A Day Care Center in Color

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A Day Care Center in Color
Lindsay Ann Katcoff
Submitted to the Department of Architecture on August 18, 1976 in partial fulfillment of the requirements for the degree of Master of Architecture.

The design of a day care center for New York City was generated from research on color and architecture. Color is one important element in the conceptualization of space. It has an integral relationship to all other aspects of the design process. Since the chosen building type is a day care facility, it was necessary to study the psychological reaction of children to color as well as the social and political status of child care in this country.

The final drawings are centered around the hope that professional child development programs will become a reality. The color decisions are based upon field studies and library material. The prevailing attitude was to create a stage of color within which the community could build its own mobile world.

Thesis Supervisor: Donald Preziosi
Title: Assistant Professor of Architectural History and Theory
CHAPTER I

COLOR AS A DETERMINANT OF FORM IN ARCHITECTURE

Introduction

Considering its vast potential, color is a relatively unexplored topic in architecture today. Through research and experimentation, new methodologies implementing color could develop which would enhance the quality of the built environment. As man spends more time in artificially created surrounds, greater sensitivity has to be given towards the goal of providing the richness and variety of nature. Due to their preoccupation with form, architects have neglected the issue of color and have embedded themselves in the "white tradition." It has been proven that the lack of stimulation in the repetition of white planes causes the same effects as "snow blindness." Color is an element which can solve this problem on many levels. It can create whole ranges of moods, perspectives, illusions, and senses of place.

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1Birren, Faber, "Color," Modern Hospital, May 1969, pp. 81-85.
The Architect-Client Relationship

The reluctance to use color in design is related to the lack of accurate equipment. Because of the limitations of their training and tools, most contemporary architects tend to perceive forms as if they were colorless. By contrast, the average client responds more readily to color than form. Without the aid of technology, the average person is apparently better equipped to see space in color than the average architect. In the development of the human mind, color is more primitive than form in visual perception. "There is evidence, in infants, that categories of hue perception parallel and preceded adult linguistic organization of hue." This fact bodes well for 'Architecture-by-yourself.' The client would naturally be the best architect for choosing his own color schemes especially if he could easily revisualize them.

An Historical Perspective

Throughout history, color theory has been discussed in ethical terms. The subjective opinions of authorities have often reinforced some detrimental prejudices. For this reason, a scientific comprehension of color is invaluable. In


1935, the spectrophotometer became available for commercial use. Yet, it measures only 100,000 color variations out of the two million which the unaided eye can distinguish. Hardly any part of the human language is as under-developed as the naming of colors and shades. Such a complexity of verbal categorization necessitates the use of computer modelling. In order to explore all the possibilities, more sophisticated methods must be found. In the future, a color machine could become as facile a tool as the architect's scale.

Technology can awaken the senses to a wide range of sensory stimuli. The model DK-15 light box with its incandescent and fluorescent sockets, can approximate the lighting level planned for a job. A celestron can fill a room with "visual music." The Linnebach projector can cover an 8' by 12' wall with a simulated environment. Lumia can become

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5 Ibid.
9 Ibid., p. 84.
sanctuaries of music and color in neuropsychiatric facilities. The potential of the man-machine symbiosis for color and architecture is endless.

The following investigation of certain building types is meant as a first step toward the reversal of the trend which contemporary architects take towards a color palette. In the usual situation, color is written into the specifications and applied at the last moment. If the wrong choices have been made, an architect will often prefer to paint a surface again rather than involve himself in the process from the design's inception. If the opposite technique is developed, it could have important consequences for modern architecture. The psychological and visual benefits would manifest themselves in many ways. Therefore, I will describe new directions in both aesthetics and technology which would allow color to be a determinant of form throughout all stages of design.

Case Studies: The Philosophical, Contextual, and Experimental Approach

The Philosophical Approach

Many architectural firms have a philosophical approach to the usage of color. A certain attitude towards its

10 Ibid., pp. 94-96.
application pervades most of the work. In such a conceptual framework, the client participates the least in the selection of color. In order to gain a particular effect, the architect chooses the colors from a variety of manufacturers. However, the process of matching the sample to the material is often inaccurate. Judd states that: "Only by color control on a larger scale can consumer-pleasing merchandise be produced at prices that will move this merchandise in large quantities."\(^\text{11}\)

Case Study #1  Sert-Jackson Associates, Roosevelt Island, Parcel 9/10, bldg. type: housing, schools, retail

Sert typically limits his palette to a rainbow of pure hues. He selects ranges of a primary color for certain areas. All other tones are in shades of gray. The floors are neutral and the ceilings, white. The icy white is cooled by a touch of blue. These colors can describe the shape of a room, break up a wall plane or change the proportions of an elevation. The use of the same color on all surfaces can erase conflicts of scale.

The colors are brighter on surfaces which wash with natural light. In a skylight, the color is seen in foreshortened perspective. Since the Roosevelt Island project is

primarily housing, it has many small spaces. While the private spaces remain neutral, the public spaces are animated. Color appears only on the doors and panels of the corridor. In the senior citizen's center, an exception to the color rules, a red-purple range with green displaces the primary color sequences. Darkness fills the corridors because of the distance of the colors from the natural light.

Sert is primarily interested in a perspective view of the architecture rather than the plan or section. A method of emulating this effect in the computer would be to project a mock-up model of the space with a movie of the site in the background. Then, there would be true simulation of the artificial and natural lighting. All the philosophical criteria for color application could be programmed into the machine which could then generate a multiplicity of chromatic choices. A client, such as an elderly person, would then be able to foresee the eventual quality of the space.

Case Study #2 Kallman & McKinnell, Roosevelt Island Motor-gate, (transportation interchange & garage facility) bldg. type: transportation facility

Kallman & McKinnell have an achromatic attitude toward color. Their philosophy is: if you can't use white, use gray. Therefore, any color introduced into the neutral environment has the potential for dramatic strength by contrast. The bright red truss which connects the lobby to the garage at
the Roosevelt Island Motorgate is a powerful example. Its image, along with a guard booth of the same color, can be seen from the island to the shores of Manhattan.

The existing bridge was painted blue and red by the UDC. Therefore, the AVAC system for garbage disposal has a red feeder tube and navy blue doors. Consistent with the tradition of the firm, the building is white and the concrete, gray. The gray metal panels match the concrete block and differ only in texture. Contrarily, the AVAC system's apparatus beyond a glass wall is a multi-colored display of abstract shapes both inside and out. The dynamic clarity of the color visually simplifies the functional relationships of the mechanical system.

Color is an aid in graphically communicating technical knowledge to the lay person. The computer has already been a means to this end. In the future, perhaps the machine could store priorities of white and neutral shades and juxtapose them with contrasting color schemes.

The Contextual Approach

The composition of the contextual approach to color and architecture is chiefly responsive to the existing surrounds. Although the building types chosen in this group are similar to those of the philosophical approach, their sensitivity to the environment brings them closer to issues of user needs.
The sociology of spaces designed for such categories of people as the elderly, minorities, and workers have important implications for architect, client, and user participation.

Case Study #3 Stull Associates, Beacon St. Housing, Brookline, Mass. bldg. type: housing

Stull Associates have no preconceived formulas for color. Each building relates to a given set of circumstances. The Beacon St. Housing reflects the urban fabric of Brookline with its mixture of subtle Victorian houses and bright commercial spaces. Therefore, the exterior is neutral above and chromatic below. From a great distance the domestic scale predominates. At the street level, the pedestrian has a close visual tie with the concrete aggregate of the first three floors. It is a brown buff used in combination with several other materials of warm tone. Subsequently, the palette is of brown-red hues of muted intensity. Such a literally contextual process as this would benefit from a televised vision of the site throughout design development.

Within each housing unit, all the walls are off white because many people bring old furniture into their new homes. If he has control over most of the elements, then Don Stull implements color. Therefore, the corridors, doors, and carpets of the community rooms are decorated with bright colors and graphics. Such a socially conscious methodology is particularly relevant to the demands of the elderly. If they
could have an 'Architecture-by-yourself,' they could rearrange their favorite possessions in order to create a more familiar place. For instance, they could pick colors to match a patchwork quilt.

Case Study #4  TAC. Quincy School, Boston, Massachusetts  bldg. type: school

Ten years ago, TAC buildings were of natural materials with color only in spots. A transition occurred when the tower building needed articulation through color. Today, a range of cool to warm green is popular. In five years, another color will be in vogue. When the color on the building changes, sometimes people don't recognize it. Since color is less forgiving than a neutral base, it requires more commitment to the original concept for both color and light. In the Quincy School, the frame color, emergency equipment, detail, sealant, and caulking all had to work chromatically. Color coordination requires teamwork because it is no longer possible to have experience in all aspects. Yet, perhaps with the help of a computer, the architect could regain control by restructuring the knowledge of the various disciplines into one memory bank.

The contractor's submissions compromise color selection because they follow the vicissitudes of the economy. If the architect wants complete freedom, he can write into the specifications that he owns the color. Maybe a machine will
eventually catalog available material so that this will be a feasible approach to color choice.

The Quincy School demonstrates some of the difficulties which arise in the decision to use strong color at all levels. Orange and its related hues were picked. Then, color is selected space by space via function. Orange, yellow, and putty are used on the open plan furniture. They are totally flexible colors which help proportion the interiors. The chinese red of the community health service on the first floor has the psychological impact of a little city hall.

Since students came from other areas than the chinese community, the exterior color resulted from a subjective interpretation of the context. The orange and yellow porcelain panels incorporate a redundant sample of community artwork. The environmental impact of the facade from the highway raises key issues in favor of a democracy for color choice. In Boston, the subway system has already tried color voting. In this way, the computer could be of immeasurable help in controlling the aesthetic character of the existing urban pattern.

Case Study #5 Mitchell-Giurgola Associates, Volvo Factory, Sweden. bldg. type: transportational facility

Giurgola's Volvo factory is a symbolically contextual building. Its color choice is based on the signage of the commercial vernacular. The initial decision to use color reinforces the principle that: "...where colrs and shapes agree
in their expression, their effects are additive.\textsuperscript{12} The north elevations have streams of Volvo blue which zig-zag in continuous layers throughout the site. While the blue represents frontality, the orange symbolizes entree. The blue and oranges of the exterior are brought to the interior where an enormous matte white truss pours reflected light into large, open volumes. The color defines a sense of place and relieves the monotony of the worker's spaces. Also, the two orange hues provide a spine which unifies a fluctuation in ceiling height.

Since visits to the site were unfeasible, the process of testing the space for color and light was limited. It recalls a second principle for color which is that: "...architecture can with its colouration, respond to its position to the sun, to the climate, and to a particular atmosphere."\textsuperscript{13} In an ideal situation, a machine with a telephoto lens would model the effect of the natural light which is native to the foreign context.

Giurgola's firm stresses the significance of the random human process of discovery. Someday, the architect may find metaphor for his behavior in the machine. An idiosyncratic system would provide a mutable canvas without sacrificing any


of the architect's painterly talents.

The Experimental Approach

The experimental approach has the most potential for color as a determinant of form in architecture. Since it has the least amount of fixed variables, both client and architect have the greatest capacity to participate in the color games. Consequently, it takes a progressive attitude toward social change. Research relies upon the ability to recondition habit patterns.


bldg. type: educational

The bright colors of the Harvard School of Education's library are a product of Ben Thompson's unconventional formulas plus a new set of rules. The School of Education had a preconceived desire to use color. However, a client generally visits previous jobs in order to approve of the firm's approach. Ben Thompson identifies different areas by families of unusual color. One example is a gray, black, and orange sequence recalling the work of Braque. Also, the merrimekko fabric gives the interior a feeling of scale. In the library, these factors are added to a color system which is too complicated for the average user to comprehend. It is based upon a left-right, north-south reversal of color. Nevertheless, to an extent the experiment worked because the inhabitants of
the space have grown accustomed to the unfamiliarity of the environment. Although the colors are criticized by outsiders as too distracting, most of the people who frequent its interiors have found comfortable niches.

The color scheme for the medley of chairs was mixed-up by the people because the palette did not account for moveability. A more efficient way to speculate upon client usage of the space would be to move the components about on a computer tablet. The same machine could store a portfolio of the architect's work as well as superimpose projective configurations upon drawings.

There are a variety of color tricks which generate the design. The building is comprised of symmetrical halves with ancillary spaces of intentionally different colors to designate scale, direction, and floor level. Two color families play off the same carpet. The stacks are yellow against a background of orange, blue, and purple. The lower level is red and purple to offset the natural butcher block. To gain maximum sunlight, the windows on one wall and all other walls have color. The elevator has color on the back wall. The arrow and two balls exhibit a figure/ground reversal of orange and yellow. The bizarre aesthetics of the library suggest an 'Interior Architecture-by-yourself' whereby streams of color sequences provide both architect and client with constructive amusement.
The doctor's office is a Pandora's box of subtle collage effects. In a very small volume, it sets up experimental games of soft pastels played against muted dark hues. An Aaltoesque wall plane organizes the public space which is a composition of pink to blue tones of white. They in combination with the natural wood help tension the space and give orientation through color. Color is perpendicular to the line of movement in the large rooms and parallel in the small rooms. In the private offices, a deep maroon helps proportion the elevations.

The variegated wall planes of the private offices reveal a psychological game based upon the architects' analysis of the doctor's preferences for color. In addition to reflecting the personality of the doctors, the spaces captivate the attention of the patient so that he is less anxious. There is an even exchange between the examining rooms and the offices. The colors are inverted according to function so that each doctor has an opposite effect from his partner. The adjacent wall between the offices is the same color. It is the control factor in the chemistry of the selected shades.

While creating surprises to alleviate boredom, the doctor's office simultaneously exercises the sensitive restraint needed in experimentation with color and medical facilities.
Kurt Goldstein has written that a "...specific color simulation is accompanied by a specific response pattern of the entire organism."\textsuperscript{14} Color is a potent tool in the frontier of medical science. Biological lighting has helped in the elimination of some diseases.\textsuperscript{15} In the future, a machine might be discovered which will store the case histories of patients and output appropriate colors for a therapeutic environment.

If such a color machine were to exist, the subjective nature of the aesthetic could conflict with the personal privacy of the patient. The electronic release of color produces a magnet to counterbalance the power of the professional with that of the lay person. The changing role of the architect in relationship to technological advance will require the participation of the client in order to bridge this controversial gap. Through a truly idiosyncratic system of choice, a color machine may someday evolve a more humane architecture.


\textsuperscript{15}Ibid.
CHAPTER II

PROJECTED ALTERNATIVES FOR DAY CARE
IN NEW YORK CITY

Introduction

At the time of this research, day care is in a crisis in New York City. Serious financial cutbacks, faulty legislation, and poor organization have produced havoc for the future of child care in Manhattan. The intent of this exploration will be to evolve a methodology for day care which has the ability to grow from the community resources without being halted by extraneous bureaucratic measures. In our pluralistic society, new mechanisms are needed to reflect the complexity of the modern family. For the purposes of this discussion, the European model will be used as a contrasting and in some ways more successful solution to the problem of day care. As an example, the relationship of child care to other social patterns in Denmark will be investigated. Analysis of the domestic and foreign data should yield some guidelines which would be viable approaches for day care centers in New York City.

The History of Day Care

In 1854, New York City became the birthplace of the first full day nursery in America. It was created for the
offspring of working class mothers.\textsuperscript{1} Therefore, since its arrival in this country, the day nursery has suffered from the welfare connotations of custodial supervision. Simultaneously, the kindergarten movement was developing in Germany. It was based upon the principle of free play as the major element in the learning process.\textsuperscript{2} In this way, the day nursery and the kindergarten epitomize the polar opposites in emphasis given to child care. The former is associated with "babysitting"; while the latter is related to education.

In 1964, Project Head Start was created to prevent the eventual academic handicap of children from poverty level homes in America. It was a preschool curriculum for children aged from 3-5 years. Head Start involves all aspects of child development. It includes education, social services, and medical care. Head Start programs were subsidized both federally and voluntarily. Parent participation was at the core of all activities. Federal sponsorship comprised anywhere from 80\% to 100\% of the costs.\textsuperscript{3} The long range educational

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\textsuperscript{3}U.S., Department of Labor, Federal Funds for Day Care Programs, February 1969, p. 32.
\end{flushleft}
value of Head Start was argued extensively. Eventually, the Revenue-Sharing Act of 1972 harbored amendments which cut back Title IV funds for day care. New York funds were particularly limited. California remains the only state to sustain a far reaching program for child care.\textsuperscript{4} With the dissolution of the WPA program in 1942, New York City which was not considered ‘war impacted' had to lobby for municipal subsidies for day care. Finally, in 1971, Mayor John Lindsay of New York City launched the Agency for Child Development which was the pioneer municipal agency in America.

In Europe, the climate of day care has been generally more favorable than in the United States. In 1887, French academicians originated a free, voluntary pre-school program. Nowadays, French law allocates an ecole maternelle for children up to 6 years of age for every region with a population upwards of 2,000. Nearly all urban and rural communities have a creche for infants of two months or older.\textsuperscript{5} The French attitude is that no parent can sufficiently stimulate all of the responses in a young child.\textsuperscript{6} In Scandanavia, the local governments have child care facilities based upon community participation with the national government in a purely


\textsuperscript{5}Roslyn Lacks, "Only the Poor Can Afford Day Care," The Village Voice, 16 December 1971, p. 18.

\textsuperscript{6}Ibid.
advisory role. The Scandanavian child is meant to develop
with individual freedom tempered only by the limits of his
own creative abilities. As is the case in many of the Euro-
pean countries, Scandanavia has programs which are oriented
for older children and teenagers.

The Background of Contemporary Day Care
in New York City

On December 9, 1971, President Nixon vetoed the Compre-
hensive Child Development Act which Senator Walter Mondale
called "...the legislative framework for eventual universally
available child development programs for all families who need
or want them." Such a position has set the current tenor of
federal resistance to any comprehensive provision of educa-
tional or physical pre-infants and adolescents. The debate
on day care pivots about the socio-economic expediency of such
facilities. HEW has sited that 20% to 30% of all chronic ail-
ments stemming from childhood could be superceded by proper
health care for 0 through 5 year olds. Roughly 60% of all
diseases could be remedied if health care was able to reach

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7 U.S., Office of Economic Opportunity, "Day Care Pro-
grams in Denmark and Czechoslovakia," in Day Care Resources
for Decisions, by Marsden Wagner & Mary Miles (Washington,
8 Ibid.
9 U.S. Congress, Senate, Senator Walter Mondale speaking
for the C.C.D. Act, 92nd Congress, 1st session, 6 April 1971,
Congressional Record 117:49.
children up to the age of 15. Visual handicaps could be lowered by 80%. Hearing deficiencies could be mitigated by over 50%. Dental needs could be met by a 100% improvement. From a physical standpoint, comprehensive child care would be a substantial asset. According to most of the literature, there is a "...near unanimous agreement about the social and intellectual benefits for preschool experience for children between the ages of 3 and 6."\(^\text{11}\)

The financial aspects of the argument are the most controversial. With the ever increasing number of working mothers, day care has become a virtual necessity. From a fiscal standpoint, it is supported largely by public administrators and conservative taxpayers who wish to lessen the estimated 30.3% of the federal dollars spent each year on cash income maintenance.\(^\text{12}\) However, it is questionable as to whether or not the economic situation on a dollar for dollar basis will benefit from day care. If day care is of inferior quality, it would reduce welfare expenditures. Nevertheless, the adverse effect this would have on children far outweighs the monetary advantages. For day care to have a permanent place


in the future of the urban environment, parents ought to believe in it. Optional enrollment and high quality is the most effective way "...to market it as a normative service advocated by and for middle class as well as poor families." If the optimal situation is 24 hour protection for all children from infancy, then parental participation would bridge the gap between the home and the day care center. This is particularly true in infant care whereby a day care center is only superior to a deprived home.

A Proposal for the Expenditure of Federal Funds

Federal policy is undergoing intensive revisions which will restructure minimum requirements for eligibility as well as the control valves of the local political forces. This has caused temporary chaos for places such as New York City because of its difficulty in matching federal dollars. Nonetheless, certain guidelines for federal expenditure could be drawn so that if the economic situation improves, the governmental machinery will be ready. Firstly, poverty children of working mothers should be guaranteed day care. Secondly, the federal government should specifically indicate how its grants to state and local government will be allocated. Thirdly, there could be "...transfers or tax advantages that help

13Ibid.
people buy specific goods and services such as housing or medical care. This would speed the process of supply and demand as well as cut down on the number of staff needed to initiate the program. Fourthly, income subsidies would help stimulate a more competitive market. The important theme of user enthusiasm in day care can be reinforced by cash transfers rather than transfers in kind which imply that people would not choose day care on their own. A last by-product of careful program planning will be to actively involve the vast unemployed teacher population.

The Community Participates

The Child Care Forum of the White House Conference on Children promulgates a system which would fragment the monolithic nature of day care institutions. It requests "...a diverse national network of comprehensive developmental child care services." In this way, the individual needs of specific families and their communities could be met. In 1969, Community Coordinated Child Care Councils (C-C) were formed to accomplish this task. Community control of local institutions is conceived of as a way to incorporate the poor into the political structure, to help in the delivery of municipal services, and as a method of making professionals of social

14Ibid., p. 52.
welfare seem less bureaucratic.

In Manhattan, the community has at least partially controlled child care since the WPA was disbanded in 1942. Before 1969, day care was subsidized by local welfare agencies such as neighborhood houses and churches. The community approach has a significant effect upon the family. The parents who have a real emotional involvement in their children are given a direct role in the upbringing of their own progeny. The model of the caring parent has a lasting positive effect on the receptivity of the child. Beyond the strengthening of ties in the nuclear family, "...sponsors are or can become, less interested in their designated service responsibilities than in building a community power base and grass roots political support." In this process, the Federal government catalyzes municipal reform indirectly and releases dormant energy so that social change is activated on all levels.

The Financing of Day Care in New York City

The recent financial controversy in Manhattan centers around the day care direct lease program. Stephen Berger, Commissioner of the State Dept. of Social Services states that a major reason for the inflated price of city day care is


17 Ibid., p. 57.
"...exorbitant leases negotiated for 177 direct lease day care centers. The city is paying $350 million over a 20 yr. period to a concentrated group of politically connected landlords. This amounts to more than $1000 in lease costs per child per year." It has been suggested that these leases be renegotiated so that $10 million could be released annually in order to pay 1,250 teaching assistants or other qualified professionals. The same group, affiliated with the Bank St. Day Care Consultation Service, has requested to the governor that a Moreland Act Commission be founded so that a thorough legal investigation can be conducted upon the city's social services. The general public policy towards day care must change from protection of real estate and political interest to the maintenance of quality physical plants and staff.

The direct lease day care program was originated for the rapid regeneration of centers. The leases belong to private landlords for 15-20 years. The city makes these mortgages available for the purpose of day care. Federal funds comprise 3/4th of the operating cost while the state absorbs the rest. Indiscriminate siting has lead to unfeasible planning schemes. In order to pad the price of square footage, a uniform $3.75 has been tacked onto unusable space as well as less valuable

18 Staff of Senator Major Owens, the Bank St. Day Care Consultation Service, and Inez Padilla, New York City Day Care Direct Lease Program (Report to the Governor, February, 1971).
19 Ibid., p. 1
space such as roofs and basements. Construction and rehabilitation costs were not estimated into the lease negotiations. In addition to windfall profits and tax shelters, "...the audit reported in '72 that 99 of the 138 private developer leases were awarded to 15 major landlord groups." Unless city officials take resources to correct the errors of private interest 1/5 of day care funds will be dissipated by direct leases. 21

The other 162 centers in New York City are the result of "indirect" leases whereby community groups have leases with landlords such as churches or neighborhood houses. The rents are reasonable and the heat/maintenance bill is the responsibility of the landlord. The indirect lease is one alternative to the direct lease program. The 'Ad Hoc Coalition to Save Our Children' suggests others. In reaction to the N.Y.C. Human Resource Administration announcement on May 27, 1976 that 49 publicly sponsored day care centers will be completely cut-back financially as well as others which will be partially truncated monetarily. The first step they prescribe would be to reduce enrollment in all centers rather than to totally defund certain ones. In this manner, each center would be forced to raise additional funds with the cooperation of all

20 Ibid., p. 7.
21 New York City Day Care Direct Lease Program, Part II, p. 9.
facets of the community. Secondly, public funds must be committed to a strictly enforced budget which would allow autonomous interpretation by each locality. A third concept would be to trim the bureaucracy of the ACD itself.

Community Consciousness as the Key

Toward Autonomous Day Care

Peter Sauer of the Bank St. College of Education has written that there is "...too much emphasis on day care as institutions--complex settings for a variety of specialists to "treat" members of abnormal and inadequate families--and not enough emphasis on centers as places for people (both children and adults)--comfortable settings in which to establish human relations of understanding friendship and trust."²² Such a statement relates to the initial psychological problems in defining day care which were discussed in the historical section. Is it a place of creative play or merely a custodial ward? So that the former concept is realized, many of the staffing requirements of day care must change. Home economics, parent participation, and a community identity ought to be incorporated into day care. Quality supervision can be attained in a highly skilled or even "professional" way without having the alienating effect of "professionalism."

Child care in America has always been conceived of as the primary responsibility of the parents. New definitions of the family challenge the traditional stereotypes of parent-child roles. Insights into the topic of home economics is one key factor in this endeavor. "Home economics is the field of knowledge and service primarily concerned with strengthening family life through educating the individual for family living, improving the services and goods used by families, conducting research to discover the changing needs of individuals and families and the means of satisfying these needs, furthering community, national, and world conditions favorable to family living." If one accepts this interpretation, then home economics can be an important tool of adult education with regard to comprehensive child care as well as its related community concerns. Today, home economists do not have an extensive effect upon society because the general populace has a narrow perception of the scope of their work.

One issue to clarify in the parental vs. professional debate is the nature of the "three-generation model" which is idealized in America. Foreshortened longevity in the past and a prejudice against the proximity of the elderly has made the reality of a grandparent participatory society a difficult

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one. "What households of the past were more likely to contain were apprentices, servants, and other persons not necessarily related by blood. They were also more likely to contain the male head of the household for longer periods of time, since work was often in or near the home."\textsuperscript{24} Today, these same arrangements exist as prevalently as ever. Informal child rearing is in many cases at least as beneficial for the young as a formal day care program. Furthermore, alternative day care centers can be just information referral agencies i.e., places where one family contacts another for emergencies or community cooperative action.

\textbf{Day Care in Denmark}

In Denmark, the raising of a child is considered to be the responsibility of the parent as it is in the United States. Therefore, "day" facilities are preferred to "full-time" institutions. Danish childcare is geared toward social and educational guidance. Day care has been found to have a positive effect upon physical well being, health, nutrition, immunity to infectious disease, prevention of deaths due to hazards, intelligence, and many varieties of handicapped

\textsuperscript{24} Boocock, Sarane, "Crosscultural Analysis," pp. 12-13, as quoted in Crawford, Day Care: Resources for Tomorrow.
As was discussed in the section on home economics, family guidance of a broadly ranged type exists largely in the form of house visits. Yet, what distinguishes Denmark from America most obviously is a firm national commitment to a comprehensive day care program. While the federal government may outline certain aspects, local governments implement these programs with much fervor and little cost to the family. Day care is an unequivocally important social service. The people who teach in them are well-trained professionals and there is an insistence at all levels for highly qualified personnel. Child care workers are unionized so that there is some kind of protection of salary and funds from corruption. Volunteers and parents go through intensive training periods in order to participate in the centers.

Day care encompasses infants through teenagers in Denmark. It begins with a day nursery for the 0 to 2 or 3 year olds. Then, there is the nursery school for the children who are a little older until the age of 7. These programs are either full or half time. For before and after school, the 7-12 year olds have recreation centers. Also, there are

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26 Social Conditions in Denmark 5, Care of Children and Young People, Pamphlet, Ministries of Labour and Social Affairs, International Relations Division, Copenhagen, 1967.
recreation clubs for school age children in the afternoon. Evening activity occurs in the youth clubs which are designed for teenagers. In Denmark, the social trend is toward preventative measures in educational and social child development. Due to complex pressures, American policy toward child care is more correctional or "crisis" oriented. This is particularly true of juvenile delinquency. In Denmark, public grants are available for all these institutions. Their proper functioning is considered to be the duty of local child and youth welfare committees. The programs include medical and dental facilities. Recently, Denmark has suffered some inflationary setbacks in its ability to offer comprehensive day care.

Final Recommendations

There is new current in Denmark as well as in the United States towards a multi-functioning community center for day care. For instance, it might include a crafts room as a place for staff, parents, children, and the elderly to build their own furniture. Nevertheless, the "integrated facility" which involves the senior citizen in the entire process is rare in Denmark. Grandparents have only a small part to play in American day care as well. In both countries, older children come to the day care centers after school. Teenagers

might use them for night activity. The open spaces can be community forums or fund-raising podiums. Bake sales, celebrity visits, dances, and political rallies can take place in the same structure. The day care center can be the breeding ground of community involvement.

An emphasis on high quality care makes a good center a bad business. The run-for-profit motive is not going to give the day care center competitive zeal on the marketplace. For it to become a real social service, there must be a nationwide belief in the institution as a required tool of child growth. The more day care is intertwined in the rest of society, the more readily will the urgency of its message be understood. The design of day care centers must reflect this fact in their physical layout and the symbol systems their functioning may yield. Laundries, kitchens, meeting rooms and recreation places must attract and comfort the public if the day care center is to feel like a real home. It should make the community strong enough to survive the vicissitudes of inflation and governmental ambiguity.

Eventually, planning in general should reflect this change so that the home in the suburb is not completely divorced from the schools and the recreation parks. A chief advantage of the Danish is that their social and urban planners are coordinated in their policy-making. One social system is directly linked to another both in their functional relation-
ships and their design. Although the task may appear more untenable for some of the vast wastelands in America, an approach ought to be found for coping with their complexity. One such step has already been proposed by Alvin Shanker of the New York Times, summer of 1975; he feels that day care would find an appropriate contingency in the public school. Its officials are elected and its standard of education is an established legal fact. If day care was part of the public school, then federal requirements would be stringent, training of professionals and paraprofessionals would be substantial, and employment conditions would be controlled democratically.28

In conclusion, it is self evident that the design of a day care center must be a magnet of local activity. It should be an open place which protects itself from vandalism by opening its doors to the community. Everybody must feel that they can help build and run the day care center by themselves.

CHAPTER III
DESCRIPTION OF BARROW STREET DAY CARE

The day care center is located in Manhattan's west village. It is close to public transportation as well as commercial shops. The scale of the center is meant to conform with the two to four story residential housing which is nearby (Plate 1). The site itself is enclosed in a vest-pocket park. Tall warehouse walls create an innocuous backdrop (Plate 2). Diagonally from the site is a landmark's building, the post office. Its romanesque forms have inspired the vitality of the day care spaces (Plate 3). Just as the mystery of the sea becomes more clear as one walks down Barrow Street, the spontaneity of child's play reveals itself as one peers into the changing levels of the center. "Barrow Street Daycare" is a symbol of neighborhood life.

The design of the center happened after a field study took place. "Discovery Rooms for Children," a center in a black community of Manhattan, was the first place visited. Although the state has withheld funds, community support is able to keep the facility running. It incorporates many fund raising activities as well as programs for volunteer and work-study help which involve the neighborhood. By interviewing some of these people, insight was gained as to the develop-
ment of a reasonable prototype for a day care center. Move-
able walls, a laundry, a sick room, a large kitchen with views towards the play areas, a visible entrance, a platform and meeting spaces, were some of the items which were considered improvements.

The Children's Center in Biddeford, Maine is another example of a hardy day-care facility. Community participation and the inclusion of the handicapped have provided financial stability. The basic structure of the building is an old Catholic school. Each room houses a different type of activity. Throughout the interior the flow of children's movement is fairly even. Meals are eaten in shifts (Plate 4). Although loosely structured, the training touches upon a broad range of subjects. Large motor activity (Plate 5), home economics (Plate 6), science, and art and crafts are a few. However, the prevailing feeling is a relaxed, homelike atmosphere (Plate 7).

If it has an appropriate stage, the concept of a day care center which unfolds like an accordion can actualize itself. Consequently, the color theory is based upon painterly notions of the horizontal surface. The walls remain neutral areas to pin up drawings or place mobile furniture or equipment. The ceilings are areas for hanging things or allowing natural light to pour in. The color should stimulate child play and learning.
The particular colors were chosen by research and personal interview. It was found that "...orange tends to be a favorite color in paintings..." in children from 3-6; whereas, "...pink and red follow orange as favorite colors."¹ Many teachers cited orange as a color which is preferred for learning because of its warmth. Emotional and impulsive behavior is associated with red. Younger preschool children are said to favor it.² In general, children of day care center age are believed to prefer warm colors.³ The brick color pattern of the adjacent brick buildings blends with an orange-red range of hues. Nevertheless, many exceptions were found in the field study. Other factors such as usefulness contributed to the success of a play space. Therefore, the day care center implements color as a method of zoning activity in addition to manipulating directional and level change.⁸

³Ibid., p. 18.
1. Barrow Street Day Care Center Site
2. Site of the Design for Barrow Street Day Care Center
3. Post Office
4. Kitchen, Day Care Center, Biddeford, Maine

5. Large Motor Activity Room
   Day Care Center, Biddeford, Maine
6. Two Level Furniture, Home Economics

7. Home Center, Day Care Center, Biddeford, Maine
DRAWING 1:
scale 1/4 = 1'

pink:
A = flesh
B = pink
C = lavendar

red:
D = red
E = maroon

orange:
F = peach
G = tangerine
H = red orange

beige:
I = muted copper

8. Color Study for the Design of Barrow St. Day Care Center
CHAPTER IV

DESIGN OF BARROW STREET DAY CARE CENTER
BARROW ST. ELEVATION

SCALE 1/4"=1'

SECTION A-A

LINDSAY KATCOFF
BARROW ST. DAYCARE
DRAWING 4
JULY 1976
AXONOMETRIC

LOAD FRAMING DIAGRAM

SCALE 1/2 = 1

LINDSAY KATCOFF
BARROW ST. DAYCARE
DRAWING 6
JULY 1975
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