Going Soft: Architecture and the Human Sciences in the United States 1963 to 1974

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Working within Great Society programs, architects in the United States learned a great deal from psychology, sociology, biology and the other human sciences. They began to take ever larger streams of information gathered by the state, drawing in data and translating it to diagrams and forms for new institutional environments which they advertised as "humanized" or softened, and able to succeed where the monolithic hospitals, prisons and public housing towers of the heroic modern period were failing. Architects such as Clyde Dorsett, Oscar Newman, Kiyoshi Izumi and E. Todd Wheeler of Perkins and Will benefited from data regarding the income, education, age, crime rate or mental health history of a population. The data was then redirected into the solid forms of architecture which could now be more closely tailored to their human occupants. Using demographics, crime statistics and patient records provided by Great Society programs, they developed a new variant of modern architecture that responded to their image of the persons within. In this sense, the architecture of the human sciences went soft. The forms were more malleable and they were increasingly reflective of the population being housed or healed within. Or at least, this was what the architects wanted their audience to believe.

DRAPING FORM AROUND A POPULATION:

The attempt to persuade the public and government clients that the newly plastic, increasingly articulated forms of new institutional designs were in fact tailored to the human occupants was in essence a continuance of a long project of the modern movement. The argument that these forms followed the programmatic functions of the institution was motivated by the same desire for a correspondence between inanimate form and animate life which Le Corbusier had referred to in 1925 when he described the essence of L'Art Decoratif as: "a craft analogous to the tailor: the client is a man, familiar to us all and precisely defined."[1] In this piece on "Type-Needs", Le Corbusier outlined the idea that based in his very physiology, man had certain needs that were precisely knowable and shared among all men. The idea of designing for man as the measure of things continued through such modern architects as Richard Neutra, who encouraged this view at a 1961 conference on the redesign of the mental hospital at Topeka, Kansas.[2] But where such modern masters relied on intuition and diagramming to tailor the spaces to the man, with the support of large data collection programs undertaken by the welfare state, architects started to use this data to make the fit between man and environment, form and function, even more closely tailored.

By the 1960s, architects working under various Great Society programs were able to expand the idea of "man" into an even more precisely-knowable heterogeneity that I will call the population. The shift in focus from the universal man to a heterogeneous population has been described by Michel Foucault using the photographic metaphor of a change in the resolution at which power is exerted. In his theory of biopolitics, Foucault describes the individualizing yet social technology of power developed by administrators and doctors. I will argue that the diagrams and data used by these architects

constitute a flowering of biopolitically-based forms of architecture which are tailored to their population in more detailed--and more intimate--ways.

The human sciences, as they were called at the time, included psychology, sociology, medicine and biology. For architects, collaboration with the human sciences presented the possibility for a more scientific and defensible grounding for theories of architecture regarding the best way to house and heal troublesome populations. The federal government of the United States was interested in supporting research into the psychology and sociology of its population, having been greatly encouraged by the utility of psychologists during World War II. The Department of Defense and the recently formed National Institute of Mental Health were the largest supporters of research into behaviorism in the years following the war. As its funding and its prestige grew through the 1950s and '60s, the National Institute of Mental Health was increasingly involved in President John F. Kennedy's and President Lyndon B. Johnson's programs of "poverty knowledge", developing a strategy of soft power which aimed to use social science to break the cycle of sickness and poverty that psychiatrists had diagnosed as plaguing urban America. In 1963, when President Kennedy passed the Community Mental Health Centers Construction Act, he inaugurated a massive, federal construction program aiming to build 2,000 new buildings to house the new institutions of "community psychiatry". This construction program was one avenue through which architects mastered the techniques of bureaucratic design, using demographic and behavioral data to produce or simply bolster new forms. Other collaborations also existed; for some--like Sim Van der Ryn at U.C. Berkeley--it was merely a short-term collaboration with a state agency. For others, such as Oscar Newman, it was a longer research project funded by various governmental sources, the federal Department of Justice and municipal government, the mayor's office as well as the New York City Housing Authority.

In the case of the Community Mental Health Centers, a branch of the National Institute of Mental Health (NIMH) was devoted to design and construction. Led by Clyde H. Dorsett from 1963 to 1982, the Architectural Consultation Section processed grants, oversaw construction and worked with project architects to design spaces for the

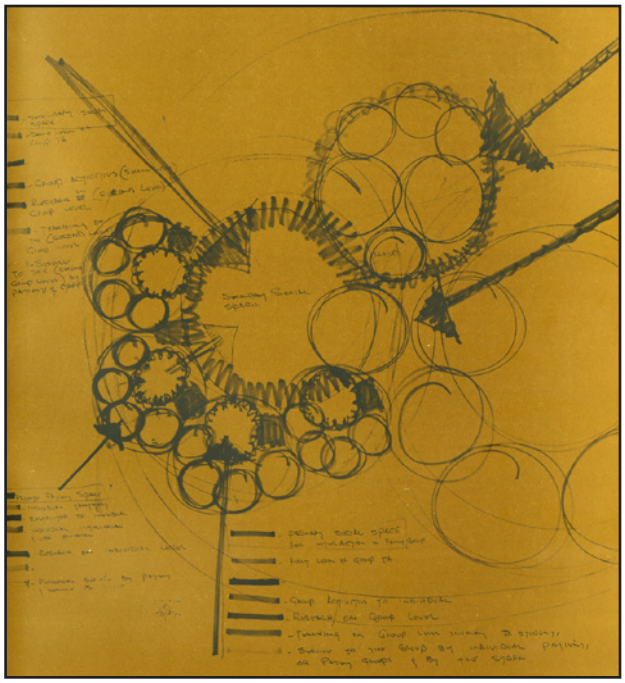

Figure 1: Diagram of a Community Mental Health Center from Volume II. Architecture for the Community Mental Health Center. Rice Design Fete III sponsored by the National Institute of Mental Health, edited by Coryl LaRue Jones (1967), 35

mentally ill. Dorsett and the ACS also assisted with locating the facility within the various "catchment areas" of 200,000 persons which were mapped along the census tracts. The facilities were located in accordance with other mental health facilities at the urban level, aiming to provide the right mix of outpatient, inpatient, emergency and counseling services to fit the demographics and problems of a given catchment area. The urban and demographic data described a population, not a mass or a multitude, but a statistically measurable heterogeneity. This knowledge of the population meant that each facility was tailored using information collected by the state--and sifted by sociologists--regarding the problems afflicting a community, priming them to intervene before members of the population felt the need to act violently.

The information was then made visible, translated from data to diagram, as in the case of architect Kiyoshi Izumi's collaboration with psychiatrist Humphrey Osmond for a prototypical design for a Community Mental Health Center in a 150,000 person catchment area in the Southwestern U.S.. The design was part of a 1965 Rice University Design-

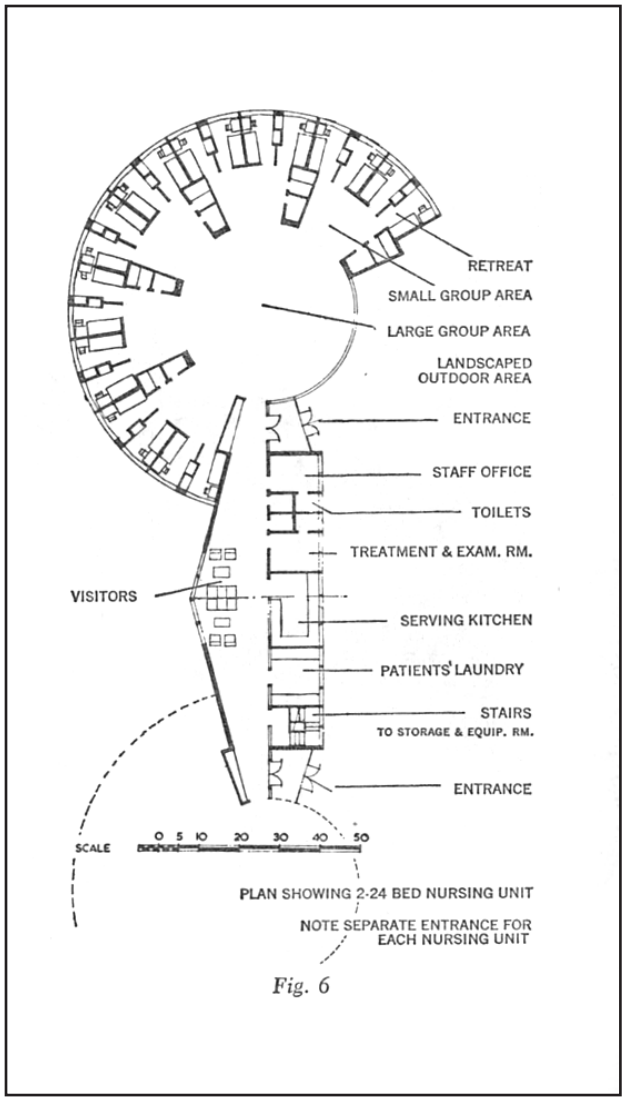

Figure 2: Plan by Kiyoshi Izumi for Saskatchewan. Who Designs America? The American Civilization Conference at Princeton, edited by Laurence B. Holland. (Garden City, N.Y., Anchor Books, 1966), 306

Fete, sponsored by the National Institute of Mental Health. In this case, the team identified the area as composed of various ethnic and social groups, ranging from suburban residents to "hillbillies". Their strategy was to create an environment where such diverse persons could be encouraged, slowly, to interact with each other in increasingly larger groups. This translation of information to architectural idea was 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 (see figure 2). 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 that was almost required by the federal Hill-Burton legislation that spawned numerous "block style" hospitals in the postwar period.

DESIGNING FOR FLOWS OF OBJECTS:

The design of circulation in an institution such as Izumi's was not only about producing forms that articulate the social interaction within the patient population. The concept of flow in architecture was also significant for institutional domestic environments as 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 between these flows, enabling a smooth flow at 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, as in this admissions diagram produced for the Southern Nevada Psychiatric Facility. The diagram describes important adjacencies along the processing of a "client" or patient, including places to bathe incoming patients, a locker 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 1 to 4 patients, at most 2 at a time, and the process should last 1 to 1.5 hours.

Dorsett eventually developed such diagrams for an even more complex choreography of objects in

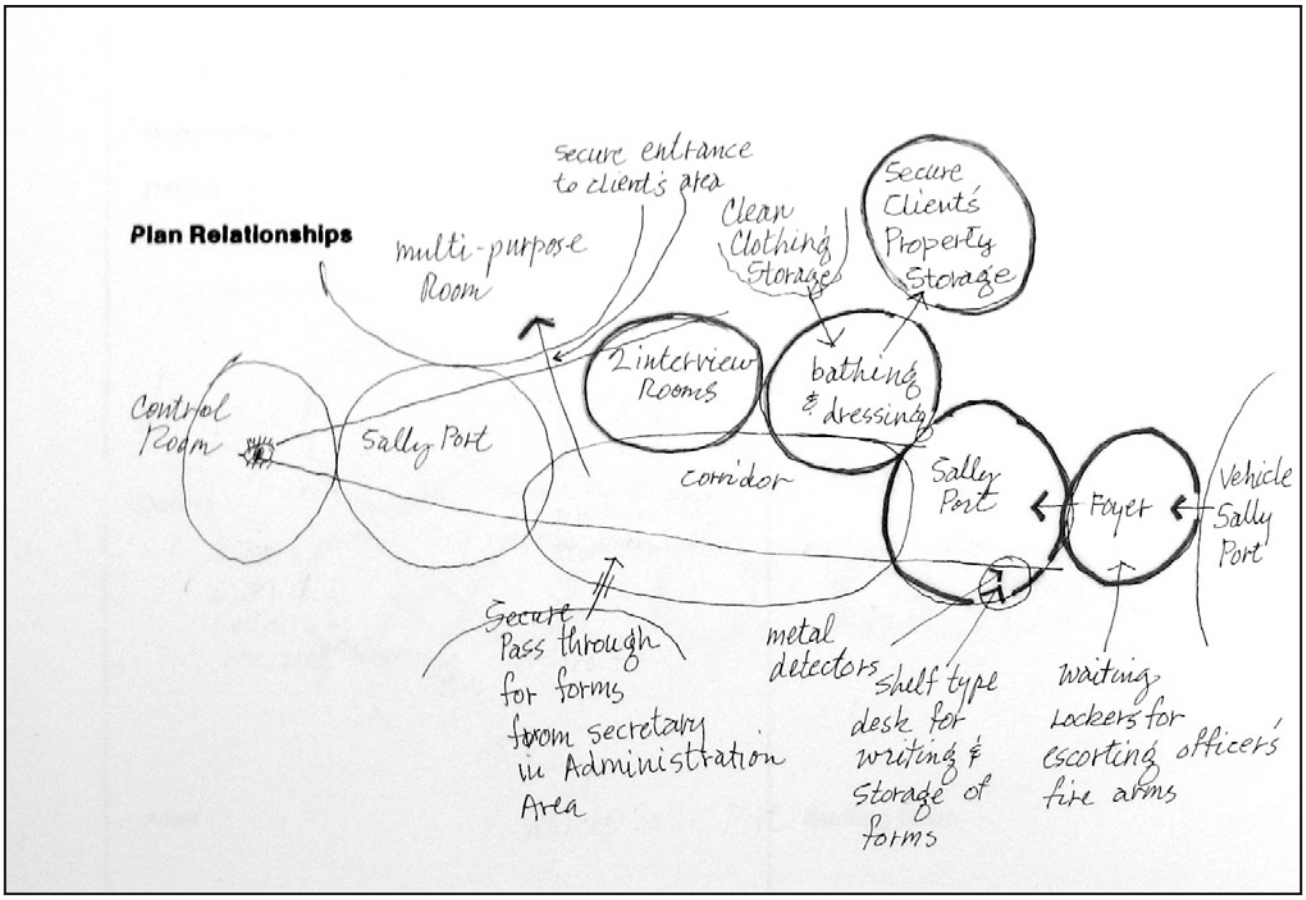

Figure 3: Detail from a page of the Matrix for Admissions / Intake Activity for the Southern Nevada Psychiatric Facility Forensic Program, showing a diagram of "plan relationships", Clyde H. Dorsett Papers (Box A1)

space, as he worked with Constantine Karalis on the Gainesville Forensic Psychiatry Program.[3] The facility was used to evaluate the mental health of those who claimed to be criminally insane, sex offenders and problem inmates from the Florida Division of Corrections. Thus, the facility was designed for some of the most troubled and disruptive members of society. In preparing the design, Dorsett and Karalis wanted to produce a facility as much like the world outside the prison as possible in order to remove the artificial, pathological influence of the institutional environment on human behavior. The architects were following the contemporary belief that the institution itself exerted a pathological influence on behavior, an idea presented compellingly by Erving Goffman. Thus, Dorsett and Karalis tried to design as normal an environment as possible, to separate those who were truly ill from those who were merely adapting to a sick environment. They designed streets, street furniture, a post office and a bank to create a simulation of a small town. In order to achieve the town-like form they sought, the architects needed to convince the wardens that they could control the flow of inmates, personnel, food and even records through a complex and permeable environment. To work these flows out, as well as to demonstrate that they had been worked out, they prepared "Flow Charts" of the movement of persons, papers and food (see figure 4). At Gainesville, the detailed control expressed in these diagrams is not easily legible in the forms that resulted. Indeed, this was often the case: a complex diagram would result in what might be a seemingly ordinary form. That is, if a prison that mimics a town can be an ordinary form.

FLOW AS EVIDENCE:

Information flows can be used as design inspiration, but often the medium is the message and the data is used primarily to legitimate a thesis or form that the architect has preconceived. In the

1960s, architects designing public projects were in need of this type of legitimacy as they were facing a great deal of public antagonism to design, mainly due to the banality of corporate modernism and high-profile failures of urban-renewal projects. In newspapers and at conferences, the public accused architects of being at best out of touch with the rest of humanity or at worst incompetent. Both charges were made at the "Who Designs America?" Conference at Princeton University in 1964 attended by Peter Eisenman, Kevin Lynch, and Charles Eames as well as Dr. Humphrey Osmond, who often worked with Izumi on mental health facilities.[4]

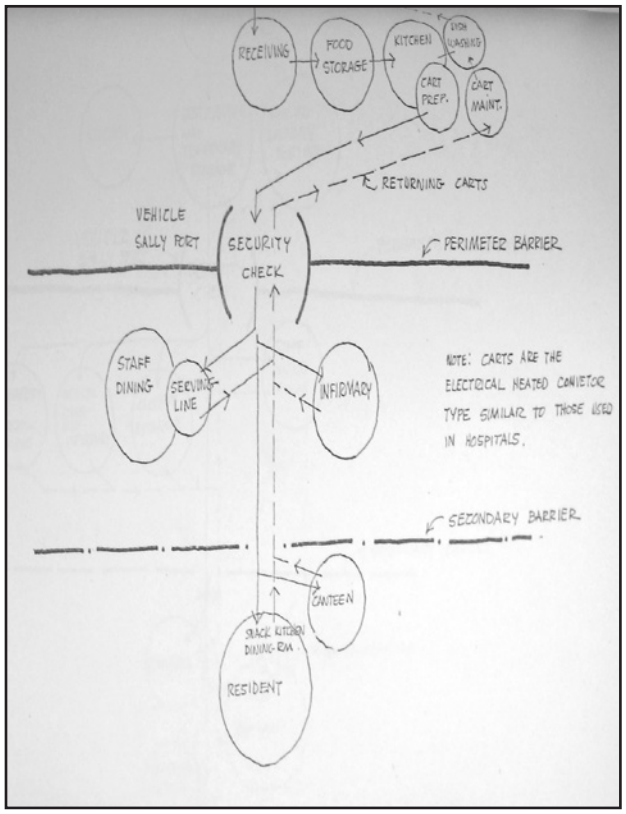

Figure 4: Undated "Flow Chart" demonstrating the movement of food through the Forensic Psychiatry Facility at Gainesville Florida. Clyde H. Dorsett Papers, (Volume Marked "Gainesville", Box A9)

The use of quantitative information offered legitimacy in the eyes of government agencies in the United States, enabling the architects to produce research in a form that government agencies, and increasingly the public, were familiar with. This is the case with the graphs and pie charts which support Oscar Newman's formal argument in *Defensible Space: Crime Prevention Through Urban Design* from 1972. Newman relied on a number of established theories, Jane Jacobs' and Elizabeth Wood's work on eyes on the street, or even Robert Ardrey's popularization of the idea that man's territorial drive is stronger than the sex drive. Nevertheless, Newman achieved a fame that continues today, for his packaging of the idea of defensible space. A major reason that his work was so convincing to architects, city government and lay people, was the way that he presented crime data as evidence for his theory of form.

Between 1960 and 1973, the number of reported crimes rose dramatically and the issue of crime became increasingly important in American politics; Republican Barry Goldwater made crime a major part of his campaign to replace President Johnson in 1964.[5] Under Johnson, crime was considered both a social and moral problem to be studied using the methods of social science, with research and enforcement augmented by new technologies of data collection and record keeping, including wire taps, multichannel police radios and call boxes which no doubt contributed to the rise in reported crimes and crime data.[6] While the overall crime rate was rising, the funding available for prevention was diverted to the expensive war in Vietnam. When Johnson was replaced by President Richard M. Nixon in 1968, a far tougher attitude to crime, less funding for social programs and several large yearly increases in crime made the issue even more urgent.

Oscar Newman stepped in with a timely argument and an attractive presentation of the idea that architectural form contributed to crime, and thus altering form could reduce crime. Newman used crime data that had been collected by the sixteen-hundred person police force of the New York City Housing Authority, from all the incident reports they'd filed. He correlated demographic statistics, such as family size, with crime statistics 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. Management of populations through such data collection was not new, but what was new was the accumulation of "computerized" data stored in an orderly and accessible form on tapes. He was further assisted in his analysis by the use of the computer facilities at the City University of New York Graduate Center, and the aid of the facility's director.

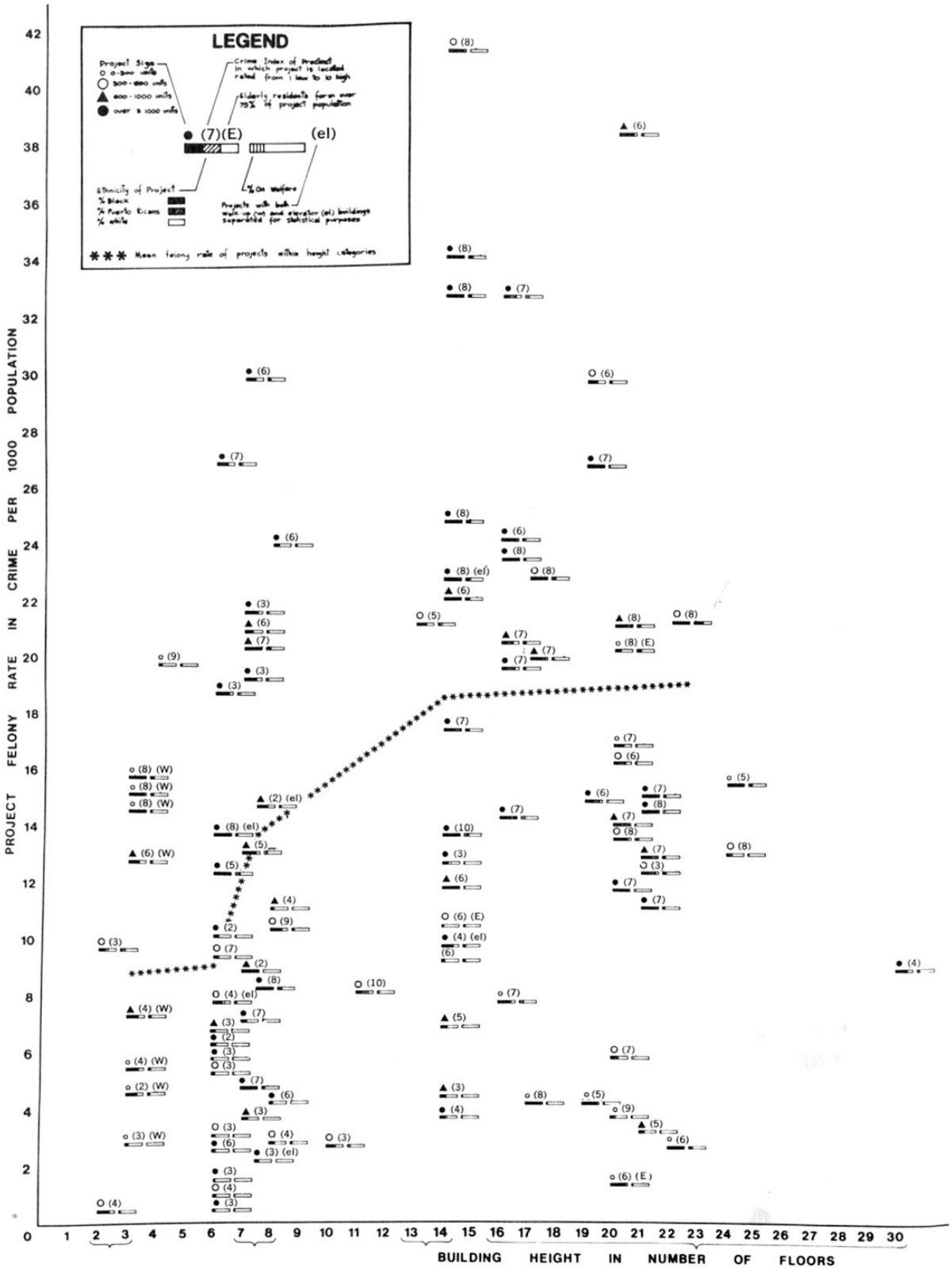

Figure 5: Oscar Newman, Defensible Space, Crime Prevention Through Urban Design (New York: Macmillan, 1972), 26

The first and most important graph is included in the second chapter, on "The Problem" (see figure 5). The graph shows a field of data points and a line of asterisks that moves through the data points of the graph. In tiny handwriting, the key explains that the asterisk line indicates the mean felony rate for each building 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: a direct correlation between x and y, the correlation between building height and the crime rate. But the information as presented is far more complex and confusing, and there is no way to know whether the mean takes into consideration the other factors of the buildings, which are also expressed in 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 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. However, the reader does not have to squint to see the line of asterisks which blithely compares what might not be comparable situations. Indeed, Newman was called to task by British criminologist R.I. Mawby for this reason, but the point was made so clearly through his use of graphs and pie charts that it was convincing to many.[7]

The source from which an architect takes his or her information, especially demographic or climate information, is often from outside the architecture field. Architects rarely collect the data, we just process it and translate it to form. This is a case of fruitful interdisciplinary exchange, and it is best that we leave the gathering to those who are trained in sociology or psychology or natural science, as they are aware of such statistical minefields as insufficient sample size and the utility of various measures of consistency in the data.[8] I would not argue that these are skills architects need to or should take on, but I would argue that we should take note of the source of our information as it has no doubt been presorted and the time of its collection will impact the data collected. This is particularly true with data about humans, a notoriously sensitive bunch whose reported truth will change depending on the circumstances under which they are asked.

CONCLUSION:

The use of complex diagrams of information flows and circulation flows was not new in the 1960s any more than diagramming information as a means to design is new today. The project of visualizing information about the users and their paths through space was well under way with Taylorist or functionalist diagrams such as those famously deployed by Alexander Klein in the 1920s and 1930s.[9] In many ways, the institutional reforms of the Great Society were merely a continuation of a longer investigation; the functionalist diagrams devised for factories were picked up by hospital designers and brought to other institutional programs where they found new uses. For example, William W. Caudill produced spatial versions of some functional diagrams in his 1941 book on *Space for Teaching*, and he continued that work in the context of community mental health center architecture. But if the diagramming was a longer project, what was new was the resolution at which these diagrams were being applied to the spaces of buildings. In their work for the Great Society, they assisted with the program of reforming, healing and controlling the population, for better or worse. And, at the same time, the benefit was that they acquired an expanded understanding of the heterogeneity of the occupants of buildings. These architects were creating an architecture of Foucaultian biopolitics and soft power, while at the same time believing they were making an architecture that responded to and helped the people housed within. I would argue that the same desire to tailor design to a population--using data or a set of stereotypical "users"--and to demonstrate the tight fit between form and function remains central to contemporary design. Contemporary studies of gradient surfaces, algorithms and biomorphic forms continue the modern project in the guise of a new, soft modernism.

ENDNOTES

1. Le Corbusier, *The Decorative Art of Today*, (Cambridge, Mass.: MIT Press, 1987), 72 quoted in Beatriz Colomina, "Le Corbusier and Photography", *Assemblage* 4, (October 1987), 20
2. Lawrence R. Good, Saul M. Siegel and Alfred Paul Bay, ed. *Therapy by Design; Implications of Architecture for*

Human Behavior (Springfield, Ill., C. C. Thomas [1965]).

3. Interview with Constantine Karalis, March 2, 2009.

4. Who Designs America? The American Civilization Conference at Princeton, edited by Laurence B. Holland. (Garden City, N.Y., Anchor Books, 1966) c.1964

5. Nancy E. Marion, *A History of Federal Crime Control Initiatives, 1960-1993*. (Westport, CT: Praeger 1994), 9 and Appendix showing reported crime rates from the Federal Bureau of Investigation's Uniform Crime Reports rising from 1,861,261 in 1960 to 10,192,034 in 1974.

6. Marion, 52-55

7. R.I. Mawby. "Defensible space: a theoretical and empirical appraisal" *Urban Studies.* v. 14, n. 2, (June 1977): 171 Mawby's critique was written five years after *Defensible Space* was published.

8. Regardless of the other criticisms that have been launched at Newman's use of the data (and I see mine as criticisms of his visual and rhetorical use of the data), he did collaborate with a psychologist, Dr. Lucille Nahemow, whom he thanked for helping him construct the evaluative models he used. Newman, *Defensible Space*, p.xi

9. For more on the history of diagramming in architecture, see Hyungmin Pai, *The Portfolio and the Diagram. Architecture, Discourse, and Modernity in America* (Cambridge: The MIT Press, 2002).