoculars visible in another image and travel magazines, including one in Russian. The presence of the binoculars, an optical device designed to make the far away appear within grasp, serves as reminder that—thanks to the abundance of glass mounted in Koenig's steel frame—the sweeping expanse of the California landscape framed prominently on the right seems to be at the couple's disposal.

Another one of Shulman's photographs of the kitchen captures a similar dynamic (Figure 3.27). The husband and wife now stand on opposite sides of the kitchen passthrough, with the woman predictably inside the kitchen and neatly dressed in a green ensemble that pops—along with Shulman's colorful red and yellow props—against the bright white surfaces and the hazy sky visible from the glass wall behind her.¹⁷⁹ As with much of Shulman's signature work, here the lattice of horizontals and verticals create a powerful perspectival effect. In doing so, these lines also direct the viewer's eye, creating dimensional perspective instead of a flat, straightforward position. And as with Shulman's most famous photographs of the house, this framing directs the viewer's eyes to the collapsing boundary between inside and outside. In other words, though the architecture of the house occupies more of the composition, the views it affords are equally the focus of the photographs.

Shulman approached each project with the aim of staging photographs to enhance consumer appeal, and the models in his photographs—a feature not common in architectural photograph at the time—serve as witnesses to provide viewers not just with a sense of scale, but also to more easily enable them to project themselves into the spaces. This effect is heightened in another Shulman photograph of CSH#22, where a man, with his back to the camera, gazes out from his protected stance to the evening cityscape (Figure 3.38). His position with his back to us is reminiscent of figures in the Romantic era paintings by Casper David Friedrich, which could suggest relative smallness in the face of the vastness of the vista (Figure 3.39). More importantly, in the context of the

¹⁷⁹ His daughter recounts that Shulman would take decorative items and furniture from their own home, such as potted plants and chairs, and stage them in whichever new house he was photographed. Eric Bricker, *Visual Acoustics: The Modernism of Julius Shulman* (New Video Group, 2010).

relationships between a city and its occupants, this Romantic reference also evokes dominance or control over the landscape. Though the scale of the figures is starkly different, the art historical models for this kind of outward gazing figure, who contemplates a panorama spread out before him, connote a type of selfhood that is as much tied to a sense of awe as it is to a sense of possession. Shulman's composition, in this particular photograph as well as his images of CSH #22 more broadly, encourages an understanding of those who inhabit the space in a position far above the rest of Los Angeles, both literally, and in social status, figuratively.

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These photographs, coupled with the architecture they depict, serve as a portal for considering freedom and openness, the defining characteristics of an “open world,” as they intersect with the spatial realms of city, suburb, and home in the second half of the twentieth century. As a whole, they are arrestingly beautiful images that embody the hallmarks of Shulman's artistic skills in their elegant and dynamic compositions, the dramatic and technologically skillful manipulation of light, and the artistic staging of models and objects. They aim to convey a postwar utopia, predicated on assumptions about the control of both urban and residential space that are suggested by the visual command of the city afforded to the occupants of the house, by the apparently prosperous lives of the well-dressed men and women, and the affluence indicated by the attributes of this custom-designed home, with its glass walls, indoor-outdoor connections, and carefully considered interior space. And, most importantly, they are inherently

ideological images, cast with a unifying aesthetic veil that renders the political content of the subject matter nearly invisible, thus naturalizing it.

Each of Shulman's images of CSH #22 refers not only to the whole of the house but also to an entire lifestyle, one inhabited by the white, clean, well-dressed, upper-middle-class occupants whose commanding view of the city affords them the visual authority associated with the control of space itself. Though this dynamic is most discussed in the context of a single iconic photograph, the gendered, classed, and racialized tensions embedded in both the imagery and the architecture are heightened when represented in the context of CSH #22's open kitchen. This was the world into which viewers projected themselves and to which Shulman, Koenig, and the architecture and building industries hoped they would aspire. As artist Michael Stern has written, "The milieu depicted in Shulman's photographs is a beautiful one, in which the people are attractive and buildings are exquisitely groomed and flawlessly framed."¹⁸⁰ Knowingly or not, Shulman created pictures that contributed to an enormous corpus of postwar domestic imagery whose iconography of white privilege was so pervasive, that as recent scholarship on race and architecture has made clear, it became almost invisible, at least in the sense that it went largely unquestioned.

W.J.T. Mitchell uses WEB Du Bois's famous theory of the metaphysical veil separating the Negro from the wider white world to claim race as "a *medium*, an intervening substance, to take the most literal definition. Race, in other words, is something we *see through*, like a frame, a window, a screen, or a lens, rather than

¹⁸⁰ Stern and Hess, *Julius Shulman: Palm Springs*, 11
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something we *look at*.”¹⁸¹ Mitchell situates race’s conditionality not in the exterior world harboring racial traces but within internal mechanisms of racial interpretation that accrue and move with us through the worlds we inhabit. But as Adrienne Brown has observed, in claiming race as a medium, Mitchell potentially diminishes the importance of race’s site specificity, not only to Du Bois’s theory of the veil but also to his broader oeuvre exploring the interdependence between the built environment and processes of racial perception.¹⁸²

While Du Bois’s famous declaration that “the problem of the Twentieth Century is the problem of the color-line” suggests a two-dimensional model of race premised on a single permeable boundary, his metaphor of the veil approaches race and racial perception as unfolding in three dimensions.¹⁸³ His well-known definition of double consciousness as “this sense of always looking at one’s self through the eyes of others, of measuring one’s soul by the tape of a world that looks on in assumed contempt and pity” relies not only on visual processes, as Shawn Michelle Smith has argued, but also spatial features of scale and vantage point that condition these acts of seeing and measurement within a multidimensional setting.¹⁸⁴ Building on Smith, Brown has argued that, in addition to being shaped by race, architecture, like photography, is a medium that has helped to shape race’s observation and perception. She considers architecture

¹⁸¹ W.J.T. Mitchell, *Seeing Through Race* (Cambridge: Harvard University Press, 2012), xii-xiii.

¹⁸² Adrienne Brown, *The Black Skyscraper: Architecture and the Perception of Race* (Baltimore: Johns Hopkins University Press, 2017), 35.

¹⁸³ W.E.B. Du Bois, *The Souls of Black Folk* (Chicago: A.C. McClurg, 1903), vii.

¹⁸⁴ Du Bois, *The Souls of Black Folk*, 3. In *Photography on the Color Line: W.E.B. Du Bois, Race, and Visual Culture*, Shawn Michelle Smith importantly illustrates the ways that Du Bois’s work at the turn of the twentieth century “conceptualized the racialized dynamics of the Jim Crow color line as visual culture” in order to reclaim him as an “early visual theorist of race and racism. Shawn Michelle Smith, *Photography on the Color Line: W.E.B. Du Bois, Race, and Visual Culture* (Durham: Duke University Press, 2004). Adrienne Brown extends Smith’s work to uncover how architecture shaped Du Bois’s understanding of visual as well as other modes of seeing and perceiving. Brown, *The Black Skyscraper*, 35.

(specifically the skyscraper) as a perceptual frame for American life at various scales and levels in order to better describe architecture's contribution to the construction and perceptual life of race.¹⁸⁵ Whereas photography can freeze the sense of racial perception, enabling views to linger on its image, architecture frames kinetic scenes that enable viewers to perceive its operability in three dimensions.¹⁸⁶

Shulman's photographs, then, position CSH #22 as a frame for an optimistic, if delusional, view of twentieth-century racialized domesticity, and of the city over which the house hovers, a city that viewers were meant to see as the embodiment of economic potential, personal freedoms, and sparkling glamour. Like many of the architectural photographs created by his contemporaries, Shulman carefully staged the photographs of CSH #22 to create the optimal balance between reality and a believable fiction, one that pertained to the architecture itself as much as to the lives of those depicted and to the city that stretched out below them. For it is clear in practically all images of the house, that the city, its grid and its lights, are equally the subject of the photographs. Koenig specifically aligned the house so that the roof and cantilevered structure appeared to line up with the grid-like arrangement of the streets below. Once completed, the house appeared to visually extend into the Los Angeles cityscape.¹⁸⁷ In *The Case Study House*

¹⁸⁵ Brown, *The Black Skyscraper*, 25.

¹⁸⁶ "The photograph became a prime locus of the performance of the racialized index," as Nicholas Mirzoeff notes, "since each time a photograph is looked at, a viewer consciously or unconsciously decides whether and how it indexes the race of its object." Nicholas Mirzoeff, "The Shadow and the Substance: Race, Photography, and the Index," in *Only Skin Deep: Changing Visions of the American Self*, ed. Coco Fusco and Brian Wallis (New York: International Center of Photography with Harry N. Abrams, 2003), 111.

¹⁸⁷ According to architectural historian Neil Jackson, Koenig aligned the living area with the grid of the city below and used the bedrooms to close off the street behind. In doing so, he tied his design firmly with both the site and the view. Jackson writes, "This worked not only in terms of the extended roof beams that picked up the lines of the north-south streets – specifically North Harper and North Sweetzer Avenues as they reached beyond Sunset Boulevard – but also in the way the profile roof decking, which extended

Program 1945-1966 documentary, Koenig notes, “When you look out along the beams it carries your eye out right along the city streets, and the [horizontal] decking disappears into the vanishing point and takes your eye out and the house becomes one with the city below.”¹⁸⁸

Yet, the photos depict well-groomed men and women, who have not so much merged with the city but are rather isolated, even sheltered, from it. Like many other cities around the country at the time, Los Angeles of 1960 was marked by urban tension, urban renewal, and turbulent social change. The segregated city above which both the real and imagined occupants of CSH #22 perch was one in which racial and ethnic divisions were becoming spatialized—literally concretized—through planning and the construction of massive freeways that divided the city and reinforced existing lines of segregation, in which South Los Angeles (the view in the nocturnal photograph looks to the south) became increasingly the location of poverty and race-related violence.

A city that had become the third largest urban area in the U.S., Los Angeles was also becoming infamous for wealth inequality and a fragile ecology that echoed the precarious balance of CSH #22 on its vulnerable site in the Hollywood Hills. Between 1958-61, when CSH #22 was being designed, constructed, and photographed, struggles over land at Chavez Ravine resulted in the displacement and erasure of a vital community of Latinx residents, whose removal allowed for the construction of Dodger Stadium. This fight over urban space remains well known to scholars who study spatial justice. As the Case Study program came to a close in 1965, the Watts Riots sprang from a deep well of

beyond the building’s envelope, corresponded to the cross streets receding into the distance.” See Neil Jackson, *Pierre Koenig: A View from the Archive* (Los Angeles: Getty Research Institute, 2019), 50.

¹⁸⁸ Quoted in James Steele and David Jenkins, *Pierre Koenig* (London: Phaidon Press, 1998), 15.

anger and frustration on the part of Black Americans who had experienced decades of discrimination.

These photographs stand as documents of a world that seems to have only been real in the views Shulman constructed. According to the photographer, his craft has two purposes. “The first is that of creating a picture that is itself a work of art and not primarily dependent on subject matter. The second purpose is to convey a message. The message may be one of clarification, simplification, or illustration...photography is a means of communication.”¹⁸⁹ Shulman’s perspective here promotes a self-serving concept of photography’s promise, at once serving his artistic needs and excusing the tensions being perpetuated. Art historian Martin Berger, writing on the whiteness of civil rights era photography, is more cognizant of the role of framing and context as evidence of civil unrest, and the implicit damage done by romanticizing a static image, especially in a period leading up to substantive economic and urban turbulence.¹⁹⁰ Shulman’s photographs, then, are not a form of communication so much as a projection, a fantasy of the triumph of patriarchal whiteness over the inequities over the city below.

Less is Simply Less

Elizabeth Gordon, famed editor of *House Beautiful*, was one of the few magazine editors impervious to the allure of Shulman’s photographs. Though she eventually admitted that Shulman’s photographs—which tended to focus on architecture as a

¹⁸⁹ Shulman quoted in Rosa, *A Constructed View*, 82-3.

¹⁹⁰ See Martin Berger, *Seeing Through Race: A Reinterpretation of Civil Rights Photography* (Berkeley: University of California Press, 2011).

beautiful object divorced from function and context—“made the buildings look much better than they actually were,” she chose not to use his work because, according to her, it depicted austere modern houses rooted in the European modern aesthetic, which she felt was too cold for American domestic dwellings.¹⁹¹ In the pages of a 1953 issue of *House Beautiful*, Gordon expanded on these concerns, telling readers that they were at a crossroads. “Two ways of life stretch before us. One leads to the richness of variety, to comfort, and beauty. The other, the one we want to fully expose you to, retreats to poverty and unlivability. Worst of all, it contains the threat of cultural dictatorship.”¹⁹²

In the pointedly titled editorial “The Threat to the Next America,” Gordon criticized modern architecture rooted in the Bauhaus and International style, viewing it as a possible political threat to the system of democracy: “If the mind of man can be manipulated in one great phase of life to be made willing to accept less, it would be possible to go on and get him to accept less in all phases of life.” She myopically traced the origins of modern architecture and design to nineteenth century American manufacturers. When the American innovations crossed the Atlantic, she believed the European modernists got them wrong. “Bauhaus intellectuals,” as Gordon called them, “used these industrial forms as ends in themselves, as art motifs for their own designs, not noticing—probably not understanding—how they arose as practical forms solving practical problems.”¹⁹³

¹⁹¹ Rosa, *A Constructed View*, 59. After Gordon left *House Beautiful* in 1965, Shulman started to receive assignments from the magazine.

¹⁹² Elizabeth Gordon, “The Threat to the Next America,” *House Beautiful* (April 1953), 127.

¹⁹³ Gordon, “The Threat to the Next America,” 128.

According to Gordon, upon immigration to the U.S. in the 1930s, Bauhaus masters, such as Walter Gropius, Marcel Breuer, László Moholy-Nagy, and Mies van der Rohe, brought with them an “intellectualized philosophy of design,” generally understood as the International Style. First presented to an American audiences in 1932 at the Museum of Modern Art’s inaugural architecture exhibition, *Modern Architecture: International Exhibition*, the International Style was later codified and published as a depoliticized set of formal characteristics—flat planes, an emphasis on volume over mass, and an absence of ornamentation—by curators Philip Johnson and Henry Russell Hitchcock (Figure 3.40).¹⁹⁴ Gordon based her attack on the International style largely on her understanding of Mies’s oft-repeated maxim “less is more.” “We know less is *not* more,” she exclaimed, “it is simply less.”¹⁹⁵ In her opinion, practitioners of the International Style championed mere aestheticism and belittled the kind of postwar homes, equipped with modern appliances, that were crucial to an “American way of life.” The latent xenophobia of her arguments furthered a narrative of American exceptionalism.

Gordon also rebuked this group of architects for being more concerned with appearance than how well a house functioned. And she perceived this minimal aesthetic to be part of a conspiracy to lower America’s standard of living. Additionally, she maintained that European modernism challenged the consumerism that she identified at the heart of American culture. Consumerism was often equated with patriotism and the public spent extravagantly in a race to achieve the idealized American dream fashioned

¹⁹⁴ Henry-Russell Hitchcock and Philip Johnson, *The International Style* (New York: W.W. Norton, 1966).

¹⁹⁵ Gordon, “The Threat to the Next America,” 129.

by magazines like *House Beautiful*. Gordon's magazine depended on advertisements of consumer goods, whose manufacturers expected profitable returns. Therefore, she stood to lose much with the rise of a minimalist aesthetic advocating "less is more," which she took to mean "Stripped down emptiness, lack of storage, and therefore a lack of possessions."¹⁹⁶ With progressively increasing attention directed at modernism in domestic architecture throughout the postwar period, it stands to reason that she may have perceived the real threat to be her livelihood.

Furthermore, Gordon believed that this type of architecture had political implications that could pose a "threat of cultural dictatorship"—i.e. Communism—to America. It was precisely this sort of criticism that put fear in American homeowners and fueled advertising strategies aimed at consumers, especially housewives. Modernists who preached "less is more" as a "basis of judgement for the good life" were asking Americans to surrender their free will:

"[I]f we can be sold on accepting dictators in matters of taste and how our homes are to be ordered, our minds are certainly well prepared to accept dictators in other departments of life...So you see, this well-developed movement has social implications because it affects the heart of our society—the home. Beyond the nonsense of trying to make us want to give up our...conveniences for what is *supposed* to be a better and more serene life, there is a threat of total regimentation and total control."¹⁹⁷

She drew on a rhetoric of political anxiety and paranoia to give her argument a deeper legitimacy and cultural resonance. If modern architects and their promoters were "artistic dictators," she argued, then figures such as Mies were cultural dictators on par with

¹⁹⁶ Gordon, "The Threat to the Next America," 126.

¹⁹⁷ Gordon, "The Threat to the Next America," 130.

Hitler, Moussolini, and Stalin. She prompted the American public to end this “reign of error.”¹⁹⁸ Her revelation of a conspiracy to subvert American taste in favor of a foreign “good design” echoed the rhetoric and logic of Joseph McCarthy, the infamous Republican senator from Wisconsin, who warned of the threat of communist infiltrators. What seemed a mere question of taste in home furnishings was in reality a struggle for the nation’s soul. “Freedom, you won freedom of choice—and its consequences—is the only road to personal growth. Your reason, your common sense, is the finest instrument you possess for living. **Don’t let them take it away.**”¹⁹⁹

Gordon intended her argument to be a bombshell, hoping the essay would inform and shift public opinion. But she did not anticipate the fallout. Her words shocked and galvanized the architectural community, and her essay garnered reactions from architects, builders, educators, critics and consumers alike. As architectural historian Monica Penick has outlined, in this discourse Gordon’s professionalism, judgment, and knowledge were widely called into question.²⁰⁰ *Progressive Architecture* published an antagonistic rebuttal in its May 1953 issue. Unlike *Architectural Forum*, who had never mentioned Gordon directly in their full-page rejoinder published the same month, *Progressive Architecture* did not hesitate to name Gordon. The journal later published a series of letters from its readers, who were struck by her dramatic and politicized rhetoric, more than they were her actual opinions on modern architecture. While *Progressive Architecture* certainly did not publish every response in full, those that were excerpted were all written by architects and were unanimously against Gordon. They all shared a

¹⁹⁸ Gordon, “The Threat to the Next America,” 131.

¹⁹⁹ Gordon, “The Threat to the Next America,” 126.

²⁰⁰ Monica Penick, *Tastemaker: Elizabeth Gordon, House Beautiful, and the Postwar American Home* (New Haven: Yale University Press, 2017), 124.

sense of outrage at Gordon's "architectural McCarthyism."²⁰¹ Adopting Gordon's own rhetorical strategy, the letters accused her of being the real "Dictator of Taste" at the helm of an "editorial hate campaign."²⁰²

In a lecture at the Chicago Merchandise Mart, Gordon refuted charges that her *House Beautiful* essay was "narrowly nationalistic" but insisted that "just as there is such a thing as French civilization, Japanese architecture, Italian music, German philosophy or Russian fiction, so I believe there is an American culture."²⁰³ Her responsibility as the editor of a major American home journal, she contended, was not to "help develop that culture but supporting it where I find it."²⁰⁴ In telling readers about the progress of American household design, Gordon hoped to help them formulate "their own declaration of independence against the frauds, the over-publicized phoneys, the bullying tactics of the self-chosen elite who would rather dictate not only taste but a whole way of life."²⁰⁵

As part of his discussion of the "soft power" of modernism, architectural historian Greg Castillo identifies Edgar Kaufmann Jr., architecture and design curator at MoMA and benefactor of modern domestic architecture, as one of the "self-chosen elite" Gordon took issue with.²⁰⁶ This theory is compounded by Gordon's oblique mention of a

²⁰¹ A.L. Aydelott, letter to *Progressive Architecture* (September 1953), 12.

²⁰² Charles Grainger, letter to *Progressive Architecture* (September 1953), 12, 20.

²⁰³ Gordon, "The Responsibility of an Editor," (speech to the Press Club Luncheon of the American Furniture Mart, Chicago, June 22, 1953) cited in Penick, *Tastemaker*, 117.

²⁰⁴ Gordon, "The Responsibility of an Editor."

²⁰⁵ Penick, *Tastemaker*, 17.

²⁰⁶ Greg Castillo, *Cold War on the Home Front: The Soft Power of Midcentury Design* (Minneapolis: University of Minnesota Press, 2010), 112-15. Kaufmann trained as an architect at Frank Lloyd Wright's Taliesin Fellowship, graduating in 1935. He joined MoMA in 1940 to organize the Organic Design in Home Furnishings competition, won by Charles Eames and Eero Saarinen. The Kaufmann family were philanthropists and benefactors of modern architecture. In 1936, Edgar Kaufmann, Sr. commissioned Frank Lloyd Wright to design the family's house at Bear Run, Pennsylvania, now known as Fallingwater. A decade later, the Kaufmann's hired Richard Neutra to design a vacation home in Palm Springs, called

perpetrator in print: “House Beautiful finally speaks up to point plainly at the nonsense that goes on in the name of ‘good design.’”²⁰⁷ Her excoriation of “non-rational objects that are chosen for glorification by *avant-garde museums*” and the code word “good design” pointed plainly to MoMA.²⁰⁸ Castillo argues that Gordon had reason to fear MoMA and Kaufmann, for his Good Design program at the Museum jeopardized her prime position at the nexus of product information and consumer preference—what historian Ruth Schwartz Cowan termed “consumption junction” (Figure 3.41).²⁰⁹ Because the Good Design programs sought to establish museum curators as tastemakers and thus shapers of wholesale and retail trade, the initiative had the added effect of reducing value—both figuratively and literally—of Gordon’s editorial advice to homemakers. Profit margins for *House Beautiful* were determined by its ability to translate loyal readership into advertising revenue: the price manufacturers pay to access a pool of promising customers. As Castillo’s study makes clear, MoMA’s innovation of displaying and conferring awards to objects of “good design” provided free publicity for manufacturers and usurped Gordon’s role as arbiter of taste, thus undermining her journal’s revenue stream.²¹⁰ What Gordon described as a threat to America also threatened her magazine’s reputation with readers and advertisers, and ultimately its profits.

Kaufmann Desert House, now one of Neutra’s most famous designs. For more on Kaufmann Desert House see Friedman, *American Glamour*.

²⁰⁷ Gordon, “The Threat to the Next America,” 128.

²⁰⁸ Emphasis original, Gordon, “The Threat to the Next America,” 129.

²⁰⁹ Castillo, *Cold War on the Home Front*, 114; Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology From the Open Hearth to the Microwave* (New York: Basic Books, 1983), 119.

²¹⁰ Castillo, *Cold War on the Home From*

While Castillo astutely and persuasively directs Gordon's critique squarely at Kaufmann, the latter's Good Design initiative followed the course set by Philip Johnson, MoMA's first curator of architecture and design.²¹¹ In addition to being half of the curatorial team behind the International Style exhibition and a student of and collaborator with Mies, Johnson also dabbled in Fascism in his youth, supporting the forms of political and cultural authoritarianism Gordon forewarned.²¹² Beyond claims about the International Style, many of her grievances with modern architecture and design were present in Johnson's second exhibition, *Machine Art* in 1934, which became the de facto industrial design sequel to the International Style (Figure 3.42). As it had been with the earlier show, the presence of European modernists like Mies and Le Corbusier was strongly registered.²¹³

Machine Art was a sprawling exhibition of ordinary objects—more than six hundred of them—brought together in a stunning display and celebration of material expression. Culled from American factories, offices, laboratories, and kitchens, the exhibition presented car pistons and airplane propellers; petri dishes and laboratory

²¹¹ Returning to MoMA in the nineteen-fifties, he helped remove the previous architecture curator, Elizabeth Mock, whom he despised because of her interest “in housing and in doing good, which interested me not at all,” he would recall. Johnson quoted in Friedman, *American Glamour*, 67.

²¹² In *American Glamour*, Friedman suggests that Johnson's tendencies “toward theatricality and mercurial utopianism” are also present in “his foolhardy—and publicly renounced—involvement with Fascism.” Friedman, *American Glamour*, 66. In a more recent biography, *The Man in the Glass House: Philip Johnson, Architect of the Modern Century*, the explanation that emerges is more straightforward: Johnson was an anti-Semite and a strong proponent of ruling-class power. He was, in other words, not someone who experimented with Fascism but someone who supported it because he believed its precepts. See Mark Lamster, *Philip Johnson, Architect of the Modern Century* (New York: Little Brown and Company, 2018).

²¹³ Le Corbusier, in particular, loomed large in *Machine Art* - in the chair he designed for Thonet Brothers, in the aluminum tubing accents, and even in the ball bearing itself, which Charlotte Perriand, one of his associates, had only recently reconceived as a necklace.

flasks; inkstands and ashtrays; sauté pans, tea kettles, and waffle irons; and more than enough tumblers, flatware, dishes, and serving trays to hold a proper party. Johnson and Alfred Barr, Jr., the co-curator and museum director, had one fundamental assertion: that straight lines and perfect circles, found everywhere in utilitarian goods of modern machine production, constituted the essential building blocks of pure beauty. In her study of the exhibition, art historian Jennifer Jane Marshall argues that with this assertion, Johnson and Barr offered an aesthetic philosophy of meaning matched perfectly to materiality, what she refers to as neoplatonic formalism.²¹⁴ And just as he had in the International Style exhibition, Johnson's concern was aesthetic, not social or functional; or if it was, it was so only on behalf of a more rarefied section of society.

Echoing Johnson's famous treatment of mechanical ball bearings on the cover of the *Machine Art* catalogue and Shulman's approach to architectural photography, Koenig aestheticized his "subject"—in CSH #22 steel (Figure 3.42b). Although the architect was pragmatically motivated in his use of steel, he was equally, if not more so, driven by a philosophical approach to the material that prompted him to put it on display. For example, the kitchen's individuated steel frame in particular makes clear his intent to highlight the industrial material itself, as well as its capabilities, even though it was not structurally integral to the design. Here then, Koenig's aesthetic treatment of industrial materials also recalls the I-beams Mies affixed to the façade of Chicago's Lake Shore

²¹⁴ Barr and Johnson, the exhibition's curators, closely followed French Purism, and Barr's biographer Kantor identifies this as the most likely source for their interest in Plato. Developed in the years surrounding World War I by Amédée Ozenfant and Le Corbusier, Purism advanced a coolly rational version of modernism based on "the object, the type, the Platonic, mechanistic and geometric," as Reyner Banham later characterized the movement's central preoccupation. See Sybil Gordon Kantor, *Alfred H. Barr, Jr. and the Intellectual Origins of the Museum of Modern Art* (Cambridge, MA: The MIT Press, 2002) and See Reyner Banham, *Theory and Design of the First Machine Age* (New York: Praeger, 1960).

Drive towers—a non-structural motif that nonetheless makes clear the material’s practical and philosophical significance to the overall design (Figure 3.43). Steel played a similar role in Mies’s design for the Farnsworth House in Plano, Illinois, a project that Gordon employed as an example of the traits she found so reprehensible in modern domestic architecture (Figure 3.2). Reyner Banham, architectural critic and historian, noted a resonance between the elder architect and Koenig’s work in *Los Angeles: The Architecture of Four Ecologies* (1971).²¹⁵ Of Koenig’s craftsmanship and detailing in steel, he observed:

If such details seem underdesigned, even careless in European designs, there is nothing unconsidered in their exact location, which is the most calculated and critical part of the whole design. In the domestic work of both Ellwood and Koenig, details of any sort are sparsely distributed, because structural joins are postponed as late as feasible along the horizontal plane; that is, spans are long and upright supports as rare as they can only be when using steel in lightweight single-story construction. This is, *par excellence*, an architecture of elegant omission that takes Mies van der Rohe’s dictum about *Weniger ist Mehr* [less is more] even further than the Master himself had ever done.²¹⁶

Though Mies did not participate in the Case Study program, it is easy to find many of the enshrined minimalist qualities of his work animating Case Study architects, which Gordon believed to represent the “cult of austerity.”

Despite not implicating *Arts & Architecture* and the Case Study program directly in this critique, Entenza’s initiative proved an equally powerful counterpoint to Gordon’s argument, as well as her corollary pursuit of an “American Style” in the pages of *House*

²¹⁵ Banham, *Los Angeles*, 226-230.

²¹⁶ Banham, *Los Angeles*, 226-30.

Beautiful.²¹⁷ Despite audiences that differed in scale and demographics, *House Beautiful* and *Arts & Architecture* shared a commitment to finding practical solutions to the mounting housing crisis and to using war-born techniques and materials, to the extent that the “average” American consumer could afford them. Though she did not comment on his project directly, Penick believes that she would have known about the Case Study Houses through media sources and her personal connections in California. Yet none of the Case Study architects participated in *House Beautiful*’s analogous Pace Setter House program, and very few were ever published in *House Beautiful*, one notable exception being A. Quincy Jones and Frederick Emmons. Also notably, *House Beautiful* later featured Ellwood’s remodeled Case Study as a lesson on how to inject “warmth” into a “cold” modern house.²¹⁸

Entenza and Gordon also shared in their concern for living well in postwar America, and both were interested in exploring new house solutions that experimented with form, function, and space. From Gordon’s point of view, Entenza’s efforts to reach the mainstream were doomed to fail, frustrated by the Case Study program’s minimalist aesthetics and inflated construction costs. She believed that *House Beautiful*, on the other hand, was positioned to create more successful models that would suit a middle-class market. Her strategy with the Pace Setter House program was to combine a consumer-

²¹⁷ In 1946, Gordon launched the Pace Setter House Program, an annual series of exhibition houses that proposed new modern architecture for postwar America. The program was set in direct opposition to the Case Study House program, offering critiques of orthodox modernism alongside what Gordon viewed as distinctly American alternatives. For more on Pace Setter House Program see Penick, *Tastemaker*, ch.4.

²¹⁸ Penick, *Tastemaker*, 40.

driven model, exemplified by Fritz Burns's First Postwar House, with Entenza's architect-controlled prototype (Figures 3.44 and 3.45).²¹⁹

Beyond Mies, many of Gordon's critiques also make sense in the context of Case Study House projects. For instance, her condemnation of architects who strove to achieve the look of a Mondrian painting—"a house or piece of furniture cannot be judged by the same standards as a two-dimensional painting"—could very well apply to CSH #8, Charles and Ray Eames's House and Studio in the Pacific Palisades with its gridded façade composed of different-sized inserts in primary colors (Figure 3.46). And her refutation of the imagined implication that "you must sacrifice comfort for serenity," along with her pointed query, "And what is their serenity? Sitting in an empty room surrounded by glass walls," could easily apply to a number of Case Study Houses, from CSH #16 and CSH #18 both by Craig Ellwood, to Neutra's CSH #20 and, of course, Koenig's CSH #22 (Figures 3.47 and 3.48).

Thus, with its resonances with the brand of modernism she associated with authoritarian tendencies, CSH #22 would likely have been among the designs that Gordon understood as a threat to the next America. Yet the very formal features she denounced, from the embrace of industrial material to the blurred boundary between interior and exterior spaces, and, importantly, the proliferation of the open plan, came to symbolize a commitment to democracy among proponents like Koenig and his fellow Case Study architects. In other words, where Gordon saw the threat of authoritarian control, others saw the opposite: freedom.

²¹⁹ For more on Pace Setter program see Penick, *Tastemaker*, 37-61.

California and the Myth of the Frontier

The formula for the open kitchen, seen prominently in CSH #24 and CSH #22, promoted the new social ideals of integrated work and sociability, personified by the housewife who performed dual roles of domestic servant and household mistress. Through this figure of the woman who inhabits it, the kitchen becomes defined ideologically as the sanctuary of an American nuclear family—one that was overwhelmingly middle-or upper-middle-class and white. The open plan kitchen came to symbolize not only an American domestic ideal, but a collective ideal of nationalism in the public imagination. As David Lowenthal, cultural geographer known for his work on cultural landscapes, put it, an open home could appear to continue and to culminate in a national narrative of spatial conquest, of the frontier.²²⁰ “A glass house bespeaks more security than a stone house because the owner can afford to dispense with the safety of stone. The liberty to build openly implies trust...By this last magic of consummate civilization we should be united in freedom with the most primitive hunter for whom Nature is home.”²²¹

According to Henry Steele Commager, historian and author whose works were widely read from the 1940s on, it was the American frontier—as much an idea as a real place—that molded the distinctive character of the nation’s people. In his *America in Perspective: The United States Through Foreign Eyes* (1947), Commager wrote about the sense of freedom that open space inspired, combined with the knowledge that “the best was yet to be,” as he put it: this created an optimism and vitality that accounted for much

²²⁰ David Lowenthal, *The Past is a Foreign Country—Revisited* (Cambridge: Cambridge University Press, 2015), 145.

²²¹ Isenstadt, *The Modern American Home*, 253.

that was good about Americans and their way of life. Written soon after the end of World War II, Commager's words reinforced popular notions about the superiority of

Americans and their culture:

Throughout their history Americans have insisted that the best was yet to be, and they have rarely been disappointed. America was the land of opportunity. Here the poor of the Old World were given a second chance, here men achieved a new stature, were endowed with a new dignity. . . America was, above all, the land of equality . . . that equality was political; it was, until the twentieth century, economic; it was, above all, social and psychological. Much of that equality stemmed from the frontier, and America was a land molded by the frontier.²²²

Among other things, by emphasizing the ideal of the frontier, the notion of the independent and free-spirited American reinforced a preference for the sort of "openness" (both as an architectural feature and as a metaphor for independence and freedom) that had increasingly characterized the kitchen in the postwar era. Shulman's photographs, as Friedman has argued, also rely on a framed view and the enclosed transparent plane to create images that conjure a distinctly American frontier setting.²²³ Such texts and images not only romanticized the concept of democracy but reinforced the habit of rhetorical speaking and thinking in broad and utopian generalizations, creating undercurrents of expectation among readers and viewers about the ways in which ideas should be expressed.

The frontier's key actor, the pioneer, also made frequent cameos in postwar suburbs. The first buyers in subdivisions were sometimes labeled "pioneers" for braving

²²² Henry Steele Commager, ed., *America in Perspective: The United States Through Foreign Eyes* (New York: Random House, 1947), xvi–xvii.

²²³ Friedman, *American Glamour*, 23.

the barren scene before the trees grew in. The suburban plot itself, with land spreading on all sides, recalled frontier forms and values. Beyond their often-cited love of freedom and democracy, or their supposed commitment to independence and self-reliance, qualities that Henry R. Luce famously pointed to in his 1941 *Life* essay “The American Century,” Americans saw themselves as people who embraced the freedom of the open road, creating generations of pioneers.²²⁴

The frontier was likewise linked to a democratic spirit. The relationship between open space and an open society had been foreseen by Walt Whitman: “Democracy most of all affiliates with the open air, is sunny and hardy and sane only with Nature—just as much as Art is.”²²⁵ Even more frequently than democracy, liberty and freedom were analogized, indeed literalized through openness and open space. And architects continue to find congruence between freedom and openness. In *Survival Through Design*, Neutra, too drew a parallel between the concepts, describing how “freedom craved” at a psycho-physiological level was hindered by things like mullions: “There is a natural gratification in feeling...unimpeded.”²²⁶ The unique task of the architect, Neutra wrote *Architectural Forum* in 1948, was to arrange the environment to “permit maximum human freedom.”²²⁷

No setting was more conducive to the desires of the modern pioneer than the nation’s own pioneering destination, California. The nineteenth century observation that

²²⁴ Henry R. Luce, “The American Century,” *Life*, February 17, 1941, 61–65. On American tourism, see William W. Stowe, *Going Abroad: European Travel in Nineteenth-Century American Culture* (Princeton: Princeton University Press, 1994); and Ernest Earnest, *Expatriates and Patriots: American Artists, Scholars, and Writers in Europe* (Durham, N.C.: Duke University Press, 1968).

²²⁵ Walt Whitman, “Nature and Democracy—Morality,” *Walt Whitman, Complete Poetry and Collected Prose*, ed. Justin Kaplan (New York: Library of America, 1982), 925.

²²⁶ Richard Neutra, *Survival Through Design* (New York: Oxford University Press, 1954), 219.

²²⁷ “Esthetics,” *Architectural Forum* 89 (November 1948): 146.

“There’s a gradual falling away of artistic expression, as we pass from east to west,” pointed to an opportunity, an aesthetic space cleared for fresh expressions.²²⁸ In many accounts, climate had cleared the slate as much as distance from the cultural centers of New York and Boston. Yet in 1950 James Marston Fitch argued that California’s architectural creativity had little to do with mild weather:

The creativeness and influence of the last 25 years of West Coast designing has been vastly misunderstood. Erroneously, it has been ascribed to climate. In reality it has been produced by the character of the people. Sociologically, the West has been a frontier society—rugged, pioneering, and free of the restrictions of a formulated, crystallized society. This environment creates open minds and tolerance and produces people who think originally. This is the real secret to West Coast creativeness.²²⁹

Promotional material for the experimental X-100 house (1955) in San Mateo, California, designed by CSH #24 architect A. Quincy Jones for Eichler captured this sentiment (Figure 3.49). “The design philosophy...has always been that the home should fulfill one’s inner desire for happy, lighthearted everyday freedom. Everyday freedom is a matter of space...unconfined spaced within the walls blending with convenient, liveable, private outdoor spaciousness...”²³⁰ Like Eichler with this experimental house, the Case Study House program sought to capitalize on this culture of open-mindedness and freedom. The texts and images that surrounded the projects, particularly CSH #24 and CSH #22, cultivate this sense of openness, inviting Americans to locate themselves and their aspirations within an idealized formula that emphasized the freedom of their residential realm at a range of scales.

²²⁸ E.C. Gardner, *Illustrated Homes: A Series of Papers Describing Real Houses and Real People* (Boston: J.R. Osgood and Co., 1875), 186.

²²⁹ James Marston Fitch, “The New American Architecture,” *House Beautiful* (May 1950).

²³⁰ Promotional material quoted in Adamson, *Eichler*, 118.

Segregation and racism, however, gave the lie to this notion of California as a paradise. In the summer of 1958, following a California court ruling that discrimination in housing sales violated federal law, a prominent Bay Area building complained to the press that the ruling was bad for business, citing statistics that minorities depreciated property values.²³¹ Eichler was one of the few developers that sold houses to anyone who could afford them, regardless of color—unusual at the time when housing covenants preventing sales to non-whites and Jews were still common.²³² But the relatively high cost of the desirable modern houses placed a de facto restriction on access, while broader cultural and social factors kept the suburbs predominantly white.

Just as discriminatory housing laws clarified who could and could not partake in the national myth of the frontier, the conservative social values that undergird the Case Study program debunked the myth of its progressive ideology. Segregation of roles by gender was also so pervasive and acceptable that it was used to justify other segregationist housing schemes that separated people on the basis of age, class, and race—qualities that couldn't be so easily advertised. Even in the moment of cultural progressivism and economic prosperity, a spatial prescription for heteronormative married suburban bliss, expressed in kitchen design, emphasized gender as the key salient feature of every American's experience and aspirations. Further, just as they endorsed specific norms of American femininity, these kitchens were cultural texts through which the meanings of race and ethnicity were negotiated, often by coding constructions of gender and motherhood with—or against—constructions of race.

²³¹ Adamson, *Eichler*, 189-191.

²³² Eichler reported the *House and Home* in 1958 that he has sold twelve homes to African Americans in seven of his twenty-five subdivisions, which then totaled some five-thousand houses. See Adamson, *Eichler*, 190.

When postwar Americans looked to *Arts & Architecture* and its contemporaries, they were presented with open plan houses that purported to fulfill their dreams. Within those houses they saw kitchens and representations of kitchens that they could look to equally to confirm identities, images of the self, and perhaps more subtly, gender, racial, and class assignment and affirmation. These representations contained images of whiteness that became enshrined in magazines, but also within the houses themselves. The Case Study Houses joined a constellation of designs and images in the mid-twentieth century visual and architectural culture that served as markers of gender, class, and racial distinction. The program did not merely reflect the virtual absence of a black middle class in the midcentury residential world, but they also contributed to the construction of that condition through continual reinforcement—a contribution that has persisted in the idealization of this “mid-century modernism” as a prominent design trope for aspects of the economic elite up to the present day. Although historians have focused on the program’s architectural innovations program, it is important to remember that for all their emphasis on form and spatial novelty, most architects persisted in imagining kinship within the traditional social box—one that implicitly accepted conservative gender roles, racially restrictive covenants, and the social armature of the pre-civil rights era. Given the visual, rhetorical, and spatial codes developed in the Case Study kitchens and their persistence in representations, the Case Study program must be viewed in a new light—one that considers gender, class, and race as embedded and entangled subjects in its discourse

CONCLUSION

The Kitchen Debate Resumed

The famous Moscow Kitchen Debate began in the morning of July 25, 1959, with the sharp exchange (discussed in the introduction) on the subject of washing machines in the General Electric kitchen inside the full-scale ranch house that had been built by a Long Island developer and furnished by Macy's.¹ It resumed in the evening, in a \$250,000 RCA Whirlpool "miracle" kitchen controlled by an electric brain. At the push of a button the dishwasher in that kitchen scurried along an invisible track to the dining table, and a robot cleaner polished the floor.² "In America, these are designed to make things easier for our women," Richard Nixon noted sanctimoniously. "Ha! These are mere gadgets!" huffed Nikita Khrushchev: "Don't you have a machine that puts food into the mouth and pushes it down?" Oblivious of the premier's scorn, a guide, whose uniform was a pastel shirtdress, turned on the closed-circuit TV system that was designed to monitor activities in every corner of the house. Khrushchev's mood brightened visibly. "This is probably always out of order," he told Nixon. "Da," chuckled the Vice President.³ And with that the Kitchen Debate ended on a note of good humor, with both sides in agreement about the comical aspects of the kitchen display.

Nixon would later insist that the entire Kitchen Debate was an accident and that the domestic setting, which riveted the attention of his American audience, had not been chosen for political effect. But it is worth noting that William Safire, a future Nixon

¹ Karal Ann Marling, *As Seen on TV: Visual Culture of Everyday Life in the 1950s* (Cambridge: Harvard University Press, 1994), 255

² Marling, *As Seen on TV*, 270.

³ "The Two Worlds: A Day Long Debate," *New York Times* July 25, 1959.

speechwriter, was doing public relations for the model house in Moscow for Macy's and that photographer Elliot Erwitt was ready to shoot the exchange, moment by moment. Erwitt recalls that Khrushchev's temperament had turned angry by the time the entourage reached "Splitnik," as Russians dubbed the bifurcated display of a model Soviet three-bedroom house. Nixon, sensing an opportunity, was grandstanding for the press, citing facts and figures about home building. Suddenly, the Vice President moved to the nearby American kitchen and leaned over the railing in front of a dishwasher (see Figure 1). In any other setting, the ensuing wrangle about life styles between the representatives of the two superpowers would have been a minor argument. The kitchen raised the temperature of the debate, however, reminding all who saw the photos that what was at stake was home, hearth, and all the most basic human values.

On Family Kitchens, in Black and Not Quite White

I write this conclusion from at-home quarantine, witnessing the simultaneous pandemics of Covid-19 and structural anti-Black racism collide. Zoom meetings and video calls have put our homes and home life on display as never before. As I'm offered glimpses of others' domestic spaces – where they too have spent countless hours over the last few months of social distancing – I cannot help but reflect on my own relationship with home, and especially with the kitchen. And, more to the point, how I, as an individual and a scholar, and we, as a society, got to this place. This line of thought led

me to consider my two grandmothers.⁴ Both women raised architects, for whom the relationship between race and space is indivisible. My awareness of this connection informed the research and analysis in this dissertation, as I worked to interpret American kitchens, the objects that fill them, and the people that inhabit them.

The audience for the campaign of primarily modern kitchen design discussed in the chapters above, can be situated, in different and significant ways, by the households of my two grandmothers. My maternal grandmother decorated her colonial revival tract home, purchased in 1964, with Danish-inspired teak furniture, Surrealist tapestries, and endless shelves of books. Her kitchen, which opened directly onto a lush backyard and vegetable garden, was loosely L-shaped. One wall accommodated the row of appliances: first a wall-mounted double oven, then the sink, followed by the cooktop, and finally the refrigerator. A large hutch with glass doors stood against the perpendicular wall and was filled with copper molds, ceramic pitchers, and her collection of brightly colored dinnerware designed by Massimo Vignelli. Though ardently secular, she was a Jew nonetheless and thus her racial identity was in flux as she made her home on a cul-de-sac in suburban New Jersey.

⁴ In sharing these pieces of personal history, I am inspired by architectural and cultural historians who have drawn from their own families and experiences to situate their research interests and contextualize their analysis. See, for example, Leora Auslander, *Taste and Power: Furnishing Modern France* (Berkeley: University of California Press, 1996); Dianne Harris, *Little White Houses: How the Postwar Home Constructed Race in America* (Minnesota: University of Minneapolis Press, 2013); Lesley Naa Norle Lokko, "Body.Memory.Map: A Narrative in 12 Segments," in *Sites of Memory: Perspectives on Race and Architecture*, ed. Craig Evan Barton (New York: Princeton Architectural Press, 2001); Dell Upton, *What Can and Can't Be Said: Race, Uplift, and Monument Building in the Contemporary South* (New Haven: Yale University Press, 2015); Michelle Joan Wilkinson, ed., *Contemporary Black Women Artists* (Baltimore: Reginald F. Lewis Museum of Maryland African American History & Culture, 2011); Kristina Wilson, *Livable Modernism: Interior Decorating and Design during the Great Depression* (New Haven: Yale University Press in association with the Yale University Art Gallery, 2004).

In 1958, my paternal grandparents integrated their Connecticut neighborhood when they purchased their first home. A light-skinned Black woman, my paternal grandmother aspired to join her local Jack and Jill chapter (a Black version of the Junior League), and how she furnished her classic split-level home expressed these aspirations. The matching living room set was upholstered in a pastel jacquard fabric and an adjacent cabinet held her prized wedding china behind glass panes, so that it was always on display. Her galley-style kitchen reflected her love of food and cooking. Abutted by a small breakfast nook, the kitchen was equipped with cutting boards that pulled out from the counter tops, drawers dedicated to storing potatoes and onions, and a small television. She had been raised in Harlem during the Great Depression, when money was tight and food less than plentiful. As a result, she was almost comically frugal in the kitchen, collecting Sweet’N Low packets from restaurants and teaching her children and grandchildren how to scrape every ounce of batter out of a Pyrex bowl.

As recounted in this dissertation, the postwar period was one in which the cultural notions of race, whiteness in particular, were in flux. I do not believe my grandmothers consciously pondered their racial identities in the cultural terms explored in this project, but I do think it is fair to say that both women were aware of pressures to conform to expectations that may have been linked to their identities, either as a Jew occupying a liminal space between white and the “ethnic other” or as a Black woman who occupied predominantly white spaces. Despite their different racial identities, they shared inherent preferences that dictated that their kitchens would be immaculately kept and would also be the social and emotional cores of their homes. It is also fair to say that to varying degrees, these women had the desire to be seen as Americans according to the terms they

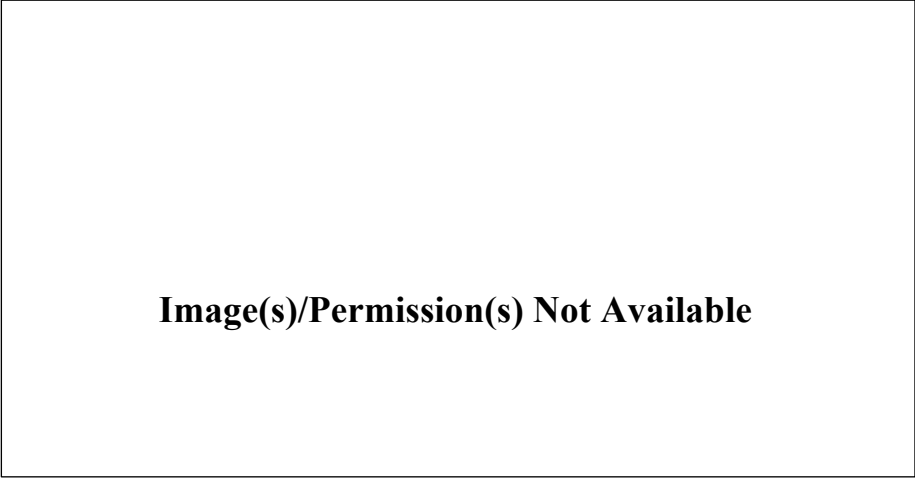
fashioned for themselves and their families, grafted onto the spaces of their daily lives. To be seen and understood as other than white was costly in a climate of nationwide and institutional racism, and my grandmothers' identities as non-white, which were based on their racial and ethnic differences, structured their relationship to domestic space.

This dissertation has endeavored to add nuance and subtly to our understanding of the deep inequities that exist in American domestic space by looking closely at material characteristics of the kitchen that are so ubiquitous that they have largely escaped analysis. Kitchens in the postwar period helped to create a specific dimension of racialized knowledge, one that equally matched expectations and aspirations and reinforced norms. Studying this epistemology explicates how everyday acts in dominant culture are formulated, taken for granted, rehearsed, and enacted, and the structures reinforced.

I think it is fair to conclude that their kitchens symbolized much for my grandmothers. Although my memories of their kitchens are blurry, they remain inseparable from my memories of them, and they have appeared to me frequently in recent months as I have cycled through writing and revising this dissertation. As Richard White has so evocatively demonstrated, memory is not history; indeed, "history is the enemy of memory."⁵ But memories, which for me are always profoundly spatialized, open important portals for asking questions of the past. While memories can "mislead as well as lead," my memories of two particular kitchens have led fruitfully to my reinterpretation of the modern American kitchen.

⁵ Richard White, *Remembering Ahanagan: A History of Stories* (Seattle: University of Washington Press, 1998), 4.

APPENDIX



Image(s)/Permission(s) Not Available

Figure 1.1 “New Kitchen Built to Fit Your Wife” *Popular Science* (September 1953).

Image(s)/Permission(s) Not Available

Figure 1.2a Photograph of Sink Center. Attached caption reads: "'A recessed area under the sink makes it possible for Miss Barbara Kenrick, instructor in housing and design at Cornell's College of Home Economics, to sit while she works at the sink center in the revolutionary Cornell Kitchen. Onions and potatoes are stored in bins at the left, where they are handy for preparation. [Handwritten addition:] The door at lower right covers a swing-out shelf for garbage containers.'" n.d. New York State College of Home Economics Records (23-2-749). Box 77 Folder 12. Cornell University Library Rare and Manuscript Collection.

Image(s)/Permission(s) Not Available

Figure 1.2b Photograph of Mix Center. Attached caption reads: "Miss Barbara Kenrick, instructor in housing and design at the College of Home Economics, Cornell, "decants" flour from the flour bin at the mix center of the Cornell Kitchen. All mixing supplies and equipment are located behind the sliding panels." n.d. New York State College of Home Economics Records (23-2-749). Box 77 Folder 12. Cornell University Library Rare and Manuscript Collection.

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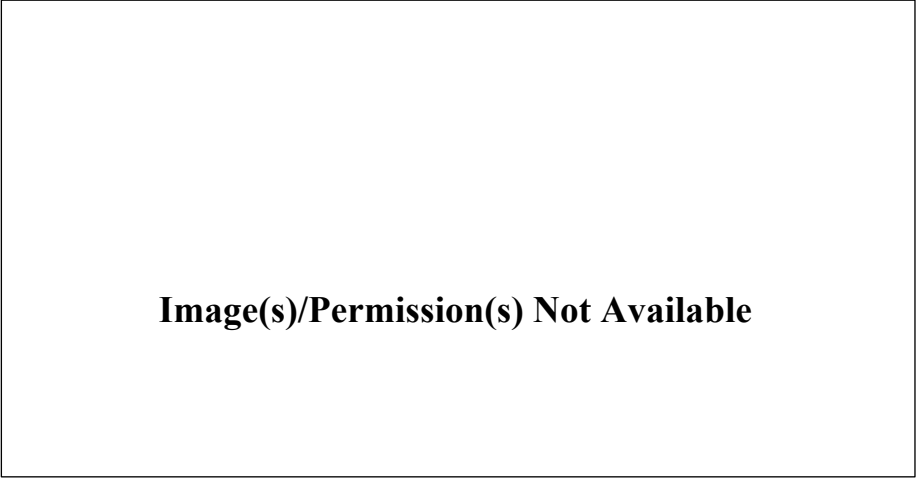
Figure 1.2c Photograph of Range Center. Attached caption reads: "Miss Barbara Kenrick, instructor in the housing and design department of the College of Home Economics at Cornell, stirs soup at the range center of the revolutionary Cornell Kitchen. Composed of five separate work centers, which can be arranged to suit the needs and convenience of the homemaker, the kitchen shown here in a "U-arrangement." Waist-high oven and two-door refrigerator are located at right. Below sink compartments contain dishwasher, left, and a swing-out garbage disposal, right." n.d. New York State College of Home Economics Records (23-2-749). Box 77 Folder

Image(s)/Permission(s) Not Available

Figure 1.2d Photographs of Refrigerator-Oven Center. *Left caption reads:* "Miss Barbara Kenrick, instructor in the housing and design department of the College of Home Economics at Cornell, uses the waist-level horizontal refrigerator in the Cornell Kitchen. The refrigerator can be installed at the most comfortable height for the woman who uses it. Storage for miscellaneous kitchen equipment is located in the space below the refrigerator." *Right caption reads:* "Miss Barbara Kenrick, instructor in the housing and design department of the College of Home Economics at Cornell, finds that an oven this height cuts out much of the fatigue of stooping

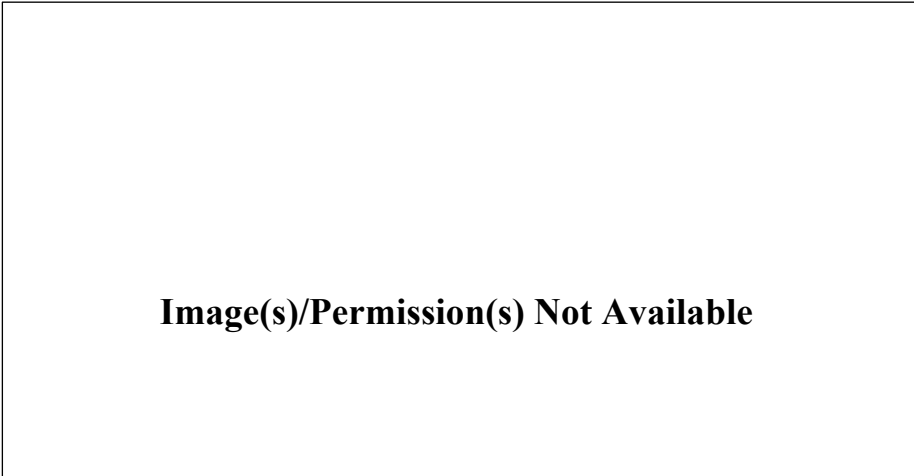
Image(s)/Permission(s) Not Available

Figure 1.2e Photographs of Serve Center. *Left caption reads:* "Even the top shelves of the serve-and-storage center in the Cornell Kitchen are within the reach of Miss Barbara Kenrick, instructor in housing and design at the College of Home Economics, Cornell. The slant of the cabinets makes the higher shelves more accessible. Space is provided here for china and glassware. Still in the experimental stage, the kitchen was designed through the cooperation of home economists, social psychologists, engineers, and architects." *Right caption reads:* "Miss Barbara Kenrick, instructor in housing and design at Cornell's College of Home Economics, removes silver from one of the adjustable pull-out trays in the serve center of the Cornell Kitchen. Silverware, table linen, and so forth are kept on these trays." n.d. New York State College of Home Economics Records (23-2-749). Box 77 Folder 12. Cornell University Library Rare and Manuscript Collection.



Image(s)/Permission(s) Not Available

Figure 1.3 Slide of the Cornell Center for Housing and Environmental Studies Records, 1950-1969 (53-4-1308). Box 5 Folder 18. Cornell University Library Rare and Manuscript Collection.



Image(s)/Permission(s) Not Available

Figure 1.4 top: Alexander Girard, *Circles*, 1951. Printed silk gauze. The Museum of Modern Art. Gift of Herman Miller Furniture Co. (471.1975) on view at MoMA in 2019; bottom: Charles and Ray Eames amid different colors of their molded fiberglass chairs.

Image(s)/Permission(s) Not Available

Figure 1.3 Photographs of the Cornell Kitchen wood prototypes. n.d. New York State College of Home Economics Records (23-2-749). Box 77 Folder 12. Cornell University Library Rare and Manuscript Collection.

Image(s)/Permission(s) Not Available

Figure 1.6 Frank Weise illustrations in *The Cornell Kitchen: Product Design Through Research* (1952).

Image(s)/Permission(s) Not Available

Figure 1.7 Frank Weise drawing of the Cornell Kitchen in the bulletin (1952).

Image(s)/Permission(s) Not Available

Figure 1.8 Measuring the female work curve in Mary Koll Heiner “Functional Kitchen Storage,” 1948. New York State College of Home Economics Records (23-2-749). Box 67. Cornell University Library Rare and Manuscript Collection.

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Figure 1.9 Hoosier Manufacturing Company Advertisement.

Image(s)/Permission(s) Not Available

Figure 1.10 Patent for nineteenth century office furniture.

Image(s)/Permission(s) Not Available

Figure 1.11a Posture diagram for seated work at Sink Center in *The Cornell Kitchen* (1952).

Image(s)/Permission(s) Not Available

Figure 1.11b Photograph of Sink Center. Attached caption reads:
“Pull-out cutting board lets Miss Barbara Kenrick, instructor in the housing and design department of the College of Home Economics at Cornell, take it easy by sitting down while she works. If she prefers to stand, she can also use the built-in butting board on the counter top, another feature of the Cornell Kitchen.” n.d. New York State College of Home Economics Records (23-2-749). Box 77 Folder 12. Cornell University Library Rare and Manuscript

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Figure 1.12 Leonardo da Vinci, Vitruvian Man, c. 1490. Pen and ink with wash over metalpoint on paper. Gallerie dell'Accademia, Venice, Italy.

Image(s)/Permission(s) Not Available

Figure 1.13 Posters, The Measure of Man (Male and Female), 1959 (First Published 1949). Designed by Henry Dreyfuss. Offset lithographs. Collection of the Cooper Hewitt, Smithsonian Design Museum. Anonymous lender (s-e-

Image(s)/Permission(s) Not Available

Figure 1.14 Home economics student at Cornell College of Home Economics conducting time-motion study with Dreyfuss's anthropometric charts on the wall. New York State College of Home

Image(s)/Permission(s) Not Available

Figure 1.15 Normann & Norma, 1943, from the Robert L. Dickinson-Abram Belskie reproductive model collection, Warren Anatomical Museum, Center for the History of Medicine, Countway Library.

Image(s)/Permission(s) Not Available

Figure 1.16 Photograph of home economics students conducting time-motion studies in *Popular Science* (1953).

Image(s)/Permission(s) Not Available

Figure 1.17 Top: Patent application for system of vertical stackers/shims. Center for Housing and Environmental Studies Records, 1950-1969 (53-4-1308). Box 5 Folder 19. Cornell University Library Rare and Manuscript Collection.

Image(s)/Permission(s) Not Available

Figure 1.18 Index of oxygen consumption for movements requiring trunk bends from *The Cornell Kitchen* (1952).

Image(s)/Permission(s) Not Available

Figure 1.19 Photograph of Lillian Gilbreth's model kitchen "Kitchen Practical" (1929).

Image(s)/Permission(s) Not Available

Figure 1.20 Installation photographs of the Frankfurt Kitchen from the Ginnheim-Höhenblick Housing Estate, Frankfurt am Main, Germany. Designed by Margrette Schütte-Lihotzky. The Museum of Modern Art. Gift of Leon B. Brewster in memory of her

Image(s)/Permission(s) Not Available

Figure 1.21 Photograph of the Frankfurt Kitchen from *Das neue Frankfurt* (1927).

Image(s)/Permission(s) Not Available

Figure 1.22 Kitchen designed as part of the interior equipment for a home. Shown at the Salon d'Automne, Paris. 1929. Designed by Charlotte Perriand with Pierre Jeanneret and Le Corbusier. Photograph by Therese Bonney. Therese Bonney Photographs, 1925-1937 (537688). Cooper Hewitt, Smithsonian Design Library.



Image(s)/Permission(s) Not Available

Figure 1.23a Publicity photographs of the Cornell Kitchen installed at the Kellogg family home. 1956. Center for Housing and Environmental Studies Records, 1950-1969 (53-4-1308). Box 5 folder 22. Cornell University Library Rare and Manuscript Collections.

Image(s)/Permission(s) Not Available

Figure 1.23b Publicity photographs of the Cornell Kitchen installed at the Hawley farm. 1956. Center for Housing and Environmental Studies Records, 1950-1969 (53-4-1308). Box 5 folder 22. Cornell University Library Rare and Manuscript Collections.



Figure 2.1 “Carousel of Progress scenes. Top, l-r: 1890s, 1920s; bottom, l-r:
1940s 1970s

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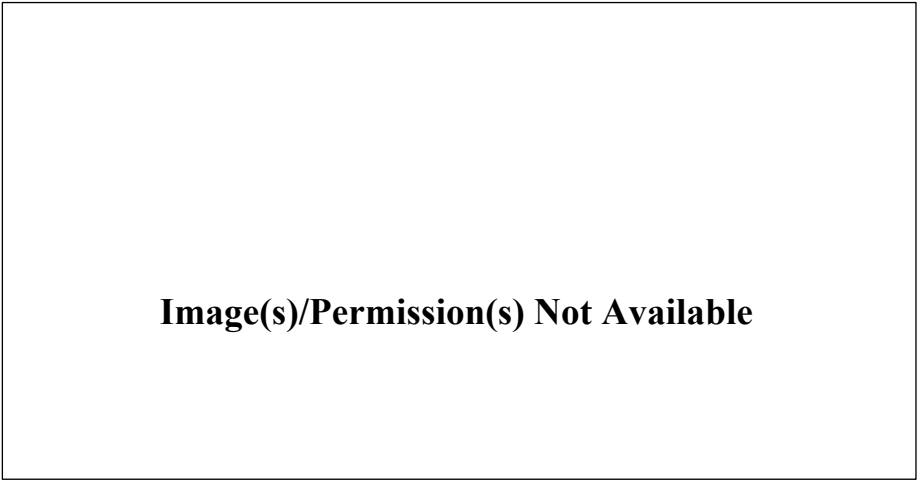
Figure 2.2 House of Tomorrow. Designed by George Keck. 1933-34. On display at the Century of Progress International Exposition, Chicago. Photograph Hendrich Blessing/Chicago History Museum.

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Figure 2.3 Dymaxion House. Designed by Buckminster Fuller. Designed 1920s, built 1945. Images Buckminster Fuller Institute.



Figure 2.4 Postcard with general view of Libbey-Owens-Ford Kitchen of Tomorrow, c.1943.



Image(s)/Permission(s) Not Available

Figure 2.5 “Kitchens of Tomorrow May Look Like This,” *Life* (August 1943).

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Figure 2.6 View of two-sided refrigerator in L-O-F Kitchen of Tomorrow in “Classics,” (April 1944) MSS-066, Box 6, Folder 11, Libbey-Owens-Ford Glass Company Records, 1895-1991, The Ward M. Canady Center for Special Collections, University of Toledo.

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Figure 2.7 L: View of cooking center in L-O-F Kitchen of Tomorrow; R: Diagram of appliances and equipment in L-O-F Kitchen of Tomorrow, illustrated in Mary Davis Gillies, ed. *What Women Want in Their Kitchens of Tomorrow: A Report on the Kitchen of Tomorrow Contest* (New York: McCall Corporation, 1944).

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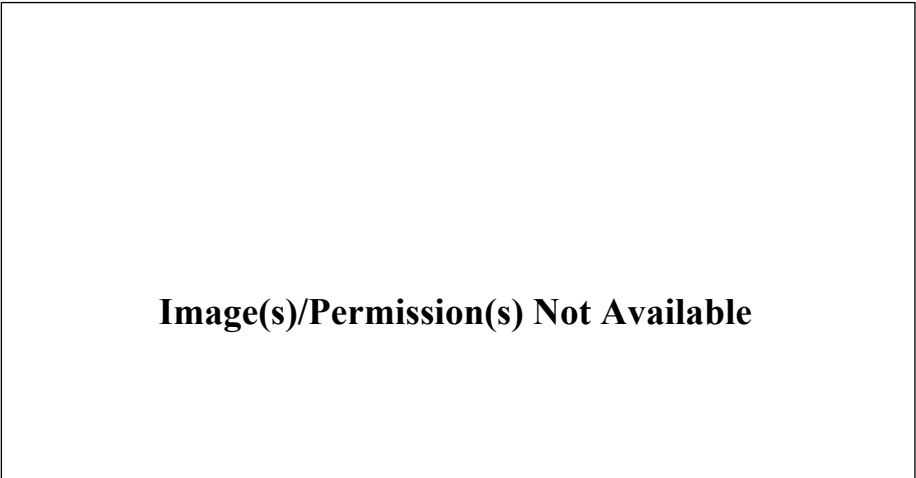
Figure 2.8a T: Raymond Loewy pictured with his design for the Pennsylvania Railroad's S1 Steam Locomotive; B: Marmon Twelve Automobile Model. c. 1932. Designed by Walter Dorwin Teague. Painted wood, lacquer, metal. Collection of the Cooper Hewitt, Smithsonian Design Museum (1985-112-1).

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Figure 2.8b T: Coldspot Super Six Refrigerator. 1934. Designed by Raymond Loewy for Sears Roebuck Company. Design Library Image Collection, North Carolina State University Libraries (98399) ; B: “Bluebird” Radio. 1934. Designed by Walter Dorwin Teague. John C.

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Figure 2.9 View of sink in L-O-F Kitchen of Tomorrow from “Kitchens of Tomorrow May Look Like This.” *Life* (August 1943)/



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Figure 2.10 “Faucet-Sink” Cartoon from *Architectural Forum* (January 1945).

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Figure 2.11a Illustrations from Mary Davis Gillies, ed. *What Women Want in Their Kitchens of Tomorrow: A Report on the Kitchen of Tomorrow Contest* (New York: McCall Corporation, 1944).

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Figure 2.11b Kitchen plans from Mary Davis Gillies, ed. *What Women Want in Their Kitchens of Tomorrow: A Report on the Kitchen of Tomorrow Contest* (New York: McCall Corporation, 1944).

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Figure 2.12 Advertisement for Aunt Jemima Pancake and Waffle

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Figure 2.13 “Maymie and the Maid...in the Elegant Anderson

Image(s)/Permission(s) Not Available

Figure 2.14 Promotional image of the Frigidaire Kitchen of the Future (1956).

Image(s)/Permission(s) Not Available

Figure 2.15 Still from *Design for Dreaming* (1956).

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Figure 2.16 Still from *Design for Dreaming* (1956).

Image(s)/Permission(s) Not Available

Figure 2.17 Annotated photograph of the Frigidaire Kitchen of Tomorrow (1956).
Automobile Reference Collection. The Free Library of Philadelphia (arcd06510).

Image(s)/Permission(s) Not Available

Figure 2.18 Photograph of the Roto-Storage Center in the Frigidaire Kitchen of the Future (1956). Automobile Reference Collection. The Free Library of Philadelphia (arcd06504).

Image(s)/Permission(s) Not Available

Figure 2.19 Stills from *Design for Dreaming* showing the Electro-Recipe File in use (1956).



Figure 2.20 Stills from *The Jetsons* (1961-2) showing the Foodarackasackle (top) and Rosey the Robot (bottom).

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Figure 3.1 Libbey-Owens-Ford “Open World” Advertisement. Libbey-Owens-Ford Glass Company Records, 1895-1991 (MSS-066). Box 58, Folder 11. The Ward M. Canady Center for Specially Collections, University of Toledo.



Figure 3.2 Ludwig Mies van der Rohe. Farnsworth House. 1945-1951. Plano, Illinois. Photographs by author.

Image(s)/Permission(s) Not Available

Figure 3.3 Philip Johnson. Glass House. 1947-49. New Canaan, Connecticut.

Image(s)/Permission(s) Not Available

Figure 3.4 Frank Lloyd Wright. Willey House. 1934. Minneapolis, Minnesota.

Image(s)/Permission(s) Not Available

Figure 3.5 Weissenhofseidlung. 1926. Stuttgart, Germany.



Figure 3.6 Marcel Breuer. MoMA Exhibition House. 1949. Photograph by author.

Image(s)/Permission(s) Not Available

Figure 3.7 Gregory Ain. MoMA Exhibition House (cover of exhibition catalogue). 1950.

Image(s)/Permission(s) Not Available

Figure 3.8 J.R. Davidson. Proposal for CSH #1. *Arts & Architecture* (February 1945).

Image(s)/Permission(s) Not Available

Figure 3.9 Richard Neutra. Proposal for CSH #21. *Arts & Architecture* (May 1947).

Image(s)/Permission(s) Not Available

Figure 3.10 Summer Spaulding and Jon Rex. Proposal for CSH #2 *Arts & Architecture* (August 1947).

Image(s)/Permission(s) Not Available

Figure 3.11 Wurster, Bernardi, and Emmons. Proposal for CSH #3. *Arts & Architecture* (March 1949).

Image(s)/Permission(s) Not Available

Figure 3.12 Ralph Rapson. Proposal for CSH #4. *Arts & Architecture* (September 1945).

Image(s)/Permission(s) Not Available

Figure 3.13. A. Quincy Jones and Frederick Emmons. Proposal for CSH #24 (master plan circled). *Arts & Architecture* (September 1961).

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Figure 3.14. A. Quincy Jones and Frederick Emmons. Plan of CSH #24. n.d. A. Quincy Jones Papers, 1942-1979 (1692). Job no. 5076 612, Box 3596. University of California, Los Angeles Special Collections.

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Figure 3.15. A. Quincy Jones and Frederick Emmons. Working drawing of CSH #24. n.d.
A. Quincy Jones Papers, 1942-1979 (1692). Job no. 5076 612, Box 3598. University of
California, Los Angeles Special Collections.

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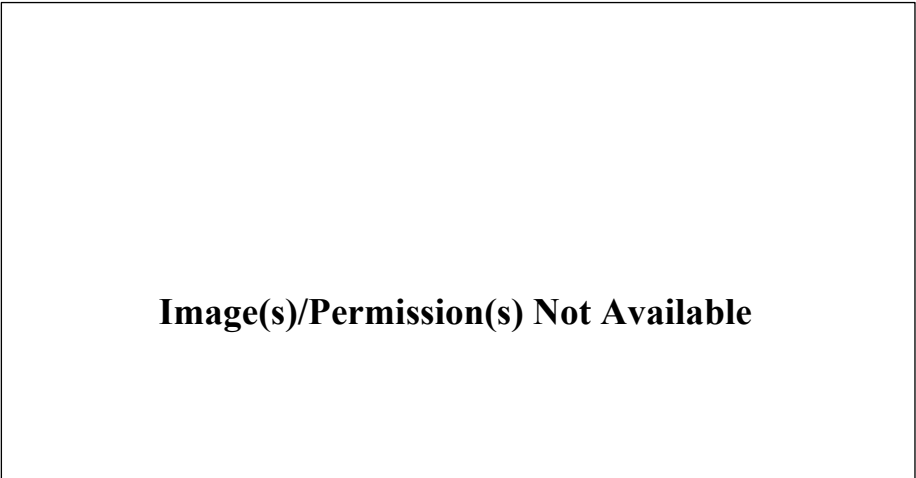
Figure 3.16. A. Quincy Jones and Frederick Emmons. Plan of CSH #24. n.d. A. Quincy Jones Papers, 1942-1979 (1692). Job no. 5076 612, Box 3599. University of California, Los Angeles Special Collections.

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Figure 3.17. A. Quincy Jones and Frederick Emmons. Plan of CSH #24. n.d. A. Quincy Jones Papers, 1942-1979 (1692). Job no. 5076 612, Box 3598. University of California, Los Angeles Special Collections.

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Figure 3.18. A. Quincy Jones and Frederick Emmons. Frigidaire Kitchen. *House & Home* (September 1955). A. Quincy Jones Papers, 1942-1979 (1692). Box 8, Folder 12. University of California, Los Angeles Special Collections.

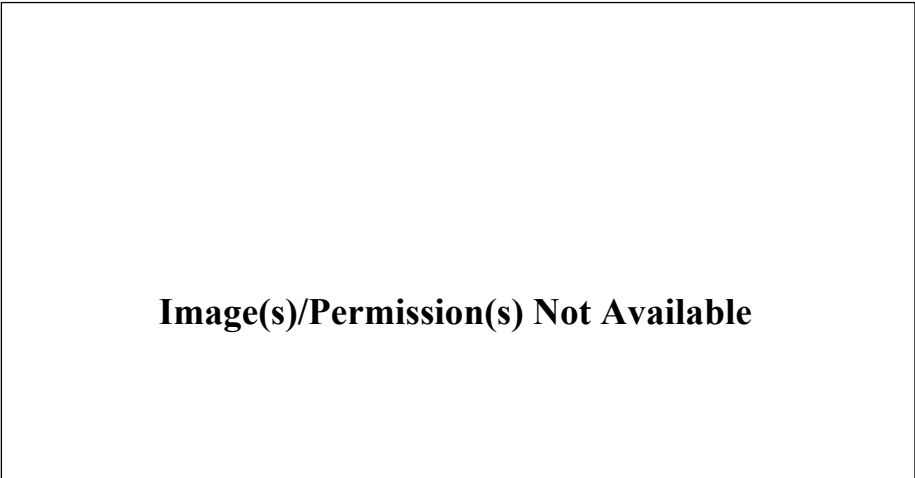


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Figure 3.19. A. Quincy Jones and Frederick Emmons. Plan of “House that *Home* Built”.
Pacific Architect and Builder (April 1955) A. Quincy Jones Papers, 1942-1979 (1692).
Box 12, Folder 15. University of California, Los Angeles Special Collections.

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Figure 3.20. A. Quincy Jones and Frederick Emmons. Sections of CSH #24. n.d. A. Quincy Jones Papers, 1942-1979 (1692). Job no. 5076 612, Box 3596. University of California, Los Angeles Special Collections.



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Figure 3.21 Jacob Riis. *Five-Cent Spot*. 1888-1889. Modern gelatin printing out paper. Museum of the City of New York. Gift of Roger William Riis (90.13.4.158) (061.00.00).

Image(s)/Permission(s) Not Available

Figure 3.22a Dorothea Lange. *Arkansas squatters. Three years in California. Near Bakersfield, California.* c.1936. Gelatin silver print. Prints and Photographs Division, Library of Congress, Washington, D.C. Farm Security Administration/Office of War Information Photograph.

Image(s)/Permission(s) Not Available

Figure 3.22b Gordon Parks. *Washington, D.C, Mrs. Ella Watson, a government chairwoman, with three grandchildren and her adopted daughter.* July 1942. Gelatin silver print. Prints and Photographs Division, Library of Congress, Washington, D.C. Farm Security Administration/Office of War Information Photograph.

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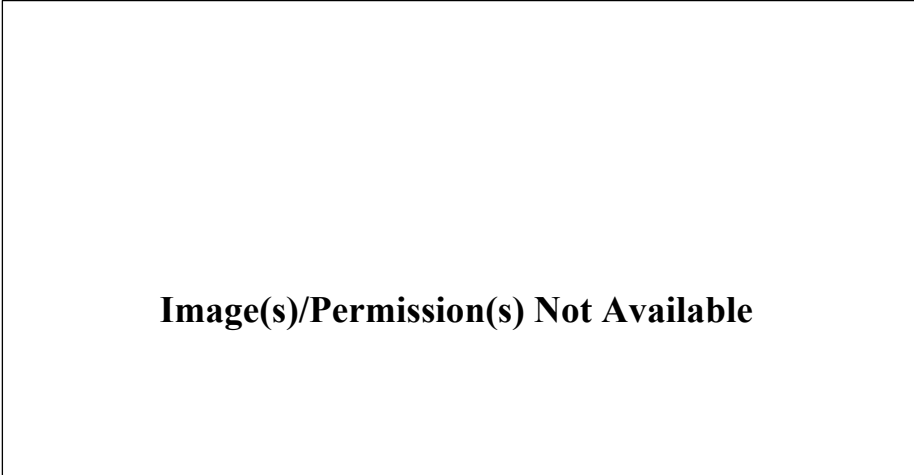
Figure 3.23 Mary and Russel Wright. Illustration from *Guide to Easier Living*. 1950.

Image(s)/Permission(s) Not Available

Figure 3.24a A. Quincy Jones and Frederick Emmons. Proposal for CSH #24.
Arts & Architecture (September 1961).

Image(s)/Permission(s) Not Available

Figure 3.24b A. Quincy Jones and Frederick Emmons. Proposal for CSH #24. *Arts & Architecture* (September 1961).



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Figure 3.25 A. Quincy Jones and Frederick Emmons. Axonometric Projection of CSH #24. n.d. A. Quincy Jones Papers, 1942-1979 (1692). Job no. 5076 612, Box 3596. University of California, Los Angeles Special Collections.

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Figure 3.26 Julius Shulman. *Case Study House No. 22 (Los Angeles, Calif.): Iconic Girls*. 1960. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography Archive, 1936-1997 (2004.R.10) Series IIIA. Case Study Houses, 1945-2002. Job 2980. © J. Paul Getty Trust. Getty Research Institute, Los Angeles.

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Figure 3.27a Julius Shulman. *Untitled: Case Study House No. 22 (Los Angeles, Calif.)* 1960. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography Archive, 1936-1997 (2004.R.10) Series IIIA. Case Study Houses, 1945-2002. Job 2980. © J. Paul Getty Trust. Getty Research Institute, Los Angeles.

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Figure 3.27b Julius Shulman. *Untitled: Case Study House No. 22 (Los Angeles, Calif.)* 1960. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography Archive, 1936-1997 (2004.R.10) Series IIIA. Case Study Houses, 1945-2002. Job 2980. © J. Paul Getty Trust. Getty Research Institute, Los Angeles.

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Figure 3.28a Julius Shulman. *Untitled: Case Study House No. 22 (Los Angeles, Calif.)*
1960. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography
Archive, 1936-1997 (2004.R.10) Series IIIA. Case Study Houses, 1945-2002. Job 2980.
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Figure 3.28b Julius Shulman. *Untitled: Case Study House No. 22 (Los Angeles, Calif.)*
1960. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography
Archive, 1936-1997 (2004.R.10) Series IIIA. Case Study Houses, 1945-2002. Job 2980.
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Figure 3.29 Pierre Koenig. Proposal for CSH #21. *Arts & Architecture* (February 1959).

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Figure 3.30 Pierre Koenig. Plan for CSH #22. n.d. Pierre Koenig Drawings and Papers, 1925-2007 (2006.M.30). Flat File 22A. Getty Research Institute, Los Angeles.

Image(s)/Permission(s) Not Available

Figure 3.31a-b Pierre Koenig. Drawings for CSH #22 (fireplace steel frame circled). n.d. Pierre Koenig Drawings and Papers, 1925-2007 (2006.M.30). Flat File 22A. Getty Research Institute, Los Angeles.

Image(s)/Permission(s) Not Available

Figure 3.31c Julius Shulman. *Untitled: Case Study House No. 22 (Los Angeles, Calif.)* 1960. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography Archive, 1936-1997 (2004.R.10) Series IIIA. Case Study Houses, 1945-2002. Job 2980. © J. Paul Getty Trust. Getty Research Institute, Los Angeles.

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Figure 3.32 Pierre Koenig. View from CSH #22 kitchen passthrough.

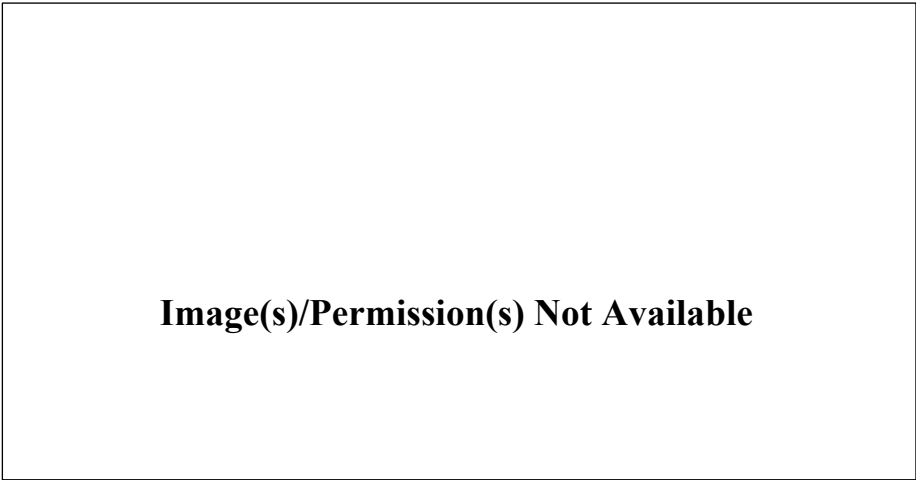


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Figure 3.33 Richard Neutra's VDL House as it appeared in a Libbey-Owens-Ford advertisement, *House and Garden* (May 1934), 25. Libbey-Owens-Ford Glass Company Records, 1895-1991 (MSS-066). Box 58, Folder 11. The Ward M. Canady Center for Specially Collections, University of Toledo.

Image(s)/Permission(s) Not Available

Figure 3.34 View of Marcel Breuer House, Wellfleet, Massachusetts through a car window. *Interiors* (July 1946).



Image(s)/Permission(s) Not Available

Figure 3.35 Charles and Ray Eames. Installation view of *Glimpses of the U.S.A.*
at American National Exhibition, Moscow, July 1959.

Image(s)/Permission(s) Not Available

Figure 3.36 Marcel Breuer. Wolfson Trailer House. 1949. Salt Point, New York.



Figure 3.37 Marcel Breuer. Interior view (“view panel” circled), MoMA Exhibition House. 1949. Photograph by author.

Image(s)/Permission(s) Not Available

Figure 3.38 Julius Shulman. *Untitled: Case Study House No. 22 (Los Angeles, Calif.)* 1960. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography Archive, 1936-1997 (2004.R.10)

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Figure 3.39 Casper David Friedrich. *Wanderer Above the Sea Fog*. 1818.

Oil on canvas. Kunsthalle Hamburger. Hamburg, Germany.



Image(s)/Permission(s) Not Available

Figure 3.40 Installation view of *Modern Architecture: International Exhibition* at MoMA, 1932.

Image(s)/Permission(s) Not Available

Figure 3.41 Installation view of *Good Design* at MoMA, 1952.

Image(s)/Permission(s) Not Available

Figure 3.42a Installation view of *Machine Art* at MoMA, 1934.

Figure 3.42b. Cover of *Machine Art* exhibition catalogue, 1934.

Image(s)/Permission(s) Not Available

Figure 3.43 Mies van der Rohe. 860-880 Lake Shore Drive. 1949.
Chicago, Illinois.

Image(s)/Permission(s) Not Available

Figure 3.44 top: Cliff May, 1948 Pace Setter House, Los Angeles, California. On the Cover of *House Beautiful* (February 1948); bottom: site plan, and “Why This House Is a Pace-Setter,” *House Beautiful* (February 1948).

Image(s)/Permission(s) Not Available

Figure 3.45 Wurdeman & Becker for The Fritz B Burns Builders. The Post-War House. 1956. Los Angeles, California.

Image(s)/Permission(s) Not Available

Figure 3.46 Julius Shulman. *Untitled: Case Study House No. 8 (Los Angeles, Calif.)* 1950-58. Gelatin silver print. Designed by Pierre Koenig. Julius Shulman Photography Archive, 1936-1997 (2004.R.10)

Image(s)/Permission(s) Not Available

Figure 3.47a Craig Ellwood. Proposal for CSH #16. *Arts & Architecture* (June 1953).

Image(s)/Permission(s) Not Available

Figure 3.47b Craig Ellwood. Proposal for CSH #18. *Arts & Architecture* (June 1958).

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Figure 3.48 Richard Neutra. Proposal for CSH #20. *Arts & Architecture* (December 1948).



Image(s)/Permission(s) Not Available

Figure 3.49 A. Quincy Jones and Frederick Emmons. Promotional brochure for Eichler X-100 Experimental Exhibition House. 1955. San Mateo, California. A. Quincy Jones Papers, 1942-1979 (1692). Job No. 5117 554, Box 1452, Folder 12. University of California, Los Angeles Special Collections.

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