GOING SOFT: ARCHITECTURE AND THE HUMAN SCIENCES

IN SEARCH OF NEW INSTITUTIONAL FORMS (1963-1974)

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A DISSERTATION

PRESENTED TO THE FACULTY

OF PRINCETON UNIVERSITY

IN CANDIDACY FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

RECOMMENDED FOR ACCEPTANCE

BY THE SCHOOL OF

ARCHITECTURE

Advisor: M. Christine Boyer

November 2012
Michel Foucault, Thomas Mann, and, most recently, Sven-Olov Wallenstein have argued that the modern European hospital of the early twentieth century acted as a research laboratory for a new way of governing human populations. This dissertation studies a subsequent phase of biopolitical research fostered by federal, state, and local initiatives of the United States government between 1963 and 1974. During these years, architects developed an expanded knowledge of the relation between architecture and its heterogeneous occupants, through collaborative research projects undertaken by architects working with psychologists and sociologists. These collaborations resulted from government-funded, Great Society social programs that sought to redesign psychiatric facilities, prisons, and public housing in order to promote the welfare of all Americans, including those members of the population deemed "deviant." The goal was to humanize, soften and dissolve the imposing and inflexible architecture of large residential institutions. These projects used the growing field of environmental psychology to reduce the limitations to individual enterprise, a trend that would continue with neoliberalism. Under the new mode, rigid controls were replaced by "permeable institutions" that hoped to govern through an environment, carefully embedded with incentives, that would elicit desired behaviors from the population. Using quantitative methods, behavioral models, and population data, architects and social scientists tried to soften the exertion of control, displacing more of the control onto the environment in what they hoped would be a more humane solution. The new designs deployed complex articulated forms that sought to dissolve the monolithic forms favored by mid-century modern institutional design; similarly, architects chose malleable or natural materials such as rusticated concrete and wood in place of the sleek steel and glass of the previous generation of modern buildings. Moreover, the researchers developed new techniques of diagramming to visualize interpersonal forces, enabling the transmission of their theories of social interaction to future generations of architects. In this way, the Great Society-era architectural research on institutional domestic environments acted as a laboratory, experimenting with strategies for governing populations through the designed environment.
ACKNOWLEDGEMENTS

It has truly taken an army of people of all talents to produce this dissertation, as well as six years of life and love. It is daunting even to contemplate the amount of assistance I have received. My advisor, Christine Boyer, believed in my project from the start, and knew when to tell me to take my time with an idea and when to hurry it up. Thank you for suggesting that I look into the papers of a certain architect who had worked for the National Institute of Mental Health and the National Bureau of Standards. Christine’s generosity with her office and her home made my first summer of archival research perhaps the best one could ever have. My reader, Sarah Whiting, gave me a wide range of indispensable advice, from the grammatical to the vocational. Her quick replies to all manner of queries were always honest, insightful and wise. Some might have stung a bit, but they always helped.

I owe a particular debt to Robert Gutman, who fostered my interest in the NIMH from his role as an alumnus of the Space Cadets, which I began to research. Unfortunately that particular paper was cut short when we lost him much too soon. I still have so many questions I’d love to ask him. Graham Burnett was also a part of those first stages of work, fostering all kinds of new questions and arguments in his course on Science and the Social Order, and prompting me to look at Oscar Newman from a different perspective. Thanks to Catherine Ingraham for a great experience teaching thesis prep, at just the time that I was cooking up my own thesis. Thanks to Robert Geddes for his support, tour of the Institute for Advanced Study, and lively conversations about the potentially pessimistic end of the tale enclosed here. What started as a Landscape and Urbanism Lecture Series became much more when Mario Gandelsonas started the Center for Architecture Urbanism and Infrastructure. CAUI provided me with a window onto the present, and several wonderful forays into the twenty-first century from my focus on the 1960s and 1970s. Collaborating with Mario, Sara Stevens, Anthony Acciavatti and Philip Tidwell also let me indulge my desire for an even more operative type of scholarship than that enclosed here. So many Princetonians informed my thinking that naming them all is impossible, but to name a few, I want to thank: Beatriz Colomina, Angela Creager, Edward Eigen, Carrie Eisert, Benjamin Gross, Kevin Kruse, Spyros Papapetros, and Suzanne Podhurst.

A minor battalion helped me find the many different kinds of documents that inform this dissertation, not the least of whom are those on my home turf: the late Frances Chen, Shabeha Baig-Gyan, Hannah Bennet, Christine Shungu, Ellen Bonin, and Daniel Claro. Thanks also to Janet Parks at the Avery Architectural and Fine Arts Library, Columbia University; Renata Guttmann at the Centre Canadian d'Architecture; and Douglas Dicarlo at the New York City Housing Authority Archives. Thanks go to
Constantine Karalis, the late Roni McCarty, and MaryJane McCarty for sharing Clyde Dorsett’s papers, and to Friedner Wittman for sharing his papers and answering questions about NIMH-related acronyms. Thanks to Constantine for his generosity and for sharing his own reports and papers. Thanks to George Rand for sending me valuable documents, and to Kopper Newman for her hospitality and a long and enjoyable correspondence.

I had the benefit of two years of support from the Fellowship of Woodrow Wilson Scholars, which gave me the time and space to research and write. The fellowship also gave me a chance to experience an interdisciplinary mix similar to the one I study, providing food for thought as well as an interest in explaining myself and my field to a larger audience. I also enjoyed a Study Grant from the CCA that gave me a wonderful month in Montreal, where I benefited from the "archi-nerd summer camp" feel and many good discussions on the lawn of the CCA over lunch.

I am grateful to the National Science Foundation for their support, and for a grant application process that came at a key time in the development of the dissertation. The process yielded a much improved theorization of the project. My pride in having the support of the NSF dates back to a childhood spent accidentally causing trouble in a plant science lab and wondering when we might be able to go home. Thanks to Ed Eigen for responding to my request for his help in finding NSF grants from the 1960s by encouraging me to apply for my own grant from the NSF. I never failed to leave Ed's office feeling grounded and excited to work due to his cocktail napkin sketches of my topic. My thanks also to Jeffrey Petsis for his help getting the grant and to Angela Petsis, former Program Administrator at the School of Architecture whose friendship made navigation of our own SoA red tape more palatable. The support and good humor of Cynthia Nelson, Fran Corcione, Rena Rigos, Linda Greiner, and Camn Castens kept the lights on, bills paid, lecturers housed, and mail delivered as I worked on.

Thank you to the "green room," now painted blue, and my fellow PhD students. On leaving, I realize that we have been like puppies who chew on each other's ears and tails, lick each other's wounds, and roll in smelly things out in the world and bring the scent home to share. Through innumerable workshops, practice talks, and hours of conversation—about the most abstract and most concrete of questions—we've shared ideas in a substantive, critical and loving way. The green room has truly made the dissertation and my time at Princeton. Thanks go to Anthony Acciavatti, Joseph Bedford, Britt Eversole, Gina Greene, Margo Handwerker, Lisa Hsieh, Alicia Imperiale, Diana Kurkovsky, Anna-Maria Meister, Yetunde Olaiya, Enrique Ramirez, Molly Steenson, Sara Stevens, Irene Sunwoo, and Federica Vannucchi. To my writing group, formally but maybe not formerly, known as the American Studies Dissertation Writing Group (AMSDWG)—Sara Stevens, Dael Norwood and Ben Schmidt—I owe a debt of gratitude for the laughs,
deadlines, excellent feedback, and even better support. Thank you to Magdalen Powers, for her very timely and very good-humored copy editing. Any errors herein are my own.

I owe Sara Stevens for aid too various and too critical to enumerate. Her unfailing insight and good judgment kept me on the road to the very end, providing me with the best collaboration and the best PhD dog anyone could ever have.

Thanks to Walter Bell for showing me the way. Thanks to Marty Turco for tales from the psychiatric front lines. Thanks to my parents for preparing me to do my own thing, and to my sisters for listening to me when I had to talk something through. Thanks to all of you, for being there when I needed you.

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Introduction

Michel Foucault, Thomas Mann, and more recently, Sven-Olov Wallenstein have argued that the modern European hospital of the early twentieth century acted as a research laboratory for a new way of governing human populations. This dissertation studies a subsequent phase of biopolitical research fostered by federal, state, and local initiatives of the United States government between 1963 and 1974. During these years, architects developed an expanded knowledge of the relation between architecture and its heterogeneous occupants, through collaborative research projects undertaken by architects working with psychologists and sociologists. These collaborations resulted from government-funded, Great Society social programs that sought to redesign psychiatric facilities, prisons, and public housing in order to promote the welfare of all Americans, including those members of the population deemed “deviant.” The goal was to humanize, soften and dissolve the imposing and inflexible architecture of large residential institutions. These projects used the growing field of environmental psychology to reduce the limitations to individual enterprise, a trend that would continue with neoliberalism. Under the new mode, rigid controls were replaced by “permeable institutions” that hoped to govern through an environment, carefully embedded with incentives, that would elicit desired behaviors from the population. Using quantitative methods, behavioral models, and population data, architects and social scientists tried to soften the exertion of control, displacing more of the control onto the environment in what they hoped would be a more humane solution. The new designs deployed complex articulated forms that sought to dissolve the monolithic forms favored by mid-century modern institutional design; similarly, architects chose malleable or natural materials such as rusticated concrete and wood in place of the sleek steel and glass of the previous generation of modern buildings. Moreover, the researchers developed new techniques of diagramming to visualize interpersonal forces, enabling the transmission of their theories of social interaction to future generations of architects. In this way, the Great Society-era architectural research on institutional domestic environments acted as a laboratory, experimenting with strategies for governing populations through the designed environment.

The new institutional architecture was both literally softer than the steel and glass of previous facilities, as well as less rigid in its use of plastic forms to articulate programmatic elements. More importantly, it was more intimately tailored to the populations that it housed. In this way, the new architecture went soft, making use of soft power, the soft sciences, and in being designed so as to be metaphorically and literally molded to fit its occupants. The desire for a plastic architecture, intimately
connected with human needs, was not new in the 1960s. In 1925, Le Corbusier published an article on
human “Type Needs” published in The Decorative Art of Today, illustrated with an image of the skeletal,
nervous, and circulatory systems on its cover. In the article, Le Corbusier argued that a designer should be
“a cutter in a tailor’s shop, with a man standing in front of him, and he, metre in hand taking
measurements.” In this way, the designer would respond to man’s “mechanical” needs, acting in an
orthopedic manner to supplement man’s “natural capabilities.” The article on type needs was accompanied
by various filing cabinets for holding index cards. While the text made no reference to these images, the
indexes are a fitting and prescient illustration. The type of data collected, sorted, and stored in such
cabinets would explode in the 1960s, enabling a new level of intimacy and precision in the tailoring of
architectural form to the needs of its occupants. For Le Corbusier, the methods for human measurement
did literally involve standing as the tailor, meter stick in hand, as evidenced by his theory of ideal human
form which he called the “modulor.” Moreover, he and other modern architects—especially hospital
designers of the early twentieth century—were inspired by the functionalist diagrams of movement
devised in the early twentieth century for factories. Le Corbusier combined physiological measurement
with a theory of alienation experienced by what he called la bête humaine, the human animal. But while
Le Corbusier’s psychological model was largely based on personal experience, in the 1960s architects had
access to far more information about the occupants of their buildings, and far more complex theories of
alienation, pathology, and social interaction. The expanded collection of data by state welfare programs,
and the explosion in the psychological and sociological fields presented architects with more complex
justifications for form, resulting in environments that were more precisely, if not more accurately, tailored
to their clients. Instead of designing for a single client, or for a mass audience, the soft architecture of the
1960s theorized about forms that accounted for knowable differences in the population. Thus, while
diagramming was a longer project, what was new was the resolution at which these diagrams were being
applied to the spaces of buildings.

Institutions were a key site for this research because they brought together a need for a complex
physical, social, and political environment, bringing together experts in architecture, programming,
management, public health, and psychiatry. As psychologist Robert Sommer wrote:

1 Le Corbusier, The Decorative Art of Today (Cambridge, Mass.: The MIT Press, 1987 [1925]), 72, quoted in Beatriz
and Modernity in America (Cambridge, Mass.: The MIT Press, 2002). The work of programming experts such as
William W. Caudill provide one direct historical link from the hospital research of the 1930s and 1940s to the Great
Society era, as he continued his work in the context of community mental health center architecture.
The clearest realization of the connection between environmental form and human behavior is taking place in the institutional field. People trained in hospital administration, education, and business management are aware of the important contributions research and development have made in most aspects of their work. They are surprised to find that decisions regarding the physical plant amounting to tens of millions of dollars are made without adequate information about user behavior.4

In Sommer’s account, medical professionals and facilities superintendents were surprised that their buildings were being designed without the same “information” that they would use to do their own work.5 Hence, some architects responded by adopting methods from the human sciences—the methods of quantification, diagramming, and self-aware experimentation in order to legitimate their arguments. The dissertation will remain agnostic about what truly is an “adequate” amount of information about behavior and what information is perceived as necessary because of the way that adjacent fields were judged. What it will not be agnostic about, however, is the need to produce a solution that could make peace between the many divergent groups—a task that became particularly challenging considering that many of the groups who would occupy the institutional spaces intensively would only do so temporarily and not voluntarily.

Before 1963, the field of environmental psychology was yet to be born, and the typical institutional environment was a monolithic structure, exemplified by the so-called block hospital produced by the national program to build hospitals after World War II known as Hill-Burton legislation.6 Whether hospitals, prisons, or public housing, such institutional environments were organized around long corridors, with doors opening off on both sides. The new, permeable institutions sought to literally diffuse these shapes, creating a variety of circular, triangular and hexagonal wards often centered around a lounge space that served as circulation and as social space. The theory of human territoriality was one major element of environmental psychology research studied in mental health centers and prisons, eventually making its way to the comparatively “everyday” environment of public housing.

Prior to 1963, the idea that the design of the environment could reduce crime was proposed by two women, Jane Jacobs and Elizabeth Wood, both of whom wrote from personal experience and not from a scientific basis.7 In the early 1970s, the shorthand moniker of CPTED was coined for the field of Crime Prevention Through Environmental Design. CPTED studies took off after the publication of Defensible

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5 The phenomenon continues, as evidenced by the psychology faculty of a major research university who were appalled at the methods used by a well-regarded architect in designing their new, costly facility.
Space,
architect Oscar Newman’s best-selling analysis of police data from the New York City Housing Authority, and criminologist C. Ray Jeffery’s psycho-biological version. Since the mid-1970s, research and consulting on CPTED has become a major area of study within the international interdisciplinary organization known as Environmental Design Research Association (EDRA), founded in 1968. CPTED is a common practice today, as evidenced by the proliferation of surveillance cameras in urban and suburban environments, as well as the Department of Housing and Urban Development’s preference for low-rise high-density projects in place of towers. The success of CPTED, starting in the early 1970s, was appalling to many scientists and architects for reinforcing neoliberal ideals, promoting segregation, and indeed for being ineffective in stopping crime. The result for architecture was a rift in the field, one which started in the 1970s and continues today; while EDRA and others enthusiastically conduct further studies of CPTED, many have turned away from architecture’s social responsibilities and semi-scientific reasoning altogether out of distaste for CPTED.

One motivation for this study was to provide more satisfying, detailed account of the links between the general history of the United States from 1963 to 1974 and the architecture of the period. The historiography of architecture has few satisfying accounts of how the discipline relates to events and trends outside itself, leaving little sense that major events and trends in American history had much of an impact on the contemporaneous architecture. Thus I went in search of a connection that would be more specific than Henry-Russell Hitchcock’s comparison of the architecture of genius and the architecture of bureaucracy, or the distinction between the discipline and the profession drawn by Sanford Anderson, although those do operate here. Similarly, while explanations linking national mood and architecture have abounded since Alois Riegl and Erwin Panofsky adopted the idea of kunstwollen in the early twentieth century, even so these explanations seem overly mystical, lacking a sense of the mechanism by which regimes, moods, or other trends impact form.

Historians have looked at the relationship between American architecture and the 1960s, with its context of mass democracy, rising consumerism, and growing involvement of government in the everyday lives of the health, education, and welfare of the population. Roughly contemporaneously, Vincent Scully

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10 Recent scholarship on architects during World War II is one counterexample.
addressed the shift in comparing the two editions of his *Modern Architecture: The Architecture of Democracy*. Between the 1963 version and the 1974 update of his account, he described an overall shift from “an Americanized version of existential idealism” transitioning to a tone of “a rather sardonic empiricism not untouched by disillusionment and anger.” As to what this humbler view might be, and how it might relate to larger shifts in form, government, and forms of government, Scully offers a reading of Le Corbusier’s High Court at Chandigarh where humans are “neither sheltered nor brought to a single conclusion.” Instead, “they are exposed to two separate and hostile realities of human life: what nature is and what men want to do.” Thus, he suggests that the paradigm of modern existence is to stand pressed between nature and humanity, such that modern man, “has become at once a tiny atom in a vast sea of humanity and an individual who recognizes himself as entirely alone.” While suggestive, the link between modern man and modern form is limited to a literal juxtaposition of Le Corbusier’s architecture with the enduring forms of the mountains beyond.

A later generation of scholarship included Mary McLeod’s study of “Architecture and Politics in the Reagan Era,” which positions architectural postmodernism as the fitting cultural product of an age of great wealth, lifestyle magazines, and a general celebration of the architect as celebrity. McLeod’s piece is suggestive, and, in some ways, I hope to be offering a prequel—an “Architecture and Politics at the Johnson/Nixon Hinge” if you will. But where McLeod’s work was still relying on an amorphous link represented by a shared feeling that wealth abounded, I have argued that the concept of the research economy provides one major mediating element between architecture and politics in the late-twentieth-century United States. The available funding and governmental role in supporting selected agendas certainly fostered certain types of research over others, an idea successfully argued by Avigail Sachs.

Most clearly, Oscar Newman initial sought to study community formation in enclaves, but the presence of available funding due to the Omnibus Crime Control and Safe Streets Act, 1968 encouraged him to put that interest in environmental influence on community formation toward the problem of crime prevention. The case is further supported through analysis of specific governmental/social science funding and the particular architecture that resulted, focusing as much as possible on institutional domestic environments, not only because they were changing at this time, but also because keeping that constant does allow for

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13 Ibid., 10.
14 Ibid. In both cases, Scully saw nature as a mountain.
some thought about how environmental governance changed over time. More recently, the field has gained a few books, such as Gwendolyn Wright’s on the United States, that interweave American history, politics, and architecture.\textsuperscript{17}

More theoretical treatments such as Reinhold Martin’s also point to productive connections of architecture and politics. He has argued that Peter Eisenman’s turn to deep structures circa 1973 was related to President Richard M. Nixon’s fostering of environmental legislation. Martin argues that both were actions in search of a universal plane able to transcend the deep divisions of the early 1970s Vietnam War era, urban decline, and persistent racial inequality. Similarly, Martin places Nixon’s “governmental speech act”—unhitching the dollar from gold—next to Gilles Deleuze and Félix Guattari’s critique of Chomskyian disregard for the inextricable ties between pragmatic, semantic, and syntactic elements of language.\textsuperscript{18} In other words, just as Nixon was able to use his power to shift the referent of the dollar, so too did Deleuze and Guattari point out that relations between signified and signifier are often and largely fixed by pragmatic or power relations. But what I have wanted to ask is how we might go beyond such arguments that are at base just statements that “it was in the air” to ask these things or to wonder if our symbols might be detachable from their referents, leading some to search for a way out of that arbitrariness and leading others to refuse that escape. Obviously there are such trends and correlations of inquiry, but I wanted to ask if there were demonstrable mechanisms that might link lines of inquiry or philosophies between such Presidential administrations and architects.

Thus, the dissertation has been framed around the hinge between two Presidential administrations, beginning in 1963 with the signing of the Community Mental Health Centers Construction Act by John F. Kennedy, his assassination, and the subsequent inauguration of Lyndon Johnson. Johnson pursued many of the programs begun by Kennedy’s New Frontier, aiming to extend the postwar affluence to all Americans as well as bringing cultural achievements up to the level of economic success. His Great Society programs extended governmental influence into further areas of everyday life, largely in the arena of health, education, and welfare. These efforts floundered as the war in Vietnam sapped funding, and as Johnson announced that he would not seek reelection. As Nixon took over, the focus of reform shifted to a nascent neoliberal perspective more concerned with privatizing programs and fighting crime. The mood in the field of architecture followed a similar transformational arc, with ambitious, energetic schemes for housing and urbanism giving way to more specialized, abstract, and even cynical projects. By the time the period of the

\textsuperscript{17} Gwendolyn Wright, \textit{USA, Modern Architectures in History} (London: Reaktion, 2008). See also Michael Carriere’s dissertation on the place of university architecture and events such as People’s Park, which operated at a national scale as well as having an impact on architectural culture.

\textsuperscript{18} Reinhold Martin, \textit{Utopía’s Ghost: Architecture and Postmodernism, Again} (Minneapolis: University of Minnesota Press, 2010), 64–65.
dissertation closes, in 1974, the nation had seen the aforementioned abolishment of the gold standard, the construction of Minoru Yamasaki’s World Trade Center, and the Watergate scandal. However, many of the projects funded under the earlier era of optimism were delivered under the Nixon climate.

The dissertation draws out the architectural symptoms of these shifts in politics by examining institutional environments as places of state-sponsored research. The techniques that were employed echo the theorization of biopolitics by others, while not always being reducible to the terms of other’s debates. In *The History of Sexuality*, Foucault describes two poles of biopolitics—the individual body and the species—arguing that these poles are joined into *agencements concrets* or concrete arrangements that come to be known as institutions. I share Foucault’s framing of such institutions as concrete arrangements that work as instruments of the state at both the individual and the population level. These social and architectural technologies are used to optimize the capacity of a population in such a way as to make it easier to govern, not harder. For my contribution to the scholarship on biopolitics, I am looking at an architectural / institutional scale. These environments do at times use more disciplinary modes of power, in the case of the prisons particularly so, and they certainly share the tactic of instilling self-government. But most often these psychologized environments employed what can be called soft power. Soft power includes all manner of techniques of convincing or persuading individuals and populations to be governed, i.e., do what the government feels to be in the state’s interests, often to believe that it is in their own best interests or perhaps even their own impulse. Incentive, obfuscation, and management are all examples of these techniques. Power is exercised through aesthetic means, through the environment, and through tools of persuasion. This is less a question of discipline and surveillance—something that might be surprisingly absent in my text—and more a question of obfuscating even the prison control tower, much less the gaze of a specific guard. Drugs constitute a perplexing hybrid of mechanical influence and persuasion through obfuscation: on the one hand they can be forcibly administered and provide real physical control of behavior, as bars or quartering would do, and yet taking them is more often voluntary, and the constraints they place on behavior are subtle. I do not see biopolitics as a teleological step in a longer history of power, nor is it a natural evolution or paradigm shift. As noted, earlier modes persisted into the 1960s and the

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19 In other words, I find it biopolitics a useful concept for describing the relationship between my work and the larger history of ideas, particularly those that have been accepted into architectural theory. And yet, this close in, it seems at times too abstract and too adapted to a different disciplinary and national context.


21 The definition of biopolitics in Michel Foucault, Giorgio Agamben, and others’ work is a subject of debate among specialists, particularly regarding the scale at which it operates, and whether it is an inevitable teleological shift. Kolson Schlosser, “Bio-Political Geographies,” *Geography Compass* 2, no. 5 (2008): 1621–1634.

22 Drawing and quartering, and other forms of “hard” government, are also persuasive; the audience that watches is convinced not to rebel. The difference is that with soft power, the state does not attempt persuasion by threat of violence, or the threat is so remote as to be out of the awareness of the governed.
working out of soft power in these institutions was clearly not an unqualified success. More accurately, governing through attention to humans as biological entities has been a pragmatic solution to what Foucault called the problem of ‘the accumulation of men’.23

My project has been to examine a few episodes of research into new types of institutions, focusing on the means by which they were funded, designed, and understood within an American context of the Johnson, Nixon, and Ford administrations. It is intriguing to note that the governmental and institutional changes described here are similar and contemporaneous with Foucault’s growing interest in biopolitics.24 These were the years in which he began to write about the self-restraint and alienation of inmates, circa 1965, and later to write about the tendency of neoliberal regimes to govern through environment and incentives. Thus, the material here documents the larger phenomena in which Foucault began to describe a new era of governance by biopolitics, begun in the eighteenth and nineteenth centuries with state programs to manage and attend to their populations rather than simply punish and control them. The early part of this shift has famously been outlined in his Discipline and Punish, and the source of the shift in medical and carceral institutions has been explored in Madness and Civilization and The History of Sexuality.25 Thomas Mann painted a lyrical portrait of the experience of life in another, earlier institutional environment in The Magic Mountain, where he described the chronic flow of regimented time, the intimacy and coldness of periodic medical testing, and the eradication of simple diagnoses like “sick” or “well.”26 Mann’s account of the management of life in the sanatorium makes clear that while biopolitics can be endlessly abstracted, it is also manifest in concrete spaces, paperwork, and other apparatuses. These tools are part and parcel of the shift from rule by punishment—although we will see that the two modes operate simultaneously in some spaces—to the expert administration of life through the state’s evaluation of a population’s capacity to respond.27 A biopolitical government requires statistics, interviews, maps, functional diagrams, and other such techniques from sociology and psychology to gauge productivity, reproduction, and—by the twentieth century—consumption. The result is a softer form of control, one which is paradoxical: It is both a more intimate form of control and at the same time, a potentially positive change toward a more democratic and less repressive system. Certainly, this expertise of

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23 In the passage where he lays out institutions as concrete arrangements, he describes the problem of governing as “The adjustment of the accumulation of men to that of capital” Foucault, The History of Sexuality, 141.
24 The intersection with Foucault is taken up further in the individual chapters.
27 To borrow architectural theorist Sven-Olov Wallenstein’s words, “The body politic becomes a living entity that must be attended to, not just a source of disturbances that must be repressed.” Wallenstein, Biopolitics and the Emergence of Modern Architecture (New York: Princeton Architectural Press, 2009), 10.
government is harder to pinpoint and harder to resist. It is both appealing and repulsive, a grisly scene that commands attention and yet gives some cause for hope.

The complicated and yet simple techniques of biopolitics or soft power have been developed by many disciplines, perhaps foremost among them are the psychologists. Throughout the twentieth century, psychological expertise moved out of the laboratory and into society, as has been argued by historians such as Ellen Herman and Rebecca Lemov.\[28\] Institutional environments served as one stop along that translation from laboratory to everyday life, assisted by government-funded research. Government esteem of psychology exploded after the demonstrable utility of psychology for propaganda, intelligence testing, and rehabilitation of servicemen and -women during and after World War I and still more after World War II. Through the 1950s and 1960s, the human sciences benefited from professional efforts to include social science in the funding structure of the National Science Foundation, continuing to demonstrate that these softer sciences could be of use in solving society’s problems while struggling to show that state funding would not prevent their autonomy from state influence.\[29\] Governments had been collecting data on their populations for a hundred years or more, but in the 1960s the public status of social science—in terms of both openness and public esteem—was of an entirely different character. As government expenditure on institutions declined and racial tensions continued to grow in the mid-1960s and early 1970s, conditions in American cities and institutions worsened, and the newly valued tools of psychology and social science were brought to bear. Sociologists and psychologists began to study the culture of poverty and the psychology of racism in various “poverty knowledge” studies undertaken as part of President Johnson’s Great Society efforts to fight persistent poverty and urban unrest.\[30\] The U.S. government spent an increasing amount of money on research into the psychology and sociology of its population, with the National Institute of Mental Health (NIMH) second only to the Department of Defense in its funding of behavioral research.\[31\] The Center for the Study of Metropolitan Problems, part of the NIMH, sponsored

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\[29\] On efforts to include social science in the NSF, see Gene Martin Lyons, *The Uneasy Partnership; Social Science and the Federal Government in the Twentieth Century* (New York: Russell Sage Foundation, 1969).


research on the psychological effects of federal housing policies, most famously Marc Fried’s study of the experience of grief after being evicted due to urban renewal and Lee Rainwater’s study of life in public housing at Pruitt-Igoe, *Behind Ghetto Walls: Black Families in a Federal Slum.*

In the mid-1960s, with movements for social justice, civil rights, patients’ rights, and a variety of youth movements came a growing antagonism to institutions. The desire to dissolve institutions ushered in research which is symptomatic of a shift wherein the architecture of state-sponsored institutions became less concerned with evoking efficiency and hygiene and more concerned with attending to its constituency and appearing open, welcome, and natural. The new phase of institutional thinking conforms to many of the values of neoliberal governance. While some scholars—such as geographer David Harvey—define the birth of neoliberalism as slightly later, in the late 1970s, Harvey’s definition of neoliberalism certainly describes the mentality and changes underway in institutional environments a few years earlier. Harvey describes neoliberalism as intensely interested in gathering information, promoting individual enterprise and in limiting state intervention in social issues. Indeed, the arc of this dissertation provides a portrait of the growth of neoliberal strategies of governance because its subject—institutional environments and the state use of science—was so central to both the neoliberal enterprise and the limited welfare state that preceded it. The first case looks at the Community Mental Health Centers Construction Act of 1963—very much the doing of an energetic, optimistic, albeit limited, American welfare state. Similarly, the second case looks at an experimental opening of prisons using various theories of social control and panopticon surveillance. However, the third case—the history of CPTED—adheres closely to Foucault’s analysis of neoliberalism’s approach to crime, treating it as the act of a rational *homo economicus* and installing environmental incentives to prevent elastic demand while ignoring inelastic demand. As Foucault predicted in *The Birth of Biopolitics,* neoliberalism’s valuation of individual freedom, limited government intervention, and yields an interest in dissolving control through environmental strategies.

CHAPTER OUTLINE

The chapters are arranged as episodes in the larger tale of psychological expertise moving out of hospitals and laboratories and into everyday life, and eventually informing the intellectual discipline of

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Community Actions (San Francisco: Jossey-Bass, 1968.)


architecture itself. Each chapter addresses a different type of institutional environment and a different collaboration between architecture and the human sciences. The episodes are presented roughly chronologically, though with substantial overlap, presenting a transit from the most medical, psychiatric environment to the least. Though I can not argue that the various cases are linked causally, in part because they happened somewhat at the same time, and in part because I simply do not have enough information and enough studies of enough cases. Many many more episodes of collaboration could be added to this narrative, most notably the Hill-Burton hospital construction that preceded the first chapter. Even so, the episodes present a range of media through which collaborations influenced architecture: a federal construction program, a series of state programs, a local housing authority, a popular book, and the university research economy. While not sufficient to demonstrate causality, the episodes do document the deployment of psychological expertise through a range of environments, ending with the discipline of architecture and its own intellectual development.

The first episode concerns the major shift in the place of psychiatric care and a major collaboration between architects and psychologists that led to the creation of open psychiatric institutions. The 1963 Community Mental Health Centers Construction Act was signed into law by President Kennedy and implemented by President Johnson during an era of optimism and energy on the part of the American government. The program aimed to build 2,000 new, open institutions that would combine outpatient care with other community functions such as childcare, taking advantage of a new era of psychiatry made possible by advances in psychopharmacology. The program was administered by the National Institute of Mental Health, which created an Architectural Consultation Section headed by architect Clyde Dorsett, in order to develop guidelines for the new facilities and to foster design research through collaborations between psychologists and architects.

Chapter two follows the development of psychologized environments further from the hospital, into the prison environment. Through repeated waves of attempted reform, the project of therapeutic penology attempted to apply the same lessons from psychology toward facilities that would be literally softer, more enmeshed in the community and more tailored to specific elements of a population. Some went so far as to call for open prisons, arguing that the open institutions of the CMHC program should serve as a precedent. In 1976, Robert Sommer wrote that just as the goal of ending the warehousing of psychiatric patients had seemed a liberal dream, so too could prison reform produce a condition where most inmates would be like patients and come to the facilities willingly.35 As with the reforms to psychiatric institutions, prison reforms were undertaken by architects in concert with psychologists, as well as penologists in this case. In

contrast with the psychiatric project, the prison reforms had a tendency to remain as more of an intellectual or research gesture, concerned as much with aesthetic mastery as with practical management of the institution. This priority can be seen in the case of the 1961 conference hosted by the American Institute of Architects (AIA) on the subject of correctional architecture which was received as a successful “experiment in mutual intellectual stimulation.”36 Other examples include the Jean Labatut-era Princeton M.F.A. thesis by John Kaestle, which presented a panopticon/therapeutic scheme in the lovingly rendered idiom of Labatut’s schemes for fountain lighting. But where many have written about the way that aesthetics can smooth the exercise of power through the use of spectacle and distraction, therapeutic penology was a bit different, mimicking the mundane domestic environment rather than exceptional or exciting environments. Despite these waves of inquiry—which included isolated experiments such as a relatively open facility at Leesburg, New Jersey, or a late project by NIMH alumnus Dorsett and Constantine Karalis, a colleague from the National Bureau of Standards—therapeutic penology never quite took hold, and the project of converting penology to an era of soft power was never completed. The episode concludes with a paradigmatic figure, architect Sim Van der Ryn at the University of California, Berkeley, whose encounter with open prisons followed on his social critique of institutions generally and was cut short by the events at People’s Park, which led to his literal retreat from the urban scene into environmental architecture in the countryside around the San Francisco Bay Area.

The progression of psychological expertise into unspecialized, everyday environments continues into the third chapter, which addresses one of the best known architectural theories to use social science: Oscar Newman’s theory of defensible space. In the aftermath of the Great Society, the direction of architectural research into institutional design reached a watershed, a point of simultaneous explosion and expulsion with Crime Prevention Through Environmental Design research. CPTED research resonated with the values of a nascent American neoliberalism and some of the most cherished tenets of modern architects who were members of the Congrès Internationaux d’Architecture Moderne (CIAM) and Team 10. For this reason, the theories of defensible space and human territoriality produced passionate reactions in the disciplinary and popular audience of architecture. The theory that urban housing could be made safer with minimum expenditure of money and effort by further privatizing and segmenting the grounds struck some as self-evident once they heard it, and struck others as an offense to the work done by the previous generation to create collective, public housing. The split in audience reaction was compounded by the mixed genre of the best-known study of CPTED, Oscar Newman’s *Defensible Space: Crime Prevention*

Defensible Space was a quasi-scientific study published for a popular audience, resulting in a confused reception. The scientific and scholarly community largely reacted against the book as having flawed statistical methods and inadequate theorization in terms of its criminological model, while the popular, lay audience declared that the book largely “proved” that high-rises cause crime. Within architecture, the field was split, with one group picking up the CPTED ideas and teaching and regulating them, while the other side reacted strongly against this semi-scientific endorsement of neoliberal and suburban values—strongly enough that they began to eschew the role of social science in architecture, reverting to an isolated humanism enriched with new awareness of audience.

Chapter four then shows that social science, and specifically psychology, had an influence on the core of the discipline of architecture, reaching even its most ostensibly autonomous or theoretical parts. The chapter lays out a brief history of government-funded research into the psychological qualities of the built environment, as well as the research groups that appeared and applied for this funding. In this period of the 1960s and 1970s, the research university fostered the connection between social science and architecture, hence the chapter devotes substantial attention to the example of Princeton under Robert Geddes, recounting the changes in relation to the larger university and the shifting focus of education that went along with the rise of social science. Next, the chapter analyzes grants for urban research given to Christopher Alexander and his Center for Environmental Structure (CES) in Berkeley, as well as to Peter Eisenman and Mario Gandelsonas at the Institute for Architecture and Urban Studies (IAUS) in New York. The IAUS was in contact with social science expertise in architecture through the participation of Newman as well as sociologist Robert Gutman. More specifically, the Institute benefited from a National Institute of Mental Health grant in 1973 for research in “Generative Design.” Led by Eisenman and Mario Gandelsonas, this project was inspired by Noam Chomsky’s linguistic theory of base structures brought to the discussion of form types in architecture and the way they assisted communication. In addition to arguing that the NIMH grant allowed for a period of “basic research” on the subject—allowing for Diana Agrest and Gandelsonas to remain at the IAUS and work toward publishing Oppositions—the chapter argues that the stages of the grant process at NIMH produced more self-awareness on the part of Eisenman and Gandelsonas as revealed in multiple drafts of the proposal contained in the IAUS archives. In addition, I argue that problematizing the communication between user and architect led to the development of an enriched model of that social relation, which was instrumental in launching the era of theory that followed.

Newman was born in Montreal in 1935, was naturalized as an American citizen in 1972, and passed away in 2004.
It could be argued that the logical extension of the central argument of this dissertation is that architectural theory is ideally suited to a developing age of biopower, one of closer and closer attention to the population and greater entanglement of environment and power. If governing now requires greater attention to the composition of the governed, ranging from demographics to dreams, then who but theorists can tackle this amorphous area and break it down into testable, isolated segments through projects such as the one at the IAUS, which proposed to do just that? But of course the knowledge of architecture and its functioning in the minds of the inhabitants is not only useful to or used by those who would govern. In our era of blurry lines between “us” and “them,” between corporation and government, etc., it is hard to say when such knowledge of the relation of environment and psyche is used for good or for ill. It is just as easy to argue that the intimate knowledge of environment can be used, as thinkers like Keller Easterling do, to encourage awareness of the operation of environments from shopping malls to cruise ships to the commodification and tailoring of even home environments. In order to start to answer the question of resistance to this power—assuming that question is not too naive to be typed in such a document at this date—we will have to ask, how did we get here? In faith that history can be a tool of defamiliarization if nothing else, let us begin.
Chapter 1. The Permeable Institution:

Community Mental Health Centers (1963-1974)

In 1963, Robert Felix, the Director of NIMH offered American architects the opportunity to design a new type of psychiatric institution. In an essay published in *Architectural Record*, Felix claimed that architects would be able to use their ingenuity and imagination to design a new typology, which he predicted would become as much a part of American community life as the elementary school and post office.¹ There was reason to be so ambitious, as earlier that year, President Kennedy had signed the Community Mental Health Centers Construction (CMHC) Act, a program that aimed to build a national system of 2,000 facilities to meet the mental health needs of all Americans—regardless of their ability to pay. The CMHCs were to be a new, *permeable institution* which would provide psychiatric care on a mostly outpatient basis, in facilities located within patients' communities instead of remote, residential institutions. In order to avoid the design mistakes of the past, and to create a new image for psychiatric care, NIMH fostered design research which brought architects into contact with a group of psychiatrists who enriched the architects' sensitivity to the patients' experiences. Similarly, the architects brought to psychiatrists and the NIMH a knowledge of design, enriched by an articulated form of modern architecture and the young field of architectural programming. The result was a unique refinement of the program-driven architecture of the 1960s, which stands as a reflection of the welfare programs of the Great Society and the growing expertise of social science. Most suggestively, the CMHCs can be read as a new architectural strategy suited to an increasingly democratic, increasingly psychologized, biopolitical society.

Dr. Felix's call to architects in *Architectural Record* in 1963 was only a small piece of a larger collaboration, and only the start of the NIMH's promotion of the collaboration between architects and psychiatrists on the subject of CMHC design.² Two years later, in 1965, the NIMH appointed architect Clyde H. Dorsett to oversee the grant application process, a process which included three stages of drawing

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² Psychiatry's interest in architecture was far from new. In the mid to late 1950s, the American Psychiatric Association (APA) received grants from received grants from the Rockefeller Foundation and the Division Fund of Chicago and then from NIMH to study architecture with psychiatrists and architects. In addition, *Hospital and Community Psychiatry* published a regular column on architecture. However, psychiatrists actually collaborating with architects instead of researching environmental psychology themselves, seems to have been more rare. Lucy Ozarin, M.D. "Notes on the Development of Collaboration Between Architects and Clinicians," *Hospital and Community Psychiatry*. Volume 31, Number 4 (1980).
submissions: schematic, preliminary and working drawings. The same year, Dorsett and the NIMH sponsored a prototype study for a San Francisco facility by architects Ellis Kaplan and Herbert McLaughlin in concert with two psychiatrists, Joseph J. Downing and Robert A. Kimmich. The San Francisco study was published as a large, award-winning volume that was intended to serve as an early guideline for potential applicants to the CMHC program. Following the San Francisco study, the NIMH sponsored the third annual Rice Design Fete at Rice University in Houston, Texas. The earlier events had studied schools and industrial fallout shelters. The third Rice Design Fete consisted of a three-day kick-off meeting including

Illustration 1-1: Architects and psychiatrists at work at the 1965 Rice Design Fete, directed by Clyde Dorsett of the National Institute of Mental Health shown here, seated at the center of the photograph. Volume II. Architecture for the Community Mental Health Center. Rice Design Fete III (1967), 27.

3 The results of this study were published as: Coryl La Rue Jones, ed., Vol I. Planning, Programming and Design for the Community Mental Health Center, Conducted by the Western Institute for Research in Mental Health. The Community Mental Health Center ([New York]: Mental Health Materials Center, 1966). Downing was Program Chief of Mental Health Services for the Department of Health, and Welfare in San Mateo, California. He had worked for the Veterans Administration in Topeka, which could be how he knew the rest of the group.

4 The publication introduced applicants to the details of the CMHC act as well as the psychiatric and architectural philosophy behind it in a text that was a combined effort of the seven or so contributors, including Bertram S. Brown, Chief of the Community Mental Health Facilities Branch and Clyde H. Dorsett, AIA, head of the Architectural Consultation Section and others. The psychiatric philosophy was laid out through quotes from John F. Kennedy on the importance of continuity of care, and Adolf Meyer on the need for a facility to both research the causes of diseases as well as cure them, and to remember to serve the patient rather than the administrative system of the hospital.
tours of the Topeka State Hospital, the Menninger Institute, and other facilities in Topeka, Kansas, in March of 1965. In June, the participants reconvened for an intensive, two-week working session for a gathering of the top architects and psychiatrists at work on new institutional designs. Six pairs of architects and psychiatrists participated in the charrette. Each pair was responsible for directing a group of five architecture students and one community mental health trainee as they developed their scheme. Each team started with a different American community in need of a center, and the teams were to use the demographics, aesthetics, and programmatic needs of the community as the basis for their design. While the information was taken from actual locations in the United States, they were used "anonymously" to stand in for prototypical communities, yielding sub-types of CMHCs. The six types were: "metro-suburban rural," "research-oriented," "urban slum ghetto," "state and general hospital," "midwestern rural," and "heterogenous urban." The design schemes ranged from a long, linear Bridge between the hospital and the community in the proposal by William Caudill and Alfred Paul Bay, to a "team village" concept where the facility was broken down into smaller elements whose programmatic components were further articulated.

Illustration 1-2: Proposal by architect Wilmont Vickrey and psychiatrist Joseph J. Downing for a new typology known as the community mental health center. CMHCs were to be more open and include more community functions, as evidenced by the children seen playing here among the articulated components of the central building and beneath the massive, suspended volume of another component. Clyde H. Dorsett Papers, also in Vol. II Rice Design Fete, 83.

as separate volumes (Illustration 1-2). One of the pairs, architect Kiyoshi Izumi and psychiatrist Humphry Osmond, did not propose a concrete design, but rather pursued their diagrams of individual and group spaces. The schemes did not share a formal language so much as they shared an interest in understanding and expressing their view of the new institution.

Dorsett and the other architects and psychologists realized they would need to design something very different from the restricted, inpatient mental hospitals of the past. In the 1960s, the image that needed to be avoided was that of the giant buildings constructed in the 19th century as hospitals for the insane, but also and increasingly, it meant modern hospitals and the psychiatric wards that they housed.

Most commonly, these were the so-called "block-style" modern hospitals in the United States that were built after World War II, under another large federal construction program known as the Hill-Burton legislation. The Hill-Burton codes practically required a single, wide corridor with doors on both sides, known as a double-loaded corridor, due to requirements for modern medical equipment as well as egress for all the non-ambulant patients. The resulting form was typically a single block, a monolithic form often communicating its separation from its context through a plinth or an open first story (see Illustration 1-3).
The material that follows here will argue for the CMHCs as a new institutional type, which combined a refined, program-based form of modern architecture with psychiatric knowledge yielding a more intimate fit between form and function. The chapter will present the overlap and disparity of the interests of architect and psychologist on CMHC designs, then turn to the details of those forms in a progressively more intimate scale, from the national scale to the urban scale, from the scale of the building to a focus on circulation, down to the personal scale of a bathroom sink. Next, the chapter turns to the mechanisms which produced these forms, highlighting the role of the bureaucratic milieu that fostered these designs. With such a large and complicated authorship, the mechanism of transmission became another key site of research for the administrators. Through diagrams, building code and streamlined paperwork, Dorsett wielded his influence as a bureaucratic architect. Lastly, the chapter will return to the central argument of the dissertation, that the interaction between psychologist and architect produced a new role for the architect and enriched the discipline and the profession of architecture.

The architects of community mental health centers learned a great deal from their interaction with psychologists, even though the field of architecture was already in pursuit of both programming expertise and a more refined modern architecture prior to the collaboration with psychologists. Nevertheless, the opportunity offered by Felix, the NIMH, and by extension the federal government of the United States gave architects the chance to share information, to develop ideas, and to focus on the problem of designing within a society whose everyday life was increasingly psychologized. The status of psychologists in American life rose rapidly after World War II, as did the number of psychologists practicing. The infusion of psychology expertise into American culture after World War II produced a number of patients who inhabited a far grayer area between mental health and mental illness than had been the case twenty years earlier. Delinquency, alcoholism, and even family dysfunction were coming under the aegis of the psychologists' care, making formerly "well" patients "sick" and at the other end of the spectrum, pharmacology and a drive for de-institutionalization meant that many who would formerly have been committed to remote facilities were no longer hidden away.

The rising influence of the NIMH itself reflects the growing status of psychology, but it also reflects the federal government's growing involvement in the mental health of its citizen population. Prior to World War II, the only federal agency devoted to mental health was the Division of Mental Hygiene, an organization responsible for screening new immigrants for mental soundness, treating drug addiction, and providing counseling to federal prisons. In 1949, the NIMH was formed as a cabinet level agency within

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7 Even then, the mental health organization was a subset of the public health effort, Murray Levine, *The History and Politics of Community Mental Health* (New York: Oxford University Press, 1981), 42.
the National Institutes of Health (NIH), which was itself part of the Department of Health, Education, and Welfare. NIMH’s budget grew rapidly, from $8.7 million in 1950 to $315 million in 1967. As they grew, the NIMH’s budget and influence led them to conduct extensive research outside of the laboratory and the psychiatric institution in an attempt to justify their role and to compete within the also expanding NIH around them. In 1964, a majority of the NIMH’s research budget was spent on work that was not directly related to psychiatry or biological sciences. Sixty percent of the funding went to psychologists, sociologists, anthropologists, epidemiologists, and others who studied the broader implications of environment on mental health. Supported by the Great Society agenda to expand what historian Alice O’Connor calls "poverty knowledge," the NIMH studied the cycle of mental illness and poverty as well as urban and architectural factors on mental health, spawning a Center for the Study of Metropolitan Problems. But where those were primarily research programs, the CMHC Act included a large construction program which was in essence a commitment by the federal government to build a new facility for every 200,000 citizens. Because of the increasingly broad definition of mental health, this difference also meant that the CMHCs would be involved in governing the population, preventing delinquency, alcoholism, and other socially disruptive conditions.

Just as psychological expertise and research were departing from a purely medical model and expanding their role in society, so too was the site of psychiatric care moving out of psychiatric wards and mental hospitals. William Menninger and the professional association of the Group for the Advancement of Psychiatry (GAP) believed psychiatry had a social responsibility, and lobbied throughout the 1950s for the liberal idea that every American citizen had a right to mental health. Moreover, they felt that psychiatrists had an obligation to use their expertise to advance the goal of a democratic right to mental health, thereby carrying "psychiatry out of the hospitals and into the community." GAP members and other psychologists were influential in pushing the federal government to take over from the ineffectual and backward states, in order for a progressive, inclusive, and democratic program to be developed. GAP’s efforts led to an influential report by the Joint Commission on Mental Illness and Health that was published in 1961 as Action for Mental Health. GAP’s efforts and the impact of the Joint Commission’s report were influential in the passage of the 1963 CMHC Construction Act.

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11 Additionally, 1955 report by the World Health Organization called for many of the elements of the CMHC, such as outpatient services and community integration. Franklin D Chu and Sharland Trotter, The Madness Establishment;
Professional and political motivations for deinstitutionalization were important, but the movement out of the hospital was only made possible by a new class of psychoactive drugs. Indeed, the drugs had such an impact on treatment that one can argue that the CMHCs would never have existed without psychotropic drugs. Introduced in 1955, Thorazine is the most commonly known commercial variant of chlorpromazine, which was itself the product of research on the potential for histamines to be used as a

Illustration 1-4: Graphic juxtaposition of the old and new models of the institution from the NIMH volume on the Rice Design Fete. At the top is a "Utica crib", used to restrain patients in the nineteenth century. Vol II, 13.

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The drug produced a state of calm and unconcern in patients, allowing many to wake up and begin to speak but also creating the zombielike patient familiar from films of mental hospitals. By the early 1960s, Thorazine and similar drugs had advanced to the point that they made it possible for many patients to function somewhat normally outside of an institution. The biological restraint provided by the so-called "chemical straitjacket" had a profound impact on the amount of physical restraint that the architecture needed to provide, thus making the community mental health center possible. Even the patients who needed inpatient care could be allowed greater freedom within the walls of the new institution. Psychoactive drugs internalized the architecture of restraint, altering the "internal environment" of the patient's mind and freeing up the external architecture. Indeed, this conception of the CMHC as anti-restraint was presented in a NIMH publication through a graphic juxtaposition of a restraining mechanism known as a utica crib to the articulated modernism of a CMHC (Illustration 1-4). In a sense, the drugs made it possible for the environmental controls to be dissolved into the individual patient's brain chemistry.

Unsurprisingly, the internalization of control was frightening, particularly by the late 1960s and early 1970s as criticisms of psychiatry generally—and the CMHC programs specifically—grew. In 1968, Kenneth Keniston published an essay "How Community Mental Health Stamped Out the Riots (1968-1978)", chronicling a fictitious "Operation Inner City" that followed a strategy of total saturation of psychological experts to stop the riots once and for all. In 1969, psychotherapist, M.D. and associate professor at NYU Chaim Shatan published a critique of community mental health, arguing that the medical model of illness was unsuited to such psychiatric problems as neuroses, depression and the chronic episodes of schizophrenia. Shatan predicted that the growing emphasis on preventive psychiatry which

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12 On the history of chlorpromazine see David Healy, The Creation of Psychopharmacology (Cambridge, Mass: Harvard University Press, 2002), especially page 97 on the introduction of Thorazine. Chlorpromazine was initially used for surgery, and later, doctors applauded the drug as able to calm mental patients enough to get them awake and talking for the first time in years. In a Freudian-dominated paradigm in the 1950s, getting a patient talking would have been the first and necessary step to curing him or her.

13 The "internal environment" is a phrase characteristic of criminologist C. Ray Jeffery, who will be discussed in the third chapter. In the 1970s, the idea of the internal, chemically produced environment was expressed in the theoretical designs of young architects, such as Hans Hollein and Ron Herron. Similarly, Herron's and Hollein's projects will be analyzed in more detail in chapter four. Ron Herron, "Enviro-Pill and Holographic Scene Setter", Archigram No.9, (1970) n.p. cited in Simon Sadler, Archigram: Architecture Without Architecture. (Cambridge, Mass.: The MIT Press, c2005.)

14 See also "The City as Patient" in Herman, The Romance of American Psychology, 222–226.

15 Kenneth Keniston, "How Community Mental Health Stamped Out the Riots (1968-1978)" in Bruce Denner and Richard H Price, eds., Community Mental Health; Social Action and Reaction (New York: Holt, Rinehart and Winston, 1973), originally published in Trans-Action. There were of course, earlier critiques of psychiatry, such as One Flew Over the Cuckoo's Nest (1962) and Titicut Follies (1967), but the critiques mentioned here are targeted particularly at the community mental health program.

16 Shatan also objected to the use of "psychopharmacological restraints" and the treatment of patients as "physiological units." Instead, he advocated an increased number of nonmedical behavioral specialists to treat such
resulted from the medical model would only lead psychiatrists to be more and more involved in social control. If changes were not made, he worried that "the community mental health specialists...may wind up as agents for social control, imposing on patients the values of government and industry." He accused the CMHC program of setting up a "government-subsidized conveyor belt," which led psychiatrists to adapt the techniques of the modern factory, using management techniques instead of seeing many disorders as behavioral adaptations to larger social and class issues.

Given the late 1960s context of racial tensions, urban riots, and the targeting of CMHCs to low-income, often urban, often minority populations, it is understandable that the use of drugs made many people uneasy. In order to quell such concerns, Thorazine and a similar drug, Stelazine, were advertised to psychiatrists as a modern tool for a modern psychiatry, using "primitive" art as a foil against which to make the comparison. Juxtaposing the paraphernalia—smooth blue pills, sleek eyedroppers, and brown glass containers—with the organic forms, fuzzy hair, and smiling face of a "primitive" art object, one 1976 ad for Stelazine emphasized the modernity of the drugs while at the same time naturalizing them (Illustration 1-5). A similar ad for Thorazine called drugs the "the basic tools of Western psychiatry," comparing them to "the basic tools of primitive psychiatry," exemplified by religious art from the Ewe people of Togo, Africa. This attempt to show drugs as simply the more advanced, reliable, modern form of a very old, basic practice was also tainted by racial overtones, given the choice of African art as the background for the modern pills. Other advertisements made the connection between drugs and disorders. Chaim Shatan, "Community Psychiatry—Stretcher Bearer of the Social Order?" *International Journal of Psychiatry* 7 (May 1969): 317.

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17 Ibid, 319-320.
18 Ibid, 319.
19 The art in the Thorazine ad comes from a New York gallery, and the caption labels the art as from Tongo as well as Togo. The caption does specify the tribe as the Ewe, who reside in Togo, in Africa, not Tongo, in the South Pacific. Both advertisements were produced by Smith Kline and French Laboratories in Philadelphia. Thorazine advertisement and Stelazine advertisement, *Hospital and Community Psychiatry* (August 1976): Box A1, Dorsett Papers.
race more clearly, as in the Haldol advertisement featuring a burning building and an African-American man shaking his fist, described by historian Jonathan Metzl.\textsuperscript{20}

Whether liberating or repressive—and in reality they are both—the new practices of community psychiatry were part of larger changes in the way that mass democracies of the 1960s related to their citizenry. The increasing involvement of governments in the health and welfare of their populations was another phase of a political era that began to emerge in the eighteenth century: that of biopolitics. Instead of governing through force and taking life away from their subjects, biopolitical regimes turn toward the management of the individual and plural lives of a population. Through elaborate means of gathering information, the government both pays attention to the population and communicates that attentiveness to the governed.

The biopolitical model thus centers around the concept of a living population, which can be defined by two features. In order to be considered a population, a group must be a heterogeneous mix of individuals, a statistically describable plurality which is conceived of as quasi-natural or akin to a population of animals.\textsuperscript{21} The second criteria is that the population serves as a political force, a collective entity that can "offer a surface on which authoritarian, but reflected and calculated transformations can get a hold."\textsuperscript{22} Developing the idea of the population as a surface, and describing the way that power is exerted and subjects formed under a biopolitical regime, Foucault writes:

\begin{quote}
The population is a datum that depends on a series of variables, which means that it cannot be transparent to the sovereign's action and that the relation between the population and the sovereign cannot simply be one of obedience or the refusal of obedience, of obedience or revolt.... If one says to a population "do this," there is not only no guarantee that it will do it, but also there is quite simply no guarantee that it can do it.\textsuperscript{23}
\end{quote}

Thus the whole model of freedom, rebellion and control is more complicated and more diffuse than in the sovereign / subject relation. Instead of rebellion or obedience, liberation or repression, the biopolitical condition presents the subject with the problematically abstract idea of moving toward a more "humane" exercise of power. While the exertion of power becomes more intimate, even to the extent of brain chemistry, there is at the same time a new responsibility for the state to attend to the needs of its population in order to be productive and healthy and have any power itself. It is this need to attend to a

\begin{thebibliography}{99}
\bibitem{22} Ibid.
\bibitem{23} Ibid., 71.
\end{thebibliography}
population that characterizes the government programs of welfare which made use of social science and its knowledge of aggregations of human subjects. By extension, then, to try to decide whether any given patient was liberated or repressed by the CMHC program is to invoke the mismatched terms of a previous political model. A member of the population would be both more controlled and more free than a single subject in relation to a single sovereign.

Because the controls are more diffuse and extend even down to the scale of a Thorazine molecule, the environmental controls can be said to have permeated the population. The result is a softer form of control, with less clear and less visible boundaries, replacing physical restraints with a complex of urban, architectural and even chemical systems of attention and management. Because of the uncertainty of the complex capacity of a population, the relation of the state to the population was correctly diagnosed by Shatan as that of a manager or administrator, needing to study the features of the population’s heterogeneity in order to assess its capacity for assenting to the state's programs. More concretely, this shift means the state will require statistics, interviews, maps, functional diagrams and other such techniques ranging from the early applied methods of Taylorism to the knowledge products of sociology and psychology in order that it be able to sustain the kind of action the state desires, productivity, reproduction--and by the 20th century--consumption. This theory offers a larger, more abstract explanation of why the state produced an agency like the NIMH to help attend to the population.

DESIGN FOR A POPULATION: THE CATCHMENT AREA

Governing a large population requires attentiveness of a particular kind, and given the size of the national population this attentiveness must be mediated through statistical models as well as representations of the population and its attributes. The growth of fields such as human ecology, urban sociology and information technology assisted the NIMH and other agencies in developing policies for their social programs. At the largest scale, the design and location of CMHCs relied upon the government’s knowledge of its population gathered through the census. The program aimed to build one center for every 200,000 persons, measuring the spacing of the institutions by population density rather than travel distance or county government. Each geographically-contiguous area was referred to as a "catchment area", borrowing a term from human geography which suggests that the population acts like a natural resource flowing to the center, in the way that rain water flows to a watershed.24

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24 The term catchment area appears to be common within the field of human geography, with the Oxford English Dictionary including the usage "catchment area" under "catchment" in a sentence from 1970 which refers to the area from which a primary school draws its students.
Dorsett tracked the CMHC program through a map of the United States divided into catchment areas. Once a grant was approved and a facility was under construction, the area was colored in yellow and a pink pin was stuck in the map. Later, a blue pin replaced the pink one when the building was completed. The image of the map was used as the cover of an undated NIMH brochure about the program, called "A Citizen's Guide to the Community Mental Health Centers Act", marking the importance of the geographical component of the federal program. The use of a national map was a fitting "poster child" for the program because another aim of the program was to reform and replace the abusive, broken system of state mental hospitals through a federal effort (Illustration 1-6).

The national map also communicated the democratic ambition of the program, the ambition to provide mental health care for every American. The purpose of the catchment area concept in the CMHC Construction Act had been to provide for more equal care, given that the catchment areas disregarded more social determinants of constituency. The hope was that basing the allocation of funds in census tracts
would keep facilities from discriminating against patients on the basis of “diagnosis, prognosis, age, sex, race, or ability to pay” as all who lived in the catchment area would be eligible for care at the center.\textsuperscript{25} The idea that each living citizen deserved the same consideration drives home the idea that community mental health was truly a program for a biopolitical age, wherein the need to manage the life of the population makes each individual subject to the program by the sheer fact of being alive.\textsuperscript{26} The idea can be terrifying, for how can anyone escape if they are constituted as a subject simply because of their biology? On the other hand, a biopolitical system also moves the threshold of full citizenship to a level that includes a larger percentage of the population, encompassing many people who were not previously counted as first-class citizens. Women, minorities, and low-income populations are considered as political forces in ways they would not have been previously. For these groups, basing mental health care on census tracts can be a liberating move.

\textsuperscript{25} Levine, \textit{The History and Politics of Community Mental Health}, 54.

\textsuperscript{26} The idea of bare life has also been explored by Giorgio Agamben, but I have reservations with regard to the way he essentializes or naturalizes a lot of these concepts, preferring Foucault’s idea of historical contingency wherein these subjects are not understood or constituted in the same way in every era or place.
Within the catchment area, the CMHCs were to be located where they would best complement other “mental health resources” within that particular watershed. The construction funds were only granted if the center would fill in programmatic needs for a population not already served. Toward this end, the composition of each catchment area needed to be carefully studied as part of the grant application (see Illustration 1-7). In addition to mapping existing resources, Dorsett and NIMH required grant applicants to provide demographic data for the catchment area to be served. Thus, architects of CMHC proposals always engaged with visualizations of population. Maps of both demographics and existing resources were used in the San Francisco example published by NIMH in 1967; among the values mapped were juvenile court cases, major transportation routes, land use, and the location of urban renewal projects, as well as correlations between income and education and between income and unemployment. For their Ryburn Community Hospital in Ottawa, Illinois, Skidmore Owings and Merrill’s grant application included maps that tracked statewide income and population growth by county, projecting the growth to 2020, almost 60 years into the future (see further discussion of Ryburn on 58). Through these kinds of maps and data, the CMHC proposals always bore a visible mark of the government’s knowledge of the constituent population, a visualization of census data mapped onto the catchment area. Even in the case of SOM’s design proposal for a series of block elements, deemed on the edge of acceptability to Dorsett, the heterogeneity of the population and a measure of its reproductive capacity were included in the range of drawings considered to be part of a complete architectural proposal.

The demographic data used in the grant applications mainly came from census data, which was then analyzed and presented by a social scientist. In the case of the Caudill Rowlett Scott project for the Maimonides Hospital of Brooklyn Community Mental Health Center in 1966-67, data from the 1960 census was prepared by a graduate student of the New York School of Social Work at Columbia University. Prior to such government programs for collecting data, and university-educated social scientists to analyze the data, the decision about where and why to locate a facility would have had more to do with a patron donating the land, often in a remote or otherwise undesirable area. In several cases, it appears that the use of data made it easier for applicants to locate the facility in more desirable, more central places, where it could be integrated with a community and easily reached by troubled members of a population.

27 Letter from Caudill Rowlett Scott, Box G6, Dorsett Papers.
In its attention to the surrounding population, the catchment area concept is not unlike the planning that is used to locate a franchise of a national or international retail chain. Indeed, the federal network of CMHCs joins the more familiar model of franchise retail as a system of design that operates with an eye to a larger scale, paying attention to other services offered at nearby hospitals to avoid redundancy, and viewing the landscape as populated by potential users. As with retail, the CMHC program paid careful attention to the income level of the residents, determining that the most affluent potential patients would have access to private care, but the lowest-income would be most at risk and least able to pay for private therapy. And, while this location strategy means that a store will be located where its target shopper can reach it, in the case of CMHCs, it meant that facilities were often located in the portion of a catchment area closest to a low-income population. Most often, these were either low-income rural populations, or low-income urban populations. Probably correctly, critics have accused the community mental health centers program of

**Illustration 1-8:** The black dot in the southeast quadrant of these San Francisco maps shows the strategy of locating a facility with regard to income and education, income and unemployment, juvenile court cases, and age over 65 receiving welfare. These maps were presented by NIMH as a model for CMHC design. Jones, Vol I. Planning Program and Design for the CMHC, 23.
targeting areas of potential unrest, as in the case of the South Central Atlanta CMHC, hoping to prevent disturbances and quell unruly adolescents early on. There is certainly evidence for this accusation, as outreach and prevention of illness are also prevention of disturbance when the facility's mission is defined as broadly as the CMHC's programs were, to include alcoholism and deviancy.

The facilities were located in accordance with the demographics of their population, but they were also to respond to the aesthetics of their context. Caudill Rowlett Scott's design for the Maimonides Hospital of Brooklyn Community Mental Health Center worked to match the character and scale of the surrounding environment, and thus follow the staff's desire that the building be "a departure from anything resembling a hospital."^{28} Caudill Rowlett Scott responded by using a vertical mass in red brick, at the same five- or six-story height as its neighbors, and "by breaking up the massing" to continue a residential scale.^{29} Similarly, McKinley's continuous form from the Rice Design Fete presented a prototypical solution for a suburban environment, using a low, sprawling form to match the surrounding environment (see Illustration 1-13). A few suburban mental health centers did simply move in and occupy locations in a strip mall. In the Woodlawn neighborhood in Chicago, a group of psychiatrists affiliated with the University of Chicago quickly realized the importance of placing the center within a locally owned building and not the medical campus owned by an out-of-town landlord.^{30} Such things sent the right or wrong message, as Dorsett and the ACS came to realize. Dorsett

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28 Box A2, Dorsett Papers.  
29 Ibid.  
observed that the book is very much judged by its cover, that the "client group" will judge the facility and shape its attitude in accordance with its location and its appearance.

Unlike the block-style architecture lifted on a plinth, the architecture of the permeable institution was to be enmeshed in its surroundings, permeated by the human geography as well as the aesthetics of the surrounding catchment area. The NIMH guidelines illustrated the point with a quote from Arthur Drexler, taken from his essay "The Disappearing Object." In the essay, Drexler described the nondescript space of airplane interiors and hotel chains as the way of the future, contrasted with the figurative design strategies of the Bauhaus. He argued that the object was no longer a finite thing to be emphasized as the Bauhausers did with singular geometric shapes. Instead, he observed that:

The object is no longer a finite thing; it is merely one element in a system, like a telephone, and what makes it work successfully is the coherence of a system whose invisible forces are removed from me in space and time.  

Drexler recognized that to design in ignorance of the systems which surround an object was the strategy of a previous age, not one suited for the age of technology, mass consumption, and large social organizations that was the postwar U.S. Instead of maintaining the illusion of singularity, designed objects should dissolve or disappear into their environment by understanding that environment and satisfying user needs precisely. He criticized designers who continued in the Bauhaus tradition, producing bad design by "naively" trying to make singular objects. He called for designers to bear in mind that they are asked only to design uninteresting containers, and to remember that "what is inside the box is what is really interesting." The alignment with CMHC design philosophy is clear, not only for the desire to dissolve the center into the larger system of psychiatric care, the catchment area, and the social community, but also for the focus on the inside of the container—the human element within the facility.

DESIGN FOR THE PATIENT: THE INTERIOR

The patient population was the most important factor in the design of the new institutions. Psychologists at the Rice Design Fete made the link between the new drugs and the new, open environment:

Community mental health centers are keyed to the reinforcement of human dignity. Locks, barred windows, strait jackets and other methods of physical coercion and restraint are virtually abolished. Tranquilizing

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31 Drexler continued: "But the more rigorously a program of use is defined, the more likely is the object itself to disappear at least as a recognizable entity." Drexler, “The Disappearing Object,” Saturday Review (May 23, 1964): 15, cited in Jones, Vol 1. Planning Programming and Design, 46.
32 Ibid., 15.
and anti-depressant drugs are important tools, since they have made it possible for the patient to enter more swiftly and intensively into the open door treatment program and return more rapidly to the community.33

The psychologists thus made the link between the new drugs as tools which allowed for an "open" institution, permeable to patient flows. Because of this openness, the architecture could be "keyed" to the patients' desires and hence their dignity, in the same way as a piece of music is written in a particular key or the way that a lock reflects the unique contours of a key. The experience of the patient was central to the search for an alternative typology as it was discussed at NIMH-sponsored events, most notably the Rice Design Fete. To psychiatrists and to architects, the kernel at the center of the design must be the psyche of the patient, his or her needs, fears, and behavior. At the most personal scale, Dorsett proposed a new type of bathroom mirror that was intended to reinforce the patient's sense of his or her ego.34 The designers observed that while it is "culturally unacceptable" to linger in front of a mirror in the kind of communal, institutional washrooms provided in a hospital, the patient needs to do so to produce a coherent image of self. Because it would not be practical or safe to provide psychiatric patients with private bathing facilities, the alternative proposal was to redesign the mirror. The mirror was curved to create a surface on which the patient would see "a visual image of space—a volume enclosing the user," allowing him or her to linger.

Architect Izumi, mentioned above for his collaboration with Osmond, expressed his design theory using a comparison between psychiatric facilities and space capsules, comparing the patient's personal space to the privileged tip of a rocket, where the precious "soft goods" of a mission are placed.35 The architecture needed to care for and support its human cargo, or else its mission would fail. Izumi and others worked to visualize and then design spaces to fit the social interaction between patients, as in the case of Izumi's scheme for the Rice Design Fete. The scheme was for a prototypical community: a 150,000-person catchment area in the southwestern U.S. composed of various ethnic and social groups, ranging from suburban residents to "hillbillies". Working with Osmond, Izumi's strategy was to create an environment where such diverse persons could be encouraged, slowly, to interact with each other in increasingly larger groups (Illustration 1-10).36 This translation of information to architectural ideas was

33 Jones, Vol I. Planning, Programming and Design for the Community Mental Health Center, 11.
34 The scheme was one of Dorsett's Patterns, developed with supporting quotes from Mayer Spivack, Osmond, and others. Included in an undated report for a VA in Massachusetts. Box A3, Dorsett Papers.
35 Jones, Architecture for the Community Mental Health Center, 37.
36 It is worth comparing these drawings with the territorial diagrams by Newman discussed in chapter 3. Osmond and Izumi's work with psychedelics and design deserves more space than can be given to them here; more discussion follows on the subject of hallucinations and design. Fortunately, others have undertaken this work. Consult Erika Dyck, Psychedelic Psychiatry: LSD from Clinic to Campus (JHU Press, 2008). See also: "LSD as a Design Tool?", Progressive Architecture (August 1966): 147-153; Bernard Seymour Aaronson and Humphry Osmond, Psychedelics; the Uses and Implications of Hallucinogenic Drugs. (Garden City, N.Y.: Anchor Books, 1970).
expressed in a diagram of the social spaces of the facility. This particular design was never formalized into a plan, but looking at the plan of Izumi’s Saskatchewan facility from the previous year, one can guess that a similar condensation of circles to radial walls might be followed (Illustration 1-11). In this scheme, the primacy of the large circle remains, as an echo of the diagram or merely as a symbol of the “community” in the mental health center. The circulation within Izumi’s plan reflects his idea of the territoriality of the inhabitants, in stark contrast to the uniform, double-loaded corridor.

For CMHC designers, the attention to the patient’s social behavior was translated to a close attention to program. The designers often used words such as “humanized” to reflect the departure from the rigidity of the machine aesthetic of the earlier hospitals, in favor of what they claimed was a greater attention to human factors of design. Frequently, architects justified a design by claiming that the form reflected the behavior of patients, their movement patterns, their habits and their anxieties. In short, they sold their designs as producing a close fit between form and function, as manifested in the legibility of the patient’s attributes in the final design. The fit between form and function was mediated through a very important document, the program, referred to in the San Francisco prototype as the “first basic document [used to] establish true needs” and then “shape and order them, as environment and space.” The result was a strategy of draping form around the programmatic components, calling out individual treatment rooms, gathering spaces and clusters of offices to achieve a maximum of what might be called programmatic transparency—that is, the visibility of the shapes of the interior functions on the exterior.

37 Jones, Vol I. Planning, Programming and Design for the Community Mental Health Center, 43.
The components of the program were located using the sequences of treatment, then assembled by the architect using other psychiatric considerations such as a prevailing theory that hierarchical, territorial clusters of spaces made patients comfortable and thus more likely to interact in group therapy. Dorsett and his colleagues were aware that the patient’s needs were a moving target, and in an early description of the necessary revisions, he wrote that the spaces were "to be individually tailored to their needs as they progress from early diagnosis through a continuity of treatment and back to a productive life in the community." Dorsett’s choice of metaphor here was not accidental, in many important ways the design of the new institutions resembled the tailoring of a suit of clothes, fitting closely to the body of the client. The architecture of the CMHC was tailored to the architect’s and psychologist’s image of the patient, even at times differentiating between various stages of treatment. The tailoring of form to program was a psychologically based goal, but it also reflected Dorsett’s and the group’s admiration of the work of architects Louis Kahn and James Stirling. Using Kahn’s words from an interview in Perspecta 7, the NIMH


text reinforced the need for the program to reflect the realities of limited resources and the demands of the various constituencies in a clear "form drawing." According to Kahn, the form drawing would produce an architecture with "a proper separation of parts and the differing visual expressions" of the various parts. In the adjacent margin, a quote from Stirling advocated:

the direct expression of the actual accommodation volumes in relation to each element determining the plastic composition of the building... if space can be imagined as a solid mass determined in shape and size by the proportion of a room or the function of a corridor, then an architectural solution could be perceived by the consideration of alternative ways in which the various elements of the programme could be plastically assembled.

By the "direct expression" of volumes, Stirling meant that the design of the building should communicate as transparently as possible—i.e., in as much of a one-to-one relation—the configuration of the programmatic elements within.

As at Stirling’s 1959 Leicester University Engineering School, the auditorium, the laboratories, and the offices were to be clearly visible as singular, plastic volumes on the exterior. This articulation of program took on a more specific function at the CMHCs—that of making the patient, the government client, and other architects believe that the form would allow the building to attend closely to its mission of psychiatric care.

The tailoring of form to program can be seen in the "continuous form" of McKinley

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40 Kahn contrasted this form drawing from the strategy of "design." Louis Kahn, "Louis Kahn," Perspecta 7 in Jones, Vol I. Planning, Programming and Design for the Community Mental Health Center, 43. The text also quoted from Kevin Lynch, Peter Blake, Caudill, Drexler and John E. Buchard.

41 Ibid., 45.

42 James Stirling, "The Functional Tradition and Expression", Perspecta 6 in Ibid.

Chapter 1. The Permeable Institution
and Foley’s scheme for the Rice Design Fete (see Illustration 1-12). The design called for a large sprawling building with interior spaces defined by softly curving masonry walls. These interior walls were key to the concept, in that they reflected what the designers saw as the natural movement patterns of the human occupants as they walked or rolled down the hallways. The designers began with the observation that people turn corners in curves, seeking the shortest path. From there, they chose to use thickened walls in curved shapes to make a visible reference to this movement. The solid, double lines used for these masonry walls on the plan served to call out the four subspaces for individual patients, turning each individual space into a figure in a larger assemblage. This gesture
was legible in the drawings, producing a sense of enclosure which was reinforced by convex ceilings over these rooms. Nested clusters of four individual spaces were combined, such that four clusters of four were arranged like lobes on a long stem. The strategy is similar to Izumi’s territorial nesting. Moreover, the formal articulation dissolved the overall size of the facility, in favor of the collection of smaller spaces. The result was that the monolithic form of the old institution was dissolved, allowing it to fit with the sprawling context of suburban America (see again Illustration 1-13). A similar strategy was used by James Falick, who like Dorsett had recently graduated from Columbia University’s master of science in hospital design. Falick’s scheme was a sprawling superblock of a facility with circulation spaces newly renamed as lounges (Illustration 1-14). Falick’s scheme also showed massive piers, arranged at the corners of subspaces, attempting to articulate these as separate spaces, more personalized if not more cozy and more clearly identified with smaller groups. Again, the irregular outline of the facility would have broken down any monolithic appearance.43

TAILORING ON THE INTERIOR: CIRCULATION

The contortion of the interior hallways received a large part of the attention, reshaping the straight, wide corridors of the old institutions, tailoring the form to program, yet leaving the basic unit of the patient room or treatment room intact. The long, unyielding hallway was flawed from the perspective that form should be tightly linked to program, allowing the direct expression of the programmatic volumes on the exterior and being responsive to patient and staff flow. The long hallways were a problem when seen by architects as a monolithic, inflexible shape on the plan of a facility that they were arguing had a tight fit

43 The low, sprawling forms are similar to Van Eyck’s modular Amsterdam Orphanage of 1960 and the “mat building” theorized by Alison Smithson. Alison Smithson, “How to Recognize and Read Mat-Building; Mainstream Architecture as it Has Developed Towards the Mat-Building,” Architectural Design no. 9. (September 1974): 573-590. Other examples include Le Corbusier’s Venice Hospital and the Berlin Free Academy.
between form and program. The hallway that persists unaltered by the programs, territories, densities, or external environment for such a distance not only evokes the monolithic, un-homelike impression of a modern hospital, but it also implied a certain hardness, unresponsiveness, or deafness to the spaces around it. How could such a form be claimed to be responsive to its human inhabitants and to present a tight fit between form and function? Instead of trying to justify the long hallways, most of the architects of the new institutions chose to use more complex shapes for circulation, more clearly inflected by the program within.

Most immediately, the new hallway schemes were targeted at improving the monotonous experience of the long, straight double-loaded corridor. From the nineteenth-century Kirkbride-type hospitals for the insane—which had been organized as a series of pavilions along a very long spine—to the postwar block-style hospitals, the long straight corridor had been a central feature, constituting the "ward" on which in the life of an institution centered.44 The long galleries were important for ventilation; as extensions of day rooms they allowed for the airing out of the patients' rooms during the day. Their length also provided an indoor alternative to walks on the grounds on inclement or simply muddy days, a concept reminiscent of the amorous galleries at the phalansteries proposed by Fourier and copied in the U.S. at

Illustration 1-15: Soft Materials in a ward hallway at the Buffalo State Hospital for the Insane, from the NYS Annual Report (1898), n.p.

44 For a history of the Kirkbride type, see Carla Yanni, The Architecture of Madness Insane Asylums in the United States (Minneapolis: University of Minnesota Press, 2007). For an example of a block style hospital, typical of postwar construction, see Illustration 1-3, the exterior of the Winter Haven Hospital.
communitarian utopias in the mid-nineteenth century. Isaac Ray, Superintendent and principal designer of the Butler Hospital for the Insane in 1848, argued passionately for the single loaded corridor to allow a view to the outside. But the hallways were not universally loved even then, and the sheer size of these buildings—some of the largest built in the U.S. at the time—led Ray and others to object to the huge expanse of dead wall found in such arrangements. Nevertheless, the problem was comparatively minor, since the materials and furnishings of these institutions produced a sufficiently soft environment, mimicking a domestic scene and reflecting the identity and individuality of the facility—if not the patients.

The design of the hallways remained a central focus for the architecture of the community mental health center, because it was understood as central to constructing the patients’ experience of the facility and because the long hallway became almost universally objectionable. In redlining applicant drawings from his desk at the NIMH, Dorsett often traced in yellow the path of the patient from entry, to reception, and through the spaces of a facility such as interview rooms, group therapy spaces, or inpatient rooms for emergency or temporary care. At times, these paths were long and convoluted due to the fact that many schemes included the CMHC as part of a larger hospital complex. Dorsett often approved the projects anyway, but the tracings and his comments reveal that he was very much concerned with the way that moving through the hallway would impact the patient’s experience of the building. Later in his career, when Dorsett produced more developed reports as a private consultant, he would sketch something akin to a Noli plan with only the circulation spaces and a few accessible rooms drawn. The drawing from the Augusta Report shows the hallway as a connecting space with attachment to gathering spaces, waiting rooms or lounges, and poché for the private spaces (see Illustration 1-16).


Where the long hallways of the nineteenth-century hospitals for the insane had been spaces for living in, enlivened or at least varied by the presence of textiles and furniture, by contrast the long hallways of the postwar hospital were only used for circulation and egress. These spaces were not for living in, leaving the hall as a space cut off from natural light with wall surfaces dominated by the regular pattern of doors, opening onto standard-sized patient rooms. Indeed, meeting the requirements of the Hill-Burton legislation basically required a long, double-loaded corridor to promote quick egress of non-

Illustration 1-17: This ward at the Winter Haven Hospital, a block-style hospital, has been converted to use as a mental health center. The carpet and nurses station were added, and perhaps the green lights as well. Even without the reflective flooring and with the reduced lighting, the hallway exhibits the gun-barrel effect identified by the institutional expert Mayer Spivack. Winter Haven Hospital, Winter Haven Florida, 1968, Dorsett Papers.

ambulant patients in case of fire, as well as easy circulation for the gurneys and equipment that came to be a central part of the modern hospital.\textsuperscript{46} Unlike the carpeted, adorned spaces of the nineteenth-century hospital for the insane, the mid-twentieth-century mental health center was slickened with easy-to-clean plastic or vinyl materials and glossy with new metal and glass building materials.\textsuperscript{47} Combining the long,

\textsuperscript{46} One of Dorsett’s main achievements was to get these regulations changed, as applied to CMHCs, as will be discussed in the section on his bureaucratic skills, Part 2 of the chapter.

\textsuperscript{47} “New construction techniques and modern materials used in new mental-health centers are more subject to this kind of reflection problem than were materials and techniques used in older buildings. This kind of paradoxical or conflicting visual information can be sufficiently confusing to the inattentive or upset individual to have the momentary strength of a hallucination.” Mayer Spivack, \textit{Institutional Settings: An Environmental Design Approach} (New York NY: Human Sciences Press, 1984), 91.
narrow hallway with such disorienting materials was seen as a danger by some psychologists early on, and by the 1980s, institutional environment expert Mayer Spivack wrote compellingly of the dangers of combining these materials with long corridors. He described how they exacerbated the problems of "paradoxical images" or mismatch between perception and environmental reality in patients, particularly schizophrenics. Evoking a Tati-esque critique of modern design, Spivack wrote:

All surfaces—floors, walls and ceilings—have either been painted or constructed of materials with a highly reflective glossy surface. The walls are the usual hard plaster, slickly painted. Polished plastic flooring stretches unbroken by pattern, and meets the walls without even an edge, curving dizzily up into the walls. The ceiling is like a mirror; it is covered with perforated metal soundproofing squares, probably chosen because of their washability, and painted with a glasslike gloss white.

The total effect is that of looking down a gun barrel. Reflections, shadows, silhouettes all stream endlessly down the walls, floor, and ceiling directly at the observer. I found it nearly impossible to keep my eyes focused when looking down the corridor.48

Spivack, putting himself in the patient's shoes, described a streaming, swirling environment unwittingly caused by the cost- and maintenance-saving material choices in the modern institution (Illustration 1-18). Adding the acoustical problem of such a hard environment, Spivack described the distorted sounds produced as footfalls and sneezes bounce along such a long space. Hoping to communicate the hallucinogenic quality of these spaces, he produced series of photographs documenting various illusions, such as the appearance of a man walking through the glass wall of a vestibule, an illusion produced by the double reflection and poor lighting. He was concerned about the disruptions caused by

48 Ibid., 96.
the light at the end of the hallway, a well-intentioned design choice advocated in Christopher Alexander’s patterns as aiding orientation but in Spivack’s view resulting in multiplied shadows and lack of shadows where they would normally be expected.\textsuperscript{49} Still more disturbing, these distortions would shift as the observer or the observed walked down the corridor, past an unbroken rhythm of doors. “People had fuzzy outlines, were at indeterminate distances, had no feet, ankles, wrists or necks; they also appeared to float over the floor because of the contrast.”\textsuperscript{50} The effect of the materials was the result of good intentions, translated into the choice of affordable, easily maintained materials which nevertheless resulted one of the largest problems of institutional environments.

To avoid such environments, the CMHC designers worked toward a literal softening of the materials in the circulation spaces, as at Elmcrest Psychiatric Institute, published in \textit{Architectural Review} in 1975 or the Ridgeview Institute in Smyrna, Georgia, thirty minutes from Atlanta (Illustration 1-20). But they also worked to devise new forms of circulation, to eradicate the central hallway wherever possible by contorting, looping, widening, zigzagging and creating subzones of circulation. Numerous schemes were produced to widen the hallway into a space that could again be used as a room, as well as being used for

\begin{figure}
\centering
\includegraphics[width=0.8\textwidth]{Illustration_1-19.png}
\caption{Illustration 1-19: E. Todd Wheeler, Charles F. Read Zone Mental Health Center, Hospitals, Vol. 42, (February 1, 1968): 111.}
\end{figure}

\begin{table}
\centering
\begin{tabular}{|c|c|}
\hline
\textbf{Material} & \textbf{Use} \\
\hline
Concrete & Floor, walls, ceilings \\
\hline
Steel & Structural support \\
\hline
Glass & Windows, doors \\
\hline
Wood & Furniture, doors \\
\hline
\end{tabular}
\caption{Table 1-1: Materials and Their Uses}
\end{table}

49 Ibid., 98.
50 Ibid.
circulation. A typical example was designed by noteworthy hospital designer, and hospital visionary, E. Todd Wheeler of Perkins and Will who also published two books on hospital design.\(^{51}\) A sketch of the 1968 Charles F. Read Zone Mental Health Center in Chicago, built in 1968, showed the central circulation space populated with recreational activities, shuffleboard, seating areas and a bookcase, all under the watchful eye of the nurses station.\(^{52}\) Rather than a sudden transition from main hall to patient room, the scheme marked off a separate zone of space at the corners where the doors to the patients rooms were. The overall shape is like that of a "#" sign, with subzones for movement along the edges of the main room, leading to the corners where their intersection is marked with a column (Illustration 1-19). Elsewhere, in a scheme by architect Sim Van der Ryn in Berkeley, this transitional column is dubbed an “onlooker column” for Van der Ryn’s proposal that an onlooker could stand behind it, or lean on it, thus receiving psychological and architectural support which would make it easier for him or her to observe, and then join, social interaction in the main space.\(^{53}\) Whether or not such arrangements would work, the important point is that the comparatively subtle gradations of space in such designs provided a more nuanced alternative to the long hallway, arrived at by

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52 The “zone” concept was a state plan by Illinois to produce mental health centers for each zone, using community mental health center funding. The zone idea was developed by Dr. Francis Gerty, as a more distance-based than population based idea. The goal was to have a facility within an hour and a half’s drive for every Illinois resident. See John P. Reidy, *Zone Mental Health Centers; The Illinois Concept* (Springfield, Ill.: Thomas, 1964). Reidy credits Wheeler with developing the functional needs of the program.

53 Other mental health center schemes included small zigzags to prevent the patient from seeing the long vista of the whole hallway, as well as to break up the space into “territories.”
designers and psychologists who sought to create an environment to fit their idea of the sensitive and fearful mental patient.

When architects and psychiatrists were forced to work within that long hallway, they sought ways to sculpt and soften the space to make it suitable for the new institution. In the case of the effort to redesign the Stone Treatment Building at Topeka, the site of the Menninger Clinic, the proposal was even tailored to the patient's changing mental health. In 1961, a series of influential conferences were held, attended by Richard Neutra, Dione Neutra, and Bay—who would later participate in the Rice Design Fete held by Dorsett—among others. The scheme presented by the architect, Lawrence Good, proposed to repopulate the hallway with modular furniture, textiles and plants.

As expressed in a diagram, reading from left to right, the patient would move from blue to red to green spaces (Illustration 1-21). Upon arrival at the short-term care facility, the patient would be housed in a blue area in what the designer called "introstatic" spaces: small, personalized areas separated from the distractions of the larger facility. The blue areas would also be highly controlled by the staff. Next, the

![CONTINUUM](image)


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patient would move to a red area, a space with more flexible furnishings and materials. The furniture was intended to "force" patients to interact with each other and with their environment, by moving the furniture. Lastly, the patient would occupy green areas, "normal in character," meaning that there would be no proscribed furniture arrangement, and the patients would be responsible for their own living habits. The result was a progressive program of therapy, using psychologists and furniture to develop a self-controlled individual using individualized furniture units.

Good, President of the Environmental Research Foundation in Topeka, explained that the design was produced out of his belief that technological solutions to architecture were not enough by themselves. Instead, he argued that design must respond to human needs, referencing Bruno Zevi's theory that architecture is distinct from the other arts in having a fourth dimension. In *Space for Architecture*, Zevi described his theory that architecture is only created when it is experienced by a human subject moving through its spaces.55 Richard Neutra agreed that the design responded to man's needs, and he reiterated his belief that design must start with the premise that "man is the measure of things," by which he said he meant the need for man to have a connection to his psychosomatic nature and to the natural environment.56 While the

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56 Neutra emphasized that this meant a connection to nature, served by the plants in the scheme, as well as the need to understand human nature. Rather than split biological and psychological needs, he emphasized the importance of a "psychosomatic unity," a concept that he traced to the fifth century BC and the ancient Greeks, such as Protagoras. Neutra explained his particular interest in the problem of redesigning institutions as related to having a son in a similar institution. Good, Siegel, and Bay, *Therapy by Design; Implications of Architecture for Human Behavior*, 64.
conference predates the CMHC program, the published version was influential for CMHC designers like Dorsett. In addition to the direct connection through Bay—who was at the Rice Fete and the Topeka conference—Richard Neutra’s comments at Topeka reflect two concepts that would become key for community psychology in a few years: the explosion in statistical information and the use of abnormality to learn about normality.

The Topeka conference was also significant for its use of triangular shapes, which Good explained as useful for producing more flexible environments and more complex flows of space.\(^\text{57}\) The asymmetry of the triangle allowed for a nested cupping and framing of space that was not as closed as a square. No doubt it was also significant that the triangles simply looked creative and playful. The triangles were thus very much in line with the philosophy and mood of the early years of the CMHC grants program which Dorsett has categorized as “fresh and creative” and with an objective: “to promote an architecture loose enough for mental health.”\(^\text{58}\) The desire for a flexible alternative to the modern hospital was often stated, and the triangles also had the advantage of appearing different from the right angles of the modern hospital.

In addition to the modular triangular furniture, triangular forms were also employed as a means of reducing the long hallway in new construction. The design for the Woodbridge State School for severely retarded boys and girls in Woodbridge, New Jersey, used triangular rooms arranged in a hexagonal plan, as shown in a 1965 brochure (Illustration 1-23). While the resulting plan resembles a panopticon the fact that the center is occupied by toilet rooms indicates that such consolidated surveillance was not the only reason to produce a radial form. The radial arrangement produced by joining the narrow ends of the triangles made the hallways connecting the rooms far shorter. The triangle and hexagon produced an alternative to existing institutions, producing an image of “cottages” scattered on a wooded site, appearing warm and domestic, integrated with the landscape rather than standing apart from it.\(^\text{59}\)

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57 Ibid., 78.
58 Dorsett, “Request for a Sabbatical Position” (September 28, 1972), 15, Box A2, Dorsett Papers.
59 The brochure says “The hexagonal cottage plan permits efficient space allotment into triangular segments, each opening onto the central core which contains washroom and toilet facilities.” The brochure describes the cottages as good for breaking the numbers down into smaller, fifty-person groups segregated by sex, age, and disability.
Dissolving the monolithic object, attending to the patient population at a collective and individual scale, and tailoring form to program constitute the main qualities of the permeable institution of the CMHC. These facilities saturated the individual with intimate influences, and, in reverse, saturated the facility with design choices derived from theories of the patient population. Rather than standing apart, the new institutions tried to be integrated with the patient psyche, helping to mediate seamlessly between the patient to reestablish a connection between the individual and the environment. Whether it was called "milieu therapy," as it had been since the nineteenth century, or "community psychiatry" by psychiatrists like Matthew Dumont, or even "humanized environments" by architects like Izumi, the theory was the same: integrating the individual patient within a larger social and physical environment. The environment should enable the dignity of the patient, and attempt to control through patient self-control rather than repression.

The strategy had been famously formulated by Foucault, roughly contemporaneously with these institutional changes "on the ground," as it were. It is probably not a coincidence that he began to write about them at this stage, a time when critics such as Sommer published treatises with titles like, *Tight Spaces: Hard Architecture and How to Humanize It*, in 1974. Sommer argued that the hardening and overly controlling nature of spaces caused patients, prisoners, and others to protest, to rebel, and to further try to damage the space. Instead, he advocated environments and practices wherein a patient or prisoner would feel at home, feel respected—in short, an environment keyed to his or her dignity. Foucault’s writing is far more subtle and more suggestive of the larger social picture than Sommer’s, but Sommer’s is worth attending to because he is more typical of the way that the ideology of soft power would have appeared at the time. It is more revealing of the wording, tone, and references through which the arguments that Foucault interested in were using at the time that he wrote about them. Sommer’s and Dorsett’s writings provide a detailed account of architecture’s place as a technology of healing, and of population management. As a laboratory for a biopolitical society—a society that was in pursuit of more inclusive, softer strategies of power—the new institutions blended new design techniques and new bureaucratic techniques into fully formed realities that are even richer than Foucault’s discursive fictions.

**CLYDE DORSETT AND THE BUREAUCRATIC KNOWLEDGE OF ARCHITECTURE**

Throughout the foregoing history of the permeable institution, there has been a persistent ambiguity about authorship and the question of who exactly was responsible for the designs, representations, and—even at times—the quotes. Unlike a traditional history of architecture where an architect or an office is

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"Woodbridge State School" brochure, Box A2, Dorsett Papers.
clearly the author, community mental health center architecture was a case of the complicated authorship typical of large organizations. In almost all cases, a partnership between psychiatrists, social workers, and architects was central to the design process. On the architects' side, two or more architectural firms were often involved in the same project, as at Maimonides in Brooklyn where Caudill Rowlett Scott was the consulting architect, Kahn and Jacobs was the project architect, and Kaplan was the project manager.60 But in addition to partnerships between firms, and between architects and social scientists, the community mental health centers were shaped by another, large author who acted from a distance, touching the buildings through a medium of legislation, funding, and paperwork.

In order to understand the successes and failures of the new designs for a permeable institution, it will be necessary to have an understanding of the domain of bureaucratic government that fostered and administered the program. The scale of the program, its diffuse application, and even its inability to complete its mission, all three were the result of actions taken by the government who fostered and administered the program. Most abstractly, this meant the climate of increasingly

60 Article on "Vertical Stacking," Box A2, Dorsett Papers.
inclusive democracy which deemed even the poorest urban and rural American as worthy of mental health care. Most concretely, shifts in the program’s fortunes can be tied to President Johnson’s victory over Barry Goldwater in 1964, giving him the ability to push legislation for staffing grants through Congress after the legislation had been removed in 1963 at the request of the American Medical Association. The preceding architectural history has provided an understanding of the goals of the new architecture of permeability, but to understand the end of the story—its inability to live up to its goals and its success in creating new partnerships for design—one needs to also have a solid understanding of the bureaucracy as well.

In addition to the architects and psychologists who worked directly on the CMHCs, there was the bureaucracy that supported, funded, and regulated the program. The expanded research agenda was due, in part, to the epidemiological and public health background of three of the early directors of NIMH, Felix, Richard Yolles, and Bertram Brown. Their belief in the cycle wherein poverty produced mental illness, which in turn produced poverty, made them interested in urban sociology, research and urban policy. Leonard Duhl, a researcher at the NIMH, recalls that the expanding research agenda was in part caused by the expanding NIMH budget itself. As the size of the budget grew, the NIMH was increasingly involved in discussions of resource allocation within the federal government, and needed to be more and more involved in larger urban affairs to defend their budget. Indeed, Dorset’s Architectural Consultation Section (ACS) was only one element of a larger research agenda, which studied environment and psychology within the NIMH. The NIMH itself was organized into several different branches, including the Research Grants Branch and the Professional Services Branch, which was tasked with advising the Director of the NIMH, but which also undertook extensive research. The Professional Services Branch housed many of the members of the “Space Cadets,” a group that met to study the relations between psychology and environment. Members included John B. Calhoun, Herbert J. Gans, Erich Lindemann, Richard L. Meier, John R. Seeley, Sir Geoffrey Vickers, and Robert Gutman. In 1970, Coryl Jones of the NIMH quoted $1 million as the amount NIMH had spent on architectural research alone. This amount would have covered the efforts of the ACS, which administered the CMHC construction program, as well as the Center for Studies of Metropolitan Problems; the group which gave grants to Eisenman’s IAUS, as well as Alexander’s

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63 Ibid., 243.
CES. More will be said about those projects later, but mentioning them here serves to show that the CMHC construction program was one element of a larger project of architectural and urban mental health research.

Leading the ACS, Dorsett developed into a new type of architect, which he called a "specialist architect," most likely for its medical connotation. His role can more accurately be described as a bureaucratic one, developing a knowledge of design within a large governmental service and research arm, with the good intentions and unstated political aims of a bureaucrat. I do not mean this label as a criticism, rather as a characteristic role of the late twentieth century that requires further study, as it does have power—albeit the power and influence that comes of mastering the thousand tiny daily problems of life within a large, compound organization. As head of the ACS, Dorsett and his team approved the drawings and specifications submitted by architects who had been commissioned to build a facility, tracked and disbursed funding, acted as a clearinghouse for research on therapeutic environments, prepared forms and manuals for CMHC design, reported on existing facilities, and, during the early years of the program, they also oversaw construction. In the course of his work, Dorsett produced, standardized, and legitimated a knowledge about institutional architecture through such tools as the Planning Matrix, the Planning Aid Kit, building code revisions and the patterns he developed with Alexander’s CES. As such, he represents a model of architectural influence that could be called the architect as bureaucrat, yielding him a far larger influence on both building code and building form than he might have had directly in a more traditional practice. But while Dorsett shaped a large number of projects, his influence was far more diffuse and he was not the lead architect of any of these projects until after he left the NIMH.65 Thus, his impact was felt

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65 He worked on the Gainesville Forensic Psychiatric Facility with Constantine Karalis, a project that is discussed with therapeutic penology in chapter 3.
on a narrow area of the designs: the design process, the circulation, the programmatic elements, and the diagrammatic representations that communicated the social and procedural aspects of the facility. He was not the author of stylistic or aesthetic concerns outside of this functional, therapeutic realm—a realm he shared with the psychiatrists at NIMH and those in charge of the facility to be built.

Typical of the so-called organization men of his generation, Dorsett served in the military during World War II, participating in the Normandy invasion and other combat operations with the Army in Europe, and receiving two Bronze Star Medals. In the postwar period, he completed a Bachelors in Architecture from North Carolina State University in 1953, after which he worked for architecture firms on modern designs with small prefabricated innovations for schools in North Carolina. In 1963, he completed a Master of Science in Hospital Architecture at Columbia University. "Hospital and Public Health Planning and Design" was one of four options in the MSArch, along with Central Business District Design, General Program, and Urban Planning. At Columbia, Dorsett prepared a detailed study of an existing hospital in the Bronx, as well as a tower design for an urban hospital, which was later published in the journal *Hospitals*, along with a classmate’s more sprawling design.

After Columbia, Dorsett went to work for the National Institute of Mental Health, heading the newly created ACS, which was part of the NIMH’s Professional Services branch. His work included approving construction grants, redlining drawings, keeping records of grant information, and spreading information about best practices to architects in the field. He oversaw a large construction program, consisting of 46 projects a year on average, over the first four years, adding 88 projects per year on average from 1967 to 1970, dropping off to only 14 or so a year between 1970 and 1973. During the first year of the program and part of the second, the ACS approved 50 million dollars for 60 projects. Over the next several years, the spending continued at about that pace. And because the applicants often did not know about community psychiatry, the demand for expertise—or in Dorsett’s words, "project consultation"—was great. "This built a close relationship of central office, regional office, mental health staff, and local programs." In 1965, Dorsett and the ACS held the Rice Design Fete and then worked to publish the designs. In 1966, the NIMH provided funding for a research

<table>
<thead>
<tr>
<th>Year</th>
<th>No. CMHCS</th>
<th>Avg New Centers Per Year</th>
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<tbody>
<tr>
<td>1963</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1967</td>
<td>186</td>
<td>46.5</td>
</tr>
<tr>
<td>1970</td>
<td>450</td>
<td>88</td>
</tr>
<tr>
<td>1973</td>
<td>493</td>
<td>14.33</td>
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*Illustration 1-26 Number of centers by year, chart by author.*


67 Photocopies of curriculum from Columbia University Archives. Courses in the Hospital program included: “Administrative Medicine 203, Organization and financing of medical care;“


69 Levine, *The History and Politics of Community Mental Health*, 63. The growth of the program slowed considerably after 1970. In 1973 there were only 493, and by 1975 only 507 were operational.

70 Dorsett, "Request for a Sabbatical Position," (1972), 17, Dorsett Papers.
trip for Dorsett and a few psychologists to the United Kingdom and the Netherlands.\textsuperscript{71} In October of 1967, Dorsett hired Fried Wittman to run the Western Arm of the NIMH Facilities. As the organization grew, it became apparent that with the number of actors involved Dorsett would need to intervene in new ways. He and the team were struggling to manage the information about the projects, producing a thousand or so index cards tracking the information, but they eventually realized that this was not a sustainable effort.\textsuperscript{72} As a result, Dorsett turned to more systemic ways to influence form, most notably his interventions in building code and community participation in design through the Planning Aid Kit.

Building on the lessons from the Rice Design Fete and his own research into the question, Dorsett began to develop rules of thumb that he could use to guide the architects of the various centers. In his notes and reports, as well as his redlining of the drawings submitted with applications, Dorsett began to develop criteria for designing entries and reception areas that would be seen as welcoming in the patient's eyes. By the late 1960s, these were codified into "patterns," in collaboration with Alexander's CES. Dorsett often attached copies of the relevant patterns to his reports, using the 1968 to 1970 versions that were being developed by the CES.\textsuperscript{73} Dorsett emphasized the importance of creating a homelike environment, which he believed could be communicated to the patient by stretching out the transition from exterior to interior at the

\textsuperscript{71} Dorsett's papers include slides and reports from this trip.
\textsuperscript{72} To manage all of the information, Dorsett and the ACS began to use a system of 3" by 5" index cards. The cards listed the number for the region of the country that the project was in and the project number. For example, the Northern Panhandle Mental Health Center of Wheeling, West Virginia, was given a number W.VA MH 2. The population of the catchment area was duly listed, as well as the architect. The cards were also used to track the submission of an application, revisions, and approval, so that it seems that in 1966 the projects moved quite quickly through the ACS.
\textsuperscript{73} Dorsett's comments, and one whole pattern, eventually found their way into Alexander's book when it was published seven years later. And indeed, Dorsett and NIMH are thanked in the acknowledgements of Pattern Language. In a footnote to Ozarin's 1980 piece on architects' collaboration with psychology, she cites a 1978 Selection of Environmental Patterns by Dorsett.
main entry. He believed a gradual transition would produce a sense of arrival and a desire to linger within.
In an undated report on the Augusta Area Mental Health Center, Dorsett used language very similar to the pattern on the entrance transition, but he supplied his own prototypical plan to direct the architects (Illustration 1-28). He encouraged the architect to change the path of travel as the patient approached, and to produce changes between light and dark using a covering over the walkway. He also recommended a change of paving patterns, so that the patient would feel a sense of arrival. This language is very similar to Alexander’s, but contains Dorsett’s comments specifically referencing the applicability to the community mental health center environment. Other patterns attached to CMHC reports included the position of the coffee pot, the process of getting information from the receptionist, and the anxiety of sitting and waiting in a lobby, with references to the bureaucratic terror of this experience as conveyed by Franz Kafka in The Castle and The Trial. The Pattern also cites a 1966 study on welfare recipients’ views of the bureaucratic system.74 Dorsett also worked on a prototypical waiting area layout in several of his reports, aiming at a social and environmental arrangement to combat the anxiety of the mentally ill.

In Pattern Language, Alexander specifically thanked Dorsett for his recommended pattern on the reception area, a particular expertise of the institutional setting. In a pattern called, “Reception Welcomes You”, the architects pointed out and responded to the tendency for large public buildings to make humans feel like objects in that they are "processed by the receptionist as if you were a package".75 In these patterns, the institutional experience was used as a model of what not to do, and the knowledge gained in designing community mental health centers was codified into Alexander’s architectural manuals.

Aside from outreach and spreading "knowledge", one of the major ways that Dorsett influenced form was through his efforts to change the way that building code was applied to mental health facilities. This

75 "Reception Welcomes You," undated, Box A1, Dorsett Papers.
happened amidst an ongoing trend toward specifying performance instead of just dimensions; but it also happened as a result of a conscious shift in the idea of who the patient was. Building codes are written to protect occupants, as well as society’s sense of propriety; they project forward a scenario, assuming that occupants will react to scenarios such as fire in ways similar to past behavior, with past calamities written into the shape of future structures. They map the movement of fire through combustible material assemblies but they also map the movement, or lack of movement, of human occupants toward exits under urgent conditions.

At the start of Dorsett’s tenure, mental health facilities and mental patients were governed by the hospital codes known as the Hill-Burton regulations for hospital accreditation. The codes were concerned primarily with “life safety” of the occupants. In Dorsett’s opinion, the codes produced an overly clinical or institutional environment because of such things as the need to enclose stairwells and, probably, the width of hallways. The basis for these requirements was an image of a patient more like a medical patient or the restrained insane patient from an earlier era of psychiatry. But the community psychiatry vision of mental health and milieu therapy envisaged a very different role for the patient than that of the restrained or disabled image presumed by the codes. Dorsett was able to change the way that Hill-Burton codes were applied, and by 1970, there were new regulations for mental health such that the Surgeon General could affirm the ambulatory nature of mental patients in a Community Mental Health Center.  

Building code officials were increasingly educated by the ACS and others, to know about the condition of mental patients and the treatment methods and lack of restraint that was becoming common. Dorsett described this work by the ACS as formalizing things known by others, putting the new knowledge of institutional management into the right hands where it could be used to create spaces for therapy.

The second major tool that Dorsett and the ACS developed as

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76 Dorsett, "Request for a Sabbatical Position" (1972), 10, Box A2, Dorsett Papers.
77 Dorsett also claimed to have streamlined the bureaucratic design process. Ibid.
part of the bureaucratic design process was the Planning Aid Kit, which was intended to standardize and facilitate community participation in design in order to deal with the fact that Dorsett and his staff could simply not keep up with the expanding scale of the program. Whereas minimal regulations, good judgment, and interaction with patients, families, and staff had served in the early years of the program, this method was no longer adequate (Illustration 1-29). Developed around 1969-1970, the Planning Aid Kit smoothed the process of gathering information from mental health providers and patients; it also facilitated the interaction between patients' families and the NIMH, as well as between the NIMH and the architects and psychologists who applied for grants. The forms allowed Dorsett to standardize communications with the many architects who had received grants, making things easier for him and his assistants, and reinforcing his position as a specialist with expert knowledge of the process.

The framing of the PAK and the language therein also reveals the restriction in formal jurisdiction that went along with the bureaucratic specialization in institutional design. Dorsett and the NIMH claimed to know how to design spaces to promote therapy at a welcoming mental health facility, but they also declared that there was a clear end to their jurisdiction. Step 4 of the PAK instructions, where the users specify environmental characteristics, reads: "We are only concerned here with those requirements that are most particularly issues that have some direct environmental effect on mental health problems (and hence we are only peripherally concerned with such things as circulation efficiency, structural stability, appropriate mechanical services, etc.)." The PAK delineated a specialized view of architecture—certain banal aspects of architecture were of central importance, such as breaking up long hallways or the sound isolation between rooms, but other banal things were completely beneath its interest, such as the building's structure or its ability to move people through the space quickly.

DIAGRAMMING FLOW IN THE OPEN ENVIRONMENT

In his account of modern architecture as an integral part of the biopolitical machine, Wallenstein posits that the coordination of flows of objects and people was one of the primary tools in which the hospital environment acted as a laboratory for new tactics of population management. He described the hospital's "open environment" where "controls are interconnected and numerical, like sieves whose mesh constantly changes in permeability." CMHCs built on the hospital research, refining the knowledge of

architecture as a technology for the administration of life. Enabled by the forces outlined above—drugs, movements for patients' rights, theories of community psychiatry, etc.—the architecture of the new institutions was able to be even more of an "open environment," permeable to a flow of outpatients and staff into the facility and inside as well. In ways both mundane, as in the laundry drawing below, and exceptional, as in a centralized control room watching over the involuntary admission of a patient, the choreography of flows of objects was central to the management of life in the facilities. Whether flows of people—patients, criminals, residents, or personnel—or flows of food, supplies, and patient records, the architecture needed to mediate the movement of objects, enabling a smooth flow at some times, inserting control points at others. In this way, the architecture of an institutional environment operated like a complex ecology of moving objects, animate and inanimate, which were coordinated in advance by space planners and architects. The architects who submitted applications to the NIMH were required to produce diagrams that demonstrated their mastery of such flows through the facility. Dorsett's reports on the facilities often included such diagrams as part of the Project Matrixes that he included with his review of a project.

The diagrams of the flow in a CMHC built on existing techniques for mapping the flow of laundry or sterile supply in use in hospital design since the 1930s, as in the case of the laundry diagram used in SOM's application for the Ryburn Hospital (Illustration 1-30). The diagram places the laundry at the center, and then charts the proportion of materials ("M") and staff ("S") that will be sent to the laundry. The Ryburn application included a number of these diagrams, for sterile supply, physical therapy, occupational therapy, and long-term care. The SOM diagrams present function and flow abstracted from adjacencies and the locations of the architectural elements in the final design, as was the case for many of the Taylorist diagrams. But as Pai has observed, architects were involved in translating such functional diagrams into new formats which kept spatial relations fixed:

Whereas scientific management's diagram began and maintained its focus on its cognitive object—the docile, functionalized body—the architectural diagram begins with the spatial body but then moves away from it, eventually becoming a spatial unit—a "bubble" designated as a function. The new "bubble diagrams" allowed architects to conceive of programmatic components—and the actions of people inside them—as abstract spatial units or "bubbles." The bubbles created a self-evident realization of what were really abstractions about the functions of the facility, the flow of people inside, and the size of a space that these people might inhabit. Nevertheless, these abstractions were influential, as a step in the

81 Ryburn Hospital, SOM, Grant Application (1968), Box G3, Dorsett Papers.
The visualization of separate steps and the isolation of specialized factors was similar to the way that science—
and to some extent bureaucracy—operated. Thus they found such programming experts reassuring, compelling and most importantly worth funding.83

By the 1960s, with the growth of architectural programming at the hands of Caudill and the like, design was increasingly concerned with the elaboration and choreography of such abstracted spatial bubbles. Such architecture was tailored to the goals of the social institution that it housed. What started as the factory design where the building was a "big machine' containing and coordinating all the 'little machines;" developed into an architecture that tried to be an integral part of other social institutions, schools, hospitals, CMHCs, or offices. By visualizing the invisible—social forces, territorial hierarchies, and flows of people and objects—the diagrams eased communication in the large bureaucracy and incorporated abstractions into a discursive format. Dorsett was able to produce diagrams to direct applicants about best practices, and applicants were able to convince Dorsett and NIMH of their responsiveness to psychological factors.

Illustration 1-31: S.O.M. scheme for Ryburn Community Hospital, Ottawa Illinois, Grant Application (July 1968), Box G3, Dorsett Papers. Dorsett did not find this application very positive. In a handwritten note, he remarked that it was "acceptable. We hope it will be humanized by good interior materials. It's (sic) machine type exterior could be deadly + uninviting unless the interior can tend to invite the patient in." The large blocks arranged on the site were hardly what he was looking for.

83 It is hard to find bureaucratic reactions to these diagrams, and while I continue to look for these reactions, I find support for this conclusion in Avigail Sachs’s analysis of the “research economy” of the immediate postwar era. Avigail Sachs, “The Postwar Legacy of Architectural Research,” The Journal of Architectural Education (2009): 53–64.
Essentially, these bureaucratic architects and programming experts were in search of a tighter fit between form and function. Whether one follows Van der Ryn's description of the architect as shaper of mass institutional environments or Pai's argument about the architectural body—the emphasis on bubble diagrams and architectural programs sought a tighter, more closely tailored fit between the activities of the institution and the spatial envelope that housed it. Their mastery of this fit was expressed through through diagrams, which visualized movement of objects in space, as in the admissions diagram produced for the Southern Nevada Psychiatric Facility, shown in Illustration 1-32. The diagram describes important adjacencies along the processing of a "client" or patient, including places to bathe incoming patients, lockers for storing their possessions, interview rooms, and a recommendation for a specific "shelf-type desk", all under the watchful symbol of an eye at the control room. In an institution, the flow of documents through the space is almost as important as the flow of "clients," and the diagram also identifies an important location for a secure pass-through for patients' records. The admissions diagram is tailored to a specific flow; the architecture should accommodate the processing of one to four patients—at most two at a time—and the process should last from one to one and a half hours.

Illustration 1-32: Detail from a page of the Matrix for Admissions/Intake Activity for the Southern Nevada Psychiatric Facility Forensic Program, showing a diagram of "plan relationships," Box A1, Dorsett Papers.
The forms and the diagrams present a view of architecture that is pragmatic: it is less about the appearance of the facility than the way that the arrangement of partitions can facilitate the chronic use of the environment. The key feature of a diagram, in general is its utility as an instrument, rather than its resemblance to a reality, as it is with a projection. These diagrams are definitely instruments, recommending and communicating the arrangement of components that will work best for the smooth and gentle treatment of the patient. Indeed, one of the recommendations noted by the architect is that the configuration should "make the admissions experience for the arriving client comfortable, informative and safe." The environment should be "bright (well lit), clean" but also "secure, nonbreakable, no sharp edges," along with the ever-present notes for a mental facility that it have good ventilation. From ventilation to soft materials, from a smooth admissions sequence to the careful coordination of patient interaction, the architecture of the permeable institution was at the forefront of new techniques for housing and healing a population who would rather be elsewhere.

THE LOW EBB

Despite the significance of its goals and the new institutional typology proposed, the CMHC program had many critics and failed to create the kind of change that its proponents hoped for. These failures were not, however, the fault of the architecture. Again, the interpretation of these designs can not ignore the larger political forces. The program lacked adequate staffing grants for years, and because a certain bureaucratic expertise was needed to apply for the funding, the lowest-income areas did not receive assistance. After an optimistic beginning and two solid years of construction, the speed of construction tapered off after 1967. With the first phase of construction closing, NIMH increasingly renovated existing facilities rather than building new ones. Moreover, the NIMH's mission shifted to include an even larger range of services, including correctional, child care, drug abuse, alcoholism, and elderly services. The ACS was also transitioning, having gone through a program where they trained the newly created Facilities Engineering and Construction Agency (FECA), now tasked with administration of construction funding and supervising construction within the Department of Health, Education, and Welfare. Similarly, Wittman, who ran the western arm of the ACS moved, at least on paper, over to FECA. Dorsett and the ACS were now primarily concerned with "problem" CMHC projects and with the dissemination of information regarding mental health facilities that had come from their own work, as

84 In 1968, Congress made the transition explicit, by stipulating that one percent of the funds from an alcohol and drugs program would be used for treatment of such patients at the CMHCs. Levine, *The History and Politics of Community Mental Health*, 63.
well as NIMH-sponsored research on relations between humans and their environment. Dorsett described the new role of the ACS as a kind of "clearinghouse" for architectural information. After 1970, the growth of CMHCs slowed drastically.

In 1972, Dorsett describes the funding for CMHCs as at a "low ebb." That same year, the program had slowed enough that Dorsett applied for a sabbatical leave to develop information-delivery packages, forms, etc., to give to FECA and to communities by meeting with those who had gathered the information and with user groups. By 1973, there were only 493 federally funded CMHCs, and not all of those were fully operational. By 1975, 603 had received some funds, but only 507 were operational. In 1973, the initial period of funding came to an end, and it was not renewed. After that time, most of the CMHC's proponents—and the specific organizations that had worked for the program—were reabsorbed into the larger National Institute of Mental Health or moved off into private consulting. As the funding for ACS and the CMHCs dried up, neither Dorsett nor Wittman nor even Duhl ceased the production of their work. They merely dissolved into private consulting, consulting for international organizations, prison-related work, or academia. In 1980, Dorsett left the NIMH, but maintained his role as Architectural Consultant, expanding into private consultation. He was hired by the World Health Organization and the United States Agency for International Development (USAID) in Grenada, West Indies. The fact that Dorsett continued his career as a private consultant constitutes a classic American narrative of the privatization of formerly government affairs in the 1970s, as does his involvement in prison reform following his research on psychiatric care. After the optimistic programs of Johnson’s Great Society floundered, lacking funding and eventually being almost entirely dismantled by Presidents Nixon and Ford, the research into social science and architecture increasingly focused on crime and prison reform. The architecture of CMHCs was simultaneously a fascinating example of the development of architectural knowledge under favorable political conditions and a cautionary tale of architecture's presumption, its desire to do better.

CONCLUSION

Classic accounts of architecture and bureaucracy, such as Hitchcock’s, try to split the work of singular personal expression of an architect like Louis Kahn from the mundane, amenity-rich work of the bureaucratic architects, such as Albert Kahn or SOM. Nevertheless, the CMHC research produced theories of architecture that built upon the formal exploration of someone like Louis Kahn and paralleled—and

85 Dorsett, "Request for a Sabbatical Position" (1972), 13, Dorsett Papers.
86 Ibid., 1.
87 Levine, The History and Politics of Community Mental Health, 63.
maybe influenced—the work of other singular theorists after 1974. Just as Foucault’s theories were built on
his observation of the same phenomena described from the inside by Sommer, so too were theorists of the
1970s, such as Robin Evans, building on the psychological language and diagrammatic practices of social
science. Evans was an English theorist, so the historical connection is not direct, but he was certainly
reacting against such social science initiatives in the UK. He specifically criticized the visualizations of
sociability produced by the Parker Morris initiative, a recommendation that social scientists and architects
ought to work together. As with Dorsett’s group, Evans’s critique of existing architecture was predicated
upon a substantive interest in the human subject and a desire to combat alienation (Illustration 1-33).
Given the work in Evans’s studios at the Architectural Association in London, one can easily see that he
would agree with Dorsett’s and Alexander’s accusation: “Long corridors set the stage for everything bad
about modern architecture.”

But aside from a shared attack on long corridors
and a desire to revise existing models of modern
architecture, Evans’s work in the later 1970s and early
1980s went further than Dorsett’s and Alexander’s,
proposing that all circulation should be enfilade in
order to combat the pervasive alienation of modern
life. Evans attacked the use of functional diagrams and
other such abstractions used by functionalist architects
because of the way they reduced human interaction
conceptually as well as literally, by preventing the
accidental encounters that build community.

In both the profession and the discipline,
architects in the 1960s and 1970s criticized the
architecture of large social organizations, particularly
those that might be perceived as repressive, as with
institutional environments. The problem of
institutional design requires a large domestic
environment that can accommodate a large number of
persons. In the postwar American context that prized
the nuclear family above all else, this problem gained a new meaning. The need to design for large

Illustration 1-33: Drawing by Dan Davis for
Robin Evans’s and Fred Scott’s Diploma Unit 4 at
the AA. The Unit was to design housing with a
minimum of dedicated circulation spaces, due to
belief that hallways were linked to, and
reproduced, “the rise of modesty and solitude” as
well as the "suppression of conviviality" and

89 Written on the back of the index card for Region XI, Cape Girardeau, Missouri, St. Francis Medical Center, MO
MH-10, no date, Box A5, Dorsett Papers. Also in 1977’s Pattern Language under “Short Corridors.”
organizations was not new, yet Dorsett, Wittman, and others felt that modern architecture was not adequate to the task. After leaving NIMH in 1973, Wittman wrote a dissertation on institutional design at U.C. Berkeley where he claimed precisely that the major cause of the failure was that:

The client has not been properly defined, the units of design in a social/psychological sense have not been found, and the important task of establishing coherent orders of design for organizations as human enterprises, has not been accomplished.\(^9\)

The task of producing new knowledge about the architecture of large organizations was ongoing, and in its next phase, disciplinary theories of design were again blended with social science producing by far the best-known case. Building on the work of Aldo Van Eyck and Alison and Peter Smithson, and borrowing heavily from theories of human territoriality proposed by Robert Ardrey, the next attempt to reform institutional domestic environments was Newman’s "defensible space."

\(^9\) Friedner Wittman, *Architectural Planning and Design in Complex Organizations*, Dissertation presented at UC Berkeley 1983. (copy from Dorsett Papers, Box A9), 365. Elsewhere, Wittman gets more specific, claiming that a clear understanding of the organization as an architectural client is a prerequisite to understanding the concepts and ideas, the units of analysis, and the scope of the project that are necessary to create good architectural design in both senses of the term." Wittman, 366.
In 1971, Ada Louise Huxtable published a column in the New York Times in response to the prison riots at Attica two weeks earlier. The riot began over conditions at the prison and ended after 32 inmates and 10 hostages were killed in taking back control of the prison from the 1,000 inmates.\(^1\) Huxtable argued that the architecture of the prisons was in part to blame for the riots, and she repeated a call she had made elsewhere for architecture that pays more attention to "human' elements." She was not specific about what these human elements were, but she encouraged those who would be "enlightened architects" to utilize the "new knowledge of the social and behavioral sciences."\(^2\) In making the link between the massive, unrelenting environments of prisons like Attica and the problems of revolt among prisoners, Huxtable was blaming the architecture, and the architects by extension, for allowing violence to erupt. Thus, instead of issuing her own protest against the system of incarceration, she advocated recent shifts in prison architecture that made use of new plastic materials to make security "less visually and psychologically disturbing." Confronted with the canonical question of "architecture or revolution," Huxtable chose to hope that future prison revolts could be avoided through architecture. Revolution or even reform of the social and governmental system that produced the prisons was not discussed.

Architecture critic Wolf Von Eckardt also published a column on the Attica prison riots, in the Washington Post, and he too focused on his optimism regarding the new trend in prison architecture, which would surely take off in response to the crisis. Von Eckardt explained that the new philosophy of prison architecture was to start building such facilities in cities, rather than in remote areas, and to build far smaller facilities. He excitedly relayed the news from the Law Enforcement Assistance Administration (LEAA) that states should not even bother applying for funding for facilities for more than 400 persons. There were even more significant changes projected at the architectural level, with a "new creative prison architecture without bars, designed to aid treatment and make the traumatic aspects of confinement as inconspicuous as possible."\(^3\) Both Eckardt and Huxtable applauded Jordan Gruzen, who had recently

2 Ibid.
3 Wolf Von Eckardt, "New Design Helps Point the Way to Prison Reform; Physical Plants to Match Philosophy,"
completed a new facility at Leesburg, New Jersey, intended to alleviate the "oppressive sense of confinement." This exemplary prison was itself prompted by prison riots in New Jersey, back in 1952, but it took another 13 years for the facility to be built due to both political and financial complications. The 504 bed prison was subdivided into six pavilions, each of which had a courtyard at the center. The courtyards were enclosed on all sides by a breezeway beyond which was a single-loaded corridor connecting the individual cells. Thus, each cell had a view onto the courtyard, instead of another cell across the hall. Each pavilion also had a glass-walled day room that opened to the courtyard (see Illustration 2-2, bottom). Such architectural attempts to break down the large, monoliths of the old institutions and replace them with more open facilities were intended to distract prisoners, the public, and government from the traumatic experience of incarceration.

Eckardt ended his column sharing his reassurance at hearing "a high official of the Federal Bureau of Prisons speak of 'beds' rather than cells." The shift in nomenclature was reflected in the design at Leesburg, as the cells were designed to resemble bedrooms. From their depiction in a 1973 volume on correctional environments that reprinted Huxtable's and Eckardt's arcticles, it's clear that the line between residential and correctional environments was being blurred. If not for the toilet paper holder on the end of the daybed, it may have taken the viewer a while to realize that this room with its floral patterned pillows and typewriter by the window was in fact a New Jersey prison cell (Illustration 2-1). These attempts to soften prisons attempted to make corrections into something other than punishment, to shift it to a therapeutic environment in line with recent research in


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4 Ibid.
5 Ibid.
psychology. In doing so, the efforts joined a much longer history of struggles between prisons as punitive and prisons as corrective.

What was different about the waves of reform in the 1960s and 1970s was their interest in making prisons unlike prisons, to the extent of considering doing away with the structures entirely. In 1976, Sommer declared that the United States should seek an "end to imprisonment." After witnessing the changes in psychiatric institutions with the massive reduction in the number of involuntary psychiatric patients, Sommer wanted to borrow that success for the field of corrections so that involuntary incarceration would end and offenders would come for treatment willingly. Sommer’s startling projection came late in terms of the postwar attempts to reform and redesign prison environments using the model of psychology and the permeable institution. While late, Sommer was insightful in marking a new, more subtle strategy of governance, based in intimate management of a deviant population. In the late 1950s and early 1960s, corrections officials and architects tried to apply the lessons of postwar psychology to the institutional typology of prisons. Indeed, a number of the same ingredients that animated the Community Mental Health Center movement were also involved in attempts to “modernize” and reform correctional environments toward a more complex penology that involved both more individualization and more social interaction than the previous model, which focused on confinement in solitude.

This chapter will build on the previous study of psychiatric environments, showing how the same expertise was used in a different institutional typology, that of corrections. The chapter looks at the translation of psychiatric knowledge—specifically the softening of institutional environments—in the prison context. I am not arguing for any type of causal link or direct movement out of the psychiatric hospital and into the prison, as the two movements were certainly happening simultaneously. Yet, this chapter continues the study of environmental psychology as it moved out of a strictly medical, psychiatric context and into other kinds of environments. The movement may not have been sequential, but the

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6 Robert Sommer, *The End of Imprisonment*, Reconstruction of Society Series (New York: Oxford University Press, 1976), v. There was, and still is, a longer anti-prison movement, and figures like Angela Davis remain active in trying to put an end to prisons entirely. The reasons that the movement has not been successful in ending imprisonment in the way that psychology has reduced involuntary patients remain outside the study of architecture. Whether it be racism, the economic incentives to maintain the prison-industrial complex, or some Protestant Puritan American impulse to punish, all that is within the scope of this chapter is to see how design expertise became involved in the effort to end prisons. The explanation for the persistence of prisons and the entanglement of prisons and political economy can be found in such works as Ruth Gilmore, *Golden Gulag: Prisons, Surplus, Crisis, and Opposition in Globalizing California* (Berkeley: University of California Press, 2007). Gilmore observes that the apparent marginality of these places is misleading, and that in fact they are central to the economies of formerly irrigated agricultural land in California. She also writes of the connection between reformers who advocated removing physical punishment and the rise of the idea of freedom, which led to a situation where depriving someone of his or her freedom was the optimal punishment.

7 It was also “late” in terms of the arc of psychiatric reform, which was beginning a phase of serious disillusionment in the mid-1970s.
translation became more attenuated as it moved further from medical environments. In this way, the attempt to open prisons provided another venue through which architects encountered social science experts, opening their awareness of architecture's role as a social technology, even if the effort was even less successful than the CMHC designs.

This chapter will present a series of episodes of disciplinary mixing and experiment. The first episode is a conference held by the AIA along with experts on corrections in 1961 where the elements of the social technology of the prison were laid out, with the various disciplinary leanings in evidence. The mixing of punishment and aesthetic expertise continues with a design for a therapeutic prison, beautifully rendered by a student at Princeton University in 1958 during Jean Labatut's time in Princeton. The third and largest episode concerns the work of Sim Van der Ryn, who conducted a series of "thought experiments" or design studios, held at U.C. Berkeley in 1966 and 1967. The studio proposed new prototypes for juvenile detention centers, which would be more integrated in their communities and more closely tailored to the type of power structure in the facility. Van der Ryn's studios are also examined for their place in his career arc, between his interest in scientific methods, his studies of institutions as the means by which architects can influence society, and his flight into ecological design. The fourth episode deals closely with the government's interest in psychology and corrections by examining the work of two architects familiar with bureaucracy and psychiatric environments as they worked on a forensic psychiatric facility in Gainesville, Florida. Former NIMH architect Clyde Dorsett and his colleague Constantine Karalis turned to prison work after the CMHC program stalled. Despite their inventiveness, the architects of these experimental environments did not foster widespread change in the decentralized penal system, and the therapeutic model stalled here with prisons.

THE ARCHITECTURE AND CORRECTIONS IN THE TWENTIETH CENTURY

The wave of reforms in the late 1950s and early 1960s were far from the first time penologists had tried to solve the problems of overcrowding, corruption, inefficiency, and abuse in prisons. The institutions that reformers found after the war were in many cases themselves the product of an earlier author's idea of how to humanize or mechanize, soften or harden the environment. As with other areas of construction, few new prisons were built in the United States during the Depression or during World War II. Thus, by 1961, an expert in prison architecture described the current situation as the greatest prison-building boom since the early nineteenth century. In looking at the failed system, such experts encountered an existing

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building stock that included a number of very large prisons built in the early twentieth century, at a time when rehabilitation was being abandoned and penology turned to warehousing at grand scales.

The prisons of the twentieth century largely followed the Auburn model, developed in the early nineteenth century, sharing the pragmatic approach to housing inmates. However, the Auburn model was far more controlled and severe than what came after. As a penology, the Auburn model valued efficiency and security above all else, consisting of an extremely structured routine where prisoners lived in silence, in tiny, individual cells of 7’6” by 3’8” and 7’ high (Illustration 2-3). Prisoners slept in these cells, and followed a controlled routine from sleep to work, pausing for a sermon between picking up food and eating it, and then back to a solitary cell at night. The Auburn system was bare and pragmatic in contrast to the other American model—the more philosophically developed Pennsylvania system, which was more closely based on Benthamite and other European models. The Auburn model was more concerned with hard controls than complex mental processes, as sociologist and prison historian and sociologist Norman B. Johnston of the University of Pennsylvania described it. The model was the work of builders rather than architects. As Johnston observes, it was a "machine,"—the type of system designed by corrections officers, those charged with maintaining order in a tense, overcrowded human environment and not the work of intellectuals concerned with reform, religion, and European social philosophy, aided by professional architects. In the Pennsylvania system, solitude and anonymity were intended to produce reflection, repentance, and rehabilitation. Prisoners often wore masks and were referred to by number rather than name to further remove their identity. Through work and study of the Bible, the prisoner was to emerge a changed and improved subject. The architecture of the early-twentieth-century prisons was more akin to the Auburn model even while it was much larger, less rigorous if still routine-based, and far less based in a theory that valued solitude—or redemption, for that matter. Thus, by the 1950s, most of the existing prisons in the United

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The Auburn prison itself was planned starting in 1816, with the paradigmatic North Wing opened in 1825 and another large wing being added in 1835. Norman Johnston, *Forms of Constraint: A History of Prison Architecture* (Chicago: University of Illinois Press, 2000), 75.

Ibid., 78.
States were of the hard Auburn type rather than the rehabilitative Pennsylvania type, meaning that it was largely this diluted Auburn model that reformers reacted against. As experts and professionally trained architects took up the problem from the wardens, they returned to the ideal of using the prison to alter the prisoners themselves rather than simply house them peaceably.

The reformers of the 1950s were not the first to borrow strategies from institutions for the mentally ill or insane and apply them to penal institutions, as asylums, hospitals, and prisons have a long history of borrowing forms and theories from each other. As an example, Johnston describes a similar circular form that was used for hospitals, prisons, and the Lunatic’s Tower, or Narrenturm of 1784 which was itself part of a larger hospital complex that also used the circular form (Illustration 2-4). The distinction between prison and psychiatric institution is a shifting and historically constructed one, with ongoing trouble in keeping psychiatric and correctional programs separate. In the 1960s and 1970s, facilities that addressed both needs were created, such as the Behavioral Research Center at Butner, North Carolina, constructed by the U.S. Bureau of Prisons, and the Gainesville facility to be discussed later. More recently, popular accounts often state that the largest mental health facility in the United States is the Los Angeles County Jail. Even with its shifting boundary, prison reform differs from psychiatry in a number of regards; one significant difference being the lack of a unified approach or single federal initiative paving the way. Instead, the situation differed in various states and under various pieces of legislation. The idea that they are separate typologies with separate functions may be acting to obscure what they have in common, even while some aspects of society view prisons as uniquely aimed at individuals who chose deviance, rather than the deserving, unfortunate patients of the other two typologies. This retributive feeling may have been strong enough to have caused government to turn its back on many of the tools of soft power, which would have made the task of corrections far easier for the state. However, the retributive influence would have been flouted. Instead of turning to a pharmaceutical profit model, as much of psychiatry did, the corrections industry chose to stick with an older labor and construction model. Lest we think that architectural

11 Ibid., 48.
expertise is not implicated in the ways a society governs, comparing these two chapters will make that case.

THE AIA CONFERENCE ON ARCHITECTURE AND CORRECTIONS

In 1961, the AIA organized an interdisciplinary conference on corrections that was later described as a successful "experiment in mutual intellectual stimulation." But far from being an entirely abstract, intellectual exchange, the topic of discussion had immediate consequences for human suffering—and public money—beyond the realm of ideas and into the realm of physical reality. The event was held at the AIA headquarters in Washington, D.C., where architects exchanged ideas with corrections officials and sociologists. The papers presented were as much about the practical aspects of prison design as they were about the philosophy of penology contained in various schemes. Though they did offer a few aesthetic solutions, the participants were mainly trying to develop an environmental expertise, gain a broader view of the problem, study prison history, refine comparisons with other nations, and establish a research methodology.

Among the "stimulating" ideas to come out of the conference was the call for precise knowledge. Johnston was frustrated by the experience of visiting various institutions abroad, seeking answers to questions such as whether walls painted in bright colors might be able to reduce vandalism and other disciplinary problems. Each English prison that he visited seemed to have a different answer. As a scientist, Johnston found the discrepancy unacceptable, so he called for a departure from this realm of "impressions and opinions" toward the use of "real research methods" and the establishment of a clearinghouse for collected data. He called the current age one of "professional penology," which he claimed was based on a "more precise" approach. He was not specific, but his remarks reveal the vogue of social science experts, their penchant for statistics, probability, and behavioral models. As articulated by Howard B. Gill, Director of the Institute of Correctional Administration at the School of Government and Public Administration at The American University, instead of a "bird shot penology," the therapeutic model was intended to be a "bull's eye penology" that demonstrated professional expertise.

12 Johnston, "Recent Solutions: The Criminologist’s View," 63.
13 Even so, there was one very practical presentation by a former president of the AIA, John Noble Richards, FAIA. See also "Obituary: John Noble Richards, FAIA," AIA Journal v.71, n.12 (October 1982): 103.
15 Ibid., 69.
Step one of this "bull's eye" approach was classification of the inmates by type, forming the innermost in a nested typology with the next outward step being the classification of facilities, and beyond that the classification of institutions, i.e., prison versus asylum versus hospital. As Georges Teyssot has argued, the tool of classification by type has a long history in the social sciences, from Cesare Lombroso onward, where it allows for management through a philosophy of "divide and rule." Johnston explicitly labeled his theory in these terms, as a "divide and rule" approach that called for four types: the new, the tractable, the intractable, and the defective. The first step for a new inmate would be a period of observation of their behavior to determine which class they belonged to. Johnston argued that inmates who want "treatment" and can respond to it should be separated from those who lack one or the other of those qualities. He predicted that about half of state and federal prisoners would be of this "tractable" type, and that such individuals would be cooperative, able to "respond to mutual trust" and capable of living in "normal conditions." The others, who may nevertheless be considered "good prisoners" because they often just want to "do their own time," were to be considered "intractables" or "untreatables" who should be subjected to a rather different penal approach. For these "hardened" criminals, he advocated "rule by fear, force and deprivation," an approach which could include "abnormal restraint" typical of the aptly named hard system. For these last prisoners, the best hope was to attempt to break their spirits through "shock therapy."

For each type of inmate, the sociologist prescribed a specific type of architecture. There was a classification center for incoming inmates, labeled with the welcoming name of a "reception center." The classification center was located adjacent to the facility for the benefit of the intractable inmates, out of a belief that they should be able to reenter the classification stage and be reclassified if and when their spirits were broken. The institutions for defective delinquents were intentionally left out of the paper, except for references to a few examples. The tractable inmates were to be treated in institutions known as "therapeutic communities" or "community prisons." The idea of the therapeutic prison shared goals, strategies, and architectural elements with similar reforms in psychiatric facilities—absent the pharmaceutical component—which were being developed around the same time if slightly later in implementation. Proponents of the therapeutic model argued that while it might seem to be easier on the inmates, it was more powerful. In his own conference paper, President of the American Correctional Association and Director of Wisconsin's Division of Corrections Sanger B. Powers explained that while

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18 Johnston, "Recent Solutions: The Criminologist's View," 70.
19 He cites the Medical Center of the Federal Bureau of Prisons at Springfield Missouri; the Medical Facility at Vacaville, California; the Institution for Defective Delinquents, Wilkes-Barre, Pennsylvania, and the John Howard Pavilion of St. Elizabeth's Hospital, Washington D.C. Ibid., 73.
some members of the public and some corrections officers might see treatment and security as opposites, that was only because they did not understand the “psychological security” produced by a program of positive, individualized treatment and respect for the inmates’ dignity. Specifically, Powers thought prisons should have no “high encompassing walls, no reinforced cell blocks, or telephone pole type construction,” referring to a common typology consisting of a very large facility with a long trunk and shorter wards leading off at 90-degree angles. He argued that more dignified environments would set the appropriate “tone” for the facility, where the architecture had a “lean and austere style” while not being overly alienating. Thus, inmates would behave themselves in a more respectful manner in concert with the human-scaled environment.

Powers was not the only one interested in the use of prison aesthetics to communicate the philosophy of the institution to the inmates through the medium of the environment. Johnston, the sociologist, advocated for a return to using the architecture as a tool of reform in line with the axiom “form follows function.” After a period where the form of a prison was believed to be

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21 Ibid, 75.
22 Ibid.
indifferent to program and vice versa, he described the penology discourse as regaining faith in the idea that form can have a powerful impact on the success of a prison program. By form, he seems to have largely meant the aesthetic, the atmosphere of the place and what that communicates to the inmate.

The lone practical article in the selection of papers published by the *AIA Journal* was illustrated with a photograph of a crash gate that negotiated that delicate balance of lean austerity and meanness using contemporary design. At the start of the piece by John Noble Richards, FAIA, readers were shown a photograph of a prison corridor seen through a closing gate (Illustration 2-5). The caption chosen for the image did not call out the coercive, restrictive, or violent practices of the prison or the political, social, or economic costs of the various models of penology, but instead discussed the aesthetics of the design as though it were any other piece of architecture. It read: "The crash gate makes a contemporary pattern across the corridor of the new Lebanon Correctional Institution." The point is that in prisons as with other environments, aesthetic objects act as "boundary objects," having a rather different life in different discourses. The typical reader of the *AIA Journal*, casually flipping through its pages, would not be stalled by such an image caption, but at the same time the physical gate at the Southern Ohio Reformatory would borrow a "tone" of fashion, of someone taking the time and going to the expense of giving prisoners an environment that, while "austere," conveyed a degree of consideration for their tastes, their eyes, their well-being. At the same time, the caption that calls out the contemporary pattern on the crash gate is a more subtle example of the power of aesthetics to camouflage an environment within a rather different aesthetic discourse.

KAESTLE AND THE POWER OF AESTHETICS

Where the professional journal chose to use text to highlight the fashionable pattern of the bars, a thesis project had already made more integral use of aesthetics to assimilate an object within the more typical concerns of architecture departments of the time. Kaestle's 1958 thesis project at Princeton University illustrates the point that prisons were being considered by elite architects who transformed prisons into an object of beauty conforming to the style/aesthetic project of the time. Kaestle's project was in line with the therapeutic aims of the latest penology, bearing the title, "A Prototype Criminal-Therapy Community." He described the importance of open institutions, yet acknowledged that only some types of inmates were ready for such freedom. Kaestle was cued in to the trends in therapeutic penology that would be discussed at the 1961 conference three years later, citing a theories of open institutions from a book on

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the *English Penal System* published the previous year. The student saw the architecture as a tool for getting the inmates ready, following the belief that form must follow function, "The institution as an instrument of therapy must necessarily be reflected in the architectural context." Six of the 18 boards drawn by Kaestle documented the social structure and philosophy of the facility, and the rest documented the graceful composition of maximum, medium, and minimum security wards, with a chapel, hospital, workshop, and staff housing around a circular site. The maximum-security wing was designed as a true panopticon, with cells arrayed around a circle in two tiers, and an internal guard tower with sight lines into each. Kaestle did not address the various security levels explicitly, but the implication is that

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24 “The perennial problem of any penal system is that the immature can not face the strain of an open institution...but a closed institution and supervised activity does not help them mature. The only possible solution is a gradual process of increasing liberty and responsibility that resembles what the prisoner must enter upon release.” Winifred A. Elkin, “The English Penal System,” in John A. Kaestle, *Criminology and Architecture: A Prototype Criminal Therapy Community* (MFA thesis, 1958), Item 1/17. Princeton University School of Architecture.

25 Ibid.
inmates will be sorted and will progress through the stages, moving closer to the conditions they will encounter on the outside.

The project clothes the penology of sorting inmates into different environments in polished presentation drawings, and as such it too sits at the boundary of two different logics, therapeutic penology and aesthetic architectural discourse, or fashion. The site plan includes soft green circles for trees, and a gentle brown for the buildings which both camouflages the fact that the program is incarceration and at the same time communicates the theory that it be a more dignified, beautiful place of nurturing and not a warehouse of prisoners. Coming at the time of Jean Labatut’s dominance at Princeton, the therapeutic community takes the form of a carefully considered composition with the gentle curve of a circle marking the space of community, but at the same time it is a circle at whose center sits a control tower.

The most striking drawing of the set was a detailed, night illumination plan which is both a beautiful, delicate image and a precise documentation of the functioning of the architectural mechanism in terms of visual surveillance (Illustration 2-8). In addition to showing how the radius of the central circle is traceable by searchlights. Additionally, the alleys between buildings and the levels of illumination for the various levels of circulation become legible in the night plan. At the same time, the drawing recalls Labatut’s own renderings of the fountain spectacles held at his Lagoon of Nations fountain at the 1939 New York World’s Fair. Similarly, the treatment of the chapel, its central location and idiosyncratic, tripartite design recalls Labatut’s interest in updating church architecture for a new era of experiential modernism. Thus, the drawing operates on the boundary of two rather different ways of thinking of architecture. It is both governed by the Beaux Arts-

Illustration 2-7 Drawing of the maximum security wing and its Panopticon, which accurately reproduces Benthamite principles. Kaestle, Criminology and Architecture, item 15/17.

Illustration 2-8 Kaestle, Criminology and Architecture, item 9/17.
infused period of postwar modernism and the therapeutic trend as well. The aesthetic was not entirely shaped by the program—or at least as far as the presentation went, it could have been another program—but was rendered as though it were any other Labatut project. The result is that certain aspects of the aesthetic language have naturalized the project and made it seem a part of the discipline, which it may or may not have been; the point is that these ideas come in and are coated with a different aesthetic, albeit one which was in pursuit of its own humanizing project.

CALIFORNIA’S THERAPEUTIC PENOLOGY

The most notable experiments in the therapeutic penology were carried out in the state of California, where half of all the psychiatrists, psychologists, and social workers employed in prison settings worked in California’s prisons.27 Following the collapse of an earlier group-counseling program in the 1950s, California started a Correctional Research Division (CDC) to pursue psychological rehabilitation under more quantitative methods, as well as sorting and classification of prisoners. The program used a “base expectancy score,” or BES, which ranked a given individual’s likelihood of rehabilitation. Based on similar psychological research done for the military, the BES was used to sort prisoners into seven levels of adjustment. Between 1960 and 1965, these scores were used to sort which prisoners would respond to treatment and which should be excluded.

The experiments in sorting and group therapy were short-lived. The sorting was not always used in practice, as in more remote experimental communities, such as the forest labor camp of Pilot Rock in 1960. The camp at Pilot Rock was run by members of the Division of Forestry, and the officials cared little about the detailed sorting mechanism.28 Later, the group was moved to a less remote location known as Pine Hall, but this experiment—along with another, larger 1,200-bed facility—failed, and the focus on group psychology only seemed to exacerbate the racial and social tensions.29 With the escalating events in California—the student protests at Berkeley in 1964 and the Watts riots in 1965—the California tide turned away from such struggling efforts to get psychology expertise to work in prisons. Along with other investments in the health, education, and welfare of the population, it began to seem too kind, undeserved and too “soft” on criminals. The very power of the biopolitical paradigm to sneak in as a program of caring became a liability when Ronald Reagan stepped in as governor of the state in 1967, declaring a harder stance on crime and cuts in welfare for all but a few, deserving groups.30

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27 Volker Janssen, “From the Inside Out: Therapeutic Penology and Political Liberalism in Postwar California,” Osiris 22, Second Series (January 1, 2007): 120. Their overall numbers were small, with 133 of 8,000 such experts working in all U.S. prisons. Making up the balance, some corrections officers were pulled in to conduct the group sessions.
28 Ibid., 126.
29 Ibid., 132.
However, it is a matter of debate as to whether the medicalization of prisoners made their time easier or harder, even when limiting the conversation to California’s efforts. Historian Volker Janssen has suggested that when prisoners heard about the disease model of crime, and deduced that once they were "cured" they would be released, they quickly learned to con their way through therapy in order to be released, making a mockery of the psychologist’s aims for the programs.\footnote{The claim is plausible, even if incorrectly cited as being in Ronald M. Berkman, \textit{Opening the Gates: The Rise of the Prisoners’ Movement}, (Princeton, N.J.: 1977), 61, cited in Janssen, "From the Inside Out," 120. I found the following but it did not include the reference. Ronald Berkman, \textit{Opening the Gates: The Rise of the Prisoners’ Movement} (Lexington, Mass.: Lexington Books, 1979).} By contrast, historian Eric Cummins argued that prisoners in California were better off after the end of the therapeutic model, when they were freed of "the rehabilitative language of the treatment-era prison," where they were never quite healed and therefore always stuck.\footnote{Eric Cummins, \textit{The Rise and Fall of California’s Radical Prison Movement} (Stanford, Calif.: Stanford University Press, 1994), 253. Cummins dates the change to the "Determinate Sentence Law" passed in California in 1976, which killed the "philosophical underpinnings" of the therapeutic model.} While these two historians were describing slightly different periods in the history of California’s therapeutic penology, I take the disagreement to be symptomatic of the difficulty in nailing down medicalized penology and soft power itself.

In 1966 and 1967 there was another notable experimentation with the architecture of corrections, namely a studio course at U.C. Berkeley led by architect Sim Van der Ryn. Rather more of a thought experiment than California’s earlier experiments with therapeutic penology, the Berkeley studios are a case where the philosophy came to be studied as an architectural problem, as part of the larger arc of Van der Ryn’s work. Because Van der Ryn was often concerned with topics of central interest to the development of the discipline—first the role of science in design, then institutional theory, and then environmentalism—one can see the prison experiments as part of the development of the discipline. Van der Ryn attended the University of Michigan for architecture school starting in 1953, where he encountered and began to question modern orthodoxy presented by former students of Mies van der Rohe.\footnote{Sim Van der Ryn, \textit{Design for Life: the Architecture of Sim Van Der Ryn}, 1st ed. (Salt Lake City: G. Smith, 2005), 15–18.} When Buckminster Fuller arrived on campus, his charismatic presentation of science and technology-based ideas about design had a great impact on Van der Ryn, as on many other students, and he continued to be inspired by the holistic and nature-based forms and theories Fuller espoused. Van der Ryn developed his interest in Fuller’s geometries through a migrant worker housing scheme built of a single folded surface.\footnote{"People in Plastic Houses: Pre-fabricated Temporary Houses of Hirshen/Van der Ryn Architects," \textit{Fortune} vol. 73 (April, 1966): 170. The project was a result of a grant of $3,485,000 from the Office of Economic Opportunity, presented to the State of California to study the problem of inadequate housing for migrant farm workers. The state hired Sim Van der Ryn and Sanford Hirshen, who then worked with Herbert Yates of Plydom Corporation Ltd. to design a temporary plastic house that would cost $500.} While teaching at
U.C. Berkeley, he continued to espouse the importance of natural and science based thinking for architecture.

At Berkeley, Van der Ryn was not alone in looking for new, interdisciplinary methods to reshape architecture. William Wurster and Catherine Bauer had pushed for increased interdisciplinary connections—between adjacent design fields, as well as between the arts and sciences—starting with their arrival in the 1940s. Bauer began bringing in social scientists and directing attention to social factors as early as 1953, when she brought sociologist Donald Foley to join the planning department. The changes in the 1960s were a continuation of these shifts, where architecture was integrated with landscape and planning, two fields which had maintained greater connections to science, through horticulture and sociology, respectively. An editorial in the May 1966 *Journal of the College of Environmental Design* revealed the oft-stated worry that architecture was falling behind, stating that, "All scholarly and professional disciplines lag behind other disciplines in proportion to how wholeheartedly they have adopted the scientific method." Indeed, in the postwar period, many American universities were reinventing themselves to be more vital and inspirational for a new generation of American students. At Berkeley, University President Clark Kerr wanted to create a knowledge factory able to contribute to national economic growth, and architecture had yet to find its place in this new socially relevant marketplace.

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The field of architecture generally, and at Berkeley specifically, was plagued with doubts both from without and within. Many accused architects of being irrelevant and even incompetent, and a cartoon in the *Journal of the College of Environmental Design* from the same year as the corrections studios made the point in no uncertain terms. A pudgy, pointy-nosed character lays on a bed of thorns that spells out the word “architecture,” beneath which the caption reads:

> The architect rests uneasily on his professional bed. The great vacuum between what he says he does and what he actually accomplishes continually punctures his swollen ego and undermines his confidence.  

In response to the context of disillusionment and higher aspirations for research and relevance, the department of architecture undertook extensive curriculum changes. Van der Ryn was a leading force in these changes, after Bauer’s death in 1964, with the aim of providing future architects with the science and humanities knowledge to be effective in the midst of complex and rapidly changing social and political structures. One major venue for this reorientation was a set of broad curriculum changes, similar to those

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38 *Journal of Environmental Design*, 4 (1966-67), np. The issue also included a piece on Buckminster Fuller and one by Robert Sommer on “Behavioral Work” as well as a few other critical cartoons.

39 Alexander made a similar point when he argued that the field needed PhD programs to tackle the “significant theoretical problems” that face design in an era of social and technological complexity. He felt these must be addressed before design can begin. Christopher Alexander, “Suggestions for the Ph.D. Degree in Architecture,” *Journal of Environmental Design* vol. 1, no.3 (May 1966): 40-41.
at other universities, intended to update the program to give students the scientific and humanities education to enable them to bring social concerns into their architectural studies in an informed and relevant manner.\(^40\) The curriculum reforms included: continuing the integration of the departments of architecture, planning, and landscape; positioning architecture so that it could contribute to the general education of the rest of the university, expanding urban and regional studies; enhancing research in architecture and landscape; developing a professional internship; and starting a program of environmental studies to bring in knowledge from other disciplines without the burden of professional education.\(^41\) There was also a deemphasis on the studio in terms of credit hours allocated, to allow for more courses on environmental control systems, structure and production, design theories and methods, social and economic factors, architectural administration, and the history of the environment.\(^42\) Additionally, studio courses on specific problems were to be offered, and Van der Ryn’s was clearly one of those available during the period of restructuring that occurred between 1965 and 1969.

Given Van der Ryn’s involvement in this shift, it is unsurprising that he chose to focus his studio on a topic of great social importance. In addition, it was most likely not an accident that he chose to work with juvenile detention rather than with adult offenders, given his previous interest in student housing preferences at U.C. Berkeley, as well as the utility of such a program in reaching out to disaffected students.\(^43\) Moreover, the idea of juvenile detention—and architecture specifically for youth offenders—was relatively new. The roots of California’s system began with a series of reform schools established in 1943 using the name that it would still bear in 1966, that of the California Division of Juvenile Justice.\(^44\) Concerns over rising juvenile delinquency were common through the 1950s and early 1960s, but as the 1960s wore on, a number of cases formalized the treatment of youthful offenders—among them two

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\(^40\) See more on curriculum changes at this time in Chapter 4. Berkeley also shifted from a five-year bachelor program to a four-year undergraduate plus a two-year master’s, and at this time multiple options for the master’s degree were sketched out. Students with a professional background could do a one-year program, students with the (rare) four-year undergraduate degree could do a two-year program, and those with no architecture background could complete a three-year version. Gerald McCue, “The 1966 Architecture Curriculum,” *Journal of Environmental Design* vol. 1, no.3 (May 1966): 30. McCue took over as chairman of the department of architecture after Charles Moore departed for Yale. See also Daniel Barber, *People’s Park; Or the Crisis of Humanist Architectural Environmentalism,* (Masters of Environmental Design thesis, Yale University, 2005).

\(^41\) Martin Meyerson, “Comments to the Faculty, December 1963,” *Journal of Environmental Design* vol. 1, no.3 (May 1966), 15-17. In the fall of 1967, the five-year B.Arch and one-year M.Arch were to be replaced by a four-year A.B. in Environmental Design and three options for a master degree—the one-year post-professional, two-year professional for those with the A.B., and a three-and-a-half-year professional degree for those without.


\(^43\) Van der Ryn was the Chairman of the Chancellor’s Committee on Housing and Environment, which discussed the best types of housing to teach students to live independently, set up their own rules, etc. See “1968 Report, U.C. Berkeley Chancellor’s Committee on Housing and Environment,” Manuscript held at Berkeley C.E.D. Library.

changes to the law that came shortly after the Berkeley studios. One was the case known as In re Gault, which guaranteed a youthful offender’s right to due process in 1967. The second was the Juvenile Delinquency Prevention and Control Act of 1968 which encouraged states to do just what Van der Ryn et al. were doing, namely work to design programs that would integrate juvenile detention within the community. Once states had done so, they would be able to receive federal funding for the programs. It remains unknown to me what role the news of upcoming funding may have had on his choice to study this program, but in published remarks the same year, Van der Ryn expressed hope that the federal government would begin to back design that disregarded the status value of visible forms in favor of a new understanding of how architecture functions. The criminology professors he collaborated with had some role in this; his autobiography, Design for Life, is rather silent on the experience of teaching these studios.

The students were directly involved with these environments, as well as the administrative and theoretical knowledge that governed the design of the current environments. Studio time included visits to facilities, discussions with guards and offenders, and consultations with sociologists. One of the schemes was produced with the Northern California Youth Center in Stockton, and the acknowledgements thank the superintendent of the center, Allan Breed. Within Berkeley, they collaborated with the dean and three professors of the School of Criminology (Dean Joseph Lohmann, and Professors Richard Korn, David Fogel, and Wilmont Smith) as well as the director of the Model Treatment Center at the Institute for the Study of Crime and Delinquency. The students were also exposed to social science research and other theories of environment and behavior, as Edward T. Hall participated in their sessions as well as sociologist Carl Werthman.

The results of the studio were published under the title Three Proposals for Innovative Correctional Facilities. The first project was a branching, low-rise building with a nested series of wards, in this case, three groups of six around a central lounge. The project, by Howard Menashe, diverged from typical long hallways in favor of an internal lounge and easier surveillance down the hallway to the rooms, albeit without direct views into each room. A caption on the plan calls attention to the “adequate surveillance,” as well as the provision of a bathroom for each individual room as a means of preventing a major source of conflict in such group living situations (Illustration 2-11).

45 He was surprised that the federal government hadn’t been doing this, citing a recent trend in growing commitment to good design. (But they were in some ways, such as community mental health centers.) Sim Van der Ryn, “Searching for a Science of Design: Problems and Puzzles,” AIA Journal v. 45, (January 1966): Sim Van der Ryn, “Searching for a Science of Design: Problems and Puzzles,” American Institute of Architects. Journal 45, no. 1966 (1966): 41.
46 Van der Ryn, Design for Life.
48 The form is very similar to that being used for CMHCs at the time.
The second project dealt extensively with the idea of integrating the institution with the community. In keeping with the theory that connecting the facility to the community would allow for a healthier environment and better adjustment upon return, the schemes included an "Urban Rehabilitation Center," attributed to Michael Thomas of the School of Architecture and Garry Smith of the School of Criminology. The text described how criminal behavior can be prevented by learning to deal with the complexity and dangers of the urban environment; thus, keeping these "offenders" in a carefully managed amount of proximity to that environment would be therapeutic, and produce a better citizen.\textsuperscript{49} Thomas and Smith mapped the many connections between the center and the community, showing the projected path that juvenile offenders would take through the courts, with subsequent departures from the facility for training, interaction with family and return for social services. The resulting diagram proposes that the facility be a permeable zone, with the offender moving in and out (Illustration 2-12).

The proposal addressed the question of which type of offenders would be "selected" for the facility, balancing the likelihood of recidivism against the degree to which the type of crime would be palatable to the community. On the one hand, they said, sex offenders and murderers are less likely to be repeat offenders, but the community will not accept them. On the other hand, forgery and burglary seem to be palatable, and yet they're more likely to be repeated. They conclude that the ideal type would be someone convicted of a minor offense (their example was auto theft) but someone without prior jail or prison

\textsuperscript{49} "Urban Rehabilitation Center," \textit{Three Proposals}, 8.
experience. Ideally the offender would be a member of the surrounding community, with an "irregular but consistent work record."  

The project also addressed the question of the architecture and its aesthetic, quoting from The Challenge of Crime in a Free Society, which served as the report from President Johnson’s Commission on Law Enforcement and Administration of Justice. The quote described the ideal architecture for a model institution, which would be relatively small, have doors rather than bars, and "resemble as closely as possible a normal residential environment." Shifting incarceration to a place with an aesthetic of normality would have achieved several ends, from masking the controlling aspects of the facility, promoting the idea that the guards were engaged in helping the patients rather than simply keeping them from leaving and hurting others. Many of these have already been described in terms of the therapeutic model, but here again the state and the Berkeley students were proposing to design away the hardness from incarceration and, as much as possible, mimic an environment that one would occupy voluntarily.

The third project was Van der Ryn’s, along with William Burnham of the Berkeley School of Criminology and Glenn Lym from architecture. Lym had previously published a case study of the impact of a public housing project on the surrounding neighborhood in Oakland, which is of interest because it studied the way that a population responds to the introduction of a struggling group in its midst, a typical topic for community psychology. Van der Ryn et al.’s project was very much in line with therapeutic penology in that they wanted to reduce recidivism by carefully evaluating and sorting.

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50 The authors do not explain what they mean by the phrase, but I assume they mean the offender worked with periods of interruption, yet was able to be responsible during the brief periods of regular work.
51 "Urban Rehabilitation Center," Three Proposals, 4. The full, formal version was not published until 1969, but the commission released earlier, smaller portions in the same way as other commissions did.
52 Ibid.
incoming prisoners in terms of a number of sociological and psychological variables, and then placing
them in an environment tailored to their personality type. Each type would correspond to a different
"regime," which was defined as the "manner in which authority is deployed." The first type was the
"structured regime," where rules were laid out and publicized clearly. The rules governed meal times and
other aspects of everyday life, and the text was careful to remark that there was no reason why the staff
could not be as relaxed and friendly under the structured regime as the others. The structured regime was
intended for boys coming from another institution, where they were used to having these rigid rules. The
second type was to be an "unstructured regime," where "control is exerted by the staff on an ad-hoc basis"
mediated by the relationship between an individual and the staff, with little regard to the situations of his
fellows. The theory was that such an "Unstructured Regime" could bridge between an unsatisfactory home
environment to a situation of "social independence." The third case was the "Group Oriented Regime",
wherein decision making about what is acceptable is made by the group, such that: "each is his brother's
keeper."

In comparing Van der Ryn's project to the other two, it is clear how much effort he put into
packaging architectural knowledge into transferable knowledge products, which he called "design
variables."54 The design variables were—like Alexander's patterns—brief formulations of design principles,
such as the need for spaces to retreat to. However, the formal recommendations varied according to the
type of regime; in other words, form followed function, but it also varied according to the power structure
or therapeutic milieu. In this way, the spaces and the use of spaces were tailored to the power structure
coupled with the type of offender housed in the institution. A typical design variable was for the "right to
retreat," which referred to the provision of a space where the offender could cool off and find space to be
quiet.55 In the structured regime, these spaces would be key for dispelling tension between residents, which
they felt would be highest in that type of power structure, and which they describe as a force that could
overwhelm the hostel if not allowed to dissipate in this manner. In the unstructured regime, the space
would be less important, but in the group-oriented regime, the space again becomes critical for the
individuals to use as a semantic gesture. They describe it as a place for the individual to "express" his
"opting out," which the group must then deal with.56 This is very much in keeping with the soft model of
power, in that the group is tasked with controlling itself, making for a more diffuse power structure. It
makes for a situation where the presence of the government, which is after all the one who placed the

55 The right to retreat prefigures an Evans essay, "The Rights of Retreat and the Rites of Exclusion. Notes toward the
56 "A Prototype Hostel Program for Unsettled Teenagers," Three Proposals, 8. The authors listed different and
somewhat contradictory recommendations on subsequent pages, but it appears that those on the later page are
more developed, so I have leaned on these for my descriptions.
offenders there, is less visible. But the fact that the types of spaces needed to vary with the type of regime indicates that the architecture was felt to be a key part of the equipment for a soft, group-oriented institution.

Unlike the famed prison experiments conducted elsewhere in the San Francisco Bay Area by Philip Zimbardo five years later, in 1971, these experiments remained exercises in thought. They were informed by information from existing prisons—gleaned through visits and discussions with criminologists and corrections officials—but they were never put into practice. But while they remained an intellectual exercise, Van der Ryn was intrigued by the prospect of closing that loop, of having the ability to gather knowledge by evaluating designs after their construction. In his writings around the same time, he outlined a set of three phases that would be the ideal for constructing architectural knowledge. The phases were: preform, technical and postform. In the preform phase, designers would find the nature of the problem, its structure, and its limitations, while achieving a conceptual solution. In the technical phase, designers would realize the solution in concrete form—Van der Ryn says most of the current type of research deals with this technical phase. In the postform stage, designers would evaluate the solution in terms of how well it fit the hypotheses contained in it. Each of these stages would spawn new kinds of specialists.

At the time of the studios, Van der Ryn had published two articles on the role of science in design and the potential to develop a systematic research in architecture. In the AIA Journal, he presented an argument that had been delivered at the College of Environmental Design encouraging the college to see itself as in search of design knowledge. He recommended that they use science as a model, but only in the way that science can be used for "the systematic extension of knowledge." He addressed the problem of "fear of science" by explaining that science would not restrict innovation and that design should not "imitate" nor "mock" science, since the two are different activities. Design uses the predictive knowledge of science in order to solve problems in the real world and to "extend the potential for experience of the environment." But perhaps most importantly, design can learn from science and produce an enriched theory that would go beyond the rudimentary technological theories of the previous generation. By
extension then, in the corrections studios, the detention centers were seen as an opportunity to try to extrapolate the offender’s experience of the environment into a therapeutic, rehabilitative effect.

Van der Ryn felt that modernism had been exploring the potential of new methods of technology and manufacture at the expense of what he called "design theory".\textsuperscript{63} He credited the the earlier generations of modernism for the crucial step of producing a new architecture that fit with the changes that accompanied nineteenth-century industrialization. But instead of seeing modernism as ahead of social change, he saw Walter Gropius’s generation as merely having caught up to the larger economic, cultural and technological environment in that they successfully "translated" those phenomena into buildings.\textsuperscript{64} Van der Ryn described Gropius’s time as: "the great age of the machine and its triumphs of production—a triumph shared by reasoned, orderly science wedded to a competitive economy bent on the production of material wealth." Even as Einstein, Planck, and others were moving beyond a mechanical understanding of the world, as Gropius et al. were aware, even so their work did not catch up with the new understanding of the world as one of probability, and of relative time and space (which are not always translatable into mechanical terms). Due mainly to the upheavals of World War II, the next step of accommodating built form to the changes of the twentieth century was not completed. Thus, Van der Ryn argued, the science of design was undeveloped. For evidence, should any be needed, he used an avowedly apocryphal anecdote of a "moon shot" that was delayed because an astronaut was caught in a traffic jam produced by inferior urban design.\textsuperscript{65}

Van der Ryn saw the failure to solve what he called the greatest challenge, producing "humane urban environments" as the result of a failure to study the problems of design instead of just the solutions to design.\textsuperscript{66} He encouraged his field to see forms as the manifestation of certain hypotheses, about material and about social conditions. Indeed, he argued that "physical form is the medium of solution," positing form as a means of doing other things, a functionalist viewpoint that takes form and social factors as inherently linked. As he wrote elsewhere, "The physical setting and the social organization of the institution are inextricably wed to each other, physical setting and social process working together to modify human behavior."\textsuperscript{67} While form and function were linked, he explained that many clients failed to place the emphasis on the social ends rather than the visual form. He complained that, "For many large clients 'good design' in architecture appears to be justified more by the status value of the visibly apparent

\textsuperscript{63} Ibid.
\textsuperscript{64} Ibid., 37.
\textsuperscript{65} Ibid., 40.
\textsuperscript{66} Ibid., 38.
\textsuperscript{67} Van der Ryn, "Notes on Institution Building," 12.
form than in terms of better designed operations.” The crash gate, Kaestle’s scheme, and other similar examples discussed earlier show that at times institutional environments were considered in this light, but from my perspective it is important to understand that the status value of the visibly apparent form is indeed a large part of the function of a structure. The “tone” of a facility, as a surrogate or impostor residential environment, would have been important as well.

In order to produce more rigorous understandings of how form and function were related—which he considered a part of design theory—Van der Ryn pointed to a specific need for representations other than “immediate form” in order to have better communication about form. Instead of plans, photographs, and models of the actual object, he called for what sounds like a diagrammatic language without using the term “diagram.” And, in fact, he blames the lack of such abstract communications for the descent of modernism to a simple style: “Ville Radieuse was translated into Peter Cooper Village, the Garden City into slurb, Mies into the contractor curtain wall.” He clarified that he did not mean “vague verbal statements,” as those are worse. We can get a hint of what he does mean from the diagrams that went with his studio, which are able to distill elements of design into transferable, comparable components (see Illustration 2-13). These diagrams presented sketches of the essential morphology of components, such as the adjacencies and openings, yet the larger context, specific dimensions, materiality, and many other openings were omitted. In the first diagram, he outlined a semi-urbanist question, regarding the way the building relates to its site. He defined a condition where the building separates the grounds into two sections as a “separated exterior” and a condition where the grounds wrap three sides of the building as a “contiguous exterior.”

Several of these design variables have to do with circulation, seeking new forms to promote sociability. He defined the connection of four rooms by opening up the cruciform intersection at their center as “contiguous rooms” in contrast to “corridor separated rooms.” From there, the next variable looks at just one of the “contiguous rooms” with its cropped corner, and he develops the idea of the “onlooker column.” The caption for this condition, which readers may remember from the previous chapter on permeable psychiatric institutions, states that “entry is off to side, out of sight, and has pole on which to lean / seating adjacent to entry.” The idea was to encourage social interaction by providing halfway points neither fully in the room nor entirely out of it. The idea was also illustrated in the rendering of what one such prototype facility might look like. In the bottommost room, a few offenders watch television sitting on stools, while others look on, leaning on the column (see Illustration 2-14). The recommended adjacent

68 Ibid., 41.
69 Ibid., 42.
70 The numbering of the diagrams suggests that there were others, not included in the publication.
71 Lym, Burnham, and Van der Ryn, Three Proposals, 14.
seating is shown as well. While shown in one “visibly apparent configuration,” the importance of the design variable is that it remains transferable; Van der Ryn codified an element that could be applied in a number of other larger architectural configurations as a means of joining rooms together, or rooms with a hall in this case.

Most significantly, Van der Ryn’s theory of architectural knowledge was in keeping with the 1960s era interest in the impact of institutions on knowledge. He explained that architectural knowledge was no different, it too was impacted by the structure of the organization which produced it. He compared the needed structure of the discipline to that of the brain, in contrast to the loose community of flatworms. Both are made of cells, but one is highly organized and able to do complex tasks, while the other is only able to go in search of food. When the field lacks such an “organized body of knowledge,” single designers are unable to resist the forces of the society at large, and they produce only the same banal structures as

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72 Robert K. Merton’s work is a most notable example, and Daniel Rodgers comments on this characteristic in Daniel T. Rodgers, *Age of Fracture* (Belknap Press of Harvard University Press, 2011).
are already around them. However, with the strength of an organized body of knowledge behind them, the few can exert power and cause change.  

Not only will the properly structured discipline support the actions of its individual members, but it will also produce the type of knowledge that can be agreed upon by many members within and without the discipline. For his part, Van der Ryn argued that too often intuitions hide ignorance and preconception. Because design remains a "private affair," it may hide its failures. He bemoaned the current state of the profession, where privacy was a curse rather than a blessing. He wrote, "pseudo-institutions, unsure of themselves, behave not unlike their political corollary, the jittery juntas of totalitarian states." He felt that the source of the problem was in the schools, as they would have to be the base for the discipline, and unlike all other fields of education, architecture schools after the Bauhaus had failed to become places for the "production, extension or communication of design knowledge." The solution that he offered was to know the difference between personal values and that which can be construed as fact, though of course the construction of facts is contingent on the social institution.

In summary, before the corrections studios, Van der Ryn was studying the way knowledge production was influenced by institutional structures, but afterward his attention shifted to the role of institutions in social change and the way that architects can influence social change through the design of these institutions. He wrote two manuscripts that credit National Institute of Mental Health funding. The earlier piece, "Notes on Institution Building" from September 1968, deals more concretely with how to build "healthy" institutions, and the second, from December 1968, dealt more with the way that architects can have a role in social change through institutions.

In these pieces, Van der Ryn's earlier faith in the potential for increased knowledge to save the field becomes linked to his interest in institutional environments. Specifically, he argues that increased knowledge of institutions will allow the field to exert its agency in a way that would otherwise be impossible due to the complexity of the social and technological society, or technostructure. In the earlier version of the piece, he wrote:

74 Ibid., 39.
75 As has been argued by Steven Shapin and Simon Schaffer and many others, this kind of collective knowledge production may be somewhat limited but much more transferable from one instance to another. Individuals can have various kinds of personal knowledge, but once a group wants consensus, and is faced with different social contexts, they need another way of validating knowledge. See also the discussion of technologies of trust in Chapter 4 of the dissertation as well as the work of Theodore Porter.
76 Ibid., 40.
77 Ibid., 42.
78 Ibid.
79 Ibid.
The architect has largely been left out of the dialogue of change, probably by choice, often through ignorance. "Modern living" sections of the media feature the audacious dreams of a futurist society, but the more important ad hoc solutions are seldom examined seriously. What physical, environmental forms can truly assure innovation?\(^80\)

In his view, when architects don't question the social organization implied by their spaces, they often endorse an undesirable social hierarchy, putting those in leadership positions in larger offices and leaving cubicles to the rest.\(^81\) And the programs that might allow architects to be integrated, such as the Model Cities program or other housing and welfare programs, simply repeat the same old models. In the later version of the piece, "Architecture, Institutions and Social Change," he put it more simply: "Today, architects have neither the power, the information, nor the tools to design buildings that might be responsible to human needs."\(^82\)

Van der Ryn admitted that as an individual, an architect was of course unable to have much of an effect because the scale of the problem was beyond him. In the past, he wrote, the architect was simply in the service of the elite—kings or other patrons—but the situation was now far more complex. As an individual, the architect couldn't change major environmental policy or tell General Motors to replace the internal combustion engine. In his words: "I cannot convince political leaders that preserving wilderness close to urban areas has a potentially greater survival value than keeping air force majors and engineers busy tinkering with new toys. I cannot keep agribusiness from poisoning us with aldrin or ddt."\(^83\) He began at this time to describe a kind of "ecological" theory of the institution, dealing with the natural environment as well as the social environment.

He felt that architects could have an impact because of the way that they shaped institutions. Because Americans spend most of their time in such settings, and because institutions entail certain "behavior settings" wherein the environment shapes expectations of social behavior, acting as a "cultural gyroscope".\(^84\) The idea of a behavior setting echoes Powers' theory of the tone of a facility, issued by the President of the American Correctional Association at an AIA conference seven years earlier. These behavior settings were said to set up a kind of second nature. Van der Ryn described a "a small but growing

\(^80\) Sim Van der Ryn and Robert Reich, "Notes on Institution Building, Behavioral and Systems Approach to Design," First draft, National Institute of Mental Health Grant #1 R01 MH16285-01 (September 1968), 13.

\(^81\) Ibid., 13.

\(^82\) Sim Van der Ryn, "Architecture, Institutions and Social Change," Mimeograph at the College of Environmental Design Library (December 1968), 1. "(Presented in revised form as a public lecture at the University of Oregon, December 1968). The writing of this paper was supported in part through a grant from the National Institutes of Mental Health (sic)."

\(^83\) Ibid., 1. Capitalization in original.

\(^84\) Van der Ryn credits Roger Baker with the idea of a behavior setting.
number of researchers whose work is largely concerned with the ecology of the built environment using models of analysis similar to that I have been developing.”

85 He listed Erving Goffman, Alexander, Sommer, and Spivack as examples, and in "Notes on Institution Building,” he mentioned a useful lecture by Duhl at a 1968 Berkeley conference, a "Summer Planning Study.”

In a sense, then, the way to have influence on society was through the design of institutional environments, their tone as much as their form. Van der Ryn began "Notes on Institution Building” with the observation that institutions were becoming dysfunctional: "Mental hospitals are not curing. Schools are not educating. Housing projects are not getting rid of slums. Prisons are not rehabilitating.”

87 From there, he moved into a definition of institutions as a "specific arrangement for allocating resources, directing activity, or providing service.” Unlike the second paper, which took a more expansive definition and included single-family homes and office environments, the first report focused on "the public sector, including those institutions intervening in the public welfare, health and safety.”

88 Secondly, he looked at "institutions whose services directly involve the interaction of people.” Lastly, he considered "institutions [which have] the characteristic that their product is not easily equatable with an economic measure, but implies less tangible, more basic values: 'justice,' 'health,' 'education,' 'recreation,' 'security.'” So while the study didn’t necessarily exclude more mainstream environments—such as the new motels—it inclined far more to the subject matter of more typical institutions, psychiatric, schools, etc. But it’s worth seeing that his interest, as with mine in the dissertation, tracked the idea of the institution and its pervasive if diluted influence in more normative environments.

Van der Ryn claimed that institutional dysfunction was due to a failure to keep up with social change; indeed, he described such places as barriers to change. As examples, he cited both tenured faculty keeping a tight rein on curriculum (a battle he had been enmeshed in regarding the 1966 curriculum changes at Berkeley), as well as the extensive paperwork generated by an institution.89 Paperwork and other such "necessary evils” help an institution function, yet, "record keeping, report writing, meetings and conferences, financing, political compromises, may sometimes work against and detract from its original purpose of fulfilling societal needs. Welfare forms, questionnaires and casework files require so much attention that the poor often feel more hounded for information than they are helped.”80 But at the same time, he was careful to observe that not all change is good, remarking that some changes are pathological.

85 Ibid., 8.
86 See more on these researchers in Chapter 4.
87 Van der Ryn and Reich, "Notes on Institution Building,” 1.
88 Ibid. Original emphasis.
89 Ibid., 11.
90 Ibid., 10.
and offering Nazi Germany as an example. While he was sure that technology drives social change, it can do so for good or ill. In his words, "We have more cars and more cigarettes, but also more accidents and more cases of lung cancer." Van der Ryn was rare in this regard: while studying science and technology he was not purely positivist nor entirely optimistic about science and technology. He evaluated changes in medicalized terms: were they healthy or not? His tone in the piece was tinged with weariness, for of course he was not alone in studying institutions and bemoaning their failures at this time.

He wisely posited institutions as a key symptom of the larger society, in a complex chain that begins with human demands, is then mediated by technology and ending with institutions. He wrote: "Yet social change is inextricably bound up with technological advancement. Demands create new machines; machines create new demands. Human institutions tag along behind." But the connection between the two is so tight that: "In a real sense, institutions are society." And if institutions were society, in Van der Ryn's eyes, in 1966 institutions were suffering from an inability to adjust to the conditions of plenty in postwar American life:

The bureaucratic model has its origins in an outdated concern for resource allocation in a rapidly industrializing society. Scarcity of resources and the sanctity of productivity both placed most emphasis on assembly line massing and distributing. Our human institutions are still functioning as if scarcity and productivity were the central issues in a society of plenty.

Given that resource scarcity was no longer the main problem in the new technostucture, what institutions needed to do next was to meet the psychological needs of the occupants. He acknowledged that these were hard to define as universals, but in approximate terms, "Everyone requires intellectual, emotional, and sensory excitement. A degree of self-awareness and self identity, an ability to affect the environment, and warm human relationships based on mutual dependency and love, are also necessary. A need to feel safety, belongingness, and self-esteem is universal. Finally we desire some sense of fulfillment of talents, potentials, and abilities." He felt these needs were universal, and that society could only alter how these needs are fulfilled. The needs become "distorted" when Americans consume too much food, when rock music is amplified and causes deafness, and when Americans race for material goods.

91 Ibid., 2.
92 Ibid., 12. Emphasis in original.
93 Ibid., 16.
94 Ibid., 3.
Making changes to institutions to better attend to these needs had to be done in an overall, humanistic and Utopian style, which Van der Ryn contrasted with both Popper and Christopher Alexander. While he admired Popper’s “piecemeal engineering” approach, wherein a trial and error experimentation produces change, he felt that both Popper and Alexander were wrong to pretend that their methods were not goal-oriented. He worried that Alexander’s method of repeated “stress removal” merely allowed stresses to emerge elsewhere. He thought both men retained a kind of “romantic idealism which envisions a natural human tendency, a predetermined historical process, a mystical force which is somehow moving humanity and society on a grand, incomprehensible design.”

Van der Ryn’s own place in history led him away from prison research. He made a prescient comment in the later piece, “Architecture, Institutions and Social Change,” where he observed that questions of environment in the ecological sense were replacing social issues as a discussion topic at cocktail parties. In his words:

> Ecology is rapidly replacing poverty as the rallying cry of concerned liberals, not to mention radicals and some reactionaries. Ecology seems to know no political boundaries.

While he already had an interest in ecology, and spoke of institutions as ecologies, the events at People’s Park in 1969 no doubt served as a catalyst for his shift away from the study of correctional and psychiatric institutions. Van der Ryn was closely involved in the struggle between U.C. Berkeley and the group who came to inhabit, design, and build up the space that was opened up after the university demolished an old building. He may well have been chosen as the go-between because of his work with

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98 See also: “Chapter Fourteen: ‘Return the Park to the People’: People’s Park and the End (?) of the 1960s” in Carriere, “Between Being and Becoming: On Architecture, Student Protest, and the Aesthetics of Liberalism in Postwar America.”
the Chancellor over student housing, where he showed that he was able to understand the needs of the younger generation and explain them to the administration. In this case, the architect served as a translator between the youth and the administration, much as other architects attempted to mediate between prisoners’ rights and the government’s desire for efficient, placid prisons. The position of translator was untenable in this case, and Van der Ryn was appalled when the military came to gas the young people in the park after negotiations over the fate of the place were deadlocked, in part because the people refused to elect a leader, and they refused to depart from the park. Discouraged and frightened, he took his young family out of the city and turned his efforts to designing a compound for himself, developing his interest in simple, ecological architecture made of simple materials, beginning the phase of work for which he is better known.99

MENTAL HEALTH EXPERTS TURN TO PRISONS: DORSETT AND KARALIS

In 1971, the Attica riots stimulated architects to discuss prisons again, though as noted at the start of the chapter, little real reform was suggested. Instead, design was enrolled to smooth the functioning of the prisons, even while 1976 saw Sommer’s late remark about the possibility to open prisons along the lines of the community mental health centers. However, there were a few experimental efforts in the 1970s, the most notable being a prison designed by Clyde Dorsett and Constantine Karalis. Both Dorsett and Karalis were familiar with psychiatric environments, as well as the use of psychological insights to design institutions; Dorsett had supervised and approved drawings for the NIMH during the peak years of the CMHC program, and Karalis had worked alongside him and at the National Bureau of Standards. The pair had met while working on altering the building codes that applied to mental health centers, with Dorsett at the NIMH and Karalis at the National Bureau of Standards, following his graduation from MIT in 1968. Karalis became involved in prison work in 1969, when he received a call from the Rhode Island Department of Corrections about designing an escape-proof prison.100 Karalis recalls the call ended abruptly when he replied that there was no such thing. In 1972, Karalis produced a report titled “Prisoners are People” for the Rhode Island Department of Corrections about designing an escape-proof prison.100 Karalis recalls the call ended abruptly when he replied that there was no such thing. In 1972, Karalis produced a report titled “Prisoners are People” for the Rhode Island Department of Corrections in partnership with the Rhode Island School of Design, where he was leading an Urban Design concentration. He chose to focus the program on the structure and interaction of governance systems relative to providing human services to the mentally ill," which he had been working on for his thesis at MIT.101 He chose to work with prisons as a particularly challenging population. He called the Director of Corrections for Rhode Island, from whom he learned of

100 Interview with Karalis, April 4, 2012.
101 Correspondence with Karalis, July 8, 2012.
an impending request for a bond issue for $15 million to be spent in reforming the prison system. Karalis declared the sum far from adequate, and when he inquired about the plan of action and learned that there was none, he was asked to prepare a report with recommendations, for which he was paid $6,000.

The report presented best practices for planning a system of corrections for the state using similar sheets to those used by Dorsett to evaluate mental health centers. Karalis used separate sheets and sketches for “program analysis,” “program specifications,” conceptual diagrams and space allocation forms.102 The activities to be programmed for were numerous, including religion, visiting, passive recreation, and legal counseling. The form was to be produced by a clear understanding of the program, including factors that might be found in any other architectural type, such as public, private, and semi-private spaces. But it also included many levels of security, as well as planning for therapeutic and supportive programs in the

facility. In one typical sheet laying out the program specifications for individualized learning, the ideal form is abstracted, and as with Van der Ryn’s sketches, presented in altered forms depending on the type of power exercised. In this case, though, the variation is in security level, with high-security spaces, low-security and prerelease (see Illustration 2-16).\textsuperscript{103}

In 1973, Dorsett and Karalis began work on a Forensic Psychiatric Facility in Gainesville, Florida. The state of Florida struggled with the increased problems of crime and mental health care brought by a population explosion, increasing urbanization and an increasingly complex economy and society in the state. Crime and mental health were complex, costly social problems that overlapped and yet were addressed by distinct agencies. At the time, 70 offenders with mental illness were referred out of corrections each month into a state hospital ill-equipped to deal with the complicated, often complex problems of each individual, much less at the rate they were being referred.\textsuperscript{104} The Secretary of Florida’s Department of Health and Rehabilitative Services, Emmett S. Roberts, declared that a new facility would be attempted:

The center’s task is enormous and it is being created to plunge into the total problem area that includes the meek and the vicious, the malinger

\begin{flushleft}  
\textsuperscript{103}Ibid., 145. 
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\textit{Illustration 2-17: Gainesville Forensic Psychiatric Facility with unknown expert, Dorsett Papers, n. d.}
and the overly psychotic, the falsely accused with the justly convicted. This center is directed to take this plunge for understanding in an era when increasing property values sometimes outweigh human compassion, when human compassion sometimes blinds good judgement, and when judgement in the arena of civil liberties and human rights sometimes runs counter to Legislative mandates, community concern and criminal court direction.\textsuperscript{105}

The architects launched themselves and their design counterparts, Kemp Bunch and Jackson, into this complex tangle of problems, values, and forces. The treatment center was intended to deal with the most troublesome of inmates, largely the criminally insane and the mentally disturbed sex offender. The architecture would be used as a mechanism for evaluating and sorting the aforementioned meek from the psychotic. The facility was a forensic one, meaning that defendants who pled insanity would be sent to Gainesville for evaluation as to whether they were truly mentally ill. However, in an era familiar with the idea that institutions can make one behave abnormally, the designers chose to create an environment that was as uninstitutional as possible. The goal was to create a jail that looked and functioned as much as possible, like a town. Gainesville was similar to other therapeutic prisons--and many CMHC schemes--in trying to look like anything but the other institutions of their type. Even so, Gainesville went further, taking advantage of its scale to have multiple buildings which would mimic a post office, some shops, etc., which would line "streets" that when built were complete with street lamps and other street furniture. The early schemes clearly show the intention for the facility to be an urban setting (see Illustration 2-18), though later schemes were redesigned into more Y-shaped streets, perhaps to promote surveillance down the streets (see Illustration 2-19).

\textsuperscript{105}Ibid.

Chapter 2. Therapeutic Penology 100
Because the facility was mainly for observation of the behavior of defendants, surveillance was key to the functioning of the architecture. To this end, rooms for surveillance, or "control rooms" were placed between floors in the buildings in order to watch the inmates as they went about everyday life (Illustration 2-20). So where other facilities used surveillance and camouflage to manage and heal the inmates, Gainesville was itself a sorting mechanism. Far from trying to reform the system, the short-term facility

Illustration 2-19: Gainesville Forensic Psychiatry Facility, Dorsett Papers, n.d.

Illustration 2-20: Section through the control room at Gainesville, Dorsett Papers.
was intended to smooth the functioning of the justice system. Those who were found to be sane, and later convicted, would not find their new institutional residences nearly so soft.

CONCLUSION

Evaluating the impact of such architectural expertise is complicated, but what can be said is that the State of Rhode Island appreciated Karalis’s expertise enough that he was asked to write a second report in 1976. At the same time, the fact that this second request was prompted by an incident where inmates became angry at mistreatment and seized control of keys from two guards indicates that the problems of the prisons had not been solved. Governor Noel instead chose to call on very hard power indeed, calling in the National Guard. Dissent, violence, mistreatment, and struggle continued, and, at least in this case, the state resisted the application of soft, psychological and architectural expertise in its prisons.

In the episodes presented here, architectural experiments made use of environmental psychology expertise to soften and psychologize prisons such that the form would more closely fit each inmate’s profile. Yet the schemes discussed here remained experimental—none of them has become the norm in correctional facilities. Instead, the prisons became the limit case for the technologies of soft power, as it seems they only gained a toehold in a few experimental cases. Why? If the bigness of the institutions was the problem, then does that hint that scale presented a problem for psychologization and it only works at a certain scale of population? The prison experiments suggest that the retributive impulse was the problem, which would imply that soft control is incompatible with an attitude on the part of the public which requires punishment. The politicians and wardens were inclined to commission psychologists and architects to find smoother functioning facilities, but perhaps the reason the efforts remained episodic was a certain public meanness as far as prisoners go. In his study of the therapeutic state, James L. Nolan, Jr. supports the idea that opposition to the therapeutic regime has been due to general opposition to having a “soft” approach to crime. The usage of the term there is slightly different from the way it’s been used so far, to emphasize the psychological and material sense, but it’s not a coincidence. It may well be that the inroads of soft power on prisons was stopped because it was overridden by the American need for retribution, for being tough on crime and criminals, a phrase that showed up repeatedly in reports of the turmoil in Rhode Island.

107 “Officials Blame Noel for R.I. Prison Troubles.” Noel expressed frustration with the “reformers” who reminded the governor of the need to respect the constitutional rights all those under his care, even the prison inmates.
and Attica. However, it could also be the case that the economic enterprise of prisons, in terms of literal guarding and facility construction, made it so that the prisons were not opened and dissolved in the same way as mental health centers. Ruth Gilmore has written on the later development of prisons in California's central valley as a replacement for agriculture that declined as global markets opened.109 By contrast, psychiatry found other avenues to make money, selling drugs and outpatient services. While scale and retribution were challenges for prisons, the economic factors may have been the most difficult to overcome. The implication is that soft power is the way of the future, except where the market is driven by meanness and a political push to make money the old way.

For whatever reason, the use of psychology in prisons serves as a limit case in the dissertation, in that the soft regime ultimately had only a minor impact on the majority of prison architecture. The psychologized, introjection model had its limits, and that the limit was correlated and possibly caused by a larger turn in American ideology toward a punitive corrections economy. Even so, the entanglement of the discipline with the adjacent expertise in institutional management was fruitful in opening architecture's eyes to other roles they could have, and showed them ways of making themselves relevant to the nation's problems. As the research economy shifted throughout the 1970s, increasing research funds were spent on the problems of crime and control even if these moneys were spent outside the prison itself.

109Gilmore, Golden Gulag.
Some ideas live on because they confirm widely held suspicions, regardless of the complexities of the truth. The name Kitty Genovese has found a place in history, not because of the uniqueness of her story but because of the way her death was used by the news media, and by social psychology, as an illustration of a social theory. After Genovese was murdered, the story developed into a codified version which acted as a parable. A parable is a brief, easy to remember tale with a moral lesson. The simple narrative combines familiar, easy-to-understand elements in a vivid sequence, ending with a prescription for how a prudent person should act. Often, these are cautionary tales, and a prudent person should learn to avoid repeating the errors of the character in the parable. As told in the initial New York Times article from March 27, 1964, the story begins with the young woman coming home from her job at a bar, around 2:30 A.M.. As she approached her home, Genovese was attacked; the crime took place not in a deserted alley, but close to her home, watched by her neighbors.\textsuperscript{1} The young woman's screams brought thirty-eight witnesses to their windows over the course of the half-hour incident, where Genovese managed to evade her attacker only to be caught again, and again, and ultimately killed. Readers of the Times were told that despite the 38 pairs of eyes on the street and the duration of the attack, not a single witness called the police until after the victim was dead. Under the subheading, "Apathy at Stabbing of Queens Woman Shocks Inspector," the Times told readers that this sign of "urban alienation" was so extreme that it even astounded the veteran homicide detective assigned to the case. The author of the article, Martin Gansberg, relayed the homicide detective's assessment of the crime as a case where "good people" did nothing to help a neighbor, echoing the famous if apocryphal Edmund Burke quote that: "The only thing necessary for the triumph of evil is for good people to do nothing."\textsuperscript{2} But rather than encouraging Americans to intervene and take cries on the street seriously, the story emphasized the moral that prudent Americans should not make Genovese's mistake and rely on their neighbors for help.\textsuperscript{3} As such, it joined a larger media portrayal of

\textsuperscript{1} Martin Gansberg, "37 Who Saw Murder Didn't Call the Police," New York Times. (March 27, 1964): 1-2. According to Gansberg, one witness called the police after the victim was dead, hence the difference between 37 and 38.

\textsuperscript{2} Rachael Manning, Mark Levine, Alan Collins, "The Kitty Genovese Murder and the Social Psychology of Helping: The Parable of the 38 Witnesses," American Psychologist, (September 2007): 561. Manning et al. were the inspiration for my own framing of Genovese, Newman, and Pruitt-Igoe in terms of popular parables. Parable is more fitting than allegory, which makes more use of symbolism and may take the form of images rather than narratives; similarly parable is more fitting than fable, which often makes use of animals in contrast with parables which use human figures.

\textsuperscript{3} Manning et al. write that the parable of the 38 Witnesses warns of the potential for "the malign influence of others
crime that encouraged people to be fearful even on the streets near their homes. The simplified version of the story has since been challenged, not the least by the court records which indicate that some neighbors did shout at the attacker and one succeeded in driving him off. Despite these revisions, it is the simple story of the woman murdered while her neighbors did nothing that has become famous.

Parables are an aid to popularization, and as such they need to be simple, familiar and vivid. The simplicity of the Genovese tale is evident; accounts did not describe the distribution of the "group" who witnessed the attack, which would have led some to ask whether they were just a collection of individuals, and not a group at all, as they weren't necessarily aware of each other. Nor were readers told that the attacker, Winston Moseley, was later found to be mentally ill, with a history of murdering men and women for the pleasure of it. The familiarity of the tale depended on the context of urban crime stories in the news, albeit with the shocking twist that it took place in Queens, an area that until then had been seen as a quiet, suburban part of
to overwhelm the will of the individual," particularly in an urban environment. Ibid, 555.

4 More specifically, one witness shouted at the attacker, drove him off, and then watched the victim walk around the building toward her apartment where he presumed she found refuge. The second part of the attack took place inside a building where no one would have been able to see what was happening. A third witness saw Genovese and her attacker, but did not perceive any danger. Moreover, the theory of the three attacks has been disputed in favor of the idea that there were only two attacks, and one escape. And lastly, Manning, et al question whether a collection of individuals separated by walls should be considered to be a group as it is unclear whether they would have been aware of each other.


6 As a non-rational actor, he would not have been deterred by the kind of disincentives proposed as a response.
New York. Moreover, the tale reflected a persistent trend in American thought that was highly skeptical of collective behavior, worrying that group influence would overwhelm the goodness of the individual. This fear was particularly strong during the Cold War, anti-communist era. The reference in Gansburg's *New York Times* article to the inaction of "good people" resonated with much of the postwar psychology research on authority and de-individuation, which sought to understand how the orders of the Nazi regime could have been carried out and how Americans could defend against the communist tide. And lastly, the vividness of the parable was amply provided by the gruesome descriptions of the stabbing, the victim's cries, her multiple flights from her attacker, and the stony faces that looked down on her from the safety of their own homes. Further vivification was provided by a three-part illustration of the scene of the long crime, combining aerial and street views that overlaid the street-scape with the markers of the episodes of the attack (see Illustration 3-1).

The use of parables for popularization is at least as old as the Bible, and the news media had been making crimes into vivid illustrations of moral lessons for at least a hundred years before crafting the Genovese tale into a powerful parable. The sciences have also used such just-so stories: among the most famous are the stories of Archimedes and his bathtub or Newton and his apple. Parables provide easily remembered, easily understood, and seemingly self-evident demonstrations of disciplinary truths. In the social sciences, parables make powerful tools for pairing abstract theory with familiar, concrete situations from everyday life. The Genovese murder is still presented to undergraduate students of social psychology as an illustration of one of its major findings. A recent critical reassessment found that the murder is still included in ten out of the ten most popular social psychology textbooks where it is used to

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8 Examples of psychology research on group behavior and authority include: Theodor Adorno et al.'s Frankfurt School study of personality published as *The Authoritarian Personality* in 1950, Stanley Milgrim's authority experiments at Yale University in the early 1960s, and Philip Zimbardo's prison experiments at Stanford University in 1971. It is worth noting the trend toward prison experiments in the 1970s, as the same trend is evident in architectural research at the time. Most likely the reason for the similarity in trajectory is their shared research economy.

9 Examples include the murders of Thomas Kinnear and his housekeeper Nancy Montgomery by two servants in 1843 and the fabrication of a crime wave by crime reporter Lincoln Steffens and Jacob Riis during Theodore Roosevelt's administration in the 1900s. Steffens tells the story of the competition between the two, driven by their respective employers' desires to keep up with each other's crime reports. The "wave" only came to a halt when the two were asked by Roosevelt to stop, a request they gladly heeded as they were also tired of the crime reporting. Lincoln Steffens, *The Autobiography of Lincoln Steffens* (Heyday Books, 2005), 287–290.

10 Social psychology seems particularly suited to the parable, given the multiple actors and the narrative possibilities. There are many examples, from the prisoner's dilemma to the situational influence of having just found a dime in a pay phone, or indeed the short case histories of key patients. It seems that parables will only be useful in architecture where such awareness of characters exists. Le Corbusier's work has several such parables, whether it's the tailor described in *L'Art Decoratif*, the donkey's way and man's way, or the eyes that do not see. Similarly, these are short, familiar tales that explain why something must be done a certain way.

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explain John Darley and Bibb Latane's research on the "bystander effect." Inspired by the Genovese murder, Darley and Latane conducted experiments that led to the theory that a greater number of witnesses will actually reduce the likelihood that any one witness will respond and help a victim. But instead of explaining the theory through the abstract formula, the Genovese parable allows the predictive theory to be grounded in a real world example and a very serious one at that.

**THE PARABLE OF DEFENSIBLE SPACE**

The parable phenomenon at work in the Genovese story also influenced the reception of Oscar Newman's version of crime prevention through environmental design. Published in 1972, *Defensible Space: Crime Prevention Through Urban Design* became one of the more popular and influential architecture books of the 1970s, largely due to Newman's timely and deft presentation of ideas that had been circulating in architecture for ten years or more (Illustration 3-2). He reached an audience far beyond architecture, providing a mechanism and a simple narrative to explain the problems plaguing public housing in the late 1960s.

*Defensible Space* reached a wide audience through the assistance of MacMillan press in hardcover in 1972 and in paperback in 1973. The book was widely reviewed in the popular media, such that by the time the paperback was published, it boasted a laudatory quote from *Time* magazine on its cover as well as praise from the *San Francisco Examiner*, the *Sacramento Bee*, the *Village Voice*, the *New York Times Book Review*, and *Forum*, as well as an endorsement from Ada Louise Huxtable, the *New York Times*'s architecture critic, on the back.

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Additional readers no doubt heard of it through the many reviews of the book in journals that ranged from *Fortune* to the *Journal of Architectural Education* to *Contemporary Sociology*. He contextualized the book within the dire problems of cities, emphasizing the appalling crime wave in the new high-rises that replaced tenements, leading to the conclusion that high-rises are somehow inhuman. Goldstein then applauded *Defensible Space* for overturning such previous axioms as the separation of pedestrian and vehicular traffic and the provision of a large amount of open ground space, tenets of modern urban design. Next, he laid out Newman’s basic theories of territoriality, natural surveillance, and stigma. And while he made a few cautionary remarks and caveats, Goldstein ended the article with a call for each new building to be issued with a “crime impact statement.”

One particularly approving article was published in *Time* magazine, claiming that:

> It is an astonishing book. It explodes just about every long-accepted rule on the way we build housing projects. It shows a direct relationship between the design of a building and the amount of crime committed inside.

The book was received as a solution to the problems of cities, particularly the failure of social housing. The book was promoted as part of a series on “Urban Affairs” with an advertisement that played on the urban public’s confusion and dismay about why cities were struggling to assimilate and create healthy cohesion. The slogan of the advertisement read: “Unmeltable ethnics... drowning cities... screwed-up planning... wasted dollars... What’s Happening on the Urban Scene?” An excerpt of the book was also published as

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16 The text continues: “Plenty. Housing that causes riots—and then doesn’t work when the riots are over. Crime rates that rise and fall, depending on who’s keeping the statistics. Decay, despair, disgust. And hope. Not just the faint gray hope of those who have nothing else left, but the hope that is the triumph of the human spirit...the inspired
part of *Intellectual Digest* in 1973 and in a compilation on habitat to be distributed to 9,000 school libraries through the Social Issues Resources Series.¹⁸

*Defensible Space* was timely in that its publication coincided with the demolition of a portion of one notorious housing project, which Newman had been researching since 1964. Portions of Pruitt-Igoe in St. Louis were demolished only months before the book was published, in time for vivid images of the demolition of Pruitt-Igoe to appear on the dust jacket of the hardcover edition with the caption: “The final remedy found by the city of St. Louis for part of its public housing problem.”¹⁹ The photographs demonstrated the stakes of ignoring his alleged findings. The images of the demolition do not appear inside the book, but they did return in later articles on defensible space. Critics like Huxtable also made the connection between Pruitt-Igoe and defensible space, using the demolition of the buildings to add drama to the lessons of crime prevention through environmental design: “It took the violent and necessary act of destruction of part of a public housing project that had become an obscenity of American life to make it clear that we have been doing something awfully wrong.”²⁰ Newman’s remedy reached a broad audience of specialists as well. An article published in 1975 in the *International Journal of Mental Health*, resulted in inquiries for reprints of those dedicated to change, the brilliantly imaginative planners of new cities that can arise...and must!”

¹⁸ Each volume contained around 60 articles and was intended to be a basic introduction to the theme. Source: Letter from Eleanor Goldstein Project Director at Social Issues Resources Series, Inc. to Lydia Zelya, Permissions Department at MacMillan Publishing Co., August 26, 1977. Oscar Newman Papers, Hensonville, N.Y., in the care of Kopper Newman. Hereafter Newman Papers. Highlights from *Intellectual Digest* include statements such as: “develop proprietary attitudes in people and you will significantly deter crime” and “unlike the middle class, people on welfare react sharply to physical environment” and “the home and its environs must be made secure even if that means making other areas more dangerous.” The reprint included some of Newman’s diagrams as well as the *Time/Life* images of Pruitt-Igoe’s demolition. This time with the caption, ‘Hailed as ‘ideal’ public housing when it was built in 1955, Pruitt-Igoe in St. Louis is being leveled—a victim of crime, vandalism, and finally abandonment.” *Intellectual Digest* (1973): n.p. Newman Papers.

¹⁹ The first buildings were demolished in March of 1972, and large photographs were published in *Life* magazine on April 14, 1972. *Defensible Space* appears to have been published in the fall, as the earliest reviews are from October and November of 1972.

from an international audience that included Departments of Psychology at Fort Hays State University in Kansas, the University of Dayton in Ohio, Dalhousie University in Halifax, Nova Scotia, the Division of Community Psychiatry at the E.J. Meyer Memorial Hospital in Buffalo, New York, the Department of Sociology in Provo, Utah, Victoria University in Welland, New Zealand, researchers at the National Institutes of Health and the Oregon Research Institute, and the London School of Economics and Political Science.\textsuperscript{21}

In the chapter that follows, I apply the formula of simplicity, familiarity, and vividness to explain the impact of defensible space on the trajectory of social science research in architecture, showing how the work captured attention while obfuscating the complexities of the relationship between environment and behavior. First, I analyze the narrative used to present the idea of defensible space and compare Newman’s version to similar theories of the time, those of Jeffery, Wood, and Jacobs. Second, the chapter

contextualizes defensible space in the research economy of the late 1960s, where the Safe Streets Act encouraged research on the problem of crime. Third, I discuss Newman's audience's familiarity with the central themes and objects of study in the book, showing how he tapped into a larger concern with habitat and with liberal, capitalist understandings of the good society of property owners. Finally, I suggest that Newman's book marked a turning point in government use of social science from the comparatively heavy-handed, welfare-state programs to more hands-off, franchise-state efforts, while also marking a shift in architectural and urban discourse from well-intentioned attempts to reform institutions to more cynical and more intellectual attempts to model behavior and understand the failures of the previous institutions.

Newman achieved an understandable, memorable, and relevant presentation of his ideas about design through a before-and-after parable: a bad environment and then a good one. The dominant version of the parable was in essence an updated version of the familiar good city/bad city tale. In the bad city, a would-be criminal walks into a neighborhood and sees that there is no one watching. The man in the book, as in Jacobs's, the criminal is always a man and most often a young, African-American man—sees evidence of vandalism, from which he concludes that no one is invested in the care of the space. The would-be criminal then decides to commit a crime, either further vandalism, a robbery, or a burglary. In the bad city, those who watch the crime do not intervene, for just as in the Genovese case they are either too far away, too scared, or perhaps unsure of whether a crime is being committed or if the young man lives there. However, in the good city, the buildings are designed such that residents take care of the environment, eradicating any cues to the criminal that it is okay to commit a crime there. The would-be criminal enters this environment, feels the eyes watching him, and chooses to move on. In one variation of the tale, the would-be criminals are merely unruly children who play unsupervised because their single mother is unable to watch them from the towering heights of her apartment. Newman told the same story over and over, through photographs and examples. In the version that appeared in Progressive Architecture, photographs on the left and upper right vividly demonstrated the consequences of bad design with the images of Pruitt-Igoe's demolition. In the lower right, tidy, leafy streets promised an "alternative to fear" if Newman's ideas were followed (Illustration 3-4).

In Time magazine, Newman gave an account of his personal discovery of the phenomenon at Pruitt-Igoe in 1964 when he had visited as a young researcher. In this account, the good and the bad are located within the same building, with defined territory as the only difference:

22 This theory of crime is eventually called the broken windows theory, but Newman does not use that label in Defensible Space though of course he writes about broken windows. By definition, robbery is committed in the presence of the victim, by force, whereas a burglary is the unlawful entry into a structure to commit theft.

The idea of defensible space first emerged back in 1964, when I was part of a team of architects and sociologists who were studying why the notorious Pruitt-Igoe public housing project in St. Louis was being torn apart by the people who lived in it. Every public area—the lobbies, the laundries and mail rooms—was a mess, literally. There was human excrement in the halls. Except in one small area on each floor of each building. You had to go through a fire door and then you were in a little hallway separating two apartments. This little hall was spotless—you could eat off the floor. When we called out to each other in the other hallways, we could hear people bolting and chaining their doors, but in this area we heard peepholes click open. Sometimes people even opened their doors. The reason was that they felt this little hallway was an extension of their own apartments. We knew we were on to something.24

In this discovery narrative, the young researcher comes upon a self-evident, quasi-natural phenomenon in the field. The story describes the environment of a housing project, but it reads like an encounter with a foreign tribe living in a jungle. The residents are only indicated by sounds and smells—or the irrational, animal action of tearing apart their own housing—not language.

24 “Housing Without Fear,” *Time* (November 27, 1972). The team of researchers that he refers to could well be Lee Rainwater’s team.
The central version of Newman’s parable centered around two existing examples of public housing projects in New York City: Van Dyke Houses and Brownsville Houses (Illustration 3-5). The narrative appeared in *Defensible Space* under the section heading "A Tale of Two Projects," and it was also featured in an article on Newman’s research in the *New York Times* in 1970, two years before the book was published. Newman told his readers about two projects in Brooklyn, practically identical in all regards, sited across the street from each other. He emphasized that the two projects had roughly the same number of residents (6,000 each) and roughly the same density (288 people per acre). They shared the same housing authority administration and policing.

Despite all these similarities, the reader was told, the two projects had very different crime rates. Van Dyke Houses consisted of fourteen-story towers in a park-like setting, reminiscent of Le Corbusier’s Ville Radieuse and presenting what Newman called a monolithic appearance. More than a hundred residents shared one front door, and this entrance had no clear relation to the public street or the space between the building and the street. Mothers at Van Dyke were fearful of letting the children play outdoors or even in the hallways outside their apartment.

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doors; too many people used the hallways for the mothers to feel safe. Across the street at Brownsville Houses, the low-rise design allowed for each entryway to serve only a few units, and residents were able to use the interior hallways and grounds as extensions of their living space. Mothers allowed children to play in the hallways, leaving their apartment doors open to monitor their play. Even the police perceived the difference in the two projects: at Van Dyke, police felt “callous and indifferent” about entering, whereas at Brownsville they felt cautious about “invading” the privacy of residents. The surveillance and monitoring of the shared, semi-private spaces of the project were key to the difference in crime rate. The book included illustrations of the differences in hallway design, contrasting the long, straight, undivided corridors at Van Dyke with the short, divided corridors at Brownsville which served only six units each (Illustration 3-6). Architects reading the book could thus get a quick sense of Newman’s point while only scanning the text. Those not comfortable reading plans could get similar information from the small perspective sketch, which otherwise seems rather uninformative.

Newman provided two tables of socioeconomic data that he encouraged his readers to “inspect” for proof that the projects were comparable. Aside from the vaguely criminological connotation, the choice of the word “inspect” is telling in ways that Newman may have intended and in ways he probably did not. To solve a proof by inspection is to solve it at a glance, either because it is so simple or because intuition has jumped to the answer. While Newman probably did not intend this meaning, he did intend his readers to check him with such a simple intuitive glance. He must have intended this reading, because it is readily apparent from the tables that the housing projects are not as comparable as he suggests. A thousand more people lived in Van Dyke than in Brownsville, yet they had fewer young children in the grades 1 to 6, and there was no data reported about senior citizens. Newman also neglected to address the question of whether the police’s comfort with entering Van Dyke translated to a higher rate of incident reports by the police, in contrast with a place they preferred not to enter.

As with the Genovese tale, Newman’s account of the two projects reduced a great deal of complexity to a simple lesson: “It is the apartment tower itself which is the real and final villain of the piece.” He argued that the high-rise form of the Van Dyke project caused it to have higher crime than the low-rise Brownsville. Later in the book he elaborated the dangers of the high-rise, where mothers were unable to supervise children from the heights of these buildings and their “generally unattended” offspring caused all sorts of harm to themselves and others. In a particularly gruesome passage, Newman described

26 Newman, Defensible Space; Crime Prevention Through Urban Design, 42.
28 Newman, Defensible Space; Crime Prevention Through Urban Design, 189. In a government report in 1980, Newman used statistics to argue that the amount of crime in a project was closely correlated with the proportion
the children’s recent attempts to entertain themselves through the destruction of the elevators. The cost of
this play was reported to be dismemberment and decapitation, amounting to 21 deaths between 1969 and
1971 as reported in the insurance statistics of the New York City Housing Authority (NYCHA). He
acknowledged that rising land values made high-density housing necessary, but he argued that density
itself was not the cause of crime. Newman claimed that his theories could make public housing safe at
high density, but only when combined with low-rise buildings.

As with Ambrogio Lorenzetti’s frescoes about good and bad government, the moral lesson is not
that the citizens are to blame, but that the architects and planners have pursued the wrong goals and
stacked the so-called deck against residents.

The evolution of this building prototype could only have been conceived
by a group of anxious men following the barest thread of rationalism: the
search for the most economical solution; a way of housing the most
within the least.

The message is that architects have been wrong to propose that shared spaces and shared grounds are good
for the masses. Trying to subvert the natural, human desire for a proprietary piece of the ground yields an
unnaturally unsafe environment. The message would have been compelling to all kinds of readers,
removing the blame from residents—sidestepping the whole culture-of-poverty argument—and at the same
time placing the potential for change back in the hands of architects, who had come to wonder if they
really could make any difference.

In the preface, Newman claimed that he had intended to write the book for housing developers,
architects, city planners, and police, but given the significance of the findings, he felt that the study needed
to be shared with a wider audience. The result is an accessible text, amply illustrated with diagrams and
photographs that repeat the parable by contrasting downtrodden, vandalized “before” photos of public
housing with the tidy, visibly “safe” public housing after Newman had intervened and established clearly
defined territories (Illustration 3-7). The text remained at the level of popular reporting, never going into
detail about the criminological, psychological, or sociological models that Newman was working from. The
text was followed by a forty-two-page appendix with data and more methodological detail.

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of the population who were single mothers receiving aid under the Aid to Families with Dependent Children
program. The very existence of the A.F.D.C. program made tracking single mothers far easier. Oscar Newman and
Karen A Franck, Factors Influencing Crime and Instability in Urban Housing Developments: Executive Summary
30 Ibid., 195.
31 Ibid., 25.
Despite the appendix and the data analysis performed by Newman, his work was hardly an academic study, as is obvious when compared with a fitting foil, another book published by a criminologist named C. Ray Jeffery the year before, in 1971. The book bears a title very similar to Newman’s—*Crime Prevention Through Environmental Design*—but Newman’s work contains no mention of Jeffery, and a student of Jeffery’s claims Jeffery did not know of Newman’s research, which had begun before Jeffery’s book was out. Despite similar theories and titles, the books are quite different in most other regards. Jeffery’s work was based in quasi-behaviorism, with its tendency to treat the individual mind as a closed, unknowable black box and studying manifest relations between input and output, or stimulus and response. Early in his career, Jeffery had been influenced by the work of behavioral psychologist B. F. Skinner while earning his PhD in Sociology in 1954. Jeffery paid close attention to the implications of deterrence as a model and the presumptions about criminal behavior that deterrence requires. He argued that the current system, which relies heavily on prisons, has not worked because only a tiny proportion of crimes result in punishment and because the time gap between the act and the punishment is too great for learning to occur. Moreover, he wrote, punishment causes avoidance behaviors and aggression, not deterrence. Prison wardens are rewarded for keeping a quiet, uneventful prison, and any effort at truly reforming the inmates would have the opposite effect. In prison, offenders are rewarded for being compliant and passive,

Illustration 3-7: Photograph by Newman, showing a clean, safe entry to Breukelen Houses, the positive, low-rise project he compared with Pruitt-Igoe. The baby carriage acts as an index of the safety of the entry area. Newman, *Defensible Space*, 92.

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34 After Jeffery received his Ph.D. in Sociology from Indiana University in 1954 he went on to serve as the book review editor of the *Journal of Criminal Law, Criminology, and Police Science* from 1963 to 1969 and as the President of the American Society of Criminology in 1978. C. Ray Jeffery, *Biology and Crime* (Beverly Hills: Sage Publications, 1979), 160. He was also the founding editor of *Criminology: An Interdisciplinary Journal*.

behaviors that will not work for them after they are released.\textsuperscript{36} Emphasizing that punishment will not deter crime, he proposed a more humane solution of reforming the environment, because it is the environment which provides the rewards for criminal behavior. Changing the environment would extinguish the behaviors and thereby prevent crimes from happening in the first place. Moreover, he felt that blaming the individual for what was really caused by the environment was wrong. On several occasions, he used a quote from Buckminster Fuller to illustrate his feeling that changing the environment was more humane than changing the subject.

Reform the environment—not man.... Don’t attempt to reform man. An adequately organized environment will permit humanity’s original innate capabilities to become successful. My philosophy and strategy confine the design initiative to reforming only the environment in contradistinction to the almost universal attempts of humans to reform and restrain other humans by political actions, laws, and codes.\textsuperscript{37}

Despite his invocation of Fuller’s lighter, more freeing approach, Jeffery was deeply Skinnerist and sought to change behavior through environmental controls that rewarded and punished desired and undesirable behaviors respectively. Later in his career, he came under criticism for arguing that biology determined behavior, eventually arguing that heavy metal poisoning and poor nutrition played a role in causing high crime among low-income urban populations.\textsuperscript{38}

In addition to Jeffery, another intellectual brought out the implications of governing through environment and the dangers of doing so. Foucault contextualized the trends in terms of a larger governmental project in his lectures on the \textit{Birth of Biopolitics} from 1978 to 1979, where he analyzed what he saw as a growing American neoliberalism and a tendency to govern through environment. Foucault predicted that neoliberalism would lead to a particular approach to the problem of crime, one that is premised on an economic model. In such a theory, a crime is the act of a individual \textit{homo oeconomicus} who freely and rationally evaluates options and makes the choice to commit a crime or restrain himself. This neoliberal theory of crime adopts economic models of behavior and of the individual, and instead of trying to alter the morality of the individual, seeks to reduce crime through environmental controls—precisely what happens in defensible space theory. Foucault argued that such criminological models only make sense once the society accepts that there are certain inelastic components to crime. As with inelastic demand for goods and services, these are the immutable demands that will not be dissuaded no matter the

\begin{itemize}
\item \textsuperscript{36} Ibid., 86.
\item \textsuperscript{37} R. Buckminster Fuller, "Utopia or Oblivion" from 1969 in Jeffery, \textit{Crime Prevention Through Environmental Design}, n.p.
\end{itemize}
cost or pain incurred in obtaining the good. An inelastic crime is one that will not be deterred by the environment, such as those committed by drug addicts or persons deprived of reason, who cannot rationally weigh options. As has been observed by critics of environmental controls, defensible space theory does not reduce crimes of insanity, where the criminal has limited capacity for the kind of reasoning needed for deterrence to work. Nor can such environmental controls prevent domestic abuse. Given the way Mosley hunted and murdered strangers, it is unlikely that increasing surveillance of public housing grounds would do other than displace the crime to other areas of the city. Nevertheless, this is the philosophy of deterrence that results from environmental theories of crime prevention.

The darker elements of Jeffery's and Foucault's treatments of environmental deterrence were missing from Newman's book. He assumed that the fears of the residents and the actions of the intruders could be reduced with properly designed architecture, but he stopped short of a full challenge to individual autonomy by invoking the naturalistic idea of "human territoriality," as something latent and merely to be unlocked. He described "defensible space" as the release of "potential behavioral attitudes and positive social relationships." He also avoided the sense that he was imposing surveillance from above, by emphasizing that the policing would be done by residents, not police. Newman did consider one criminological problem: that of the displacement of crime. He concluded that it was alright to displace crime from residential areas to areas more easily controlled by police. Even so, Newman avoided many of the pitfalls of Jeffery's book, staying away from direct acknowledgement of the flaws and failings of environmental determinism. Newman did not discuss criminological theory, law, or his assumptions about environmental determinism, and admirers greeted his work as a simple "common

39 Newman did acknowledge this likelihood, but said it was for the greater good to have residential areas be safe.
41 The displacement strategy is an example of the "risk-management" strategy that Martin marks as distinctly neoliberal. Reinhold Martin, Utopia’s Ghost: Architecture and Postmodernism, Again (Minneapolis: University of Minnesota Press, 2010), 18.
Jeffery's book only reached an audience within his discipline, remaining unknown to architects, while Newman's work still has almost universal recognition.

In addition to Jeffery's book, there were several other variants of CPTED or "eyes on the street" published before Defensible Space. The work of Elizabeth Wood and Jane Jacobs in the early 1960s prepared the stage, such that a reader of Defensible Space would have found it familiar, because the ideas about surveillance by neighbors were already circulating. In 1961, Wood published an illustrated version of many of the same ideas, building on her own experiences with the Chicago Housing Authority (Illustration 3-8). The similarities between Wood's and Newman's work extend to such details as the prophylactic power of associating specific neighbors with their front doors. There was also a third study, by a student of Alexander named Shlomo Angel, which employed quantitative analysis as Newman did, but like Wood's his publication was more of a booklet than a book. Moreover, Angel's and Wood's books were the work of minor publishers, no doubt with smaller budgets for promotion. Newman was of course aware of Wood's work—and that of Jacobs, Angel, and others—and he was careful to thank them for "historical" purposes, which is its own kind of distancing, as well as for their "initial formulation of the problem" thus signaling that his own work would be more complex and mature than theirs.

Newman's version of the "eyes on the street" idea was, however, ideally suited to the post-Genovese, post-bystander-effect climate. In Jacobs's just-so story from her 1961 book The Death and Life of Great American Cities, she described standing at her window and seeing a man take the arm of an unwilling girl on the street. Even before Jacobs could challenge the man, a shopkeeper downstairs confronted him. The scenario presumed that any "good person" would act as the shopkeeper did, but that faith was shaken by the alleged apathy of Genovese's neighbors. More abstractly, the United States public in 1972 had lost a lot of its faith in the social contract, after much social change, many upheavals, scandals, assassinations, riots, and a government that was failing to solve social problems even as it became further involved in an

43 The additional context of anthropological theories of human territoriality and late CIAM and Team 10 work on habitat will be explored separately below, but noting them here is sufficient to make the point that Newman's work fell on well-prepared ground.
44 Elizabeth Wood, Housing Design a Social Theory (New York: Citizens Housing and Planning Council, 1961). For background on Wood's 17 years with the Chicago Housing Authority, see J. S. Fuerst, When Public Housing was Paradise: Building Community in Chicago. (Westport, Conn.: Praeger, 2003): 3-4
45 Shlomo Angel, Discouraging Crime Through City Planning (Paper No. 75) (Berkeley: Center for Planning and Development Research, University of California at Berkeley, 1968).
46 Newman, Defensible Space; Crime Prevention Through Urban Design, xvi. In an article in the New York Post in 1972, he pointed out that he was not the first to make a connection between architecture and crime in public housing, but that he was the first to "document" it. Lindsay Miller, "Daily Close Up' Defensible Space," New York Post (December 20, 1972), New York City Housing Authority Collection at the La Guardia and Wagner Archives, (hereafter NYCHA Archives), Chairman's Files, Box # 008B4, Folder # 03.
47 The ubiquitous female victim is here again.
unpopular war. Newman responded to the new mood, providing a subtle but key modification to the idea of eyes on the street. Given the finding of the bystander effect—that the number of witnesses is indirectly proportional to the assistance a victim might expect to receive (i.e., the more witnesses the less likely one is to receive help)—Newman argued for partitioning the grounds and making residents feel responsible for each patch of hallway, sidewalk, or lawn. He adapted to the post-Genovese context and the findings of the bystander effect by arguing for segmenting of public space, a privatization that would make it clear whose responsibility it was to intervene when the next little girl was threatened. He argued that providing sight lines was not enough, and that architects and urban designers had to stop crime by segmenting the shared spaces.

While Newman indicted architects for causing the problem of crime, he also empowered them with a role in the solution.48 Even in existing housing projects, architects could intervene with the grounds of the project to make the interior safer. In a section on "the site," Newman described how a reduction in vandalism and crime resulted from the simple installation of fences at ground level.49 During the construction of a new playground area, the contractors had wanted to prevent theft of materials, and so had installed fences around one entrance area. Because they provided keys only to those residents who lived there, Newman argued, the residents began to take ownership of this outdoor space and were able to define a community on the interior as well. The residents liked the arrangement so much, he claimed, that they asked to have the fences left up after construction. Again, this tale was told through a series of images, benefiting the hurried reader and vivifying the tale. In this case, the author used three images (Illustration 3-9). A photograph of the terrible state of one hallway at Pruitt-Igoe—with debris scattered around and doors open to random angles—was contrasted with the tidy interior, which had a chain-link fence surrounding its entry. This variation of "before" and "after" was preceded by another image, a drawing by Minoru Yamasaki showing his vision for the interior. The scene included mothers, children, baby carriages, and houseplants in contrast with the stark, empty interiors captured by Newman’s photographic evidence of the reality. The subtext is that the project need not be demolished—that Newman’s rules would allow for the modern housing project to be saved through the territorial definition of the grounds. The layout in Defensible Space aligned Yamasaki’s drawing with the still relatively empty,

48 In a 1969 conference, Newman defended himself against Goffman’s charge that architects should not manipulate the physical and social environment without truly knowing what they are doing. Newman replied that he saw architects as having an important role in the process of social change but while he would like to “simply stop being an architect and go out and create a revolution,” he has “to constantly suppress this” because he thinks he can be more effective this way. 1969 “Stenographic Transcript of Proceedings, Design for Improving Safety in Residential Environments”, November 13, 1969, 190, Manuscript from George Rand.
improved condition along the top of the spread, inviting readers to share the author’s indictment of Yamasaki for getting the social elements of his design so wrong.

This three-part story introduced the subsequent section, where Newman further developed his critique of the architectural approach that produced such errors of judgment. Newman compared the "compositional" approach used by Yamasaki versus the "organic" approach that he should have used. He argued that Yamasaki was merely concerned with the formal arrangement of elements and not its "functional" aspects.  

It is almost as if the architect assumed the role of a sculptor and saw the grounds of the project as nothing more than a surface on which he was endeavoring to arrange a series of vertical elements into a compositionally pleasing whole.

Illustration 3-9: Series of images of a wide hallway to be used as a gallery area. Newman compared the architect’s vision with the “actual” condition of the hallway as well as the clean, repainted version after he installed a fence to create defensible space. Newman, Defensible Space, 58-59.
He accused architects of focusing on their own world, of the drawing board or the studio, instead of considering the environment in the way a naturalist, anthropologist or social scientist would see it: as a complex of interconnected habitats. He argued that architects like Yamasaki were ignoring this "organically interconnected whole" and instead treating buildings as sculptures, with dire consequences.\textsuperscript{52} Newman did not, however, discuss the use of streets in other housing projects, such as Alison and Peter Smithson's Golden Lane or Robin Hood Gardens, but not because he was unfamiliar with the work or with the lineage of the type. Instead, he was personally involved with CIAM and its development of the idea.

CONSTRUCTION OF AN AUTHOR

Arguing that Newman exerted his influence through parable and popularization is not the same as arguing that he had an easy task. In order to appeal to his audience, he needed to have an intuitive sense of the structure of the discourse, its central themes and central contradictions, as well as the skills of a writer able to craft a compelling tale. When Newman wrote \textit{Defensible Space}, he was familiar with the intellectual and practical problems of architecture and urban design in the postwar period. At times, he came into direct contact with some of its most influential ideas. Newman was born in Montreal to a union organizer father and a mother whose family had emigrated from Russia to Quebec in 1840. He began his studies at McGill University in sociology, but soon lost interest and dropped out to work on a farm in New Jersey.\textsuperscript{53} He eventually returned to McGill and graduated from the six-year architecture program with honors in 1959, and then went to Europe on a travel scholarship. After his funds were spent, he sought work with Jaap Bakema and his firm, Van den Broek and Bakema, where he was given the task of chronicling the recent 1959 conference of the avant-garde group Congrès International d'Architecture Moderne (CIAM) in Otterlo.\textsuperscript{54} Producing an account of

\textsuperscript{52} The argument aligns with the indictment made by Robert Venturi, Denise Scott Brown and Steven Izenour in \textit{Learning from Las Vegas} (1972) that the problem with modern architecture was the tendency of architects to contort buildings to manifest a spatial idea.

\textsuperscript{53} Miller, "Daily Close Up 'Defensible Space.'" La Guardia and Wagner Archives; Series: Chairman's Files; Box # 0088B4; Folder # 03.

\textsuperscript{54} Oscar Newman, \textit{CIAM '59 in Otterlo}, Dokumente Der Modernen Architektur (Stuttgart: K. Kramer, 1961). And interview with Kopper Newman, May 11, 2012. The Otterlo conference marked the formal death of CIAM and the birth of the Team 10 group. The name change implies more discontinuity than was the case. The Otterlo
the conference brought Newman into close contact with Van Eyck’s anthropological viewpoint and the Smithsons’ attempts to remake Le Corbusier’s "streets in the air." In an article he later published, Newman commended Bakema for the way his architecture makes connections between multiple factors in a project. Newman wrote that while the work may be dull due to a deficit of "exquisite detailing," formal gymnastics, and "even the faculty for performing the intellectual gymnastics of Louis Kahn," he commended the way Bakema’s projects were able to connect people and things beyond what Newman saw as the more basic concerns of functionalism. He commended the work as contributing to an age where the "concern now is with the function of form rather than with the form of function." Rather than expressing function, Newman noted the value of work like Bakema’s that reflects a reading of the effects of form on social relations.

Returning from the Netherlands, Newman worked with Thomas Vreeland, and the pair earned some recognition for their work on a 190-acre "student city" in Quebec. Their design for Cooper’s Point, New Jersey—a dense and allegedly "pragmatic" scheme—was given a spot in the Robert A. M. Stern-edited, 40 Under 40: An Exhibition of Young Talent in Architecture from 1966 (Illustration 3-11). The scheme was applauded for rejecting such planning clichés as the need for coziness, and, in contrast to Newman’s later indictment of the type, the conference was fraught with questions about the state of the field, such as whether the vision of the early modern movement might be obsolete.


57 Robert A. M. Stern ed., 40 Under 40: An Exhibition of Young Talent in Architecture (New York: The Architectural League of New York and The American Federation of the Arts, 1966). Due to the vagaries of alphabetization, the scheme by Vreeland was published on the page facing Guild Hall by Robert Venturi and John Rauch. The school complex was published in "Planning Flexibility: Cité Étudiante de Hull," Architecture Canada v. 45 (March 1968): 39-61; the text mentions that the design work was mostly complete by 1966.
scheme included high-rise residential towers. After his work with Vreeland, Newman taught in St. Louis at Washington University, where he conducted his own architectural research, leading an Urban Renewal Design Center. Between 1966 and 1967, he came into contact with Kevin Lynch, whom he thanks for "useful early direction and useful criticism" in his work on a study of the Lawndale area of Chicago between 1966 and 1967.\(^{58}\) In a brief career, Newman had encountered Team 10, been selected for publication by Robert Stern, and been advised by Lynch, the founder of cognitive mapping. Moreover, in the early 1970s, he participated in debates at the Institute for Architecture and Urban Studies, led by Peter Eisenman.\(^{59}\) As an eventual author and expert witness, he also had the aptitude to bring his reading of the discourse to a broad public. In 1981, Newman published a novel with Macmillan, and later worked as a consultant in a suit against the city of Yonkers, New York, for housing discrimination. He also proposed a Defensible Space Game, about which he declared as: "Fundamentally the purpose of this game is to hold on to your money while you make some more. This is achieved by each player making his property secure and defendable from attack, while at the same time preying on his less fortunate or careful neighbor."\(^{60}\) The board game demonstrates Newman's interest in making environmental deterrence available to a wide audience of entrepreneurs.

Added to his experience with the dominant debates in architecture, Newman's research was subtly shaped by the research economy of the 1970s. At this time, funding sources shifted from large federal programs to promote the health, education, and welfare of the population to franchise-state efforts to prevent crime, punish offenders and manage the population through incentive structures. Where the calls for research in the early 1960s were founded in the belief that Americans could use their "pragmatic genius" to solve any problem they put their energy into, that optimism and energy were on the decline by 1968-1969 when Newman began the defensible space research.\(^{61}\) By the end of President Johnson's term, the funding for social programs was largely diverted to the war in Vietnam, bringing to an end Kennedy's and Johnson's plans to bring the world-renowned American affluence to all of its citizens. The Great Society

\(^{59}\) Centre Canadien d'Architecture, Institute for Architecture and Urban Studies Archives, Series 2, Folder B1-4 includes an undated 70-page manuscript that opens with a discussion of type in architecture. Newman defends the relevance of the architect's role in the question of mass housing on page 56-59. George Rand also recalls meeting with Kenneth Frampton and Eisenman.
\(^{60}\) The board game involved a series of lots assessed at certain values, with each player taking turns to choose which lots will be theirs to start. Empty blocks become parks. Each player has a starting net worth of $10,000, and chooses to defend his property through purchase of walls or guards. Guards, police, and criminals are all represented by pieces on the board. Hiring a guard costs $50 a turn, and hiring a police officer costs $100. Criminals cost $1,000, which Newman explains goes toward the criminal's hideout. The winner is the one who defends his property from the other players' criminals at the least cost. Oscar Newman, "The Defensible Space Game," n.d. Newman Papers, Folder: The Defensible Space Game.

Chapter 3. The Power of Parables
ideal of improving life for all Americans gave way to a division among welfare programs, with social
insurance programs for some groups—such as Social Security for the elderly—split off from the
increasingly unpopular Aid to Families with Dependent Children, which served low-income women and
children, often African-American. The discourse of poverty shifted to more and more quantitative
research, shying away from the conflicts over the "culture of poverty" raised by the 1965 Moynihan Report,
but also in service of a government with an increasing appetite for data about poverty programs.

Between 1960 and 1973, fear of crime became increasingly important in American politics. Demographically, there was an increase in the proportion of the population between the ages of 15 and 24, which probably contributed to an increase in crimes against property. Such vandalism presented a visible marker of disorder that worried many older citizens, especially when combined with a tendency to conflate violent protests with street crime under the heading of "violence in the streets" and to suffer a vague fearfulness as a result. In addition to riots, three prominent assassinations—of John F. Kennedy, Robert Kennedy, and Martin Luther King, Jr.—added to the perception that the stability of American society was threatened by violence. Experts in the 1960s cited a range of factors as causes in the alleged crime wave, whether it was the liberal Warren Court and its protection of defendants' rights or the general thirst for violence diagnosed by Menninger as a persistent feature of American society. The presentation of violence in the news media most likely also played a part in the rising fear, contributing to a general sense of the deterioration of the moral and social order. However, it was unclear then, and remains unclear today, whether the number of crimes actually increased or if an increase in reporting and the automated processing of reports produced the impression of a crime wave. Along with the growing use of punch card systems, closed circuit cameras, and streamlined reporting systems like the 911 telephone system, criminologists and other social scientists took on an increasingly public role, causing further public exposure to the problem of crime. Through opinion polls that asked respondents about their fear of crime, the very idea that crime is frightening grew out of proportion to the risk of victimization.

64 Cronin, *U.S. V. Crime in the Streets*, 25. Despite the increase in crime rate, many crimes were minor crimes, such as vandalism or auto theft for purposes of juvenile joyriding.
65 Those blaming the Supreme Court included J. Edgar Hoover of the FBI and Orlando W. Wilson of the Chicago Police Department, while the latter claim was made by Menninger, of the Menninger Clinic in Topeka, discussed in Chapter 1. Ibid., 5, 16.
American fearfulness influenced a shift in federal policy after Republican Barry Goldwater seized on the growing fear of crime and made it a central issue in his campaign to replace President Johnson in 1964. While Johnson won the election, he was sensitive to the urgency of the rising fear of crime as a potential political threat that could be wielded by the Republicans. He began to frame a new "war on crime," while at the same time arguing that his war on poverty was in fact a war on crime. In 1967, Johnson called for a Presidential Commission on Law Enforcement and Administration of Justice, which eventually yielded such recommendations as the Law Enforcement Assistance Administration (LEAA) and the emergency 911 system. The LEAA was eventually funded with the passage of the Safe Streets Act of 1968. Amid debates about Federalism—the extent to which the federal government ought to intervene in social problems—the LEAA was structured as a system of grants from the federal government to state and local agencies.

Newman began the defensible space research project in early 1969 while he was teaching at Columbia University. The original idea was to study what he called enclave theory, arising from his


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70 Conversation with George Rand, April 9, 2010. Similarly, in a November 1969 conference, Newman claims to have
experience with a housing type he had encountered in Europe, where housing surrounds the exterior of a block, with a parklike center. At Columbia, Newman encountered the psychologist George Rand who was there on a two-year fellowship sponsored by the U.S. Department of Education. Rand was working on an interdisciplinary study of the relationship between spatial perception and architectural design, in addition to teaching a course on the social meaning of space. In the course, Rand brought together sources from philosophy and anthropology, mixing Heidegger, Merleau-Ponty and Robert Ardrey. According to Rand, he was the one who introduced Ardrey’s ideas about human territoriality to Newman. As Newman and Rand met and began talking about their interests, Newman was intrigued by the idea of territory and in particular Robert Ardrey’s account. Realizing their shared interest, Rand and Newman decided to pursue a joint project and started to look for funding, beginning with the NIMH. Rand recalls that they had several connections there, and were aware that NIMH had funded other architectural research, such as Alexander’s work and Rainwater’s research on proximity and friendships. After visiting Washington several times without success, they decided to shift their efforts to the LEAA due to the recently passed Safe Streets Act, which made funding available through the Department of Justice. While both sides were initially skeptical, Newman was convincing, and the pair eventually built a good relationship with Henry Ruth, the head of the LEAA.

In addition to the LEAA’s interests, Newman and Rand’s theories were very well suited to the dire problems facing housing authorities in the late 1960s and early 1970s. There were many reasons for the problems of public housing, from an ongoing national migration to urban areas, “white flight,” which left

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71 Rand, April 9, 2010.
surrounding neighborhoods in decay, and a loosening of the regulations over eligibility. These changes meant that the role of public housing shifted from a brief springboard for those temporarily in need to one where long term residents had little prospect for a better situation. In these years, public housing officials faced reduced budgets and rising demand, making them amenable to Newman and Rand’s overture about saving money on maintenance and policing.

Initially, the housing authority was an eager audience for Newman and Rand’s proposal to solve problems without expensive personnel increases. They sought out the New York City Housing Authority, where they met with Alexander Cooper, and after multiple meetings, some "arm twisting" and visits to public housing, they were granted access to NYCHA police records and other data. Newman convinced them his expertise would in fact save them money by reducing their maintenance and policing costs, as Foucault’s argument about governing through environment would suggest, and they gave him access to their data. The housing authority was no doubt happy at the grant money he brought in, but they were less pleased when the study came out. Eventually the relationship between the architect and the housing authority deteriorated and the chairman Simeon Golar wrote to Mayor Lindsay saying: "Beyond considerable statistical and factual error, the book panders to hate and fear in the crassest possible manner, dishonestly pretending to be a scholarly exercise and trading on professorial credentials." He claimed the book was racist for its assessment of the success of the recently built Co-op City as being due to its "exclusively white, middle-class and elderly population," Golar rebutted that Co-op City had been integrated from the start. Newman built his expertise with NYCHA data, and was instrumental in encouraging the use of surveillance equipment on their sites, such as cameras to allow tenants to buzz only known visitors through the remote door downstairs in a tower or a Compu-Guard system to allow tenant patrols to monitor the grounds (Illustration 3-13). To demonstrate his success and gain further projects, he led Department of Justice experts, as well as members of other housing authorities, through Bronxdale and other projects, demonstrating what he had been able to do for NYCHA.

One can only speculate how Newman’s initial interest in researching enclaves would have developed within an NIMH research program in contrast with the LEAA and the prevalent interest in crime prevention rather than community building. But what can be said with confidence is that unlike

72 Rand, April 9, 2010.
73 Report by Oscar Newman, New York City Housing Authority Archives at the Folder: J Christian; Secu-Reports; Secu System Defensible Space Modifications to Eight Jersey City Projects; Date (Range): August, 1973—October, 1975 ; Series: Chairman’s Files ; Box # 0088B2 Folder # 06, NYCHA Archives.
74 Letter from Simeon Golar to Mayor John V. Lindsay, January 4, 1973, marked "unsent." NYCHA Archives; Name: Christian Joseph J.; Series: Chairman’s Files; Box # 0088B4; Folder # 03. The archives contain other letters and short notes demonstrating a lack of affection for Newman after the book comes out and through 1976.
architectural research produced from within a bureaucracy, Newman took on an increasingly common role in the franchise-state economy where he acted as part researcher and part entrepreneur. Rather than having a single salary and a single mission, as Dorsett did at the NIMH, Newman paid for his research through grants—such as the Law Enforcement grant—and through consulting work, most often for housing authorities. Working closely with housing-authority clients, Newman came to understand their problems and their budget, and, similarly, over the relationship he developed with Ruth at the LEAA, he familiarized himself with their priorities. Rather than being in a position to approve plans and dole out money, Newman needed to find work and to market his ideas to clients. In addition to temperament, this may be the major reason that Newman published a parable-based book that reached a wide audience, whereas Dorsett published short advice-type articles for the psychiatry community.

As the grant money from the LEAA arrived, Newman and Rand’s research enterprise grew. They opened an office on Broadway near Columbia University, and took on a study of failing housing projects in Cleveland as a first test case. The pair also worked on a redesign of the grounds at Clason Point in Brooklyn, subdividing spaces as a way to reinforce territoriality and repainting each building in a color chosen by the tenant in an effort to stimulate feelings of ownership and belonging and to camouflage the fact that it was public housing (Illustration 3-14). One of the earliest articles on defensible space in the New York Times, from 1970, claims that the enterprise had grown to include roughly 13 members, sociologists, architects, statisticians, and graduate students.76

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76 Burnham and Montgomery, “Design of Housing Related to Crime.” The fact that the list includes no psychologists may well reflect Rand’s departure in 1970.
Newman continued to seek opportunities and was offered a position at New York University in public policy. Newman and Rand received a second grant from NYU and secured a new office closer to the university. Prompted by the LEAA, the pair organized a conference on "Design for Improving Safety in Residential Environments" in November of 1969. The conference was attended by a mixture of LEAA personnel, HUD administrators, NYCHA representatives, and at least 30 different speakers were heard over the two-day conference, which was held at the Men’s Faculty Club at Columbia University. Newman presented the basic principles of his strategy for using the environment to reduce crime, by improving surveillance on the one hand and defining territory on the other. In part because he was merely summarizing a paper that had been precirculated, his presentation was more tentative and open-ended.

Attendees included: Newman, Rand, Ruth of the LEAA, John Zeisel (Sociologist at Harvard), Rainwater (of the Joint Center for Urban Studies at Harvard), Goffman, George Hall (Director of Research of the New Jersey State Law Enforcement), John Pace (Consultant to the New York Housing Authority), R. D. Ames (Executive Assistant to Larry Cox, Assistant Secretary of HUD), Albert Walsh (Chairman of NYCHA), and Lieutenant Hunt of the NYCHA Police. Despite being held at the Men’s Faculty Club, there was at least one woman present, a Miss Freeman. "Stenographic Transcript of Proceedings, Design for Improving Safety in Residential Environments," 55.
than his later articles and book. He spoke of trying to refine the ideas, and described the experience of riding along with NYCHA police and of interviewing residents. The parable form was only latent in this presentation, in a comparison of Pruitt-Igoe with Columbia University Faculty Housing. Rand spoke second, explaining that as a psychologist he wanted to emphasize that crime was a larger social problem. He also wanted the conference to evaluate the role of the building professions in influencing social problems.

Rand and other social scientists debated various options for testing Newman’s theories using experimental means, while acknowledging the ever present problem of conducting experiments in real-world social conditions. The strongest suggestion was to take a given project, measure the current crime levels and then modify the environment according to defensible space principles and measure the crime again. Then, to show that it was truly the new fences, for example, that produced a change in crime, the fences would be removed and the project retested. However, as Rand and others mentioned, there was an ethical complication to even this mild form of experimentation. If they were to find that the fences worked, how could they justify taking them out again? As with experimental drug trials, how could they justify withholding what might be life-saving treatment?

In addition to Rand, two notable social scientists also made presentations. The author of a soon to be published study of Pruitt-Igoe, Lee Rainwater, commented on the feeling that most public housing researchers felt very much under attack. He advocated any approach to the study of public housing that would provide a more concrete grounding from which advocates could argue. A far more agnostic tone was taken by psychologist Erving Goffman, a man much admired by Rand. Goffman was the author of a well-regarded study of behavior in public spaces, and the attention to the semi-public zone between housing and street was of great interest to him. Goffman, who was also the author of the 1961 study Asylums, compared the semi-public, semi-private spaces of public housing to that of the mental hospital. In both cases, behavioral norms and expectations for order are shifting and unstable without a clear sense of whether it is public or private. However, he charged that the group was moving much too quickly from

78 Lee Rainwater, Behind Ghetto Walls: Black Family Life in a Federal Slum, First ed. (Aldine Transaction, 1970); though the earlier article Lee Rainwater, “Fear and the House-as-Haven in the Lower Class,” Journal of the American Institute of Planners 32, no. 1 (1966): 23. Rainwater may have been their connection with NIMH. He had received a grant for his study of Pruitt-Igoe, a five-year study at Washington University that Newman may have participated in.

79 Erving Goffman, Asylums; Essays on the Social Situation of Mental Patients and Other Inmates (Garden City, N.Y: Doubleday, 1961); “Stenographic Transcript of Proceedings, Design for Improving Safety in Residential Environments,” 141. Later he also stated: that like mental hospitals and prisons, the public housing has the problem of what to do with those who won’t “shape up.” In all cases these are the last places to go, he said “public housing, like the wards in a mental hospital, have that special and beguiling quality and that is, this is the last place, there is no further place to go; at which time our fundamental view of social organization and social control breaks down.” Ibid., 146.
objective analysis of behavior in such semi-public spaces to design decisions. He worried that while psychology knew a bit about how the "ergocentric" kind of territory—i.e., personal space, an individual soap-bubble—works, it was still vague on the way that "turf" functioned in humans. He presented his field as severely chastened by failing to predict the racial unrest and student protests. While architects and administrators countered that it was their job to make such choices in light of inadequate information, Goffman declared that it was not the role of a social scientist to advocate policy when the facts were still uncertain. In a very memorable invocation of the divide between a scientist and an administrator, he declared:

*Just because action is going to be taken doesn’t mean that I have to present a plan.... I can argue with you about the binds you get into when you start trying to act rationally about so large and vital and living a thing as living arrangements, and just because somebody has to make those decisions does not mean to say I have to. I will just stand by and criticize whatever you do.... That is my job. You make the decisions, and I do the bitching.*

Picking up on Goffman’s disciplinary modesty, Newman countered that he did not think social science had achieved any great rational theory of society, so that architects might as well try. The architects and administrators whose job it was to make decisions were electrified by Goffman, and they continued to refer to his remarks on the second day of the conference. Various interpretations of his words were offered, among them the conclusion that it was so rare to hear an intellectual of that caliber address the topic of public housing that they had all been stirred up by it. This sad conclusion serves as a reminder of the context for Newman’s work: a significant part of his audience was made up of persons entirely unused to the presentation of complex ideas by a charismatic thinker. No doubt Newman’s own impact had something to do with his status as an intellectual and an intense personality, particularly in this context. His presentation was charismatic enough that one of the participants later remarked that Newman’s ideas were very “saleable” and that they belonged on Madison Avenue.

As a result of the conference, Newman and Rand gained a substantial transcript of material, and NYU gave them another grant which allowed them to hire five or six staff for the office. As Co-Principal

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80 Ibid., 139.
81 "Look at us poor social scientists who are caught flat-footed with two minor little disruptions, 1) black militancy and 2) university student disquiet. There was very little that social scientists ten years ago predicted in those regards. We were basically caught flat-footed. I do not want to be caught anymore like that." Goffman in “Stenographic Transcript of Proceedings, Design for Improving Safety in Residential Environments,” 157.
82 Ibid., 158.
83 Ibid., 169.
84 Ibid., 185.
85 Rand mentioned the names Barry Hirsh and Sally Fellsey as staff.

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Investigators, Newman and Rand framed an “elaborate” research project to study the 165 housing projects with almost 1,600 buildings under the aegis of the New York City Housing Authority. NYCHA provided crime report data allowing Newman to claim that he had access to a vast laboratory of public housing. With the help of Lucille Nahemow of City College, whose assistance is also mentioned in the Defensible Space acknowledgements, they hired a few graduate students to analyze the data. The study was intended to come out in 1970, but the release was interrupted when Rand accepted an offer to teach at UCLA and departed from what he recalled as a “tumultuous” relationship with Newman.86 Rand did not care to say more on a long-past conflict, but a sense of the disagreement can be gained from an essay he published in 1969. In the essay, he objected to the way that “the architect-planner” instrumentalizes psychologists for “a redefinition of priorities, a finger on the panic button, and a rationalization for his carrying out his strategies as quickly as possible.”87 In an elegant framing, Rand described the architect-planner:

He looks to the psychologist to redefine the moral status of life and death so that he may loosen the funds from industry and government to convert each metropolis into a “Garden of Eden” in accord with his utopic vision of the good life.88

The two never published a co-authored study, but it seems that Rand was aware of his utility to Newman in receiving funding from the LEAA. After Rand left, Newman leveraged his early success to grow his consulting practice, eventually founding an Institute for Defensible Space. He performed a study of CPTED for the Jersey City Housing Authority where he was paid $15,000 to recommend hardening of locks, placement of officers in transparent, bulletproof “booths,” the installation of intercoms, better lighting, and the rearrangement of grounds.89 And of course, after Rand departed, Newman published Defensible Space.

STREAMLINING SCIENCE

The book itself was a case of genre confusion: it was neither entirely a popularization nor entirely an academic presentation of research. Newman’s experience with several audiences allowed him to write something that engaged a diverse group, from sociologists to the urban public, and from housing administrators to the discipline of architecture. From insider references in section titles to turns of phrase and examples, the book provided something for each of its audiences. The result was a combination of

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86 Rand, April 9, 2010.
88 Ibid.

Newman continued this consulting through the 1980s, including acting as a consultant on the matter of locating public housing in Yonkers. See Lisa Belkin, Show Me a Hero, 1st Back Bay paperback ed. (Boston: Little, Brown, 2000).
Illustration 3-15: Graph of building height for NYCHA projects versus felony rate per 1,000 population, shown roughly the original size. Newman, Defensible Space, 26.
genres which complicated the readers’ task of evaluating its message. If the book had been only a popular, journalistic work judged within that genre alone, then its reasoning would have been subject to scrutiny, lacking the legitimacy of data and the disciplinary context of architecture, criminology, and psychology. If on the other hand it had been an academic study, the methods of proof through data would have been inadequate and he would have received little attention.  

Newman’s book was a combination of narrative, theorizing, statistical analysis and formal analysis. He correlated demographic statistics, such as family size, with crime statistics gathered by the New York City Housing Authority Police, and then produced graphs which combined those statistics with specific architectural information, such as the location in the building where the crime occurred, the number of floors in the building, the floor area ratio, or stair type. The first such graph is included in the second chapter, on "The Problem" (see Illustration 3-15). The x and y axes of the graph show the number of floors in the building and per capita felony rate, respectively. The presentation of the information further complicated by a modification of the symbols used to represent the data points. Each point is composed of two shaded bars which are then augmented with, for example, a letter "E" if the population of the building is over 75% elderly. The symbols also code for further demographic information, namely the breakdown in ethnicity and the percent who are receiving welfare, as well as architectural data.

There is a reason that genre fiction is among the most popular: it is targeted to a particular section of the population, keying into their experiences, their worries and the forms of address that they are used to. As described by Mikhail Bakhtin, the construction of a genre entails an audience. In contrast with Ferdinand de Saussure's theories of speaker and listener, Bakhtin argued that no utterance, no text, no work, is produced without being in one sense a response to earlier utterances and in another sense an attempt to solicit in turn a different sort of response. The speaker's image of his listener is derived from his experience of earlier utterances, making a chain of conversation that can stabilize into a speech genre. Bakhtin describes the relatively stable forms of such things as scientific reports and business documents as compound forms of other genres, assuming various ideal readers and responding to their expectations. The argument is similar to the Derridean theory that all texts are always already conditioned by language. Bakhtin writes that the speaker "does not expect passive understanding that, so to speak, only duplicates his own idea in someone else's mind. Rather he expects response, agreement, sympathy, objection, execution, and so forth." M. M Bakhtin, Speech Genres and Other Late Essays, trans. Michael Holquist and Caryl Emerson, 1st ed. (Austin: University of Texas Press, 1986), 67.
on the size of the project and whether it is an elevator or walk-up building. This graph covers the entire page, yet requires the reader to bring the book close to his or her face in order to decipher the small print that indicates these important distinctions. What the reader does not have to squint to see, is the line of asterisks that has been drawn from the lower left toward the upper right. In tiny handwriting, the key explains that the asterisk line indicates the mean felony rate for each height category. This unifying feature of the graph literally simplifies the complexity of the phenomenon into the central, broad assertion that Newman was hoping to prove: the correlation between building height and the crime rate.

Defensible Space also presented detailed architectural information through diagrams of circulation, produced with the help of an architecture graduate student named Jerry Rosenfeld, through which Newman compared the relative merits of various types of stairs in terms of how well the spaces could be seen from the units and from outside. His drawings often isolated the circulation of a housing block, using tools familiar to architects to explain the specifics of his idea. He also included conceptual diagrams explaining his reading of private and public zones, making something intangible into something apparent and easy to believe in.

Newman was after all, an architect. And in addition to reproductions of existing spaces, Newman presented a spatial diagram that is the key to his theory, demonstrating the spatial and proprietary character. In the drawing, the soft lines of a pencil have traced eight small, closed circles, which are in turn placed inside a larger boundary with their backs to the heavier boundary (Illustration 3-16). The small spaces float freely inside the larger boundary, maintaining their independence from each other and their detachment from the building envelope. The small circles represent individual housing units, the private space of family life, and there is no further information given about the spaces inside the individual unit. It is not the internal family life which interests this architect as the units are left as empty circles, a kind of black box. The only detail is the sharp arrow that stabs out from the private spaces into the central void inside the heavier boundary. These arrows convey the argument that a shared space will be controlled and made safe through the action of these vectors, the eyes and ears of the inhabitants of the individual units. The larger, collective boundary is broken at the front by a series of short, parallel lines, which resemble steps on a brownstone or similar dwelling. Indeed, Newman was very much in favor of the use of steps and slight sectional shifts to mark territorial boundaries. In the diagram, the parallel lines convey a similar visual impression, and through their repetition they build up a darker zone that blocks access to the interior spaces. The building envelope is also broken by a series of arrows, connecting this larger boundary to the linear space beyond and proposing a similar directional monitoring and safeguarding of the spaces outside the collective dwelling. Newman’s reading of multifamily domestic space is that the interior is
unproblematic, but more than that, these interior spaces have the ability to control or reduce problems in the outer space through the visual connection represented by the arrows.

Reducing form to boundary and vectors presents a manifestation of the spatial components of his theory of human territoriality, giving the idea credibility and putting it in play for design by making it visual and open to imagination in a way that the plans of the housing projects do not. Such diagrams also contributed to the self-evident quality of the book, transforming behavioral and sociological theories into the visible realm. By drawing them, he made these abstractions accessible to the process of design. The diagrams are at once clear and projective, explaining his concept but remaining suggestive about how the ideas could be translated into form within an architect’s studio. It seems that the combination would have been alluring to architectural readers, for it spoke their language. The drawings may also have appealed to his audience of housing officials in expressing the ideas visually, exhibiting the skills of the architectural profession but applied to the problems of housing management. The diagrams also emphasized how very much his argument was not only architectural, but spatial. In other diagrams, reprinted in later articles such as Intellectual Digest, the territories were extended upward (Illustration 3-17). Newman’s theory of architecture is after all a theory of defensible space, speaking the language of architectural design as the design of three-dimensional volumetric ideas, and focusing on the spaces immediately surrounding the dwelling unit.

Because of his familiarity with his architectural audience, Newman mixed themes and references that were both avant-garde and mundane. Echoing Goffman’s comment on the variety of territoriality that is mobile, like an ego bubble, Newman referred to the British neo-avant-garde group Archigram and their theory that one’s car acts an extension of the home.91 In another reference from the discipline of architecture, he gave a knowing wink to Team 10 discourse and the problem of “Housing for the Greatest Number” by naming a section on the “Significance of ‘Number’ in the Subdivision of Buildings and

Projects" with the word number in quotes. Instead of writing number of units, or writing the name without quotes as if it were simply an idiom of the time, he called out the reference. But at the same time, he did not alienate his audience of American housing authority officers or the general urban public by referring to the Eurocentric discourse that was both literally and conceptually foreign to their way of thinking. The book spoke instead about helping "residents" establish a sense that they are "sharing" halls and lobbies, using the everyday language of common sense or journalism. He carefully avoids most references to the group, the crowd, or the mass, except where speaking critically, preferring instead to talk about neighbors and residents. Where others might use nouns that are inherently plural, he used pluralized singular nouns, echoing the mid-century American distrust of groups already discussed in the context of Genovese.

HABITAT: A FAMILIAR ANIMAL

In choosing the central concept of territoriality, Newman foregrounded a topic that had very deep roots, but one which was receiving new attention at the time. Newman's architectural audience would have been aware of the idea of architecture as habitat, which was well known by the time Defensible Space was published. In the 1930s, habitat had a comparatively concrete meaning in biology, where it referred to the connections between an organism and its environment. The term was then applied to planning in Britain in the interwar years, and in 1949, Le Corbusier made his first of several failed attempts to produce a Charter of Habitat at the meeting of CIAM in Bergamo. The attempt failed, as did two subsequent efforts, largely because of the complexity of the term and its referent. Moreover, the younger generation was resistant to producing a single, universal definition of habitat. Dissatisfied with the monotony of the realized CIAM schemes, the next generation looked for a richer, more "authentic" or humanized alternative where the occupant would not feel as alienated from his environment. Aldo Van Eyck, Bakema, and

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92 Newman, Defensible Space; Crime Prevention Through Urban Design, 71. He puts quotes around the word "number" again on pages 72 and 75.
Alison and Peter Smithson sought this human element in diverse sources, from expressionist art to the play of children to béton brut, but within this heterogeneity the conversation coalesced around the idea of housing as a "habitat." This translated to a focus on the design of the spaces immediately around dwellings, the corridors and grounds and streets that connected dwellings. The threshold became the key interface, and the idea of habitat and corridor became linked to the degree that the Smithsons developed what they called a "doorstep philosophy"—an ecological approach to the problem of habitat—and a new aesthetic. The CIAM 9 conference at Aix-en-Provence in 1953 proposed a Charter of Habitat that declared that instead of viewing housing design as a problem of multiplying individual dwelling units, architects would do better to study the idea of the "immediate environment of the dwelling." Newman's audience was thus primed to pay attention to such spaces.

The idea of providing social space immediately around the dwelling while separating pedestrian and automobile traffic found a form in the elevated, open-air, corridor in large housing projects that came to be known as the "street in the air." The type had its origins in Le Corbusier's immeubles villas, maisons à redent and Unité at Marseilles. Newman's book on the CIAM conference at Otterlo included Alison and Peter Smithson's London Roads study, a scheme for terraced housing, and

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their reading of “Problems Regarded as Central to Architecture in the Present Situation.” Both proposals focused on the idea of mobility, developing their Golden Lane proposal into a large-scale, multilevel elaboration of the semi-public, semi-private streets in the air. Bakema and his firm also used the type in their Buikslotermeer Urban Study in 1962-63 (Illustration 3-18 and Illustration 3-19). Ten years later, in 1972, just as Defensible Space was published, the completion of the Smithsons’ Robin Hood Gardens resulted in the publication of further images of life in these streets in the air.

The discussion of habitat and the spaces adjacent to dwellings was just about to become cliché when Newman delivered his own theory of the lobbies, hallways, and grounds. The spaces were much studied, some projects were built, and the idea was ready for a new permutation that was brewing even then, in the promotion of low-rise, high-density dwellings. Drawings of aggregates of small units, each with their own piece of the grounds, were published along with the Smithsons’ “Criteria for Mass Housing” in 1967, two years before Newman began his research on defensible space in earnest (Illustration 3-20). The photographs and drawings in the book are almost entirely of such in between spaces, the grounds, lobbies, and hallways of housing projects. The abuse of these spaces was documented in numerous photographs in Defensible Space, and Newman takes on the analysis of various configurations of these spaces in public housing.

Illustration 3-20: A low-rise, high-density scheme with defined territories for each unit, published as part of a “Housing Primer” that included 24 other similar examples and a reprint of the Smithsons’ “Criteria for Mass Housing.” Architectural Design (September 1967): 398.

But while he attacked Yamasaki for his communal streets in the air at Pruitt-Igoe, Newman did not attack Team 10 (recall Illustration 3-9). He chose Yamasaki’s vision for these streets, when he could just as

98 Newman, CIAM ’59 in Otterlo, 70. Schemes using habitat in the title include: “Scheme for Subarctic Habitat” by Ralph Erskine of Stockholm and “Habitat in Moraine Landscape” by A. Korsmo of Oslo.
99 Risselada, Team 10, 118.
100 More will be said of the low-rise, high-density projects in the next chapter, in the context of extensions of Newman’s work to the discourse of architecture, through an examination of defensible space theory and Marcus Garvey Park.
easily attacked the visionary collages of the Smithsons or Bakema. There are many reasons he may have chosen not to do so: he may not have wanted to alienate the influential architects, or he may have felt their work was not in the same American context, or he may have felt their modulation of the spaces was sufficient. In the end, he chose a project that his American audience was familiar with, or at least a city they knew. As a domestic product, they would have related to it more easily than a Dutch or British scheme. The few explicit references Newman made to Team 10 were apologetic, declaring them to be well-intentioned and generally right in principle even if they had failed to realize their goals. In 1980, Newman wrote that Alison and Peter Smithson were basically correct in their "social criteria for mass housing," including age-appropriate play spaces for children in nearby outdoor space. He explained that they had failed because they were unable to realize their "social commitment" in architectural form, because they were too concerned with pleasing the "style metaphysicists" who demanded they follow Le Corbusier. Similarly, he applauded Van Eyck in his role as a philosopher-architect whose rejection of the theory of Existenzminimum was appropriate to the postwar Netherlands.

But if Newman did not discuss Team 10, the work was nevertheless on his readers’ minds. At the start of the 1970s, many were seriously evaluating the work of CIAM and Team 10, prompted in part by the construction of the Smithson’s Robin Hood Gardens and the criticism it received. Also in 1972, Peter Eisenman wrote a review of the project that applauded the ideas while objecting to the translation to form. Eisenman argued that the elevated pedestrian street was a valuable concept when considered as a separate network of urban circulation, at the time when Le Corbusier and others were first looking at ways of accommodating the automobile in cities. In the Golden Lane project, which preceded Robin Hood Gardens, the Smithsons proposed a street in the air that would eventually connect the buildings, but the result preserved at Robin Hood Gardens was ill-suited to its context. Between the truncated streets in the air and the lack of a connection to the “primary datum level”—by which he meant the space of public association at the street—the elevated street became “a vestigial memory paying homage to a lost intent.” Eisenman’s criticism was published just after Defensible Space in 1972, so Newman did not participate in or respond to his criticism of Robin Hood Gardens. However, Newman could have added it in later articles, as he or his editor did with the Pruitt-Igoe demolition photographs. Newman was acquainted with

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103 Ibid., 311.
104 Ibid., 305.
105 Peter Eisenman, “From Golden Lane to Robin Hood Gardens, or, If You Follow the Yellow Brick Road It May Not Lead to Golden Green,” Oppositions, no. 1 (September 1973): 27-56. The piece is very similar to the review in Architectural Design in the fall of 1972.
106 Ibid., 36.
Eisenman and was involved in discussions at his Institute for Architecture and Urban Studies. But while Newman did not directly refer to the Smithsons’ streets in the air, no doubt his architectural audience would have made the connection if they read the spread on Robin Hood Gardens published that fall in Architectural Design.

In contrast with Newman’s photographs of a dirty and broken Pruitt-Igoe gallery, readers of Architectural Design were greeted with a very different picture of these undivided streets in the air, with two prams prominently placed (see Illustration 3-21). These baby carriages left outside had been the marker of the safety of low-rise, subdivided, defensible grounds in Newman’s book. On one page of Architectural Design, a photo showed a new, tidy, if empty, street in the air with a vista to the street on the ground below. Underneath are photos of a young girl holding a pet rabbit standing in front of a pram, the same hallway without the young girl, another pram, and then a pair of images of “the normal paraphernalia of domestic outside show. They are the equivalent of the ‘yard-gardens’ of the Golden Lane Project, providing the identifying elements of the individual dwelling.”

At the top of the page, the caption of an image of a street in the air read: “...These

107 See discussion of transcripts from the IAUS in Chapter 4, albeit undated.
are man’s links with society, the vistas down which he looks at his world.... The article claimed that these circulation spaces had the power to knit occupant and society. Readers might well wonder, if Newman was right, was the Smithsons’ latest project at risk of turning sour, becoming another failed utopia? What of the society constructed in these estates? Newman provided the solution by arguing that it was not modern design as a whole that caused the problem. The solution called for a continuation of the Team 10 project of observing and understanding humans and the habitat they require.

Newman’s theory of defensible space also resonated with the anthropological interests of the Team 10 group beginning in the 1950s. In addition to their desire to relieve monotony, the Team 10 group was in search of a more authentic grounding for their theory of humanity which they often found in areas outside of the modernized West, in a mixture of postcolonial and "primitive" people. As early as 1947, several members of CIAM became interested in the work of Moroccan architects ATBAT-Afrique after their schemes were exhibited at the congress at Bridgewater and other CIAM conferences. In his review of the activities of CIAM and the nascent Team 10 at Otterlo, Newman Lousada at Whitecross Studio Ltd.

109 For more, see Hadas Steiner’s analysis of Team 10’s emulation of “the manner of a field biologist registering the reproductive behavior of the members of a particular species.” Hadas A Steiner, “Life at the Threshold,” October, no. 136 (2011): 140. She connects the interest in anthropological to such things as Van Eyck and the Smithsons’ identification of the threshold as critical for urban design, as the space where young children first encounter the world.

110 Monique Eleb, “An Alternative to Functionalist Universalism: Ecochard, Candilis, and ATBAT-Afrique” in Goldhagen and Legault, Anxious Modernisms, 55. Of particular interest are schemes by Michel Ecochard for housing Muslims, Jews, and Europeans in terms of their “adapted habitat” which was to reflect the specialized
defined three major areas of interest: ecological, anthropological, and technological. He documented a search for the underlying principles of human habitation, shifting from a search for a universal form to the underlying universals that may cause formal variation. The Otterlo volume opened with a quote from psychologist Adelbert Ames to this effect: "...the processes that underlie our perception of our immediate internal world and those that underlie our perception of social relationships are fundamentally the same." The balance between local variation and underlying universals can also be seen in the Otterlo volume in a diagram from a "Proposal for Evolutiunal Habitation" by Georges Candilis, Alexis Josic, and Shadrach Woods. The diagram assembled four typologies of habitation, an African village, an igloo, what appears to be a pueblo, and a quasi-United Nations in New York. Basic architectural principles occupied the center of the diagram (Illustration 3-22). The accompanying text drove the point home: "En Afrique, au Pole Nord, à New York ou en France, la notion: Habiter se decompose toujours en deux fonctions bases: de plus, les services sont le memes partout et toujours: element determines."

Reaching for these underlying universals, the white, European architects in Team 10 and others pursued an interest in anthropological research on so-called "primitive" societies. A proposal by the Modern Architectural Research Group (MARS Group) suggested a customs of each population. The interest in regional adaptations was also reflected in the schemes at Otterlo in 1959 that used "habitat" in the title, notably an igloo-inspired "Scheme for Subarctic Habitat" by Ralph Erskine of Stockholm. Newman, CIAM '59 in Otterlo, 166.  
111 Newman, CIAM '59 in Otterlo, 15.  
112 Ibid., 18.  
113 Ibid., 119.
comparison of the habitat of "a primitive African or Asian society" and a "more materially advanced" one.\textsuperscript{114} Van Eyck was entranced by the mud villages built by the Dogon in Africa, and a Native American "Indian" pueblo found its way into his "Otterlo Circles" as the illustration of the "vernacular of the heart."\textsuperscript{115} Similarly, the Smithsons pursued an interest in the Sea Dayak longhouses—particularly the multipurpose space of the longhouse porch—as they designed the elevated corridors for the Golden Lane Competition in 1952.\textsuperscript{116} The Smithsons were intrigued by the anthropological lens that was turned on the British working class—and the Sea Dayaks—by Tom Harrisson, a polymath anthropologist with a popular series of BBC television programs on remote locations such as Borneo. The Smithsons’ work was informed by photographs by Nigel Henderson and discussions with his wife, Judith Stephen, another anthropologist.\textsuperscript{117} Photographs of African dwellings were common in the pages of the journal \textit{Forum}, and Newman used one such photograph taken by Aldo Van Eyck to illustrate his theory of the threshold (see Illustration 3-23). The message was that in studying people untainted by the modern world, architects were able to tap into the basic nature of humanity and what they needed in a home. The proposition was as much about the problems facing the white Europeans as it was about the Africans and others.

In Newman’s work, the direct references to African and other non-white peoples were left out of the text. Even so, his work would have recalled the popular anthropological theory of human territoriality. Arising from zoological studies, the idea of human territoriality was gaining exposure in the United States in the late 1960s through the work of popularizers such as Desmond Morris’s 1967 book \textit{The Naked Ape} and Ardrey’s 1961 \textit{African Genesis} and most specifically his best-selling \textit{The Territorial Imperative} from 1966. The idea of territory morphed from its original meaning related to sovereignty, which dates to the 1450s, into a naturalists’ usage starting in the nineteenth century. The idea of territory then grew to have its own

\textsuperscript{114} MARS Group response to the proposed Charter of Habitat, in Mumford, \textit{The CIAM Discourse on Urbanism, 1928-1960}, 222.


\textsuperscript{116} Mark Crinson, ‘From Haifa to Stevenage,’ keynote address, “Architecture and the State 1940s to 1970s” conference at Columbia University GSAPP, Friday April 2, 2010. One can easily see how Tom Harrisson’s Mass Observation approach would appeal to the Smithsons.

\textsuperscript{117} Mumford, \textit{The CIAM Discourse on Urbanism, 1928-1960}, 234.
abstraction "territoriality" in the zoology of the 1930s and 1940s. The field of human ecology and human geography picked up the idea, and applied it to human behavior shortly after.

Nevertheless, the strength of the argument for the popular audience was due to the familiar idea of territoriality as expressed by Ardrey, whose books accounted for two of the ten sources in the bibliography. Ardrey, a playwright, was impressed by the work of anthropologist Raymond Dart, which showed that the evolution of large brains had not predated the development of tool use among early humans, but that in fact, humans had started using tools and then developed large brains. Or, as Ardrey, the professional writer, phrased it, it wasn’t that man fathered the weapon, but rather that "the weapon, instead, had fathered man." The theory was that the need to defend themselves had led early humans to pick up and wield objects, and these skills had led to larger brains. The idea is illustrated in the famous scene around the monolith in Stanley Kubrick’s film 2001: A Space Odyssey. Released in 1968, just as Newman started his research, the film’s depiction of primates fighting was another

Illustration 3-24: The first of many illustrations by Ardrey's wife, this one shows a human habitat framed by an animal habitat, neither of which look inviting. Drawing by Berdine Ardrey in Robert Ardrey, The Territorial Imperative, 2.

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118 Intriguingly, the Oxford English Dictionary also lists an early-twentieth-century use of the word "territory" to refer to a salesman’s jurisdiction. Much of this sketched history was produced with the OED and a search of the library catalog, which shows the earliest few works using the word "territory" from the turn of the twentieth century, and those mainly have to do with national territory. By the 1940s, there are a few zoological uses. Applications of the idea to individual humans does not happen until the 1960s. I briefly consulted Robert David Sack, Human Territoriality: Its Theory and History (CUP Archive, 1986). Sack takes the idea of territoriality as granted and looks backward with it as a lens, versus writing a history of the very idea of territoriality as a thing to be studied.


120 Ardrey, African Genesis; a Personal Investigation into the Animal Origins and Nature of Man, 29.
illustration of the "killer ape" theory, which argued that human violence and technology are inextricably intertwined. As mentioned earlier, this theory that humans were inherently violent and warlike was meaningful in an age dominated by fear of nuclear apocalypse and crime in the streets. The idea was provocative: that try as one might, one's innate nature would always govern. Or as Ardrey put it, "The hounds of our anxieties bay at old, cold traces, while nature's foxes watch amused." Or, "The dog barking at you from behind his master's fence acts for a motive indistinguishable from that of his master when the fence was built."  

Research on territoriality arose in the 1920s and 1930s, and Ardrey marked this time as one when thinkers and leaders were intrigued by the possibility of a communal society that would do away with property entirely. But, he explained, even though they wanted to get rid of property, these thinkers had to admit that property was the basis of a drive as strong as sex, if not stronger. He claimed that the drive toward territory had not been discovered because most of the research on behavior was done by zoologists using animals in zoos and by psychologists using animals in laboratories. In the zoo or the laboratory setting, the animals have ample food and little ability to establish turf. This particular discovery story explains the revolution in thinking about the sex drive which occurred when American psychologist, C. R. Carpenter, returned from studying howling monkeys in Panama in 1934. The psychologist returned home, to his "low-flung modern house," with tales of easy sexuality and violently defended territory in the Panamanian jungle. His account "demolished" Sigmund Freud's theory of the sex drive as only applicable in situations of ample food and restricted space, such as zoos. In captivity, where the animals had enough food and not much land to defend, the sex drive governed. Ardrey did not comment on which model fit modern humans better, whether they are like animals in the zoo, or animals in the wild. He did not allow for the possibility that urban humans are now more like zoological monkeys—many if not all of whom have ample food and little turf—such that humans might also be governed largely by a sex drive rather than a territorial imperative. It is even more surprising that he did not consider this flaw in his logic, when one bears in mind his tendency to equate human and animal. He drew equally on others' research in animal behavior as well as his own vivid experiences in postcolonial Africa with all its upheavals and political unrest. Ardrey evidenced the same confusion of animal and human outlined by Marianna Torgovnick, who argued that accounts like Ardrey's draw on their own image of the primitive to answer

121 Ibid., 34.
122 Ardrey, The Territorial Imperative, 5.
123 Ibid., 210–212.
124 Ardrey, African Genesis; a Personal Investigation into the Animal Origins and Nature of Man, 18. Ardrey argued that the only reason this finding has remained obscure in the 1930s, was that a world divided by the hope for a socialist future, the German pursuit of Lebensraum and the fear of a socialist future, had no interest in hearing that territoriality and private property were innate characteristics.
the problems of modern society, equating animal behavior with non-Western societies and denying the coeval status of the non-Western.125

Following Ardrey, Newman never forced his readers to make the conceptual leaps between animal and human explicit, and instead relied on his audience's willingness to make the leap from animal territoriality through "primitive" universals to the residents of public housing.126 On the first page of *Defensible Space*, Newman wrote, "We have become strangers sharing the largest collective habitats in human history."127 The claim was a simple, clear declaration of his opinion that cities are artificial. But it was also a formulation that, washed of any specific idea of who "we" are, allowed a growing silent majority to make the leap untroubled by any explicit racial implications. Perhaps because he was talking about public housing, he removed the animal or anthropological examples and replaced them with the language of common sense. He simply opened the chapter on territoriality with the declaration that, "Historically the intactness of the family living unit and the territorial zone of the cluster of family units has always been given architectural expression."128 But instead of a history of ideas or a survey of anthropological, historical, or psychological evidence for such a claim, he made the simple statement and then went on to evaluate specific projects, suggesting ways to improve the corridors or grounds. Rather than spend time on topics far from his general audience's familiarity, the only evidence for the claim to innate human territoriality was presented in the first few pages, where he outlined a swiftly constructed historical lineage of photographs of streets. The photographs began with Van Eyck's image of a mud house in Sudan, to Pompeii, then a "Street in Eighteenth-Century Dutch Town" and lastly a "Row-House Street typical of Nineteenth Century American Cities" in an unnamed city.129 All of these photographs were taken in the 1970s, except for Van Eyck's. Nevertheless, his audience was familiar with the idea of innate human territoriality and thus many found the theory convincing.

While territoriality may have become familiar enough to be convincing, the bibliography of *Defensible Space* included scant evidence for the theory, though that hardly mattered to readers like Ada Louise Huxtable who declared that Newman had proof of the phenomenon. The bibliography included 10 books on human territoriality, drawing on both psychology and anthropology, as well as a classic reader, *Studies in Human Ecology*, edited by George A. Theodorson.130 The sources spanned the zoological and the

127 Ibid., 1.
128 Ibid., 51.
129 Ibid., 5–7. The demonstration of universality over time was common. For another example see Alison Margaret Smithson and Peter Smithson, "Signs of Occupancy," *Architectural Design* 43 (1972): 91-97.
psychological, many of them borrowing from both fields without demonstrating that conclusions from one field were valid in the other. Taken as a group, these sources offered little support for the idea of territoriality in humans as Newman applied it. Newman cited anthropologist Edward T. Hall’s well-known comparative study of personal distances in conversation, a clear case of the mobile, personal, or “bubble” variant rather than the idea of a fixed turf. The bibliography listed two books by Goffman, who had expressed his skepticism about the idea of turf at the 1969 conference with Newman and Rand at Columbia.  

Newman also referenced an article in Landscap by David Stea, described as an interdisciplinary fellow in Environmental Design and Psychology at Brown University and the Rhode Island School of Design. Stea’s article emphasized the need for people to have their own space, with anecdotes about a "cage" in an office setting which fostered seclusion and group cohesion by being walled off from the rest of the office by a filing cabinet. The phenomenon of the "cage" is not demonstrated as defense of a territory, rather than relief from surveillance from the boss and colleagues. Clearly, a drive for privacy would not act to prevent crime in the same way as defensible space.

Robert Sommer’s Personal Space provided the strongest grounding for the idea of turf, though it too failed to argue convincingly for an innate territoriality in humans. Despite other strengths, Sommer’s text slips between studies of human and animal behavior without distinguishing between them. For example, the second chapter of Sommer’s book is ostensibly about zoological confinement, yet it segues without preamble into research on patient behavior in asylums. Even so, the book offers only weak evidence that the soap-bubble variant of territoriality leads humans to defend pieces of the ground. Many of the studies of human personal space cited by Sommer were really about temporary occupation of spaces. If an individual defends a zone around him or herself at a desk, that may simple be the reinforcement of a soap-bubble-type space marked by furniture and not the possession of a piece of the ground in the way Newman intended it. Sommer did include studies of primate behavior, where switching the cages of monkeys altered the dominance in favor of the host. Perhaps most significantly for Newman, the objection of neighboring monkeys to the intruder played a role in reinforcing the dominance of the host monkey. Researchers found that in the library example, human students did not react anywhere near as strongly to intruders taking over a neighbor’s seat. Moreover, the question of whether students temporarily occupying space in a library are at all similar to public housing residents was never demonstrated. Despite critics like Huxtable who believed Newman had proven that human territoriality

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was a real factor in architecture, the literature he relied upon was more cultural and rhetorical than experimental.

The lack of an experimental or scientific link between animal and human behavior did not, however, mean that the concept was not powerful. In the face of a growing liberalism or privatization of American urban and political life, the idea of innate territoriality gained relevance. Theories of innate behavior were often used to support the idea that private property was the "natural" route to a good society. Ardrey's book spotlighted the link with its title: *The Territorial Imperative: A Personal Inquiry into the Animal Origins of Property and Nations*. In the human ecology reader cited by Newman, Chicago School Sociologist Robert Ezra Park defined human ecology as the theory of "biological economics" or "an extension of Economics to the whole of life." These economic theories of ecology view the natural world as a collection of populations that are involved in an ongoing process of resource exchange. Populations trade with other individuals of the same species, with members of other species, and with the environment. Within this network of constraints, individuals make rational choices between their options, seeking to maximize their own well-being.

For Newman as for many of his readers, the possession of a piece of the ground was "the symbolic token of having a stake in the social system; it is deeply rooted in notions of proprietorship and belonging to the establishment." Newman claims that this proprietorship conveys maturity, success, and special rights in legal processes. Defending himself against the charge that he is simply applying his middle-class values to public housing—or, alternately, artificially suburbanizing the city—Newman claims that if it is middle class to want security through the control of your living space, then the poor do share middle-class values. He rejects as romantic any view that does not acknowledge this. He also argued that it is easier to provide security for middle-class residents because they "have developed a refined sense of property and ownership." Combined with everyday social experiences that reinforce their feeling of "social competence," the proprietary sensibility gives the middle-class "a feeling of potency in protecting and enforcing their rights within a defined sphere of influence." He argued that it was more difficult, then, to

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136 Ibid., 19. He cites unspecified interviews as his source for this. From the conference transcript, we know that Newman and his group did interview residents.

137 Ibid.

138 Newman, "Defensible Space: Crime Prevention Through Urban Design," 19. It is worth observing that in 1969, he had worried about increasingly smaller divisions of housing and grounds as bringing up "some rather controversial questions: How does one begin to divide these things up in such a beautiful hierarchy and still maintain that we are living in an open society?" *Stenographic Transcript of Proceedings, Design for Improving...*
secure low-income areas, as the poor lack this sense of potency or entitlement. Newman explains, with no evidence, that "Children who live in high rise buildings seem to have a poorly developed perception of individual privacy and little understanding of territory." The proper formation of members of society requires proprietary pieces of ground; lacking this attachment, the community falls into what Newman and Rand called an "apartment culture." Lacking territory, the community disintegrates into a dangerous state. In other words: "When people begin to protect themselves as individuals and not as a community, the battle against crime is effectively lost."  

CRITICAL RECEPTION

Despite the resonances with CIAM’s theories of habitat, popular theories of anthropology, and neoliberal economical theory applied to American life, Newman’s explanation of "defensible space" as the release of natural tendencies, or as common sense, was not enough to calm all of his readers, and from the start he had critics who faulted his construction of human territoriality and the ethical implications of defensible space. While his statistical techniques may have helped the appearance of legitimacy—as even his critics were willing to admit—those same methods were assaulted by some members of his audience. Samuel Kaplan, described as an urban design critic at the City College of New York, appreciated the general common sense of Newman’s recommendations, but accused him of concluding too much from the limited correlations shown in his data. Similarly, R. I. Mawby, in the journal Urban Studies, objected to Newman’s obfuscation of the statistical evidence that "the population of Van Dyke is of a slightly lower social class than that of Brownsville." Further, Mawby complained about Newman’s use of multivariate analysis without demonstrating that the multiple projects and multiple variables were similar enough to be comparable:

...the results of this technique apparently gave the theory little support, and the bulk of Newman’s "proof" is developed from the comparison of just two projects. However, at no stage does Newman demonstrate the comparability of these with the other projects, and it could be argued that Newman has selected those areas which best demonstrate his theory.

139 Newman, Defensible Space; Crime Prevention Through Urban Design, 13. Note that Newman says the tendency is only "poorly developed." If territoriality were innate, it would be contradictory to say that it is entirely absent in the children.
140 Ibid., 3.
143 Ibid.
In a section titled "The Defensible Space Fallacy," Mawby called Newman’s methodology "crude," and complained that he had made "no attempt" to distinguish between types of crime, and seemed to assume that all crimes were planned in advance. Mawby also accused Newman of having "over-simplified the issues involved, both in terms of the nature of crime and the qualities of defensible space." He asserted that the errors in terms of defensible space were more serious than the errors of criminology. Mawby criticized Newman for ignoring the possibility that an increased feeling of territoriality might enhance violence between residents, not just deter criminals, because an increased feeling of ownership for an area might lead to increased aggression. He pointed out a contradiction in both Newman’s and Jacobs’, work—between the belief that crime would go down if there were more people on the streets and the idea that "a large number of people increases not only the number of possible witnesses, but also the numbers of potential victims and offenders, as well as making offenders seem less conspicuous." He also objected to Newman’s work because it lacked a criminologist’s sensitivity to the myriad social and economic factors that contribute to the commission of a crime. However, he clarified that he was not arguing that Newman’s ideas would be salvageable if he had merely included more variables for analysis; Mawby emphasized that: "The problem goes deeper than this. It is ultimately a theoretical one rather than a practical one."

Mawby did not clarify the theoretical problem in detail, but another author did publish a critical explanation of the philosophical and ethical problems of Newman’s study. In 1973, the Journal of the Royal Institute of British Architects published a piece by Bill Hillier titled "In Defense of Space." Hillier, described by the journal as part of the "R.I.B.A. Intelligence Unit," was at this time in the process of making a name for himself among those who were studying social interactions in space, or "space syntax." Hillier opened his review with a declaration that he did in fact believe that buildings could have a role in crime prevention, but that Newman’s analysis had made him even more skeptical of that common-sense perception. Perhaps seeing the idea in print had made a bias apparent to Hillier in a way that is harder to see in everyday experience. It appears that Hillier had been struck by a resemblance between defensible space and arguments made earlier in architectural history, the roots and effects of which he was familiar with. After remarking on the popularity of defensible space, Hiller observed:

Newman is not proposing anything new, of course, and it is important that he is not. He is merely proposing a refinement on an old theme, the

144 Ibid., 175.
145 Ibid., 177.
146 Ibid., 178.
creation of social order by architecture.\(^{148}\)

In observing that Newman's ideas were not new, Hillier was not merely referring to Jacobs, Woods, and Angel, as this dissertation has done earlier. Instead he argued that territoriality and defensible space were not solutions to the problems of public housing, but rather characteristic of the type of thinking which had been producing the problems for hundreds of years. He felt that a similar logic of containment—wherein architecture was used to choreograph social relations—was behind the "central theme of social and political thought" in the eighteenth century, namely the belief in walling up deviants. Then, he wrote, in the mid-nineteenth century this logic was translated to housing where the "working class" was isolated in buildings which took up entire blocks but which had few central gates. He declared: "What we are being offered is not the antidote, but another dose of the poison in a redesigned bottle." Hillier accused Newman of being ignorant of this history of social control, an ignorance that he felt was a common feature of modernist architectural thought. In his mind, the hero of the Modern Movement, Le Corbusier, merely took these forms and made them fashionable, wrapped them in art and new materials and showed they could be:

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\text{combined in a new landscape of total spatial control... Architecture fails to flourish in our time because it still inherits this unconscious burden of design for the production of social order by architectural means.}\(^{149}\)
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Hillier also wrote about the interrelationship of Newman's popularity, the widespread acceptance of his ideas, and his scientific and government credentials. He began this discussion with a retelling of the Oedipus myth and a presentation of Karl Popper's application of the myth to the social sciences. Just as the prophecy led Oedipus to be cast out of society and thus be unaware of who his parents were, so too can social science's attempts at prediction lead to the observation of phenomena that reinforce that prediction. Hillier advised:

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\text{Bad theories in the social sciences are more than bad science. We may act on them, and begin, without realizing it, to create a world in which the bad theories are more and more true.}\(^{150}\)
\]

Finally, Hillier objected to Newman's use of social science's quantitative methods to produce a model of psychological subjectivity that appears far more predictable than it really is. He remarked that Newman was able to benefit from the construct of territoriality in the social sciences to create a "behavioral universal" for architecture; he claimed that such a psychological subject "allows the slide rule to


\(^{149}\)Ibid., 544.

\(^{150}\)Ibid., 539.
come in, and encourages the scientific imagination to go out. We can count and analyse, rather than think and test.”

He attributed the proliferation of the slide-rule approach to “the state sponsored social research project,” which he called the modern-day oracle. He felt that allegiance to this model of research had too great an influence on the observations and conclusions, which were then presented without benefit of historical context. He worried that the absence of a detailed explanation of statistical methods had tended to obfuscate the degree of certainty that was actually being declared in Newman’s study with the result that “architects reading the book will tend to take for granted the authority of Newman’s statistical presentation.” Indeed, given his popularity it seems that Newman was able to negotiate the problems associated with the psychological subject with some success. While some critics objected, and Newman was controversial, his ideas have found wide recognition because he stopped short of a full presentation of the logical implications of environmental determinism.

CONCLUSION: THE PRUITT-IGO OF SOCIAL AWARENESS IN ARCHITECTURE

Newman’s proposal to revive modern housing has been called a “threshold” between biophysical functionalism of the “light and air” variety and the “new functionalism of the mind.” Attempts to design forms tailored to a psychological subject began earlier, at the latest with the 1963 Community Mental Health Centers, but it is true that with Newman’s book the conversation entered a new phase. Rather than working within an agency to design, build, and administer environments that would promote the health of occupants, government encouraged architects to design for a new kind of occupant, enriched with a psyche

Illustration 3-25: A tenant monitors the grounds or her front door through a closed circuit television. Note that Newman claimed it would be the tenants themselves who would police the grounds. The environment would be designed such that action by the state is reduced, and the population polices itself. Photograph by Oscar Newman in Defensible Space, 183.

151 Ibid.
152 Ibid., 543.
constructed by psychologists and, in this case, anthropologists and ecologists. In this new research economy, a new relation between architecture, the state, and the subject grew, one wherein the impression that tenants were in control of their own spaces, and that government was not the one wielding authority, became key (Illustration 3-25). The franchise-state allowed the illusion of a local control of the ground, metaphorically and literally, while making the many levels of government and experts more, and more elaborately, involved in local decisions.

Newman’s research on defensible space can be called the Pruitt-Igoe of social awareness in architecture.\(^{154}\) Though it may appear to be a banality, the statement is in fact a shorthand for the events that provide the final episode of the welfare-state-sponsored social research, the ending of which is the subject of this dissertation. Both Pruitt-Igoe and Defensible Space received mass media attention, and left an indelible mark on the discipline, the profession, and the public at large. Numerous articles in newspapers and professional journals made the book and the building unavoidable. Charles Jencks used the demolition of Pruitt-Igoe to establish a precise time of death for modern architecture. But by 1977, it is also clear that Jencks knows that the whole thing has become an architectural cliché.\(^ {155}\) Discussing the failure of the Smithsons’ Robin Hood Gardens, he used a photograph of architecture critic Paul Goldberger as he pretended to be a mugger in the fearsome streets in the air. But the smile on Goldberger’s face makes it clear that it is an ironic gesture, enacted perhaps because the space itself was too clean to have the necessary dramatic force, yet the critics knew they needed vividness for their argument. Where else would you have critics acting out—while laughing at themselves—a violent assault to illustrate a space?

As with the other two parables, the much discussed “Pruitt-Igoe myth” overshadowed the greater complexity of the issues of public housing, reducing the social, economic and architectural factors to a sound bite, a kind of common-sense environmental determinism that does not stand up to closer scrutiny historically or scientifically. Far from hampering dispersal of the ideas, these reductions enabled both the book and the building to be extremely influential in the discourse of architecture that followed. The impact of the famous images of demolition at Pruitt-Igoe managed to dwarf the uglier and more complex root causes of the project’s deterioration, such as lack of maintenance of elevators and common spaces, the isolation of very low-income families, and the structural economic inequalities facing the residents.\(^ {156}\) Similarly, the deceptively simple idea that residents had a natural tendency to feel ownership of space, and

\(^{154}\) Thanks to Val Warke for suggesting this comparison to me.
that this had simply been blocked by overly communal layouts, had an overwhelming resonance with American neoliberal individualism.\footnote{In his 1978-79 lectures published with the \textit{Birth of Biopolitics}, Foucault lays out the American neoliberal approach to crime as a theory of rational actors who are to be managed through environmental controls.}

The demolition of Pruitt-Igoe was the most visible marker of a transition in public housing, away from superblocks and high-rises and toward Section 8 programs and New Urbanist low-rise sensibilities. After Pruitt-Igoe, only the most audacious architect could propose a superblock, so badly was the case of Pruitt-Igoe handled and so out of proportion was the reaction. The ideas of defensible space had a similar impact on the internal discipline of architecture, particularly the intellectual and theoretical strand of research. After the runaway influence of defensible space, it became even more distasteful to combine theoretical research toward socially aware ends. After defensible space combined the goals of the modern "housers" with the neoliberal state, instrumentalizing form to private, bourgeois ends, prompted a reaction wherein research became less concerned with social goals and rightfully suspicious of the rationality of those who would use the human sciences to design form. This abdication of practical social engagement was probably only worsened with another major lesson of defensible space: that environmental determinism carried to its logical end was not only politically suspect in favoring a status quo, but that it was ineffectual—and unable to prevent crime or alter behavior. The realization of the ongoing impotence of architects to improve the life of the public-housing residents, and the realization of the gap between the designers and the population of the housing, only increased the desire for formal autonomy. After defensible space, the conversation changed.

Chapter 4. Transcendence:
The National Institute of Mental Health and the Production of Architectural Theory (1963-1974)

"Certainly the profession has lost its credibility at present both with the social scientist-planners and with the public."


"[O]ur 'formal analysis' is research, even though it doesn’t employ computers or make use of behavioral psychologists."


Historians of social science have suggested that at times of fracture and dissent, the use of rigorous, data- and rule-based methods of research are valuable because they foster consensus, even if they are not particularly rich ways of accessing truth.¹ These quasi-scientific research methods are, in other words, "technologies of truth." Such a grouping is also useful as an interpretive tool for the kinds of design and social science hybrids that flowered under the research economy of the late 1960s and the 1970s. While seemingly unrelated, there is a link between the formal declaration of no confidence—manifested in Hatch's quote above, describing research by the top architecture schools then on display at the Museum of Modern Art—Scott Brown's expression of formal analysis as research, even though it lacks computers and behaviorists.² Architects saw social science methods as very different from their own, but still wanted to claim the objectivity of architectural research. The shift from studying the urban environment itself to studying abstractions of the environment may appear to be a flight from the engagement with social issues, and yet the retreat was itself a social act. It was an attempt to create a type of mechanical

¹ "Where a consensus of experts is hard to reach, or where it does not satisfy outsiders, mechanical objectivity comes into its own... It has a powerful appeal to the wider public. It implies personal restraint. It means following the rules. Rules are a check on subjectivity; they should make it impossible for personal biases or preferences to affect the outcome of an investigation. Following rules may or may not be a good strategy for seeking truth. But it is a poor rhetorician who dwells on the difference. Better to speak grandly of a rigorous method, enforced by disciplinary peers, canceling the biases of the knower and leading ineluctably to valid conclusions." Theodore Porter, Trust in Numbers: the Pursuit of Objectivity in Science and Public Life (Princeton N.J.: Princeton University Press, 1995), 4.

objectivity, a restoration of the authority of the designer through adherence to a system of rules, trading in rigor for texture.

The chapter that follows outlines the growth of government funding for design research using social science methods, both inside and outside of American universities, including efforts to borrow space-age science for urban and architectural research. Next, the chapter goes into more depth, with two cases of research on rule-based methods of design, both funded by the National Institute of Mental Health, outside of universities, through its Center for the Study of Metropolitan Problems. The first project is the research done by Christopher Alexander and his Center for Environmental Structure in designing a community mental health center in the mid 1970s and the second is the grammatical approach of Peter Eisenman and Mario Gandelsonas at the Institute for Architecture and Urban Studies between 1973 and 1974. Both projects attempted a systematic investigation of the meaning of architectural compositions, one seeking a cookbook and the other a transcendent language of architecture based in linguistic formalism. Both projects manifest the roots of the later development of architectural knowledge on two paths, quasi-scientific, normative approaches and abstract theory. Historians have told the history of architectural theory after 1968 as the rejection of both social engagement and the applied social sciences. This account is of course partially true. But what I want to suggest is that at least some of this theoretical work was impacted by the social science research economy to shift toward a kind of “basic research” in architecture—that is, toward intellectual work that was not tied to a specific project or application. Further, I want to suggest that the research economy served as an important context for research that otherwise appears to avoid external connections. Instead, it was this encounter with social turmoil and social science that fostered the growth of rule-based theoretical work, at least in the case of the major figures in this chapter.

FEDERAL INVESTMENT IN SOCIAL SCIENCE RESEARCH ON THE URBAN ENVIRONMENT

The expansion of the NIMH’s object of study beyond the psychiatric institutions was fueled by an even larger expansion in the federal support of scientific research. Government funding for science also shifted to a belief in the superiority of open-ended investigations rather than ends-oriented work, on the basis of evidence from the period even before World War I and certainly throughout World War II. With the launch of Sputnik in 1957 and the increasing urgency of keeping up with the little-known Soviet science program, the drive for so-called “basic research” increased. In 1960, U.C. Berkeley Chancellor Glenn Seaborg echoed Vannevar Bush’s earlier calls for this type of research. When Seaborg chaired the President’s Science Advisory Commission (PSAC), he too called for the expansion of research, adding that

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it should be located in universities to make use of graduate education. The members of PSAC and others felt passionately that such basic research was the responsibility of the federal government, as no other group would fund it adequately, risking the security of the nation in a Cold War, nuclear age.

Through the 1960s, research on rocket science and other defense technologies was joined by studies of the nation’s psychological and social problems. Urban research often drew on such shared areas as ergonomics and behavior research that had been conducted in order to understand how humans would react to new environments from cockpits to bunkers. Moreover, the search for solutions to metropolitan problems involved studies of the way multiple buildings relate, the way people relate in them, continuing work from the 1950s such as Leon Festinger’s study of the spatial component of social influence and other

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4 Ibid., 33.
cold war era studies of organizations and groupthink (Illustration 4-1). Transitional research included that of Kevin Lynch and Gyorgy Kepes from the late 1950s and the 1960s. Inspired by an area of perceptual psychology known as Gestalt psychology, Lynch and Kepes both worked at the Joint Center for Urban Studies at Massachusetts Institute of Technology and Harvard as well as the Center for Urban and Regional Studies at MIT, funded by the Rockefeller Foundation. The Gestalt research combined with the new interest in less rational, more personal, experiential elements of perception, such as the influence of context and of one's experience of a place. The urban research of the mid-1960s had a slightly different tone from the work of the 1950s in that instead of fighting an external, largely ideological and largely unknown enemy of 1950s—communism—by the 1960s, national social science research focused on a domestic, internal, very tangible and poorly theorized problem in American urban environments.

Urban research based in social science faced challenges to the very idea that social science could pursue basic research. Among other debates, the formation of the National Science Foundation was delayed for five years while policymakers and scientists discussed whether social science could be similar enough to the basic research aim of the organization as to merit its inclusion in the NSF. Eventually social science gained a limited role, combined with support from agencies such as the National Institutes of Health, the Department of Defense, and a number of private organizations including the Ford Foundation, the Social Science Research Council—a private non-profit which often collaborated with government—and the Russell Sage Foundation. Russell Sage and other private foundations had long had an interest in urban problems and housing. Sage, for one, had been funding urban research as part of its mission to improve "social and living conditions in the United States.” The inclusion of architectural research within the NSF was discussed early on, when the professional organization of architects met with the NSF. In 1959, the AIA organized a conference with the governmental science agency through the efforts of the AIA's Committee on Research and its Department of Education and Research. The conference proceedings declared support for research on architecture, while also declaring reliance on scientists for knowledge of architecture.

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9 Between 1908 and the 1910s, Russell Sage funded the construction of an ideal community, Forest Hills Gardens, designed by landscape architect Frederick Law Olmstead, Jr. and architect Grosvenor Atterbury. Russell Sage Foundation, "A Brief History," http://www.russellsage.org/about/history. In 1965, Russell Sage funded Gutman's initial foray into the study of architecture and urbanism at Princeton University and then the Bartlett School of Architecture at University College London, funding his hiring of tutors and his tuition. Robert Gutman, Architecture from the Outside in: Selected Essays, ed. Dana Cuff and John Wriedt (New York: Princeton Architectural Press, 2010), 27. See also later discussion of Gutman.

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many of the basic aspects of the human/environment relationship, as these areas were outside the purview of professional expertise. The question of where urban and architectural research belonged, and whose expertise it was, continued.

The great success of the American aerospace program seemed to suggest that similar advances might come through the application of science to urban space. The reality was a bit more tricky, as declared by scientists at the 1966 Summer Study on Science and Urban Development, organized by the White House Office of Science and Technology and the Department of Housing and Urban Development. After an extensive interdisciplinary briefing between the physicists, mathematicians, sociologists, psychologists, medical doctors, businessmen, economists, attorneys, engineers, planners, and architects in attendance at the three-week seminar in Woods Hole, Massachusetts, the biophysicist and communications specialist Walter Rosenblith declared, “We have learned in the sciences to deal with complex systems indeed,” but those were largely univalent, meaning that they had a single purpose. By contrast, the urban problems required many actors, many purposes, and many components. In response, the group proposed a range of solutions, including a series of new agencies: a federally funded Institute for Urban Studies, charged with studying the so-called “software” problems of urban development; a National Center for Advanced Urban Technology; and a Communications Satellite Corporation (Comsat) for Housing that would raise necessary capital for replacing or rehabilitating almost all urban housing. They also proposed transportation solutions, ranging from a futuristic “dial a destination” pedestrian capsule system to a rather mundane “Jobs Jitney”—a fleet of station wagons that could drive workers from “gray” inner-city areas to the places where jobs were. The group’s report urged government and business to understand that “this inefficient and inhumane slum system is maintained at exorbitant capital and operating costs,” and that solving the problems would be cheaper. David Rockefeller, in his role as president of Chase Manhattan Bank, disagreed, stating “[i]f the analogy with the Comsat is to be valid, [the Comsat Corporation for Housing] must be an economically viable corporation” able to make a return on investment. 

10 The forward declared: “It was recognized early in the work of the Committee on Research that the fundamentals—knowledge of man, his needs, aspirations, behavior and abilities—knowledge of total environment and how best to help it—were areas outside those of the profession of architecture.” Participants included Ezra Ehrenkrantz of Berkeley, Robert W. McLaughlin of Princeton, and William Ittelson of Brooklyn College. Eugene F Magenau, ed., “Research for Architecture; Proceedings; AIA-NSF Conference on Research for Architecture” (Washington: American Institute of Architects, Documents Division, 1959), 3.


13 "The City Meets the Space Age,” 63.

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problems thus bumped against an additional obstacle: not only were the problems multivalent but they needed to adhere to the capitalist system of producing profit.\footnote{14} The NIMH drew on the expertise of a group who referred to themselves the Space Cadets, picking up on the comparison of urban, housing problems to the space race. Psychiatrist Leonard Duhl called the group together within the NIMH’s Professional Services Branch, which was created to advise the director of the NIMH. The Space Cadets met to study the relations between environment and psychology, and their members included some notable experts: sociologists Herbert J. Gans, John R. Seeley, and Robert Gutman; psychiatrist Erich Lindemann; urban planner Richard L. Meier; ecologist and psychologist of crowding at the NIMH John B. Calhoun; and Sir Geoffrey Vickers, Chairman of the Mental Health Research Fund in the United Kingdom.\footnote{15} The multi-disciplinary group also included policymakers, journalists, public health researchers, biologists, future Housing and Urban Development Secretary Robert Weaver, and landscape architect Ian McHarg.

The work of the Space Cadets was published in 1963 under the title *The Urban Condition: People and Policy in the Metropolis* following the 1962 American Orthopsychiatric Association meeting and eight years of conversations among the researchers (Illustration 4-2).\footnote{16} Orthopsychiatry was a fitting precedent for the

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\footnote{16}{He also thanked Catherine Bauer for her support. She passed away in 1964.}
Space Cadets, as it had been devoted to the social context of psychiatry since 1923, when a group of experts in social work, psychiatry, nursing, law, and psychology came together in pursuit of a “simple but revolutionary idea: The mental health of individuals depends on their social context.” In his introduction to the book, Duhl placed the problems of life in an urbanized society alongside two other issues, survival in an atomic age and international affairs. He argued that while these other problems are “more immediate, more basic, and more critical,” nevertheless the problem of the urban environment was no less central to the long-term survival of the nation, entwined as it is with issues of education, health and “personal security.” The book also included Marc Fried’s oft-cited “Grieving for a Lost Home,” chronicling the post-relocation experience of residents in Boston’s West End, who had been evicted to make way for urban renewal. He described the intense grief, longing, and anger of the residents, calling for planners and policymakers to realize that planning could not limit itself to questions of “bricks and mortar” because psychological, social, and somatic pathology could and often had resulted from federal urban renewal policies.

But while Duhl was able to claim in 1963 that the urban problem was comparatively less immediate than the problems of the atomic age, by the mid- to late 1960s, that had shifted. After high-profile riots in Detroit, Newark, and other major cities in 1967, the problems of the failing urban environment became more immediate for the government. To demonstrate his commitment to solving these problems, President Johnson appointed commissions, most notably the National Commission on Civil Disorders chaired by Governor Otto Kerner of Illinois and the Douglas Commission on Urban Problems, to study the problem. The commissions included policymakers, planners, business leaders, architects, and others, along with psychologists, most famously Kenneth Clark who issued controversial statements blaming white America for the riots, citing the psychological damage of racism on the African-American psyche. In 1965, the controversial Moynihan Report outlined a theory of “family pathology” produced by matriarchal patterns in African-American families. Both reports attempted to argue that the psychological problems were produced by structural conditions of racism, but by spotlighting such intimate problems of African-American Orthopsychiatric Association, “About Ortho—Ortho Past & Present,” http://www.aoatoday.com/ortho.php. Context, social or environmental, is not mentioned as key to orthopsychiatry in another account of the history of the subfield by David Shakow, “The Development of Orthopsychiatry The Contributions of Levy, Menninger, and Stevenson,” American Journal of Orthopsychiatry 38, no. 5 (October 1968): 804-809.

American families instead of the practices of white racism, it became easy to dismiss the complex causes and simply blame the problem on the individuals and families. The publication of the Kerner Report and its exclamation of social pathology was accompanied by sensationalist photographs by Gordon Parks in *Life* magazine in 1968 (Illustration 4-3). The images added vividness to the problem of social pathology echoed four years later by *Life*'s photographs of Pruitt-Igoe’s demolition. By contrast, the body of the Douglas Commission’s report was a dry, full accounting of the barriers to equitable housing—barriers to whites, Latinos and African-Americans alike—but combined with references to riots, crime, and images of African-American mothers and children in decrepit homes that message became clouded. In 1969, the Department of Housing and Urban Development appointed the man who had held the fourth highest position at NASA and guided the Space Nuclear Propulsion Office, named Harold Finger, to run urban research at HUD.\(^{21}\)

**COLLABORATIONS BETWEEN DESIGN AND SOCIAL SCIENCE**

Concerned about the urban crisis and seeking a solution that would avoid past mistakes and transcend personal and national priorities, scientists and designers turned to the more rigorous, more abstract tools of social science and systems research through new groups that were formed to share and develop this research.\(^{22}\) Writing in 1968, Gary T. Moore introduced the proceedings of the first Design Methods Group (DMG) as a response to national urban and social problems:

> In the context of the current urban crisis, rapid international development, and the inability of architects to do little more than parry with these problems in the face of uncertainty about national and international goals, personal priorities, and changing human values, dissatisfied with our deteriorating cities and snarled

\(^{21}\) Light, *From Warfare to Welfare*, 119.

\(^{22}\) Nigan Bayazit, “Investigating Design: A Review of Forty Years of Design Research,” *Design Issues* 20, no. 1 (2004): 16–29. Bayazit includes a quote from Horst Rittel, a German theorist in the area of “science of design,” making the link explicit: “The reason for the emergence of design methods in the late ’50s and early ’60s was the idea that the ways in which the large-scale NASA and military-type technological problems had been approached might profitably be transferred into civilian or other design areas.” (Emphasis mine.)
transportation, yet shocked by others’ dissatisfaction, protest and riot over the same problems, and humiliated, finally, by our mistakes in understanding these problems, we must concede that the evidence is clear and distinct that our traditional ways of designing and planning the physical environment need serious and immediate revision.  

Moore's sentiment is typical: he expressed antagonism to design in an attempt to frame a new rigorous approach as separate from the traditional, discredited method.

The first meeting of the Design Methods Group included research by L. Bruce Archer on the design process, Brent Brolin and John Zeisel on the design of mass housing, Christopher Alexander and Barry Poyner on environmental structure, and Anthony Ward on therapeutic environments. Other similar groups also formed in the late 1960s with some overlap in membership, including the Design Research Society founded in 1966 and the Environmental Design Research Association (EDRA) formed in 1968. The groups published new journals of *Environment and Behavior, Architectural Psychology, the Design Methods Group Newsletter, the Design Research Society Newsletter* and the *Journal of Architectural Planning and Research.*

EDRA grew out of the earlier groups, fostered by the School of Design at North Carolina State University in Raleigh and the Department of City and Regional Planning at the University of North Carolina in Chapel Hill. As with the DMG, EDRA was not directly affiliated with the government, although author biographies credit National Science Foundation grants as well as the U.S. Department of the Interior and a Public Health Service Grant. The first meeting of EDRA was held in June of 1969 and included the disciplines of planning, design, architecture, electrical engineering, sociology, computer services, psychology, and preventative medicine. By contrast to the social criticism in Moore's introduction to the Design Methods volume, the EDRA proceedings opened with excitement about interdisciplinary collaboration while not omitting the chastisement of designers. Papers from this first conference were published the following year, including "An Approach to the Study of Environmental Quality," by Amos Rapaport; "Environmental Humanism Through Robots," by Nicholas Negroponte; and "Switching on the Seven Lamps", by William J. Mitchell, then a student in the Masters of Environmental Design program at


24 Bayazit, "Investigating Design," 20. In 1967, "a design methods group was established at the University of California, Berkeley and began to publish a newsletter called Design Methods Group (DMG) Newsletter."

25 Ibid., 24.

the Yale University School of Architecture. The volume also included an evaluation of the Planning Aid Kit developed by Clyde Dorsett and Constantine Karalis for the NIMH Community Mental Health Centers program in partnership with the National Bureau of Standards. In the introduction to the book, the editors Henry Sanoff and Sidney Cohn framed environmental design as a new interdisciplinary field, akin to cybernetics—repeating the technological comparison—or social psychology. Sanoff and Cohn explained how the multivalent nature of design problems became apparent in 1967 when designers realized their tools and methods were inadequate. Next, they turned to scientific research, but were unable to find research that was directly related to the problems of environmental design. The young field was described as plagued with methodological and epistemological problems, among which was the very definition of the field itself, much less what was meant by “environment.” Sanoff and Cohn defined environment awkwardly as a “complex adaptive or internally as well as externally open system,” which is much more of a systems or technologists’ approach than a humanist or designers approach.

The editors of the conference proceedings expressed ambivalence toward designers:

There is a tendency to be strong on relevancy and weak on scientific rigor. There is a tendency to be unaware of a body of knowledge relevant to their problems and the need to rediscover and re-argue epistemological issues long since resolved or declared un-resolvable in the social and behavioral sciences. As a result they contribute little to resolving the major conceptual problems and simultaneously add to the total source of confusion and disarray which has pervaded this movement.

Standing here in their roles as researchers, consultants, and organizers, Sanoff and Cohn distinguished themselves as more rigorous than designers, and up-to-date on the latest developments in

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27 Ibid., v.  
28 Ibid.  
29 Ibid., vi.
science. At the same time, their relationship with design was intimate: Sanoff taught architecture and Cohn taught city and regional planning. There is a great deal of variety across the members of these groups, but in most cases the interdisciplinary encounter produced an increased self-awareness on the part of architects at a time when they were confronted with the question of whether other fields could do their work better. Some members of EDRA felt that the role of the design/science hybrid was to keep an eye on the designers. Others suggested the growth of these new organizations was "at least partly caused by a desire to avoid ill effects on society of thoughtless, unconsidered decisions by architects and other designers." Sanoff and Crohn outlined the main areas of research as, "the externalization of the design process; the stimulation of individual and group creative problem solving; and the development of social and behavioral knowledge as to the man-environment relationship." Greater knowledge was intended to foster greater self-awareness about the role of the designer and the process of design. At times this was a curb on the designer at times, tempered with calls for recognition of the complexity of the problem they were tackling. For example, Negroponte cautioned those who he felt were overly enthusiastic about artificial intelligence to remember that "architecture, unlike a game of checkers (with fixed rules and a fixed number of pieces) and much like a joke (determined by context), is the croquet game in Alice in Wonderland, where the Queen of Hearts (society, technology, economics) keeps changing the rules." No doubt the very human mind of the designer would be better suited to handling the Queen of Hearts than a machine; Negroponte suggested that if architecture is like a joke, then designers need to be human and not overly rule bound.

CHRISTOPHER ALEXANDER AND THE NIMH

The best known member of the early Design Methods Group, Christopher Alexander, stands as a good example of the intersection of psychological research and the new basic research in architecture. Alexander was affiliated with the Joint Center for Urban Studies at Harvard and MIT, as well as the Center for Cognitive Studies at Harvard in the 1950s and 1960s. Here he was acquainted with work on linguistics and cognition by such scholars as Noam Chomsky and Jerome Bruner, who first nominated him for the Harvard Society of Fellows. In 1964, he published his dissertation research as Notes on the Synthesis of Form wherein he sought the underlying organization of all form as a means of guiding the design process.

in a more systematic and structural manner. In the 1960s, he also published a number of systematic studies of form and perception (Illustration 4-5). After his time at Harvard, Alexander moved to California and in 1967, he formed the Center for Environmental Structure at University of California at Berkeley, with the support of Edgar J. Kaufmann Foundation and the National Bureau of Standards. He also received direct input from NIMH architect Clyde Dorsett and a psychiatrist he called Dr. Ryan. Alexander worked collaboratively with others at the Center for Environmental Structure, including student Shlomo Angel, who produced an early study of crime prevention through environmental design which he published in 1968.

In the late 1960s and early 1970s, the Cambridge-educated Alexander was at work on a book of patterns, which he hoped would systematize the design of buildings. But where others were only in search of rigor, Alexander had a humanist bent and was more intuitive, concerned with establishing a shared way of designing that would be meaningful to all and at all scales. He sought to break down the elements of design into components, which he claimed could be assembled as a language. Alexander began calling his system a structural one, and by the late 1970s when he worked with the NIMH project, he referred to them as patterns. He emphasized that his approach was a practical, useful way of designing that could be used for projects both large and small. He wrote:


37 As has been observed, the desire to study architecture as a language was shared between Alexander and Eisenman at this time. The chapter will turn to the NIMH’s support of Eisenman’s efforts shortly.
Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice.38

Architect Francis Duffy and anthropologist James Friedman published an analysis of Alexander’s work in the first EDRA proceedings, declaring Alexander’s use of structuralist ideas as a sound first step toward diagnosing the structure of “man’s most habitual actions (language, manner, and myth).”39 Duffy and Friedman claimed that if one could find the minimal units that made up the structure, shared across cultures, that these units could be translated to design. However, the specific “minimal unit” which they discussed seems so general as to be either useless or common sense. They chose the minimal unit of the difference between public and private and its architectural translation in Japanese, Egyptian, and American houses. They foregrounded their admiration of Amos Rapaport’s approach, then argued that Alexander’s work made an important contribution in the translation of these minimal units into design. Even so, Alexander himself largely discarded the self-aware study of the cultural—and historical—contingencies of the translation from pattern to form.

Alexander’s work on the pattern language incorporated input from others, among them Clyde Dorsett. Dorsett had administered the NIMH’s Community Mental Health Centers Construction program and served as the head of the Architectural Consultation Section. He kept a binder of Alexander’s patterns to assist him in evaluating and guiding the architects of the new community mental health centers. But he was not only a passive recipient of these patterns as they were developed, he also put together a few of his own. As discussed in Chapter 1, Dorsett’s patterns included such institutional patterns as "Reception Welcomes You” and, "Free Waiting"—and indeed, he was thanked in the acknowledgments of _A Pattern Language_ for his work on reception. It is fitting that he would have developed expertise on reception, an element of architecture so key to convincing outpatients to return for treatment.40

In 1971 and 1972, Alexander was directly involved as a consultant in the design of a community mental health center at the Stanislaus County Hospital, located in California’s Central Valley, along with architects Nacht & Lewis. NIMH architect Fried Wittman was an important part of making the connection between Alexander and the NIMH. Wittman had worked under Dorsett in the ACS, but by the early 1970s, Wittman had been transferred to NIMH’s Facilities Engineering and Construction Agency (FECA) as the CMHC projects slowed.41 He had also previously worked with Alexander on _The Timeless Way of Building_.

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39 Duffy and Friedman, “Patterns and Semiology,” 70.
40 This is discussed in more detail in Chapter 1.
41 Correspondence with Fried Wittman, September 1, 2009. Wittman recalls going to work for Dorsett after
as part of the Center for Environmental Structure, and later he assisted Alexander in getting a grant from
the NIMH’s Center for the Study of Metropolitan Problems. In a report addressed to the head of the
Center, Dr. Robert Wakefield, Wittman described the patterns, and testified to their utility for the work that
Dorsett’s group, the Architectural Consultation Section, has done. He wrote:

We feel dissemination of the Patterns to governmental agencies and applicants could greatly reduce the need for architectural consultation site visits, and would make available continuously the expertise we now provide in one- or two-day visits or by letter / telephone.

Wittman was thus trying to convince the government agency that Alexander’s method would cut out just the personal expertise that his profession had been selling, replacing the site visit with a continuously available book from which Alexander would profit. The book provided transferable, mass expertise rather than a personal appearance. And by extension, this would save the agency money. It is worth noting that Wittman’s remark was a junior architect/bureaucrat’s attempt to justify a research apparatus to a government agency, and perhaps that context trumped any disciplinary loyalty. Wittman’s remark is also evidence that Alexander’s type of systemization was being framed as a competitor to design by those who were advocating for his method. Thus, it is easy to see why architects felt Alexander’s transferable knowledge was a threat to their interests and way of working.

Alexander received the grant and began work reviewing the drawings by Nacht & Lewis. In *The Timeless Way of Building*, Alexander described the process of working with the psychiatrist and others of the institution. He did not, however, mention working with the project architects, allowing the reader the impression that he was the architect. He explained how he sent 40 patterns to Dr. Ryan, asking the doctor to disregard those he found irrelevant and add those he felt would be needed. Ryan reviewed the list and

graduating with his M.Arch from the University of Pennsylvania in 1967. He had been looking for “a way to do my time during the Vietnam War,” and someone had suggested he work for Dorsett by traveling the country looking at CMHC facilities. He recalled: “The US Public Health Service Commissioned Corp offered a way to meet my draft obligation, which led to my being assigned to NIMH as a USPHS Health Services Officer. I joined NIMH in October, 1967, and after six months of OJT—mainly attending meetings with Clyde and watching how he worked—he assigned [me] to cover NIMH’s three western regions. I arrived in San Francisco in May, 1968.” Wittman then left the NIMH to pursue a PhD at U.C. Berkeley in 1971. Correspondence with Wittman July 13, 2009.

42 Correspondence with Wittman, July 9, 2009.
44 Like Newman, Wittman was arguing for the cost savings of the systematized form of architectural knowledge; however, Newman’s argument was less about systemization than it was about having the environment do the work of governing behavior.
asked for patterns for Adult Day Care, Adolescent Day Care, and Children’s Day Care. He apparently felt that even in a relatively small 16-bed facility, the daytime facilities for these groups should be designed separately, parsing psychiatric care into different age groups, which was common in institutional design thinking at the time. Ryan also asked for patterns for Outpatient, Inpatient, Administration, and Emergency. Alexander then described the experience of laying out the buildings on the site, walking around as a group wearing overcoats to protect from the tule fog while people in adjacent buildings wondered what they were up to out there all day.

In *The Timeless Way of Building*, Alexander uses this community mental health center case as an illustration of the design of multiple buildings. The authors presented a series of diagrams depicting the steps that produced a sequence from a central occupational therapy building to act as a “heart,” with tangential paths that nevertheless maintain a view of the inside of the central building. The diagram begins as an abstract rectangle indicating the enclosed site, with the main entrance indicated by a dot on the periphery (Illustration 4-6). The double lines halfway through the site rectangle indicate major circulation routes; the smaller rectangle is an “activity area” along that circulation and the circle represents a fountain onto which the doors of the main building and the child care would open. The image of the community mental health center as a place where children play near a central fountain is bucolic, perhaps even more so than the original optimistic idea of the centers. It is particularly so since the date of publication is late for this utopian image of modern psychiatry, assuming Alexander wrote the text in at least 1971, when Wittman says the work started, or at the latest in 1977 when the book was published. But this may have more to do with Alexander’s optimism.

46 This strategy is the same as Geddes explained that he had used with the new social science building and dining hall at the Institute for Advanced Study in Princeton.
about his method, and the context of the book, rather than realism about the facility or his attachment to the world of CMHCs.

After the diagrams showing the partit (or essence) of the composition, the authors document the next step in the process: clarifying the design by orienting the small gardens to the southern sun, and from there solidifying the scheme (Illustration 4-7). The pitched roofs in the sketch add a quaintness to a complex plan that seems far from the coherence of the earlier diagrams, whereas the plan communicates the programmatic complexity and difficulty of the design, which they emphasized in the text:

When a group of people try to do something together, they usually fail, because their assumptions are different at every stage. But with a language, the assumptions are almost completely explicit from the start.\textsuperscript{47}

In their use of the word "language," Alexander et al. refer to a design language or metalanguage—more specifically to their own pattern language, as other groups clearly use language to try to do things together and yet typically fail.\textsuperscript{48} But the CES group argued that its method could overcome the problem of designing as a compound or group architect, and group client at the hospital and a community group. In the CES theory, the site itself becomes a key shared reference, which they refer to as a medium.

\textsuperscript{47} Alexander, \textit{The Timeless Way of Building}, 449.

\textsuperscript{48} That is, they write and speak to each other. By 1975, there were others at Berkeley also taking a more humanistic third way, explicitly rejecting both the Modern Movement dogma as well as what one of them, Lars Lerup, calls the "neo-functionalism manner using social psychology and the latest technology." Lars Lerup, "Analysis of Built Form: A Collection of Analytical Drawings, Working Paper on Urban Design," 1975, manuscript in the collection of Fried Wittman.
This means that the time spent walking around in the fog served as compensation for the fact that the group was trying to use a language without a single mind, hoping that the immediate reality of walking around and waving their arms allowed for enough shared experience that the group could get past the problem of having different values and assumptions. One could argue, however, that walking around and literally waving one's arms is not a way of working with a language, but is instead a way of avoiding the problem of language with all its ambiguous references. Alexander’s method was ideally suited for a group of individuals who must work together, overcoming their very different ideas of what architecture ought to be. Though his method and other such rule-based practices may be somewhat less rich, their value lies in their adaptation to the ecology of institutional design. Through a reduction in the range of the conversation and rigorous adherence to rules or in this case patterns, the group can reach consensus.

CRITIQUES OF DESIGN/SOCIAL SCIENCE HYBRIDS

Even as such social science approaches to design were growing, other intersections with design and scholarship were more critical of the bureaucratic and deterministic use of social science. Of course, some within the bureaucracy and social science research economy also felt critical, Dorsett and Duhl among them. Similarly, Van der Ryn’s critique of institutional practices was funded by an NIMH grant, as discussed in Chapter 2. Moreover, well-known architects also had playful or critical reactions to the changes happening with the ascendance of social science and psychiatry. These include Hans Hollein whose "Alles Ist Architektur" with its spray can and pill able to produce a whole environment, à la psychotropic drugs. Similarly, Robin Evans objected to the reduced understanding of humanity perpetuated by the social science standards in the Parker Morris Report in the United Kingdom, an objection which animated "Figures, Doors, and Passages," his canonical essay on the environment and its impact on the psyche.49

Other examples of social and human science crossing into what is more commonly written about as the theory of architecture include Martin Pawley’s use of the theory of human territoriality as popularized by anthropologist Robert Ardrey, the same popularization that Newman had used for his work on Crime Prevention Through Environmental Design.50 Pawley drew on this material in his Time House project, weaving a mixture of references to Goffman, Piaget, and Ardrey with George Kubler and Jean Paul Sartre (Illustration 4-8). Pawley theorized that domestic architecture could produce existential reinforcement to combat the threats of overcrowding and overstimulation that he called "cereconflict."51 Pawley claimed that

50 Newman also referenced Festinger’s study.
cereconflict leads to shyness, and makes humans desire a space apart to themselves, and thus "form follows conflict." He claimed that "territoriality can today be considered as a primary instinctual drive," and, following the same zoologists who inspired Ardrey, he suggested that this was actually the primary human drive, contradicting Freud's assertion that the sex drive was primary.

In addition to being rooted in complex psychoanalytic and zoological ideas, Pawley's project made use of his own observations of the population around him, and for a cover image he chose just such an image describing the typical family roles in an English family. The next two images proposed human self-decoration as a means of "subjectivisation of the object" of the body, comparing a Suk tribesman in Kenya and a San Francisco hippie.

Next, he tailored an architectural and technological assemblage to reflect the occupants back to themselves, making the same leap from territoriality and surveillance to new video recording and storage technologies as Newman was making around the same time. His description of the house includes an inventory of the various compartments and mechanisms:

The heavy concrete installation is built for introspection and defense, like a bunker. It consists of a circular basement for mechanisms; pre-cast concrete floor and fin units (6) with motorized aluminum blinds (7) between, enclosing the living area, and a central pylon (8)—Under the optically black aluminum polyurethane sandwich dome (10) a silently rotating boom (3) carries a camera, a microphone and a sensor complex (1) which responds to impulses received from ammonia sensors installed throughout the house and continuously recording the behavior of the occupants. The video/audio recording, together with synchronized recordings of other environmental data are transferred to computer tape and stored in the basement memory to await recall in the replay room. The boom control mechanism (4) automatically adjusts the elevation, depression pan and tilt mechanisms (2) and compensates via the

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52 Ibid., 132.
53 Ibid.
54 Ibid., 122-123.
counterweight.\textsuperscript{55}

The result is a circular dwelling, not unlike Fuller’s Dymaxion House in form, but instead of a central mast for support and mechanical systems, there is a central mast and a boom laden with video and audio recording equipment.

Pawley addressed the way that inadequate living environments, including prisons, turn humans into objects, saying that: "A man can 'survive' in a prison cell six feet square, an underground train, a space capsule or a pot hole—but he cannot live there.... To 'live' in such situations man must accept the status of an object, as though the world were always in a state of warfare, famine or pestilence, as though life were a job."\textsuperscript{56} Clearly, the same technological and sociological concepts could be used as straight-faced guides for research as EDRA et al. did, or as in Pawley’s case, one could use these new concepts for critique.

SOCIAL SCIENCE AT THE UNIVERSITY

Social science had an impact on architectural education much as it did on research, as architecture departments reframed themselves as a more integral part of the university if not society, identifying new sources of funding, and building on the kinds of interdisciplinary connections laid out above. While there were earlier precedents for the introduction of science and other types of research into schools of architecture, the 1960s saw a radical restructuring as the field tried to respond to a new era of science, technology, and social change.\textsuperscript{57} In contrast, the 1960s saw an increase in urban research and studies of the

\textsuperscript{55} Ibid., 145.
\textsuperscript{56} Ibid., 129.
\textsuperscript{57} Schools had experienced a shift toward building and ergonomic research in the immediate postwar period. Studies of building technology, building products, and a more ergonomic, functionalist progenitor in terms of environment and behavior were carried out by William Wurster at the College of Environmental Design at Berkeley; C. Theodore Larson at the Michigan Architectural Research Laboratory; the Graduate School of Design at Harvard; G. Holmes Perkins at the Department of Planning at the GSD; William Caudill and the Architecture Division at the Texas Engineering Experiment Station (Texas A&M); and the Institute for Architectural Research at the University of Pennsylvania. Avigail Sachs, “Research for Architecture: Building a Discipline and Modernizing the Profession” (Dissertation, University of California, Berkeley, 2009).
internal psyche of the occupants and the psychological response to form, whereas the functionalist studies were not as concerned with the mood or mentality of the user. Architecture schools underwent a good deal of restructuring during the mid-1960s, as seen in a *Progressive Architecture* survey finding that 23 schools had new leadership and that 81 percent claimed to be planning or had recently instituted significant curriculum changes. Respondents to the survey cited "science," "programming," "curriculum," "architectural expression," and the architect’s role as key drivers of change.

Looking back on this period of change, the New York City-based think tank known as the Institute for Architecture and Urban Studies (IAUS) held a retrospective exhibition on the changes in architectural education at Princeton University’s School of Architecture. Held in 1977, the show focused on the waning of the Beaux Arts model that had dominated since at least the American Civil War. In its place, the new dominant model seemed to be the hard sciences, social science, and policy, with a new interest in urban and environmental questions. Those nostalgic for the recent past and those ushering in the future remarked on the new influence of social science. Among the notable comments are those of Robert Gutman, a professor of sociology, founding member of the IAUS and professor at Princeton University and the Bartlett School of Architecture in London. He speculated:

> Perhaps the most significant change in the architecture curriculum throughout the industrialized nations over the last century has been the introduction of the social sciences... Princeton, under Dean Geddes, has been a leader in this innovation. This is the explanation for my presence on the faculty, as it also accounts in part for the presence of Anthony Vidler, Carl Schorske, Suzanne Keller, and earlier, Kenneth Frampton. At Princeton, because of Geddes’ cast of mind but also because of the orientations represented by people just named, the social science emphasis is manifested in a primary concern for the role of the cultural

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60 Fred Bernstein, “Consistency Through Change. A Review of Princeton’s School of Architecture from Labatut to Geddes,” in Centre Canadien d’Architecture Archives, Fonds 57: Institute for Architecture and Urban Studies fonds, (hereafter CCA/IAUS Archives) Folder D-4. In addition to observing that the dominant representational style had shifted markedly from colored renderings to black-and-white line drawings, Bernstein argued that the major transition at Princeton had been the introduction of social science, policy, and engineering, which replaced a more intuitive concern for human factors on the part of designers. The suggestion then is that social factors may have been an intuitive part of the curriculum under Labatut, but became explicit under Geddes, leading to their expulsion later on.
61 Gutman taught at Rutgers, where he was tenured, and came to teach at Princeton, where he held the title of Visiting Professor and Lecturer. Gutman, *Architecture from the Outside In*, 24. Eisenman lists the IAUS founders as Robert Gutman, Stan Anderson, Robert Slutsky, and Arthur Drexler in an interview with Beatriz Colomina and Urtzi Grau in Beatriz Colomina, Craig Buckley, and Urtzi Grau, eds., *Clip, Stamp, Fold: The Radical Architecture of Little Magazines, 196X to 197X* ([Barcelona, Spain]; [Princeton, N.J.]; Barcelona; New York: Actar; Media and Modernity Program, Princeton University ; Distribution, ActarBirkhäuserD, 2010), 262.

Chapter 4. Transcendence
and historical sciences in architectural education.\textsuperscript{62}

Gutman had already been teaching sociology at Dartmouth University and at Rutgers before studying at the School of Architecture, following his own fascination with the subject and the aid of a Russell Sage Foundation grant to assist him with hiring tutors.\textsuperscript{63} At the time he started, he was 40 years old, married with two children, and, as he recalled, no one was expecting that he would become an architect. Instead, it was sufficient that he bring his sociologist’s training to the field of architecture in pursuit of a greater understanding of the profession, its methods, and the role of social factors in the environment. According to Gutman, the rising influence of social science at schools of architecture other than Princeton had resulted in the growth of environmental psychology programs, or in creating combined programs in architecture law and business. At Princeton, however, the result was an indirect influence of social issues on architectural education and scholarship that included the work of a neo-Marxist historian like Frampton and a social historian like Vidler. In an essay on “Architecture: The Humanities Model,” written in 2001, Geddes claimed that the social sciences were influential in shifting architecture to a humanities approach, exemplified by social historians like Frampton. Geddes explained that social science and its emphasis on the importance of social forces and social difference had contributed to the increasing value of the “historical sciences” and the study of cultural expression.\textsuperscript{64}

Whether social science or humanities, Princeton’s School of Architecture began to strengthen its connections with the rest of the university, trying to give design a place at the table where such large national and social issues were being discussed. As part of this effort, the course, Architecture 101: Introduction to the Built Environment was framed as a popular class for a wider university audience, and included the perspectives of anthropology, biology, social science, engineering, and planning, as well as architecture. As with the curriculum changes at Berkeley—described in the context of Sim Van der Ryn in Chapter 2—Geddes made a number of changes at Princeton, which were grounded in his own past experiences at Harvard in the 1930s under Joseph Hudnut, much as the Berkeley changes were rooted in William Wurster’s experiences at Harvard. The goal was to reframe the discipline so that it would be able to respond to an era of rapid change and be able to serve a society in the midst of rapid changes, to be truly modern in the sense described by Hudnut. Looking back in 2001, Geddes described this as seeing

\textsuperscript{62} Institute for Architecture and Urban Studies., Princeton’s Beaux Arts and Its New Academicism: From Labatut to the Program of Geddes: An Exhibition of Original Drawings Over Fifty Years, January 27 to February 18, the Institute for Architecture ([S.I.: s.n., 1977], 28.

\textsuperscript{63} Gutman, “Introduction” in Gutman, Architecture from the Outside In.

architecture "addressed to serviceability," indicative of the growing importance placed on audience and the people to whom architecture is addressed.  

In 1967, two years after he was appointed dean of Princeton's School of Architecture, Geddes produced an influential document that he called "The Princeton Report," which set up a matrix for evaluating the many new programs that were being put together, particularly in terms of their ability to design a more "humane" environment. The idea of a humane architecture has shown up repeatedly in the dissertation so far, indicating the desire for an architecture that responds to humanity and communicates that response through form. In addition to responding to society, Geddes felt that architecture as a field would need to figure out how to integrate with the rest of the university while maintaining a strong core of design from which to connect to other disciplines. He worked to frame design "as an intellectual discipline in its own right."  

Looking back, he compared architecture to both art and science, while not being quite either one; rather, he felt it was a combination of expression and knowledge. Believing that design touches everyone's lives, and that it was also an act that each person did daily—whether simply setting up a social encounter, arranging items on a desk, or planning out a day—Geddes wanted designers to be able to explain to those in other fields what design was and what made it unique.  

By the 1970s, Geddes felt that the design studio as a place of education was under attack from many sides, among them technocratic "programming studies," "design methodology," and those who would frame education around case studies in order to be more similar to law and business schools. By contrast, Princeton faculty relied on the strong history of Beaux Arts education and retained the focus on design studios as a base from which to integrate with the rest of the university. Geddes sought strong but conventional connections with the other professional schools at Princeton: engineering and public affairs. With social science, they built connections that were "often brilliant, but full of tension—recognizing that architecture is both a social construction and a cultural expression." While the term "social construction" may be anachronistic—more germane to the language of 2001 than of 1967—Geddes's position was that neither social determinism nor pure expression were adequate approaches to design. In terms of the

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65 Geddes cites Joseph Hudnut in *Architecture and the Spirit of Man*: "That architect is modern which, addressed to serviceability in a modern world, penetrates through to that pageantry, health, wealth and grandeur which lie beneath its outward confusions and dissonances." Geddes, "Architecture: The Humanities Model".


67 Ibid. Geddes made similar remarks in conversation, December 16, 2011. And while Eisenman and the Texas Rangers are often credited with reviving the view that architecture is primarily an idea, clearly Geddes shared that value on architecture as an intellectual discipline.

68 Ibid.
humanities, Princeton School of Architecture (SoA) faculty maintained their strong ties with the
Department of Art and Archaeology, but it was "more than matched by the emergence of social history and
cultural history." The SoA created ties with philosophy and anthropology, leading to joint appointments as
well as reformulating the doctoral program under an interdisciplinary committee grouped into three
concentrations: history, social science, and technology. Geddes recalls that the doctoral program was an
important bridge between "social planning and physical planning," seeking to "expand the intellectual
frontiers" and "to bring to bear the insights of many disciplines on the problems of urbanization and the
quality of the human environment."69 Through research, design stayed in conversation with other parts of
the university while being a major part of advancing knowledge about design and the environment.

Interdisciplinary discussions about the built environment also happened at Friday brown-bag
lunches with regular attendance by faculty members of "Economics, Politics, Sociology, History,
Anthropology, History and Philosophy of Science, Civil Engineering, Public Affairs and Urban Planning
and Architecture," including William Baumol from Economics, Gutman and Suzanne Keller from
Sociology, Thomas Kuhn from the History and Philosophy of Science, and Emilio Ambasz, Lance Jay
Brown, Geddes, Graves, and Bernard Spring from Architecture. Describing what these conversations were
like, Geddes recalls that the architects often felt the economist oversimplified the complexity of the built
environment and that Kuhn cautioned architects from over-reliance on matrices to contain and structure
ideas, as in the CIAM grids/grilles.

Of course, there are overlaps between education and research, and one should not be surprised that
Princeton faculty pursued federal funding for their sociological work. Geddes, Gutman, and Keller sought
federal funding for research, receiving a grant from the NSF for the means to evaluate architecture in terms
of human use, at the scales of both building and of community. The results were published in 1977 as the
work of the Princeton Rutgers Environmental Assessment Group (EAG). The project included an
assessment of Radburn, New Jersey, as well as an evaluation of existing literature. Geddes and Gutman
remarked that the existing manuals failed to mention environmental assessment after a building was
occupied, citing the AIA Manual, The Architect's Handbook of Professional Practice, and discussing the
National Building Code's pretense of being concerned with social and life safety while not dealing with the
human environment interaction after that declaration of intent.70 The changes at Princeton show that the

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69 Ibid.
social sciences infiltrated architectural education, prompting questions not only about curriculum, but also about the nature of research itself.

THE NIMH AND THE INSTITUTE FOR ARCHITECTURE AND URBAN STUDIES

If a technology of trust is called upon in times of dissent—where a discipline is challenged and attempts to bridge the gaps fail—then the experiences of Kenneth Frampton, Peter Eisenman, Robert Gutman, Mario Gandelsonas, and other members of the IAUS fit that description. Perhaps best known for publishing the influential architectural theory journal *Oppositions*, founded in 1967, the Institute aimed to be a place independent of both office and university where pure research in architecture could be undertaken.\(^7^1\) The IAUS was an informal group with offices on West 40th Street in Manhattan; programs included sponsored study for undergraduates and visiting scholars, many of whom had taught or were teaching at American or European universities. The Institute was to be a place apart from both the architectural office and the university, and ideally a place that would combine the strengths of both without the liabilities of either. It was to be a place for close formal analysis as well as theoretical and intellectual work, without being beholden to client concerns or the curriculum requirements of the academy. The interests of its members were diverse, but in general they shared a desire to revise some of the tenets of modernism and examine the reasons for its stalled progress. This desire included questioning such ideologies as functionalism, exploring the potential for extending the formal project past the limitations that they felt had arisen in the postwar years. As an example, many members felt that the work of architects such as Mies Van der Rohe and Le Corbusier had been diluted for use by government and corporate clients, corrupting what had been a utopian project into a pedestrian, status quo form. One could also argue that the postwar years were simply the typical translation of elite taste into more popular forms, but either way the institute was looking to consciously reanimate the production of new forms of architecture.

Eisenman et al. sought an increasingly rule-based theory as demonstrated by the sequence of these urban projects, from field study to application to abstract grammar. Surrounded by a field in turmoil, they turned to an abstraction that made a more certain if less vivid claim to architectural truth. There is ample evidence of the encounter with this turmoil. In 1971, Eisenman spoke alongside Herbert Gans, Robert Gutman, Denise Scott Brown and others at the Architecture Education USA conference, organized by IAUS and held at the Museum of Modern Art.\(^7^2\) In his remarks, Eisenman recognized that many admirable

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members of the discipline perceived it to be in a state of crisis. Gutman, for example, had already declared that the problem of architecture's inability to demonstrate its relevance in the new era of mass society had become such a problem that Columbia University was considering abandoning its school of architecture. Gutman claimed that the schools of architecture had failed to show that they were not just at the service of the profession or the interests of the faculty, but were able to address the big questions facing society, such as the place of architecture in a mass society, the relation between design theory and design method, and between design and history.73 Despite such dire pronouncements, Eisenman, quoting Colin Rowe, declared that the need to produce a crisis came from "the need to see reality in terms of the 'architect washing away his social guilt'."74 It is this need to wash away social guilt—presumably of the failures in housing and urban renewal—that produced the feeling that change must happen. He calls this feeling the "psychological necessity" of the individuals, arguing that there is no real crisis, only the feeling of guilt which had caused a problematic polarization. As we might expect from the theory of a technology of trust, Eisenman responded to this polarization by calling for a reduction and transcendence. He chastised the advocates of crisis-planning who want to spend money on urban renewal as really just stabilizing the ghettos. Rather than continue to perpetuate the problem, he proposed to transcend it by calling for a new framework for reality.75

Fellows at the IAUS pursued some early, if not entirely successful urban work. Eisenman, Anthony Eardley, and Graves had adapted Le Corbusier's idea of the linear city to Newark, New Jersey, and its environs in a Jersey Corridor project, published in 40 Under 40 in 1966.76 Then, during the summer of 1968, the IAUS attempted to work with the Urban League through a proposed expansion of the League's successful Street Academy to include drafting and drawing.77 The Urban League project fell apart, partly due to particularly bad timing, in that 1968 was a year of rising racial tensions, evidenced by demonstrations at the National Democratic Convention in Chicago, and rioting over the assassination of Martin Luther King, Jr., which would have been close to home for the New York City-based IAUS.

74 Ibid., 5.
75 Ibid., 9.
The failure of the partnership with the Urban League did not mark the end of the IAUS’s search for partners; they also completed a study as part of the HUD Model Cities demonstration project in Binghamton, New York, in 1972 (Illustration 4-10). The project involved mapping the streets of the city, in hopes of preserving and growing the central business district. The project was informed by social science methods through the assistance of Robert Gutman, who assisted with methodological and disciplinary practices, framing reports into formats that the sociologists on review panels might expect. The architects asked residents to agree or disagree with statements such as: “I want my street to bring people from downtown.” Residents of Binghamton were asked how they saw their city, their neighborhoods, and their streets; then streets were interpreted as a means of circulation, both formally in terms of whether they were circular or linear, but also in symbolic and gestaltic terms. In this way, they presented a hybrid formal and social analysis, through the idea of “cognitive models” similar to those used by Lynch, Alexander, and others. Gutman reviewed the survey and maps, and recommended the proposal adopt a certain amount of methodological self-awareness and to declare their understandings of the faults of their study, sample bias, what the utility of each question was, and how the “experiment” could be improved.

Illustration 4-10: Map of Binghamton, N.Y., from the Binghamton Streets study (~1972), CCA/IAUS Folder B3-4.

79 CCA/IAUS contains a Subseries 3 on the Binghamton Streets project; Folders B3-2 through B3-4 deals with the HUD funded research.
80 Meeting minutes dated February 8, 1972, CCA/IAUS Folder B3-4.
Such self-awareness is a critical part of the scientific method and its means of producing knowledge, refining repeated attempts and demonstrating that the experimenters know what they are up to and that they are not claiming results that are not commensurable with the experiment.

The Urban League and Harlem work has been interpreted as purely opportunistic, and no doubt that was partly true. Historians analyze the project as largely enabled by the research economy. Convincingly, historian Lucia Allais claims that “the Harlem plan reveals plainly why there was a ‘U’ in IAUS: because ‘urban’ was a crucial category of funding in 1968, essential to the operation of any architectural agency.”

In fact, the category ‘urban’ did open avenues for funding opportunities. The archives of the IAUS at the CCA contain ample evidence that fund raising through grant writing was a significant endeavor. There are letters expressing anxiety over funding, scholars and students threatening to sue for back pay, and a conflict between Frampton and Eisenman over some inadequate design work that Frampton claimed was due to under-staffing, all of which indicates that the need for secure funding was a constant concern in the early 1970s. The archives contain correspondence with foundations, letters from Eisenman asking if he might speak with a member of the foundation to introduce his work, follow-up letters on both sides, and, in the case of the Graham Foundation, some quite warm and informal notes. The range of funding sources Eisenman and the Institute considered is vast, and they wisely put together a mixture of private, corporate, and state donors ranging including the NIMH, HUD, Exxon, AT&T, the National Endowment for the Arts, and architecture and construction firms. Prior to receiving the NIMH grant, Eisenman et al. had met or corresponded with a few of the large social science research foundations, notably the Ford Foundation and the Alfred P. Sloan Foundation.

A hint of at least a minority attitude to the Binghamton project is revealed in an irreverent internal memorandum, which included the heading “II. c. New York—IAUS grant, OR ‘It’s only peanuts next to the defense budget’.”

The report, by Sarah Rubin and Steven Goldstein—presumably undergraduate associates at the IAUS—described the impact of the HUD funds:

1. The grant pays and supports a number of deserving secretaries, architects and their families who might otherwise be forced out onto the streets in this period of economic recession.

2. The HUD monies pay for dash tape, colored pencils, magic markers,

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83 The IAUS received a staffing grant for $12,500 for “research on urban street systems” from the Sloan Foundation in 1969, and were looking for a second in 1970 and a third in 1972. Correspondence from Charles E. Hewitt to Peter Eisenman, October 24, 1969, CCA/IAUS Archives, Folder A3-3.
organizational charts and three dimensional models, as well as the cost and operation of the Xerox machine, which saves untold amounts of money in untold reams of carbon paper.

3. It provides fodder for the intellectual academic papers that permit IAUS fellows and associates to relive their undergraduate days and allow students of architecture and urban studies all over the country (if not the world) to profit from the combined intelligence of a group of New York Jewish heterosexuals and an assorted Italian or two.

4. Payments give IAUS associates and fellows an opportunity to avoid going out into the real world and doing real work. It allows them to do intellectual exercises and games while they blithely say "we're escaping from the academic ivory tower world."

5. Payments permit IAUS to be a sanctuary, refuge and excuse for various mid-western undergraduates to enjoy the fun and lights of the Big City, to leave their small, humdrum campuses in their respective cornfields, and to learn such lessons as: "How to Operate a Xerox Machine," "The Knack of Running Errands with the Experience of Three Years Colleg," and "How Architects Really Spend 9-5," and "The Fun of Getting College Credit for Taking Slides for a Fellow's Architecture Lectures." 85

Clearly, the grant allowed the IAUS to persist and to undertake broader and less immediately useful work than they would have been able to do with only "real" commissions for buildings. It also allowed for them to occupy a place in between the profession and academia, where they were engaged directly with bureaucracy, with the collective production of reports and the use of the apparatus of business, such as the Xerox machine and the many errands mentioned. While they may well have simply appealed to Binghamton and HUD as a means for funding, the selection of this grant rather than others was certainly due to the fact that it would yield the aforementioned "fodder" for IAUS research. More simply, the analysis of street patterns fed into the work they were doing in general. Moreover, even if they were doing the project only for the funding, the encounter did not leave them unchanged. The HUD grant, and others, provided a medium for their work, and they allowed the IAUS to encounter the bureaucracy and learn its methods as well.

In a section that the authors indicate is to be taken seriously, Rubin and Goldstein stated that in their opinion the money would be better spent by giving it directly to the residents to renovate their own properties. In saying that, they entirely missed the point of the grants, which was to seek a higher-order strategy of urban intervention at the comparatively low cost of employing a few intellectuals. Giving the money directly to the residents would not have changed the broader conditions in Binghamton, much less

85 Ibid., 3.
the nation, being only of use to the few residents who could receive the aid. In funding an abstract and not immediately useful analysis of the way that Binghamton functioned formally and psychologically, HUD gambled that the money might produce a new way of thinking that would allow for amelioration of the problems. Or, more cynically, that in funding such a report, the agency would be seen as seeking a solution while spending comparatively little money. Actually assisting the residents with income or better housing would have been far more expensive when multiplied nationally. The IAUS findings, however, could be transferable across the nation. It seems that HUD and later the NIMH endorsed Eisenman’s search for a transcendent theory of architecture.

DEFINED TERRITORIALITY AT MARCUS GARVEY PARK

Before the Institute reached the abstract search for ideal structures that was funded by NIMH in 1974, there was another dive into transferable, quasi-social science work, and that is the engagement with the quasi-social science research done by Oscar Newman. Newman’s theory of defensible space influenced the built work of IAUS members in the case of Marcus Garvey Park designed by Kenneth Frampton, et al. Located in Brooklyn, the housing project was a joint venture with the New York State Urban Development Corporation (UDC), in concert with Ted Lieberman, Chief of Architecture. The UDC was a recent creation, from 1968, aimed to construct low-income housing, using better design, that would be an asset to a community. Along with a similar housing project in Fox Hills, Staten Island, the project was also shown in the exhibition "Another Chance for Housing: Low-Rise Alternatives" at the Museum of Modern Art from June 12 to August 19, 1973. When plans for the project were published by Progressive Architecture in 1973, the magazine framed it as part of the project on Low-Rise, High-Density (LRHD), constituting an alternative to the more typical attempts to reproduce Le Corbusier’s towers in the park. Legitimating this LRHD approach as the latest thing, the article described how Newman had “shown” that “there is a direct relationship between the height of public housing buildings and the amount of crime and vandalism they engender” through the use of NYCHA data. The wording revealed the influence of the social science language of data, and the statistical concept of a direct relationship where two variables increase together. The philosophy of the project shared many of the basic principles of Newman’s book Defensible Space: Crime Prevention Through Urban Design. Anthony Pangaro and Kenneth Frampton described the

86 Interview with Mario Gandelsonas, January 6, 2012.
89 Ibid. The connection between Newman’s theories and Marcus Garvey Park also appears in Gwendolyn Wright, USA, Modern Architectures in History (London: Reaktion, 2008), 212, and it was this citation that alerted me to the link.

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importance of architecture that could produce both a sense of "community" and a sense of "propriety" through limiting the number of residents in a single entry to promote "recognition," designing units to enable "easy surveillance" over the surrounding grounds, and the UDC's adoption of Newman's ideas into its own guideline for "defined territoriality". The lines of easy surveillance were called out in a compound drawing, extending from tiny figures located on axonometrics keyed into a site plan, showing how the volumetric surveillance worked with the different unit types to cover the major avenues of the site (Illustration 4-11).

In addition to the influence of his ideas, Newman was literally present and part of conversations at the IAUS, giving lectures and participating in discussions. Newman participated in a transcribed but undated conversation that probably took place in the spring of 1973. The discussion between Stanford Anderson, Eisenman, Frampton, Gutman, Tony Eardley, Michael Graves, et al. began with the topic of type in architecture. The group debated whether Eisenman's houses departed from the idea of type in favor of program, with Eisenman suggesting that perhaps the idea of program has allowed architects "to experiment with form types". His remarks were unformed, informal, and imprecise, but what is clear is that he was trying to move past the conversation that the rest of the participants were having about Richard Meier's and Frank Lloyd Wright's use of the fireplace as archetype. The contributions of Newman and Eisenman were typical, with Newman bemoaning that so few architects thought they had anything to contribute to the problem of mass housing and Eisenman pushing the group to get past the idea of the fireplace and into a more generalizable and universal level of analysis.


91 As noted in Chapter 3, he lectured in the fall of 1974, along with Colin Rowe, Vincent Scully, Peter Blake, Christopher Tunnard, Charles Jencks, James Fitch, sociologist William H. Whyte, Jaquelin Robertson, Robert Stern, "and many others," "Display Ad 169—No Title," New York Times (Oct 2, 1974): 100.

92 The full list of participants is listed in the finding aid as: Peter Eisenman, Stanford Anderson, Kenneth Frampton, Robert Slutzky, Michael Graves, Joseph [Rykwert?], John Hejduk, Ted [?], Gusty, Henderson, Oscar Newman, Richard Meier, Tony Eardley, Robert Gutman, Arthur Drexler, John Hejduk, Richard Henderson, and Richard Meier. Some of these figures need no introduction, particularly Eisenman, Frampton, Hejduk, Meier, and Graves. Drexler was the curator and director of the Department of Architecture and Design at the Museum of Modern Art.

93 CCA/IAUS Archives, Folder B1-4, Transcript, 7.

94 To give a sense of the "in progress" quality of the conversation, Eisenman remarks that he is interested in: "the relationship of a form and a space to a human environment in any scale. And I would have thought that all of these buildings should not be taken in context, a literal context of the individual one house, and then criticism of social and implied criticism of that. But rather as they are implications toward a lifestyle or a form, of spatial organization leading to a lifestyle at a larger scale. That was the intention in showing these buildings in the face of a social relevance around us concerned with the city, mass, problems, etc." CCA/IAUS Folder B1-4 Transcript, 8.
In an exchange with Meier, Newman pressed him on a close reading of a few forms, beginning with the space around the fireplace in one of his houses. Newman asked Meier whether he felt it was a problem that the space did not allow one to sit in front of a fire as one might expect to do. Meier replied that he did not feel it was a problem because he only treated the house as a series of forms. Newman’s response was to accept the formal mode, and to offer a critique of a missed formal opportunity with the roof, which Meier accepted. With that, the sub-discussion between the two closed, and the painter Robert Slutsky interrupted to return the conversation to a debate with Eisenman about Kazimir Malevitch’s theory of objects. The pattern of this exchange is a good example of the formalist mode as a means of quelling dissent. Newman offered a social critique and pushed the IAUS architects to discuss the failure of their social role, but when that broke down, he followed them into formal analysis, albeit belligerently. The

Illustration 4-11: Site plan with axonometric drawings showing the way easy surveillance works in three dimensions. Catalog for 1973 exhibition “Another Chance for Housing: Low-Rise Alternatives” at MoMA, 16. CCA/IAUS Archives, Folder B5-5.

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95 Newman’s interrogation of Meier happens on and around pages 35-37. His discussion of the role of architects in mass housing is on page 58.
point is that the formal mode was able to stall such social objections because it was a common, if reduced, language.

But the social questions kept turning up, and social and psychological factors were also foregrounded when the group turned to the question of housing tailored to a more recent lifestyle rather than the archetypal fireplace, considered both at the urban and the residential scale. The conversation took up the question of whether despair about the social context and “lifestyle” issues would result in completely ruling out the human being. In response to that speculation, an unidentified voice told a story complaining about a friend whose architect started the design process by asking whether his client wanted an entertainment-oriented house or a family-oriented house. The group responded to this remark with laughter, after which an unidentified voice remarked that even so, “You know, you don't throw the baby out with the bath.” That remark may well have been made by Newman, since he had been the most recent speaker to hold a dominant line in the conversation, with his remarks on social context and Le Corbusier’s housing. Moreover, the comment is in line with what he had been saying.

Whoever the speaker was, Eisenman responded to the objection that too much was being lost when one tossed out the idea of lifestyle as the origin of design. His response was to acknowledge that there will always be a social context, even if the architect reacts to the context in denial of it and the implication may well be that that is precisely what he was doing as he was pressed by Newman or Gutman or whoever was defending the importance of social context. Eisenman clarified that he was interested in working within that social framework, but only in the way that a speaker works within the constraints of language:

What I'm saying within that framework, as any language is limited by the fact that our tongue moves in a certain way, the, these linguistic philosophers were searching for something new, as it were, artificial languages to perhaps go beyond the limitations of language today.

Eisenman’s call for transcendence is clear, echoing Chomsky’s theory of deep structures that would be the basis of all language, able to transcend the particulars of any given language. In the same way, Eisenman hoped to find an architecture that would transcend the difficult conversation about lifestyle and social issues.

Drawing on the authority and objectivity of science, he argued that his search for form types was not a full architecture, he called it “a fragment or an experiment”, a piece of research. Later, Eisenman elaborated and described the work as experiment, akin to dissection:

96 CCA/IAUS Archives, Folder B1-4 Transcript, 14.
97 Ibid., 15.
98 Ibid., 16.
As it stands it's a half, as one arm without the body... I mean, I've said to you I make no apologies for—only being half of—of a half of an architecture.

I say it's an experiment and I feel the right as an experimenter to take things and dissect them and pull them apart and make suspensions—that it is a suspension, only.

It is not a complete work of architecture.99

As with scientific method, Eisenman worked to isolate one aspect of the phenomena, as a means of finding an answer to one problem. He was not trying to answer all the questions of humanity and architecture; instead, he was looking to find the level of abstraction that could transcend the local details. Whether or not the final result would have any utility, being so far removed, is another question.

GENERATIVE DESIGN

Eisenman's attempt at transcendence was expanded with the arrival of Mario Gandelsonas and the assistance of a large research grant from the NIMH for a proposal called "Program in Generative Design." The grant was sought out and brought in by the IAUS, mainly Gandelsonas, Eisenman, and Diana Agrest, in the era right before the Institute began publishing *Oppositions*. The grant provided a significant amount of funding, allowing for two fellows to remain at work, the lights to be kept on, and a reduction in the time and energy expended by Eisenman et al. in searching for funding. While it was just one among many funding sources, the NIMH grant was particularly large. To give a sense of what was at stake, the Institute applied for $311,099 to be used for three years, 1973 through 1976.100 They did receive $40,000 on October 16, 1972 and $37,920 for indirect costs in August 27, 1973.101 Considering that a salary for one of the fellows was $20,000, this was projected to pay for two fellows, a pair of research assistants, the services of a secretary, and a minimal $300 a year in books, reproductions, and supplies.102 With this substantial funding from the NIMH, the institute was able to pursue the equivalent of "basic research" in architecture. It gave

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99 Ibid., 52-53.
101 There are two notices in the archive: "Notice of Grant Awarded", October 16, 1972, CCA/IAUS Archives Folder B6-3 for $40,000 for the period 09/01/1972 through 08/31/1973, and Grant number 1 R01 MH21896-01 and "Notice of Grant Awarded", August 27, 1973, for the same period. CCA/IAUS Archives, Folder B6-3. While the second notice has a different grant number, it has the same PHS Transaction number and seems to just be a reissue of the document to resolve the incorrect address for the IAUS. If it is a second grant, that only makes the event more significant, so I have chosen to err on the conservative side. A brochure in the archive defines indirect costs as "those costs of an institution which are not readily identifiable with a particular project or activity but nevertheless are necessary to the general operation of the institution and the conduct of the activities it performs."
102 CCA/IAUS Archives, Folder B6-2.
them the time outside of designing for clients to pursue intellectual work. Even so, the NIMH was a specific client, and did have certain expectations from the institute that shaped the proposal if not the outcome. In the same way that preparing an exhibition or publication directs the project toward a disciplinary or popular audience, working on the NIMH grant directed the Institute’s work toward the ends and procedures of the NIMH.

The match is hardly an obvious one, even considering the NIMH’s expansive definition of its role and the understanding of its interest in solving urban problems, discussed above. The NIMH may have been merely interested in the IAUS proposal to use linguistics as a model for urban design for its possible use in solving “urban problems,” not as a linguistic proposal, for when Gandelsonas and Eisenman went to meet with the NIMH in Washington D.C. area, they were directed to the Center for the Study of Metropolitan Problems from whom they eventually received the grant. In describing the NIMH project to the Sloan Foundation, Eisenman et al. claimed to have received funding to put together a “model” and a “methodology” by which they could study “the analysis and the design of the physical environment as a

Illustration 4-12: Postcard confirming receipt of grant application, January 15, 1973, CCA/IAUS Archives, Folder B6-2.

103 The head of the Center for the Study of Metropolitan Problems at the NIMH at the time CES received a grant was Richard Wakefield. Document dated October 14, 1970, courtesy of Fried Wittman.
means of communication.” The IAUS was prompted to seek funding from the NIMH by their awareness that a few of the linguists they were interested in had been funded through the NIMH. In addition to Eisenman’s much discussed interest in Chomsky’s work from his time at Cambridge, the comparative newcomer Gandelsonas brought an interest in Roman Jakobson, Julia Kristeva and other European theorists from his previous few years in France. Both Chomsky and Jakobson did cross between mental health and linguistics; for Chomsky, it was due to his belief that language acquisition is prepared by “deep structures” in the brain, and for Jakobson it may have been his interest in the experiences of aphasia and its impacts on language.

Gandelsonas, Eisenman, and Agrest submitted their proposal for "Program in Generative Design", the genesis of which is preserved in drafts in the archives. The proposal was a combination of the interests of all three, and perhaps others at the institute as well, blending Gandelsonas’s knowledge of semiology and communication with Eisenman’s interest in conceptual structures. They began with the observation that there is a gap between form and function, and proposed to look at the mechanism that mediates between. They wrote:

The main thesis of the proposal is that architects design and construct things which have meaning, and that in order to have meaning the "messages" which are created must conform to some normative system of signs.

The proposal was essentially to follow Chomskyian linguistics and find the deep structure of form, to better be able to predict user reaction to it. The proposal’s introduction lays out the main objective, which is to close the gap between the study of environment and the study of behavior by looking at the syntax of the environment. They begin by declaring in a gestalt manner that “we” make sense of our environment, though they differ somewhat in describing the process in the structuralist manner of interpreting "signs". They proposed to develop four models of the way that the environment is structured, and that these models would have the potential to be used both for analysis and for design, hence the term

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107 CCA/IAUS Archives, Folder B6-2.
Illustration 4-13: Figure 5. IAUS application to the NIMH for "Program in Generative Design," CCA/IAUS Archives, Folder B6-2.
"generative" in the title.\textsuperscript{110} This is what they feel is unique, and "cannot be accommodated in traditional functionalist theories." The very separation of reading and writing architecture in two distinct moves is what makes the project different from functionalism: there is a gap between what something means to the reader and what it may have meant to the writer. In other words, as the proposal states elsewhere, there is a gap between program and form, between the human and the environment.

Gandelsonas recalls that at the time, he and Eisenman were in search of a way to frame the study of form in more "scientific" grounds, for which reason Gandelsonas was interested in the way linguistics could serve as a "pilot science" as he called it in a working paper on generative design.\textsuperscript{111} He recalls that he was attempting to shift the center of the field from practice to theory, a move he saw as similar to a Copernican break. In July 1972, Gandelsonas opened his working paper on generative design with the idea that the big change in social science at the time was the introduction of linguistics, and that this had impacted anthropology, psychoanalysis, aesthetics, and philosophy as well.\textsuperscript{112} He also mentioned the need to revitalize architecture—which he called "systems of architecture," or "s.a."—as defined "historically in Occidental culture (bourgeois) as architecture, modern architecture or environmental design."\textsuperscript{113} This definition was indeed Copernican, in the sense of bracketing all of architecture, and trying to deduce first principles rather than catalog or prescribe them as Alexander was doing. Indeed, Gandelsonas recalls feeling that Alexander was quite unscientific in the way he refused to acknowledge historical or social contingency in his patterns. He felt the universality was hardly scientific. Moreover, Gandelsonas suspected that language was not quite the right model, and this is reflected in the way the proposal was written, which is to describe language as an analog, as well as their discussion in another version of the report of the preexisting "failure' in transferring the linguistic model to architecture."\textsuperscript{114} Similarly, a later report describes the attempt to translate the linguistic terms to architectural ones. Thus, the linguistic model was largely being used as a provisional model to study the gap between architect and occupant, hoping to answer the urgent questions, in what ways was the architect's message coming across, and where were the failures that were causing such rejections of the modern project?

\textsuperscript{110}Ibid. This too has handwritten notes on it, in what appear to be Peggy Deamer’s handwriting, implying that this too is a draft, if close to the final.
\textsuperscript{111}Interview with Mario Gandelsonas, January 6, 2012; Mario Gandelsonas, "On Reading Architecture II. Linguistics, Social Sciences and Architecture", July 1972, 1, CCA/IAUS Archives, Folder B6-1. In the piece, he evaluates the merits of Eisenman's Chomskyian project and concludes that it's primarily useful for rejuvenating the field by allowing certain formal studies.
\textsuperscript{112}Ibid.
\textsuperscript{113}Ibid.
\textsuperscript{114}Ibid.
Eisenman, Gandelsonas and Agrest were essentially investigating the failure of the environment to communicate with the public in the desired way, as seen in the diagrams they submitted along with the proposal, which made use of the Saussurian motif of two disembodied heads. The diagrams propose quite clearly that architecture mediates communication between speaker and listener. They split the "process of use" and the "process of design" into two spheres of work (Illustration 4-13). And then, in a subsequent step, they split all of that communication off from the built environment—with the intermediary of "form" akin to the alleged deep structure of language (Illustration 4-14). A sketch, which is a similar and most likely earlier version of the idea, deals more with the translation from within the mind of the architect to the real, inhabitable world of the "built environment", though it still has implications for inter-subjective communication (Illustration 4-15). From left to right, the diagram shows the production of the built environment. At the far left, the "generator" influences the "ideal alternative", in terms of the "arbitrary" and "complex nature since there are various generators, codes, elements." (Emphasis in original.) A side path suggests the potential for a truly ideal alternative result from the generator, though the diagram speculates that this might be outside the realm of architecture and in language instead. Next, the "ideal alternative" is processed by what is most likely a translating machine, which in turn makes the built environment. This diagram thus shows the generation of form, but the search was most likely for the reverse: reading the built environment for what it might indicate about the "ideal alternative" and, even more transcendent, the "generator". These diagrams and others showing the ABA type of relationships typical of Rowe present the steps by which deep structures relate to the built environment in a visual and self-aware manner that they hoped would be clear to an audience that included behaviorists, linguists, and others on the reviewing board.

In choosing linguistics, Eisenman et al. were of course following others who had used the linguistic metaphor for architecture, from the idea of *architecture parlante* in the work of Claude-Nicolas Ledoux and Étienne-Louis Boullée in the eighteenth century—a body of work that would shortly be revived by Anthony Vidler, one of the editors of *Oppositions*. The linguistic metaphor continues in architecture, appearing more recently in Kazys Varnelis's reading of the Bauhausers' attempt to erase students' preconceptions and install a new visual grammar, or Moneo's depiction of James Stirling, or the legacy of the so-called Texas Rangers in the 1950s.\(^\text{116}\) As Varnelis reads it, the Texas Rangers moved past the Harvard-based critiques of the function of the building and whether a critic "liked it" to a more rigorous base in the

Beaux Arts and an emphasis on architecture as an idea. In the transcribed discussion above, Eisenman had been careful to distinguish his approach from that of Venturi, whom he saw as also setting up a language of design elements and then flouting it. Eisenman frequently defended himself against the idea that he was himself being mannerist, saying that he was instead trying to reinvigorate the field. Part of that is connoisseurship or a Hegelian sense that the field needs to continue to progress, part of which can be read as taking a step back into the study of how parts are combined in order to later move forward and design better environments. It's a less intuitive, more rational approach akin to the way one breaks down problems in science into more basic questions in order to later go forward.

The impact of the NIMH grant was complex. It allowed Gandelsonas and Agrest to remain at the Institute for two years, performing a kind of basic research apart from a particular task. This was critical because the original Graham Foundation funding that had brought Gandelsonas there was running out, and Agrest was splitting her time between teaching and research. In Gandelsonas’s estimation, the grant allowed for the genesis and publication of *Oppositions* 1. It is unclear from the archives what was submitted as the final report to the NIMH, but Gandelsonas recalls that the papers published in *Oppositions* formed the meat of the report. These include his "Semiotics and Architecture: Ideological Consumption or Theoretical Work" and Eisenman’s analysis of Alison and Peter Smithson’s Golden Lane project, whose resonance with Newman’s theory of habitat was discussed in Chapter 3. In a progress report, they listed these articles and a forthcoming publication from MIT—likely *Oppositions*, but perhaps another publication—as the result. Moreover, they were able to use the sheer fact of the grant as a feather in their cap when communicating with the Sloan Foundation, with whom they were still in dialog by May 31, 1972, when Eisenman forwarded the list of experts on the NIMH review committee to Sloan.

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117 CCA/IAUS Archives, Folder B1-4 Transcript, 25.
118 Specifically, mannerism refers to an age of Italian architecture roughly 1530 to 1600, but Eisenman and his group used it in a more general sense to describe the deliberate breaking of an established order for no real purpose outside of communicating the artist’s or architect’s will. Eisenman et al. seem to have felt that mannerism was not a source of originality or future styles, and hence they tried to avoid association with it.
119 CCA/IAUS Archives, Folder D4-5.
120 CCA/IAUS Archives, Folder A3-3, Correspondence from Peter Eisenman to Dr. Kenneth Klivington (May 31, 1972).
Interfacing with these large granting institutions no doubt had a number of both general and specific impacts on the Institute. The relationship-building aspect of fund raising has been discussed above, including tours of the Institute offices, getting together for drinks, and books being recommended back and forth; in the case of the discussions with the Sloan Foundation, the latter included Peter Marler and William John Hamilton’s *Mechanisms of Animal Behavior* (1966).\(^{121}\) While this certainly doesn’t mean Eisenman read the book, it does mean that he was aware of its existence and that, in discussion with social science funding sources, the bureaucrats felt that a book on animal behavior was relevant. It can be tempting to frame one’s work in terms of the literature that appeals to a granting organization, or to alter the proposal in greater or lesser ways.

No doubt the granting process also produced an increased self-awareness as part of tailoring themselves to fit an agency’s expectations. They were asked to produce documents that presented the institute as fundable, an image that may be speculative if not fictional. Even so, by producing these

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\(^{121}\) Correspondence from Peter Eisenman to Kenneth Klivington of the Alfred P. Sloan Foundation, (November 19, 1970) CCA/IAUS Archives, Folder A3-3, correspondence from Kenneth Klivington to Peter Eisenman (May 11, 1972). The letter is a follow-up from a meeting where Klivington had recommended the book.
documents, the applicant becomes more self-aware. One such example is the chart of the financial organization the IAUS made, most likely at the request of HUD for the Binghamton Streets Study (Illustration 4-16). The chart visualizes funding coming in and—at least conceptually—being filtered through an "R + D Fund." The money could then be used for overhead or just filtered back into salaries, or, as indicated by a pasted on piece of paper, when the fund was in excess of $25,000 it could be used for "special uses." The self-awareness—and indeed the naming of what was most likely a fictitious and multipurpose segment of the institute as R and D—were probably the result of working with a large bureaucracy like HUD.

The IAUS expressed its bureaucratically-induced self-awareness in a statement prepared for the NEA, framing itself as performing basic research:

> The Institute is largely dependent upon funding provided by commissions, usually from public agencies. However, the Institute would be severely limited in its postulative (sic) and pure research activities if it were to undertake only those projects which can attract public funds. Such commissions tend to be determined by the limitations of funded programs already in existence, thereby severely restricting the Institute's capacity to suggest new programs for public action.

> Therefore the Institute seeks to combine resources in an imaginative way which will reflect its concern for both public and private interest in education and planning." They describe how they sought a mix of funding in order to "carry out independent pure research or to conduct its applied research, free from the constraints which sometimes accompany commissioned work. Only in this manner will the Institute be free to develop a general critical attitude and to contribute to the evolution of new urban design methods. In this prospective role the Institute is distinguished from both the professional office and from the profit-based research corporation." The statement emphasizes that they want to avoid commissioned work, in search of a more critical and fruitful type of research.

Another more fundamental reframing of an organization has to do with fitting within the categories of an agency. A few failures may be illuminating here. In the case of the Ford Foundation, the IAUS presented a scheme for university housing. The Ford representative was interested and said that if they could make it low-income housing, it would be within their mission of fighting poverty, and they would

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122 CCA/IAUS Archives, Folder B3-4.
123 Draft of letter to be sent to the Ford Foundation, the Carnegie Corporation, the Stern Family Fund, the Rockefeller Foundation, and the Aspen Institute, 1968. CCA/IAUS Archives, Folder A3-1, 3.
consider giving $50,000 to $80,000 per year over a three-year period. Similarly, it is worth noting that a month before the IAUS received funding for its urban streets study, Emilio Ambasz was rejected by the Sloan Foundation for his application "Institutions for a Post Technological Society" because Sloan did not fund "the fields of architecture or physical design." By contrast, Eisenman's correspondence with Kenneth Klivington at Sloan over several years indicates that they were more concerned with behavioral or urban affairs, even while that distinction may not be made by the historiography at a greater degree of remove.

The process of applying for the grant also generated a number of cross-disciplinary encounters, not the least of which was the aforementioned role of Robert Gutman. Additionally, the NIMH sent a group of experts to the IAUS where they met with Gandelsonas. The IAUS's NIMH Review Committee was itself interdisciplinary, consisting of Charles Burnette, Executive Director of Philadelphia AIA, a PhD-holding architect who went on to specialize in the study of how information is used during design; Alton DeLong of the University of Texas, who would shortly publish "Territorial Stability and Hierarchical Formulation" in Small Group Behavior, Volume 4, 1973; Ward H. Goodenough, head of the anthropology department at the University of Pennsylvania, who studied cognitive anthropology in Oceania, and who published a book on culture, language, and society in 1971; Dr. Charles F. Hockett of Cornell University, a linguist known for his work on "taxonomic structuralism"; Peter R. Marler of Rockefeller University, co-author of Mechanisms of Animal Behavior; Raymond Studer, Pennsylvania State University Director of the Division of Man-Environment Relations in the College of Human Development in 1973. The NIMH and other granting institutions required the IAUS to write progress reports evaluating its own work, and to state the heuristic used to evaluate its success, preferably with data, stating which populations were served, how others might be able to pick this work up and go forward, and how the work should be disseminated. Lastly, the NIMH asked the IAUS to reflect on the NIMH's role with regard to consultants and administrative services.

There clearly was a dialogue, and through subsequent drafts the language was clarified, as Allais has pointed out regarding Eisenman's clarification of what it means to be an architect and what it means to be a theorist, which went through stages of revision to become: "First, as an architect and theoretician, I believe in the inseparability of ideas and form." Thus Eisenman firmly placed form in the arena of intellectual work and not only of practice or design.

125 Letter from Robert N. Kreidler to Emilio Ambasz, Associate Curator of Design and member of the IAUS, September 15, 1969. CCA/IAUS Archives, Folder A3-3.
126 Letter from Peter Eisenman to Kenneth Klivington, May 31, 1972, CCA/IAUS Archives, Folder A3-3.
127 CCA/IAUS Archives, Folder B6-3.
In his first progress report, Eisenman opened by responding to the comments made by the visiting NIMH review committee. According to Eisenman's formulation, they had objected to three things: "1. Over reliance on linguistic terminology. 2. No explicit methodology. 3. No model which was directly related to architecture." The report describes how these major objections meant that the first quarter had been used to address these "deficiencies", resulting in a major restructuring. In the first case, Eisenman explained that the linguistic terms were indeed vague because they did not clarify whether it was a linguistic, mathematical, or spatial register being implied, and hence they would begin by deriving specifically spatial "notations". Addressing the charge of methodological weakness, he claimed that with better terminology, it became possible to clarify their working mode and laid out a series of steps: "1. analysis 2. development of a model 3. development of the rules for the application of the model 4. application of the model." Further, to answer the charge of having no clear relation to architecture, Eisenman boasted that "my preliminary work has revealed a link between the elements of the deep structure and the individual's capacity to conceive of a physical environment." He claimed that this link was documented in the "Notes on the Conceptual Architecture" which he included with the progress report.

In Eisenman's rebuttal, one can see his construction of a self-conscious methodology and a self-conscious declaration of thesis and the ways that work would proceed; these are important tools in theoretical work. While I am not saying that Eisenman would not have been a theorist without this support, I do want to put the grant process forward as something that pushed him to have a very clearly defined methodology that would seem reasonable to the social science bureaucracy. His work was produced alongside an institutional interlocutor, including behaviorists and linguists at the NIMH. However, while the encounter with the NIMH certainly had an impact on Eisenman, he was fundamentally against the kind of architecture normally produced by social science, and by Newman and Alexander. There was a very obvious misfit of their proposal within the NIMH and social science funding, and there is a very real oddity about the IAUS claim to be furthering behaviorist science. This oddity and misfit is further evidence of the expansion of the NIMH, as well as the desire on the part of the IAUS for a theory of architecture able to transcend disciplinary boundaries and be transferred across the built environment.

129 I say Eisenman, because the report is written in the first person, referring to "my work" and in his handwriting.
130 "Progress Report." CCA/IAUS Archives, Folder D4-3.
131 Ibid.

Chapter 4. Transcendence
CONCLUSION

The story of architecture's abdication of its social aims is often repeated, explaining the rise of architectural theory as the result of the loss of the social aims of modern architecture. Nathan Glazer offers a journalistic version of this narrative where social aims were discarded as the field retreated, but so too do dissertations on the discipline, such as Varnelis, who describes how the rise of 'cardboard architecture' was in part a response to extradisciplinary events, of which he includes "the failure of liberalism and the danger of the anti-institutional, radical critique of the late sixties". The standard narrative is valid to the extent that it was a retreat, but what I hope to show is that through at least 1974, the social-science-minded and the theoretical architects were in dialog with each other. While it is true that Eisenman was in retreat from architecture's social responsibility, his work was informed by the very social science and communicative mode with which he and others were competing. Thus I hope to prove my larger point: that the field's shift into a more complex understanding of architecture's client began with the tailoring of form to patients via psychiatric reforms, and that it also complicated the understanding of architecture held by the academy and discipline. The influence of the dialogue between social science and design may have been forgotten in part due to what happened after, with the closure of schools of planning at many of the elite schools of architecture such as Princeton, Yale, and Harvard's Graduate School of Design among them. Moreover, Gutman was unique in remaining on the faculty at Princeton—many others, such as John Zeisel and Galen Krantz, left the East Coast schools of architecture much earlier.

But in the period between 1963 and 1974, the interaction of social scientists and architects launched a search for a transcendent or transferable type of knowledge of architecture. As with the postwar search for basic research, the architects and social scientists sought ought theories that would be useful beyond any single project or application. These theories included identifying shared patterns and attempting to map and proscribe the combinations of these patterns, in Alexander's work, or the linguistically informed study of the way that components of buildings combine into successful design utterances at the IAUS. The chapter has shown that the social science research economy, particularly the NIMH, supported architectural research on the architect himself in an intellectual sense. Not only did it soften environments in psychiatric, penal, and housing contexts, it caused research to become more self-aware, and more rigorous at the cost of being relevant. In a sense, the resulting intellectual work done by historians,

135 In his review of Eisenman’s House VI in 1977, Gutman notes as much, writing that in his "dependence on the social sciences and in his use of a geometrically based, disaggregated notational system as a method for generating architecture, is very close to the work of the Design Methods Group in England." It should be noted, however, that this is a sociologist claiming another's dependence on social science. Robert Gutman, “House VI” Progressive Architecture 58, no. 6, June 1977: 65-67 reprinted in Gutman, Architecture from the Outside In, 125.
theorists, et al.—otherwise known as architectural theory after the 1970s—can be understood as another type of modernizing of the profession, or postmodernizing if you will, bringing the field up to speed with the wider university context and the federal research economy beyond that. Whether through Alexander's study of waiting rooms and community mental health centers, Newman's work on crime prevention instead of pure "enclave theory," or the Institute's reading of linguistics in architecture, the research economy exerted its influence by favoring some avenues of inquiry over others.

One can argue that the work would have been undertaken anyway, even without federal funding through the NIMH and other sources. But this is not quite the same as the common statement that lacking commissions, architects like Eisenman pursued paper or cardboard architecture. For while they lacked commissions, Eisenman and others were not working in a financial vacuum. They sought out—and tried to please—clients like the NIMH, the LEAA, and other agencies that made up a historically specific environment of the social science research economy, which worked within and alongside the larger project of extending techno-science into the domestic and urban environment in the 1960s and 1970s. This research economy was hardly neutral, having its own priorities and procedures, as far as reducing urban unrest, fighting the Cold War, and promoting consumption and stability at a time of great social change. In this time of upheaval and dissent, work that traded humanistic richness for rule-based rigor was appealing in that it could gain the support of divergent groups and mask the human hands—and the partiality—of its authors.
Conclusion:

The preceding has been a selection of episodes in the history of the use of the environment to govern. While not quite a causal argument, nor a complete narrative, what we have seen are moments in the process of “going soft,” from the opening of institutions and their enmeshment in the communities that surround them, using design to draw mental-health patients back through their doors for outpatient treatment; to the use of psychological expertise to try to soften prison environments, sorting inmates and attempting to heal them; to the use of psychological expertise in urban public housing, in its very public role supporting what had already been a commonly held belief. Lastly, we see psychological expertise engage with architectural research apart from any institutional environment in its role as basic research, seeking architectural truths themselves. In short, we have traced a process of architecture's encounter with the soft sciences, yielding softer environments and fitting into the regime of soft power.

While initially surprising, the fact that individual biographies have been prominent in this tale of institutions and the architecture of deviant populations points to my desire to make precise connections between architecture and society. In contrast to theories of architecture's autonomy, the episodes in the dissertation show the impact of the external context on the internal development of the field of architecture. For Clyde Dorsett, the larger political climate supplied him with position within a large, well-funded federal mental health agency, where his work was largely guiding other architects and envisioning the architecture that would go along with the new program launched by the government. Later, he shifted to a role as a freelancer, who found commissions designing facilities at the intersection of psychiatry and penology, under the nascent neoliberal regime. For Sim Van der Ryn, exposure to the events of People’s Park led him away from overtly social issues toward environmental architecture and the literal countryside. As an individual and as a bureaucrat, Dorsett’s work and hence his papers were invaluable in finding out about the CMHC program, in locating buildings that were built as part of the program. Moreover, his methods of controlling information through paperwork became themselves an interesting object of study, about which more could be said than there was space for here. In the second episode, Van der Ryn as an individual provided a different sort of insight. The insightful and articulate architect provided a lens for looking at the mood of the time, and, yet again, the facts of his individual career arc were an indication of the shifting focus of the field between the 1950s and the 1970s. Newman's individuality certainly came to the fore in questions of authorship and narrative, while the collective work
of chapter 4 and the nature of that chapter’s argument regarding institutional science made it less focused on individuals than the others and more focused on the ideas and the funding.

Throughout the story, the idea of the research economy has been present, bringing in yet another type of character, that of the large agencies such as the NIMH, the LEAA, HUD, etc., which provided the interface between architects and administrations. Attempts to take part in the research economy were more successful when the architects discussed herein were a good fit with the project of the granting institution. And when they did, their work was often framed as producing knowledge or codifying knowledge of architecture, yielding transferable knowledge that could be progressively improved upon.

While much of the material fits with prevailing theories of soft power and biopolitics, even so I believe I have offered a more precise and more architectural picture of the way biopolitics informed and was informed by new institutional environments. Through this study, it has become clear that there was an extensive use of aesthetics to domesticate a policy or place or population quite literally. The environments in the study tried to mimic domestic space, and they have the allure of the counterintuitive because of the way the tightly controlled spaces attempted to appear similar to those free from overt medical or governmental influence. These artificial and universal domestic environments caught my attention as paradoxical. Such environments tried hard to make a home, when they were in fact the opposite of what most Americans wanted home to be. If home was to be a place of refuge, a place one chose to return to when he or she has no other obligations, then an institution was almost never that. If a home was to be a place of individual expression, a place that felt personal, then an institution was rarely that. A home typically had a certain scale, fitting the American nuclear family or extended family of less than 10 to 15 occupants, whereas the largest prisons in the dissertation are designed for hundreds and the community mental health centers and halfway houses, such as Van der Ryn’s, for 20 or 30 at their smallest. As I began the study, I was eager to look at why and in what ways the state designed places to feel domestic to their residents, and what type of knowledge about a population would be collected in order to do so. How would the residents respond? I wondered if this architecture might be theorized as a late stage of the program of mass domestication extending to even deviant populations, as the Great Society aimed to bring affluence to all Americans.

And in fact, the dissertation did discuss many of the ways that participants in the Health, Education and Welfare portion of American government sought information and sought to express their understanding of that information through form. Ranging from the inclusion of more houseplants, to orange shag carpets, to telephone poles used as onlooker columns to provide encouragement, to sofa beds in prison cells, to provision of some segment of “turf” to public-housing residents, these attempts to mimic
a more typical domestic setting have surfaced in the dissertation. Architects sought to provide circulation to the many rooms through shorter, more circuitous hallways while maintaining some sense of efficient movement, resulting in curved or angled hallways, as well as expanding the spaces into lounges in an echo of the tendency to occupy ward hallways in nineteenth-century hospitals for the insane. At the same time, the resulting environments were not entirely domestic and they gained part of their weirdness from being in a type of halfway stage, acting as an amphibious architecture which is neither entirely hard nor entirely soft. In the opening years of the 2010s, we find hospitals that look and operate like hotels, and mental health centers that have returned to appearing like these hotel/hospitals, or, at times, medical offices, since the outpatient component has grown.

Does this meant that the softening project that is documented here was a failure? It seems impossible not to ask the question, considering the fact that the CMHC dream of a new typology of a welcoming mental health center in each community never came true. Indeed, the failure of the program to close psychiatric institutions and its impact on cities and crime is much discussed. So in that sense, the CMHC Construction Act was a failure. Similarly, the project to open the prisons was also clearly a failure. We live in an era of mass incarceration that shows little sign of slowing and little sign of allowing even small-scale psychological and social science researchers into prisons with intensive control of the researcher, much less allowing for the proposal of a softer alternative. By contrast, Newman's program for CPTED has been a wild success, supporting HUD's shift toward vouchers and away from large projects and spawning fruitful career paths for many consultants of CPTED, while at the same time the installation of security cameras has somewhat altered the ideology of having actual eyes on the street. Indeed, the era of governing through environment has certainly not ended, at least not in the retail and surveillance sense of designing spaces intended to produce certain behaviors. But as I argued here, the last and not least marker of the success of architecture's collaboration with psychology and social science was that architects themselves learned new ways to conceive of and sell their practices, from Newman’s role as a data analyst and housing authority consultant in the area of crime prevention, to cases like Van der Ryn or the IAUS, who were paid to produce self-reflective analysis of their interaction with a more complex, more vocal, more differentiated public. Achieving this task allowed for the launch of *Oppositions*, a major marker of the new era of architectural theory.

Speaking of a complex public, no doubt there is a segment of my readership who wants that question of failure addressed much more concretely. For those who come to the end of the study and still can not accept that the production of scientific knowledge is a very human story, with no clear division between truth and fiction, those who have found their way here out of a search for best practices, those
architects or policy researchers wondering how, in fact, the environment helps govern, the best I can offer is my own deep agnosticism about most of the precise mechanisms studied by the architects in this dissertation. I began this work with a belief in the contingency of such claims to the truth of the relation between environment and behavior, for example, whether a certain mood may be induced in an observer by the color orange. I have left the study with the same agnosticism and belief that one's reaction to color is contingent, but I have kept my belief in the importance of the question of how exactly form and psyche relate. It seems so central to what we do—to who we are as architects, as historians of modern architecture and as citizens of an increasingly biopolitical era—to be educated about the way that environments try to shape our behavior, the way we are told that they shape our sociability (and this I think is one of the most convincing principles, that of sheer proximity). If my agnosticism fails to convince, I would direct you to some current thinking on the question, manifested in the ongoing research on the way that institutional environments in hospitals influence patient well-being and recovery. What could be more 'rubber meets the road' than the trend to analyze data and patient well-being to assess an environment? The latest findings remain the same as some of the thinking in the CMHC era: that the first thing to do in determining a hospital design is to ask the community what type of aesthetic it wants, and what would match with the current conditions? Hence, it's hardly surprising that the new hospital opening near me is designed in the best mode of large, corporate offices, but with the swoops and curves that seem to be needed to make a hospital seem fun, or at least, less imposing. The practice lives on with the hospital environment, which even now continues the trend toward Evidence-Based studies, which include such recommendations for "positive distractions" to include art, combined with an injunction against abstract art, which they define as art you have to sit down to understand. And yet, any human figures shown in the art should remain somewhat abstract, lest, for example, the presence of hair distract a cancer patient and cause discouragement.¹ Evidence-Base conclusions regarding the influence of colors suggest that specific color associations exist, but are very idiosyncratic and tied mainly to personal history, so specific recommendations are not really useful.² However, the brightness of colors and the amount of contrast are thought to have an effect on the perception of spaciousness.

Last but not least, I feel compelled to address the question of the beauty or lack thereof in the preceding pages. Where others have chosen to write the history of the 1960s and 1970s as either the age of rebellious neo-avant-gardes producing utopian architectural fictions of all kinds, or the age when modern architecture ran aground with the banality induced by its corporate and government clients, I have sought

¹ Cynthia McCullough, Evidence-Based Design For Healthcare Facilities (Indianapolis, IN: Sigma Theta Tau International, 2009), 23.
² Ibid., 27.
to explain both the aesthetic accomplishments and relevance of an architecture that is a lot harder to love. The designs that appear in the dissertation have their own loveliness, amidst all their failures, flaws and ugliness, but it’s a loveliness of idea rather than execution. The beauty of these projects is their fit with forces of longer duration and larger scale than their own walls, of being a halfway stage to the adoption of biopolitical, psychological modes, where society was transforming to a more complex, more subtle, more expert means of organizing the increasingly large numbers of citizens through institutional structures, but was still thinking it could be done directly with environments. The beauty of the architecture that was going soft was that it was only partway there—that it was engaged in some odd experiments, had some failures and absurdities, some teenage awkwardness that allowed a toehold for insight. We no longer live in an age of large federal construction programs or large federal subsidies for social science research. In some cases then, we are seeing glimpses of something that would soon disappear because it was a failed project, as with the sofa beds in prison cells, which have disappeared as prisons became harder environments. In other cases, we see glimpses of an architecture that disappeared because the larger project of psychologization succeeded—for instance, community mental health centers are now mostly no different from offices and hospitals, as there is no longer a need for them to be otherwise. Americans have accepted psychological ideas, drugs, and reimbursements, and the role played by architecture is no longer a source of innovation.

These environments were hardly the end of the phase of design as a tool of politics. And yet, it is not clear if government is the key author of such spaces any longer; it may be that the use of environment as a tool is now the province of corporations. Even though the era of social science in architecture hit a plateau of intellectual development, the tools of social science have had their greatest impact on everyday environments, in the spaces produced by market research: retail environments and mass-produced, mass-customized houses. These spaces are certainly not disappearing, nor is their brand of soft power, which exerts itself through an aesthetic tailored to ever more precise segments of the population. What is different is how tightly the authors of those spaces hold their data and methods, making examination and defamiliarization a greater challenge now than it was for the institutions of the 1960s and 1970s.
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